

Figure 12.18 Boiler House Photo Register (Basement)





Boiler House Viewpoint 22: Basement



Boiler House Viewpoint 23: Basement



Boiler House Viewpoint 24: Basement



Boiler House Viewpoint 25: Basement



Boiler House Viewpoint 26: Basement



Boiler House Viewpoint 27: Basement



Boiler House Viewpoint 28: Basement

12.7 ENDNOTES

1 Godden et al, 1984, p. 105  
2 ibid, p. 35.  
3 ibid, p. 144.  
4 Rowe, 1988, p. 12.  
5 ibid, p. I  
6 ibid, p. XXX.  
7 Architectural Projects, 2003, p. 50.  
8 Ibid, p. 59  
9 State Heritage Inventory, NSW Office of Environment & Heritage, *Ultimo Power House* (State).

# 13 SWITCH HOUSE



13.1 HISTORY OF THE SWITCH HOUSE

The Switch House was constructed adjacent to the southern wall of the Turbine Hall between 1922 and 1927, measuring 23m wide and 61m long and 17m in height. The Switch House was purpose built to house a new control room, high tension switch gear and transformer banks required to facilitate a major upgrade to the switching gear of the Sydney tramway network, as the existing switchboard facilities in the Engine House or Turbine Hall had reached capacity for expansion. The site for the new Switch House was initially cleared and prepared for construction in 1922 with the building complete and operational by 1927.<sup>1</sup> Construction of the brick building included excavation for the building foundations and below ground cable trenches. A small battery house was located on the roof of the switch house.<sup>2</sup> Throughout its operation as part of the Ultimo Power House, the Switch House remained as originally constructed with minimal modifications.

When the Ultimo Power House closed on 11 October 1963, the Switch House, along with the other Power House buildings, fell into disrepair and was subsequently damaged by decay, squatters, and vandals. While the original 1980s museum design proposed demolition of the Switch House and replacement with a new building, budget constraints resulted in the retention and adaptive re-use of the building as part of the Powerhouse Museum.<sup>3</sup>

Adaptations to the Switch House as part of the adaptive reuse for the Powerhouse Museum resulted in the majority of the interior features of the building being removed and replaced with modern elements for the museum fit out. The Switch House originally had moulded concrete cabinets which carried the cables and bus-bars, yet these were removed between 1982 and 1984.<sup>4</sup> A new roof annex addition was constructed as part of the adaptive reuse of the Switch House, which appears to have been initially designed to function as a café.<sup>5</sup> In 1988, parts of the Switch House façade were painted yellow to match the new museum entry facade.<sup>6</sup> Construction of the Harris Street forecourt as part of the 1980s museum site obstructed visibility of the lower levels of the western façade of the Switch House.

When the Sydney monorail opened in 1988, a pedestrian walkway connected the southern end of the Switch House (Figure 13.7) to the nearby monorail station- renamed the Powerhouse Museum Station in 2002.<sup>7</sup> The monorail ceased operation in 2013, with demolition and removal of its associated infrastructure, including the pedestrian connection to the Switch House, completed by April 2014.

The Powerhouse Museum Revitalisation Project of 2011–2013 included works to link the Switch House with the Harris Street forecourt - initially constructed with a partial void between the Switch House and the bulk of the forecourt, affording access to the lower level of the site (Figure 13.5 and Figure 13.6). The museum exit was relocated to the Switch House at this time.<sup>8</sup> In 2012 the new Museum shop was opened in the Switch House, and a new café with seating in the Harris Street forecourt in 2013.<sup>9</sup> In 2022, the Switch House is used as an exhibition space, café and shop for the Powerhouse Museum as well as a Creative Residency space.

Previous Names	Switch House
Address	500 Harris Street, Ultimo
Lot & DP	Lot 1 DP631345
Built	1927
Heritage Listings	SHR 02045 “Ultimo Power House”  LEP I2031, “Powerhouse Museum Former Warehouse Buildings, including interiors”
Non-Statutory Listings	Register of the National Estate (Powerhouse Museum (Stage Two), Place ID 100690)  National Trust of Australia (NSW) Register (S11648, 24/10/2015)



Figure 13.1 Location of the Switch Houses (Source: John Wardle Architects with Curio Projects overlay)



Figure 13.2 The Switch House (Source: Curio Projects, 2020)





Figure 13.3 The Switch House 1980s (Source: State Library)



Figure 13.4 The Eastern façade of the Switch House c.1984 (Source Godden 1984 after p. 8)



Figure 13.5 Sunken courtyard facing south, 2011 (Source: DA D/2011/242)



Figure 13.6 Void between the forecourt and Switch House, 2011 (Source: DA D/2011/242)



Figure 13.7 Site Image showing the Pedestrian Railway Bridge prior to demolition (Source: HMUP 2014 p. 1)



13.2 PHYSICAL ANALYSIS OF THE SWITCH HOUSE

An overall photo register and images of the Switch House as of 2020 is presented in Section 13.6.

13.2.1 Site and Setting

The Switch House forms part of the Powerhouse Ultimo Site at 500 Harris Street, Ultimo. Within the Powerhouse Ultimo site, the northern elevation of the Switch House adjoins the southern wall of the Turbine, while the eastern façade remains open to the Level 1 courtyard to the east. The southern facade faces Macarthur Street and the Level 3 forecourt and Harris Street are to the west.

13.2.2 Built Elements

The Switch House is less utilitarian than the other Power House buildings, constructed in an art deco style which is particularly evident along the western facade. The SHR listing describes the Switch House as:

The Switch House is a brick building, three stories on the east and two stories above ground level on the west. The west facade is divided into seven bays, the northernmost of which is given emphasis by means of a dentillated gable which incorporates a centrally-placed circular motif with herringbone infill. The remainder of the building features a dentillated segmented extension of the parapet. The brickwork between each pair of windows extends even higher and terminates in dentillated bracketed caps. All dressings, sills, lintels and caps are of rendered concrete.

The viewing window from the Switch House, which allowed control staff to keep watch over the generating equipment, is still in place. Decorative stonework and brickwork on the on the Switch House are still in very good condition.<sup>10</sup>

While the Switch House is a three storey building, the natural slope of the Powerhouse site towards the east means that from Harris Street, the Switch House presents as a single storey building with the modern roof top addition, whereas from the Goods Line and Hay Street, the building is visible as the full three storeys. Whilst the Switch House never fronted the street during its use as part of the Ultimo Power House, it has a highly decorative façade, part of which may have been visible above the skyline.<sup>11</sup> Along the eastern façade, the lower section of the Switch House has a simple, strong, architectural style with eight openings which once housed transformers, covered by roller shutters.



Figure 13.8 Presentation of the Switch House from the south, level change along Macarthur Street apparent (Curio 2020)



Figure 13.9 The Switch House western elevation after the extension of the Harris Street courtyard (Curio 2020)



Figure 13.10 Switch House eastern elevation, obscured by the modern covered walkway (Curio 2020)



13.3 HERITAGE SIGNIFICANCE

The Switch House, as part of the Ultimo Power House, is included within the following statutory heritage register listings:

- State Heritage Register (NSW), The Ultimo Power House, SHR 02045, gazetted 04 Sep 2020.
- Sydney LEP 2012, The Powerhouse Museum Former Warehouse Buildings, including interiors, I2031.

The Switch House is also included on two non-statutory registers: the Register of the National Estate Powerhouse Museum (Stage Two) (Listing 100690); and the National Trust (NSW) Register Powerhouse Museum (Stage Two) (S11648).

13.3.1 Summary of Significance—Switch House

As one of the Ultimo Power House buildings, the Switch House is part of one of the most important and intact group of power station buildings in the State. The Switch House has aesthetic significance as the most ornate of the Power House Buildings featuring an art deco style that is unusual and rare for an industrial building. Built in 1927, the Switch house provides tangible evidence of the 1920s upgrades to the Sydney tram system. The exterior of the Switch House is relatively intact.

13.3.2 Views

The Switch House is visible from the south and southeast from Macarthur Street, Darling Drive, the Harwood Building and the Goods Line. The eastern wall of the Switch House is partially concealed by the covered walkway from the Harwood Building. It would be preferable to remove this obtrusive element to establish a stronger visual connection between the Switch House and the rest of the site.

13.3.3 Grading of Significant Components

The key components and elements of the fabric and form of the Switch House have been ranked accordance to the Heritage NSW criteria for assessing significance, as summarised in Table 13.1 and depicted in Figure 13.11 to Figure 13.16.

Table 13.1 Grading of Significance for the Turbine Hall






ELEMENT	IMAGE	GRADING	NOTES
Roof Finish (Original)		● EXCEPTIONAL	The roof finish is original and is of exceptional significance.
Roof Structure (Original)		● EXCEPTIONAL	The roof structure is original and is of exceptional significance.
Roof Annex		● LITTLE	The Switch House was originally constructed with a flat roof. The modern roof annex was constructed as part of the 1980s museum adaptation, and is of little significance.
External Walls (Original)		● HIGH	The external walls are original and are of exceptional significance.
Windows (Original)		● HIGH	The original windows are of high significance.
Windows (Later additions)		● LITTLE	Later windows on the 1980s annex are of little significance.
Floor		● LITTLE	The internal flooring all appears to have been modified and is of little significance.





Figure 13.11 Switch House Grading of Significance (Basement) (Source: John Wardle Architects plan with Curio Projects overlay)

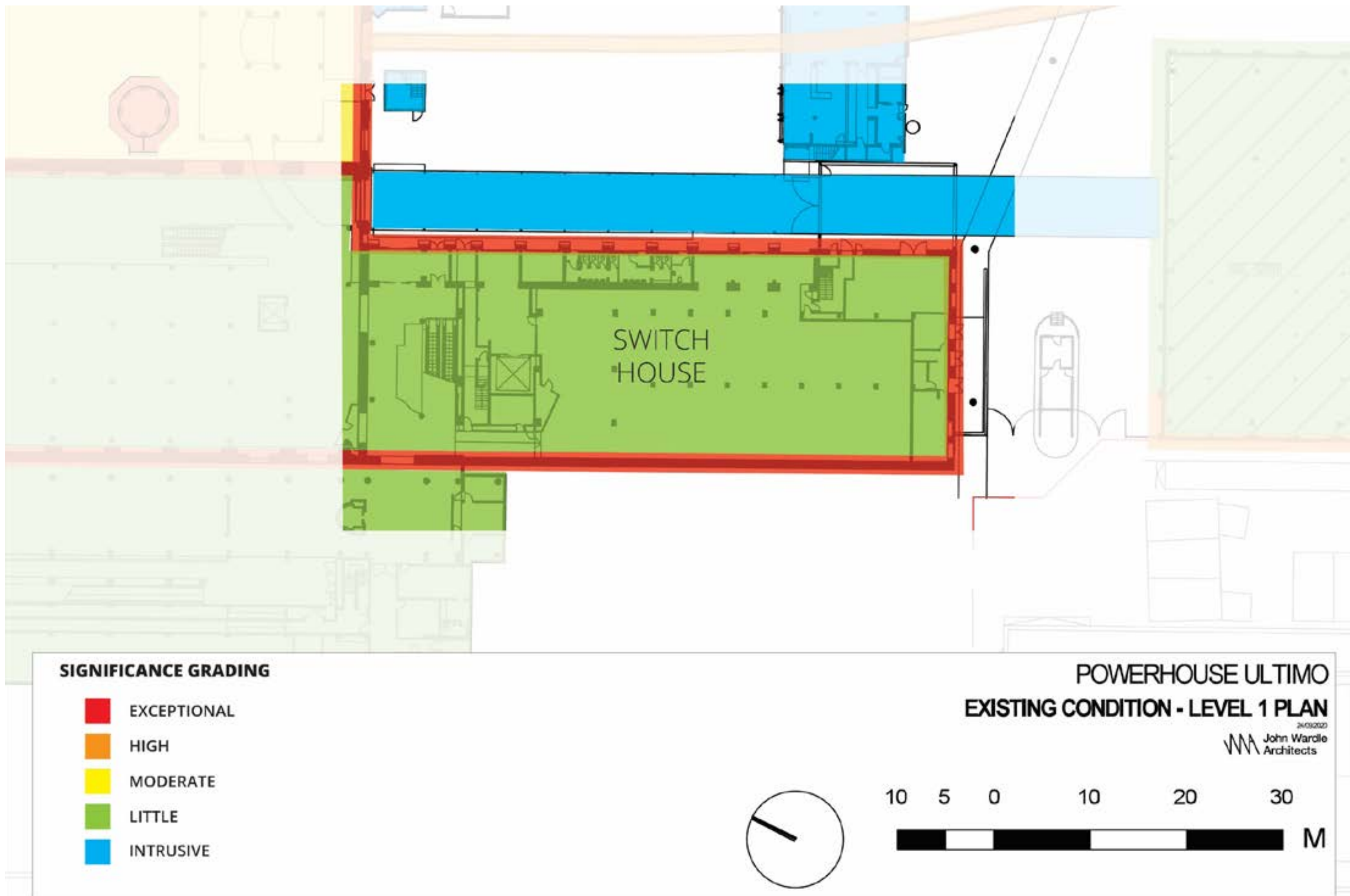


Figure 13.12 Switch House Grading of Significance (Level 1) (Source: John Wardle Architects plan with Curio Projects overlay)



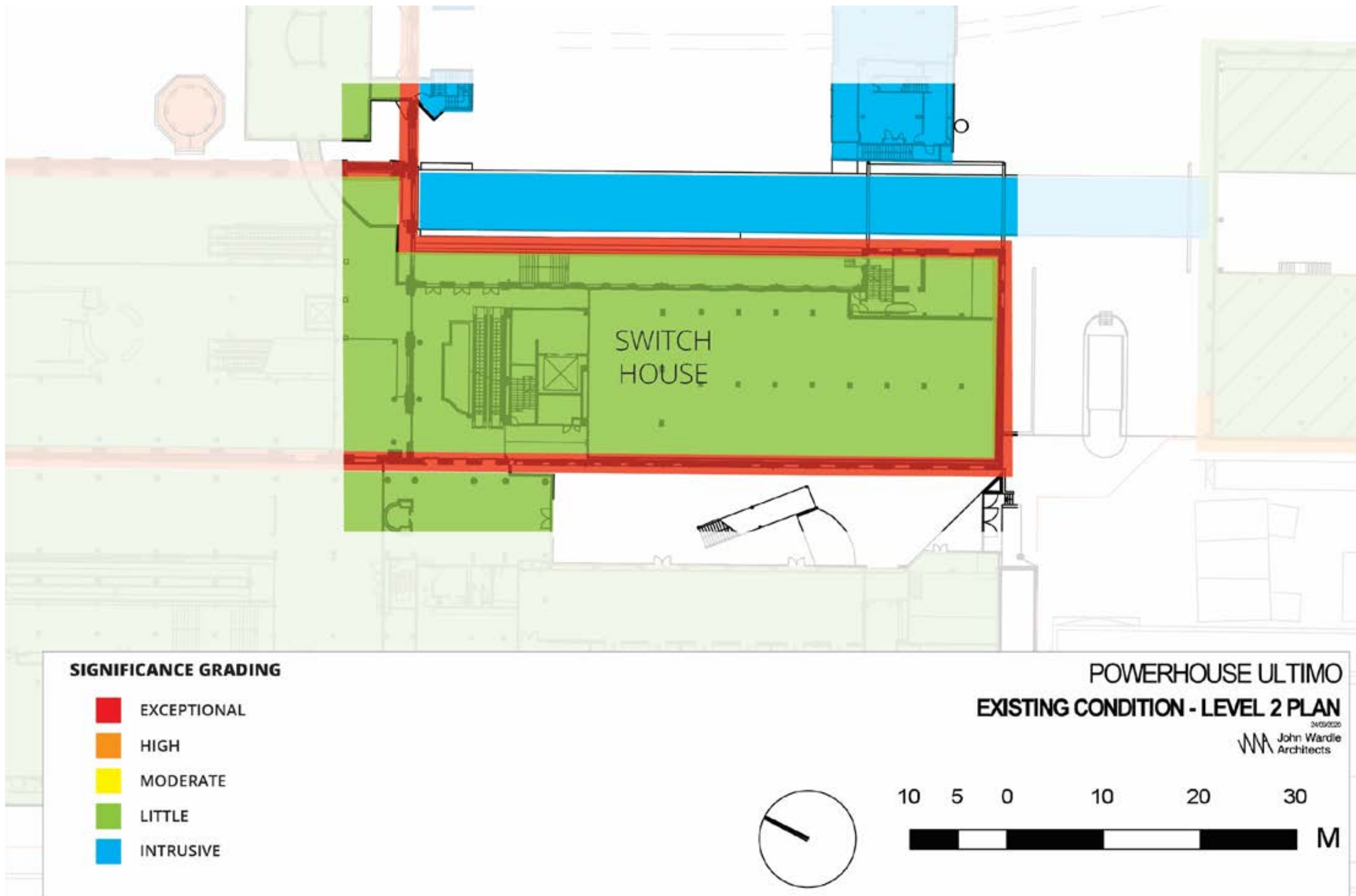


Figure 13.13 Switch House Grading of Significance (Level 2) (Source: John Wardle Architects plan with Curio Projects overlay)

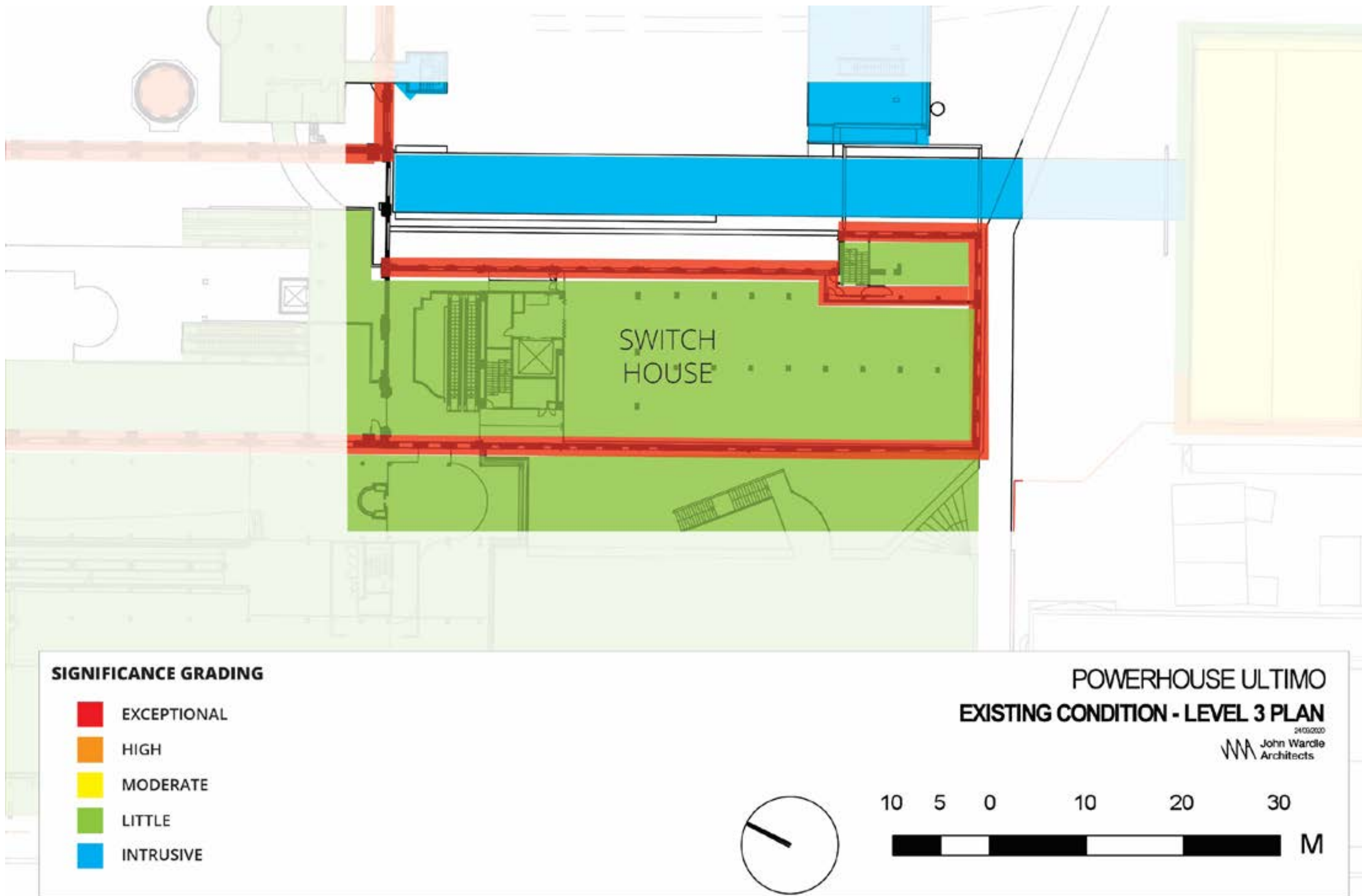


Figure 13.14 Switch House Grading of Significance (Level 3) (Source: John Wardle Architects plan with Curio Projects overlay)



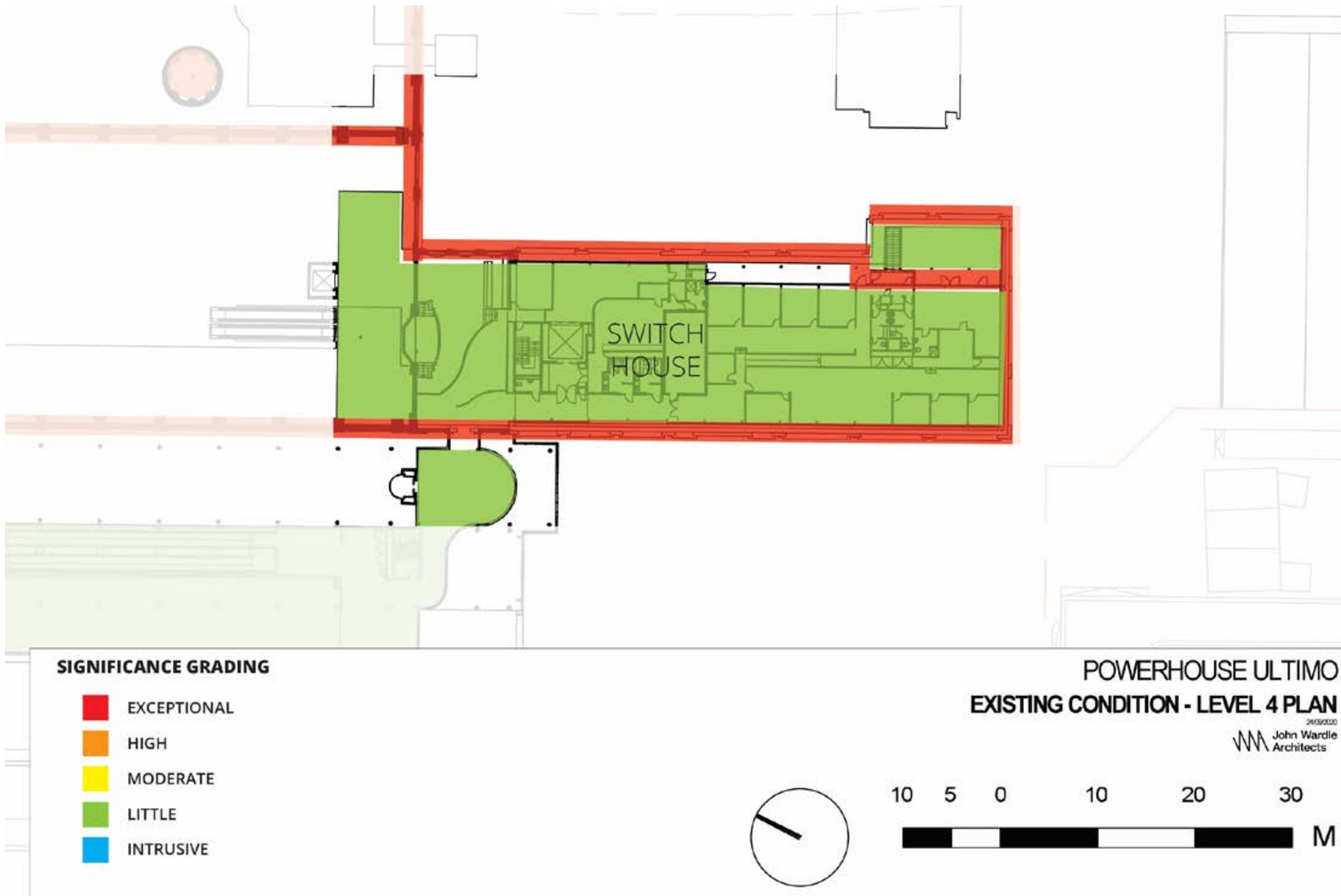


Figure 13.15 Switch House Grading of Significance (Level 4) (Source: John Wardle Architects plan with Curio Projects overlay)

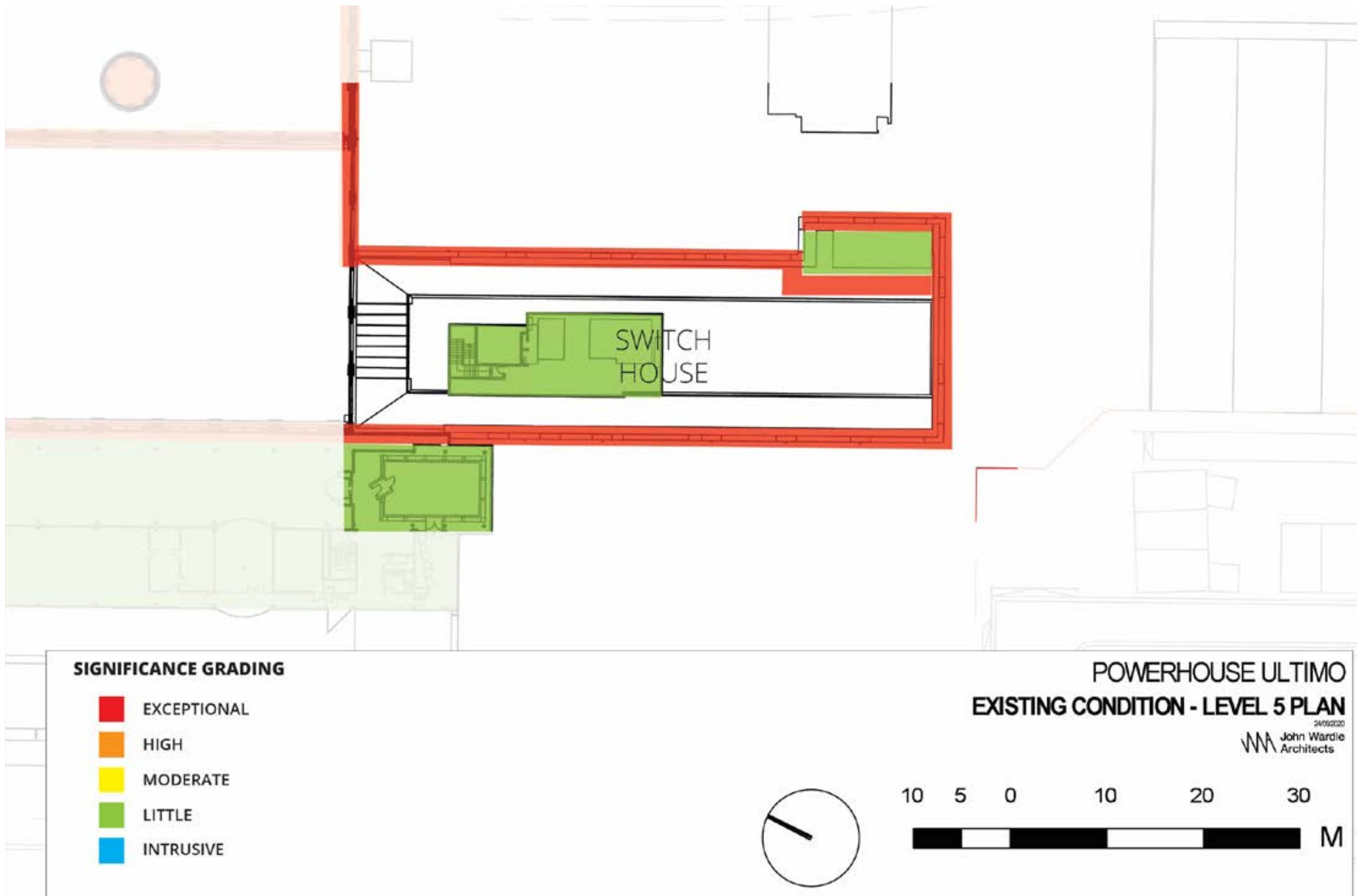


Figure 13.16 Switch House Grading of Significance (Level 5) (Source: John Wardle Architects plan with Curio Projects overlay)



13.4 OPPORTUNITIES AND CONSTRAINTS

Opportunities and constraints specific to the Switch House include:

- Opportunities**
- The original switch house had a flat roof. The present roof top terrace was added as part of the museum adaptations and is considered to have no historical significance. There is the opportunity to improve or replace this addition with a less visually intrusive alternative that complements the heritage building and allows its form to be understood.
  - The lower level space between the Switch House and the Wran Building beneath the Harris Street forecourt is currently underutilised. This space has the potential to be explored in improving the design of the site, possibly as an access way.
  - As the majority of the interiors of the Switch House were altered as part of the 1980s museum adaptations, the interior of the building has tolerance for change.
  - Programmatic interpretation of the original function of the Switch House and connection to its history and use.

- Constraints**
- The Switch House, including its original structure and heritage fabric should be conserved within the Ultimo Powerhouse site, with potential for further adaptive reuse.
  - The Switch House is visual obstructed along its western façade by the presence of the 1980s museum elements including the Harris Street forecourt and the Wran Building.
  - The box gutter around the perimeter of the Switch House remains prone to overflowing, causing damage to the walls.

13.5 ITEM-SPECIFIC CONSERVATION POLICIES

Policy 5—Buildings and Structures: The readability and presentation of the Switch House, including its original structure and heritage fabric should be conserved within the Ultimo Powerhouse site, with potential for further adaptive reuse.

13.6 PHOTO REGISTER FOR THE SWITCH HOUSE



Figure 13.17 Switch House Photo Register (Level 1)





Switch House Viewpoint 1: Level 1



Switch House Viewpoint 2: Level 1



Switch House Viewpoint 3: Level 1





Figure 13.18 Switch House Photo Register (Level 3)





Switch House Viewpoint 4: Level 3



Switch House Viewpoint 5: Level 3



Switch House Viewpoint 6: Level 3



Switch House Viewpoint 7: Level 3



Switch House Viewpoint 8: Level 3





Figure 13.19 Switch House Photo Register (Level 4)





Switch House Viewpoint 9: Level 4



Switch House Viewpoint 10: Level 4



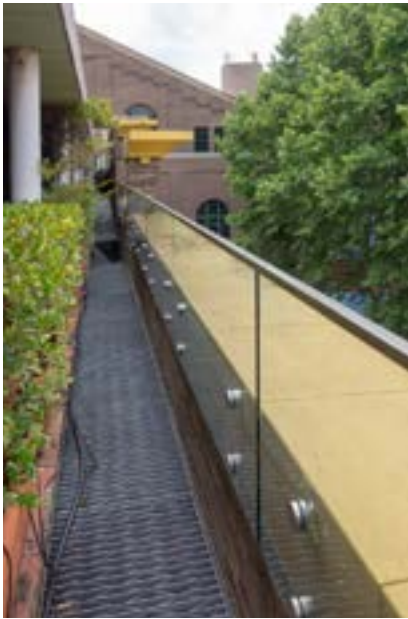
Switch House Viewpoint 11: Level 4



Switch House Viewpoint 12: Level 4



Switch House Viewpoint 13: Level 4



Switch House Viewpoint 14: Level 4



Switch House Viewpoint 15: Level 4



Switch House Viewpoint 16: Level 4



Switch House Viewpoint 17: Level 4



13.7 ENDNOTES

1 Architectural Projects, 2003, p. 25. (N.B. AP 2003 also refers to “the 1929 Switch House” and TKD Architects, 2018, p. 10 gives a completion date of December 1926)

2 *The Ultimo Power House Monographs*, 5: The Switch House, MAAS Archives, p. 11.

3 Wood, C., ‘Powerhouse’ in Design World, No.14, 1988, p. 20

4 Godden et al, 1984, p. 20.

5 Wood, 1988, p. 20.

6 Architectural Projects, 2003, p. 56.

7 Powerhouse Museum, Annual Report 2002–2003, p. 1

8 Museum of Applied Arts and Sciences, Annual Report 2011–2012, pp. 8-9; see also Development Application D/2011/242

9 Museum of Applied Arts and Sciences, Annual Report 2012–2013, p. 16.

10 State Heritage Inventory, NSW Office of Environment & Heritage, *Ultimo Power House* (State).

11 Architectural Projects, 2003, p. 73.

# 14 ULTIMO POST OFFICE



14.1 HISTORY OF THE ULTIMO POST OFFICE

The Ultimo Post Office is located at 494 Harris Street, Ultimo, on the south-east corner of Harris Street and William Henry Street, located on the land that originally formed part of Block 23 of the Ultimo Estate 1859 subdivision. (Figure 14.3), inherited by John Harris’ descendant, Margaret Harris.<sup>1</sup> The subdivision of the Ultimo Estate and subsequent development and increasingly population of Ultimo in the late 1800s resulted in establishment of a branch of the Government Savings Bank opening in Ultimo in rented premises in 1881. While the current Post Office site was suggested for resumption as early as 1892 (Figure 14.4), this proposal was initially rejected in favour of the leasing an existing building located a couple of doors down at 484 Harris Street. The property was leased from Mr J. Coffill for a period of five years, and in 1893, the Ultimo Post Office and Telegraph commenced official operation out of 484 Harris Street, with W. F. Burgess as the postmaster.<sup>2</sup>

The land at 494 Harris Street remained vacant until 1900, at which time government funds were finally acquired for construction of a purpose-built Post Office at Ultimo, and the land was resumed, for which Margaret Harris was compensated £600.<sup>3</sup> The Ultimo Post Office was designed in the Federation Queen Anne style by the Public Works Department’s Government Architect’s Branch under Walter Liberty Vernon, and constructed for a cost of a little over £800 by contractor G. W. Brewer. The Ultimo Post Office was constructed with the main post office area on the corner, and postmaster’s residence adjacent to the east, and opened for occupation and operation in July 1901. Ultimo Post Office was one of a group of approximately 32 buildings erected between 1890 and 1910 to designs by W L Vernon.<sup>4</sup>

A Commonwealth Savings Bank operated out of the Post Office from c.1914 to the 1930s.<sup>5</sup> Newspaper reports of several incidents at the Post Office over the years included the suspicious death of the postmaster, John Batty at the residence above the Post Office in September 1930,<sup>6</sup> while in November 1944, there was a report of a car that crashed into the front of the Post Office, knocking the corner pillar off its base and onto the bonnet of the car<sup>7</sup> (Figure 14.8). The pillar was later reconstructed.

Previous Names	Darling Harbour Child Care Centre
Address	494 Harris Street, Ultimo
Lot & DP	Lot 1 DP770031
Built	1901
Heritage Listings	SHR 00502 “Ultimo Post Office”  Sydney LEP #I2030, “Former Ultimo Post Office including interior”
Non-Statutory Listings	Register of the National Estate (#2381)  National Trust (NSW) (S9302)



Figure 14.1 Ultimo Post Office Location Map (Source: John Wardle Architects with Curio Projects overlay)



Figure 14.2: Ultimo Post Office 2020. (Source: Curio 2020)



The Post Office continued operating until 1985, at which time it was acquired by the Museum of Applied Arts and Sciences (MAAS) for use as a 20-place occasional child care centre. Conversion of the Post Office to the childcare centre in 1985 included alterations and additions to the building both internally and externally, including construction of new eastern addition to the building<sup>8</sup> (Figure 14.10 and Figure 14.11). The childcare centre commenced operation from 1 January 1990 under a 21 year lease.<sup>9</sup> Further works to the Post Office the building were undertaken in 1992, including general renovations and the installation of new amenities.<sup>10</sup>

By 2008 the Post Office no longer operated as a childcare centre, and was being used by the Powerhouse Museum. On the 10th of March, 2008 a new volunteer centre was opened in the restored Post Office building, coinciding with the 20 year anniversary of the Museum at the Ultimo site.<sup>11</sup> A modern covered walkway connecting the modern eastern addition of the Post Office building to the Wran Building to the south was constructed in 2009–2010. In 2020 the former Ultimo Post Office remains in use as the Volunteer Centre for the Powerhouse Museum volunteers.



Figure 14.3 c.1859 plan of Post Office site within Ultimo subdivision

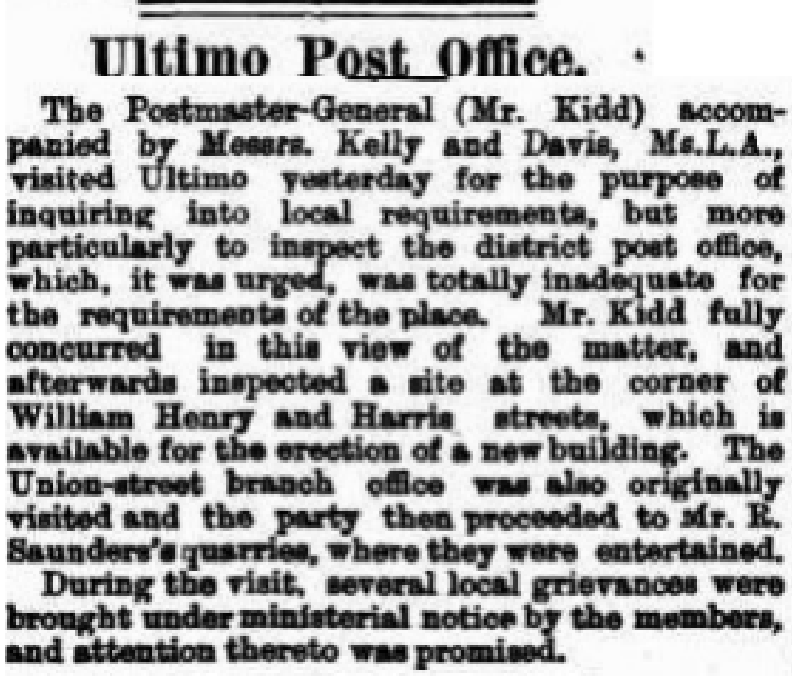


Figure 14.4 Evening News, Wed 10 Aug, 1892 p. 6



Figure 14.5 Ultimo Post Office, early 1900s (Source: SANSW NRS-4481-2)

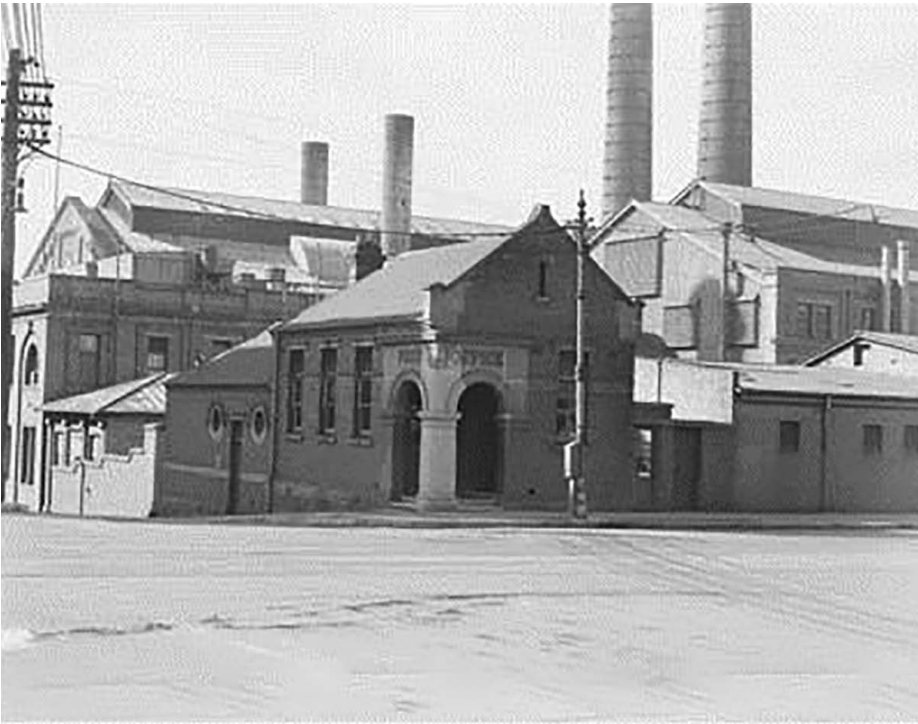


Figure 14.6 Ultimo Post Office 1947 (Source: National Archives)





Figure 14.7 Ultimo Post Office 1955 (Source: National Archives)



Figure 14.8 Daily Telegraph, 30 Nov 1944 p. 5



Figure 14.9 Ultimo Post Office in 2020 (Curio 2020)



Figure 14.10 1980s eastern addition to the Ultimo Power House as part of development for Childcare Centre (Curio 2020)



Figure 14.11 Rear of 1980s eastern addition to Ultimo Post Office, modern rear porch alterations (Source: Curio 2020)

## 14.2 PHYSICAL ANALYSIS OF THE ULTIMO POST OFFICE

An overall photo register and images of the Ultimo Post Office as of 2020 is presented in Section 14.5.

### 14.2.1 Site and Setting

The Ultimo Post Office House, located at 494 Harris Street also forms part of the Powerhouse site- referred to by the primary address of 500 Harris Street, Ultimo. The former Post Office is located on the south-eastern corner of William Henry and Harris Streets, bounded to the east by the North Annex, and to the south by the Wran Building. The humble scale of the single storey brick Federation Post Office building, located on a prominent intersection, serves to further accentuate and emphasise the large scale of the former Power House buildings. The position of the Ultimo Post Office provides a clear visual link between the predominantly two storey residential Victorian buildings in Pyrmont, and the larger industrial buildings and function of the Ultimo Power House.

### 14.2.2 Built Elements

The Post Office is a single storey brick building, designed by Government Architect Walter Liberty Vernon in the Federation Queen Anne architectural style with classical and Romanesque elements. Aside from the reconstruction of the one pillar following the 1944 car crash, the Ultimo Post Office appears to have remained relatively intact with minimal modification from its completion in 1901, until its closure and acquisition by the Powerhouse in the 1980s. The SHR listing describes the Post Office as:

...a single storey brick building with ashlar and moulded stone dressings and a slate clad roof. The Harris Street (western) end has a parapeted gable which has stone coping finishing in segmental shoulders and topped with a frustum apex stone. On the gable there is a quarry faced frieze above a chink with a stone sill. At the eastern end the roof is of gabled hip form

Windows are mainly double hung sashes with highlights above. A major feature is the stone, arched entry porch on the corner. It is double faceted and has ornate impost mouldings and archivolt. Above the corner is an embellished cartouche. The eastern section of the building (lower than the post office due to the falling ground) was originally the postmaster's residence. The former entrance here is flanked by oculi each with stone reveal and label mould. This elevation continues easterly as a stepped brick wall (with stone coping) to the back yard. A corbelled chimney with two pots rises from the roof of the building.

The Ultimo Post Office consists of three main sections, stepped down along William Henry Street to the east. The western two sections of the building constitute the original, State Heritage Listed Post Office constructed in 1901. A third eastern section of the building was constructed in the 1980s as part of the conversion of the former Post Office to a childcare centre. While constructed in the 1980s, the later rear addition has been designed and constructed to be appropriately sympathetic in style, form and scale to the heritage item. A section of brick boundary wall, contemporary with the 1901 construction of the Post Office, extends from the eastern end of the original postmasters residence, stepping down east along William Henry Street, fronting the modern addition. A metal lattice security fence painted red and green has been constructed at the eastern end of the brick boundary wall, securing a minor private entry to the Powerhouse Museum via a set of concrete steps from William Henry Street between the North Annex and the Post Office site. A second metal lattice security fence is located on the eastern side of the Post Office lot along Harris Street, securing the entrance to the rear yard between the Post Office and the Wran Building.

The post office featured a hipped roof with slate tiles and a corbelled brick chimney with two terracotta pots. The slate tiles on the original building are grey, whilst they are purple slate on the 1988 addition. The brick is red-brown and the southern walls of the building have been painted cream. There is sandstone coursing, parapet capping and trim. A modern covered walkway has been constructed across the rear yard of the Post Office lot, connecting the rear modern addition to the Wran Building.

The main entry to the Post Office from Harris Street features a recessed corner porch with a stone arch and an embellished cartouche above the corner. The original ‘Post Office’ designation signage has been removed from the sandstone porch face, although the imprint of the letter is still evident. The Post Office retains original double hung sashed windows with highlights along the northern and western elevation, as well as the two bullseye windows on the northern elevation flanked the original entry to the postmaster's residence. Internally, the ceilings, cornices and fireplace in the original portions of the building appear to be original.

Overall, in despite of 1980s conversion works, the Ultimo Post Office remains in good condition with a high degree of original fabric intact. The majority of the alterations to the building have occurring internally, of which, the majority are easily reversible.<sup>12</sup>



14.3 HERITAGE SIGNIFICANCE

14.3.1 Summary of Significance

The local heritage listing for the Ultimo Post Office provides the following Statement of Significance:

The building dates from one of the key period of layers for the development of Ultimo/Pymont as a direct result of subdivision of the Harris and Macarthur Estates. It is a good example of a Federation Post Office on a prominent corner site which makes a positive contribution to the streetscape.

The former Ultimo Post Office, built in 1901, is historically significant for its associations with the development of Ultimo/Pymont as a predominantly industrial and warehouse precinct by the turn of the century. Construction of the post office helps to reflect the degree of development and consolidation by that time. The building reflects characteristics of Federation Classical and Federation Romanesque architectural styles and is important for its connection with NSW Government Architect W L Vernon. Owing to its styling and its location on a major intersection, the former post office is an important element in the Ultimo streetscape. Further, it emphasises the scale of the former Ultimo Power House (now the Power House Museum) behind.<sup>13</sup>

14.3.2 Views

The primary view of the Ultimo Post Office is from Harris and William Henry Streets, readily apparent within views south towards the Powerhouse site from William Henry and Harris Streets. It is important to maintain the view of the Post Office from Harris Street and William Henry Street. The views from these frontages could be improved significantly through updated fencing which allows visibility whilst ensuring the security of the corner.

Despite its prominent corner position, the connection of the Post Office building has been severed both physically and visually by the construction of the Wran Building (Figure 14.12 to Figure 14.14). Visually, the Wran Building blocks the connection of the Ultimo Post Office to the original Power House buildings, dominating the landscape around the Post Office, impacting its readability and presence on site. While the Post Office and the Power House functioned as separate entities without any formal crossover in operation, the construction of the Ultimo Post Office in its current position was directly influenced by the increasing residential population of Ultimo resulting firstly from the subdivision of the Harris land, and secondly from the increasing population of workers and residents moving to the areas following the opening of the Power House.

14.3.3 Grading of Significant Components of the Ultimo Post Office

The key components and elements of the fabric and form of the Ultimo Power House have been ranked accordance to the Heritage NSW criteria for assessing significance, as summarised in Table 14.1 and depicted in Figure 14.15.



Figure 14.12 Post Office and Power House 1964, note the smaller scale building behind the post office (Source: City of Sydney Archives NSCA CRS 47/2346)








Figure 14.13 Ultimo Post Office along William Henry Street, with Wran Building as dominant background context, obscuring visual connection between the Post Office and former Power House buildings (Source: Powerhouse)



Figure 14.14 Setting of the Post Office on the corner of William Henry and Harris Streets. The position of the Ultimo Post Office provides a visual link between the predominantly two storey residential Victorian buildings in Pymont, and the larger form, scale and function of the industrial buildings of the Ultimo Power House (Source: Powerhouse)

Table 14.1 Grading of Significance for the Ultimo Post Office

ELEMENT	IMAGE	GRADING	NOTES
Roof Finish and Chimneys		● EXCEPTIONAL	<p>The original (western) sections of the building are tiled in purple slate in reasonable condition, likely original.</p> <p>The original corbelled chimney with two terracotta pots appear to be relatively intact, although a close inspection of the chimney was not undertaken.</p> <p>The internal ceiling obstructs inspection of the nature of the internal roof structure of the original Ultimo Post Office building.</p>
External Walls (Original Structure)		● EXCEPTIONAL	<p>The external brick walls of the original Post Office building are intact and in good condition. Part of the front sandstone pillar was reconstructed in the 1940s to match the original.</p>
Windows (Original)		● HIGH	<p>The original windows (double hung sash windows with highlights above/bullseye windows) have been retained, and are in relatively good condition.</p>
Floor		NOT INSPECTED	<p>At the time of the 2020 inspection, the floor was covered with modern carpet and therefore the original surface was not able to be inspected. 1955 images suggest that the original floor was constructed of wooden floor boards.</p> <p>The original or earlier floor surface may remain beneath the modern carpet.</p>
Fireplace		● HIGH	<p>The tiled fireplace in the main Post Office room appears to be original.</p>



ELEMENT	IMAGE	GRADING	NOTES
Rear Addition (1980s)	A photograph showing the rear addition of the Post Office, a single-story structure with a gabled roof and a white-painted brick wall. A white-painted wooden fence runs along the front of the addition.	● LITTLE	While the rear (eastern) addition to the Post Office was constructed in the 1980s and is of little heritage significance, it has been designed and constructed to be appropriately sympathetic in style, form and scale to the 1901 Post Office, and presents as an overall neutral item in the context of the State heritage item.
Brick Boundary Fence (North)	A photograph of a brick boundary fence, showing a section with a decorative, stepped parapet.	● HIGH	The lower section of the exterior brick fence to the north appears to be original, although it has been modified at a later date as is evident from the brickwork.
Exterior lattice fence (East and West)	A photograph of a modern green and red lattice security fence in front of a brick building.	● INTRUSIVE	The modern green and red lattice security fences are visually obtrusive to the setting and visibility of the Post Office.
Rear Covered Walkway	A photograph of a covered walkway in the rear yard of the Post Office, featuring a dark metal frame and a translucent roof.	● INTRUSIVE	The covered walkway in the rear yard of the Post Office is not commensurate with the setting of the SHR item, and is considered intrusive.



# SIGNIFICANCE GRADING

- EXCEPTIONAL
- HIGH
- MODERATE
- LITTLE
- INTRUSIVE

## POWERHOUSE ULTIMO EXISTING CONDITION - LEVEL 3 PLAN

28/09/2020  
John Wardle  
Architects

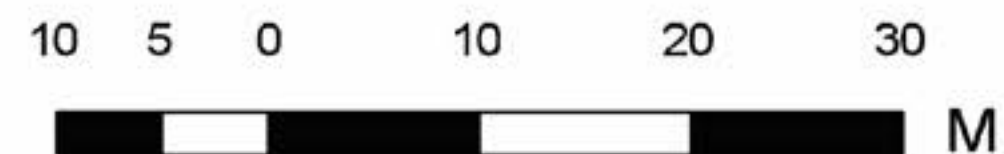


Figure 14.15 Ultimo Post Office- Grading of Significant Components (Source: John Wardle Architects plan with Curio Projects overlay)



14.4 OPPORTUNITIES AND CONSTRAINTS

Opportunities and constraints specific to the Ultimo Post Office include:

- Opportunities**
- As a SHR listed item, ideally a more appropriate curtilage should be established for the Ultimo Post Office, allowing it to be more apparent and visually appreciated in its dominant corner position, rather than overshadowed as it is at present by the dominant form of the Wran Building rising behind it. Future development could explore possibilities that would help to re-establish the visual connection between the small scale, former Ultimo Post Office and the large scale Power House buildings.
  - Incorporating opportunities for public facing activities within the building would allow for public access of this State Significant building to be restored.
  - Opportunities to reincorporate the Post Office building into the Powerhouse Ultimo site should be explored.

- Constraints**
- The location of the Ultimo Post Office at the junction of two significantly sized roads with heavy traffic flow presents a constraint to access and use associated with the primary elevation of the building.

14.5 ITEM-SPECIFIC CONSERVATION POLICIES

Policy 7—Fabric: The bars installed within the Post Office windows are an unsympathetic modern addition that should be removed/replaced with a more sympathetic option, to be more sympathetic to the heritage values and setting of the heritage item.

Policy 16—Adaptive Reuse: Adaptive reuse of the Ultimo Post Office that would allow restoration of public access to this State Significant building is recommended, such as incorporation of an active retail/commercial premises within the building.

Policy 20—Security: The visually intrusive security gates (green and red painted lattice) located to the east and west of the Ultimo Post Office are recommended for removal and replacement (and/or revision) with an element that is more sympathetic to the heritage setting and values of this State significant heritage item.

14.6 PHOTO REGISTER FOR THE  
ULTIMO POST OFFICE

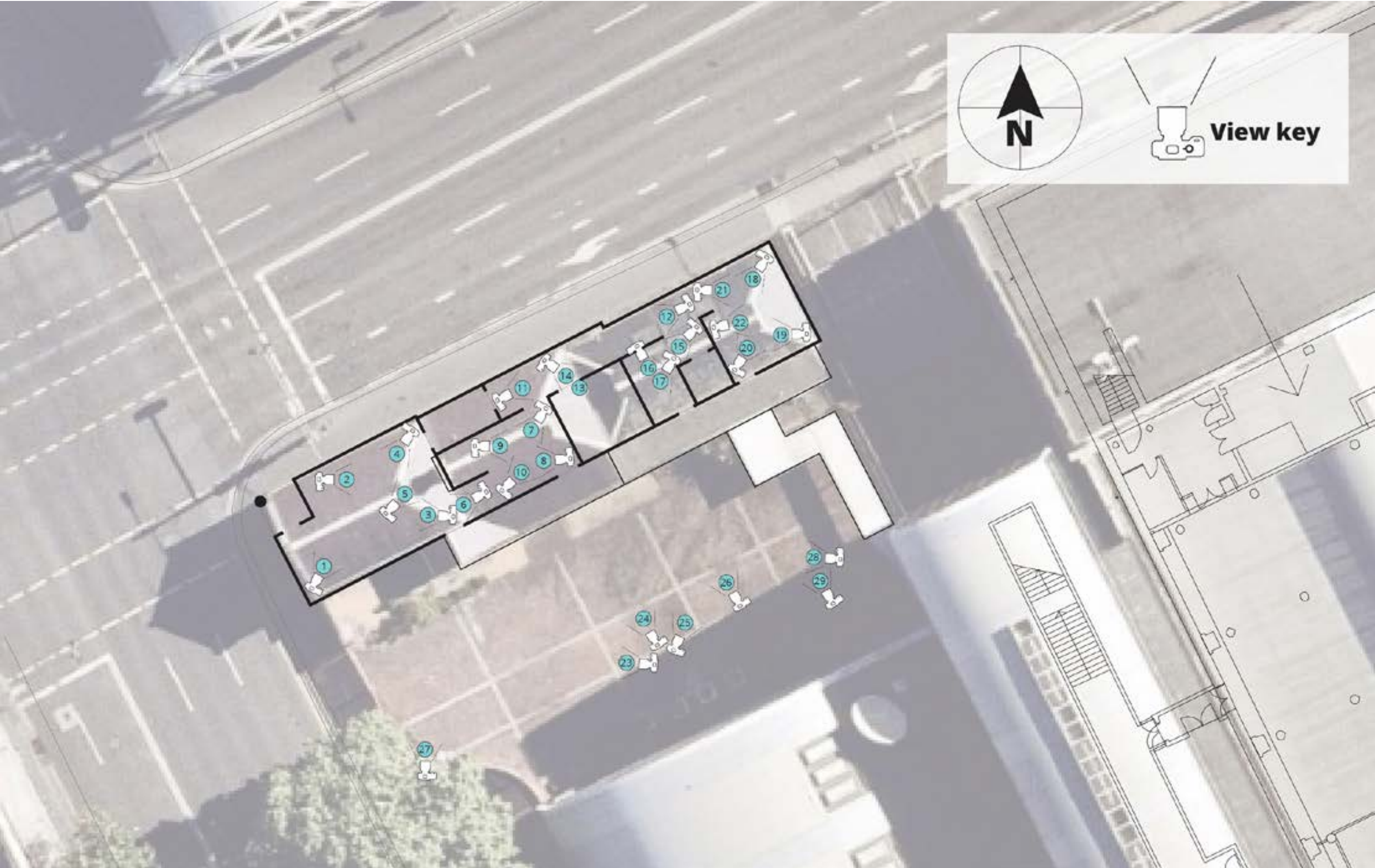


Figure 14.16 Ultimo Post Office Photo Register





Post Office Viewpoint 1



Post Office Viewpoint 2



Post Office Viewpoint 3



Post Office Viewpoint 4



Post Office Viewpoint 5



Post Office Viewpoint 6



Post Office Viewpoint 7





Post Office Viewpoint 8



Post Office Viewpoint 9



Post Office Viewpoint 10



Post Office Viewpoint 11



Post Office Viewpoint 12



Post Office Viewpoint 13



Post Office Viewpoint 14



Post Office Viewpoint 15



Post Office Viewpoint 16



Post Office Viewpoint 17



Post Office Viewpoint 18





Post Office Viewpoint 19



Post Office Viewpoint 20



Post Office Viewpoint 21



Post Office Viewpoint 22



Post Office Viewpoint 23



Post Office Viewpoint 24





Post Office Viewpoint 25



Post Office Viewpoint 26



Post Office Viewpoint 27



Post Office Viewpoint 28



Post Office Viewpoint 29



14.7 ENDNOTES

1 Godden et al 1984, p. 29  
2 Architectural Projects 2003, p. 18  
3 AMBS 2018, p. 13.  
4 Architectural Projects 2003, p. 1  
5 Sands 1931; AMBS, 2018, p. 14  
6 Mudgee Guardian and North Western Representative 8 Sep 1930  
7 Sun, 30 Nov 1944 p. 2  
8 DA.88.0044, 14/1/1988; Motenson & Lav Pty Ltd 45.88.1112, 31/5/1988  
(Planning Cards for 494 Harris St, City of Sydney Archives)  
9 Government Gazette of the State of NSW, 1 May 1992  
10 Public Works , 959/92, 2/10/1992 (Planning Cards for 494 Harris St,  
City of Sydney Archives)  
11 Museum of Applied Arts and Sciences Annual Report, 2007-2008, p. 7  
12 Architectural Projects 2003, p. 88.  
13 State Heritage Inventory, Former Ultimo Post Office Including Interior (Local)

# 15 WRAN BUILDING



15.1 HISTORY OF THE WRAN BUILDING

This section is informed by research conducted by Design 5.

The Wran Building is located on Harris Street, between William Henry and Macarthur Street. In 1978, under the guidance of the Premier, Neville Wran, and Jack Ferguson, the Minister for Public Works, Jack Ferguson, Lindsay Sharpe and Lionel Glendenning created a feasibility study for the museum and the proposed site in Ultimo.<sup>1</sup>

In about 1978, the Premier Mr. Wran went overseas and saw...the Centre Pompidou in Paris...he came back and essentially, he said ‘I want one of those’<sup>2</sup>

On the 13th of August, 1979 New South Wales Premier Neville Wran announced the Ultimo Power Station and Tram Depot was to become the new home of the Museum of Applied Arts and Sciences. Dr Lindsay Sharp was appointed as the Director to oversee the transition to the new museum space. The William Henry to Macarthur St block was resumed by the Public Works Department in 1980.

The Wran building was purpose-built to house the Powerhouse Museum and represents the modern, built component associated with the site’s redevelopment for museum use. The 1980s design of the Powerhouse Museum was coordinated by the NSW Public Works Department in close association with the Powerhouse Museum in-house design team. According to project architect Lionel Glendenning, the design of the Wran Building responded to the ‘the golden mean proportion’ of the Turbine Hall, with Vault 1 making architectural reference to Museum of Applied Arts and Sciences’s first home in the garden palace, and Vault 2 referring to the arches of the Boiler House.<sup>3</sup>

The existing buildings, which include the former turbine, switch and boiler houses, have been stripped back to the bare essential structure. Exhibits, including airplanes, motor vehicles and helicopters, are hung in space. The new work was largely confined to the Wran Wing, a barrel-vaulted room, partially glazed with an external colonnade along Harris Street. From the entry, ramps, escalators and lifts lead the visitor to the various parts of the museum and the interactive displays.<sup>4</sup>

The architectural design explored the rich history of the museum from its early beginnings in the great Garden Palace exhibition in 1879. The West Building (later Wran Building) and the galleria derive from the arched form of this earlier building whilst also creating spatial sequences that expand and augment the existing great rectangular volumes of the Turbine and Boiler Halls – the Ultimo / Pyrmont ‘cliff of buildings’.<sup>5</sup>

Previous Names	1988 Museum Building & Courtyard Wran Building 1988 Exhibition Building
Address	500 Harris Street, Ultimo
Lot & DP	Lot 1 DP781732
Built	1988
Heritage Listings	N/A
Non-Statutory Listings	Australian Institute of Architects Register of Significant Buildings (4701884)



Figure 15.1 Wran Building Location Map (Source: John Wardle Architects with Curio Projects overlay)



Figure 15.2 The Wran Building 2020. (Source: Curio Projects)



Stage Two of the Powerhouse Museum at the Ultimo site opened in 1988, constituting the adaptive re-use of the former Power House buildings (Figure 15.3), along with the newly constructed Wran Building (Figure 15.4). While the original design intent for the 1988 museum included construction of high-rise office accommodation west of the Power House buildings fronting Harris Street, this vision never eventuated, and the location became the Harris Street Forecourt to the Powerhouse Museum.<sup>6</sup>

The re-design of the Power House into a museum won numerous awards including the Sir John Sulman Medal in 1988, the Australian Institute of Architects (AIA) National President's Award for Recycled Buildings, the NSW AIA Chapter Belle Interiors Award for Interior Design and was a finalist for the National Sir Zelman Cowen Award. The Powerhouse Museum re-purposing of a former industrial complex influenced other adaptation projects in NSW, Australia and internationally. (e.g. Casula Powerhouse, Carriageworks in NSW; Brisbane Powerhouse, Longreach Powerhouse & Historical Museum. in Queensland; Spotswood Pumping Station conversion into Scienceworks, the Malthouse Theatre in Victoria; and adaptive reuse of Blackhawk Generating Station into Beloit College Powerhouse, Wisconsin USA.)<sup>7</sup>

The 2003 CMP noted:

The adaptive reuse of the building was an important government initiative linked to the revitalisation of the Ultimo Pyrmont Peninsula. The building was considered at the time to be a highly innovative state of the art museum. The building is an important work by the Government Architect Branch under the direction of Lionel Glendenning.<sup>8</sup>

In 2005–2006 the building’s exterior was refreshed with a white façade and updated livery in order to complement the Ian Thorpe Aquatic Centre that was set to open nearby.<sup>9</sup> During 2006–2007 the Level 1 courtyard café was upgraded and ‘Cog’s Playground’ was established in the Level 1 courtyard.

Significant modifications and alterations to the Wran Building occurred as part of the Powerhouse Museum Revitalisation Project between 2011–2013, including:

- Works to Harris Street forecourt.
- Blocking of glass façade on Harris Street elevation.
- Works to the southern façade of the Wran Building including removal of the original glass lift to allow relocation of the main entry, (Figure 15.5)
- Transformation of the original entrance location to a 1,800m2 Level 3 temporary gallery (Figure 15.9).<sup>10</sup>
- Demolition (and relocation) of the Level 2 toilet block to create a new exhibition space.<sup>11</sup>

At present the Wran Building is used as exhibition spaces, front of house and Creative Residents for the Powerhouse Museum.



Figure 15.3 Wran Building under construction c. 1986 (Source: Powerhouse Photo Library 00220995.jpg)



Figure 15.4 Wran Building in 1988 (Source Cracknell & Lonergan p. 9)



Figure 15.5 The Galleria during and after the 2012 Revitalisation Project (Source: Museum of Applied Arts and Sciences 2011–12 Annual Report)





Figure 15.6 Front courtyard during works (Museum of Applied Arts and Sciences Annual Report 2011–12 p. 8)



Figure 15.7 Upgraded front courtyard (Museum of Applied Arts and Sciences Annual Report 2011–12 p. 8)



Figure 15.8 Level 3 former entrance (Museum of Applied Arts and Sciences Annual Report 2011–12 p. 8)



Figure 15.9 Level 3 temporary exhibition room (Museum of Applied Arts and Sciences Annual Report 2011–12 p. 8)



15.2 PHYSICAL ANALYSIS OF THE WRAN BUILDING

An overall photo register and images of the Wran Building as of 2020 is presented in Section 15.6 below.

15.2.1 Site and Setting

The Wran Building forms part of the Powerhouse Ultimo Site at 500 Harris Street, Ultimo on the corner of William Henry Street and Harris Street and represents the Museum’s formal entry which is made through the Galleria on Level 3. The northern face of the Wran Building faces the Ultimo Post Office and William Henry Street, the eastern façade envelopes the western façade of the Engine a House and the Turbine Hall. The southern wall faces the Level 3 forecourt and Macarthur Street.

The building predominantly fronts into Harris Street and is the most prominent component of the landscape when viewed from Darling Drive and nearby Harris, Systrum, Macarthur, Hay and William Henry Streets.

15.2.2 Built Elements<sup>12</sup>

When it was built the Wran building comprised of two vaulted spaces- Vault 1 (The Galleria) and Vault 2. The Harris Street forecourt (‘Level 3’ of the site) and the Grace Bros Courtyard (now known as the Level 1 Courtyard) were formed at the same time and a brief description of the Level 1 Courtyard is included in this section.

Today, Vault 1 is a linear barrel space which contains the Museum’s principal entry, and the former entry, Vault 2, the Touring Exhibition Hall, an incomplete half-vault.

The Wran Building has been altered significantly since its construction in 1988, particularly during the 2011–2013 revitalisation project.

Vault 1 (The Galleria) has a high, partially glazed, arched steel roof with glazed facades on the north, south and west. The northern elevation represents the rear of the building and is associated with a series of fire doors that open onto a courtyard that leads to William Henry Street via a set of stairs. Vault 1 (The Galleria) meets Vault 2 along its northern and southern elevations. As designed by Glendenning, The Galleria abuts, yet is detached from, the Turbine Hall to the east through an offset in its arched roof which extends over the hall stone and brick parapet, displaying the carefully articulated distinction between the old and the new. The same technique has been executed at its junction with the Engine Room. Vault 1 houses the Museum’s permanent exhibits – Locomotive No 1 (near the southern end) and the Boulton and Watt Beam Engine (towards the northern end). Modifications to the building in 2013 and the removal of a raised viewing platform mean that the Boulton and Watt Engine can no longer be viewed as originally intended. The Boardroom – a simplified model of the halls’ Turbine Hall / Boiler House on Level 5, sits at the southern end of The Galleria.

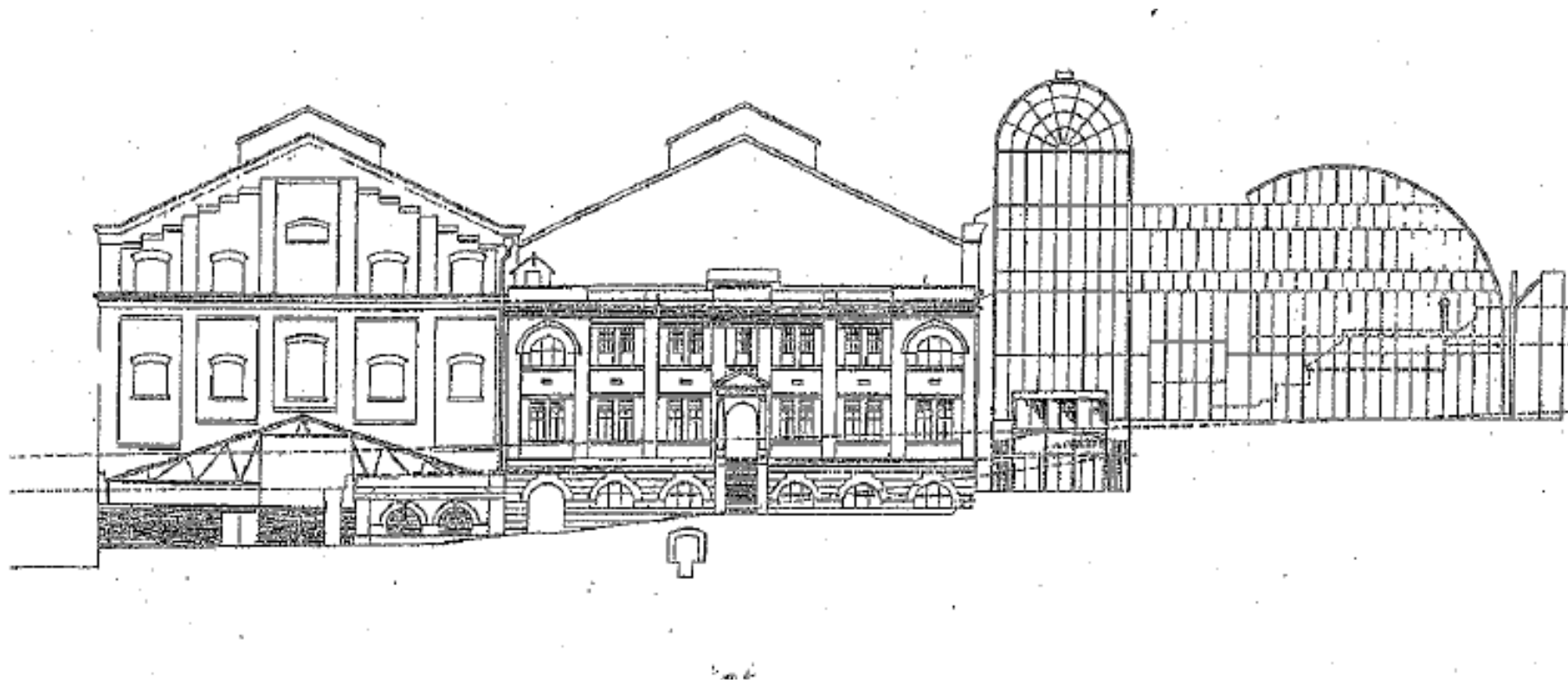


Figure 15.10 North elevation of the Powerhouse Museum in 1988 (Source: National Trust)

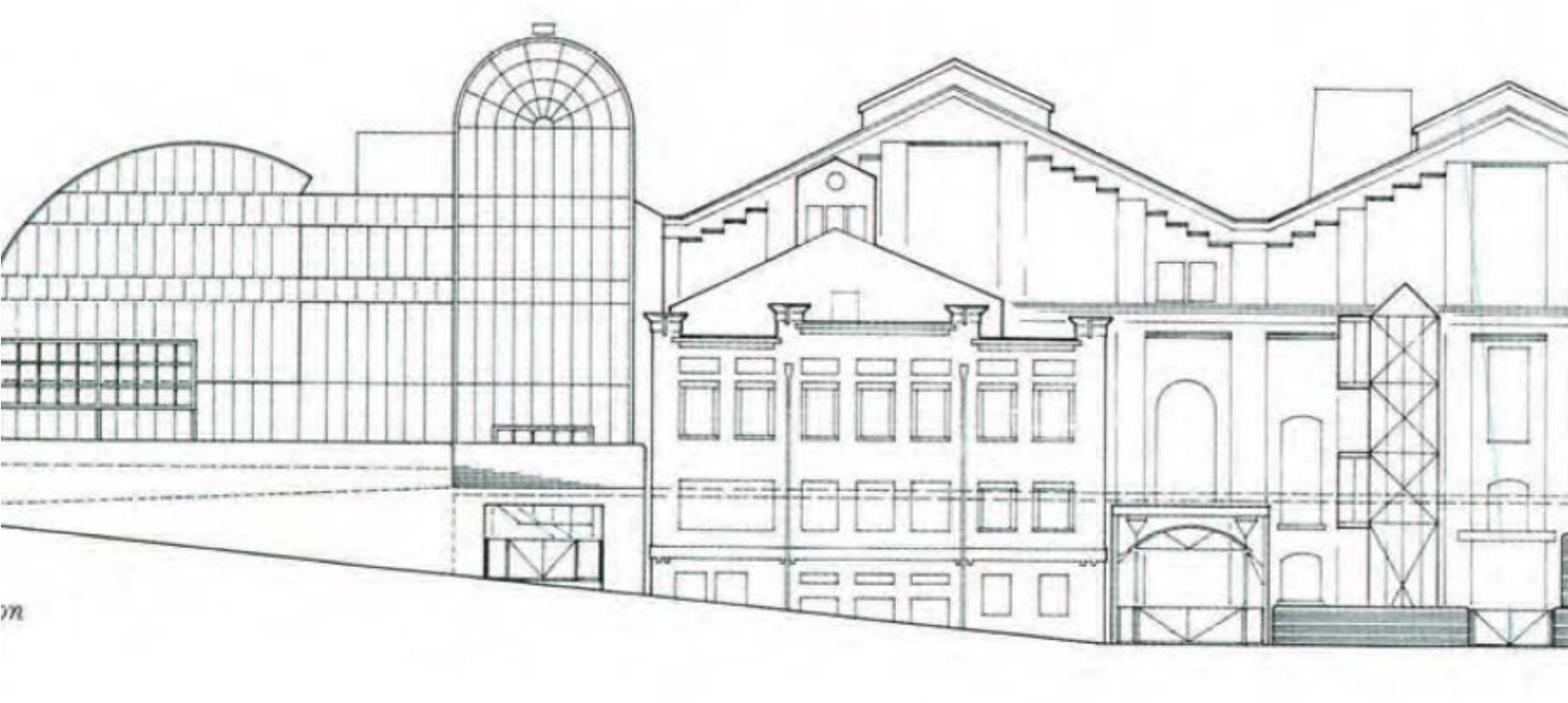


Figure 15.11 South elevation of the Powerhouse Museum in 1988 (Source: National Trust)



Vault 2 (Touring Exhibition Hall) has a lower and broader scale than Vault 1 and characterised by a prominent corrugated steel roof that arcs down in a reverse curve edge. The east and south facades have glazed frontages that extend to door height and provide an exit to Harris Street and the Museum’s forecourt. The exterior of the north and south ends are finished in fibre cement sheets, painted white and marked with the Museum’s name. The same material is used on the colonnade’s finish. The Exhibition Hall is associated with a mural of the Australian sky along its northern and southern internal elevations. Its original light painted Renfoil ceiling has been painted black. The Touring Exhibition Hall is partitioned into two black box spaces for temporary exhibitions and the north end was significantly reconfigured to be used as a UTS classroom. Modifications carried out in the 2000s included the addition of black plywood panels into the building to block the natural sunlight on Level 3. The original Italian nougat tiled flooring in Vault 2 has been partly damaged by removed fitout over time and much of it is covered by carpet. Two triangular balconies located on Level 5 and originally intended to provide views of exhibitions on lower floors have now been modified and no longer function as they were intended. One looks onto an empty space while the other is being used to house lockers.

A central element between Vault 1 and Vault 2 is divided over 3 levels and occupied by studios, offices, storage and service spaces. The First Nations Design and Fashion Hub occupies the northern end of the top level.

Level 2 is used for temporary exhibitions and is occupied by a Theatrette and Theatre on Level 2 below Vault 2. Level 1 is occupied by a Digitisation Studio, plant, and storage and service spaces.

Today, the Wran Building provides access for schools and groups at Level 2 from the Macarthur St. Entry through the Galleria does not have a clear intermediate zone between the outside and the exhibition areas. The admissions desk and the cloaking facilities are located behind the west wall of the Switch House, and a visitor must turn right and go through the arched opening in the west wall of the Turbine Hall to find the reception area. The different levels within the building are generally accessed through the inclined ramp that runs parallel to the length of the building and connects Levels 1, 2, 3 and 4. A lift at the southern end connects Levels 3, 4 and 5.

A significant amount of original fabric has been retained in the Wran Building. This includes the structure and external joinery, the George Freedman designed carpets, and the ‘nougat’ tiled flooring (much of which is covered by new carpet). In addition to the interiors of the two theatres and the perforated metal balustrades.

The Level 1 Courtyard (formerly the Grace Bros Courtyard) was added at the same time as the Wran Building. It currently exists as a ‘rear courtyard’ for the site. At present it houses a rectangular box-like café (although the café ceased operations in 2020), a children’s playground and a Utility substation surface entrance. Within the Level 1 courtyard are the colourful 1988 external stair and lift shaft of the Boiler House which pay reference to the coal chutes, ash handling plant, and coal handling plant of the former Power House. Remnant tracks from where the Goods Line (Darling Harbour Rail Corridor) used to extend into the Boiler House are evident.

The brightly coloured, striped, vertical elements, whilst representative of the former coal chute on the building, detract from the significance of the Boiler House. When entering the Museum complex from the Goods Line, the large, rectangular café and covered walkway both detract from the significance of the Switch House, Turbine Hall and Boiler House.



Figure 15.12 Entry to the Level 1 Courtyard from Macarthur Street/ The Goods Line (Source: Powerhouse)



Figure 15.13 Level 1 Courtyard (Source: Curio Projects)



Figure 15.14 Level 1 Courtyard (Source: Curio Projects)



Figure 15.15 Level 1 Courtyard (utility substation surface entrance in blue) (Source: Curio Projects)



15.3 HERITAGE SIGNIFICANCE – DISCUSSION

The Wran Building is not included on any statutory heritage register for local or State significance. It is excluded from the recent 2020 SHR Listing for the Ultimo Power House and is not listed on the City of Sydney LEP. As the Wran Building is not a heritage listed item at a Local or State level, gradings of Significant components has not been prepared for this element of the site.

An independent assessment of heritage significance of the Wran Building, commissioned by Heritage NSW, was undertaken by architects Cracknell & Lonergan in 2019, the results of which were presented in a report dated January 2020.<sup>13</sup> The Cracknell & Lonergan report included an assessment of the 1988 architectural additions to the Powerhouse site (i.e the Wran Building), particularly in response to the proposed statement of significance drafted by the National Trust with respect to the Wran Building and 1988 site additions specifically.

The 1988 Wran Building and additions, whilst award winning, have been subject to unsympathetic changes which have diminished the original architectural intent and reduced the ability to interpret the building as a key work of the post-modernist period. The folies facing the Harris Street entry, the original playful array of colours and other characteristics of the post-modernist architectural period have been demolished or lost...

...The Wran building is regrettably unconvincing. The fair ground style of architecture bore reference to the exuberant darling harbour redevelopment of the 1980s with an accidental and clumsy reference to the garden palace with elements of the garden palace ‘reconstructed’ and placed around the curiously over-scaled interiors of the Wran building. ... Essentially, it is a services component which serves the main bulk of exhibition spaces contained within the original Ultimo Powerhouse structures.

Cracknell and Lonergan recommended in their report that:

... A clear distinction must be established between the significance of the MAAS Collection and the Ultimo Powerhouse site. The significance of the two, for its aesthetic, cultural and historical merits cannot be conflated to be interwoven as implied in the National Trust listing. The subject site is not an ‘ongoing repository’ as it would fail to consider the Powerhouse collection held at all of its other sites, but the collection can be described as such.

Physically, the Wran Building has been altered significantly since 1988, particularly during the 2011–13 revitalisation project in contrast to the recommendations of the 2003 CMP that recommended that the Wran Building be retained with no changes, including to Vault 1 and Vault 2 and the open character of the mezzanines due to its representation of the ‘image of the Powerhouse Museum’.<sup>17</sup> The level of alterations to the Wran Building is to the extent that it has been argued that the Wran Building and museum design has deviated so far from the original design intent as to no longer be representative of the original flow design of the building and award winning museum design.

The Wran Building is considered to have some significance at a local level. It has some significance for its role in the adaptive reuse of the Ultimo Power House buildings, and has some significance for its post-modernist style and associations with new approaches to museum making in the late 1980s.

It is also important to note that whilst the construction of the Wran building was innovative for its adaptive reuse of the site at the time, it also impacts the visibility and readability of the heritage buildings within the site.



Figure 15.16 Powerhouse Museum 1980s Wran Building from Harris Street, 1988 original architectural presentation (Top) compared with 2018 (Above) (Source: Cracknell & Lonergan 2020: 9)



15.4 OPPORTUNITIES AND CONSTRAINTS

Opportunities

- Consider the original design intent for the Wran Building, and use these principles to consider the movement of visitors through the Museum.
- Ensure that new works, such as any demolition, alterations and additions, and new buildings, retain the heritage significance of the Powerhouse Ultimo site.
- The 1988 adaptive re-use of the Power House Buildings into the Powerhouse Museum, including the construction of the Wran Building, further obscured rather than enhanced the industrial history of the site. Future use of the site should seek to identify any opportunities to re-connect with and explore the industrial history of the site, possibly via future development choices, heritage interpretation initiatives etc. The industrial context of the site is particularly apparent when viewed from the Goods Line entry to the site, where the industrial buildings are more prominent.
- Ensuring the design principles of the 1988 development are appended to the CMP and are used as a guide for future renewal programs.
- Over the 30 years since the Wran Building was constructed, museums and how they operate have significantly changed. There is opportunity in any renewal to ensure the embedded ambition from 1988 ‘to be radical’ has the ability to be carried forward and applied in a contemporary museum context.

Constraints

- The facades of key State Heritage Listed buildings on site, such as the Engine and Turbine Halls are obstructed both physically and visually by the Wran Building and other 1980s additions to the site. This configuration restricts the ability to interpret and appreciate the heritage buildings as they relate to one another and from different key external viewpoints. Opportunities to improve the visual access to the heritage listed buildings in the future would be encouraged.
- The Wran Building has been subject to numerous design changes over the years, limiting the ability for the building in its current iteration to convey the original design intent of the 1980s adaptive reuse of the site.
- Visually, the Wran Building obscures the connection of the Ultimo Post Office to the original Power House buildings, impacting its readability and presence on site. In its current form the Wran Building limits the ability for providing a more meaningful curtilage to be established around the historical Post Office.

15.5 ITEM-SPECIFIC CONSERVATION POLICIES

15.5.1 Powerhouse Museum Design Principles and the approach to change

The Powerhouse Museum is an evolving entity which has the potential to enhance exhibition design, museum practice, curatorship, collection management and research. Glendenning intended that it act as a modern and radical space, informed by the past and the future. Glendenning's principles are attached at Appendix E.

Depending on the nature of any future development proposed to the Wran Building, modifications or repairs to the external structural elements may be subject to the requirement for a Heritage Impact Statement to be prepared to ensure that there are no adverse physical or visual impacts on the State-Heritage listed Items on site.



15.6 PHOTO REGISTER FOR THE  
WRAN BUILDING

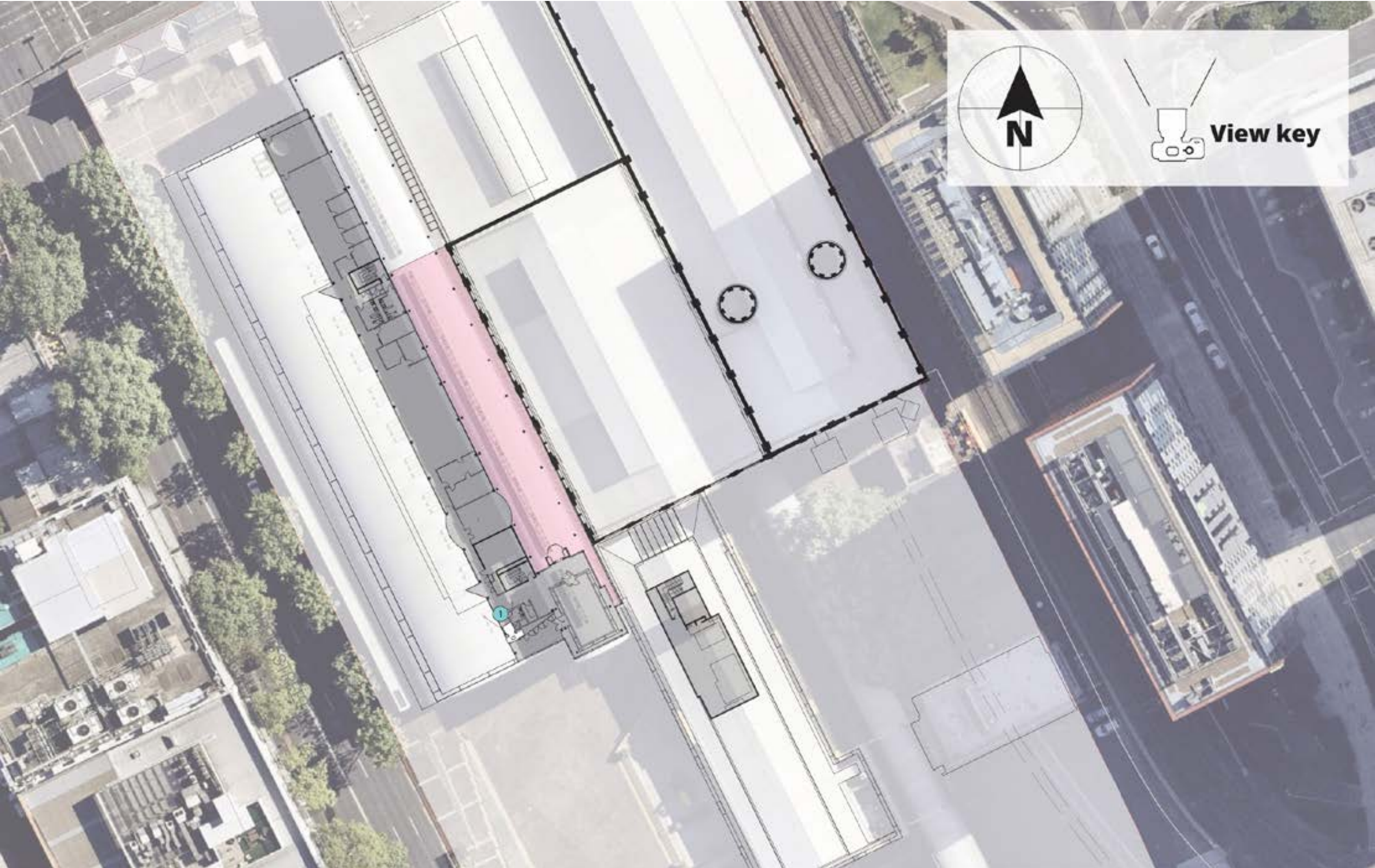


Figure 15.17 Wran Building Photo Register (Level 5)





Wran Building Viewpoint 1: Level 5



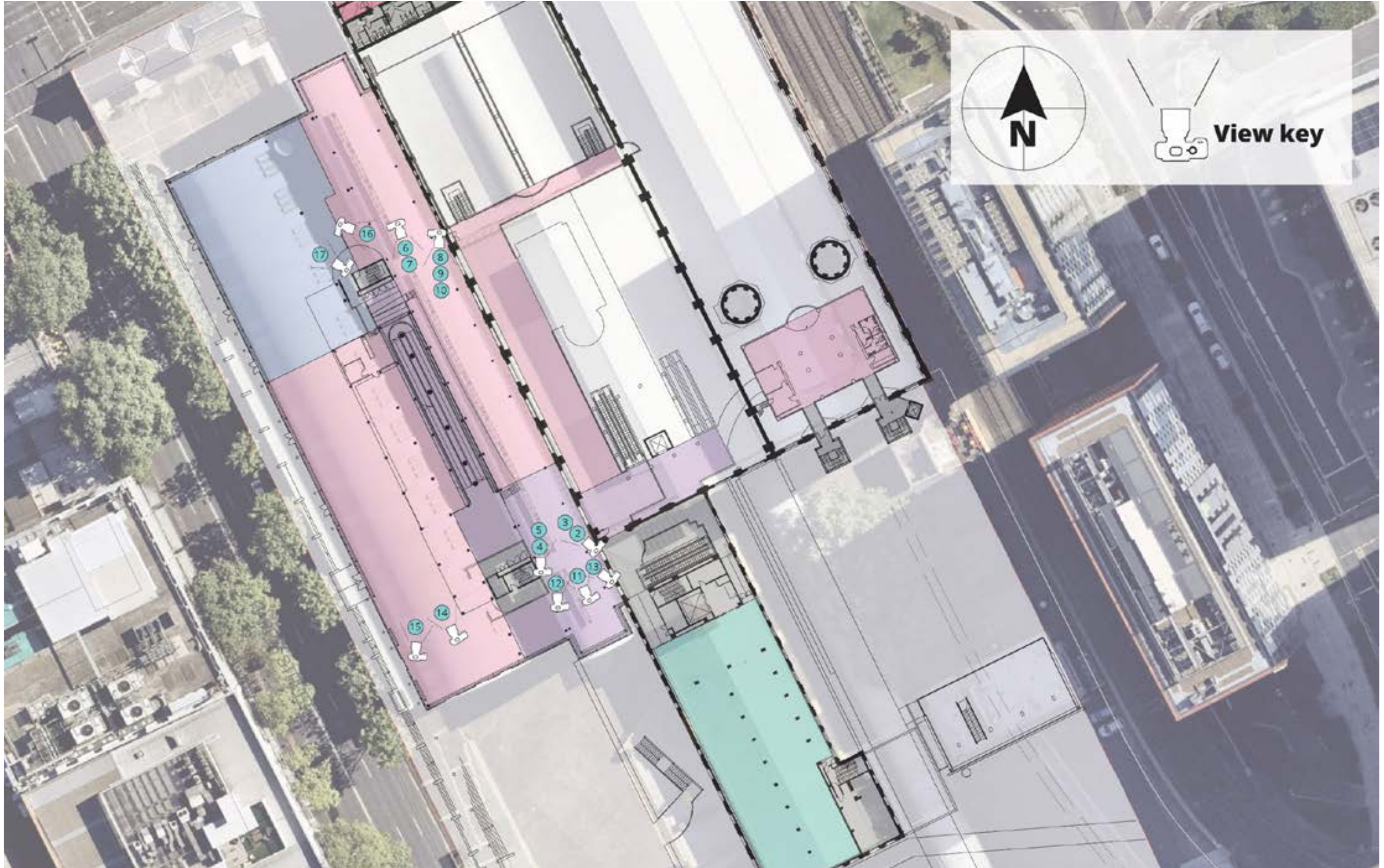


Figure 15.18 Wran Building Photo Register (Level 3)





Wran Building Viewpoint 2: Level 3



Wran Building Viewpoint 3: Level 3



Wran Building Viewpoint 4: Level 3



Wran Building Viewpoint 5: Level 3



Wran Building Viewpoint 6: Level 3



Wran Building Viewpoint 7: Level 3



Wran Building Viewpoint 8: Level 3



Wran Building Viewpoint 9: Level 3





Wran Building Viewpoint 10: Level 3



Wran Building Viewpoint 11: Level 3



Wran Building Viewpoint 12: Level 3



Wran Building Viewpoint 13: Level 3



Wran Building Viewpoint 14: Level 3



Wran Building Viewpoint 15: Level 3





Wran Building Viewpoint 16: Level 3



Wran Building Viewpoint 17: Level 3



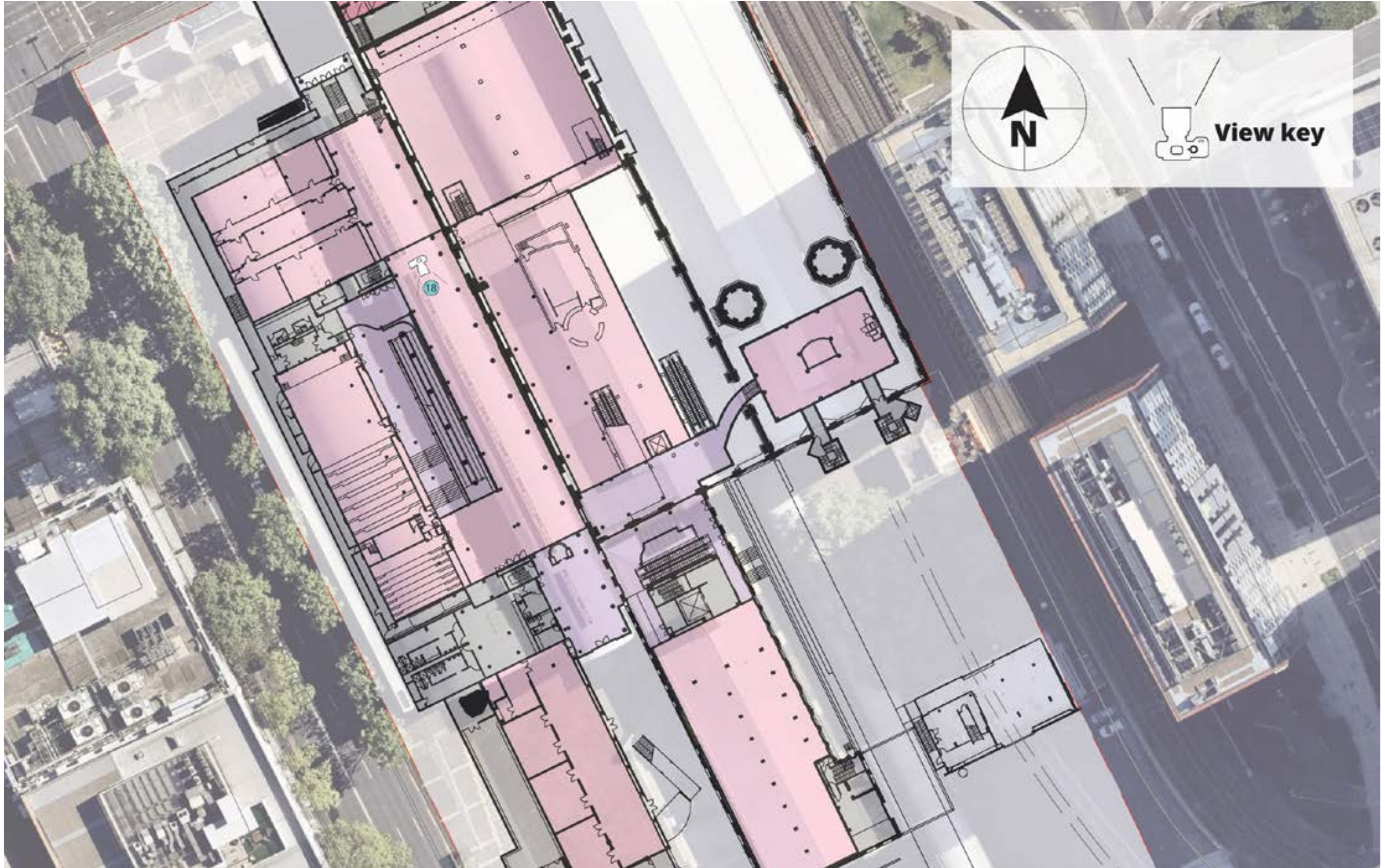


Figure 15.19 Wran Building Photo Register (Level 2)





Wran Building Viewpoint 18: Level 2



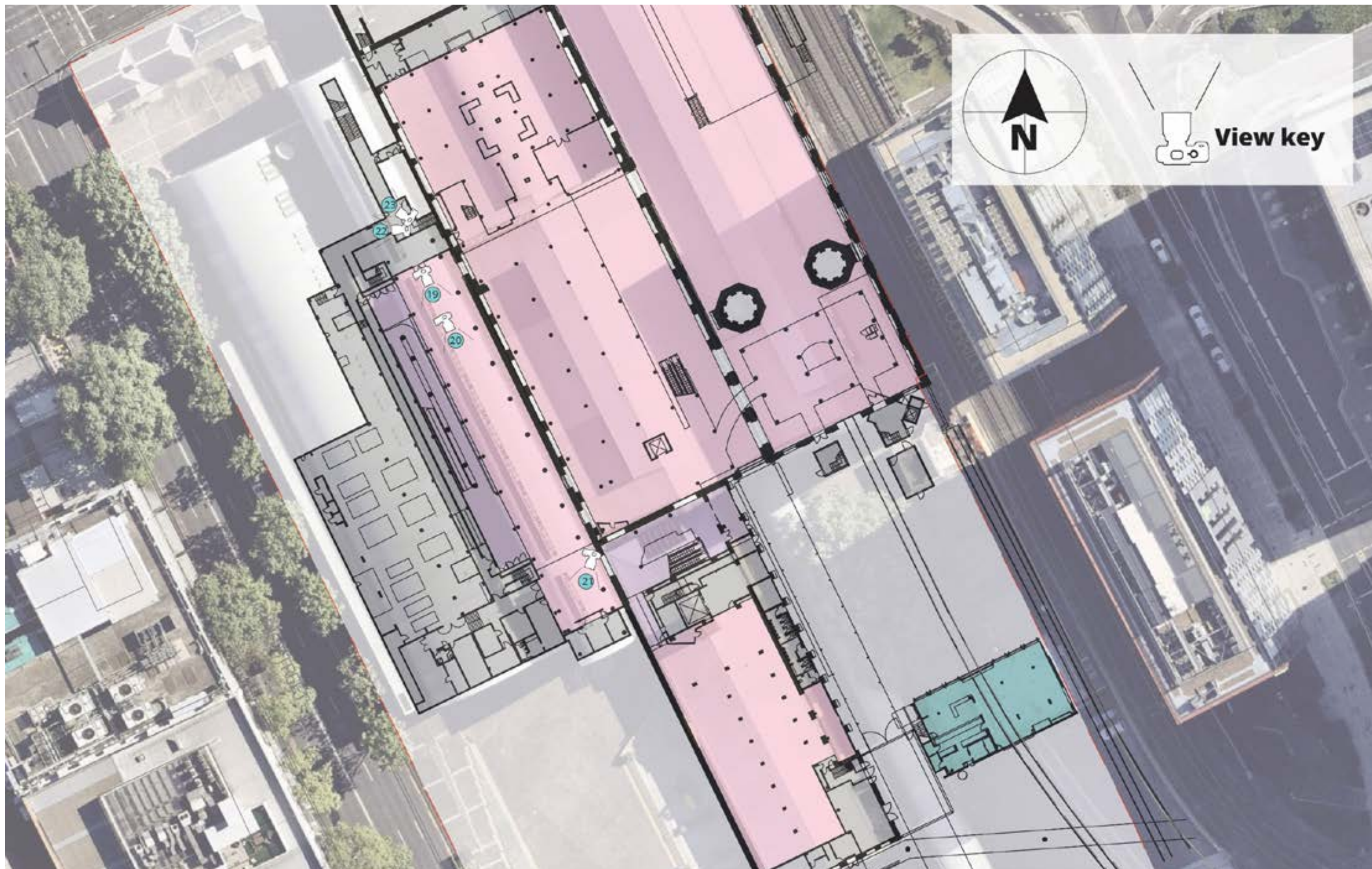
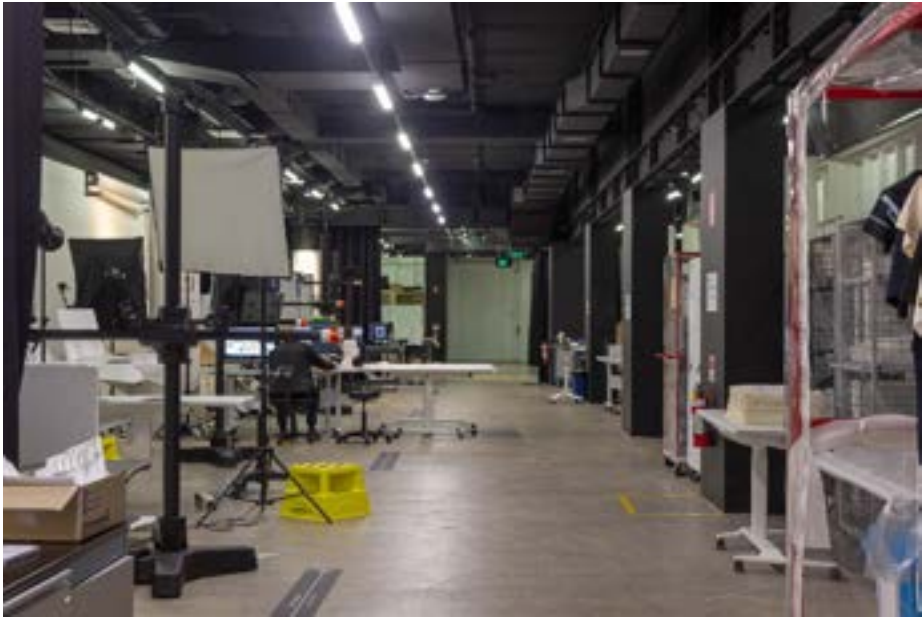


Figure 15.20 Wran Building View Key (Level 1)





Wran Building Viewpoint 19: Level 1



Wran Building Viewpoint 20: Level 1



Wran Building Viewpoint 21: Level 1



Wran Building Viewpoint 22: Level 1



Wran Building Viewpoint 23: Level 1

## 15.7 ENDNOTES

1

Architectural Projects, 2003, p. 29.

2

Dr Lindsay Sharp cited in Architectural Projects, 2003, p. 29.

3

Architectural Projects, 2003, p. 47.

4

Watermark Press Sydney 1997 p. 189 cited in Architectural Projects 2003 pp. 35-36.

5

Jennifer Sanders. 'Realising Memories, Reminiscences and Thoughts:' in Graeme Davison and Kimberley Webber (eds). *Yesterday's Tomorrows: The Powerhouse Museum 1880-2005*. 2005, 230-239. cited in Design 5, Powerhouse Museum Design Principles (DRAFT), with Lionel Glendenning and Richard Johnson, 2021, p. 26.

6

Architectural Projects, 2003 pp. 62-63.

7

SHR Listing, "Ultimo Power House".

8

Architectural Projects, 2003, p. 7.

9

Powerhouse Museum, Annual Report 2005-2006, p. 3.

10

Museum of Applied Arts and Sciences, Annual Report 2011-2012, p. 8-9.

11

Museum of Applied Arts and Sciences, Annual Report 2012-2013, p. 16.

12

Informed by research conducted by Design 5.

13

Cracknell & Loneragan Architects, *Assessment of Heritage Significance, Ultimo Tramways Power House Museum*, Independent Review, prepared for Heritage NSW (Rev. B, 30 Jan 2020), 2020.

14

ibid, p. 14.

15

ibid, p. 21.

16

ibid, p. 45.

17

Architectural Projects, 2003, p. 109.

18

Aurecon, 2022. *Powerhouse Ultimo – Conservation Management Plan Engagement*, p. 24 and Ms Alice-Anne Bagster, *Inquiry into government's management of the Powerhouse Museum*, 2020, Submission No 2, and Mr Peter May, *Inquiry into government's management of the Powerhouse Museum*, 2020, Submission No 5.



# 16 WATER COOLING SYSTEM AND MANIFOLD

16.1 HISTORY OF THE WATER COOLING SYSTEM AND MANIFOLD

Numerous factors were considered during the process of selecting the location for the Power House in the late 1800s, including accessibility to transport for coal, room for expansion, cost of land, and availability of labour sources. Of these numerous criteria, one critical factor was the ready availability of a water supply for use in the water cooling system for the new Power House—an essential feature of the functionality of the entire system. The proximity of the Ultimo site to the unlimited supply of sea water in Darling Harbour was, therefore, a key influence in finalising the selection of the Ultimo site.

The contract for construction of the water conduit connecting Darling Harbour to the Boiler House to supply seawater to the condensers, was awarded to Justin McSweeney in 1898 (Contract 18), with the shafts sunk by mid-1898, and the water conduits completed by mid-1899.<sup>1</sup> At the opening of the Ultimo Power House in 1899, the original 950 foot (c.289m) long, 3 feet 3 inches (c1m) diameter inlet conduit transported seawater from Darling Harbour to the pumps in the original northern Pump House, for use in the condensers in the Boiler House, while a second outlet conduit not far from the intake discharged heated condenser water back into the Harbour.<sup>2</sup> While the plans and specifications for the original conduits have not been located, it is assumed that the conduits would have been constructed from precast concrete pipes- as used in other similar projects by the Department of Public Works around this time.<sup>3</sup> A new conduit and additional pumps was constructed in 1907–1908 to meet the need of the new generating units introduced with the construction of the Turbine House and extended Boiler House.<sup>4</sup>

Land reclamation works around Darling harbour in the 1920s, as well as the larger water requirements of the new 20,000kW turbines, necessitated installation of new, longer, intake and outlet conduits for the Power House. Conduit installation works commenced in 1923–24, started at the Ultimo end by the NSW Railway Department, and completed at the Darling Harbour end by the Sydney Harbour Trust. Works to complete the conduits were of a considerable scale particularly difficult—one of the most expensive works undertaken in the 1920s modernisation of the Power House. The Sydney Harbour Trust first had to first sink a shaft down to the lengths of conduit already installed by the Railway Department and then tunnel through the sandstone bedrock to extend the conduits out to the harbour’s edge. Construction works made liberal use of below-water coffer-dams with the assistance of many divers. The new conduits used two lines of precast Monier concrete pipes, each 6ft (1.83m) in diameter, laid side by side through a single tunnel through the sandstone with the space between the pipes filled with rubble, with screening chambers at the harbour’s end.

Previous Names	Water conduit
Address	Powerhouse to Murray Street to Waters Edge, Darling Harbour, NSW
Built	1898–1901
Heritage Listings	Property NSW Section 170 Register SHR 02045 “Ultimo Power House”
Non-Statutory Listings	N/A



Figure 16.1 The Water Cooling System and manifold is a historic subterranean conduit with a seawater pit in the basement of the Turbine Hall, from which the conduit runs below the Ultimo Powerhouse site in a SW to NE direction to Darling Harbour. Source: (John Wardle Architects with Curio Projects overlay)



Figure 16.2 Location of the Water Cooling System and Manifold pump/seawater pit in the basement of the Turbine Hall 2020 (Source: Curio Projects)



Each precast section of the concrete pipes measured 25ft (7.62m) in length and weighed around 30 tonnes, laid on underwater concrete piers at a maximum depth of 47 feet (14.33m) underwater, extending the conduits beyond the edge of the land reclamation and out into the deep water of the Harbour<sup>5</sup> (Figure 16.4 and Figure 16.5). Wharf number 39 was later constructed above the conduit at the Harbour's edge.

The new circulating water system was completed in 1928, with a greatly increased capacity from the previous system, with other elements and features including:

Trash racks for preventing the entrance of large floating objects are incorporated in the intake chambers; these are formed of reinforced concrete grills, having spaces 3 in. wide to admit the water. The screen well contains two revolving screens, made, to the designs of Ledward and Beckett Ltd., London, by the Clyde Engineering Co. Ltd.<sup>6</sup>

A vertical spindle type circulating water pump (Figure 16.6) was installed at the bottom of the well in the Turbine Hall basement, powered by an electric motor and connected by valves to both the inlet and outlet conduits. The use of seawater from the harbour caused ongoing issues of fouling of the conduits by marine growth, which, if left uncleaned, reduced the capacity of the pump. Low tides further compounded the fouling problem, resulting in the pump drawing in a large amount of air which in turn contributed to the corrosion of the condenser that served the large turbo-alternator (1931), eventually resulting in a major failure of this turbine.<sup>7</sup>

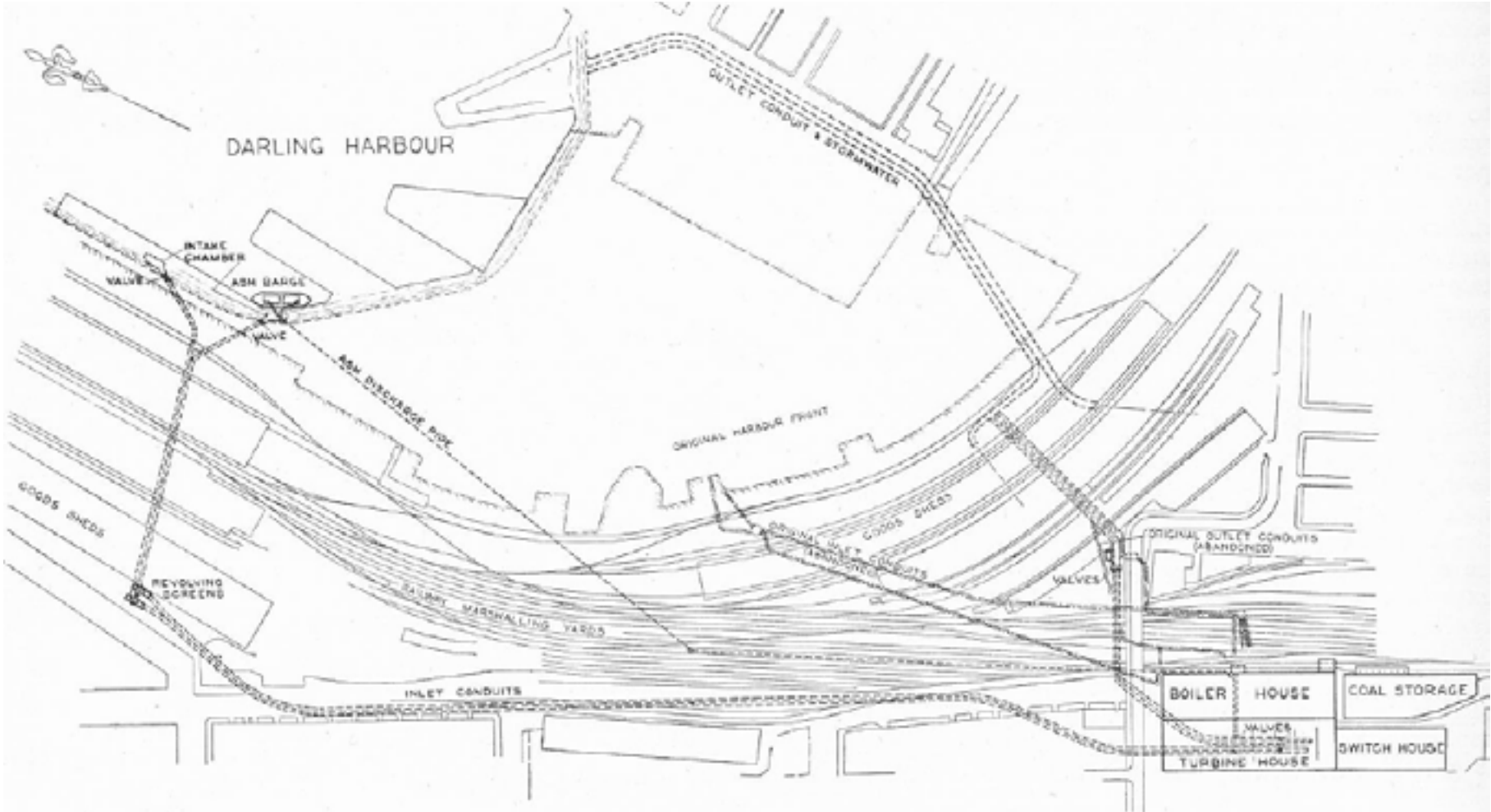


Figure 16.3 Plan showing the original 1899 conduits, and later 1920s conduits between Darling Harbour and the Power House (Source: Myers 1933, p. 255)



Figure 16.4 Close up of Water conduits with man for scale. Rails in the foreground were used to cart rubble to fill the space between the two pipes. (Source: State Rail NSW Item 364/46)

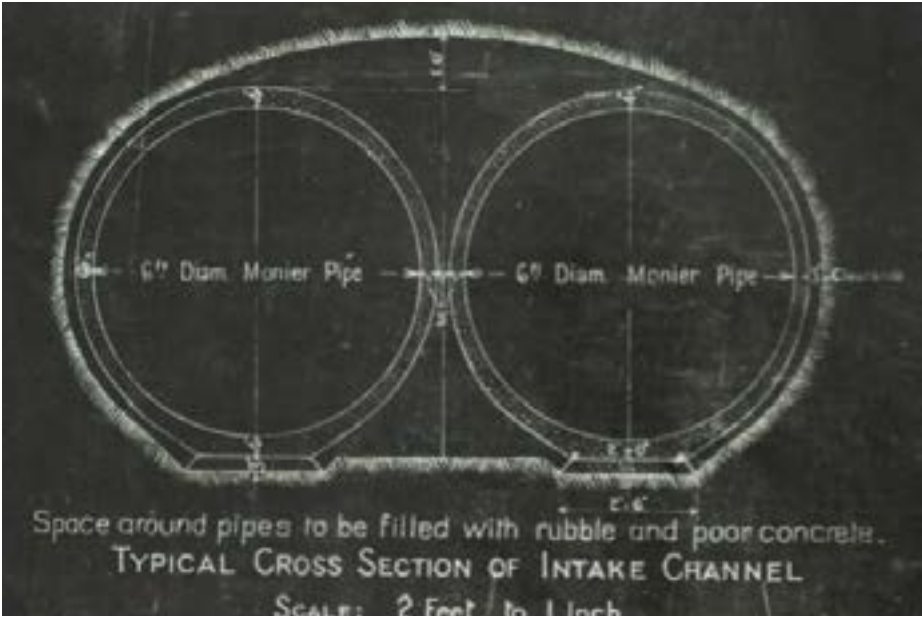


Figure 16.5 Typical Cross section of intake channel for Ultimo power house water conduits (Source: State Rail NSW, item 364/49)

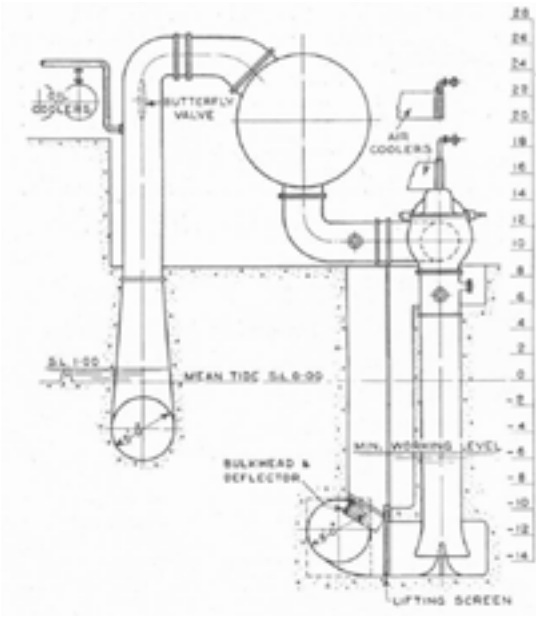


Figure 16.6 Circulating Water Suction and Discharge (Source: Myers 1933, p. 263)



After the Ultimo Power House was decommissioned in 1963, the intake and outlet conduits in Darling Harbour were used until around 1990 as a scuba diving training area for the Water Police.<sup>8</sup>

The design and planning for the 1980s Powerhouse Museum included inspection of the state of the existing water conduits for feasibility to adapt for use in the museum’s air conditioning system (Figure 16.7).

In the early stages of design the condition of the sea water tunnels was unknown. A pair of shafts in the turbine hall, partially choked with demolition rubble, permitted the observation that they were subject to tidal rise and fall and therefore at least partially unobstructed.<sup>9</sup>

The active use of the tunnels for the museum’s air conditioning system provides a link between the buildings historic innovation in engineering that is still in use.

In 2022, two of the underground tunnels of the Water Cooling System and Manifold remain in use for the museum’s air conditioning system (Figure 16.8 to Figure 16.10), with sea water pumps located at the sea water pit in the basement of the Turbine Hall running 24/7, pumping around 7,777,000 litres of water a day.<sup>10</sup> It appears that the original issues with fouling of the conduits that plagued the Power House, remain an issue today, when in October 2019 divers inspected the pump after its failure, and found that the heavy duty grates overlying the seawater pit were disintegrating from extensive corrosion caused by sludge sedimentation.

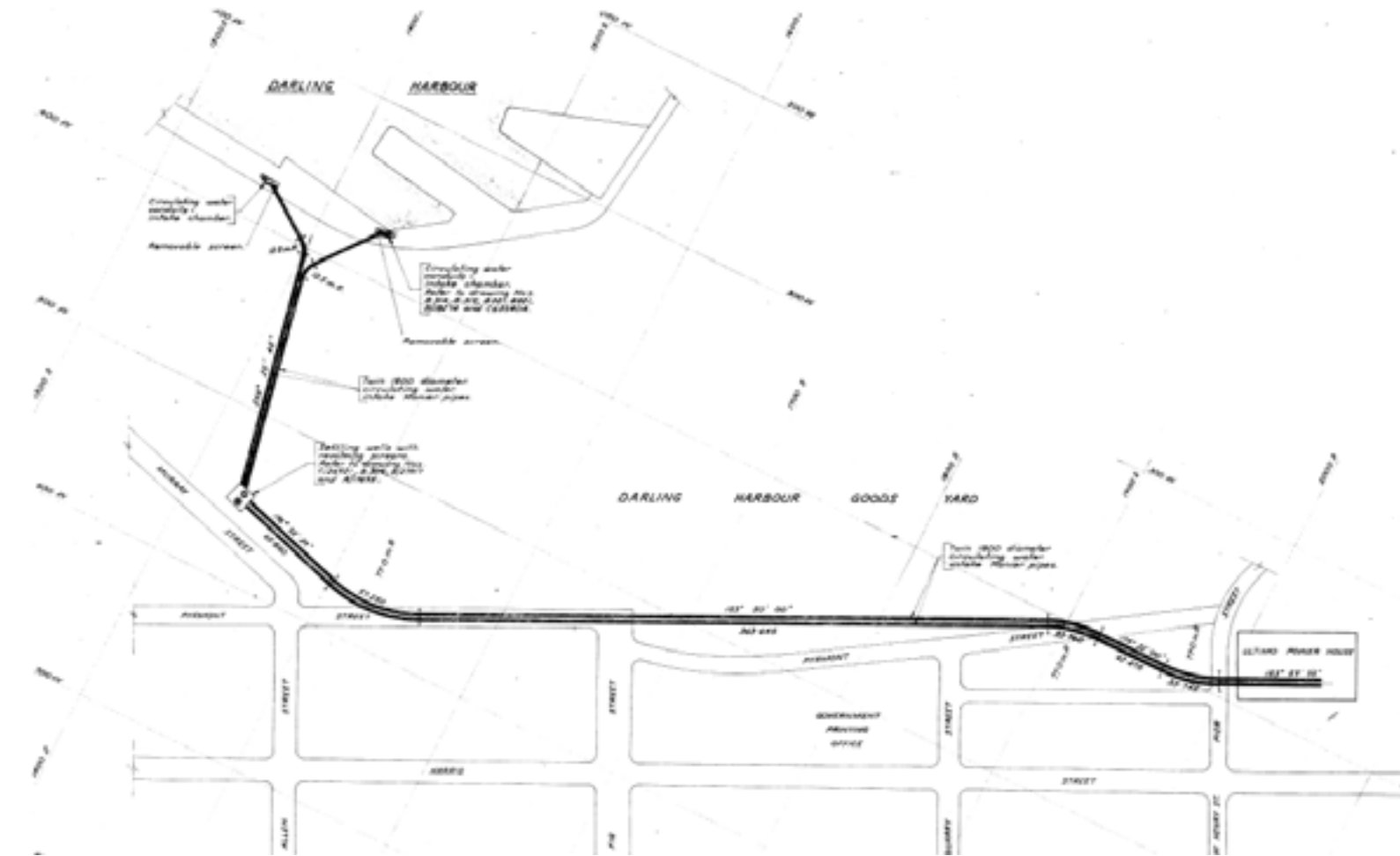


Figure 16.7 Power House Ultimo Plan of existing seawater conduits, drawn 1982 (Source: Powerhouse)



Figure 16.8 Sea Water pit and penstock valve (Source: Powerhouse)



Figure 16.9 Sea Water pump pit suction motors (Source: Powerhouse)



Figure 16.10 Sea water return pit (Source: Powerhouse)



16.2 PHYSICAL ANALYSIS OF THE WATER COOLING SYSTEM AND MANIFOLD

An overall photo register and images of the Water Cooling System and Manifold as of 2020 (as visible in the basement of the Turbine Hall) is presented in Section 16.6 below.

16.2.1 Site and Setting

The seawater pit and pump of the Water Cooling System and Manifold is located in the basement of the Turbine Hall, from which underground conduits extend from the Powerhouse to Darling Harbour, transporting cool water to the Powerhouse from the Harbour, and hot water from the Powerhouse to the water’s edge. The plan for the seawater conduits is shown in Figure 16.7.

16.2.2 Built Elements

The part of the Water cooling System and Manifold located and accessible from the basement of the Turbine House consists of a sea water pit, with Penstock control valves that control the opening and closing of the sea water inlet pipes. The sea water transported through the conduits from Darling Harbour enters the sea water pit, and is then sucked through the inlet pipes to the adjacent pump pit and to four suction pumps, used as part of the Museum’s air conditioning system.

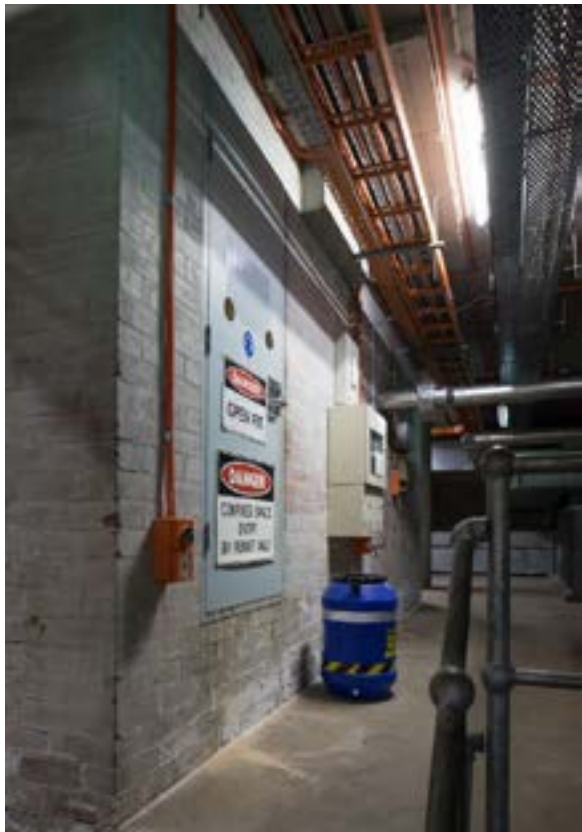


Figure 16.9 Sea Water pump pit suction motors (Source: Powerhouse)



Figure 16.10 Sea water return pit (Source: Powerhouse)



Figure 16.8 Sea Water pit and penstock valve (Source: Powerhouse)



Figure 16.9 Sea Water pump pit suction motors (Source: Powerhouse)



Figure 16.10 Sea water return pit (Source: Powerhouse)



16.3 HERITAGE SIGNIFICANCE

The Water Cooling System and Manifold is listed as a heritage item on the Property NSW Section 170 register. It is also included within the SHR listing for Ultimo Power House (SHR 02045).

16.3.1 Summary of Significance



The Statement of Significance for the Water Cooling System and Manifold from Property NSW’s Section 170 Register is as follows:

The water cooling system and manifold was an integral component of the operating system of the Power Station. The former Ultimo Power Station, (now the Powerhouse Museum) dating from 1899, is historically significant for being the original generating station for the supply of electricity to power the electric tramway network throughout Sydney. It was also one of the largest and most important generating stations in NSW for many years and has associations with the electrification of the suburban railway system and with the general reticulation of electrical power. The station also played a major part in the development of the Ultimo/Pyrmont area.<sup>11</sup>

16.3.2 Grading of Significant Components

Detailed inspection of the condition of the part of the Water Cooling System and Manifold located within the Turbine Hall basement, and as it extends beneath the Powerhouse Ultimo site was not undertaken as part of the preparation of this CMP. Therefore, the following grading of significant components should be considered preliminary only, with potential for a more detailed assessment to be undertaken in the future as desired, via appropriate access by mechanical engineers and divers.

Table 16.1 Grading of Significant Components for the Water Cooling System and Manifold

ELEMENT	IMAGE	GRADING	NOTES
Sea Water pump pit		● EXCEPTIONAL	The sea water pump pit is original and of exceptional significance.
Sea Water return pit		● EXCEPTIONAL	The sea water return pit is original and of exceptional significance.



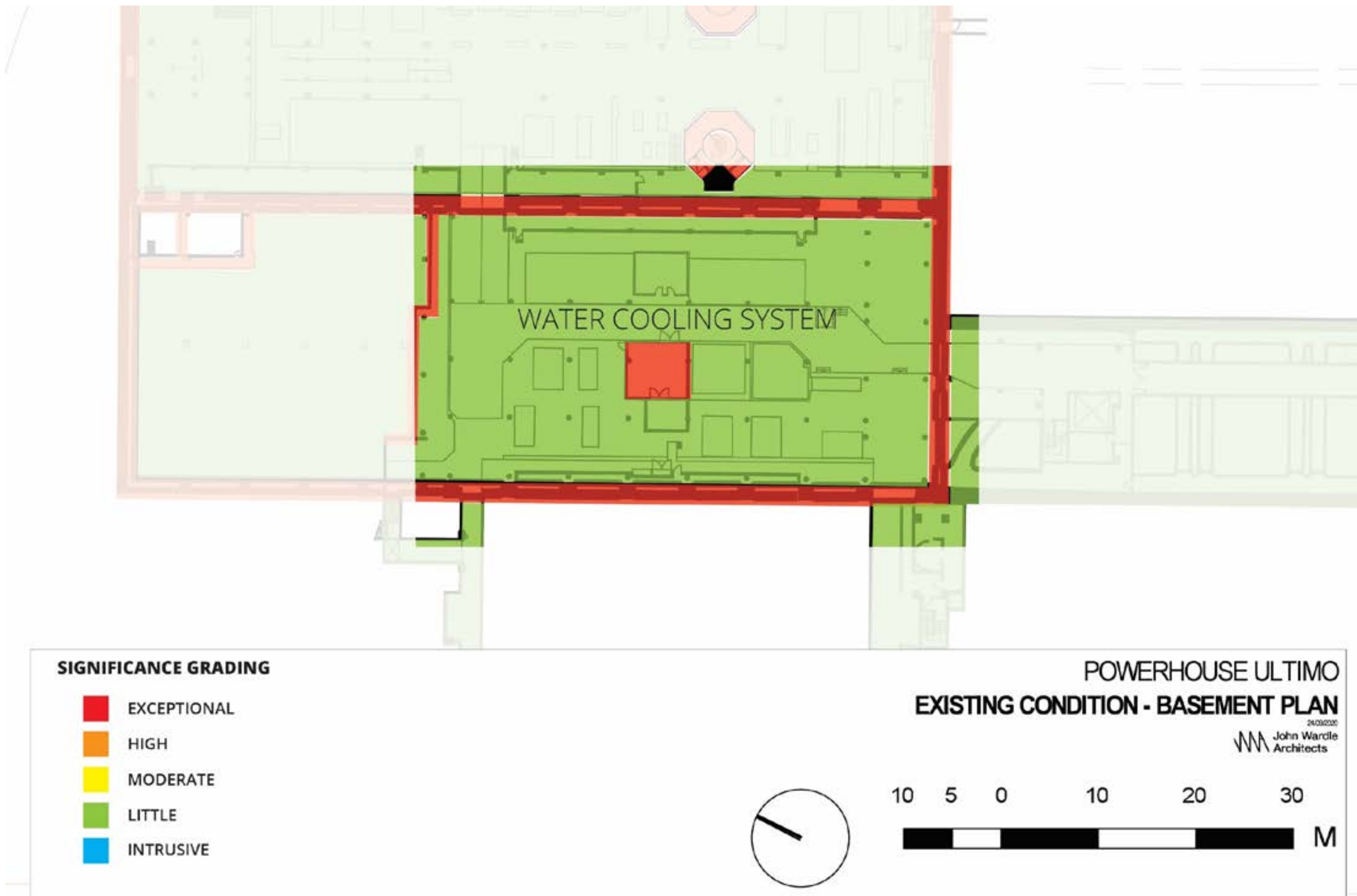


Figure 16.16 Water Cooling System Grading of Significance (Turbine Hall Basement) (Source: John Wardle Architects plan with Curio Projects overlay)

16.4 OPPORTUNITIES AND CONSTRAINTS

Opportunities and constraints specific to the Water Cooling System and Manifold include:

- Opportunities**
- There is an opportunity to interpret the use of steam throughout the buildings history, given the significant role of steam and the day to day operations of the Power House buildings.
  - Programmatic Interpretation of the history and function of the Water Cooling System and Manifold within the museum, exploring its changing use from the Power House to part of the air conditioning system of the museum.

- Constraints**
- The age of the Water Cooling system and its continued use as part of the air conditioning system of the museum.
  - Ongoing issues with corrosion and potential pump failure caused by fouling of the conduits and associated disintegration of the heavy duty grates over the seawater pit.
  - As a heritage item of State significance, the Water Cooling and Manifold System is protected under the Heritage Act 1977, and therefore any maintenance works would need to be undertaken in accordance with the relevant permits, under the advice and guidance of specialist engineers with experience in maintaining and repairing similar heritage items.
  - Any future uses of the site, including any potential changes should avoid any impacts to the Water Cooling system.

16.5 ITEM-SPECIFIC CONSERVATION POLICIES

Policy 12—Cleaning, Maintenance and Repair: Any maintenance and repair works proposed to the fabric of the Water Cooling System would need to be undertaken under the advice and guidance of specialist engineers with experience in maintaining and repairing similar heritage items.

Policy 25—Experience, Skills and Co-ordination: Any works involving the Water Cooling System and Manifold including regular inspections of the condition, maintenance, cleaning and repair works etc, should be undertaken by an appropriately qualified and experienced structural engineer.



16.6 PHOTO REGISTER FOR THE  
WATER COOLING SYSTEM AND MANIFOLD

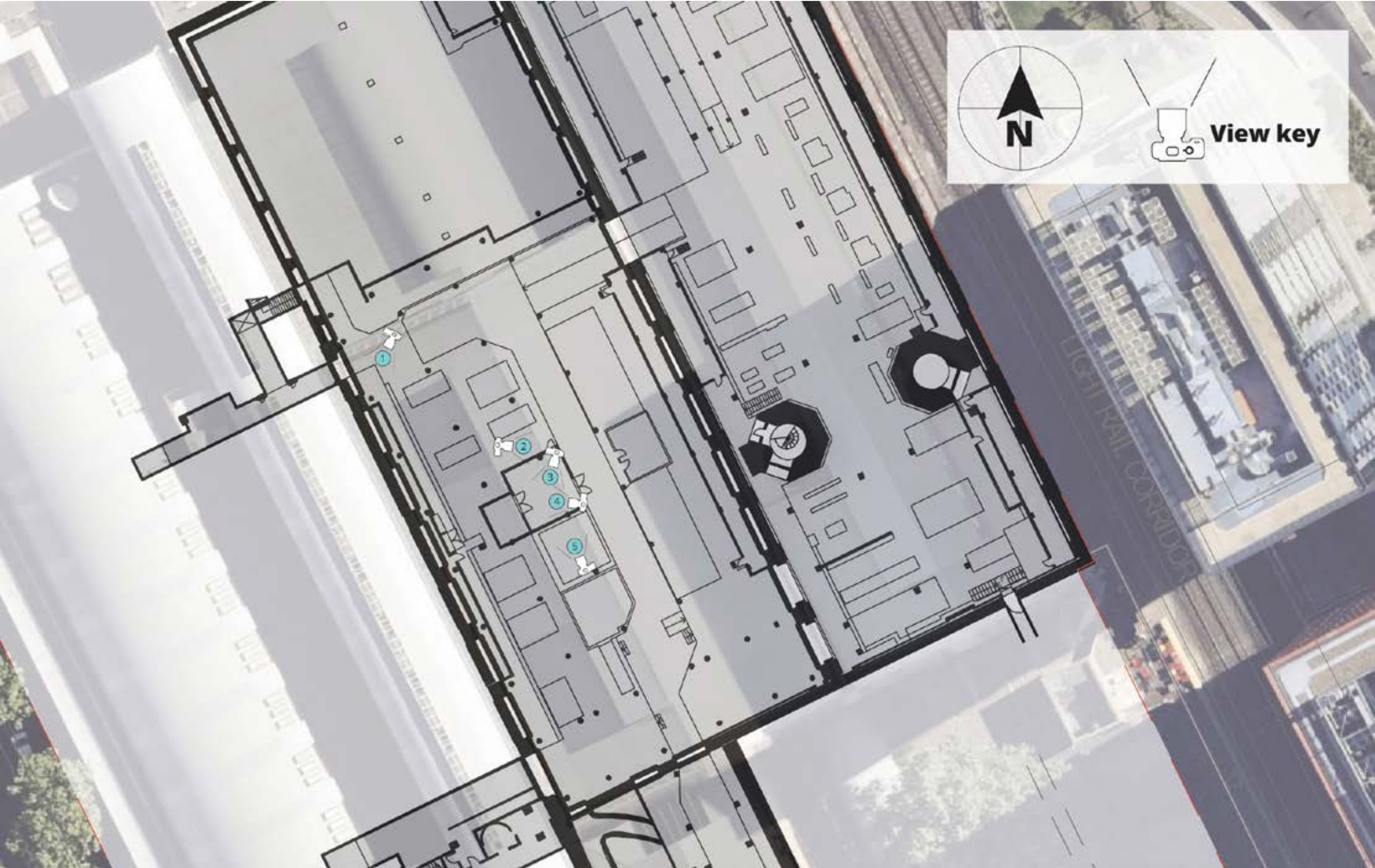


Figure 16.17 Water Cooling System and Manifold Photo Register (within the basement of the Turbine Hall).





Water Cooling System and Manifold Viewpoint 1: Turbine Hall Basement



Water Cooling System and Manifold Viewpoint 2: Turbine Hall Basement



Water Cooling System and Manifold Viewpoint 3: Turbine Hall Basement



Water Cooling System and Manifold Viewpoint 4: Turbine Hall Basement



Water Cooling System and Manifold Viewpoint 5: Turbine Hall Basement



16.7 ENDNOTES

1 Department of Public Works Report, 1898, p. 26; Department of Public Works Report, 1899, pp. 23-24; Department of Public Works Report,, 1900, p. 21; Department of Public Works Report, 1901, p. 22-23.

2 Godden et al., 1984, p. 54, p. 97

3 Casey & Lowe, 2016, p. 43.

4 Godden et al., 1984, p. 54.

5 Casey & Lowe 2016, p. 43; Legislative Assembly New South Wales, The Sydney Harbour Trust Commissioners 1928, p. 3.

6 Myers 1933, p. 262.

7 Godden et al 1984, p. 136

8 Sydney Harbour Foreshore Authority (Property NSW), Section 170 Register, *Water Cooling System and Manifold*,

9 Rowe 1988, p. 15.

10 Powerhouse Museum- Capitol Works Facilities Plan 2020-2021

11 Sydney Harbour Foreshore Authority (Property NSW), Section 170 Register, *Water Cooling System and Manifold*

# 17 THE GOODS LINE



17.1 HISTORY OF THE GOODS LINE

In 1849 the Sydney Railway Company was formed<sup>1</sup>, they approached the Harris family requesting the purchase of 7 acres of land to construct a railway between the now Central Station and the wharfing facilities proposed for Darling Harbour.<sup>2</sup> In 1852 the land was sold (Figure 17.3) but the company faced financial difficulty and the NSW Government took over the company in 1854.<sup>3</sup> The Darling Harbour Railway Corridor (the Goods Line) opened in 1855 as part of the first passenger line between Sydney to Parramatta.<sup>4</sup>

At this stage the railway ended before the Pyrmont bridge and tensions rose between the Harris family and the Government as for many years it was underutilised. In 1863 the land around the railway through the estate was recorded as dilapidated, the railway merely an embankment with the rails set on and the terminus undeveloped.<sup>5</sup> The line had also provided a physical division between Harris Street and the Darling Harbour shoreline.<sup>6</sup>

It was not until the 1870s that the Goods Line was reactivated and went on to become vital in the transportation of Australian goods; wool, coal, shale, timber, and wheat. This included the transportation of coal from the wharfs to the Powerhouse<sup>7</sup> which demanded large quantities of coal to fire their generators.<sup>8</sup> The Goods Line continued operations through the 1930s Great Depression. During WWI and WWII it was used to transport both goods and troops (Figure 17.6).

The 1960s saw the port functions and wool stores moving away from Sydney which led to a decline in the functions of the railway. The Darling Harbour Goods Line was officially closed in 1984, and the Darling Harbour Goods Yards were demolished and redeveloped as a government bicentenary project between 1985–88. From the 1980s the line was generally only used by the Powerhouse Museum to move the occasional Steam Engine.<sup>9</sup>

In 1997 the alignment of a section of the Goods Line north of Hay Street was re-purposed for use as part of Sydney’s light rail network<sup>10</sup> — which still operates today to the east of the Boiler House. In 2017 a section of the Goods Line was interpreted and developed as a public park and major urban connector. Sections of tracks from the Goods Line remain visible alongside the Harwood Building and in the Level 1 courtyard leading to the Boiler House.

Previous Names	Darling Harbour Goods Yard Darling Harbour Railway Corridor Darling Harbour Branch Railway
Address	(Within the Site)- East of the Harwood Building
Built	1853-1911
Heritage Listings	Property NSW Section 170 Register
Non-Statutory Listings	N/A



Figure 17.1 The Goods Line. (Source: John Wardle Architects with Curio Projects overlay)



Figure 17.2 The Goods Line with view north towards Stage 2, Harwood building on left (Source: Powerhouse)



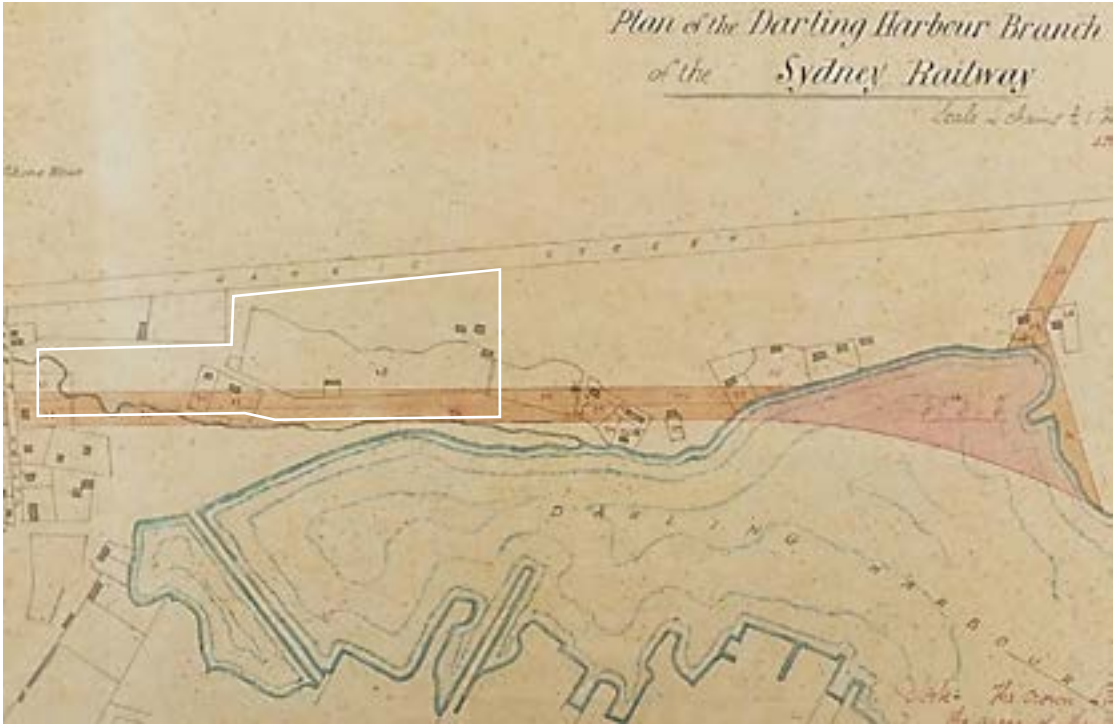


Figure 17.3 c.1853 plan showing land resumed for goods line (Source: State Records NSW AO Map 6831) with Curio overlay



Figure 17.4 Ultimo Goods Line with locomotive, date unknown (Source: Powerhouse)



Figure 17.5 Ultimo Power House and Goods Line, date unknown (Source: City of Sydney SRC 14562)

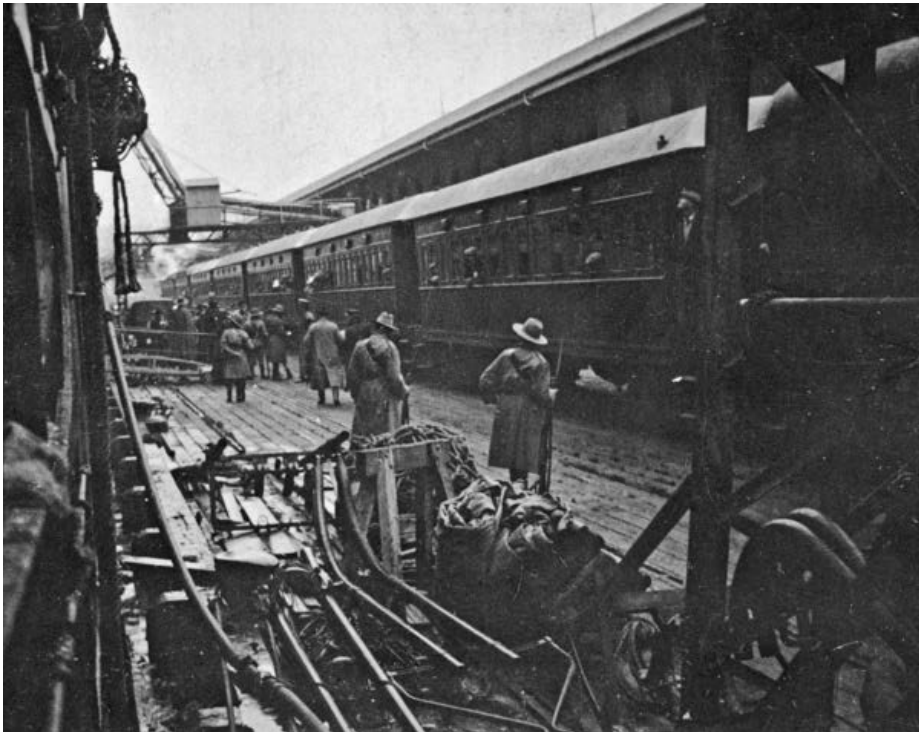


Figure 17.6 WWI image of the Goods Line being used to transport German deportees from Australian Concentration Camps (Source: Australian War Memorial H04144/C295775)

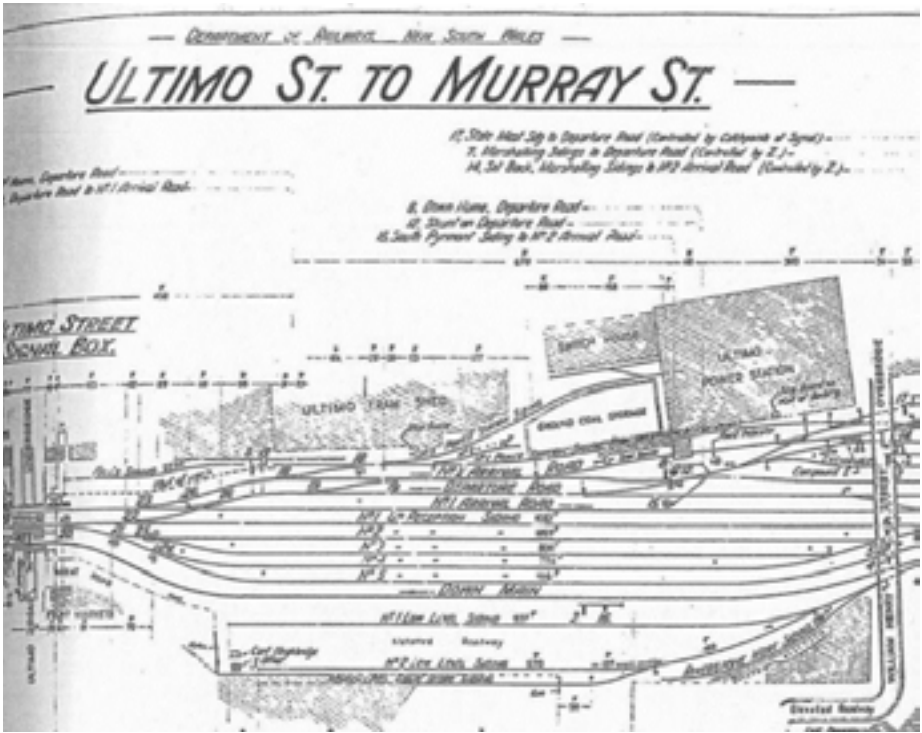


Figure 17.7 Section from Dept of Railways NSW, Ultimo St to Murray St signal diagram 18 June 1934 (Source: Australian Railway Historical Society NSW)



## 17.2 PHYSICAL ANALYSIS OF THE GOODS LINE

Remnant sections of the Goods Line track located within the site boundary of the Powerhouse Ultimo site extend along the eastern side of the site, entering the site in the southeast roughly parallel to the Harwood Building, with the track extending across the ground surface north through the Level 1 courtyard and ending at the southern façade of the Boiler House. The tracks are most evident when accessing the site from the east, either through the Goods Line walk from Darling Drive and Haymarket. The remnant tracks have been infilled with modern concrete and surfaces to make them flush with the existing ground surface.

## 17.3 HERITAGE SIGNIFICANCE

### 17.3.1 Statement of Significance

The Darling Harbour Rail Corridor (the Goods Line) is included on the State Heritage Inventory as it is listed on Property NSW's (formerly SHFA) Section 170 Register as being locally significant. The Statement of Significance is as follows:

The Darling Harbour goods line was part of the first railway opened in New South Wales in 1855, the current corridor corresponds with that purchased from the Harris family in 1853 for this purpose. It therefore has a high degree of significance as a place. The Ultimo Road Bridge is believed to be constructed in the 1850s, and is therefore one of the only remaining features of the original railway which joined Darling Harbour and Granville (Parramatta Junction) in 1855. The siting of the railway along what was the edge of Darling Harbour strongly influenced the development of Pyrmont and Ultimo. Because of it, wool stores, engineering works and other industries were built here after the 1870s, giving this part of Ultimo its industrial, rather than residential, flavour. The site also contains two railway bridges. The Railway Square road overbridge (outside the curtilage of this listing) built in 1855 is historically significant as the oldest railway bridge to be constructed and still in use in New South Wales. It is a strong connection to the first railway construction and the original Redfern (Sydney) Station. The Ultimo railway underbridge is a mid 19th century construction with classic revival inspired cast iron columns and mid 19th century sandstock brick abutments. Both items are assessed individually as historically rare, scientifically rare, archaeologically rare and socially rare."

### 17.3.2 Grading of Significant Components

The key components and elements of the fabric and form of the Ultimo Power House have been ranked accordance to the Heritage NSW criteria for assessing significance, as summarised in Table 17.1 and depicted in Figure 17.11.



Figure 17.8 The Goods Line prior to development, the pedestrian overbridge connecting the Museum to the Monorail station is shown in the background) (Source: JBA, UPN Stage 2, DA Statement of Environmental Impacts, 2012)




Figure 17.10 Goods Line tracks visible in the ground along the Harwood Building (Source: Curio)



Figure 17.9 The Goods Line with garden leading to the level 1 courtyard (Source: Curio Projects)

Table 17.1 Grading of Significance for The Goods Line

ELEMENT	IMAGE	GRADING	NOTES
Remnant Rail lines		● HIGH	The rail lines that originally connected the Power House buildings to the goods line are of high significance.

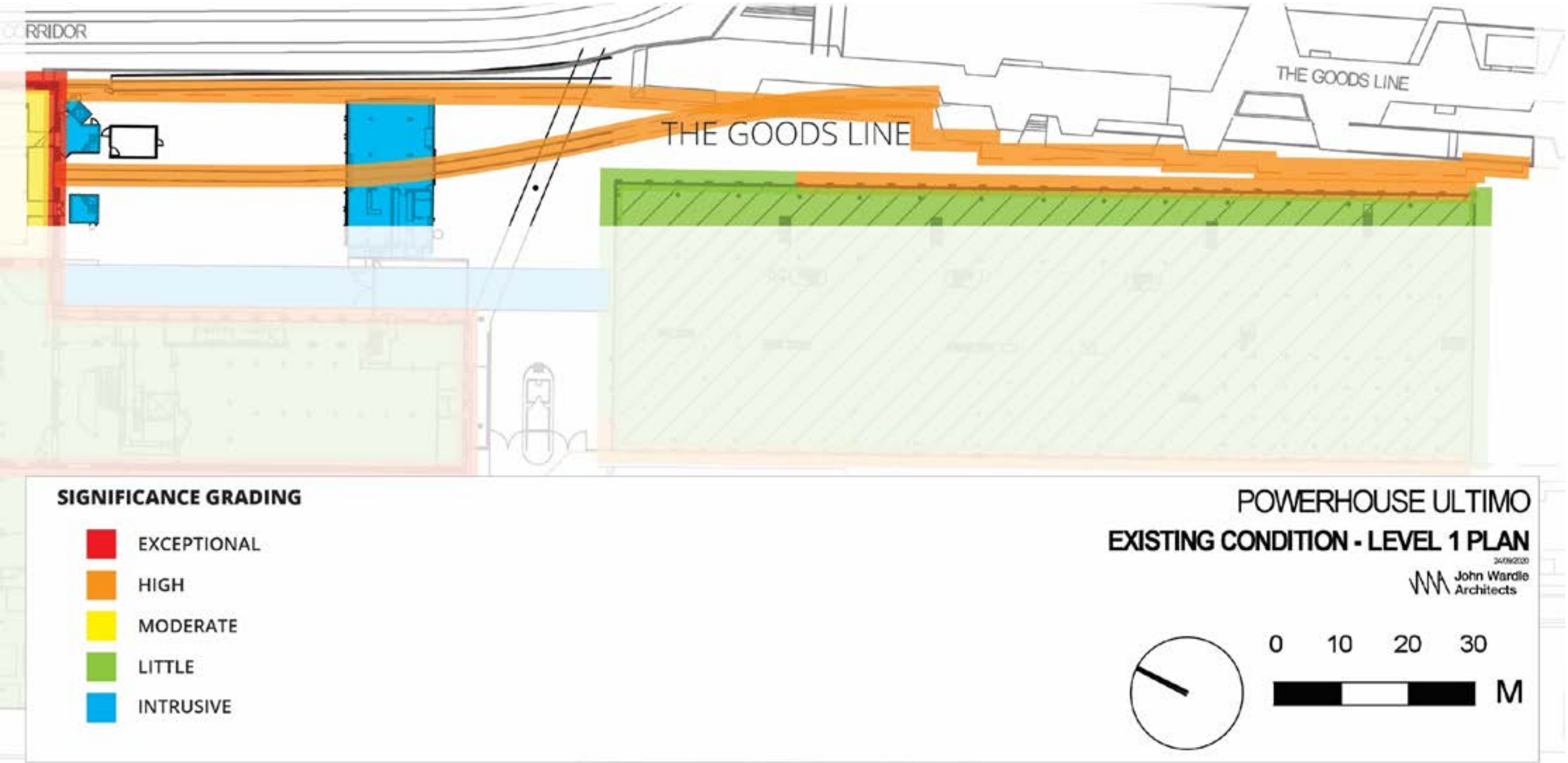


Figure 17.11 The Goods Line Grading of Significant Components



17.4 OPPORTUNITIES AND CONSTRAINTS

Opportunities and Constraints specific to the section of the Goods Line located within the Powerhouse Ultimo site include:

- Opportunities**
- To explore the relationship of the Goods Line with the Power House
  - The Goods Line should be interpreted alongside the Harwood Building and Switch House through the Level 1 Courtyard leading into the Boiler House.
  - To connect museum with public domain.
  - To make historic connections between the Power House buildings and the Goods Line more legible.
  - Re-instate connectivity to surrounding areas including Chinatown, Darling Square and Darling Harbour.
  - Infrastructure opportunity for a new half court/ multi purpose court at the Goods Line/Powerhouse.<sup>12</sup>

17.5 ITEM-SPECIFIC CONSERVATION POLICIES

Policy 18—Site access: new site access or improvements to connectivity to The Goods Line should consider options and solutions that will have a positive and neutral heritage impact.

17.6 PHOTO REGISTER FOR THE GOODS LINE

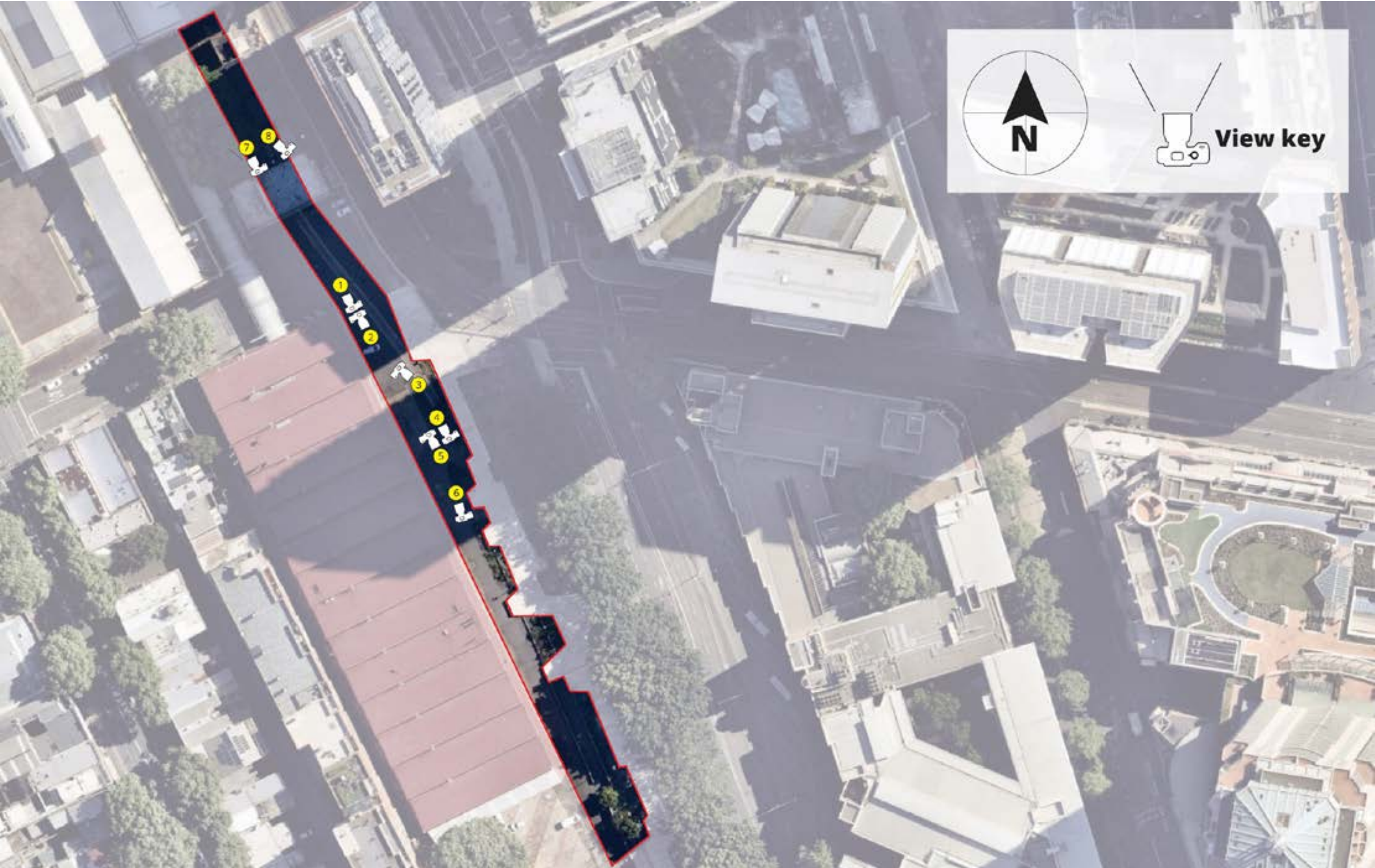
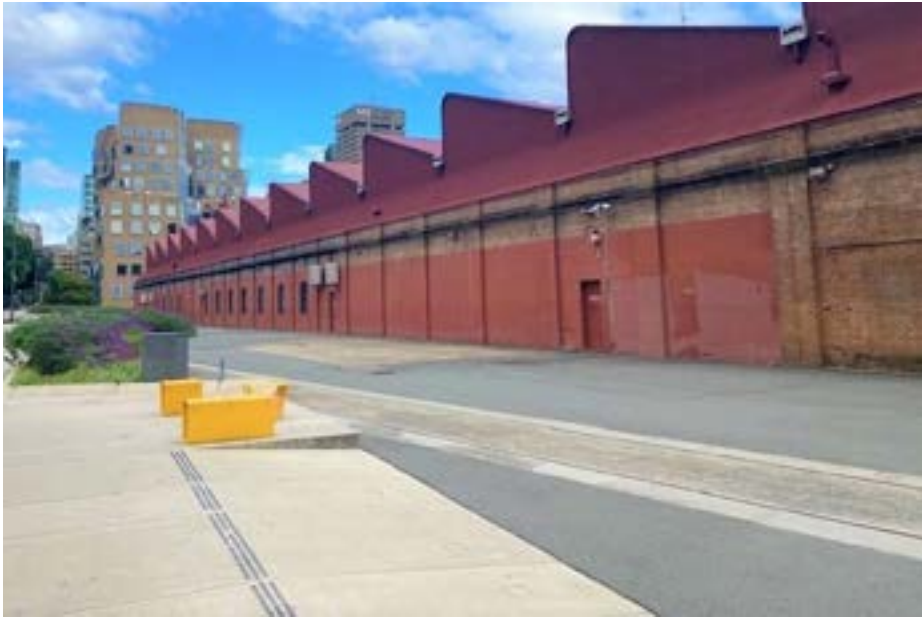


Figure 17.12 The Goods Line Photo Register





The Goods Line Viewpoint 1



The Goods Line Viewpoint 2



The Goods Line Viewpoint 3



The Goods Line Viewpoint 4



The Goods Line Viewpoint 5



The Goods Line Viewpoint 6





The Goods Line Viewpoint 7: Level 1 Courtyard



The Goods Line Viewpoint 8: Level 1 Courtyard



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3 Johnson, W, 1999, Archaeological Assessment: Ultimo Rail Corridor, Ultimo, Sydney Harbour Foreshore Authority , p. 7.

4 SHI Listing, Darling Harbour Rail Corridor

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6 Johnson 1999, p. 8.

7 SHI Listing, Darling Harbour Rail Corridor

8 Transport Heritage NSW, 'Sydney's Metropolitan Goods Line', Transport Heritage NSW (website), accessed January 2021, < <https://www.thnsw.com.au/post/sydney-s-metropolitan-goods-lines>>

9 SHFA (Property NSW) s170 Register, Darling Harbour Rail Corridor

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11 Sydney Harbour Foreshore Authority (Property NSW) Section 170 Register, Darling Harbour Rail Corridor

12 Identified in NSW DPIE, Pyrmont Peninsula Place Strategy (Draft) 2020, p. 93

**POWERHOUSE  
ULTIMO**

**CONSERVATION  
MANAGEMENT PLAN  
2022**

**PART D**



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# APPENDIX A

## Exterior Site Photos Register



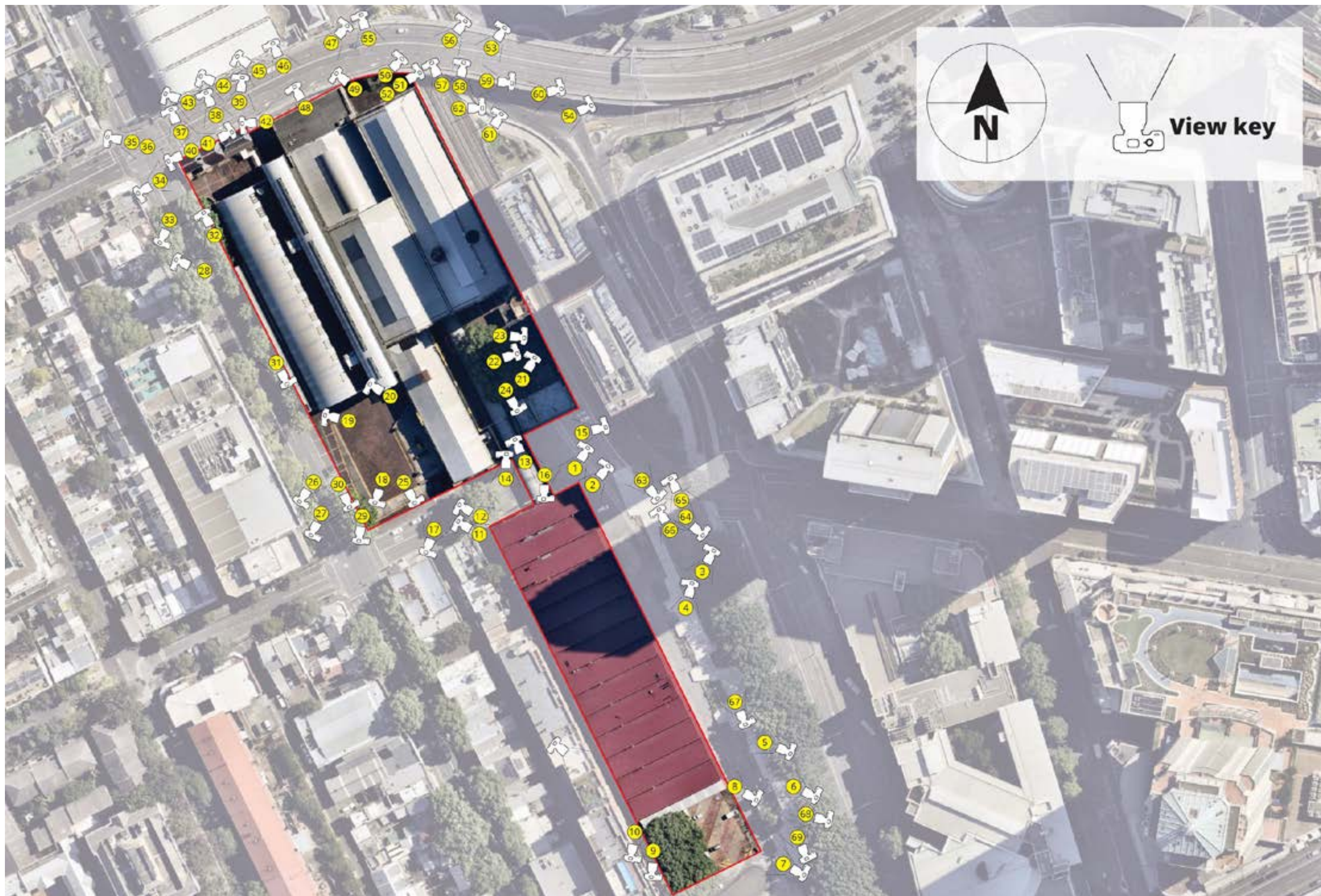


Figure 1.9 2020 view key map for Powerhouse Ultimo site (Source: Curio 2021)





Exterior Viewpoint 1



Exterior Viewpoint 2



Exterior Viewpoint 3



Exterior Viewpoint 4



Exterior Viewpoint 5



Exterior Viewpoint 6



Exterior Viewpoint 7



Exterior Viewpoint 8



Exterior Viewpoint 9





Exterior Viewpoint 10



Exterior Viewpoint 11



Exterior Viewpoint 12



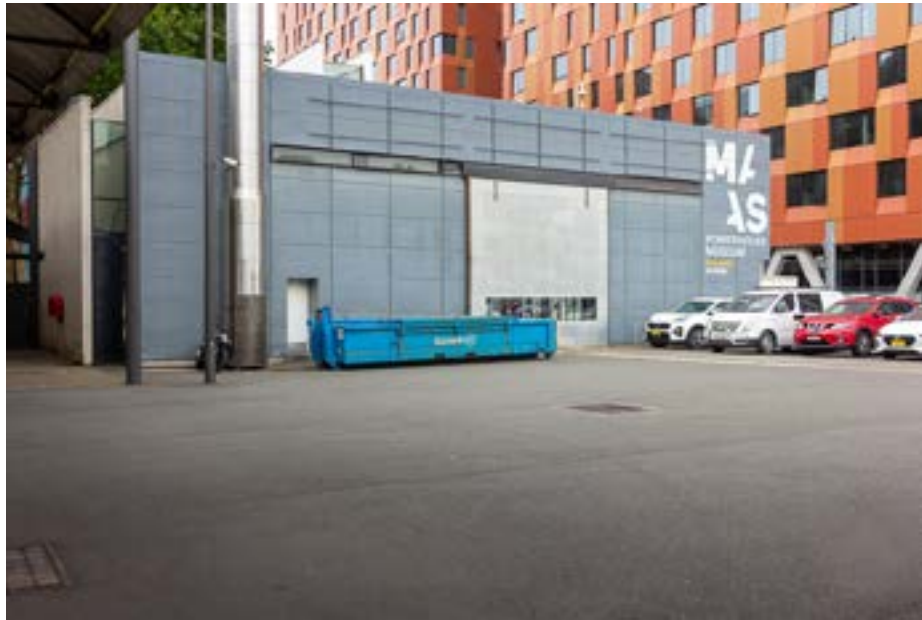
Exterior Viewpoint 13



Exterior Viewpoint 14



Exterior Viewpoint 15



Exterior Viewpoint 16



Exterior Viewpoint 17



Exterior Viewpoint 18





Exterior Viewpoint 19



Exterior Viewpoint 20



Exterior Viewpoint 21



Exterior Viewpoint 22



Exterior Viewpoint 23



Exterior Viewpoint 24



Exterior Viewpoint 25



Exterior Viewpoint 26



Exterior Viewpoint 27





Exterior Viewpoint 28



Exterior Viewpoint 29



Exterior Viewpoint 30



Exterior Viewpoint 31



Exterior Viewpoint 32



Exterior Viewpoint 33



Exterior Viewpoint 34



Exterior Viewpoint 35



Exterior Viewpoint 36





Exterior Viewpoint 37



Exterior Viewpoint 38



Exterior Viewpoint 39



Exterior Viewpoint 40



Exterior Viewpoint 41



Exterior Viewpoint 42



Exterior Viewpoint 43



Exterior Viewpoint 44



Exterior Viewpoint 45





Exterior Viewpoint 46



Exterior Viewpoint 47



Exterior Viewpoint 48



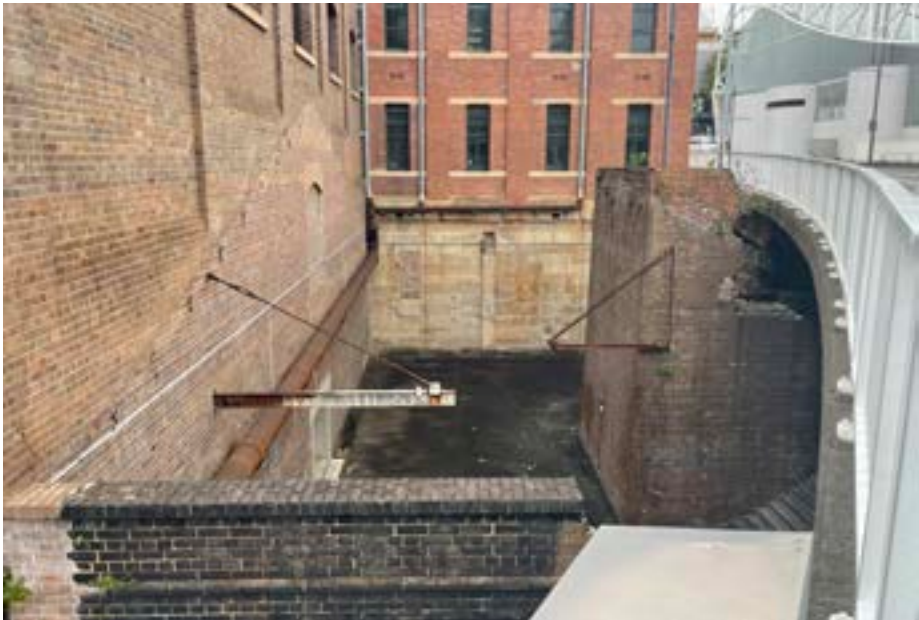
Exterior Viewpoint 49



Exterior Viewpoint 50



Exterior Viewpoint 51



Exterior Viewpoint 52



Exterior Viewpoint 53



Exterior Viewpoint 54





Exterior Viewpoint 55



Exterior Viewpoint 56



Exterior Viewpoint 57



Exterior Viewpoint 58



Exterior Viewpoint 59



Exterior Viewpoint 60



Exterior Viewpoint 61



Exterior Viewpoint 62



Exterior Viewpoint 63





Exterior Viewpoint 64



Exterior Viewpoint 65



Exterior Viewpoint 66



Exterior Viewpoint 67



Exterior Viewpoint 68



Exterior Viewpoint 69



# APPENDIX B

## Aboriginal Heritage Due Diligence Assessment Report (Curio 2020)





# Aboriginal Heritage Due Diligence Assessment Report

Powerhouse Ultimo

Client: Create Infrastructure

FINAL – November 2020







## Document Information

### Citation

Curio Projects 2020, *Powerhouse Ultimo Aboriginal Heritage Due Diligence Assessment Report*, prepared for Create NSW.

### Local Government Area

City of Sydney Council

### Cover Image

Part of a sequence of photographs taken to record the construction of the markets, from ground clearing (October 1910) to completion (November 1911). Horses and carts working on the foundations with Darling Harbour Goods Line at rear and Ultimo Power Station in centre. November 1911, Trove

ISSUE No.	ISSUE DATE	VERSION	NOTES/COMMENTS	AUTHOR	REVIEWED
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2	01/10/20	Draft Report		Mikhaila Chaplin	Sam Cooling
3	10/11/20	Final Report	For SSDA	Mikhaila Chaplin	Rachael Nesbitt

This report has been prepared based on research by Curio Projects specialists. Historical sources and reference material used in the preparation of this report are acknowledged and referenced at the end of each section and/or in figure captions.

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## Executive Summary

Curio Projects Pty Ltd was commissioned by Create NSW to prepare an Aboriginal Heritage Due Diligence Assessment Report (DD) for the Powerhouse Ultimo at 500 Harris Street, Ultimo, 2007 (the study area).

The purpose of this DD is to identify whether or not Aboriginal objects are, or are likely to be present within the study area, and whether or not the proposed development works would be likely to harm Aboriginal objects (if present), and therefore to determine whether the proposed activities would require consent in the form of an Aboriginal Heritage Impact Permit (AHIP), or not.

Currently there are three options under consideration for the redevelopment of the Powerhouse Ultimo study area, all of which include ground works that will disturb the ground surface. Therefore, all options will have potential to impact Aboriginal object and sites, should they be present within the study area.

Therefore, it is concluded that proposed work will disturb the ground surface, and therefore has the potential to cause disturbance of Aboriginal objects and sites.

### Environmental and Archaeological Context

There are currently no registered Aboriginal archaeological sites within the study area. The registered AHIMS sites that are in closest proximity to the study area (AHIMS #45-5-2979 and AHIMS #45-2652), indicate a high potential for natural soil profiles (and hence PAD sites) to also exist within the Powerhouse Ultimo boundaries.

The study area sits within the soil landscape of GyMEA, underlain by Hawkesbury Sandstone (medium to coarse grained quartz sandstone with minor shale and laminate lenses). While the study area is wholly on GyMEA, the eastern border of the study area aligns approximately with the boundary between GyMEA, and Deep Creek soil profiles (Figure 2.3). The Deep Creek soil profile, which is generally located along the eastern boundary of the study area, was subject to land reclamation in the late 1800s and early 1900s.

The study area is located 500m southwest of the southern shore of Darling Harbour. Originally known as Cockle Bay, the area has been well documented as being used by Aboriginal people for the foraging and consumption of shellfish and other marine faunal resources (Comber Consultants 2012). Before land reclamation in the area occurred, the study area was situated along the original shoreline of Cockle Bay.

The study area is located on the eastern edge of the Ultimo-Pyrmont Peninsula. The Ultimo-Pyrmont peninsula is oriented approximately north west/south-east. Mainly due to sandstone mining, major changes to the topography of the peninsula were undertaken prior to detailed mapping of the area.

Prior to European settlement and subsequent land clearing, the vegetation of the Pyrmont-Ultimo Peninsula would have generally comprised of low, dry sclerophyll open- woodland along ridges and upper slopes.



Historical activities at the site have resulted in moderate to high levels of ground disturbance, including significant impacts such as construction of buildings for the early town houses, Ultimo Power Station, bulk excavations for the Ultimo Power Station buildings, and the Wran Building, as well as landscape activities such as land clearance and two possible quarries.

While numerous Aboriginal archaeological excavations have taken place across this area of the Ultimo Pyrmont peninsula that have encountered significant Archaeological deposits, these investigations have also demonstrated that:

- It is unlikely that reclamation would have disturbed the natural soil profiles within the study area, which is located solely within the GyMEA soil landscape.
- Resources available in the Pyrmont-Ultimo Peninsula area, such as reliable fresh water sources and seafood within the area, would have been attractive to Aboriginal occupation and use of the area.
- Aboriginal archaeological deposits, should they be present within or in the vicinity of the current study area, would be most likely to consist of PAD sites, stone artefact sites, shell midden sites, or a combination of both

Areas of the Powerhouse Ultimo site that have the highest potential for natural soils to be present (and corresponding potential for intact Aboriginal archaeological deposits), are areas where the lowest levels of historical development and excavation have been undertaken. These areas include beneath the Wran Building forecourt, north of the Wran building in space between Wran and the Post Office, south of the Boiler House, south of the Harwood Building, and carpark spaces along the eastern boundary of the study area.

### Conclusions and Recommendations

Overall, this Due Diligence Heritage Assessment for the Powerhouse Ultimo site has found there to be **moderate to high potential** for in situ Aboriginal archaeological deposits to be present within the study area, where natural soil profiles remain intact,

Therefore, any future ground-disturbing activities that have potential to impact to a depth of the natural soil profiles across the study area, will have potential to impact Aboriginal archaeology, and therefore will require management and mitigation. Key management recommendations are summarised in the following section.

Future development works at the Powerhouse Ultimo study area will require the preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR), prepared in accordance with relevant Heritage NSW statutory guidelines.

Any ground disturbing works with potential to encounter/impact natural soils profiles will require further Aboriginal archaeological assessment and possible test excavation, either under a Section 90 AHIP under the NPW Act, or as part of an approved ACHAR (including test excavation strategy/research design) as part of an SSD Approval.

Any substantial excavation works proposed for the site are likely to require Aboriginal archaeological test excavation to further investigate and confirm the nature of Aboriginal archaeological potential within the Powerhouse Ultimo study area.

## 1. Introduction

### 1.1. Purpose of this Report

Curio Projects Pty Ltd was commissioned by Create NSW to prepare an Aboriginal Heritage Due Diligence Assessment Report (DD) for Powerhouse Ultimo at 500 Harris Street, Ultimo (the study area).

The purpose of this DD is to identify whether or not Aboriginal objects are, or are likely to be present within the study area, and whether or not the proposed development works would be likely to harm Aboriginal objects (if present), and therefore to determine whether the proposed activities would require consent in the form of an Aboriginal Heritage Impact Permit (AHIP), or not.

This report has been prepared with reference to the following documents:

- DECCW 2010, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*. (the Due Diligence Code of Practice)
- Australia ICOMOS, *Australia ICOMOS Charter for Places of Cultural Significance*, The Burra Charter, 2013.
- Curio Project 2020, *Heritage Assessment, Powerhouse Ultimo*, prepared for Create Infrastructure

### 1.2. Project Background

On 4 July 2020 the NSW Government announced that the Powerhouse Museum at Ultimo would be retained and renewed as the anchor of the Ultimo Creative Industries Precinct, complementing the future flagship Powerhouse Parramatta, Powerhouse Castle Hill, and the Sydney Observatory. The land is owned by the Museum of Applied Arts and Sciences Trust and includes the original Ultimo Power Station buildings; the “Wran” building (temporary exhibition hall opened in 1988); the Harwood building and the former Ultimo Post Office. Some components of the buildings on the site are heritage listed.

The Powerhouse is Australia’s contemporary museum for the applied arts and sciences and industry development. The museum was established in 1881 in the Garden Palace which emerged from a history of 19th Century grand exhibition halls, including the Grand Palais in Paris. Powerhouse Ultimo has operated on the Ultimo site since 1988.

The Ultimo Creative Industries Precinct with the Powerhouse Museum Ultimo at its core sits within the context of the new Darling Harbour precinct and the Central Station renewal to the south, adjoining the late-night trading areas of Haymarket. It is in a unique position for renewal, contributing to the future of the Pyrmont Peninsula and supporting partnerships with creative, technology and innovation industries in inner Sydney.

The NSW Government through Create NSW and Powerhouse is working on a Business Case to inform options for the renewal of Powerhouse Ultimo as the anchor of the Ultimo Creative Industries Precinct, with the following Project Objectives:



- Create a vibrant and attractive precinct, that integrates with its surrounds
- Deliver international standard exhibition and cultural spaces congruent with the flagship Powerhouse Parramatta and the broader Powerhouse Program and Vision
- Grow creative industries and improve productivity through sustainable, timely and affordable infrastructure that supports clustering and collaboration
- Ensure effective and efficient coordination with other government initiatives and represent value for money.

The post July 2020 business case and accompanying analysis builds on previous advice for Create NSW, which was undertaken in the context of the development of options for renewal of the site as an arts and cultural and creative industries precinct. This report is part of a suite of work that forms the Ultimo Creative Industries Final Business Case.

### 1.3. Site Identification

The study area is located on the south eastern edge of the Ultimo-Pyrmont Peninsula, approximately 500m south west of Darling Harbour, and consists of a footprint of roughly 2.37 hectares (Figure 1.1). The study area is broadly defined by Harris Street, Omnibus Lane and a residential apartment block at 82 Mary Ann Street to the west; the William Henry Street Bridge to the north; The Goods Line to the east and Mary Ann Street to the south.

The Powerhouse Ultimo site comprises of an amalgamation of a number of earlier sites. The buildings within the study area that are mentioned in this report are the Harwood Building, Office Building, Pumphouse (Old Boiler House), Engine Hall, Turbine Hall, New Boiler House, Switch House, Post Office and Wran Building (Figure 1.2 and Figure 1.3.)

The Engine Room, Turbine Hall, New Boiler House, Office Building and Switch House form the principle remains of the former Ultimo Tramways Power House, remaining as the main group of interconnected buildings on the site (Figure 1.2 and Figure 1.3).

**ABORIGINAL DUE DILIGENCE ASSESSMENT—POWERHOUSE ULTIMO | CREATE NSW | NOVEMBER 2020**  
Curio Projects Pty Ltd





Figure 1.2: Aerial View showing the key built elements of the site and its immediate surrounds  
(Source: TKD Architects, 2018)

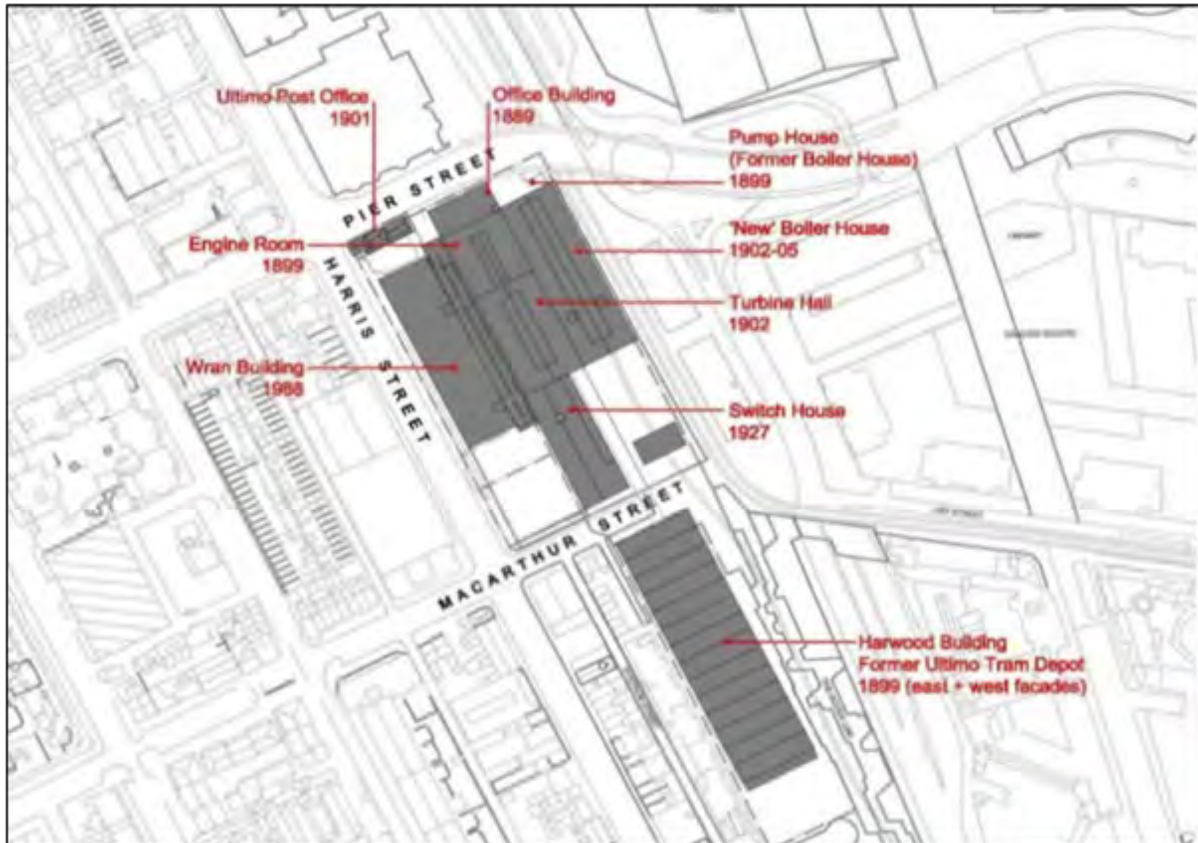


Figure 1.3: Plan of the study area showing key elements and their original date of construction  
(Source: TKD Architects, Nov 2018)

#### 1.4. Statutory Controls

Aboriginal cultural heritage is governed in NSW by two principles pieces of legislation:

- *National Parks and Wildlife Act 1974 (NSW)* (NPW Act); and
- *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act).

##### 1.4.1. National Parks and Wildlife Act 1974

The NPW Act, administered by the Aboriginal Heritage Regulation Section, Heritage NSW, of the NSW Department of Premier and Cabinet (DPC) (formally known as the Office of Environment and Heritage (OEH), is the primary legislation that provides statutory protection for all 'Aboriginal objects' (Part 6, Section 90) and 'Aboriginal places' (Part 6, Section 84) within NSW.

An Aboriginal object is defined through the NPW Act as:

*"any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains."*

The NPW Act provides the definition of 'harm' to Aboriginal objects and places as:

*"...any act or omission that:*



- (a) destroys, defaces or damages the object or place, or*
- (b) in relation to an object-moves the object from the land on which it had been situated, or*
- (c) is specified by the regulations, or*
- (d) causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c), (NPW Act 1974).*

The NPW Act also establishes penalties for 'harm' to Aboriginal objects and declared Aboriginal places, as well as defences and exemptions for harm. One of the main defences against the harming of Aboriginal objects and cultural material is to seek an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act, under which disturbance to Aboriginal objects could be undertaken, in accordance with the requirements of an approved AHIP.

#### 1.4.2. Environmental Planning & Assessment Act 1979

The EP&A Act is an 'Act to institute a system of environmental planning and assessment for the state of NSW', administered by the NSW DPIE, and provides the legislative context for environmental planning instruments made to legislate and guide the processes of development and land use. Local heritage items, including known archaeological items, identified Aboriginal Places and heritage conservation areas are protected through listings on Local Environmental Plans (LEPs) or Regional Environmental Plans (REPs). The EP&A Act also requires that potential Aboriginal archaeological resources are adequately assessed and considered as part of the development process, in accordance with the requirements of the NPW Act.

Dependent upon which Part of the EP&A Act a project is to be assessed under, differing requirements and protocols for the assessment of associated Aboriginal cultural heritage may apply.

Part 4, Division 4.1 of the EP&A Act identifies and defines State Significant Development projects (SSD) as those declared under Section 89C of the EP&A Act. This Part of the EP&A Act provides for development with a capital investment of more than \$30 million to be designated as a SSD or State Significant Infrastructure project (SSI), under State Environmental Planning Policy (State and Regional Development) 2011.

Where a project is assessed to be an SSD, the process of development approval differs, with certain approvals and legislation no longer applicable to the project. Of relevance to the assessment of Aboriginal heritage for a development, the requirement for an AHIP in accordance with Section 90 of the NPW Act is removed for SSD projects (EP&A Act, Section 89J).

#### 1.4.3. Native Title Act 1993

The Native Title Act 1993 provides the legislative framework to recognise and protect native title, which recognises the traditional rights and interests to land and waters of Aboriginal and Torres Strait Islander people. Under the Native Title Act, native title claimants can make an application to the Federal Court to have their native title recognised by Australian law.

There are currently no native title claims or determinations in place for the Powerhouse Ultimo study area.

#### 1.4.4. NSW Aboriginal Heritage Statutory Guidelines

In order to best implement and administer the protection afforded to Aboriginal objects and places as through the NPW Act and EP&A Act, the former OEH (now part of Heritage NSW under DPC) have prepared a series of best practice statutory guidelines with regards to Aboriginal heritage. These guidelines are designed to assist developers, landowners and archaeologists to better understand their statutory obligations with regards to Aboriginal heritage in NSW and implement best practice policies into their investigation of Aboriginal heritage values and archaeology in relation to their land and/or development. These guidelines include:

- DECCW 2010a, *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*. (the Due Diligence Code of Practice)
- OEH 2011a, *Guide to Investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW*. (the Guide to Investigating)
- DECCW 2010b, *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales*. (the Code of Practice)
- DECCW 2010c, *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. (the Consultation Guidelines)
- OEH 2011b, *Aboriginal Heritage Impact Permits, a Guide for Applicants*.

The purpose of the Due Diligence Code of Practice is to 'assist individuals and organisations to exercise due diligence when carrying out activities that may harm Aboriginal objects and to determine whether they should apply for consent in the form of an AHIP' (DECCW 201a: 2). This current report has been prepared in accordance with the Due Diligence Code of Practice.

#### 1.5. Due Diligence Assessment Process

The Due Diligence Assessment Process (in accordance with the OEH Due Diligence Code of Practice guidelines), is a step by step process that provides proponents with a reasonable method to follow to determine whether their proposed activity has the potential to harm Aboriginal objects, and to identify reasonable constraints and opportunities of the activity, relating to Aboriginal heritage in the activity location. The primary steps of the Due Diligence process are:

- Step 1—Determine whether the activity will disturb the ground surface or any cultural modified trees.
- Step 2a—Database Search of the OEH Aboriginal Heritage Information Management Services (AHIMS), and other known sources to determine whether any registered sites are located within/near the study area.
- Step 2b—Environmental/Landscape Assessment
- Step 3—Impact Avoidance Assessment



- Step 4—Desktop Assessment and Visual Inspection

Following this process, should the assessment determine that Aboriginal objects are likely to be present and have the potential to be impacted, the Due Diligence Code of Practice advises further investigation and impact assessment (Step 5). Should the assessment determine that Aboriginal objects are unlikely to be present/unlikely to be harmed through the proposed activity, then the activity may proceed with caution.

### **1.6. Limitations and Constraints**

This report is a desktop assessment of environmental and Aboriginal archaeological context and potential only. No consultation with the local Aboriginal community has been undertaken as part of this assessment, and therefore no social or cultural assessment of Aboriginal heritage values has been undertaken at this time. The OEH Due Diligence Code of Practice states that 'consultation with the Aboriginal community is not a formal requirement of the due diligence process', however only Aboriginal people are able to provide information regarding the Aboriginal cultural and social nature and significance of a site or location.

### **1.7. Authorship and Acknowledgements**

This report has been prepared by Mikhaila Chaplin, Graduate Archaeologist, and reviewed by Sam Cooling, Cultural Heritage Manager, of Curio Projects Pty Ltd. Maps and GIS prepared by Andre Fleury, Archaeologist and Historian, of Curio Projects Pty Ltd.

## Due Diligence Assessment

### 2.1. Will the proposed activity disturb the ground surface?

#### 2.1.1. Proposed Development

The proposed redevelopment of the Powerhouse Ultimo is currently in the early stages of planning and development. The redevelopment will be a renewal of the space that has held the Powerhouse Museum since 1988.

Currently there are three options under consideration for the redevelopment of the Powerhouse Ultimo study area, all of which include ground works that will disturb the ground surface. Therefore, all options will have potential to impact Aboriginal object and sites, should they be present within the study area.

Therefore, it is concluded that proposed work will disturb the ground surface, and therefore has the potential to cause disturbance of Aboriginal objects and sites.

### 2.2. Database Search

#### 2.2.1. AHIMS Search

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken on 10 September 2020 across the City of Sydney, centred on the study area (with a buffer of 1km), and returned 66 results. The extensive AHIMS search is attached as Appendix A.

Summary descriptions of Aboriginal site features registered on AHIMS, as relevant to the study area, are presented in Table 2.1. The 66 registered sites from the AHIMS search included 17 different site types, some located in combination with each other, as summarised in Table 2.2.

AHIMS search results always require a certain amount of scrutiny in order to acknowledge and accommodate for things such as inconsistencies in the coordinates (differing datums between years of recording), the existence of, and impact to, registered sites (impact to a registered site technically requires the submission of an Aboriginal Site Impact Recording form to be submitted to the OEH, however these forms are not always submitted), and other database related difficulties. It should also be noted that AHIMS database is a record of archaeological work that has been undertaken and registered with AHIMS in the region.

The AHIMS database is therefore a reflection of recorded archaeological work, the need for which has likely been predominantly triggered by development, and not a representation of the actual archaeological potential of the search area. AHIMS searches should be used as a starting point for further research and not as a definitive, final set of data.

Therefore, the AHIMS search result has been synthesised as best possible within the scope of this current report to determine the most likely nature and location of previously registered sites in proximity to the current study area.



There are currently no registered Aboriginal archaeological sites within the study area. Three registered Aboriginal archaeological sites are located in close proximity to the study area (Figure 2.2). These include:

- AHIMS #45-6-2652, 'Ultimo PAD 1', a PAD site located 50m north of the study area
- AHIMS #45-5-2979, 'UTS PAD 1, 14-28 Ultimo Rd Syd', a PAD site located 60m south of the study area
- AHIMS #45-6-3217, 'Darling Central Midden', is a shell midden, artefact and Aboriginal Ceremony and Dreaming site 200m north east of the study area.

The most common site types in the area are Potential Archaeological Deposits (PADs) (n=26), followed by artefact sites (n=12), and shell midden and artefact sites (n=8). Ultimo PAD 1 (AHIMS #45-6-2652) was registered on the assessment areas of remnant soil may be present at this location at depth, buried below modern hard surfaces,, which have the potential to contain Aboriginal sites/objects. The Darling Central Midden (AHIMS #45-6-3217) reflects the potential for natural soil deposits to remain intact after modern buildings were constructed on site, a potential that was confirmed through later archaeological excavation works undertaken for the development in the area (see previous archaeological investigations section below for further detail). The UTS PAD 1 14-28 Ultimo Rd Syd (AHIMS #45-6-2979) indicated the PAD was recorded within a vacant lot used temporarily as an open carpark. The registered AHIMS sites that are in closest proximity to the study area (AHIMS #45-5-2979 and AHIMS #45-6-2652), indicate a high potential for natural soil profiles (and hence PAD sites) to also exist within the Powerhouse Ultimo boundaries.

The general distribution of sites from the AHIMS search around the study area are visible in Figure 2.1 and Figure 2.2. The relatively even dispersal of sites suggests that Aboriginal archaeological sites may exist across the entire Sydney CBD and Pyrmont Peninsula area, wherever conditions allow them to survive (i.e. incomplete levels of ground disturbance, along the edge of the original sandstone outcrops and geology, along water sources, and where natural soil profiles are still present.

Out of the 66 results from our AHIMS search, 10 of these sites are recorded on AHIMS as having been destroyed by previous activities. None of the sites recorded as having been destroyed at those close proximity to the study area. It is possible that other site results from this AHIMS search have already been subject to harm or have been destroyed under AHIPs or through authorised site works and have not been updated in AHIMS. However, as none of these sites are located within the current study area, this is not of a direct concern for this project, and the location of all sites, regardless of their current status, will inform the Aboriginal archaeological potential assessment for the current study area.

Table 2.1: Aboriginal site features referred to in this report

SITE FEATURE	DESCRIPTION/DEFINITION BY OEH 2012
Aboriginal Resource and Gathering	Related to everyday activities such as food gathering, hunting, or collection and manufacture of materials and goods for use or trade.
Art Site	Art is found in shelters, overhangs and across rock formations. Techniques include painting, drawing, scratching, carving, engraving, pitting, conjoining, abrading and the use of a range of binding agents and natural pigments obtained from clays, charcoal, and plants
Artefact Site (Open Camp Sites/artefact scatters/isolated finds)	Artefact sites consist of objects such as stone tools, and associated flaked material, spears, manuports, grindstones, discarded stone flakes, modified glass or shell demonstrating physical evidence of use of the area by Aboriginal people.  Registered artefact sites can range from isolated finds, to large extensive open camp sites and artefact scatters. Artefacts can be located either on the ground surface or in a subsurface archaeological context.
Burials	A traditional or contemporary (post-contact) burial of an Aboriginal person, which may occur outside designated cemeteries and may not be marked, e.g. in caves, marked by stone cairns, in sand areas, along creek banks etc.
Grinding Groove	Grinding grooves are a groove in a rock surface resulting from manufacture of stone tools such as ground edge hatchets and spears, may also include rounded depressions resulting from grinding of seeds and grains.
Modified Tree	Trees which show the marks of modification as a result of cutting of bark from the trunk for use in the production of shields, canoes, boomerangs, burials shrouds, for medicinal purposes, foot holds etc, or alternately intentional carving of the heartwood of the tree to form a permanent marker to indicate ceremonial use/significance of a nearby area, again these carvings may also act as territorial or burial markers.
Potential Archaeological Deposit (PAD)	An area where Aboriginal cultural material such as stone artefacts, hearths, middens etc, may be present in a subsurface capacity.
Shell Midden	A shell midden site is an accumulation or deposit of shellfish resulting from Aboriginal gathering and consumption of shellfish from marine, estuarine or freshwater environments. A shell midden site may be found in association with other objects like stone tools, faunal remains such as fish or mammal bones, charcoal, fireplaces/hearth, and occasionally burials.



Table 2.2: Results of AHIMS Search

SITE TYPE	NUMBER OF SITES	% OF SITES
Aboriginal Ceremony & Dreaming and Artefact and Shell	2	3.03
Aboriginal Resource and Gathering	2	3.03
Art	4	6.06
Art and Artefact	1	1.52
Artefact	12	18.18
Artefact and PAD	2	3.03
Burial and Aboriginal Ceremony & Dreaming and Artefact	1	1.52
Grinding Groove	1	1.52
Hearth and PAD	1	1.52
Modified Tree	1	1.52
PAD	26	39.39
Shell Midden and Artefact	8	12.12
Shell Midden and Artefact and Art	1	1.52
Shell Midden and Artefact and PAD	1	1.52
Shell Midden and Burial	1	1.52
Shell Midden	1	1.52
Waterhole	1	1.52
<b>TOTAL</b>	<b>66</b>	<b>100%</b>

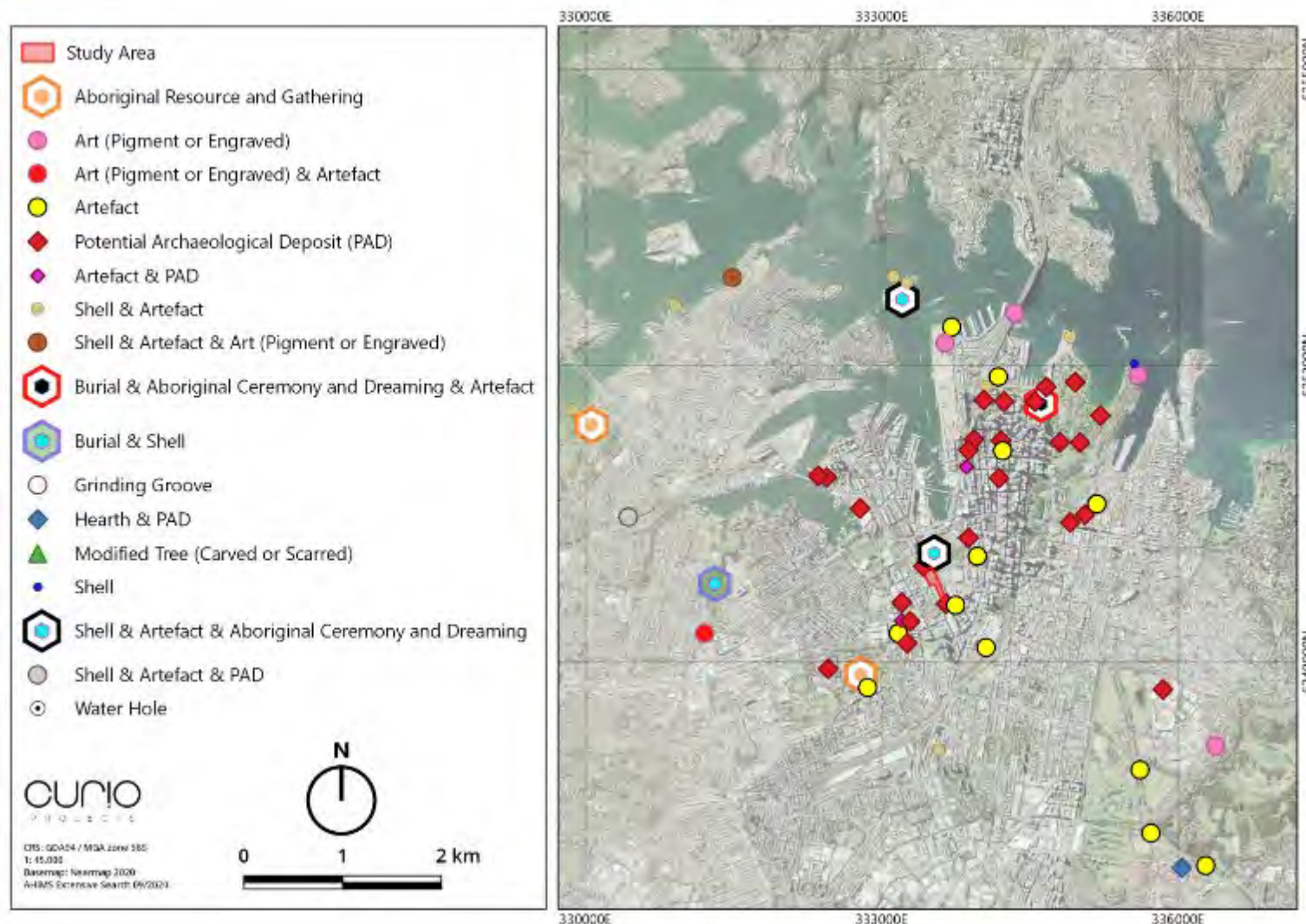


Figure 2.1: AHIMS Sites (Source: Curio 2020)





Figure 2.2: Close up of study area and surrounding AHIMS sites (Curio 2020)

## 2.3. Environmental Context

The physical setting of the study area, its natural resources, landforms, and wider landscape setting has a significant influence over the nature, location, and form of Aboriginal occupational and use patterns through their interactions with the land (tangible values and site). The environmental setting of a location can also providing meaningful landscape context for understanding intangible Aboriginal heritage values and connection to Country.

### 2.3.1. Geology and Soils

The geology and soils of a locale can provide information for the prediction and modelling of the nature and positioning of potential Aboriginal sites, for example, soil types capable of supporting vegetation/flora resources of importance to Aboriginal people (and the corresponding faunal resources that would utilise the vegetation), may provide clues to indicate Aboriginal use and occupation across a landscape.

The study area sits within the soil landscape of GyMEA, underlain by Hawkesbury Sandstone (medium to coarse grained quartz sandstone with minor shale and laminate lenses). While the study area is wholly on GyMEA, the eastern border of the study area aligns approximately with the boundary between GyMEA, and Deep Creek soil profiles (Figure 2.3). The Deep Creek soil profile, which is generally located along the eastern boundary of the study area, was subject to land reclamation in the late 1800s and early 1900s.

The Disturbed Terrain soil profile would have been created through the extensive processes of land reclamation that involved the playing of man-made fill (dredged estuarine sand and mud, demolition rubble, industrial and household waste) over swamps and estuarine shores along the Sydney harbour foreshore. Further detail regarding land reclamation at the current study area is discussed in Section 2.3.5 below.





Figure 2.3: Soil map of study area and surrounds (Source: Curio 2020)

### 2.3.2. Hydrology

The hydrology of an area plays an important role in identifying not only areas of occupational, environmental, and archaeological potential, but also in understanding how deposits at a site are formed and/or impacted by hydrology. The effects of hydrology can range from the general availability of water in an area, through to flooding events. Hydrology can influence the original occupation of a space and associated deposition of cultural material, as well as play a part in post-depositional taphonomic processes.

The study area is located 500m southwest of the southern shore of Darling Harbour. Originally known as Cockle Bay, the area has been well documented as being used by Aboriginal people for the foraging and consumption of shellfish and other marine faunal resources (Comber Consultants 2012). Before land reclamation in the area occurred, the study area was situated along the original shoreline of Cockle Bay.

In addition to being in close proximity to the waters of Darling Harbour, the study area is located 1.3km southeast from what was known by European settlers as 'Tinkers Well', on the north western point of the Pyrmont Peninsula. This was a freshwater spring located in a large sandstone overhang where water trickled from between the sandstone and collected into a natural bowl in the sandstone floor of the overhang (Irish & Goward 2013). Although the shelter in which Tinkers Well was destroyed in the early 20<sup>th</sup> century, the water of the spring itself is still

present and accounts from early European settlers relate the use of the area and this spring by Aboriginal people into the 19<sup>th</sup> Century.

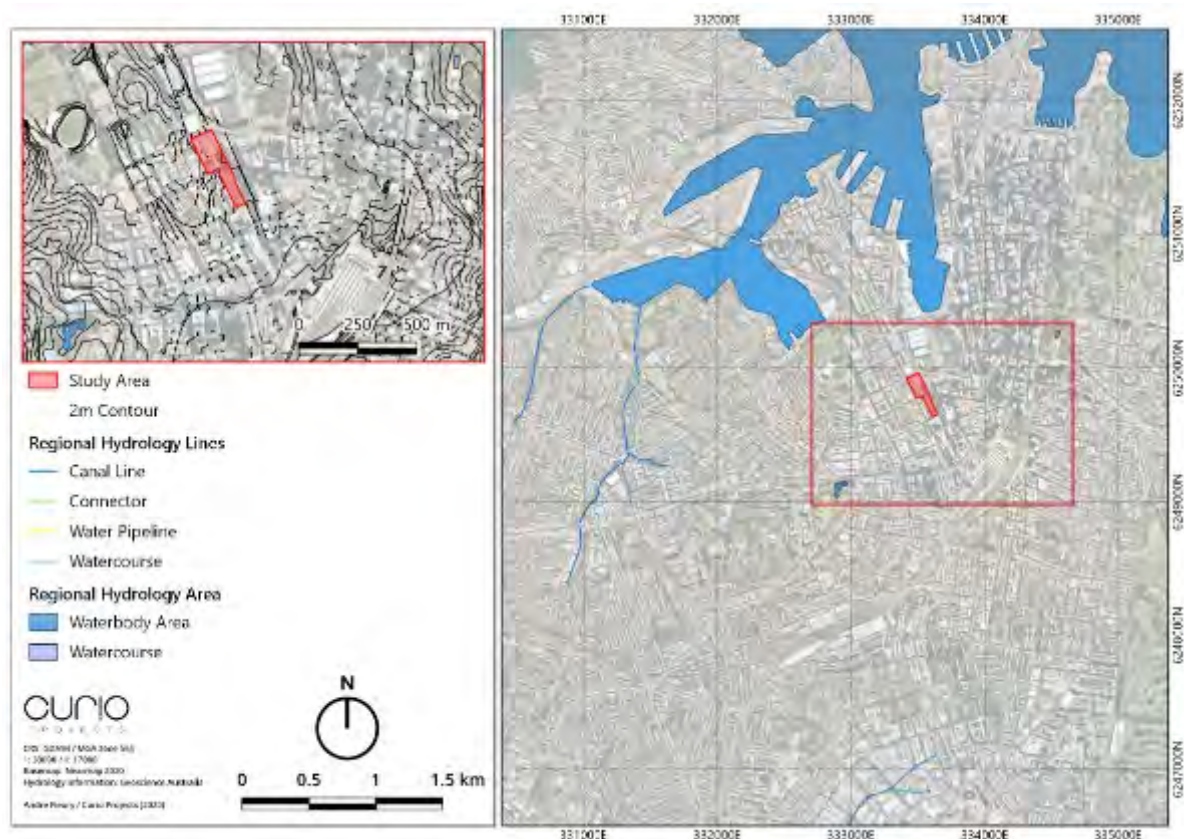


Figure 2.4: Hydrology and topography Map (Source: Curio 2020)

### 2.3.3. Landscape and Landforms

Darling Harbour is located in the central area of the Sydney basin, which is generally characterised by contrasting sandstone escarpments, and gently undulating shale hills (Herbert 1983). The study area is located 500m southwest of Darling Harbour and on the eastern edge of the Ultimo-Pyrmont Peninsula. The Ultimo-Pyrmont peninsula is oriented approximately north west/south-east. Mainly due to sandstone mining, major changes to the topography of the peninsula were undertaken prior to detailed mapping of the area. However, it is generally understood that the Pyrmont peninsula prior to 1788, generally consisted of sandstone rises and outcrops, grading down towards the water on all sides.

The study area is located on the sandstone topography of the Ultimo-Pyrmont Peninsula in close proximity to the original shoreline of Cockle Bay. The approximate location of the study area is highlighted in red in Figure 2.5 below. The location of the study area in relation to the original topography and landform of the peninsula is shown in Figure 2.6.





Figure 2.5: Land Contours of study area and surrounds (Source: Curio 2020)



Figure 2.6: Topography and drainage of the Pyrmont peninsula in 1788. Orange arrow indicating general location of study area (Source: Broadbent, J, 2010, Transformations: Ecology of the Pyrmont Peninsula 1788-2008, Sydney. Figure 3.5: 54)

#### 2.3.4. Vegetation and Fauna

An understanding of the original vegetation of an area provides information about the resources that such vegetation would have provided to Aboriginal people in the area, and would have influenced how different locations were accessed, used and visited. Vegetation can itself be a direct resource- such as tree bark for canoes, shield etc, or edible plants- or it can be an indirect resource, creating habitats for different animals such as possums, birds etc, available for hunting.

Prior to European settlement and subsequent land clearing, the vegetation of the Pyrmont-Ultimo Peninsula would have generally comprised of low, dry sclerophyll open- woodland along ridges and upper slopes, with species commonly present including Red Bloodwood *Eucalyptus gummifera*, Scribbly Gum *Eucalyptus haemastoma*, Brown Stringybark *Eucalyptus capitellata* and Old Man Banksia *Banksia serrata*. More sheltered slopes would have commonly supported Black Ash *Eucalyptus sieberi*, Sydney Peppermint *Eucalyptus piperita* and Sydney Red Gum *Angophora costata*. The understorey of these plant communities would have consisted of a variety of native shrubs (Chapman & Murphy 1989). However, the nature of the sandstone peninsula, water availability and drainage would have affected the growth of these various floral species.

While the diversity of flora would have supported a variety of fauna such a kangaroo, wallaby, wombat, echidna, flying fox, emus, quolls, various native rats and mice, snakes and lizards, this would also have been limited by the extent of the vegetation growth on the sandstone peninsula (Tench 1789).

The Darling Harbour area would have constituted a rich resource zone (both marine and land based), including a variety of vegetation, which would have in turn provided a diverse habitat for varied fauna, to be utilized by the Aboriginal people inhabiting the area prior to European arrival.

#### 2.3.5. Modern Land Use and Disturbance

A summary of the modern development history of the study area, including its surrounds, disturbance and historical development, is discussed in this section in order to establish the effect that previous land use may have had on the preservation or destruction of potential Aboriginal archaeological remains at this location.

In summary, the main historical activities specific to the study area that would have impacted and/or removed natural soil profiles include:

- Initial European vegetation and land clearance that began in the early 19<sup>th</sup> century.
- Land reclamation activities in Darling Harbour occurred in close proximity to the eastern boundary of the study area during the late 19<sup>th</sup> century possibly altering soil profile in study area or surrounds.
- Two possible quarries within study area from 1844 bounded by Harris, Pyrmont, Macarthur and Mary Ann Streets and ceased to operate by at least 1899 (Figure 2.12).
- Construction of terrace houses (1840s and 1850s) within study area, (Figure 2.12) located at:



- 554 and 556 Harris Street (located below the Wran Building forecourt) (Figure 2.11);
  - 519, 521, 523 off Harris Street (south of the Boiler House Building);
  - 137 William Henry Street (beneath the Office Building and Engine Hall, Wran Building and an area outside of the Office Building).
- Construction of the Ultimo Tram line along the eastern boundary of the study area in 1899.
  - Construction of the Ultimo Power Station in the late 19<sup>th</sup> century and early 20<sup>th</sup> century which would have disturbed natural soil profiles to establish the structural foundations of the building, for basements, and installation of services. Buildings constructed during this period include the Office Building (1889), Pump House (1899), Harwood Building (1899), Engine Room (1899), Ultimo Post office (1901), 'New' Boiler House (1902-1905), Turbine Hall (1902) and Switch House (1927).
    - Excavation for basements occurred beneath, the Engine Room (3.5m-6.7m depth), New Boiler House (6m depth), Turbine Hall (3m depth), and Office Building (4m depth) (Figure 2.14 and Figure 2.15)
  - Construction of the Exhibition "Wran" Building in 1988 as part of the redevelopment and adaptive reuse of Ultimo Power Station into The Powerhouse Museum would have disturbed natural soil profiles to establish structural foundations of the building, excavation for the existing basement, and installation of services. The depth of the Wran Building basement is approximately 4.5m depth along the western side of the building (Figure 2.14).
  - Other levelling and grading activities for the construction of site features including the carpark and the Wran Building forecourt- which would likely have required cut and fill to establish the carpark surface, including some cutting of the natural topsoil (possibly disturbing soil profiles below ground surface within the footprint).
  - Ongoing installation of utilities and services across site (trenching for sewer and water mains, electric easements etc) throughout all phases of historical use.



Figure 2.7: Map of Sydney and Suburbs 1855. Smith & Gardiner, Printers and Publishers. Study area location circled in red (Source: City of Sydney available from <https://archives.cityofsydney.nsw.gov.au/nodes/view/1709399>)





Figure 2.8: Plan of 58 allotments, being the second portion of the Pyrmont Estate to be sold at auction by Mr Smart on Monday 29 June 1840. Study area outlined in orange (Source: State Library of NSW digital collection)

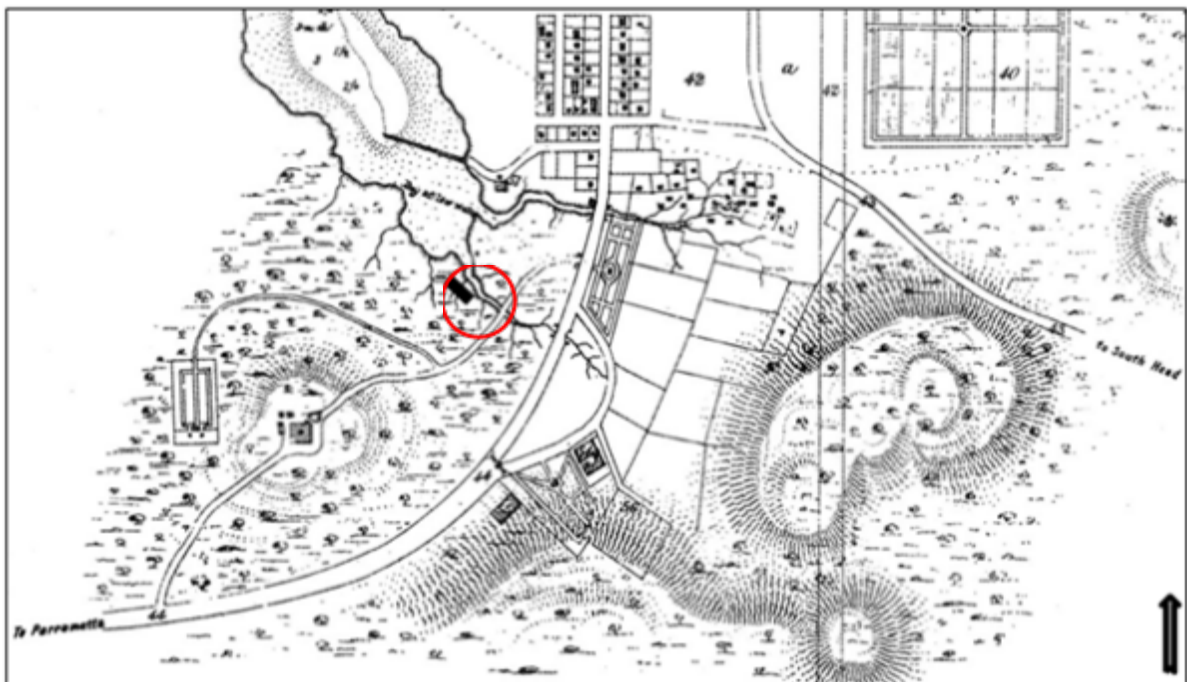


Figure 2.9: c.1822 showing the site prior to development, mostly swampy landscape surrounding the head of Cockle Bay. The approximate located of the study area is indicated in red. (Source: Ashton & Waterson 2000:19)



Figure 2.10: c.1867 Watercolour painted by Samuel Elvard, showing the view from Harris Street to Darling Harbour.  
(Source: Dixon Galleries, State Library of NSW, FL3268225)



Figure 2.11: The houses at 554-556 Harris Street on 28 July 1922 with the power house behind, before demolition  
(Source: City of Sydney Archives NSCA CRS 51/992).



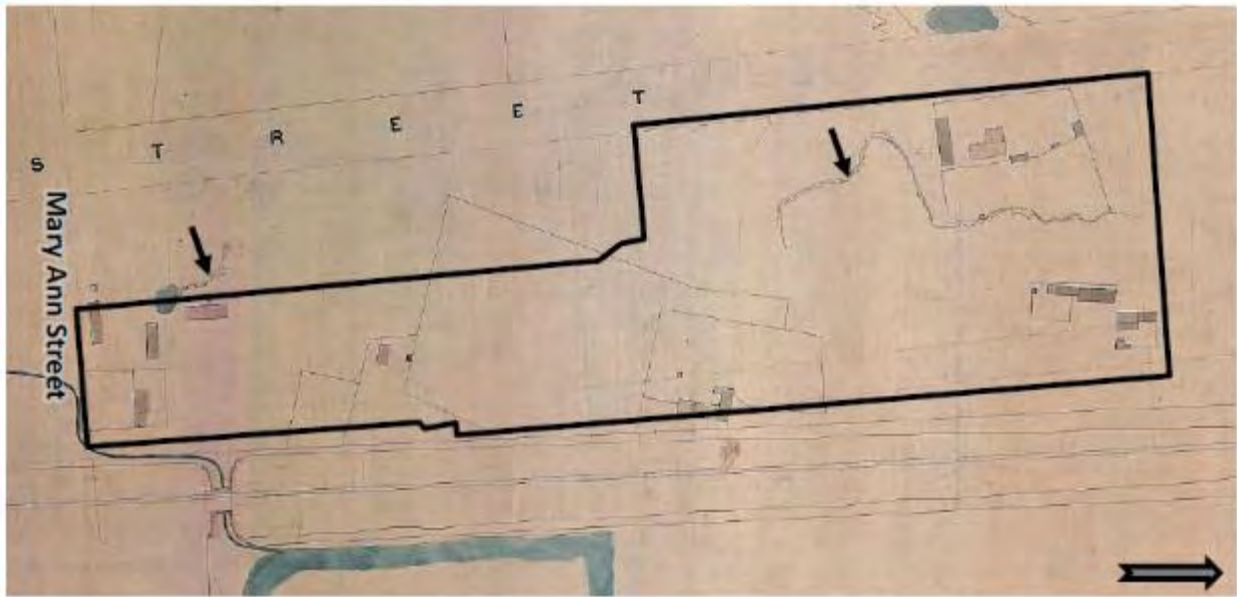


Figure 2.12: Detail of the Trigonometrical Survey of Sydney, 1855-1865, showing a number of timber (grey), stone (yellow), brick (pink) and iron (blue) buildings within the study area indicated. Black arrows indicating possible quarry locations. (Source: <http://atlas.cityofsydney.nsw.gov.au/maps/city-of-sydney-trigonometrical-survey-1855-1865-block-v1/> with AMBS additions 2018)



Figure 2.13: Aboriginal archaeological potential within study area. Expected historical archaeology of 1840s and 1850s houses (red), high Aboriginal archaeological potential (blue) (Source: AMBS 2018/ Curio 2020)

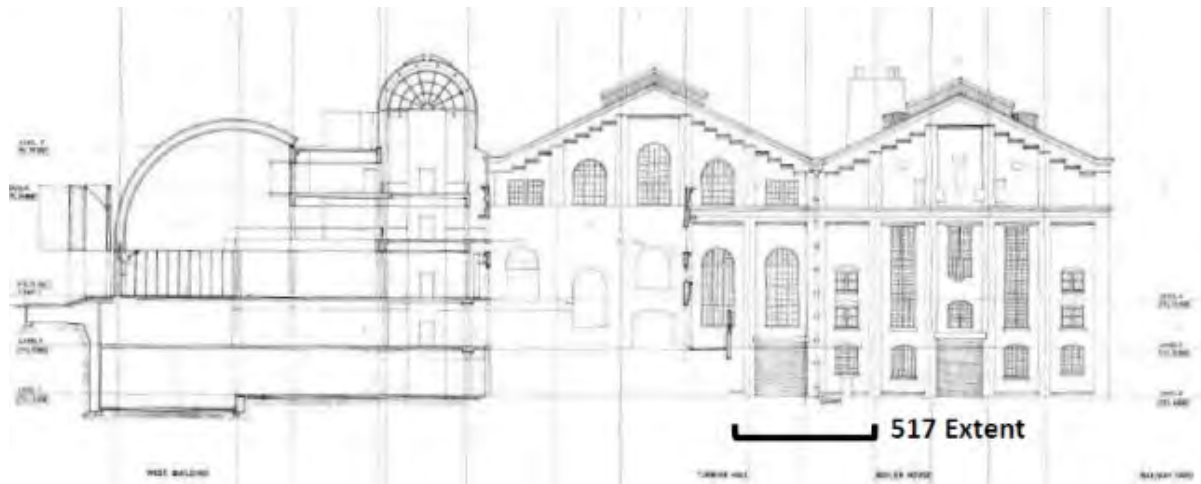


Figure 2.14: 1984 MAAS Stage 2 Construction plan. Section 11 faces south and illustrates the basements beneath the Wran Building, the Turbine Hall and the Boiler House (left to right).

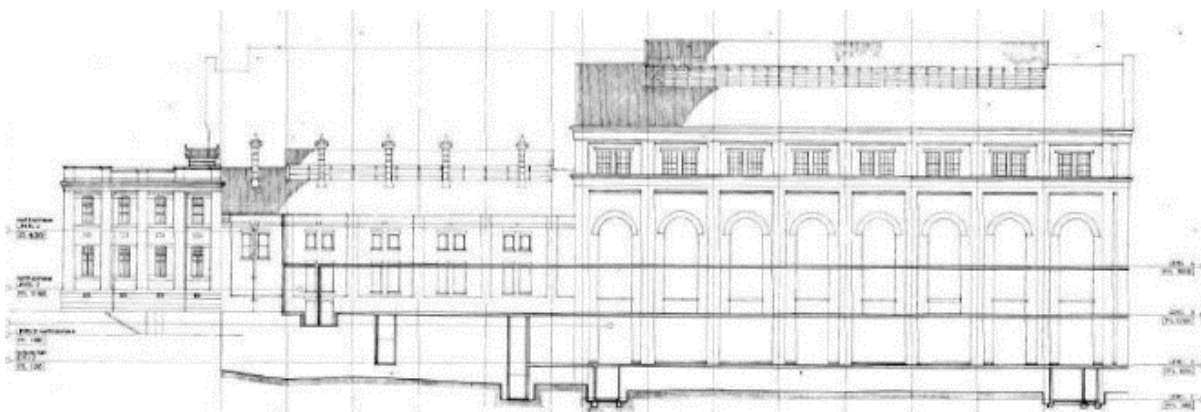


Figure 2.15: 1984 MAAS Construction plan. Section 14 faces west and pictures the North Annexe, Engine Hall and Turbine Hall (left to right). The basement of the Turbine Hall is 3.2m deep. (Source: AMBS 2018)

### *Land Reclamation*

Most of the current shorelines of Sydney Harbour have been subject to land reclamation through the removal or filling of mudflats, wetlands, mangroves and saltmarshes. Land reclamation processes include the deposition of fill materials (commonly waste fill or previously contaminated sediments) over semi-submerged land, and draining of water from this land, in order to enable construction. Most of the modification of the Sydney shoreline has been undertaken for harbour construction, navigation, wharf, and shore development.

The land reclamation along the southern end of Darling Harbour took place in 1874 (with the exception of Darling Island, which was connected to the mainland of the peninsula earlier). Further land of reclamation within the head of Cockle Bay was undertaken in 1918. demonstrates a summary of the land reclamation across the Sydney estuary, with reclamation around the area of study area having taken place after 1854.

The study area is located in close proximity to the eastern boundary between what would have been the original shoreline of the southern end of Daring Harbour (pre-1788), and land reclaimed in the late 19<sup>th</sup> century (Figure 2.8, Figure 2.9). presents the map of the original



shoreline and land reclamation of Darling Harbour. Although the impacts from land reclamation occurred adjacent to the study area, it is likely the study area is located enough on the fringes of those land modifications to not have too much of an impact on the natural soils within.

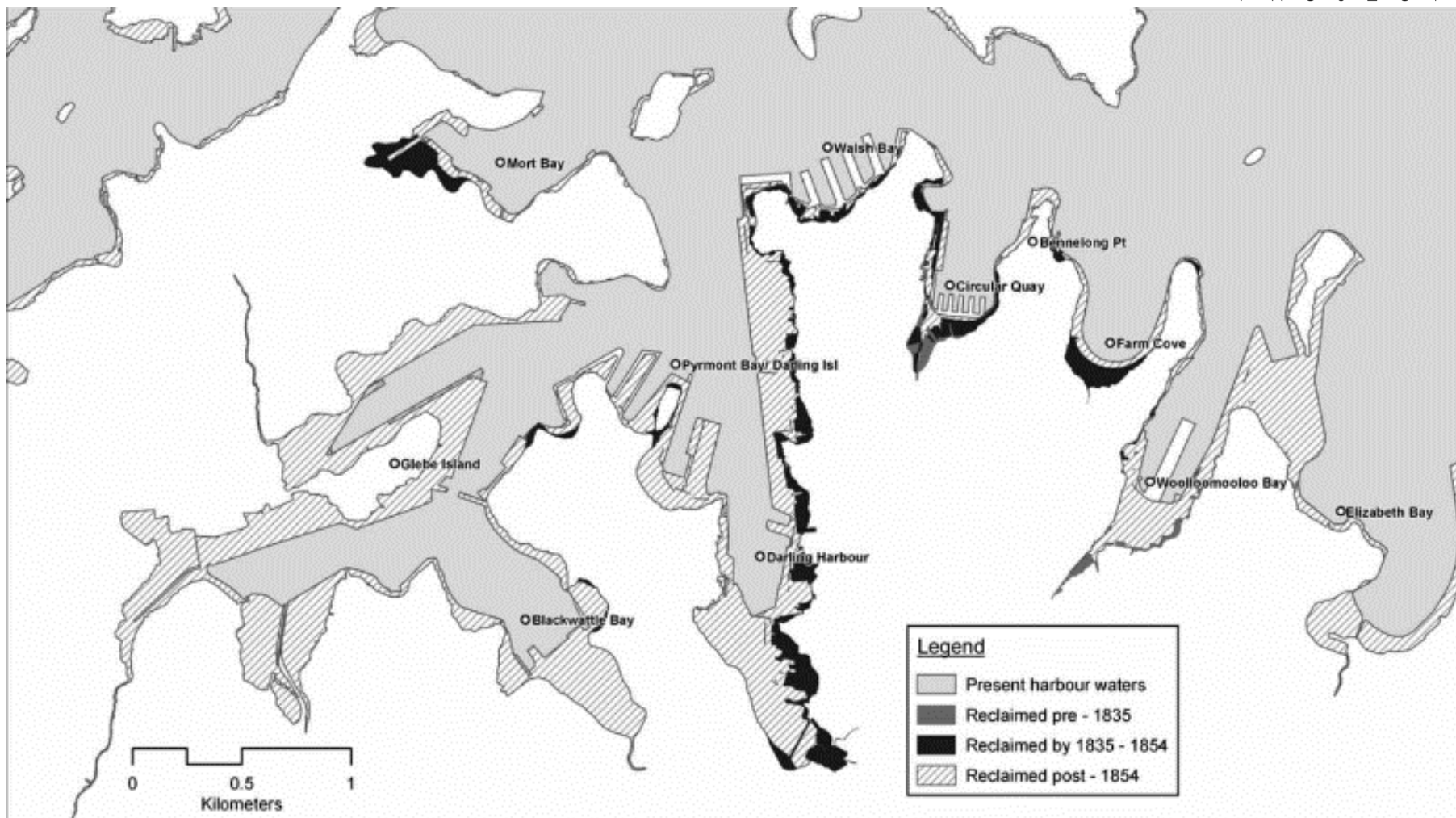


Figure 2.16: Summary of Land Reclamation across the Sydney Estuary including Darling Harbour. (Source: Birch et al., 2009: Figure 5,35)



### *Geotechnical Investigation*

Geotechnical investigations provides ground truthing and further clarification of the nature of the sub-surface soil and disturbance present within the study area. A geotechnical investigation was undertaken within the study area in 2019, consisting of 11 geotechnical boreholes (Douglas Partners 2019), from which an inferred subsurface soil and geological profile has been developed for the Powerhouse Ultimo study area (Table 2.3). Generally, Hawkesbury Sandstone bedrock is located across the study area at depths between 1.5m-11.8m below the current ground level. Investigation works encountered ground water seepage during auguring within BH104 at 6m depth and BH105 at 3.80m depth. Any future excavation work at the site extending >1m depth, particularly in the south east of the study area, would be expected to encounter ground water

The soil stratigraphy within the study area as identified by geotechnical investigations consists of a concrete slab, brick pavers or asphalt surface over gravel, sand or clay fill with sandstone boulders (up to 0.25m to 4.5m), overlying silty clay, sandy clay and clay residual soil, over a layer of sandstone. Contact was made with sandstone bedrock at varying levels across the study area (up to 1.5m to 11m). Silty clay, silty sand and sandy clay alluvial soil was encountered in BH104 and BH105 only (i.e. in the west of the study area, further down slope towards Darling Harbour).

BH107 in the northwest of the study area encountered a void immediately underlying the concrete slab, likely part of the basement associated with the Power House buildings, that continued to at least 3.1m below ground.

Soil Units 2 and 3 as described by Douglas Partners are considered to be consistent with the natural soil profiles of the area.

Unit	Material/ Origin	Description	Approximate Thickness <sup>1</sup> (m)	Depth to Top of Unit <sup>1</sup> (m)	RL to Top of Unit <sup>1</sup> (m AHD)
1	Fill	Concrete slab or brick pavers over Gravel, Sand, Clay, and sandstone boulders	0.25 – 4.5	Ground Surface	3.5-15.6
2	Alluvial Soil	Silty Clay, Silty Sand and Sandy Clay, varying plasticity from low to high plasticity, fine to medium sand, soft to firm and loose sand, encountered in BH104 and BH105 only	0.5 – 2.3	3.5 – 4.5	1.3 – 2.7
3	Residual Soil	Silty Clay, Sandy Clay, and Clay, varying plasticity from low to high plasticity, stiff to hard.	0.5 – 5.0	1.5 – 6.8	-1.0 – 5.5
4a	Class V/IV <sup>2</sup> Sandstone	Sandstone, moderately weathered, very low to low strength.	0.3 – 0.9	1.5 – 11.8	-6.0 – 14.1
4c	Class III <sup>2</sup> or Better Sandstone	Sandstone, slightly weathered to fresh, medium to high strength, a 0.5 m thick, very low to low strength layer was encountered at the bottom of BH202.	Not Penetrated	1.8 – >11.8	Below -6.0 – 13.8

Table 2.3: Douglas Partners, 2019, Report on Geotechnical Investigation, Ultimo Creative Industries Precinct, Table 2





Figure 2.17: 2019 Geotechnical Borehole Plan (Source: Douglas Partners: Appendix B)

### 2.3.6. Summary of Environmental Context

The study area is located in close proximity to the original foreshore of Darling Harbour. While the area was not developed extensively until the late 1800s (, Figure 2.10), early historical accounts provide evidence that extensive use was made of the shell middens that lined the bay to provide mortar in lime kilns for civic development programs for the early colony.

The Ultimo- Pyrmont Peninsula and Darling Harbour would have been a focus for Aboriginal occupation and habitation prior to 1788, likely including the current study area. While the study area has been historically subject to industrial uses associated with the Ultimo Power Station and Ultimo Tram Line, this does not mean that all natural soil profiles (i.e. the soil profiles capable of retaining an Aboriginal archaeological signature) have been removed. Environmentally, the study area is considered to have potential to retain an Aboriginal archaeological signature, supported with the geotechnical investigation of the study area and the alluvial/residual soils confirmed to be present (e.g. within BH104, BH106, BH202).

## 2.4. Aboriginal Archaeological Context

Review of relevant previous archaeological work is a highly informative and necessary step in identifying the likely nature of the potential archaeology that may be present in a location. The investigation of previous work undertaken in the region, on similar sites, and on similar landscape or landforms, can inform our understanding of a site by providing a proxy against which a newly investigated site can be measured (albeit with caution). That is to say, understanding the archaeological record at a general location can provide us with an indication of the nature and level of potential of archaeology that may be present at a site, prior to any subsurface investigation. As archaeology is by its very nature, a destructive discipline, it is important to acquire as much information and understanding of a site as possible prior to undertaking fieldwork (as once evidence has been excavated, its context is effectively destroyed), and also to avoid any unnecessary fieldwork at a site.

Research into archaeological investigations undertaken in proximity to the current study area indicate the types of archaeology that may survive in the area, and the environment that has allowed it to survive. A brief review of several relevant key reports undertaken in proximity to and/or including the current study area, has been presented below (Figure 2.18).

### 2.4.1. KENS Site, Aboriginal Excavation – Steele 2006

Aboriginal archaeological assessment and excavation was undertaken by Dominic Steel in 2003, of a large Aboriginal campsite, at the site that has come to be known as the KENS site (named for the streets which form the general boundaries of this site: Kent, Erskine, Napoleon and Sussex Streets). This Aboriginal campsite was uncovered as a result of the demolition of the present building and associated historical archaeological excavation at the site. Excavation of this site recovered around 1000 Aboriginal stone artefacts within buried remnant soil profiles, including backed artefact tools, other retouched tools, cores and numerous waste flakes, which have been relatively dated to be occupied in the last 3000 years. In addition, two Aboriginal artefacts



manufactured of glass were recovered from this site, demonstrating that the site was occupied by Aboriginal people of the area through to the post-contact period.

#### 2.4.2. Darling Quarter - Comber Consultants 2012

Comber Consultants undertook a series of Aboriginal archaeological excavations in 2008 and 2009 for the redevelopment of Darling Quarter (formerly Darling Walk), Darling Harbour (in collaboration with Casey & Lowe who undertook the historical archaeological work for the project). The post excavation report for this work was prepared in 2012 .

The site was located along the original foreshore of Cockle Bay (Darling Harbour). Aboriginal test excavation identified the remains of a shell midden, including Aboriginal stone artefacts on an exposed area of bedrock (Area 5 of the excavation) in close proximity to the original shoreline. This area was expanded into an open area salvage excavation across the remainder of the sandstone outcrop in the south-east of the excavation area and recovered ten Aboriginal stone artefacts in association with the midden. It was determined that Aboriginal people would have used this location on the sandstone outcrop to cook and eat the shellfish that had been gathered from the surrounding environment. In addition, soil analyses undertaken as part of the project presented evidence of cooking fires in this location.

Of the ten stone artefacts recovered, all but two of them were manufactured of chert. There is no known local source of this rock type, and therefore the report suggests that the presence of this raw material type may have been the result of trading between the local Aboriginal people of the Cockle Bay area, and Aboriginal people that lived in the west, near Plumpton Ridge, a known source of chert for Western Sydney. It is also possible that other more local sources of chert were present around the Sydney CBD area prior to 1788 that remain unknown to archaeologists.

#### 2.4.3. Wynyard Walk—GML 2015

GML Heritage undertook Aboriginal archaeological excavation of the Wynyard Walk, West Portal site in 2015. The potential Aboriginal archaeological deposit located at Wynyard Walk was assessed to be of moderate to high scientific significance primarily for its educative and research potential values. While disturbance at the site was considered likely, previous excavations in close proximity to the site such as the neighbouring KENS site, had illustrated that soil profiles capable of bearing archaeological deposits could be preserved in the area. Aboriginal archaeological excavation of this site required a two-staged approach due to the nature of the site below previous development and in association with the historical archaeology at the site.

Archaeological excavation at Wynyard Walk recovered Aboriginal stone artefacts in association with the historical archaeology present at the site, as well as within surviving natural soil profiles.

#### 2.4.4. Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP), Aboriginal Archaeological Excavation – Comber Consultants 2015

Comber Consultants undertook Aboriginal archaeological excavation within the Bayside/Darling Central Complex (i.e. the ICC and entertainment precinct) of the SICEEP in Darling Harbour, in

late 2013 and early 2014, in collaboration with Casey & Lowe, who undertook the Historical Archaeological Excavation.

Aboriginal excavation within this precinct included investigation within eleven separate open areas, identifying (AHIMS #45-5-3217 discussed above):

- A sequence of middens along the rocky original Darling Harbour foreshore (which could potentially be represent one continuous midden distributed along the foreshore), including 63 Aboriginal artefacts;
- Excavation of a discrete knapping floor on the edge of a midden from Open Area 2;
- Excavation of one in situ midden, dated to c300BP, between 1691 and c.1820;
- Evidence that Aboriginal people were still occupying and using this midden or sequence of middens during the early years of European occupation' and
- Predominantly silcrete artefacts, drawing the conclusion that it was likely that this material was traded with people from west of the harbour on the Cumberland Plain.

As a large proportion of this excavation took place underneath the (then existing) buildings of the former Sydney Entertainment and Exhibition Centres, this excavation successfully demonstrated the potential for intact Aboriginal archaeological deposits to be present beneath modern buildings and development, regardless of assumed impact.

#### 2.4.5. SICEEP "Haymarket" Aboriginal Excavations – Comber Consultants 2014

Two Aboriginal archaeological test excavations were undertaken by Comber Consultants within the 'Haymarket' area of the SICEEP: within the 'South West Plot' (four trenches along the original shoreline, in the southwest corner of the lot bounded by Darling Drive in the west and Quay Street in the south), and 'Student Housing' (a 50m x 6m area between Darling Drive and the light rail) (Figure 2.18). Both these sites were selected for subsurface archaeological excavation due to their location within an area that formerly would have contained part of the original foreshore of Cockle Bay/Darling Harbour. However, following test excavation, neither site demonstrated any evidence of Aboriginal archaeology or occupation. The 'South West Plot' was assessed to have been previously disturbed by the installation of underground services, while the 'Student Housing' site simply revealing no remnant evidence of the original shoreline.



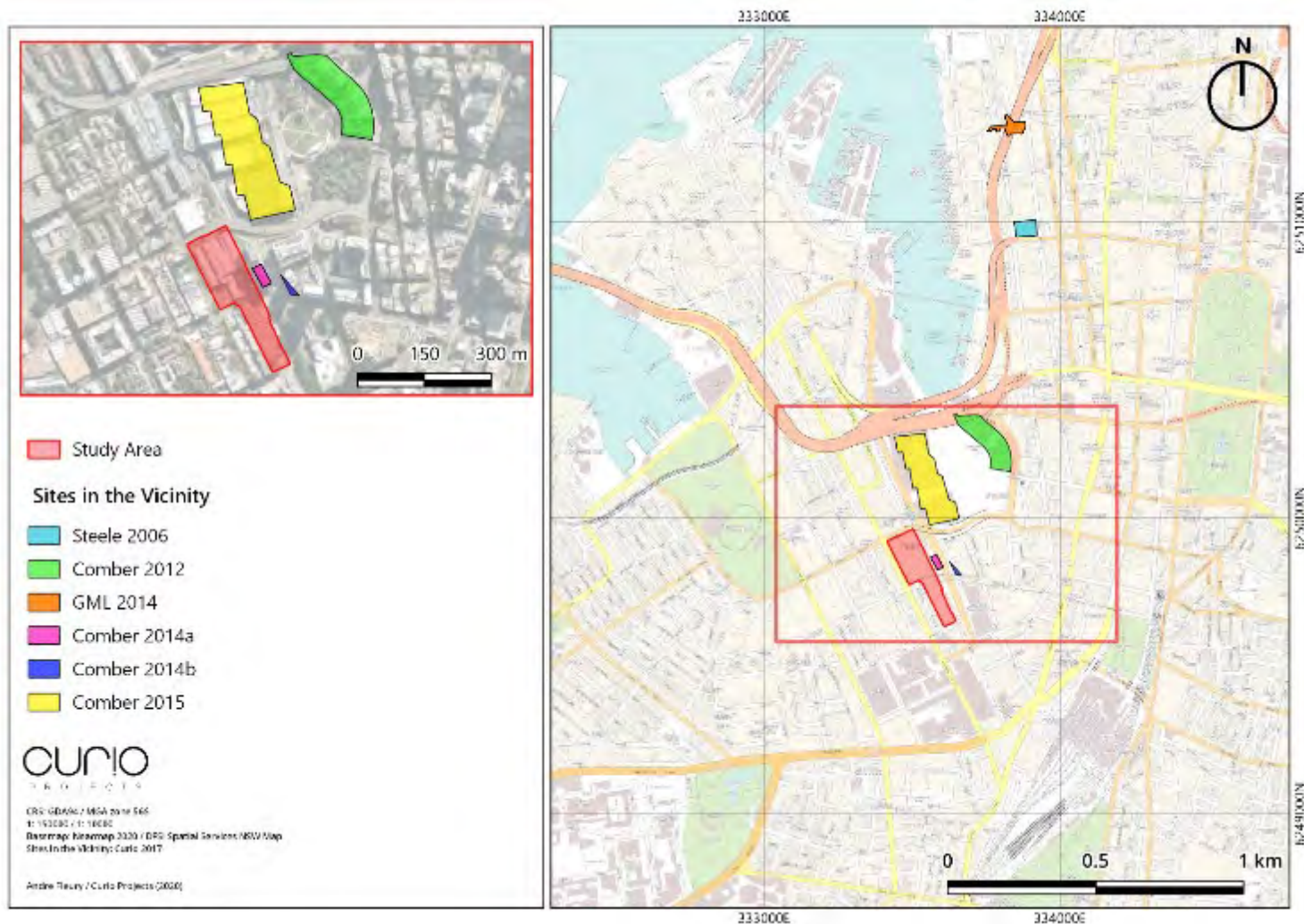


Figure 2.18: Location of Sites referenced Above (Source: Curio 2020)

## 2.5. Archaeological Predictive Model and Potential

Archaeological predictive modelling integrates information about environmental context, previous historical activities and ground disturbance, and known location surrounding sites (excavations and registered AHIMS sites), to assess and predict the nature of archaeology that may be present within the study area.

While the eastern boundary of the Powerhouse Ultimo study area is in close proximity to where land reclamation occurred in the late 19<sup>th</sup> century, it is unlikely that reclamation would have disturbed the natural soil profiles within the study area, which is located solely within the Gynea soil landscape.

The study area is located along the original western shoreline of Cockle Bay. The resources available in the Pyrmont-Ultimo Peninsula area, such as reliable fresh water sources and seafood within the area, would have been attractive to Aboriginal occupation and use of the area. The study area is located along the original western shoreline of Cockle Bay. Based on the environmental and archaeological context for the study area, Aboriginal archaeological deposits, should they be present within or in the vicinity of the current study area, would be most likely to consist of PAD sites, stone artefact sites, shell midden sites, or a combination of both. Previous Aboriginal archaeological investigations and assessments in the surrounding area demonstrate the ability of natural soil profiles to remain intact underneath existing buildings.

Should an intact Aboriginal archaeological deposit be present within the study area, it would likely be of moderate to high archaeological significance for its ability to demonstrate and confirm the ability for sites such as this to retain an Aboriginal archaeological signature in an area subject to high levels of historical disturbance. Should isolated Aboriginal artefacts or shell middens be present in a disturbed context, these site types would be of limited archaeological significance, however would still be protected under the NPW Act 1974, and would likely still be of significance to the local Aboriginal community.

This DD report only includes an assessment of archaeological potential and significance of any potential Aboriginal archaeological deposit, and has not to date included consultation with the local Aboriginal community, as would be required to determine the cultural and social significance of any potential deposit. An Aboriginal archaeological deposit, should it be present, would likely be of high cultural and social significance, however this would require future consultation with the local Aboriginal community (i.e. the Metropolitan Local Aboriginal Land Council) to confirm and expand upon further.

## 2.6. Summary of Desktop Assessment

The study area is located in the south east of the Ultimo-Pyrmont peninsula, directly along the original western shoreline of Darling Harbour before land reclamation took place in the late 19<sup>th</sup> century. Named by European settlers as Cockle Bay, while the area was not developed extensively until the late 1800s, early historical accounts provide evidence that extensive use was made of shell middens that lined the bay to provide mortar in lime kilns for civic development programs for the early colony.



The study area is adjacent to the original shoreline and reclaimed land (part of extensive land reclamation processes that were undertaken across the Sydney estuary in the 1800s to enable development of harbours, wharfage, and associated industries). In addition, the study area was subject to extensive industrial use from the 1850s following the construction of the rail lines into Pyrmont, the development of the Ultimo Power Station and neighbouring industrial services and yards.

For Aboriginal archaeological deposits to be present in situ, they would require the retention of natural soil profiles in the area that would be extant from 1788. There is **moderate to high potential** for natural intact soil profiles to be retained in this area. The soil landscape mapping in the region indicates that though the study area is in close proximity to where land reclamation took place, the study area is solely within the Gynea soil profile. If industrial development along the western shoreline of Darling Harbour from the 1850s to the 1970s has disturbed natural soil profiles within the study area, it is likely that only the eastern boundary of the study area would have been impacted.

Numerous archaeological assessments and Aboriginal archaeological excavations in the Sydney CBD and Darling Harbour area have demonstrated the potential for Aboriginal archaeological deposits to remain in situ, particularly along the original shoreline of Darling Harbour, dependent of the level of historical disturbance that the area has been subject to. The presence of existing buildings or development at a location, cannot be generally used as a factor to confirm that any soils with the potential to retain intact Aboriginal archaeological deposits have been highly disturbed or removed. In fact, numerous Aboriginal archaeological excavations have demonstrated the ability for in situ Aboriginal archaeological deposits to be present and relatively undisturbed beneath existing buildings (Wynyard Walk, SICEEP excavations beneath the Convention Centre).

Based on the environmental and archaeological context for the study area, Aboriginal archaeological deposits, should they be present within or in the vicinity of the current study area, would be most likely to consist of stone artefact sites, shell midden sites, or a combination of both.

Areas of the Powerhouse Ultimo site that have the highest potential for natural soils to be present (and corresponding potential for intact Aboriginal archaeological deposits), are areas where the lowest levels of historical development and excavation have been undertaken. These areas include beneath the Wran Building forecourt, north of the Wran building in space between Wran and the Post Office, south of the Boiler House, south of the Harwood Building, and carpark spaces along the eastern boundary of the study area. Although building foundations of early houses may be present within some of these areas of higher Aboriginal archaeological potential, natural soil deposits are likely to still be present since extensive excavation works have not been undertaken for basement construction (Figure 2.10). The presence of existing basements within the Engine Room (3.5m-6.7m depth), Boiler House (6m depth), Turbine Hall (3m depth), Office Building (4m depth) and Wran Building (4.5m depth) (Figure 2.14, Figure 2.15), indicate that these areas are likely to have low Aboriginal archaeological potential, depending on the location of

each building and the depth of the basement, in relation to the overall depth of natural soils based on landform positioning.

The Geotechnical Report determined that alluvial soils were present within boreholes BH104 and BH202, both of which are located south of the Harwood Building, supporting assessment of high potential for intact natural soil profiles to be present in this part of the study area. BH105 located to the east of the Harwood Building also confirmed the presence of alluvial soils in this part of the study area, while boreholes along the eastern boundary of the site generally hit concrete within the first metre. No boreholes were completed within the Wran Building forecourt area.

These results further confirm the presence of natural soil profiles beneath existing buildings and development across the study area, and therefore the potential for Aboriginal archaeological deposits to be present in a sub-surface capacity within the study area.



## Visual Inspection

A visual inspection of the site was undertaken by Curio Projects on 15 September 2020, in order to gain a better understanding of physical and landform context of the study area.

The study area is located on the Ultimo-Pyrmont Peninsula and 500m south off the southern edge of Darling Harbour. The Wran Building and forecourt can be seen along the western boundary of the study area protected by Macarthur Street and Harris Street (Figure 3.1 Northern view of the Wran Building, forecourt, and Switch House from Harris Street, Figure 3.2, Figure 3.4). As seen in Figure 3.1, there is a moderate slope from Harris Street which continues until the end of Macarthur Street. The northern end of the Wran Building abuts the Post Office on the corner of Harris Street and Pier Street (Figure 3.5, Figure 3.6). Pier Street curves around the Post Office, Office Building and Pump House along the northern boundary of the study area (Figure 3.6, Figure 3.7, Figure 3.8). Figure 3.8 and Figure 3.9 displays the New Boiler House building abutting the Tram line tracks along the northern border of the study area and Pier Street.

The study area possesses a popular pedestrian thoroughfare down Macarthur Street through to Darling Drive (Figure 3.11, Figure 3.12, Figure 3.13, Figure 3.20). A carpark is found at the end of Macarthur Street and continues along the eastern edge of the Harwood Building. The Goods Line Park abuts the study area along its eastern boundary after the Tram line and continues south beyond the study area (Figure 3.15, Figure 3.16). The southern border of the study area is protected by Mary Ann Street, an open courtyard with trees, seating and a carpark area is visible to the east of the Harwood Building which is protected by a fence (Figure 3.17, Figure 3.18).

The Harwood Building abuts a residential area along its western boundary (Figure 3.18, Figure 3.19) which then connects with Omnibus Lane (Figure 3.14).



Figure 3.1 Northern view of the Wran Building, forecourt, and Switch House from Harris Street



Figure 3.2 Northern view of the Wran Building from the southern edge of the forecourt



Figure 3.3: South western view of the forecourt, Harris Street and Macarthur Street



Figure 3.4: Eastern view of the Wran Building, Switch house and forecourt



Figure 3.5: Northern view of the Wran Building with the Post Office building in the background



Figure 3.6: South eastern view of the Post Office, Wran Building and Office Building at the corner of Pier and Harris Street



Figure 3.7: Western view of the Office Building and Pump House along Pier Street



Figure 3.8: Western view of the Office Building and Pump House along Pier Street with the Tram Tracks in view along the northern boundary of the Pump House building





Figure 3.9: Southern view of the Tram line abutting the northern boundary of the Pump House



Figure 3.10: Northern view of the 'New' Boiler House, Switch House, and Tram line along the northern boundary of the study area



Figure 3.11: North western view of the Harwood Building, Switch House and carpark from The Good Yards Park



Figure 3.12: Eastern view of the carpark, pedestrian thoroughfare, Harwood Building and Switch House from Macarthur Street



Figure 3.13: Western view of Macarthur Street, Hardwood Building, and Switch House from the carpark on Macarthur Street



Figure 3.14: Southern view of Macarthur Street, Omnibus Lane and the Hardwood Building



Figure 3.15: Southern View of the Harwood Building, The Goods Line Park along the northern boundary of the study area



Figure 3.16: North western view of the Harwood Building and northern boundary of the study area from The Goods Line Park



Figure 3.17: North western view of the southern end of the Harwood Building and Mary Ann Street



Figure 3.18: Northern view of the southern end of the Harwood Building abutting a residential area

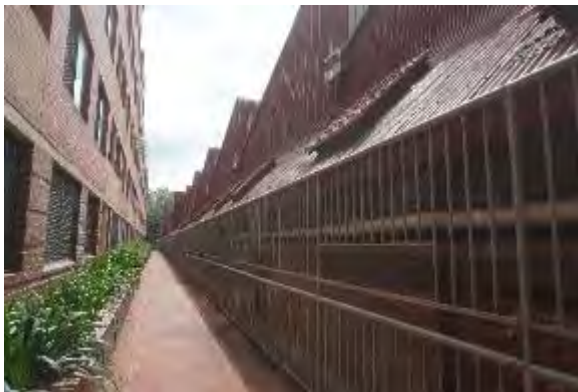


Figure 3.19: Northern view of the southern end of the Harwood Building abutting a residential area



Figure 3.20: Western view of Macarthur Street, Switch House and the Wran Building forecourt from the Harwood Building



## Conclusions and Recommendations

### 4.1. Conclusions

- The Powerhouse Ultimo study area land would have been used, and likely have been of significance to Aboriginal people, due to its proximity to food and other resources, as well as providing good conditions for camping.
- The Powerhouse Ultimo study area does not contain any previously registered Aboriginal sites.
- The study area is located along the original western shoreline of Darling Harbour/Cockle Bay on the GyMEA soil profile.
- The study area and surrounds were historically an integral part of the industrial use of Darling Harbour from the 1850s through to the 1970s and are part of the Ultimo Power Station and Ultimo Tram line.
- The study area is located wholly across the soil profile of 'GyMEA' soil landscape profile and is unlikely to have been significantly disturbed by land reclamation works to Darling Harbour/Cockle Bay in the late 19<sup>th</sup> century.
- Due to the lack of development in the Ultimo area until quite late in the 1880s, there is still potential for Aboriginal sites to exist within the study area, within discrete pockets of natural soil profiles and/or mixed in with contact, or post- European contact sites. Such resources may exist either within a stratified context or imported as un-stratified fill.
- Areas of the study area with higher levels of potential for Aboriginal archaeological deposits to be present include: within the Harwood building south courtyard; Wran Building forecourt; north of Wran Building between the Wran Building and the Ultimo Post Office; and south of the Boiler House.
- Areas of low to moderate potential include the Ultimo Power Station, Wran Building and the Harwood Building
- Locations with deep existing basements (i.e. beneath the Engine Room, New Boiler House, Turbine Hall, Office Building, and Wran Building, are likely to have low Aboriginal archaeological potential resulting from significant excavation works into natural soils. Although this depends on the location and depth of each basement, in relation to the overall depth of natural soils- which can vary with landform positioning.
- Where previous historical development has occurred without significant basement excavation (e.g. areas with potential for historical archaeology in the Wran Building forecourt and at the southern end of the Harwood Building), Aboriginal archaeological deposits still have potential to be present within natural soil profiles (and in disturbed context within historical archaeological deposits, regardless of the context of pre-existing structures.

- Previous Aboriginal archaeological assessments and excavations in the area have constantly demonstrated the ability for natural soil profiles to remain intact beneath existing buildings.

Overall, this Due Diligence Heritage Assessment for the Powerhouse Ultimo site has found there to be **moderate to high potential** for in situ Aboriginal archaeological deposits to be present within the study area, where natural soil profiles remain intact,

Therefore, any future ground-disturbing activities that have potential to impact to a depth of the natural soil profiles across the study area, will have potential to impact Aboriginal archaeology, and therefore will require management and mitigation. Key management recommendations are summarised in the following section.

#### 4.2. Recommendations

- Future development works at the Powerhouse Ultimo study area will require the preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR), prepared in accordance with relevant Heritage NSW statutory guidelines.
- Any ground disturbing works with potential to encounter/impact natural soils profiles will require further Aboriginal archaeological assessment and possible test excavation, either under a Section 90 AHIP under the NPW Act, or as part of an approved ACHAR (including test excavation strategy/research design) as part of an SSD Approval.
- Any substantial excavation works proposed for the site are likely to require Aboriginal archaeological test excavation to further investigate and confirm the nature of Aboriginal archaeological potential within the Powerhouse Ultimo study area.
- While Aboriginal archaeological test excavation is usually possible at a site without an AHIP (if undertaken in accordance with the provisions of statutory guidelines *Code of Practice for Archaeological Investigation of Aboriginal Object in NSW 2010* (the Code of Practice)), this will not be possible for the Powerhouse Ultimo study area, due to the nature of the site as a developed urban site that also has potential for historical archaeology to be present. Therefore, any future Aboriginal archaeological test excavation at the study area would either require approval under a Section 90 AHIP, or under an approved SSDA.
  - Should development consent for future works be sought under the SSD provisions of the EP&A Act (which switches off the need for an AHIP once SSD Approval has been granted), any proposed Aboriginal archaeological investigation works should be guided by the research, design and methodology developed in an ACHAR, to be submitted as supporting documentation with any SSD Application.
- It is important to note that while an approval of project as SSD removes the requirement for an AHIP under Section 90 of the NPW Act for a project, this is only the case once an SSD project has been determined and granted consent. Provision of SEARs for a project is not sufficient to remove the provisions of the NPW Act, therefore any early or investigative works proposed prior to SSD Approval, will remain subject to the provisions of the NPW Act (i.e. will



require an approved AHIP for any activities likely to encounter/impact natural soil/ areas of Aboriginal archaeological potential).

- A process of Aboriginal community consultation should be initiated for the Powerhouse Ultimo site in order to seek information regarding the social and cultural values of the study area, as well as in order to engage the local Aboriginal community in any proposed program of Aboriginal archaeological excavation/mitigation at the site. Consultation should particularly include the Metropolitan Local Aboriginal Land Council (MLALC), as well as in be undertaken accordance with the requirements of statutory guidelines *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

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## APPENDIX A—Extensive AHIMS Search Results



Note: This Excel report shows the sites found in AHIMS on the 10/09/2020. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

Site ID	Site name	Datum	Zone	Eastings	Northing	Context	Site status	Primary contact	Site features	Site types	Recorders	Reports	Permits	Longitude GDA94	Latitude GDA94
45-6-2597	Wynyard St Midden	AGD	56	333469	6247920	Open site Valid			Shell : -, Artefact : -	Midden	Mr.D Coe	102494, 102763, 102765		151.20	-33.89
45-6-2382	Goat Island 2	AGD	56	333100	6252480	Closed sit Valid			Artefact : -, Shell : -, Aboriginal Ceremony and	DKlim Gollan				151.20	-33.85
45-6-2278	Lilyfield Cave	GDA	56	330433	6250467	Closed sit Valid			Shell : -, Artefact : -, Poi Shelter with Midden	Michael Guider, Extent	102201			151.17	-33.87
45-6-2299	First Government Hous	GDA	56	334612	6251612	Open site Valid			Burial : -, Aboriginal Cer	Burial/s, Historic Place	Michael Guider, Watkin	102494, 102763, 102765 4552		151.21	-33.86
45-6-0519	Moore's Wharf	AGD	56	333600	6252200	Open site Valid			Artefact : -	Open Camp Site	R Lampert	808		151.20	-33.86
45-6-0283	Rozelle Hospital 1; Rozel	AGD	56	329760	6251360	Closed sit Valid			Shell : -, Artefact : -	Shelter with Midden	Val Attenbrow			151.16	-33.86
45-6-1900	White Horse Pt	AGD	56	330800	6252420	Open site Valid			Shell : -, Artefact : -	Midden	Michael Guider			151.17	-33.85
45-6-1481	Rozelle Hospital 3	AGD	56	329902	6251129	Open site Valid			Shell : -, Artefact : -	Midden	Val Attenbrow, Michael Guider			151.16	-33.86
45-6-0647	Centennial Park	AGD	56	336273	6247961	Open site Valid			Art (Pigment or Engrave	Rock Engraving	ASRSYS			151.23	-33.89
45-6-2580	Junction Lane	AGD	56	335070	6250410	Open site Valid			Artefact : -	Open Camp Site	Helen Brayshaw	102494, 102763, 102765 894, 902, 903		151.22	-33.87
45-6-2581	Angel Place	GDA	56	334223	6251138	Open site Valid			Artefact : -	Open Camp Site	Dominic Steele Archaea	97963, 102494, 102763, 918		151.21	-33.87
45-6-1939	MSB Tower;	GDA	56	333640	6252227	Open site Destroyed			Art (Pigment or Engrave	Rock Engraving	Michael Guider	102763		151.20	-33.86
45-6-1615	Bennelong Point	AGD	56	334800	6252100	Open site Destroyed			Shell : -, Artefact : -	Midden	ASRSYS	102763		151.22	-33.86
45-6-1957	Goat Island Cave;	AGD	56	333010	6252710	Closed sit Valid			Shell : -, Artefact : -	Shelter with Midden	Michael Guider			151.20	-33.85
45-6-1809	Birchgrove	AGD	56	331380	6252700	Closed sit Valid			Shell : -, Artefact : -, Art Midden, Shelter with Art	Michael Guider				151.18	-33.85
45-6-1853	Lilyvale	AGD	56	333950	6251600	Open site Valid			Shell : -, Artefact : -	Midden	Val Attenbrow, Andrew F	102763		151.21	-33.86
45-6-0030	Dawes Point, Dawes Po	GDA	56	334345	6252534	Open site Destroyed			Art (Pigment or Engrave	Rock Engraving	Michael Guider			151.21	-33.85
45-6-2629	Broadway 1	AGD	56	333060	6249100	Open site Valid			Artefact : -		Dominic Steele Archaea	102494, 102763, 102765 1299		151.20	-33.88
45-6-2637	George street 1	AGD	56	333860	6249880	Open site Valid			Artefact : -		Dominic Steele Archaea	98238, 102494, 102763, 1369		151.20	-33.88
45-6-2651	William St PAD	AGD	56	334800	6250220	Open site Valid			Potential Archaeological Deposit (PAD) : -		Mr. Neville Baker	102494, 102763, 102765 1589, 1670		151.21	-33.87
45-6-2647	KENS Site 1	AGD	56	333750	6250785	Open site Valid			Artefact : -, Potential Archaeological Deposit (PAD)		Dominic Steele Archaea	99857, 100494, 102494, 1428, 1700		151.20	-33.87
45-6-2652	Ultimo PAD 1	GDA	56	333419	6249969	Open site Valid			Potential Archaeological Deposit (PAD) : -		Jim Wheeler, Mr. Matthe	102494, 102763, 102765 1598		151.20	-33.88
45-6-0811	Goat Island, Parramatta	AGD	56	333150	6252650	Open site Valid			Artefact : -, Shell : -	Midden, Open Camp Site	Elizabeth Rich			151.20	-33.85
45-6-2676	Johnstons Creek	AGD	56	331100	6249100	Closed sit Valid			Art (Pigment or Engraved) : 2, Artefact : 5		Michael Guider	102142, 102763		151.17	-33.88
45-6-2666	Wattle Street PAD 1	GDA	56	333200	6249602	Open site Valid			Potential Archaeological Deposit (PAD) : -		Dominic Steele Archaea	102494, 102763, 102765 1738		151.20	-33.88
45-6-2663	Mountain Street Ultimo	GDA	56	333199	6249418	Open site Valid			Artefact : -, Potential Archaeological Deposit (PAD)		Mary Dallas Consulting	102494, 102763, 102765 1719		151.20	-33.88
45-6-2680	Broadway Picture Thea	AGD	56	333150	6249000	Open site Valid			Potential Archaeological Deposit (PAD) : -		Jim Wheeler	102142, 102494, 102763 1854		151.20	-33.88
45-6-2687	Crown Street PAD 1	AGD	56	334950	6250300	Open site Valid			Potential Archaeological Deposit (PAD) : -		Dominic Steele Archaea	102494, 102763, 102765 2017		151.22	-33.87
45-6-2742	171-193 Gloucester Str	AGD	56	333926	6251461	Open site Valid			Potential Archaeological Deposit (PAD) : -		Jim Wheeler	102763	2143, 2342, 2766	151.21	-33.86
45-6-2745	University of Sydney La	AGD	56	332350	6248740	Open site Valid			Potential Archaeological Deposit (PAD) : -		Doctor. Jo McDonald	102201, 102494, 102763 2153, 2320, 2443		151.19	-33.89
45-6-2783	PAD Central Royal Bot	AGD	56	334900	6251030	Open site Valid		T Russell	Potential Archaeological Deposit (PAD) : -		Haglund and Associates	102494, 102763, 102765 2364		151.22	-33.87
45-6-2767	Tent Embassy	AGD	56	332680	6248680	Open site Valid		T Russell	Aboriginal Resource and Gathering : 1		Bill Lord	102494, 102763, 102765		151.19	-33.89
45-6-2796	320-328 George St PA	AGD	56	334100	6251050	Open site Valid		T Russell	Potential Archaeological Deposit (PAD) : -		Mr. Dominic Steele	102494, 102763, 102765 2415		151.21	-33.87
45-6-2822	USYD: Central	AGD	56	332750	6248550	Open site Valid			Artefact : -		Jo McDonald Cultural H	100302, 102494, 102763 2554		151.19	-33.89
45-6-2838	420 George Street PAC	AGD	56	334080	6250670	Open site Not a Site			Potential Archaeological Deposit (PAD) : -		Doctor. Tim Owen	102494, 102763, 102765 2654		151.21	-33.87
45-6-2934	Yurong Cave	GDA	56	335595	6251900	Closed sit Valid			Art (Pigment or Engraved) : -		Michael Guider, Mr. Paul	102763		151.22	-33.86
45-6-2935	Yurong 1	GDA	56	335555	6252020	Open site Valid			Shell : 6		Michael Guider, Mr. Paul	Irish		151.22	-33.86
45-6-2960	Jackson Landing Shelt	GDA	56	332442	6250870	Closed sit Valid			Potential Archaeological Deposit (PAD) : -		Mary Dallas Consulting	102494, 102763, 102765		151.19	-33.87
45-6-2979	UTS PAD 1 14-28 Ultir	GDA	56	333650	6249590	Open site Valid			Potential Archaeological Deposit (PAD) : -		Dominic Steele Archaea	102494, 102763, 102765 3458		151.20	-33.88
45-6-3071	445-473 Wattle Street	AGD	56	333285	6249412	Open site Valid			Potential Archaeological Deposit (PAD) : 1		Biosis Pty Ltd - Sydney			151.20	-33.88
45-6-3081	200 George Street	GDA	56	334237	6251637	Open site Not a Site			Potential Archaeological Deposit (PAD) : 1		Ms. Sally MacLennan	103114	3577, 3934, 4239	151.21	-33.86
45-6-2987	Poultry Market 1	GDA	56	333746	6249575	Open site Valid			Artefact : 1		Ms. Samantha Higgs, Bic	102494, 102763	3506	151.20	-33.88
45-6-3064	445-473 WATTLE ST	GDA	56	333285	6249412	Open site Valid			Potential Archaeological Deposit (PAD) : 1		Biosis Pty Ltd - Sydney	102763		151.20	-33.88
45-6-3152	168-190 Day Street, Sy	GDA	56	333877	6250257	Open site Not a Site			Potential Archaeological Deposit (PAD) : -		Mr. Josh Symons, Mr. Alex	Timms	3789	151.20	-33.87
45-6-3116	Wynyard Walk PAD	GDA	56	333931	6251252	Open site Destroyed			Potential Archaeological Deposit (PAD) : 1		GML Heritage Pty Ltd + Context -	Surry Hills, GML 3670		151.20	-33.87
45-6-3155	Moore Park AS1	GDA	56	335613	6247909	Open site Valid			Artefact : -		Artefact - Cultural Heritage Management -	Pym 4019		151.22	-33.90
45-6-3217	Darling Central Midden	GDA	56	333530	6250101	Open site Valid			Aboriginal Ceremony and Dreaming : 1, Artefact		Comber Consultants Pty Limited, Ms. Tory	Stening		151.20	-33.88
45-6-3324	RBG PAD 1	GDA	56	334802	6251224	Open site Valid			Potential Archaeological Deposit (PAD) : 1		AMAC Group P/L, Mr. Benjamin	Streat		151.21	-33.87
45-6-3325	RBG PAD 2	GDA	56	335212	6251494	Open site Valid			Potential Archaeological Deposit (PAD) : 1		AMAC Group P/L, Mr. Benjamin	Streat		151.22	-33.86
45-6-3327	RBG PAD 3	GDA	56	334957	6251832	Open site Valid			Potential Archaeological Deposit (PAD) : 1		AMAC Group P/L, Mr. Benjamin	Streat		151.22	-33.86
45-6-3245	Doncaster Ave PAD	GDA	56	336037	6246916	Open site Destroyed			Hearth : -, Potential Archaeological Deposit (PAD)		GML Heritage Pty Ltd + Context -	Surry Hills, GML 4188		151.23	-33.91
45-6-3338	The Bays Precinct PAD	GDA	56	332354	6250885	Open site Valid			Potential Archaeological Deposit (PAD) : -		Artefact - Cultural Heritage Management -	Pymont, Mr. Michael Lever		151.19	-33.87
45-6-3339	The Bays Precinct PAD	GDA	56	332779	6250555	Open site Valid			Potential Archaeological Deposit (PAD) : -		Artefact - Cultural Heritage Management -	Pymont, Artefact - Cultural He		151.19	-33.87
45-6-3502	Loftus PAD 01	GDA	56	334551	6251635	Open site Valid			Potential Archaeological Deposit (PAD) : -		Artefact - Cultural Heritage Management -	Pym 4292		151.21	-33.86
45-6-3645	SFS-PAD	GDA	56	335846	6248721	Open site Valid			Potential Archaeological Deposit (PAD) : 1		Miss. Sam Cooling, Curio Projects	Pty Ltd		151.22	-33.89
45-6-3552	Smith Hogan and Spinc	GDA	56	331309	6249791	Open site Not a Site			Shell : -, Burial : -		Mr. Mark Simon	104371		151.18	-33.88
45-6-3654	CRS AS 01 (Central R	GDA	56	334055	6249146	Open site Valid			Artefact : -		Artefact - Cultural Heritage Management -	Pym 4639		151.21	-33.88
45-6-3446	71 Macquarie Street	AGD	56	334663	6251783	Open site Valid			Potential Archaeological Deposit (PAD) : -		GML Heritage Pty Ltd + Context -	Surry Hills, Ms 4285		151.21	-33.86
45-6-3704	Tay Reserve Artefact	GDA	56	335723	6247268	Open site Valid			Artefact : -		Artefact - Cultural Heritage Management -	Pymont, Mr. Michael Lever		151.22	-33.90
45-6-3705	Kent and Erskine St	AGD	56	333876	6251145	Open site Valid			Potential Archaeological Deposit (PAD) : -		GML Heritage Pty Ltd + Context -	Surry Hills, Ms. Jodi Cameron		151.20	-33.87
45-6-3693	Callan Park Scared Tre	GDA	56	330004	6251406	Open site Valid			Modified Tree (Carved or Scarred) : -		GML Heritage Pty Ltd + Context -	Surry Hills, Doctor. Tim Owen		151.16	-33.86
45-6-3694	Callan Park Waterhole	GDA	56	330060	6251377	Open site Valid			Water Hole : -		GML Heritage Pty Ltd + Context -	Surry Hills, Doctor. Tim Owen		151.16	-33.86
45-6-3695	Callan Park Grinding	GDA	56	330080	6251407	Open site Valid			Grinding Groove : -		GML Heritage Pty Ltd + Context -	Surry Hills, Doctor. Tim Owen		151.16	-33.86
45-6-3696	Callan Park Cultural Tr	GDA	56	330061	6251398	Open site Valid			Aboriginal Resource and Gathering : -		GML Heritage Pty Ltd + Context -	Surry Hills, Doctor. Tim Owen		151.16	-33.86
45-6-3762	Harrington IFS01	GDA	56	334178	6251888	Open site Destroyed			Artefact : 1		AMAC Group P/L, Mr. Benjamin	Streat		151.21	-33.86
45-6-3812	FZ 23 artefact scatter	GDA	56	336278	6246940	Open site Valid			Artefact : -		Artefact - Cultural Heritage Management -	Pymont, Mr. ryan taddeucci		151.23	-33.91







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# APPENDIX C

## Historical Archaeological Assessment (AMBS 2018)





# Ultimo Creative Industries Precinct: Historical Archaeological Assessment

Prepared by AMBS Ecology & Heritage  
for Tanner Kibble Denton Architects

Second Draft

November 2018

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## Executive Summary

AMBS Ecology & Heritage (AMBS) has been commissioned by Tanner Kibble Denton Architects (TKD Architects), to prepare an Archaeological Assessment for the Ultimo Creative Industries Precinct (UCIP) (Museum of Applied Arts and Sciences' [MAAS] Powerhouse Museum site).

This assessment has identified that the survival and integrity of the archaeological resources in the Ultimo Creative Industries Precinct are likely to be variable.

Construction of the Ultimo Power House and replacement of the Sydney Tramway and Omnibus Company (STOC) stables by the Tram Depot for stabling electric trams in 1899 will have completely altered the local landform having had a significant impact on the underlying archaeology. However, archaeological resources associated with 1840s and later houses, if present with good integrity across the northern and southern areas of the precinct would have the potential to contribute to an understanding of the development and social interactions within a discrete group of early houses. Analysis of previous archaeological excavations undertaken within the vicinity of the UCIP Precinct, particularly the adjacent Bullecourt Place and 14-28 Ultimo Road (UTS) sites, indicates that the archaeological resource in the study area has the potential to contribute to research themes associated with the development of Sydney's urban environment from the early to mid-nineteenth century

If present with good integrity, the archaeological resources within the footprint of the Ultimo Creative Industries Precinct have been assessed as having local and may meet the requirements for state significance and as such should be managed in accordance with the requirements of the *Heritage Act 1977*.

It is understood that concepts for the future use and configuration of the Precinct are at an early stage and that there are no proposals to excavate beneath the current ground or basement levels with the exception of the Harris Street south site. Retention of archaeological resources in situ where it can contribute to future, new research questions, is the preferred management strategy

However, should excavation ultimately be required within any of the areas identified as being archaeologically sensitive, an application for an Excavation Permit under Section 140 of the *Heritage Act 1977* must be lodged with the Heritage Council of NSW. The application will need to include a Research Design which includes the information contained in this report as well as detailed research questions, excavation methodology and excavation director, who will comply with the Heritage Council Excavation Director Assessment Criteria for a state significant historical archaeological site



# 1 Introduction

AMBS Ecology & Heritage (AMBS) has been commissioned by Tanner Kibble Denton Architects (TKD Architects), to prepare an Archaeological Assessment for the Ultimo Creative Industries Precinct (Museum of Applied Arts and Sciences' [MAAS] Powerhouse Museum site).

In April 2018, the NSW Government announced that the MAAS Powerhouse Museum was to be relocated from Ultimo to Parramatta. The Government also approved retention of a cultural presence at the Powerhouse Museum site, to include a fashion and design museum showcasing the MAAS collection; and a 1,500 seat Broadway-style (Lyric) theatre to feature major international musicals, performances, film, music, festivals and touring shows, to be built and run by the private sector.

## 1.1 Site Description

The site is bounded by Harris Street, Omnibus Lane and a large residential apartment block at 82 Mary Ann Street to the west; the William Henry Street Bridge to the north; The Goods Line to the east; and Mary Ann Street to the south. The site has combined the following earlier sites:

- Ultimo Post Office (Lot 1 DP 770031) on the corner of Harris Street and William Henry Street;
- Ultimo Power House (Lot 1 DP 631345), adjacent to the Darling Harbour Goods Line, between the William Henry Street Bridge and MacArthur Street;
- Warehouse buildings (Lot 1 DP 781732) on Harris Street between the Ultimo Post Office and MacArthur Street; and
- Ultimo Tram Depot (Lot 3 DP 216854), adjacent to the Darling Harbour Goods Line, between MacArthur Street and Mary Ann Street (Figure 1.1).

There is up to nine metres difference in the ground level between Harris Street and the Darling Harbour Goods Line, with the existing buildings cut into the slope to form several different floor levels and platforms throughout the site.

## 1.2 Statutory Controls

The site is within the City of Sydney Local Government Area (LGA). The former Ultimo Power House, the former Ultimo Post Office and the vault of the Wran building are identified as local heritage items in Schedule 5 of Sydney Local Environmental Plan (LEP) 2012. The Ultimo Post Office is also listed on the State Heritage Register (SHR Item#00502).

There are no identified historical archaeological items or sites within the Ultimo Creative Industries Precinct footprint on the LEP or the SHR.

## 1.3 Methodology & Authorship

This report is consistent with the principles and guidelines of the *Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance 2013*. It has been prepared in accordance with current best-practice guidelines as identified in the *NSW Heritage Manual* (1996), published by the Heritage Office and Department of Urban Affairs and Planning (now the Heritage Division, Office of Environment and Heritage), and associated supplementary publications in particular *Assessing Significance for Historical Archaeological Sites and 'Relics'* (2009).

The report has been prepared by Jennie Lindbergh, AMBS Director Historic Heritage with assistance and input by Victoria Cottle AMBS Heritage Consultant and Jenna Weston, Heritage Consultant. The report has been reviewed by Lian Flannery, AMBS Senior Heritage Consultant.



Figure 1.1 The Ultimo Creative Industries Precinct within its local environment (<https://maps.six.nsw.gov.au/>).



## 2 Historic Context

From its humble beginnings as the inaccessible, inhospitable, swampy, stony headland neighbouring the settlement of Sydney Cove, in 220 years the Pyrmont-Ultimo peninsula has seen wide scale environmental transformation and periods of great social, cultural and economic change. It developed from unmodified bushland to pockets of small-scale subsistence agriculture, before developing during the nineteenth century into a patchwork of industrial, commercial and residential pursuits (Godden Mackay Pty Ltd [Godden Mackay] 1993:31).

### 2.1 Early Land Grants

Prior to European development, the area surrounding Cockle Bay (later Blackwattle Bay) was reportedly swamp-like and marshy with fertile alluvial soil, and was punctuated by multiple small freshwater creeks that attracted waterfowl and other game (Steele 2012:18). Aboriginal inhabitants probably maintained a mixed food economy based on resources from the waters surrounding the peninsula, on hunting terrestrial animals and on collecting and processing plant materials. Although a smallpox epidemic was partially responsible for the loss of approximately half of Port Jackson's Indigenous population in 1789, the Pyrmont peninsula continued to sustain Aboriginal populations well into the early nineteenth century. By the mid-1830s, European activity on the peninsula began driving Aboriginal inhabitants further south to camp in Ultimo and particularly in the partially cleared landscapes of John Harris' land grants surrounding Ultimo Estate. Cockles were reportedly still being harvested from Blackwattle Bay in the middle of the nineteenth century (Fitzgerald & Golder 1994:24). However, the area had been largely cleared of native vegetation and was becoming increasingly polluted and silted up as a result of European settlement. By the 1850s, the traditional food sources of Aboriginal people had disappeared and the landscape was transformed.

The first land grants on the Pyrmont-Ultimo peninsula were made by Lieutenant Governor Francis Grose on 10 December 1794. On the western bank of Cockle Bay (later Darling Harbour) 24 acres were granted to John Malone, and an adjacent 18 acres granted to William Mitchell. In 1795, 55 acres in the north-eastern portion of the peninsula were granted to Private Thomas Jones of the NSW Corp. These grants were reputedly common in the years 1792-1795 when the colony was headed by Corps officers, who handed out small parcels of land to lesser officers to supplement their meagre pay (Fitzgerald & Golder 1994:13). Such land parcels were granted on the condition that grantees build on and reside within, as well as cultivate and improve, their land. However, these conditions were not met and deed titles often transferred between hands. In many cases these lands were initially sub-let as market gardens for a nominal fee. It is also clear that the land around the Cockle Bay head remained swampy.

#### 2.1.1 Macarthur Estate

Jones sold his grant on the tip of the peninsula, known as Jones' Farm, to Sergeant Obadiah Ikin in 1796, who later sold it to John Macarthur, reportedly, for £10 worth of rum. It later became known as the Pyrmont Estate, and was eventually exploited for its natural resources and as an industrial site. The estate was substantially logged from 1807, and the timber sold as firewood and building material to the inhabitants of Sydney. Macarthur also established a salt works and manufactured salt, constructed a post windmill on Pyrmont Point between 1807 and 1808, and used local Pyrmont stone to build a mill for grinding grain on the junctions of Church, Mill and Point Streets (Fitzgerald & Golder 1994:15). This mill continued to operate despite Macarthur being exiled to London for his role in the Rum Rebellion. Customers brought their grain across Cockle Bay by boat, briefly drawing the headland into commercial activity (Casey & Lowe 2010:19). The mill was unable to compete with Dickson's and Barker's more efficient steam-powered mills across the harbour, and so it became neglected. Later, Macarthur had also planned to build a large stone mansion in

Pymont from local stone, but although the stone was quarried no such dwelling eventuated (Casey & Lowe 2010:19). Instead the stone was transported to Parramatta, and Macarthur's seemingly grand visions for the Pymont peninsula were abandoned.

With the death of John Macarthur in 1834 the estate passed to his son, Edward, who made plans to subdivide the land into villa-sized residential lots with spaces devoted for a church, harbour fortifications and a wharf. A vision to create a middle-class suburb dictated Macarthur's requirement that each allotment have only one house on it (Fitzgerald & Golder 1994:25). Given the lack of investment in Edward Macarthur's first attempts at subdivision, the plans were deemed unsuitable and a second allotment plan was drawn up in 1839. The Macarthur Estate was sold by auction in December 1839 and July 1840 (Figure 2.1), of which just over two thirds were successfully sold (Broadbent 2010:435). By 1843, most lots south of John Street and some to the north had been sold or leased and developed for residential use, whilst others were further subdivided or consolidated, developed and auctioned. John William Russell, a shipbuilder, purchased two lots fronting Pymont Bay and constructed a shipyard, whilst shipbuilder Thomas Chowne leased lots fronting Johnstons Bay. The sale of Macarthur's Pymont Estate continued in the 1850s and 1860s, but the process of urbanisation up to this point was slow.

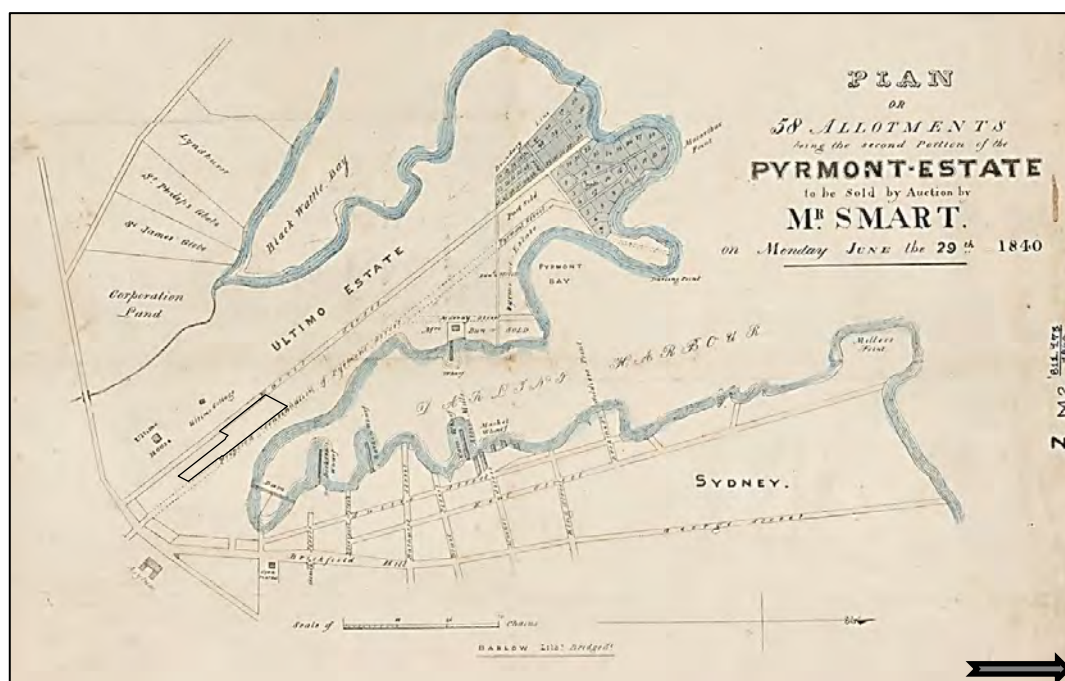


Figure 2.1 Plan of 58 allotments, being the second portion of the Pymont Estate to be sold at auction by Mr Smart on Monday 29 June 1840. There are no buildings indicated within the study area, approximate location indicated (Source: State Library of NSW digital collection).

### 2.1.2 The Ultimo Estate

In 1803, Surgeon John Harris of the NSW Corps was conditionally granted a 35 acre portion of land at the base of the Pymont peninsula *between the Church Land [Glebe] and the ground used as a brickfield* which he named the Ultimo Estate (Fitzgerald & Golder 1994:17). As one of the few grantees to observe the conditions of their grant, Harris cleared and cultivated portions of the land and in 1804, constructed Ultimo House a two storey Georgian mansion with a wide veranda on a sandstone ridge overlooking Blackwattle Creek and Cockle Bay (Broadbent 2010:14). In 1806 Harris was granted a further 9¼ acres between his estate and Parramatta Road, along with a 135 acre grant in the north-western corner of the Pymont peninsula. Harris also purchased the farms originally granted to John Malone and William Mitchell; and when Harris was granted 12¾ acres



between George Street and the head of Cockle Bay he effectively acquired the whole peninsula except for Macarthur's estate.

At the time of his death in 1838, Harris had no children and had predeceased his wife, Eliza (Matthews 1982:14). Harris' will stipulated that the Ultimo Estate and surrounding properties were to be divided equally and bequeathed to his brothers George and William Harris, who were to collect rent and manage properties from tenants (Casey & Lowe 2000:44). Following the deaths of George and William, the estate was bequeathed to John Harris, son of George Harris, and John Harris, son of William Harris, together with their descendants. To facilitate division Harris' estate was divided into 70 lots, for which each John Harris received 35 lots. Lots were then allotted by ballot to each of the family members (Godden Mackay 1994:16). From the 1860s, both sides of the family set about the rapid development of their lands, and in 1874, the eldest son George Harris told a parliamentary enquiry that they had *laid out £20,000 in buildings and [had] not a vacant house on the estate* (Broadbent 2010:439). Despite these developments, the Ultimo Estate was still considered largely rural at this time.

However, it would appear that, at least initially, John Harris' estate was not intensively cleared. The land surrounding Ultimo House was gradually cleared and utilised as a deer park and for grazing sheep and cattle (Godden Mackay 1994:15). A sketch of the Ultimo Estate by Edward Mason shows Ultimo House and Cottage looking northwest towards the tip of the Pyrmont peninsula (Figure 2.2). The land surrounding Ultimo House has been cleared to imitate English parkland with sparsely planted trees up to the foot of Cockle Bay. In the foreground between Macarthur's windmill and Ultimo Cottage dense forest can be seen. It was reported that Harris intentionally retained native vegetation to provide ground coverage for deer and guinea-fowl, thereby enhancing the hunt (Broadbent 2010:393).

In 1814, the colonial architect Francis Greenway was commissioned to extend Ultimo House, creating a semi-circular hall with a spiralling stone staircase and a central dome to let in natural light. John and his wife Eliza resided in Ultimo House until 1821 when they moved to Shane's Park at South Creek, near St Marys. When visiting Sydney, Harris stayed in the neighbouring Ultimo Cottage, but otherwise the dwellings and their gardens were leased to tenants. Little is known about the precise location and frequency of occupation areas on the Ultimo Estate between the 1820s and 1830s.



**Figure 2.2** Ultimo Place, with Cockle Bay by Edward Mason, c. 1821-1823, with MacArthur's windmill in the background (Source: State Library of NSW, Manuscript Collection, PXC 459, a1080067).

### 2.1.3 Early Development

On the whole, very little information has been recorded in respect to those portions of Harris' estate to the east of Harris Street. It is likely that the Harris family was not attracted to this portion of the estate because of the low-lying natural topography and the unsuitability of the marshy land for development (Godden Mackay 1994:41). Furthermore, the head of Darling Harbour was reportedly becoming silted up and water from nearby creeks travelled slowly into the harbour or remained stagnant. Rubbish, including waste from the surrounding industries, could not be carried away and so the area became known as a 'noxious swamp' (Fitzgerald & Golder 1994:35, 42). A series of creeks across the area formed a delta of swampy land around which the study area was situated. Fitzgerald & Golder speculate that visitors to Ultimo House could chance the drive that *skirted the swamp* north of Ultimo Road (1994:20). This landscape would remain unchanged at least until the late 1830s. A survey of the Ultimo Estate in 1837 shows the extent of the swampy wetland at the head of Cockle Bay, as well as areas of land use and some building locations (Figure 2.3). Also illustrated are multiple tracts of land that were functioning as gardens, as well as a brick ground. A hut, two stables and five other unidentified buildings are represented, yet the study area appears to have been undeveloped at this time. Harris Street was present by around 1836 (Broadbent 2010:399).

In 1837, 'upwards of 1,000,000 cubic feet of material' was cut from Brickfield Hill and dumped at the head of Cockle Bay, when stone, large quantities of silt, refuse, mud and clay dredged from the harbour or excavated from around the foreshores and from higher blocks were used as fill (Fitzgerald & Golder 1994:26; Godden Mackay 1993:44). Swampy land at the south-west headwaters of the harbour was reclaimed by the 1840s and Dickson's Mill pond, to the south-east was infilled by 1855. These actions altered the shoreline to create a reasonably level yet undeveloped site; however, apparently the underlying ground water continued to percolate up through the fill (Godden Mackay 1993:41). However, it seems that the study area may have remained unreclaimed swampland. This is suggested by the late date of reclamation of the block to the south of the study area which was not reclaimed until 1884 (Australian Museum Consulting 2015:24).

In addition, in September 1853, the Government proclaimed the Darling Harbour Goods Line, to transport goods between the harbour and the Central markets, and approved the resumption of land provided neighbouring landowners were adequately compensated (Figure 2.4). In all 15 acres 3 roods and 39 perches were acquired, of which about 7½ acres of land was acquired from the Ultimo Estate. However, the line divided the peninsula and largely alienated the Darling Harbour shoreline from Harris Street. Streets were dissected and effectively cut off from the waterfront. Those properties within the footprint of the Line were resumed, and its construction also had a detrimental effect on adjacent properties. That the embankment was constructed without retaining walls, proved to not only cause problems with washdown of soils, it was also something of a scandal (Broadbent 2010:503). Construction of the embankment required massive amounts of soil which was largely derived from the construction of the Sydney to Parramatta Railway, but a Select Committee investigation of 1864 was told that it *seemed all to waste in the water* (ibid). During wet weather, the lands adjacent to the goods line were awash with run-off and soils, which also clogged culverts, compounding the problem for adjacent lands. The dispute between the railway and Harris for compensation for his land was resolved when Harris was paid £25,000 and granted a portion of land that had recently been reclaimed between the railway and Hay Street. This land is identified as part of a *wholesale reclamation* undertaken in 1860s at the head of Darling Harbour (Fitzgerald & Golder 1994:40-41). There is however, no evidence to suggest that Harris was inspired to similarly improve the lands of his estate (see Section 3.1 below).

Despite the neatly subdivided allotments along the north side of the Parramatta Road and at the northern end of the peninsula, the Ultimo Estate does not appear to have been systematically



subdivided and urbanised (see for example Figure 2.1 above). Instead, Harris leased the arable and fertile tracts of land around the headwaters of Darling Harbour, Blackwattle Bay and other unspecified areas within the estate to tenant farmers (Godden Mackay 1994:15). The Phillip Ward Rate Assessment Book of 1845 lists 54 one and two room huts dotted all over Harris' estate in 'Ultimo', of which, the majority were constructed by the tenants from fairly primitive materials (wood, slab, wattle and daub with bark or shingled roofs), and while some tenants conducted small scale enterprises from their allotments, the majority gleaned subsistence living from the animals and garden plots around their homes (1994:15).

Unfortunately, most of the allotments are not depicted in historic plans and their precise locations are difficult to identify. It is therefore difficult to gauge from historic sources whether the site was occupied by tenant farmers before the 1840s; however, the Phillip Ward Rate Assessment Book of 1845 does identify that Thomas Halloran lived in a wattle hut with a detached room, on an acre of ground in Ultimo owned by John Harris. Council Rates Assessment Books and Sands Directory entries from later years seem to identify that Thomas Halloran/ O'Halloran/O'Hallaran (or Mrs Margaret O'Hallaron) lived in the study area, between Harris, William Henry, Macarthur and Pymont Streets (the latter formerly extended along the western side of the Darling Harbour railway/goods line). In 1855, the Rates Assessment notes his property as including a cornfield, with the house having been upgraded to plaster. Council Rates Assessment Books and Sands Directory entries also indicate that John Gorman lived within the study area from at least 1855, the stone house and grounds being owned by Mrs Harris (as was Halloran's by this time). Later Sands Directory entries identify Gorman as a dairyman, and Mrs O'Halloran as having a dairy, so the area seems to have remained largely rural. Further, on 21 April 1855 all vacant land in the Ultimo Estate was leased to Thomas Cardwell for the sum of £1 per week, to graze cattle (Godden Mackay 1994:15).

The locations of these structures seem to roughly correspond to the six structures indicated standing on irregular shaped allotments on the c.1853 and 1865 maps (Figure 2.5). The 1865 Trigonometric survey map shows a timber bridge or culvert carrying the Darling Harbour Goods Line over the watercourse and that William Henry, Macarthur, Mary Ann and Systum Streets and Omnibus Lane had not been formed. The 1880 Sands Directory indicates that Mary Ann and Macarthur Streets remain unformed between Harris Street and Pymont Street/the goods line until after 1880.

The 1865 Trigonometrical Survey map also indicates areas of possible quarrying (Figure 2.5 refer also to Figure 2.11 below). Low's Directory of 1844 refers to the Ultimo Quarries, with at least one known quarrymaster, John Cowsley, which seems to confirm that the earliest quarry on the peninsula may have been on the Ultimo Estate (Broadbent 2010:409, 411). Broadbent suggests that it is likely that there were at least two, if not more, quarries on the Harris Estate in 1854 to provide ballast for the Darling Harbour goods line. In particular, there was a quarry bounded by Harris, Pymont, Macarthur and Mary Ann Streets, and had obviously ceased to operate at least by 1899 when the Power Station was constructed (Broadbent 2010:412, 413). The quarry is not indicated in Sands Directories nor Rates Assessment Books, nor are any of the tenants occupying adjacent housing identified as having any association with the quarry.

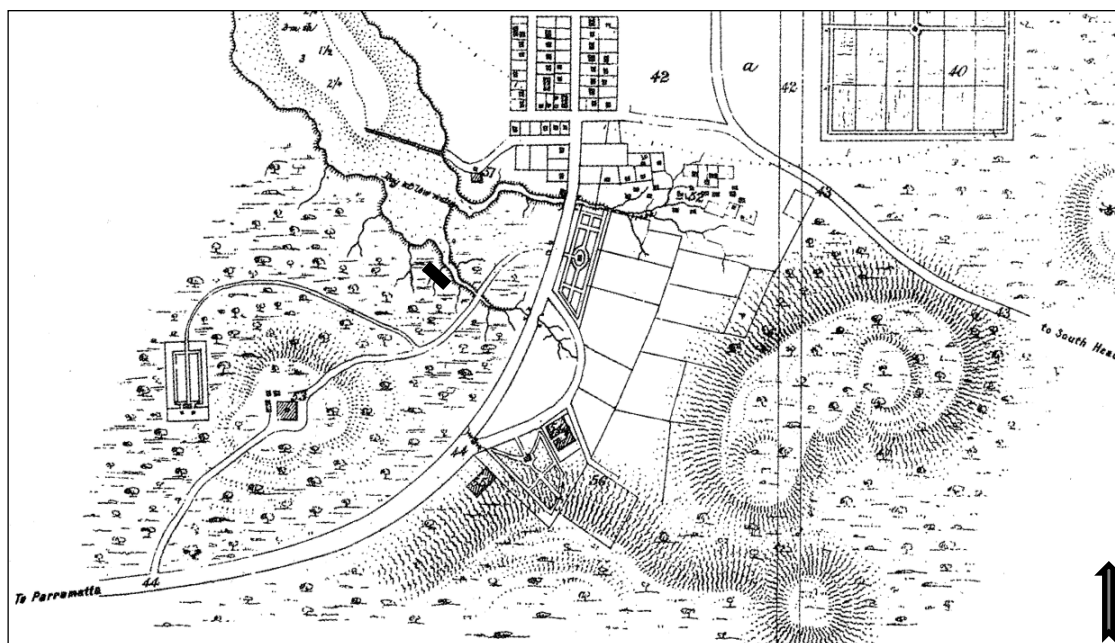


Figure 2.3 Detail from the Plan of the Town and Suburbs of Sydney August 1822 showing the swampy landscape around the head of Cockle Bay. The sand flats at the head of the bay are described as *Dry at low tide*. The approximate location of the study area is boxed in black (Source: Ashton & Waterson 2000:19).

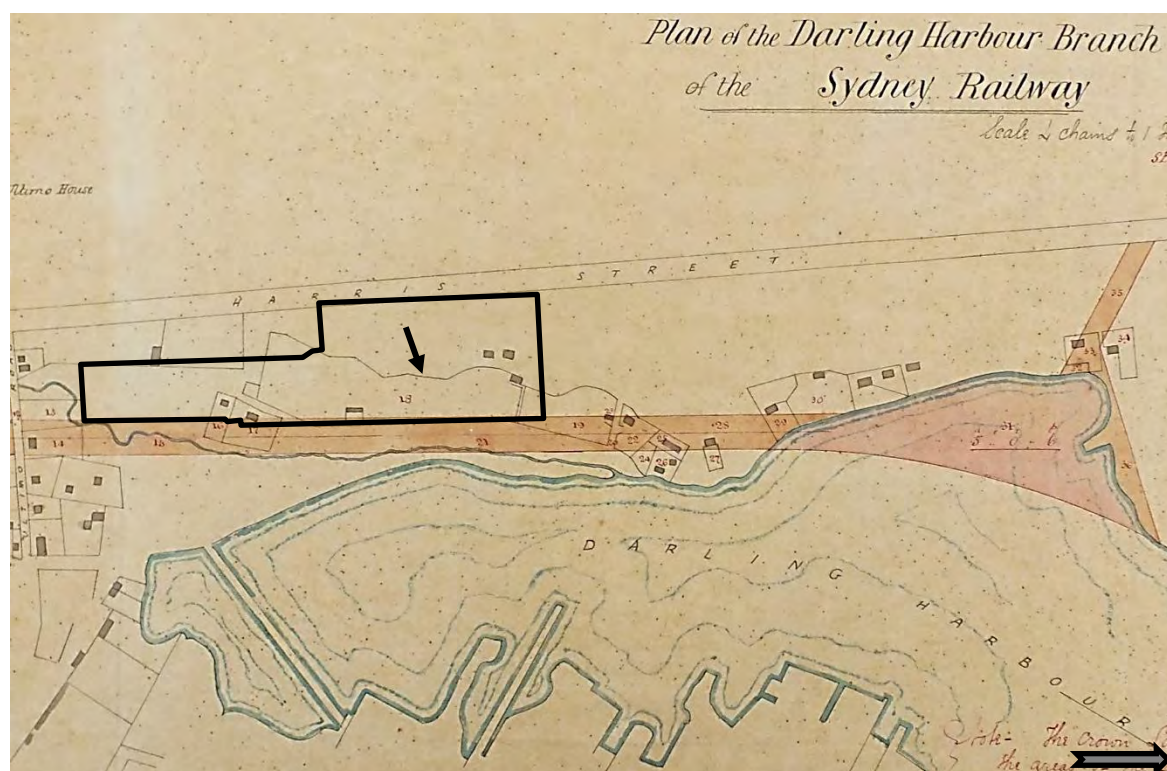


Figure 2.4 Detail of a c.1853 plan showing the area that was resumed for the Darling Harbour goods line with buildings within the study area, which comprises parts of Lots 16, 17, 18 and 19. The likely line of the quarry is arrowed (Source: State Records Authority of NSW, AO Map 6381).



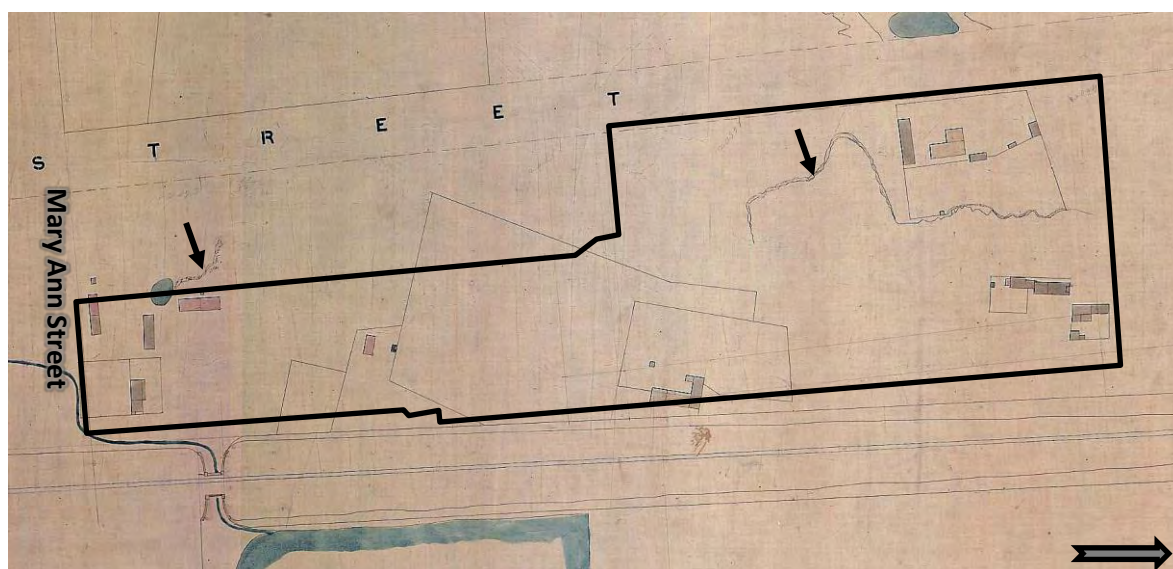


Figure 2.5 Detail of the Trigonometrical Survey of Sydney, 1855-1865, showing a number of timber (grey), stone (yellow), brick (pink) and iron (blue) buildings within the approximate location of the study area as indicated. Possible quarry is arrowed (Source: <http://atlas.cityofsydney.nsw.gov.au/maps/city-of-sydney-trigonometrical-survey-1855-1865-block-v1/>).

## 2.2 Block U3: William Henry – Macarthur Streets

The northern block, between William Henry and Macarthur Streets is later occupied by the Ultimo Power Station is identified on the Sydney Water plans as U3, while the southern block to Mary Ann Street, later occupied by the Ultimo Tram Depot as V3.

The sparse scatter of cottages between the goods line and Harris Street continue into the later nineteenth century. It seems that the land to the west of the goods line remained largely isolated and undeveloped, whilst lands to the east of the line became increasingly industrialised (Figure 2.6). Although water had been reticulated through most of Sydney by the 1860s, water was not reticulated to this area until later. Development to the north of Jones Street was thriving, likely as a result of council's decision to lay a main along Harris Street to Pyrmont. However, only some of John Harris' tenants on Harris Street were connected and residents living off Harris Street in poor circumstances were denied connection (Figure 2.7), (Fitzgerald & Golder 1994:42). It is also likely that the Harris Estate houses were not connected to the sewer until after the Devonshire Street Sewer from the Sydney Terminal to Darling Harbour was laid in 1881 (Figure 2.8).

An increase in the local population is indicated in the Sands Directory and Council Rates Assessment Books from 1871. It is not possible to correlate cottages shown on the Trigonometric Survey plan with housing depicted on later plans, though some tenants continue in occupation from 1855. Continuing occupants are the Mahers, O'Hallorans and Browns, while C O'Keeffe has replaced Gorman. There are two empty single storey 4-5 roomed timber houses with shingled roofs. A semi-detached pair of single storey 6-roomed brick houses with shingled roofs are now present on Harris Street to the north of Macarthur Street: number 472 (later renumbered to 518, then 554) and 474 (later renumbered 520, then 556) (Figure 2.9). Each house was valued at £40 and were leased to William Henry Harris and William Cope. A group of four houses identified as 'off Harris Street' rather than having a street number, with the two empty houses and Martin Brown's house identified respectively as 1, 2 and 3 'off 474 Harris Street'. Another property is identified as '4 off 474 Harris Street', comprising a two-storey, four-room timber warehouse, with wooden roof, valued at £40 and tenanted by John Woods (Figure 2.11). The 1877 Council Rates Assessment Book identifies another two houses 'off Harris Street' between William Henry and Macarthur Streets - a total of 11 tenanted houses; in 1880 there are 12; but in 1882 and 1891 there

are only seven. However, these houses are identified as numbering 517-523 on the 1886 Sydney Water, which may indicate that John Woods is living at number 523.

The 1888 Metropolitan Detail Series map for the block also confirms that there is little change in the occupation density, as do contemporary photographs (refer Figure 2.7 and Figure 2.11). By 1873 a house is present at 137 William Henry Street, leased from the Harris family by Thomas Bladen, an iron moulder/smelter/manufacturer/engineer. The 1877 Council Rates Assessment Book identifies it as a two storey brick and stone house, with a shingled roof and 8 rooms, valued at £52, and the 1896 and 1901 Council Rates Assessment Books identify stables on the property as well, there is a house is present on this site until 1913/4 whereby the house and land was resumed for the NSW railway (for construction of the Tramway Instruction Room). The 1911 Council Rates Assessment Book then identifies the house as a single storey house constructed of wood with an iron roof. Tenants included William Carroll, a butcher (1882-1889); William McCaffrey, a drayman (1890-1896); Mrs Henrietta Meikle and James O'Grady (a butcher; 1897-1899); Thomas Love (1900-1901); George Taylor (1904-1905); and finally, Charles Lacey (1906-1913).

By the turn of the century, the major part of the block had been resumed for construction of the Pyrmont Power Station. The only extant houses appear to be those at 137 William Henry Street and 554-556 Harris Street (these latter two occupied respectively by Mrs Mary Black and Mrs Agnes Dooley from 1896, and cab proprietor John Lowe from 1879) (Figure 2.12 and Figure 2.10).



**Figure 2.6** Watercolour painted in 1867 by Samuel Elyard of the view from a rural Harris Street to an industrial Darling Harbour ([http://digital.sl.nsw.gov.au/delivery/DeliveryManagerServlet?embedded=true&toolbar=false&dps\\_pid=IE3268219&\\_ga=2.256801355.1174455750.1541292434-1476070944.1480216908](http://digital.sl.nsw.gov.au/delivery/DeliveryManagerServlet?embedded=true&toolbar=false&dps_pid=IE3268219&_ga=2.256801355.1174455750.1541292434-1476070944.1480216908)).



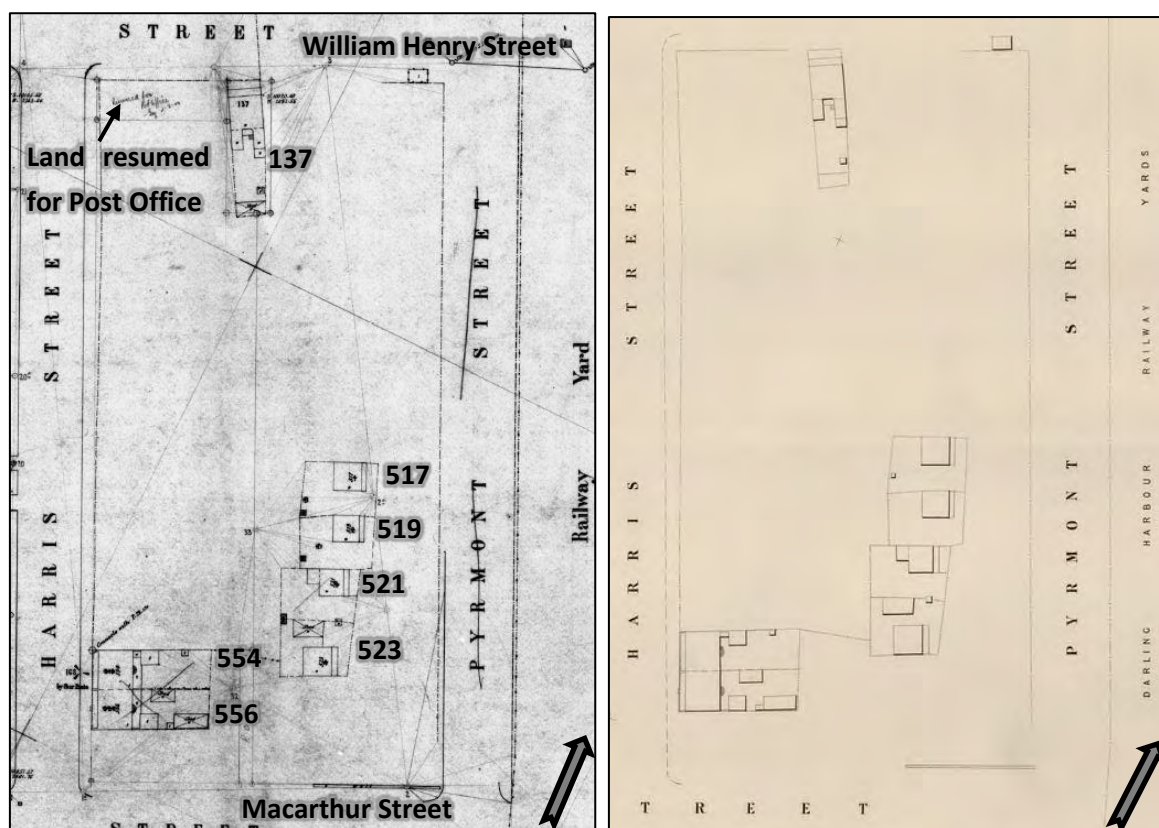


Figure 2.7 Detail from 1886 Sydney Water Plan, annotated with house numbers (left), and detail from the 1888 Metropolitan Detail Series Pyrmont (right). There is no change in the settlement pattern (PWDS1544-S206 and Sheet U3\_SLNSW\_a1367611h).

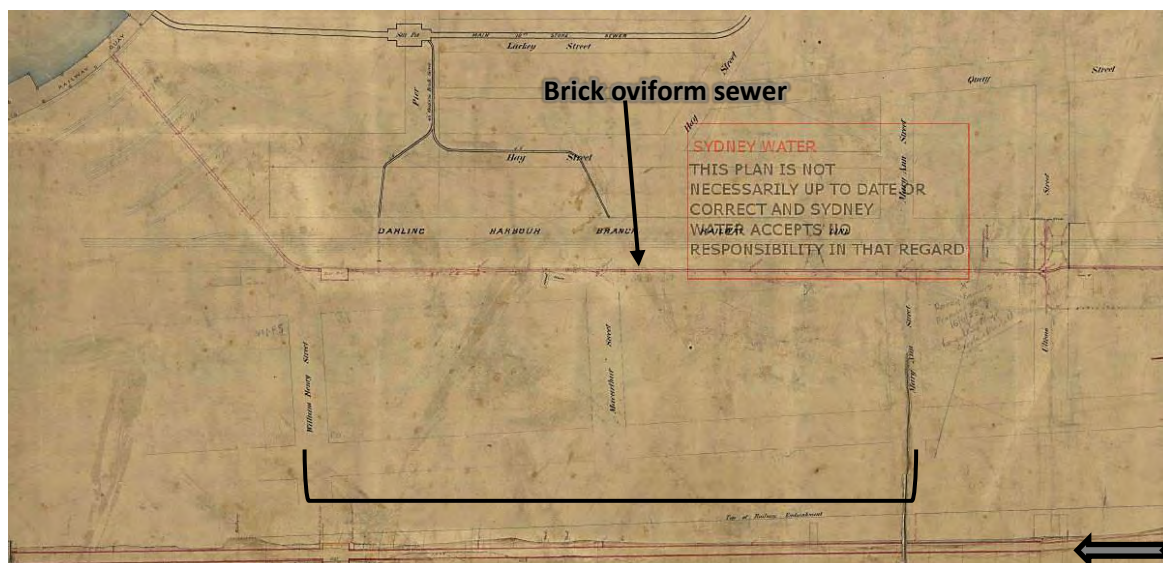


Figure 2.8 Detail from Sydney Water plan of the Devonshire St to Darling Harbour, dated 1880. The section between Mary Ann and William Henry Streets is bracketed (Archive plan 0089123).



Figure 2.9 The houses at 554-556 Harris Street on 28 July 1922 with the power house behind, before demolition (Source: City of Sydney Archives NSCA CRS 51/992).



Figure 2.10 Photograph of the Ultimo Post office c.1903. Note the roof visible between the post office and power station as arrowed. This is most likely 137 William Henry Street, later removed for the construction of the Tramway Instruction Room ([https://www.records.nsw.gov.au/image/4481\\_a026\\_000513](https://www.records.nsw.gov.au/image/4481_a026_000513)).





Figure 2.11 Photograph taken in 1878 from the Town Hall Tower by Nicholas Caire, Harris Street running left to right in the background. The Omnibus stables and houses at 554-556 Harris Street are arrowed. Note the quarry behind the row of houses described as ‘off Harris Street’ and the sparse occupation in the vicinity of Harris Street and the University of Sydney main quadrangle in the background right (<http://archival.sl.nsw.gov.au/Details/archive/110317833>).

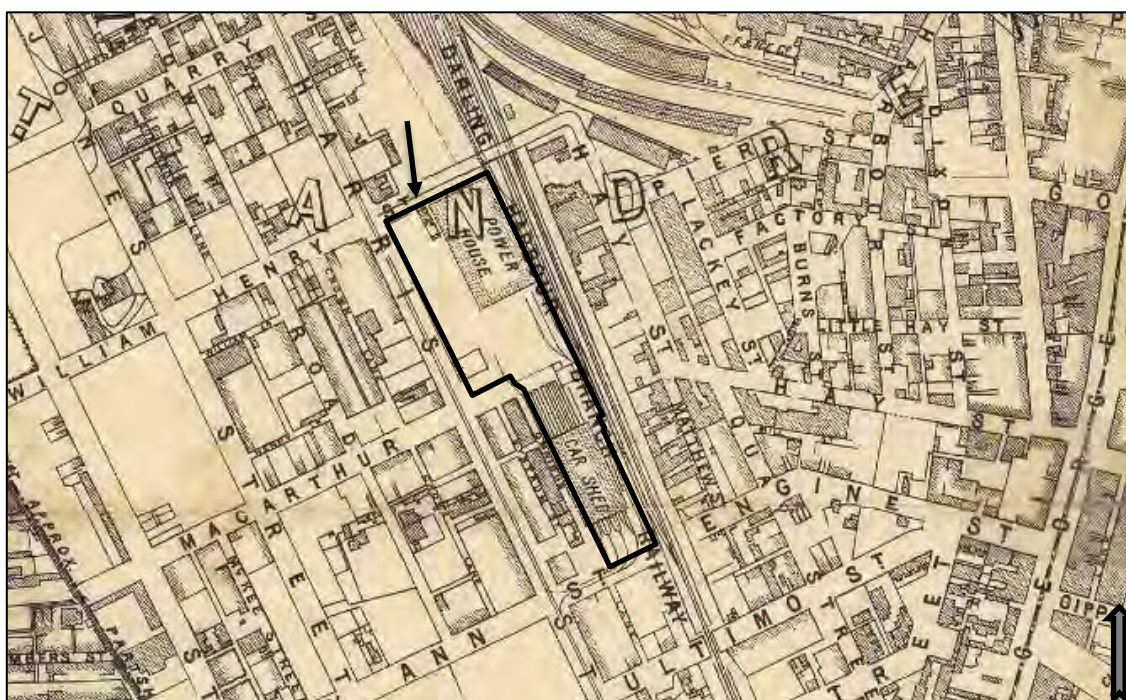


Figure 2.12 Map of the City of Sydney NSW 1903 with the Power House site identified and the house at 137 William Street evident in the northern section of the study area (arrowed), but the Ultimo Post Office has not yet been built (<http://atlas.cityofsydney.nsw.gov.au/maps/city-of-sydney-1903/city-of-sydney-1903-single-sheet/>).

### 2.2.1 Ultimo Post Office – 1901-present

In 1881, as a direct result of subdivision of the Harris and Macarthur Estates, a post and telegraph office was established in Ultimo to provide for residents’ needs. The Sands Directories records that it was initially located in rented premises at 484 Harris Street. Government funds to construct a building were finally obtained in 1900, and the Ultimo Post & Telegraph Office at 494 Harris Street, on the corner of William Henry Street opened on 16 July 1901. The site had been resumed in 1900 from Dr John Harris’s descendant Margaret Harris, who was paid £600. The construction of the Post Office reflects the degree of development and consolidation of Ultimo as a predominantly industrial and warehouse precinct by the turn of the century (OEH 2018b; TKD Architects 2018:13).

The Post Office was designed by Government Architect WL Vernon, with characteristics of Federation Classical and Federation Romanesque architectural styles and became an important

local landmark as the key point of communication as well as a meeting place for residents. The Sands Directories note that it had a public phone and housed a Commonwealth Savings Bank from c.1914 until at least 1932, when the Sands Directories cease. It was the site of several notorious robberies in the nineteenth century, and a car crashed into the corner pillar in 1944, requiring it to be rebuilt. The building continued to operate as a post office until 1980s, but was converted into a childcare centre in 1992; however, the 21-year lease expired in 2010 and the building is now vacant (OEH 2018b; TKD Architects 2018:13).

### 2.2.2 *The Sydney Glass & Tile Company - 496-560 Harris Street*

From 1902, until at least the final Council Rates Assessment Book in 1948, the Sands Directories and Council Rates Assessment Books identify that the Sydney Glass & Tile Company (or the Sydney Glass Co. Ltd. from 1922/Sydney Glass Co. Pty. Ltd. from 1933) occupied 496-504 Harris Street, next to the Post Office (Figure 2.13 and Figure 2.14). The 1911 Council Rates Assessment Book identifies that Margaret Harris leased this property and the adjacent land (506-550 Harris Street, as identified on the Sands Directories/ Council Rates Assessment Books from 1931 onwards) to the Sydney Glass & Tile Company. The land was valued at £112; the Company's building was identified as a double-storey, two-room stone workshop & offices, valued at £464. By 1948 the building is identified as a two-storey brick 3 + 5 roomed factory and offices with a basement and iron roof, valued at £585. This is the only mention of a basement during the whole of the Company's occupation of this site, so it is uncertain whether it is accurate. It seems that Sydney Glass Co. Ltd. had purchased the properties at 496-550 Harris Street from Margaret Harris by 1924, as it is from this time that the Company is identified as the owner in the Council Rates Assessment Books. The final issue of the Council Rates Assessment Book in 1948 identifies the land at 544-550 Harris Street as owned by the NSW Government Railway Commissioner, but still leased by the Sydney Glass Co.

From 1908, fuel merchant Wright Sheard is identified as operating on the 'land' portion of the property. The 1911 Council Rates Assessment Book identifies his operation as comprising a single storey, one-room timber wood and coal yard with an iron roof, valued at £66. From 1918 this is identified as a timber yard and stables, now operated by fuel merchant Henry/Harry Chapman. By 1924 this has changed to a yard and offices made of brick. Chapman is last listed on the site in 1928.

By the turn of the century the houses at 554-556 Harris Street had been occupied respectively by Mrs Mary Black and Mrs Agnes Dooley from 1896, until 1911, and cab proprietor John Lowe from 1879, until 1909. John Black seems to replace Mrs Black from 1912-1915, with Leo O'Connor also identified as living in the house in 1914. Evidently Mrs Dooley then lives alone in the house from 1916-1922. The 1910 Sands Directory identifies that Miss L Lowe lived at 556 Harris Street that year, with John Connolly being the next tenant, until 1914, followed by William Houston (1915-1918; Mrs Annie Houston also listed in 1918), William E Russell (1919) and James Clapson (1920-1922). The 1914 Council Rates Assessment Book identifies a Railway Commissioners single storey, single room iron workshop with an iron roof, valued at £52, next to the houses at 554-556 Harris Street. This is the only reference to such a workshop, so it is uncertain whether it was present very briefly on the vacant land between 556 Harris Street and Macarthur Street, or whether the entry is referring to one of the power station buildings further along Macarthur Street. Both houses were demolished in 1922 and a public weighbridge (No. 552 or 31) is identified on the site from 1924-1928. The 1927 Council Rates Assessment Book identifies this as a brick shed and weighbridge.

By 1929, only the Sydney Glass Co. remains on the site, with the 1930 Council Rates Assessment Book identifying that their land was adjacent to more land. Margaret Harris ceased to be identified as the owner of the houses at 554-556 Harris Street after 1914; from 1918 Maurice Newstadt/Newstead is identified as the owner, and following demolition, Newstead is also identified as the owner of the vacant land (identified as 552-560 Harris Street from 1931). This land



seems to be purchased by Maize Products Pty. Ltd. sometime between 1933 and 1936 (Figure 2.14; see also Figure 2.9 above). The 1936-1948 Council Rates Assessment Books identify the company's building as a brick warehouse with a roof of cement sheets, containing two rooms across one floor and a basement. This basement is likely to have removed evidence of the houses formerly at 554-556 Harris Street, the weighbridge, and the 1914 Railway Commissioners workshop (if it was at this location).

Herman Haege Pty Ltd, paper merchant acquired the Sydney Glass Co. portion of the site sometime in January 1954, and Ampol leased a portion for a service station in December 1957 was also present to the south of the Herman Haege building in 1963 (Figure 2.13 and Figure 2.14).



**Figure 2.13** Photograph taken on 28 January 1964 showing the Post Office (arrowed), Herman Haege Pty Ltd at 492-542 Harris Street, and the Ampol Service Station, 544-550 Harris Street (Source: City of Sydney Archives NSCA CRS 47/2346).

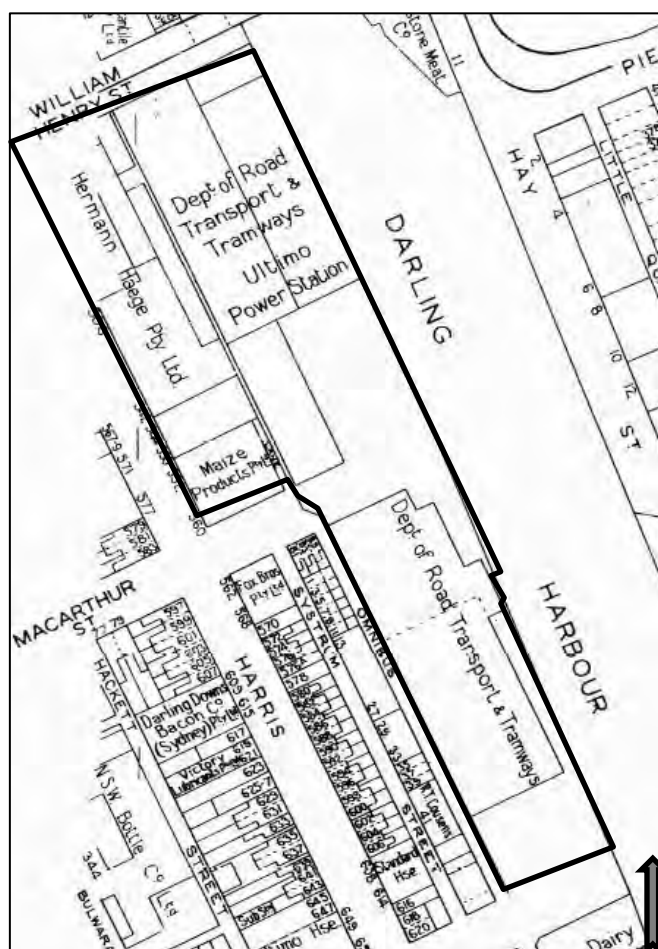


Figure 2.14 City of Sydney Building Surveyor's Detail Sheet 10, 1949-1972 with the approximate location of the study area indicated. The Post Office appears on the adjacent map (Sheet 9) (Source: <http://atlas.cityofsydney.nsw.gov.au/maps/city-of-sydney-building-surveyors-detail-sheets-1949-1972/city-of-sydney-building-surveyors-detail-sheets-1949-1972-sheet-10-central/>).

### 2.3 Block V3: Macarthur – Mary Ann Streets

There is little evidence of development along the eastern side of the block between Macarthur and Mary Ann Streets after the appearance of the sparse scatter of cottages in the 1840s (Figure 2.15).

From 1882, the Rates Assessments identifies three buildings on Macarthur Street: a two-storeyed 4-roomed brick shop with iron roof valued at £46 at No. 117, and two two-storeyed, four-roomed brick houses with iron roofs each valued at £39 at numbers 119 and 121. All four buildings are owned by Martin Systrum, perhaps the origin of Systrum Street, which has not yet been formed at this time. Three of the buildings continue to stand at 81–85 Macarthur Street. Systrum Street does not appear in the Rates Assessments until 1901, when the six houses at numbers 1–11 are owned by the New South Wales Mortgage Land and Agency Company Limited (Lessee). The two-storey four-roomed brick houses are extant today. In 1901 the houses are each valued at £16, which by 1911 has increased to £21 and they are identified as being owned by the New South Wales Mortgage Land and Agency Company Limited.

Despite opening in 1855, the railway to Parramatta did not extend into the city centre until 1901, and public transport was a horse-drawn tramway along Pitt Street between Circular Quay and the Central station, which opened in 1861, providing the link between maritime and rail transportation routes (Figure 2.16). However, the tram rails were above road level, which was unpopular with the horses and pedestrians; so, the line was closed and the rails lifted in 1866 (Rowland 1955:115). The city's largest omnibus company was the Sydney Tramway & Omnibus Company (STOC),



incorporated on 9 August 1872. The Company serviced most of the eastern suburbs, and also ran services through the city centre and out to Glebe, Forest Lodge, Newtown, Stanmore, Marrickville, St Peters, Cook's River and Queen's Wharf by 1876. Each bus could seat 24 passengers, usually pulled by two horses; although four horses were used at peak times or up steeper hills, such as William Street to Kings Cross (MAAS 2018). However, within a few years of operation, an increase in suburban populations led to demands for more extensive bus services. The STOC was resistant as it would require many more horses and the cost of feed was high at the time (SMH 28 December 1876).

In 1879, it was announced that the International Exhibition would take place in Sydney's Palace Gardens. It was clear that the horse-drawn buses would not cope with the anticipated large numbers of visitors, so the government authorised a tramline to be constructed along Elizabeth Street, between Redfern Station and Hunter Street. There was still strong opposition to tramways in Sydney so it was intended that after the Exhibition the tramway would be lifted and the railway extended from Redfern into the city. However, it proved so successful that at least five more lines were constructed in the next two years; to Cleveland Street, Bondi Junction, Moore Park/Randwick Racecourse, Woollahra Council Chambers and Marrickville (Rowland 1955:115-117).

The trams were initially horse-drawn, and seated 36 people in each double-decker car (18 on each deck). American steam cars were also ordered for use during the Exhibition, but were shipped late, arriving after the Exhibition had opened. Nevertheless, horse-drawn trams seemed to be the most popular version for at least 20-30 years: steam tramcars did not replace horse-drawn buses on the St Peters-Newtown line until 1898; and the Manly-Curl Curl line, while opened as a steam tramway in 1903, soon switched over to horses, steam cars not being brought back into use until 1907 (Rowland 1955:117-118). The use of electricity to power a tram was first tested in Sydney in 1890:

*In Sydney proper, the first lines to be electrified were those along George Street to Ultimo and the Railway, as this work could then be extended to the western suburban lines. By April, 1900, the line to Dulwich Hill and St Peters had been changed over to electricity. The Glebe line followed in December, 1900; Leichhardt in March, 1901; Balmain and Forest Lodge in August, 1902; and the branch line to Abbotsford in April, 1905 (Rowland 1955:120).*

From 1873, the Sands Directories and Council Rates Assessment Books identify stables belonging to the Sydney United Omnibus Company (SUOC) between Omnibus Lane and the goods line; however, the 1886 Sydney Water map identifies two stables, the northern as belonging to the Sydney Tramway and Omnibus Company (STOC) and the southern to the City Carrying Co. (Figure 2.17). John Woods, who lived in a house on Block U3 perhaps at house 523 off Harris Street (see above Section 2.2), was a director of the SUOC (SMH 28 December 1876). In 1880, J Woods & Co.'s Depot is also identified in this location, though as 542 Harris Street. John Free is recorded living next to the stables in 1873-1875, replaced by Charles Hunt in 1876-1877, and William Townsend in 1880. The 1880 Rates Assessment Book identifies Townsend's house as a single storey 4-roomed timber residence with an iron roof, valued at £36. This may have been demolished by 1886 as no further mention of it is made in Sands Directories nor Council Rates Assessment Books after 1880.

Edward Hanna's (or Hannah) blacksmith and farrier business is identified as next to the SUOC stables from at least 1873-1882, and his property is described as comprising a single storey, single room, iron roofed house and stables/farrier's shop, and a brick workshop. However, after 1887 the stables is the only entity mentioned in the Sands Directories and Rates Assessment Books. It seems likely that SUOC may have bought out the City Carrying Co. stables and Hanna's blacksmith and workshops and taken them for their own use, as the building configuration shown on the 1893 auction map) is roughly the same as that shown on the 1886 maps (compare Figure 2.17 and Figure 2.18). The auction map also notes that the east side of Omnibus Lane belongs to United Omnibus Company Limited.

The SUOC stables appear in the Sands Directories and Rates Assessment Books for the period 1873–1897. The 1877 Rates Assessment Book identifies that there were stalls for 200 horses in the wooden stables, and that there was also a brick house with an iron roof; the property was valued at £300. In 1880, the property is identified as a single storey, six-room brick chaff store with an iron roof; a single storey, single room New Forge made of iron with an iron roof; and a single storey, single room Old Forge made of wood with a shingled roof; all valued at £289. However, the Assessment Book also notes 'pulled down', and there is no further mention of these buildings in subsequent Rates Assessment Books.



Figure 2.15 Detail from Woolcott & Clarke's 1854 map of Sydney with the approximate location of the study area outlined. The creek line beneath the goods line and the edge of the quarry are arrowed (<http://atlas.cityofsydney.nsw.gov.au/maps/city-of-sydney-1854/city-of-sydney-1854-single-sheet/>).



Figure 2.16 A Sydney Tramway & Omnibus Company horse-drawn omnibus, 1897 (<https://nla.gov.au/nla.obj-138205476/view>).



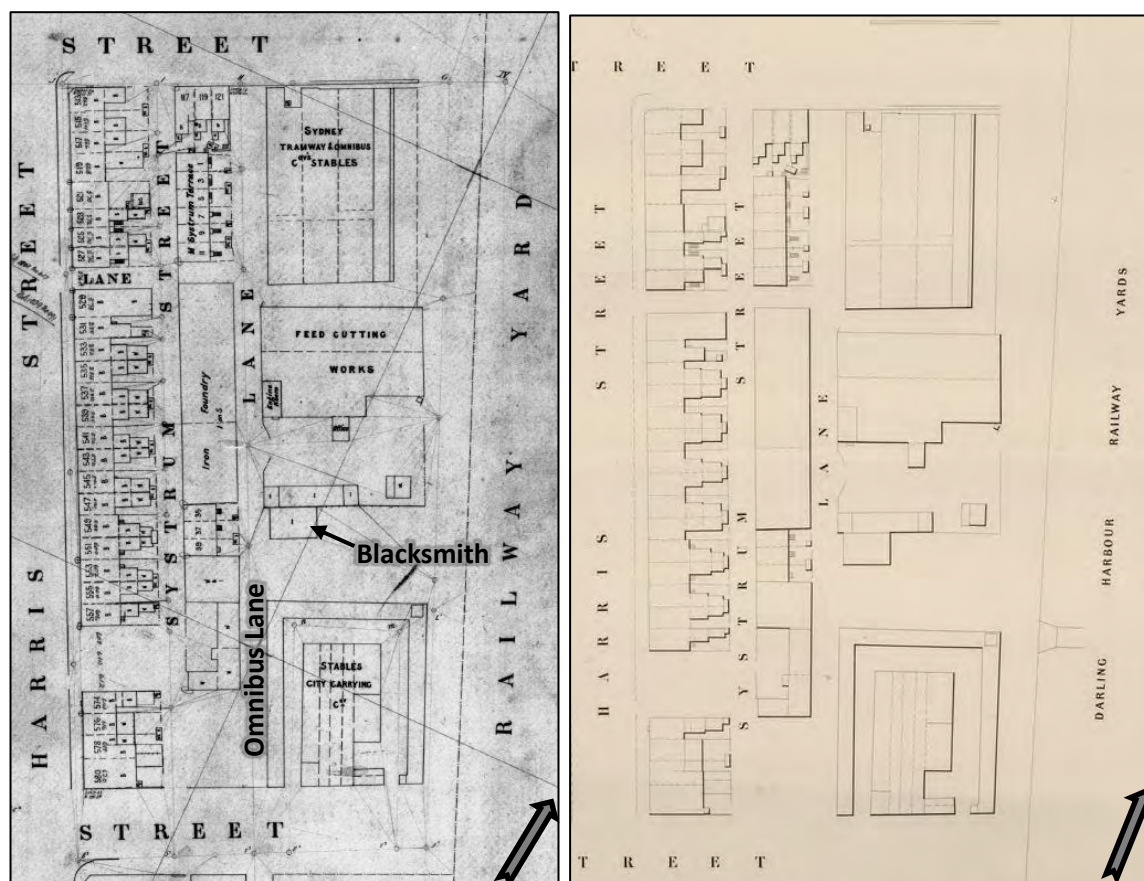


Figure 2.17 Detail from 1886 Sydney Water Plan, annotated with the blacksmith's property (left), and detail from the 1888 Metropolitan Detail Series Pyrmont (right). There is no change in the settlement pattern (PWDS1544-S209 and Sheet V3\_SLNSW\_a1367614h).



Figure 2.18 1893 auction map of the southern Block V3 (Source: <http://nla.gov.au/nla.obj-230507113>).

## 2.4 The Ultimo Power House & Tram Depot

The use of electrical power was introduced in the late 1870s, primarily for lighting; however, production costs were high and efficiency was low. By the 1890s, there were a number of small private companies, as well as some council-owned stations providing light and power. From the mid-1890s, the electricity powering the tramways was generated from the cable engine house at Rushcutters Bay (Wilkenfeld & Spearitt 2004:10). In 1896, approval was given to the Sydney Municipal Council (SMC) to electrify Sydney. The first application was to power public transport, and to this end the site on Harris Street Ultimo was proposed, after a failed attempt to construct a power house in the Rocks, intrinsically linking the power house and the tram depot. In 1897, the two blocks between Mary Ann and William Henry Streets were resumed for the 'Ultimo Car House', and a power station large enough to supply the requirements of the expanding tramway system. The factors contributing to the determination of the Ultimo site were:

1. Distribution of electric current,
2. Coal supply and disposal of ash,
3. Water supply,
4. Space for future expansion,
5. Cost of land,
6. Character of foundations, and
7. Availability of labour force (Godden et.al. 1984:27).

Ultimo was a central part of the tramway system and was conveniently located for delivery of coal, disposal of ash and the supply of water for condensing. In 1898, construction of the 200-ft high chimney began. It used 890,000 bricks, and quickly became a key landmark of the area. The original complex was finally completed in December 1899. Initially the power house comprised four reciprocating steam engines driving 850 kW direct current generators and in 1902, alternating current generators operating at 25 cycles were added and turboalternators from 1905 (<https://portal.engineersaustralia.org.au/heritage/ultimo-power-house-1899-1963>). However, apparently the stability of the local soils had not been tested adequately. It was not until design and planning were well underway that substantial foundations and concrete piers would be required for the buildings. In particular concrete settings for the plant had to be sunk 14' (12' in excess of expectations) and at least 1,000 cubic yards of additional excavation had to be completed for wall footings (Godden et.al. 1984:29); (Figure 2.19–Figure 2.21). It is possible that the lack of stability of the soils was as a result of the poor quality of reclamation fills used across the site following cessation of quarrying. However, that the stability of the soils was not understood indicates that the quarry had closed and reclamation had occurred some years prior to 1899.

Following construction of the power house in 1899, there was a rapid growth in the tramway system, threatening to exceed capacity. By 1904, nearly 106 million passengers were using the trams per year and to further alleviate this pressure, it was determined that electrification of the railways should be considered, as well as an electrified underground system for the city to accommodate the increased patronage of the railways (Wilkenfeld & Spearitt 2004:11). The Ultimo power house was extended in 1902, three years after opening. In 1904, the Pyrmont power station began operating less than a mile away, and plans were proposed for another power house at White Bay, constructed from 1912 (Broadbent 2010:496-7, GML 2002:6-7). The 1902 extension was constructed at the southern ends of the boiler hall and engine room. The extension to the engine room, (subsequently called the turbine hall), was a single storey infill between two rooflines. The boiler house extension was completed in two phases as it was essential that the original fourteen boilers be kept in service until some of the new boilers could be commissioned. In the first phase a two-storey extension which ran the full length of, and had a common wall with the new turbine hall was completed (Godden et.al. 1984:63) (Figure 2.22). It is also presumably at this time that the Tram Depot expands to occupy part of the land between Omnibus Lane and Systrum Street as



indicated by the presence of an Arrestor Pit (the text on plan is indistinct; compare Figure 2.17 and Figure 2.23).

When it was built, the power house occupied the northern part of the site had an engine room, the boiler hall and pump room, pump-room, and offices, and illustrated some early uses of steel truss roof construction and concrete formwork. Part of the floor of the engine room was formed on rolled corrugated iron permanent formwork over which the concrete was laid (Godden et.al. 1984:44). The components of the power house were:

- the Office Building (North Annex), which originally accommodated foreman, line repairers and greasers in the basement; a testing room, chemical laboratory, officer's quarters and storeroom on the first floor; and accumulators on the second floor.
- an Engine House with 30-tonne overhead travelling cranes, which housed the first electricity generators.
- a single-storey Boiler House extending from the front wall of the Office Building (North Annex) to the south wall of the Engine House. It contained 14 boilers, all of which were fed by hand apart from two, which were mechanically fired;
- The Engine Room Extension/Turbine Hall built in 1922, making this the largest generating power station in the Southern Hemisphere and the first place in Australia to use this new technology.
- 1922-1926 the Switch House was built, with transformer banks, a new control room and an entire set of high-tension switch gear, to accommodate a major upgrade to the switching gear for the Sydney tramway network.
- 1923, the state's first pulverised coal fired boilers commissioned.
- 1929-1931 extensive modernisation program installed two new 20,000 watt turbo-alternators in the Turbine Hall, and a pneumatic coal and ash handling plant and coal bunkers. Replaced the 60 water tube boilers with 6 large single drum boilers designed to burn pulverised coal.
- 1941, two additional drum boilers and an additional turbo-alternator were installed.
- By 1942, capacity of the station had grown to 79.5 megawatts.
- 1949 a second-hand turbo-alternator from the White Bay Power Station was installed. At this time the boilers were also converted to burn furnace oil, due to coal shortages (TKD 2018:6,9). (TKD 2018:5-12).

Ultimo Tram Shed (now the Harwood Building) was originally named the Ultimo Car House, it was the first all-electric tram car shed, servicing the Sydney tramway system. This Tram Depot did not use the goods line; rather, Mary Ann Street and Harris Street provided access between the Depot and the tram system. Although it operated independently of the Ultimo Power House, in later times one track (No.10) extended into the Turbine Hall to provide rail access to the equipment within that building. It should be noted that excavation for the basement in the 1980s also removed most of the original depot floor, although a small section of track remains under the suspended floor at the south end. The house at 137 William Henry Street was demolished c. 1913 to make way for the Tramway Instruction Room. A sizable single storey brick building with asbestos shingle roof running between the post office and the Office and Accommodation Block fronting William Henry Street (NSW Department of Works 1994).

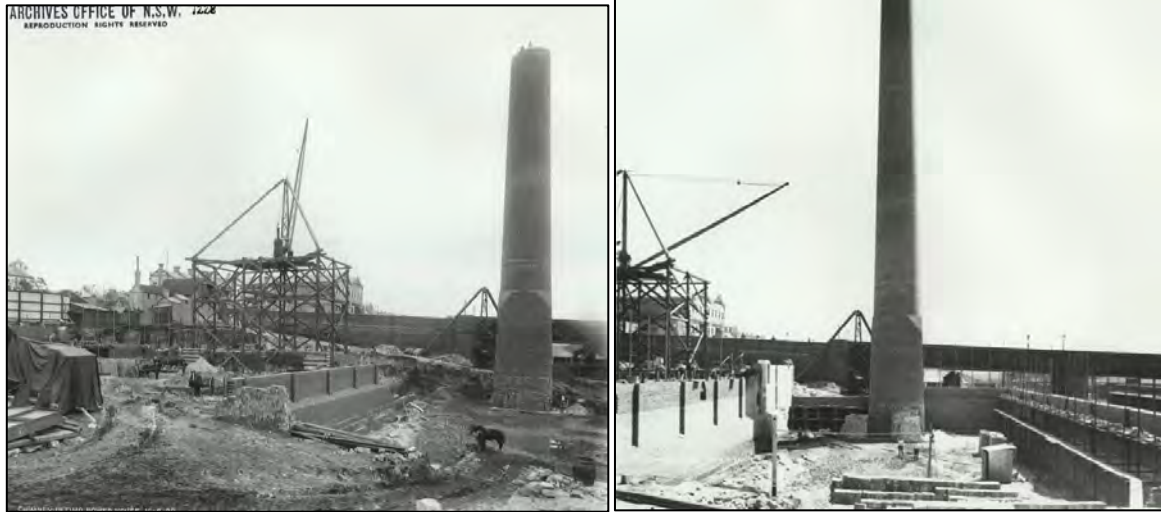


Figure 2.19 Two photographs taken in August 1898 of the Power House chimney, under construction (left) and completed (right) ([https://www.records.nsw.gov.au/image/4481\\_a026\\_000883](https://www.records.nsw.gov.au/image/4481_a026_000883) and [https://www.records.nsw.gov.au/image/4481\\_a026\\_000873](https://www.records.nsw.gov.au/image/4481_a026_000873)).



Figure 2.20 Two photographs taken in August 1898 of the construction of the Power House. The image, right, is erroneously identified as the Tram Shed chimney ([https://www.records.nsw.gov.au/image/4481\\_a026\\_000880](https://www.records.nsw.gov.au/image/4481_a026_000880) and [https://www.records.nsw.gov.au/image/4481\\_a026\\_000884#expanded](https://www.records.nsw.gov.au/image/4481_a026_000884#expanded)).



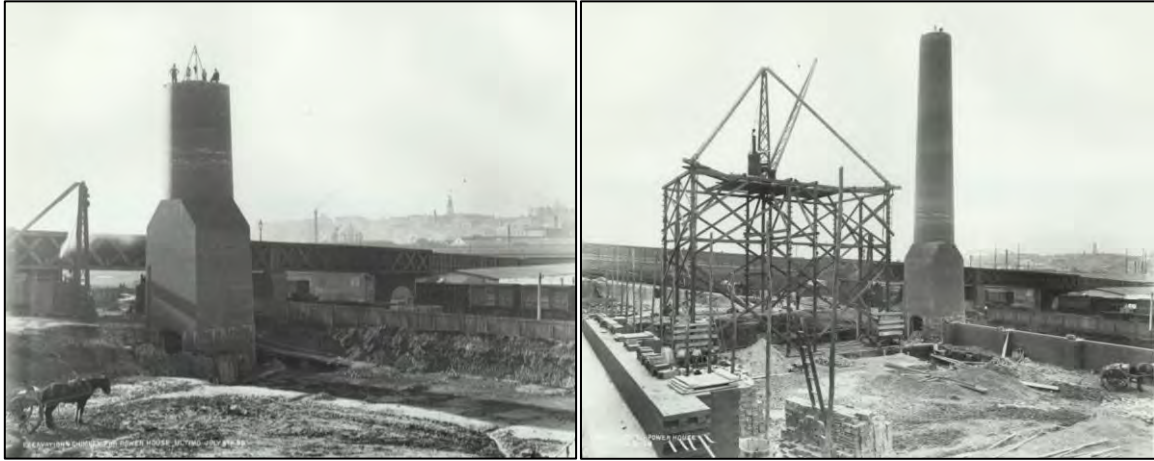


Figure 2.21 Two photographs taken July 1898 of the Tram Sheds under construction. The image, right, is erroneously identified as the Power House ([https://www.records.nsw.gov.au/image/4481\\_a026\\_000882](https://www.records.nsw.gov.au/image/4481_a026_000882) and [https://www.records.nsw.gov.au/image/4481\\_a026\\_000874](https://www.records.nsw.gov.au/image/4481_a026_000874)).

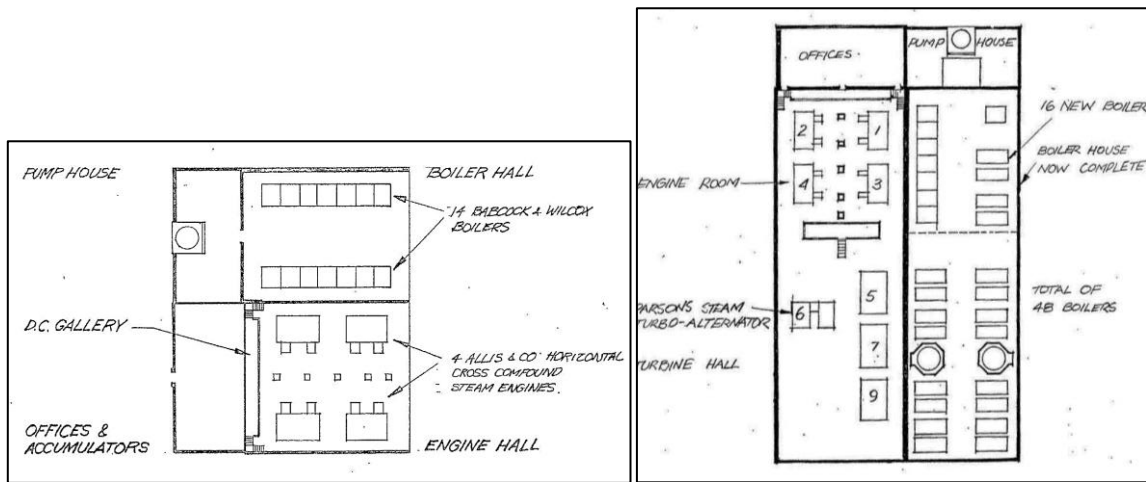


Figure 2.22 Layout of the original 1899 power house (left), and the 1902 extension(right) (Godden et.al. 1984:98, 115)

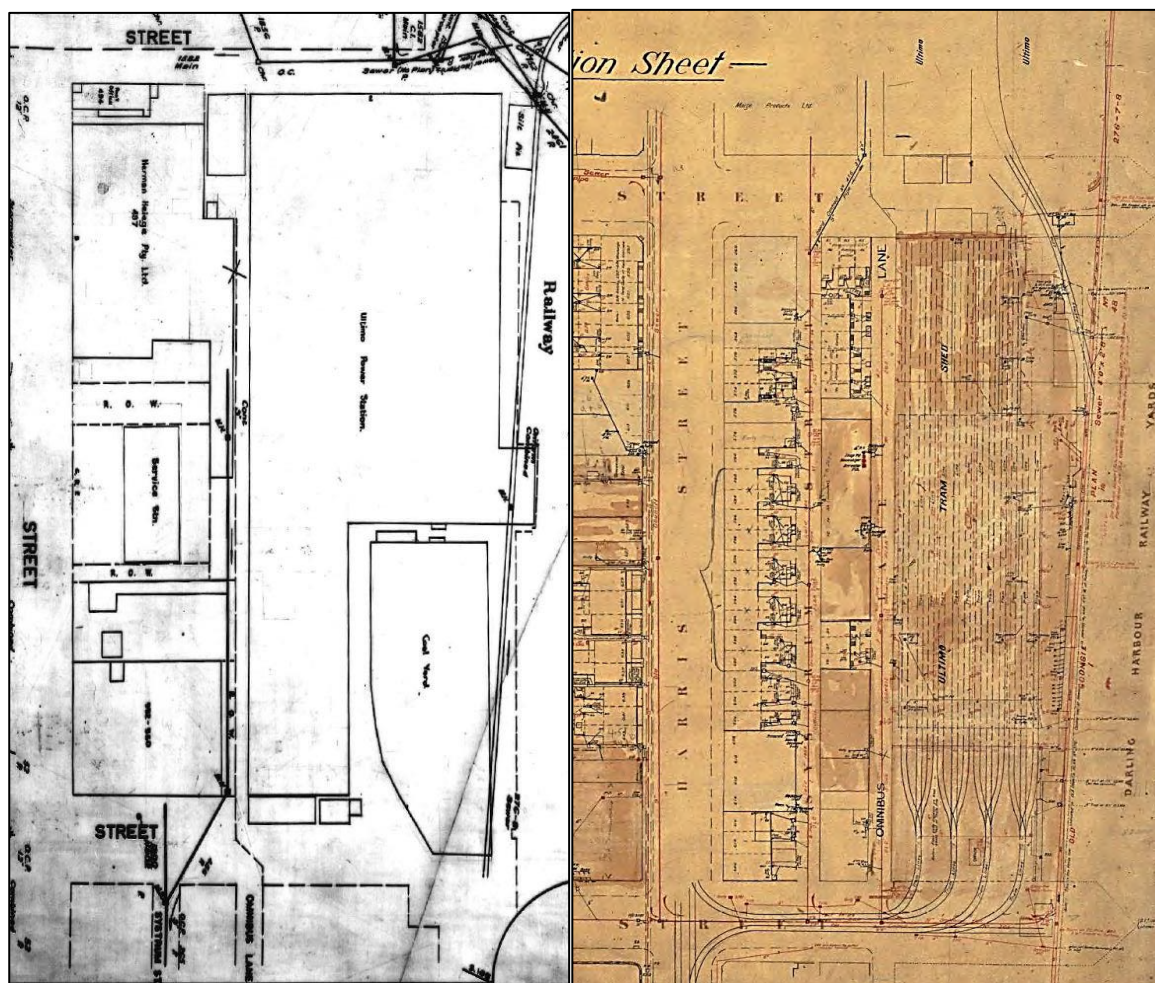


Figure 2.23 1963 plan of the Ultimo Power Station (left) and 1908-1953 plan of the Ultimo Tram Sheds, with associated facilities between Sistrum Street and Omnibus Lane, including arrestor pits (Sydney Water archive plan DS3725(2) and BLKWTL3723\_EXT).

## 2.5 The Powerhouse Museum of Applied Arts & Sciences

In 1953, control of the power house passed from the NSW Government Railways to the Electricity Commission of NSW, which had been formed to respond to post-war power shortages. With construction of new power stations and an expanded interconnected network, the outdated plant and city location of the Ultimo Power House made it increasingly redundant. In addition, from the 1950s the tramway system began to be phased out in favour of buses and the Tram Depot closed. The power house was decommissioned in 1963, most of the chimney stack was demolished. In 1967 the William Henry Street Bridge was widened and the remainder of the chimney was removed. In the mid-1970s the other two chimneys were demolished to just below the Boiler House roofline and are extant. By 1976, most of the remaining plant and equipment was removed, and from 1985 the power house buildings were adapted to accommodate the Powerhouse Museum. The Wran Building was constructed in 1988, and the Powerhouse Museum (formerly the Museum of Applied Arts & Sciences) opened to the public in that year (OEH 2018a; TKD 2018:7,10).

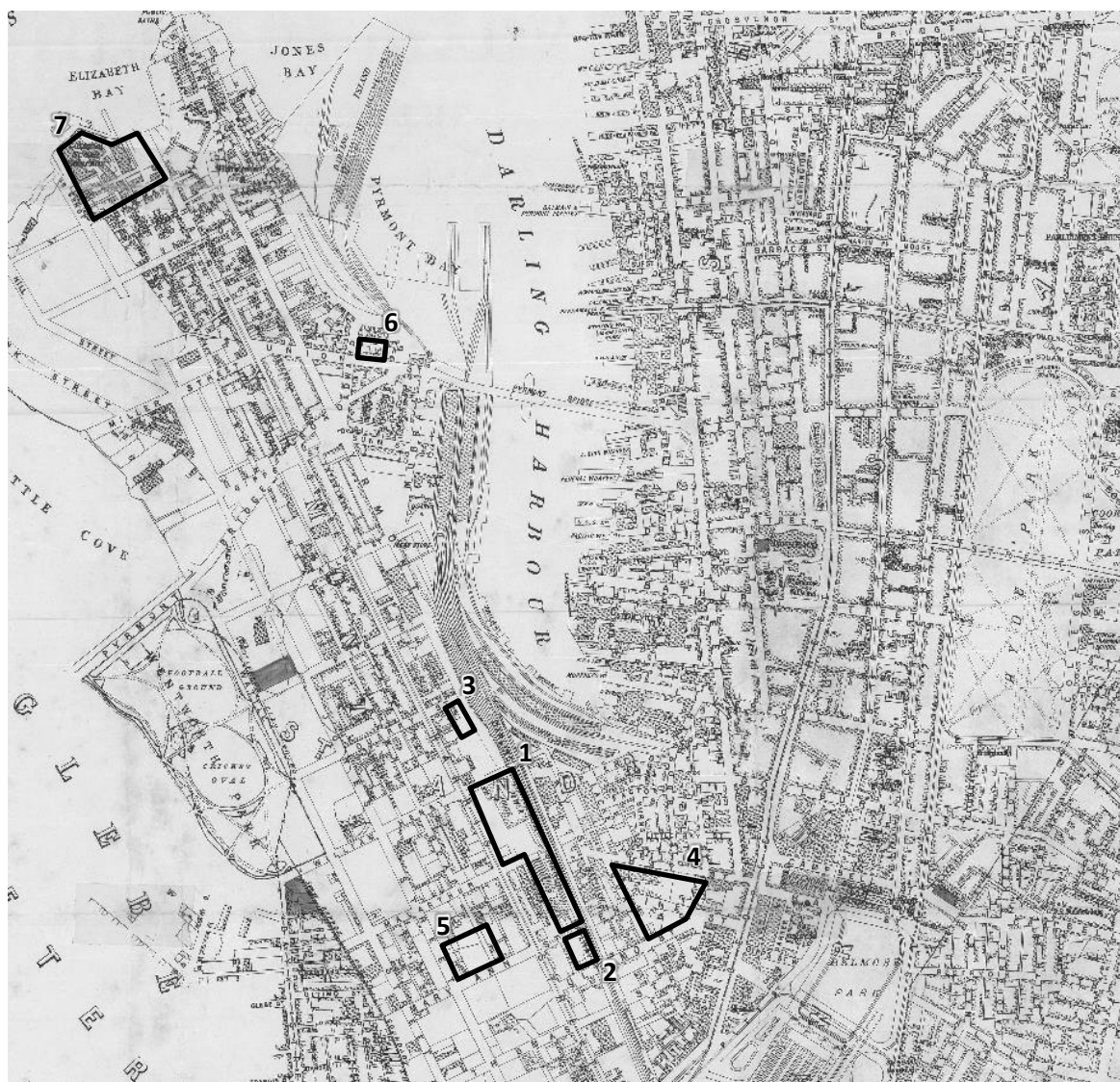


### 3 Evaluation of the Archaeological Potential

#### 3.1 Comparative Archaeological Sites

The archaeological excavations within the vicinity of the study area are as follows (see Figure 3.1):

- 14-28 Ultimo Road, Ultimo, excavated in 2011-2012 by Australian Museum Consulting (AMC).
- Bullecourt Place, 287 Pyrmont Street, Ultimo, excavated in 2002 by GML.
- Paddy's Markets, 9-13 Hay Street, Haymarket, excavated in 1990 by Godden Mackay Logan Pty Ltd (GML).
- 24-50 Mary Ann Street, Ultimo, excavated in 1993 by GML.
- 50-72 Union Street, Pyrmont, excavated in 2003 by Casey & Lowe.
- CSR Site (Jacksons Landing), Bowman Street, Pyrmont, excavated in 1996 by Casey & Lowe.



**Figure 3.1** City of Sydney 1930 plan showing the study area and archaeological excavation sites in the vicinity. They are as follows: 1) Study area, 2) 14-28 Ultimo Road, 3) Bullecourt Place, 4) Paddy's Markets, 5) 24-50 Mary Ann Street, 6) 50-72 Union Street, and 7) CSR Site.

#### **14-28 Ultimo Road, Ultimo**

Australian Museum Consulting excavated the 14-28 Ultimo Road site (UTS site), in 2011-2012 for the University of Technology, Sydney prior to construction of the Dr Chau Chak Wing Building (encompassing four timber cottages, early industrial activity and a terrace row). The northern part

of the site had been occupied since the 1870s by the NSW Shale & Oil Company and could only be mechanically monitored for safety reasons. From the 1950s the entire site had been the Dairy Farmer's Depot, which had destroyed the NSW Shale & Oil Company's manager's residence in the south-eastern corner.

The terrace of three houses in the southern part of the site were assessed as having low archaeological potential due to their late construction date of 1874 (Casey & Lowe, 2011). However, underfloor deposits and three phases of yard surfaces, the latest above the 1884 reclamation were identified. An insight into land use practices of the late nineteenth century, particularly the continual building up of the yard surfaces to rise above the swamp in which the houses had been constructed. There was also a large quantity of artefacts found from underfloor deposits, reflecting activity areas in each room, for example, recreational and personal items were located around the hearths (AMC, 2015:68). Each terrace house had a cess pit in the earliest yard phase, which were never used and were sealed beneath the ensuing yard phase. The lack of use was no doubt due to the swampy environment. The site remained un-improved until the late nineteenth century; it was reclaimed in 1884 with a 0.5m deposit comprising clays and industrial material and included a discrete deposit of discarded ginger beer bottles and kiln waste from the nearby Thomas Field and Sons Pottery.

Beneath the terrace row were the remains of four 1840s-1860s cottages, some of which had been destroyed by the terrace construction. There was no evidence of associated cesspits, and there was no specific evidence found to indicate family structures or room functions. Beneath the cottages, large sections of red river gums had been laid out across the swamp sands in a pattern reflecting property boundaries (Figure 3.2).

The final depth was over 2m below road level and the excavation exceeded expectations and the archaeological resources were re-assessed as being of state significance (AMC, 2015: 79).

It is possible that the archaeology of the Ultimo Creative Industries Precinct will include features that are similar to the early houses and landscape modifications, including reclamation, to those exposed at the UTS site.



**Figure 3.2** The earliest phase on the site with the 1840s cottage in good condition arrowed. Note the red river gum sections laid out across the swamp sands configured to align with the property boundaries (AMC 2015:44, Figure 3.9).





**Figure 3.3 Archaeological features overlain on the 1865 Trigonometrical Survey Plan for Block VI (AMC 2015:57, Figure 3.24).**

***Bullecourt Place, 287 Pyrmont Street, Ultimo***

The excavation of Bullecourt Place was undertaken by GML from May-June 2002. It focused on the trade/industrial aspects of the occupation of the site, rather than residential aspects. It was also hoped that information regarding the activity pre-dating its construction phase in the 1870s and 1880s, when the site was associated with Ultimo House as garden and grazing lands, would be revealed. It was anticipated that there was a low potential for survival of the sites earlier use by the original Aboriginal occupants; the presence of oyster shells was the only possible evidence discovered.

The site contained terraces and woolstores. The terraces on Harris and Quarry Streets were built between 1876 and 1882, and the occupiers (particularly fronting Harris Street) conducted small scale trades from home and one site (438 Harris Street) operated as a factory (Walls Machinery Store), and another (448 Harris Street) contained a possible workshop at the rear. The early 1880s saw the arrival of woolstores in the area, and subsequently the introduction of large-scale mercantile enterprise, linking the site to the nation's largest worldwide export industry.

Perhaps the most interesting results were from Trench 2, where although the archaeological resources had been impacted by later developments and there were no underfloor deposits, the level of survival of structural elements was good (Figure 3.4 and Figure 3.5). By the time of their construction, flooring was tongue-and-groove, municipal garbage collection was in operation and a large fire and modifications of the site in 1992 had destroyed the rear yards, as well as all four woolstores (GML, 2004: 107). Despite this, the excavation provided an insight into the nature of production and the economy within the occupation period.

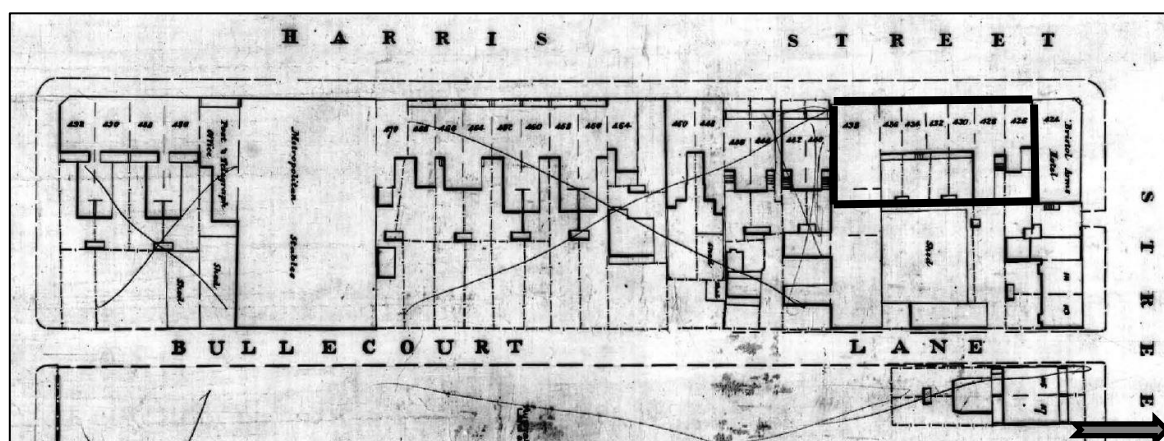


Figure 3.4 Detail from Sydeny Water map of Block R3 between William Henry and Quarry Streets. Trench 2 is boxed (Sydney Water archive plan DS3724).

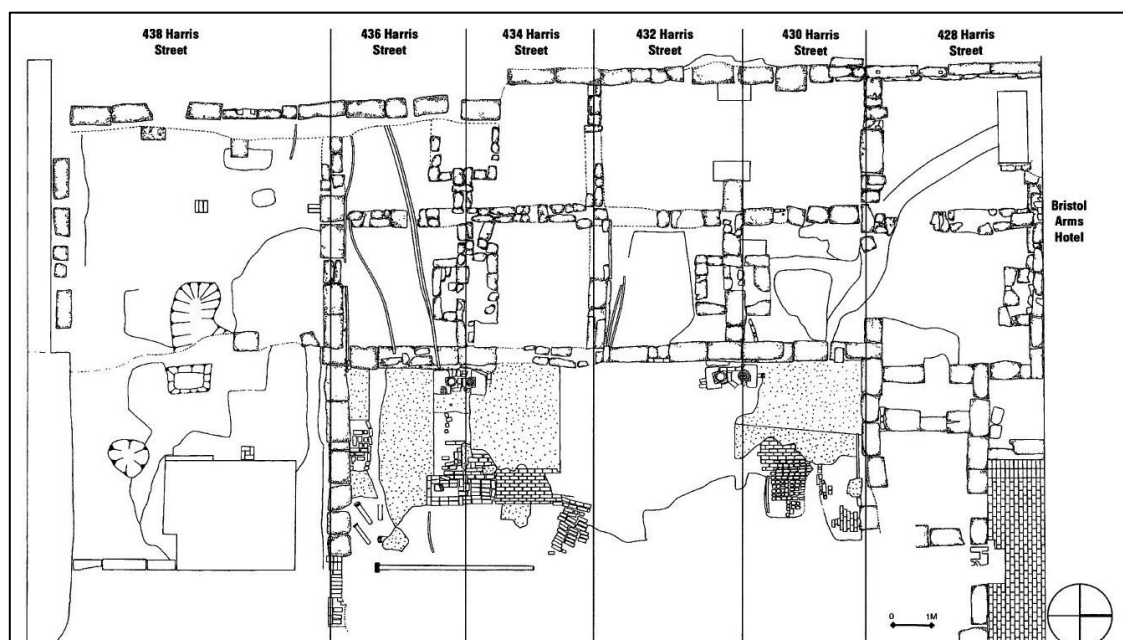


Figure 3.5 Final plan of Trench 2 containing houses 428–436 Harris Street (GML 2001:41, Figure 3.2).

### ***Paddy's Markets, 9-13 Hay Street, Haymarket***

In 1990, the Paddys Markets site was excavated by GML for the Market City development. The site had been occupied prior to construction of the City Market Buildings on the site in 1909-1910, which had required the removal of the earlier residential and industrial structures on the site. Market area 2 was anticipated to be archaeologically sterile, and Market area 1 and Engine Street were expected to contain substantial remains and deposits from the late nineteenth century occupation.

The excavation exposed brick and sandstone residential and industrial structural remains. The first known buildings on the site were associated with the Victoria Steam Mill (later Pemmell's Mill). The remains of the two storey sandstock brick house at 16 Engine Street reflected domestic life in the later 1840s and 1850s. The 1860s to early 1880s involved an increase in density of the occupation of the site, that was reflected in the physical remains, with terraces on Engine Street constructed at this time. The second half of the nineteenth century saw the block transform into an industrial centre, with a mill, brewery, engineering works and an assortment of other factories being established. A large quantity of artefacts were recovered that provided an insight into the local mid-nineteenth century community.



### **24-50 Mary Ann Street, Ultimo**

GML excavated the site located at 24-50 Mary Ann Street Ultimo in November 1993. The site was part of the former Harris Estate gardens and had been occupied by Scrutton's Pty Ltd. RL Scrutton & Co began operation in the early 1890s, and expanded their factory c.1910. The excavations recovered extensive archaeology relating to the various phases of the Scrutton's factory, however structural features pre-dating 1892 were not identified. The foundations of the factory, as well as early forges and a later installation of a dock were revealed.

The only evidence of structures unrelated to the factory was a remnant of 'Grove House', the first structure built on the property in 1882-1888, which is described in rates records as being two stories with seven rooms. It was largely removed by the 1910 extensions to the factory; however, the remaining evidence indicated that it was built of semi-plastic shale bricks on a sandstone foundation.

### **CSR Site, Pyrmont (Jacksons Landing)**

Casey & Lowe, during October to December 1996, undertook archaeological testing and excavations at the former CSR site in Pyrmont, Sydney for Lend Lease. The site is now known as Jackson's Landing.

Casey & Lowe's 'Archaeological Assessment CSR Site, Pyrmont' (August 1996), addressed and identified the potential archaeological remains of the site, in a number of areas. Testing was conducted in the areas considered to have the greatest potential for survival of archaeological remains. Five areas were excavated, three were found to have extensive archaeological remains, and two were found to have limited remains. The following is an excerpt from Casey & Lowe's excavation report (2000: i):

*Area A contained the remains of four houses, Houses 15 to 21 New Street, Pyrmont.*

*Area B contained the remains of three houses, Houses 67 and 69 Bowman Street and 2 New Street, Pyrmont.*

*Area C contained the remains of four houses, Houses 1 to 7 McCredie Street, a footpath and roadway, Pyrmont.*

*Area D contained limited remains associated with a dairy, 69 John Street.*

*Area E contained the remains of a single terrace house, 17 Mount Street. Other potential remains in Area E did not survive twentieth-century use as a truck parking area.*

The housing on the site had been constructed in 1859, contemporary with the report on 'Conditions of the working classes' and as such the houses were designed to provide poor long-term houses while those built later appear to have provided better housing stock. The occupants were mostly working-class families, comprising skilled men working in nearby shipyards, abattoirs and wharves, while their wives were responsible for household duties. Personal items were the dominant artefact group recovered in most of the houses, including those associated with clothing, jewellery, accessories, grooming, and hygiene. This reveals that the importance of personal appearances was apparent among working class families, a somewhat surprising notion (Casey & Lowe, 2000: v).

### **50-72 Union Street, Pyrmont**

Casey & Lowe's excavation of the Union Street site between November and December 2003, encompassed parts of the former Alma and Edward Streets. The preservation of the archaeological remains of residential development had been impacted by twentieth century developments which resulted in variations in the survival of the archaeology. Construction of the Anchor Flour Mill in the late 1920s, in particular had a significant impact on the underlying archaeology. The three terrace houses, some of the earliest domestic structures on the site, were the main focus of the

archaeological investigations. They were occupied by various tenants from the 1840s and 1850s to the early twentieth century. The following are excerpts from Casey & Lowe's excavation report (2010: i):

*Houses 64 and 66 Union Street both contained small areas of underfloor deposits within some of the rooms and both had an external building (presumably a kitchen) at the back of each house. Remains of stone footings, a fireplace, drains, and floor and yard surfaces were all identified, planned and recorded.*

*Little remained of No 62 Union Street apart from the sandstone footings of two basement rooms and a partial yard surface.*

Three sets of double cesspits were investigated for artefacts on the northern end of Edward and Alma Streets. The remainder of these streets were highly impacted by the flour mill buildings.

*38/40 Edward Street: This double sandstone cesspit would have serviced these two houses. It was excavated by hand in 100mm spits and contained the largest quantity of artefacts of all three cesspits.*

*31/33 Alma Street: Another stone cesspit was excavated containing a black, sandy, artefact rich deposit, 300mm deep at the base of the cesspit sitting directly on the bedrock.*

*35/37 Alma Street was similar structure to the cesspit at 31/33 Alma Street. Both were excavated by machine due to contamination in the ground with the fill then skimmed for finds.*

A total of 3106 artefacts were recovered during the excavations at Union Street, largely from underfloor deposits in Houses 66 and 64 on Union Street and the cesspit in Edward Street. The underfloor deposit artefacts reflected a gradual accumulation of materials throughout the entire occupation period, and the cesspit artefacts indicated the fill from which they were from was 'a primary deposit of direct household refuse used to backfill the cesspit after its abandonment as a water closet c.1870-1880 prior to the introduction of city-wide rubbish removal'

None of the artefacts could be directly linked to families or individuals occupying the houses, however the assemblage is typical of working-class urban sites in Sydney, and particularly domestic environments. They provide an insight into the working-class neighbourhood in Pyrmont during the second half of the nineteenth century and the early twentieth century.



## 3.2 Archaeological Potential & Integrity of the Resource

Based on the historical review and realised archaeological potential from sites within the vicinity, the survival and integrity of the archaeological resources in the Ultimo Creative Industries Precinct are likely to be variable. Construction of the Ultimo Power House and conversion of the SUOC stables to the Tram Depot for stabling electric trams in 1899 completely altered the local landform, with deep foundations, basements, machine beds and inspection pits will have had a significant impact on the underlying archaeology. Although the power house and tram depot have been modified to house the Powerhouse Museum, the essential structure of these buildings is extant (Figure 3.6).



**Figure 3.6** The existing buildings in the study area; the buildings associated with the former Ultimo Power Station are also labelled. Approximate study area indicated (TKD Architecture, 2018).

### 3.2.1 Block U3: William Henry – Macarthur Streets

The northern block of the study area encompasses the Ultimo Power Station and Ultimo Post Office, which overlie the sites of the 1840s and 1850s houses. Despite the incursions of the basements and foundations it is possible that some physical remains associated with some of the early houses located outside of the existing building footprint may survive (Figure 3.7).

The basements and machine beds associated with the Ultimo Power Station, particularly in the Engine Hall, Boiler House, Turbine Hall, Office Building (and to a lesser extent, the Wran Building), will have impacted the archaeological resources of the site. The Engine Hall basements range from approximately 3.5m to 6.7m deep, the Boiler House basements range from approx. 3.3m to 6m deep, those in the Turbine Hall are approx. 3m deep, the Office Building basement is approx. 4m, and the Wran Building basement is approx. 4.5m deep. A comparison of Figure 3.6 and Figure 3.7 allows for an insight into which pre-existing structures are situated within the footprint of the existing buildings, and those that lie outside of the heavily disturbed areas.

The 1886 Sydney water plan indicates that the major part of 137 William Henry Street is situated beneath the Office Building and Engine Hall, and a section along the western side of the property may be beneath the Wran Building and the area outside of the Office Building. However, accounts of the removal of the house in c.1913 for the construction of the Tramway Instruction Room indicate the remains would be located to the west of the office building. Photographic evidence of the house at 137 William Henry Street demonstrate the former house was situated between the post office and the office building (Figure 2.10). This inconsistency in the documentary sources is not uncommon and demonstrates the need for careful and diligent investigation. The main house and greater part of the backyard would have been disturbed by the former Tramway Instruction Room Building (since removed) and then the later construction of the Wran Building in 1987 (see Figure 3.8). However, there is potential for some archaeology associated with the house, including foundations and underfloor deposits, to be extant in the empty space between the Office Building and the post office. There may also be some remains within the backyard, including yard surfaces, outbuildings, cesspits and rubbish pits beneath the Wran building foundations to the south (approximate extent of the property in Figure 3.8).

The house off Harris Street at 517, is within the footprint of the Boiler House and Turbine Hall and it is unlikely that there will be any surviving physical evidence following construction of the basements (see Figure 3.11).

The archaeology for the remaining houses off Harris Street at 519, 521 and 523 may be relatively undisturbed; it is possible that house foundations and underfloor deposits, yard surfaces, rubbish pits, outbuildings and cesspits are extant. The sites of these houses are located within the footprint of the cafe courtyard, with a small part of the 521 and 523 properties beneath the Switch House. The depth of the foundations and the presence of a basement cannot be ascertained from the plan of the Northern part of the Switch House (referred to as the South-East court) (Figure 3.11). It is possible that some part of these properties may be extant but likely in a disturbed state. Archaeology beneath the café courtyard may be assumed to be relatively undisturbed with good integrity.

The two houses at 554 and 556 Harris Street, demolished in 1922, and now within the footprint of the raised south-west forecourt and it is likely that the archaeological resources associated with these houses will be extant with good integrity.

Although various reclamations had been done around Darling Harbour from the 1820s until the 1860s, the evidence from the UTS site indicates that John Harris did not show an interest in improving his land and in fact, the reclamation of that site was not undertaken until 1884 (AMC, 2015:53-54). There is potential for surviving evidence of reclamation of the swamp to be present and also of evidence of the underlying swamp landscape, which may have been modified prior to erection of houses. Also, as found in the UTS site, it is possible that the physical evidence of earlier houses and perhaps of quarrying may be extant with good integrity beneath the reclamation (refer Figure 2.4 and Figure 2.5 above).



The potential archaeology associated with the houses; 154 and 156 Harris Street, off Harris Street at 519, 521 and 523, and 137 William Henry Street, and the local environment is likely to comprise:

- Evidence of the first land management and modification of the swamp, similar to that found at the UTS site, may be present beneath, or associated with the earliest structures on the site. Analysis of the soils and pollens will provide an insight into the original landscape and vegetation.
- Foundations and underfloor occupation deposits, containing artefacts of everyday life, associated with the group of early houses on the site.
- The houses were unlikely to have been connected to water or sewerage until the later nineteenth century and each house would have been dependent on a cess pit, which may contain artefacts associated with the life and work of the site. Analysis of the contents of cesspits may also provide information regarding diet.
- Gardens and rubbish pits associated with the early garbage disposal prior to the introduction of Council garbage removal.
- Post-holes demarcating outbuildings and fence lines.



Figure 3.7 Sydney Water 1886 U3 plan (see Figure 2.7 above) overlain on the current aerial of the Ultimo Powerhouse and Post Office site (<https://maps.six.nsw.gov.au/>).

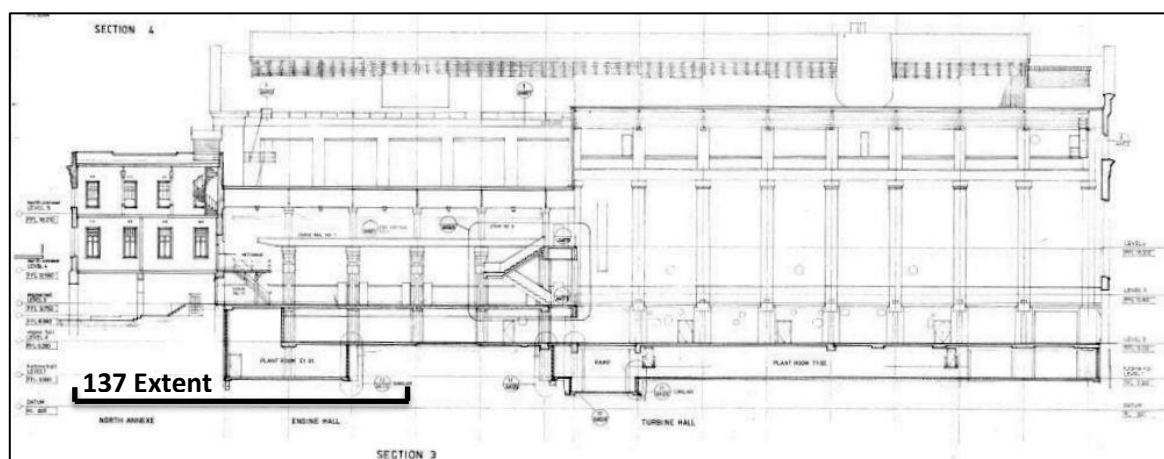


Figure 3.8 1984 MAAS Stage 2 Construction plan (Section 3) facing West, illustrating the basements beneath the North Annexe (the Office Building), the Engine Hall and the Turbine Hall (left to right). The basement of the Office Building is 4.28m and that of the Engine Hall is 6.75m at its deepest, and 2.48m in the shallower section. The approximate extent of 137 William Henry Street is marked.

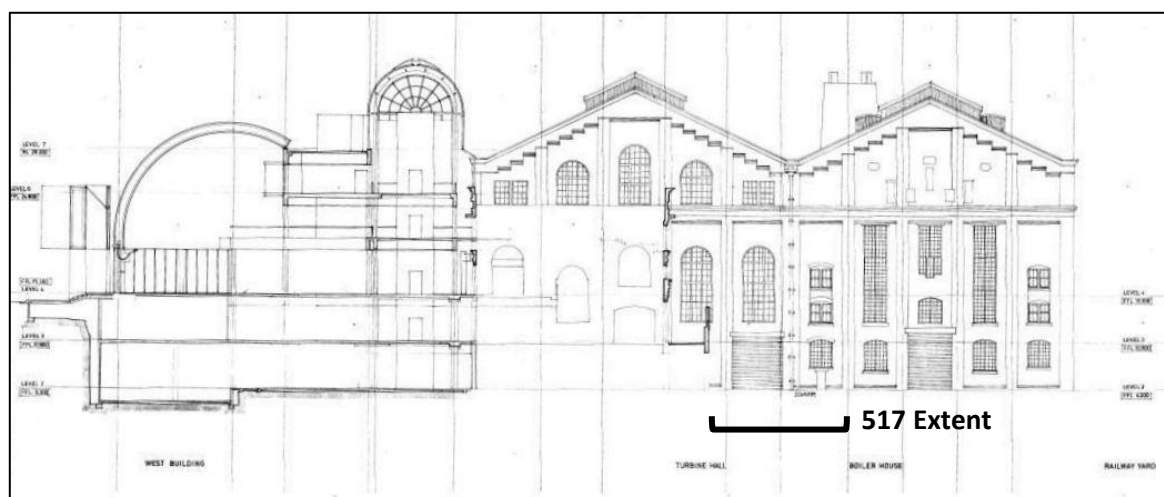


Figure 3.9 1984 MAAS Stage 2 Construction plan. Section 11 faces South, and illustrates the basements beneath the West Building (the Wran Building), the Turbine Hall and the Boiler House (left to right). The approximate extent of 517 off Harris Street has been marked.

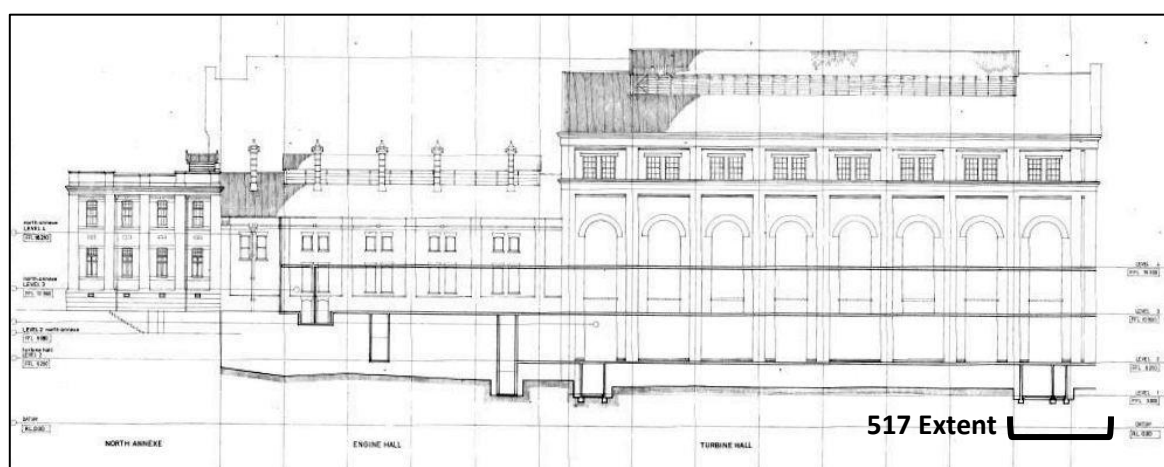
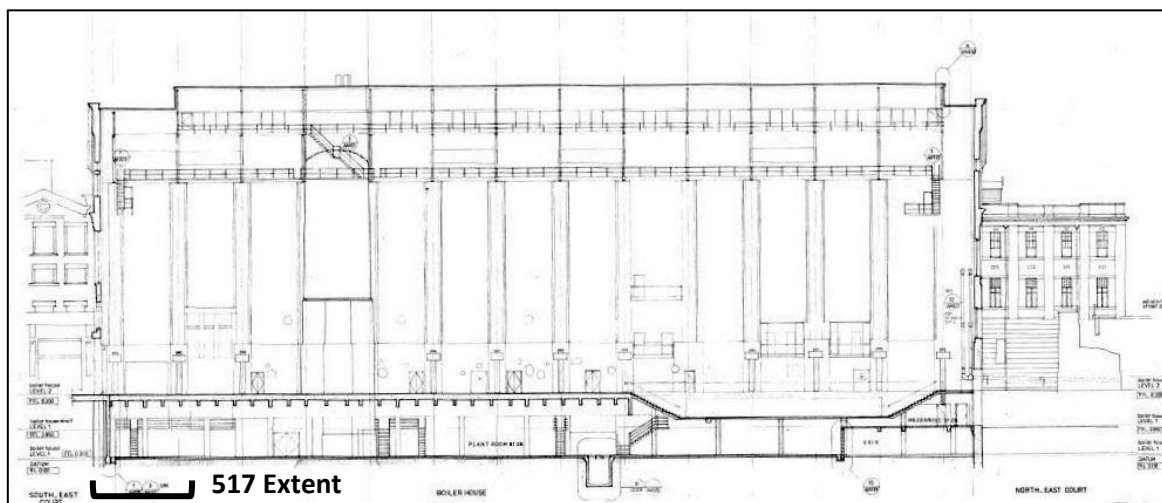


Figure 3.10 1984 MAAS Stage 2 Construction plan with the extent of 517 off Harris Street marked. Section 14 faces West and pictures the North Annexe, Engine Hall and Turbine Hall (left to right). The basement of the Turbine Hall is 3.2m deep. The approximate location has been marked.





**Figure 3.11 1984 MAAS Stage 2 Construction plan. Section 15 (bottom) faces East and depicts part of the Switch House, the Boiler House and North-East Court. The basement of the Boiler House is 6m deep. The approximate extent of 517 off Harris Street has been marked.**

### 3.2.2 Block V3: Macarthur – Mary Ann Streets

The southern block of the study area encompasses the Ultimo Tram Depot which overlies the earlier stables associated with the Sydney Tramway & Omnibus and City Carrying Companies which in turn overlays brick and wooden houses representing earlier residential occupation of the study area (Figure 3.13, Figure 3.13 and

Figure 3.14 ).

Construction of inspection pits, in particular, associated with the electric trams and the subsequent redevelopment of the site for the Museum are likely to have destroyed, or significantly disturbed underlying archaeology within the footprint of the Tram Depot. As such it is unlikely that there will be surviving physical remains associated with the Sydney Tramway and Omnibus Company Stables, Feed Cutting Works, Edward Hanna's blacksmith and workshops and the earlier houses. However, although there may be some disturbance from the construction of the tramlines traversing the Tram Shed southern forecourt, there is potential for physical evidence associated with the City Carrying Company Stables and the earlier houses appearing on the Trigonometric Survey map to survive. As demonstrated in the overlays, there are two phases of occupation within the footprint of the Ultimo Tram Depot (Figure 3.12 – Figure 3.14). The physical evidence for the stables would likely include:

- Stone pavers over the floors
- Post-holes demarcating stables and walls
- Artefacts fallen between pavers or around walls which may provide an insight into the daily lives of the stables.

The physical evidence for the former houses would likely comprise:

- Evidence of the first land management and modification of the swamp may be present beneath, or associated with the earliest structures on the site. Analysis of the soils and pollens will provide an insight into the original landscape and vegetation.
- Foundations and underfloor occupation deposits, containing artefacts of everyday life, associated with the group of early houses on the site.
- The houses were unlikely to have been connected to water or sewerage until the later nineteenth century and each house would have been dependent on a cess pit, which may contain artefacts associated with the life and work of the site. Analysis of the contents of cesspits may also provide information regarding diet.

- Gardens and rubbish pits associated with the early garbage disposal prior to the introduction of Council garbage removal.
- Post-holes demarcating outbuildings and fence lines.



Figure 3.12 The 1886 Sydney Water V3 Plan overlaying an aerial of the study area.

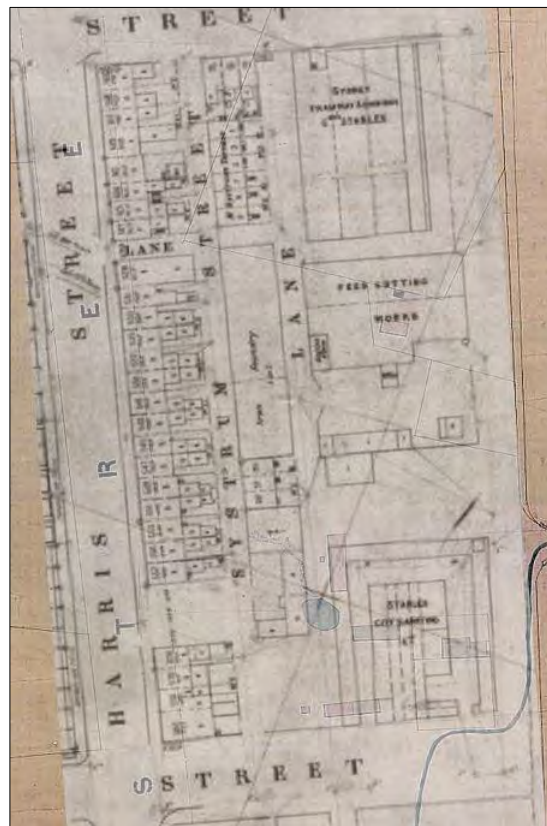


Figure 3.13 Detail from Figure 2.17, the 1886 Sydney Water V3 Plan overlaying a detail from Figure 2.5, the Trigonometrical Survey of Sydney, 1865.



Figure 3.14 Detail of the south eastern corner of the overlay of the 1865 Trigonometrical Survey and 1886 Sydney Water within the footprint of the City Carrying Co. stables. Note the construction materials are indicated: timber (grey), stone (yellow) and brick (pink).



### 3.3 Research Potential

The additional research undertaken to provide a detailed historical development of the Ultimo Creative Industries Precinct has contributed to a more comprehensive understanding of the extent, likely integrity and research potential of the northern and southern blocks of the study area. The archaeological resources with good integrity have the potential to contribute to an understanding of the development and social interactions within a discrete group of early houses. Analysis of archaeological excavations discussed above in Section 3.1, particularly the adjacent Bullecourt Place and 14-28 Ultimo Road sites, indicates that the archaeological resource in the study area has the potential to contribute to research themes associated with the development of Sydney's urban environment from the mid-nineteenth century (Figure 3.15).

The potential for artefact assemblages from the properties in the northern block of the study area that have been assessed as being relatively undisturbed and with good integrity; (519, 521 and 523 off Harris Street, 554 and 556 Harris Street and 137 William Henry Street). Excavation of these houses and may facilitate an insight into lives and working conditions during the second half of the nineteenth century. If physical remains of the City Carrying Company stables are present with good integrity then the archaeological resource is likely to contribute to an understanding of the local history and potentially contribute to research themes associated with the development of Sydney's urban environment. Should the remains of the City Carrying Co. stables be identified and have good integrity then it is likely that the remains of the former houses dating to the mid-nineteenth century are also present. If the archaeological integrity of these remains is good then there is the potential for this resource to contribute to research themes associated with the lives and working conditions during the second half of the nineteenth century.

It is possible that the remains of early cottages/houses similar to those exposed at the 14-28 Ultimo Road site will be extant. In addition, information regarding landscape modifications, such as managing the swampy environment would make an important contribution to an understanding of local settlement patterns. Questions to be considered might be why was the area so sparsely occupied and whether the site was reclaimed and if so when.



Figure 3.15 Aerial view of the Power House and Tram Sheds, 15 March 1932, glass negative taken by Baden H. Mullaney. The locations of the Bullecourt Place site, to the north of the Ultimo Creative Industries Precinct, and the 14-28 Ultimo Road sites, to the south, are indicated (<http://nla.gov.au/nla.obj-161864278/view>).



## 4 Archaeological Significance

The physical evidence of past activities is a valuable resource that is embodied in the fabric, setting, history and broader environment of an item, place or archaeological site. The above evaluation of the Ultimo Creative Industries Precinct has identified the potential for relatively intact archaeological resources. 'Cultural heritage significance' and 'heritage value' are terms used to express the tangible and intangible values of an item, place or archaeological site, and the response that it evokes in the community.

Archaeological resources can provide information regarding the daily and working life of a local area or a specific site that may not be available from other sources. An item will be considered to be of local (or State) significance if, in the opinion of the Heritage Council of NSW, it meets one or more of the SHR criteria.

### 4.1 Assessment of Archaeological Significance

Historical archaeological relics assessed as having State or local significance should be managed under the 'relics' provisions of the *Heritage Act 1977*.

***Criterion (a) an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area);***

The archaeology of Blocks U3 and V3 is associated with housing established from the 1840s into the later nineteenth century. If present with good integrity, structural remains and artefact assemblages associated with early houses would have the potential to reveal information regarding social interactions of a small but developing community. If present with good integrity, the archaeological remains within the footprint of the Ultimo Power House and the Tram Shed would contribute to major research themes concerning early settlement patterns and may reach the threshold for state significance.

Physical evidence associated with the stables beneath the former Tram Shed forecourt may contribute information that will enhance information regarding the development of the local area. Such archaeological remains would have local significance.

Evidence of early modifications of the landscape to create a habitable environment which may be present would make an important contribution to research themes regarding the original landscape and processes of modification and change, including reclamation and quarrying. The significance of the archaeological resources lies in the ability to demonstrate an evolving natural and urban landscape and may meet the threshold for state significance.

***Criterion (b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area);***

Although the archaeological resources within the footprint of the Ultimo Creative Industries Precinct have an association with John Harris and the beginnings of omnibus services and the electrification of the tramways in Sydney, they would not make a significant contribution to an understanding of these events.

The threshold for inclusion against this criterion has not been met.

***Criterion (c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);***

The archaeological resource of the study area is unlikely to demonstrate a high degree of creativity or technical achievement, that is not already available from other sources.

The threshold for inclusion against this criterion has not been met.

***Criterion (d) an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area);***

While no consultation has been undertaken with the local community in relation to the values of the archaeology, it is acknowledged that local communities are interested in the archaeology of their local area and its development. It is possible that the substantial and intact archaeology that is anticipated may have interest or value to the local community.

It is likely that if the public are made aware of the site archaeology through the media or an Open Day, community appreciation of the physical remains of their past will provoke considerable interest.

***Criterion (e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area);***

The archaeological resources within Block U3, the northern block, and Block V3, the southern block, have the potential to contribute to an understanding of landscape modifications and settlement within a likely swampy environment from the early- to mid-nineteenth century. Artefact assemblages associated with the houses have the potential to provide insight into living conditions, social interactions, occupations and gender. The 1865 Trigonometric Survey map shows a scatter of early houses across the entire site and the possible locations of quarries while the 1886 Sydney Water map shows seven houses on the northern block and the Sydney Tramway & Omnibus Co. and City Carrying Co. stables. It has been assessed that there is potential for remains of some houses shown on the Trigonometric Survey map and the houses at 554 and 556 Harris Street, 521, 523 and 519 off Harris Street, 137 William Henry Street may be extant with good integrity within the northern site. There is also potential for remains of the four houses on the southern block beneath the and City Carrying Co. stables to be extant and with good integrity beneath the stables, physical evidence of which may also be extant. These resources, if present with good integrity, will provide an insight into the development of a local community from the 1840s, possibly together with evidence of early landscape modifications, which would contribute to important research themes regarding the early settlement and activities in Ultimo. If present with good integrity, the archaeology may meet the threshold for state significance.

***Criterion (f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the local area);***

The archaeology of the study area represents an opportunity to examine an archaeological resource that may provide an insight into the development and interactions of a local community. The artefact assemblage associated with houses and businesses dating from the 1840s to the late nineteenth century would make a contribution to an understanding of the early historical development of this urban environment. Evidence regarding early modifications of the landscape, which may have included early reclamation and quarrying, would contribute to an understanding of early land management practices, that are not currently well known. Substantial archaeological remains providing information regarding living conditions, social interactions, occupations and



gender as well as evidence of modifications of the natural landscape may meet the threshold for state significance.

***Criterion (g) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or cultural or natural environments (or the local area).***

Physical remains of 1840s houses and associated underfloor deposits, cesspits and outbuildings would be comparable with the archaeological resources from those sites excavated within the local vicinity and would provide an insight into the social interactions of the community. Additionally, the archaeological remains of the stables will offer an understanding of the operation of the City Carrying Company.

Under this criterion, any substantive archaeological remains with good integrity within the study area would have state significance.

## **4.2 Statement of Archaeological Significance**

The potential archaeological resources of the Ultimo Creative Industries Precinct encompassing the Ultimo Power House and Tram Depot have the potential to provide information that will contribute to important research themes and understanding of the historical settlement from the 1840s of a small but developing community. Potential evidence of the processes of landscape modifications prior to and following the construction of housing in the 1840s may also make a contribution to early site formation processes and to form a habitable environment within a swamp.

Physical evidence of houses, as well as artefact assemblages from underfloor deposits, cesspits, and rubbish pits may have the potential to provide an insight into living conditions, social interactions, occupations and gender. Evidence from the archaeological resource of the northern site, such as personal and domestic artefacts, has the potential to be compared with the assemblages from sites within the local vicinity and beyond, to contribute to addressing research questions relating to urbanisation, material culture, consumerism, identity, and social interactions within this local vicinity.

The potential archaeological resource within the UCIP, if present with good integrity, is likely to have a high level of research potential and may meet the threshold for state significance.

## 5 Managing the Archaeological Resource

If present with good integrity, the archaeological resources within the footprint of the Ultimo Creative Industries Precinct have been assessed as having local and may meet the requirements for state significance and as such should be managed in accordance with the requirements of the *Heritage Act 1977*.

It is understood that concepts for the future use and configuration of the Precinct are at an early stage and that there are no proposals to excavate beneath the current ground or basement levels with the exception of the Harris Street south site. Retention of archaeological resources in situ where it can contribute to future, new research questions, is the preferred management strategy.

However, should excavation ultimately be required within any of the areas identified as being archaeologically sensitive, an application for an Excavation Permit under Section 140 of the *Heritage Act 1977* must be lodged with the Heritage Council of NSW. The application will need to include a Research Design which includes the information contained in this report as well as detailed research questions, excavation methodology and excavation director, who will comply with the Heritage Council Excavation Director Assessment Criteria for a state significant historical archaeological site.



Figure 5.1 Aerial with overlay of the Sydney Water 1886 plan of Block U3 (left) and the plan of Block V3 (right) with areas of potentially state significant archaeological sensitivity shaded red. It should be noted that the archaeological resource in Block V3 relating to the City Carrying Co. has the potential to be locally significant; however, should physical evidence of the earlier houses be revealed within the footprint of the former stables this resource is assessed as state significant (refer to Figure 2.7, Figure 2.17, Figure 3.13 and Figure 3.14 above).



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## **Appendix A**

### **Tabulated Sands Directory and City of Sydney Rates Assessment Books Information 1845-1948**

<b>Year &amp; Source</b>	<b>William Henry Street (east end, next to railway line)</b>	<b>137 William Henry Street</b>	<b>494 Harris Street</b>	<b>496-560 Harris Street</b>	<b>84 Mary Ann Street</b>
<b>1845 Rates Assessment</b>	Ultimo Thomas Halloran (owner John Harris), wattle hut, barked roof, 1 floor, 2 rooms, £10 (1acre ground and detached room)				
<b>1848 Rates Assessment</b>	2130, Ultimo Thomas Halloran (owner Mrs Harris), wood house, bark roof, 1 floor, 2 rooms, £8				
<b>1855 Rates Assessment</b>	Ultimo Road Thomas Halloran (owner Mrs Harris), cornfield, plaster house, shingled roof, 1 floor, 3 rooms, £40 Ultimo Rd Nr Harris St John Gorman (owner Mrs Harris), stone house & ground, shingled roof, 1 floor, 2 rooms, £50				
<b>1856 Rates Assessment</b>	Near Harris St Thomas Halloran (owner Mrs Harris), cornfield, plaster house, shingled roof, 1 floor, 3 rooms, £40 (Near) Harris St John Gorman (owner Mrs Harris), stone house & ground, shingled roof, 1 floor, 2 rooms, £50				
<b>1858 Sands/Rates Assessment</b>	32 Harris St Edward Quinn (owner O Halloran), wood house, iron roof, 1 floor, 2 rooms 34 Harris St John Gorman, stone house, iron roof, 1 floor, 4 rooms.				
<b>1861 Rates Assessment</b>	34 (off) Harris St John Gorman, stone house, shingled roof, 1 floor, 6 rooms, £36 36 (off) Harris St Martin Brown (owner Mrs Harris), stone house, shingled roof, 1 floor, 2 rooms, £12				
<b>1863 Sands/Rates Assessment</b>	John Gorman (owner George Harris), brick house, shingled roof, 1 floor, 4 rooms, £26 – in good repair				
<b>1864 Sands</b>	Ultimo John Gorman, dairy				



Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
<b>1865-1866 Sands</b>	Ultimo John Gorman, dairyman Martin Brown, milkman				
<b>1867 Sands/Rates Assessment</b>	Harris St – east side 326 Thomas Maher (owner George Harris), brick house, shingled roof, 1 floor, 3 rooms, £17 328 Mrs Margaret O'Halloran, dairy (owner George Harris), stone house, shingled roof, 1 floor, 3 rooms, £17 Vacant land 332 John Gorman, dairyman (owner George Harris), wood & stone house, iron & shingled roof, 1 floor, 6 rooms, £40 Vacant land 340/342 Martin Brown (owner George Harris), wood & stone house, iron roof, 1 floor, 3 rooms, £17. Cow house and stable				
<b>1868 Sands</b>	Harris St – east side 326 Thomas Maher, drayman 328 Mrs Margaret O'Halloran Vacant land John Gorman, drayman Vacant land Halley Henderson Alexander Grierson				
<b>1870 Sands</b>	Harris St – east side 326 Thomas Maher 328 Mrs O'Halloran Thomas Williams				

Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
	Halley Henderson James Wood, brickmaker 380 Martin Brown, dairyman				
<b>1871 Sands/Rates Assessment</b>	Harris St – east side Off Harris St Thomas Maher, drayman (owner George Harris), stone house, shingled roof, 1 floor, 2 rooms, £12 Off Harris St Mrs O'Halloran (owner George Harris), wood house, shingled roof, 1 floor, 2 rooms, £16 Off Harris St C O'Keeffe (owner George Harris), brick house, iron roof, 1 floor, 4 rooms, £20 1 off 474 Harris St Empty (owner George Harris), wood house, shingled roof, 1 floor, 4 rooms, £20 2 off 474 Harris St Empty (owner George Harris), wood house, shingled roof, 1 floor, 5 rooms, £22 3 off 474 Harris St Martin Brown, dairyman (owner George Harris), stone house, iron roof, 1 floor, 2 rooms, £16			472 William Henry Harris (owner Miss Harris), brick house, shingled roof, 1 floor, 6 rooms, £40 474 William Cope (owner Miss Harris), brick house, shingled roof, 1 floor, 6 rooms, £40	4 off 474 Harris St John Woods (owner George Harris), wood warehouse, wood roof, 2 floors, 4 rooms, £40
<b>1873 Sands</b>	Harris St – east side John Godfrey Drinkwater			William Harris William Cope	Harris St – east side Sydney United Omnibus Company John Free
<b>1875 Sands</b>	Harris St – east side 352 John Godfrey Drinkwater Vacant land William Pierce, stonemason William Sinclair Henry Haste, engineer John Riley, drayman	Harris St – east side Thomas Bladen, ironmoulder		Harris St – east side 370 William Houston, grocer 372 David Taylor, clerk	Harris St – east side 374 John Free 376 Sydney United Omnibus Company 378 Edward Hanna, blacksmith
<b>1876 Sands</b>	Harris St – north side Mrs Caroline Drinkwater	Harris St – north side Thomas Bladen, iron smelter		Harris St – north side P.J. Duffy, wharfinger	Harris St – north side Vacant land



Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
				Vacant land	Charles Hunt Sydney United Omnibus Co.'s stables
<b>1877 Sands/Rates Assessment</b>	<p>Harris St – east side Off Harris St J.G./Mrs Caroline Drinkwater (owner Harris family), brick &amp; stone house, iron roof, 1 floor, 5 rooms, £22 Off Harris St Thomas Maher, drayman (owner Harris family), brick &amp; wood house, iron roof, 1 floor, 4 rooms, £13 Off Harris St Thomas O'Halloran (owner Harris family), brick &amp; wood house, shingled roof, 1 floor, 3 rooms, £13 Off Harris St William Pierce, miller (owner Harris family), brick &amp; stone house, shingled roof, 1 floor, 4 rooms, £26 Off Harris St Robert Reilly/Rielly, draper (owner Harris family), brick &amp; stone house, shingled roof, 1 floor, 4 rooms, £26 Off Harris St Henry Haste, engineer (owner Harris family), brick &amp; stone house, iron roof, 1 floor, 4 rooms, £26 Pyrmont St/Off Harris St John Rielly (owner Harris family), brick &amp; stone house, shingled roof, 1 floor, 4 rooms, £26 Off Harris St Martin Brown, dairyman (owner Harris family), brick &amp; stone house, iron &amp; shingled roof, 1 floor, 2 rooms, £30</p>	<p>William Henry St/Off Harris St Thomas Bladen, ironmoulder (owner Harris family), brick &amp; stone house, shingled roof, 2 floors, 8 rooms, £52</p>		<p>Harris St – east side 474 Mrs Mott (owner Harris family), brick &amp; stone house, shingled roof, 1 floor, 4 rooms, £40 472 P.J. Duffy, wharfinger (owner Harris family), brick &amp; stone house, shingled roof, 1 floor, 4 rooms, £40</p>	<p>Harris St – east side Charles Hunt off Harris St Thomas Hales (owner John Harris)/S.U. Omnibus Co stables, stalls for 200 horses, brick &amp; wood house &amp; stables, iron roof, £300 Edward Hanna, blacksmith</p>
<b>1879 Sands</b>	<p>Pyrmont St (William Henry St to Macarthur St) Thomas Maher, drayman Thomas O'Halloran, drayman William Pierce, miller Robert Reilly, draper Henry Haste, engineer Michael Brown</p>	Thomas Bladen, engineer	Vacant land	<p>Michael O'Connor Vacant land Peter J Duffy John Lowe, cabman</p>	<p>Pyrmont St (William Henry St to Macarthur St) Thomas Maher, drayman Thomas O'Halloran, drayman William Pierce, miller Robert Reilly, draper Henry Haste, engineer</p>

Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
	Martin Brown, dairyman				Michael Brown Martin Brown, dairyman
1880 Sands/Rates Assessment	Off William Henry St Thomas Maher, drayman (owner Harris estate), brick house, iron roof, 1 floor, 4 rooms, £15 Margaret O'Hallaran (owner Harris estate), stone house, iron roof, 1 floor, 3 rooms, £20 Pymont St South – west side Vacant land 1 off 506 Harris St William Pierce, miller (owner Miss Harris), wood house, shingled roof, 1 floor, 4 rooms, £26 2 off 506 Harris St Robert Reilly/Riley (owner Miss Margaret Harris), wood house, shingled roof, 1 floor, 4 rooms, £26 2 off 506 Harris St Robert Ware/ Henry Haste (owner Miss Harris), wood house, iron roof, 1 floor, 5 rooms, £26 1 off 520 Harris St Michael Brown, dray owner (owner Miss Harris), wood house, shingled roof, 1 floor, 4 rooms, £26 2 off 520 Harris St Martin Brown, dairyman (owner Miss Harris), wood house, iron roof, 1 floor, 4 rooms, £26	Thomas Bladen, iron manufacturer (owner Mr Harris), wood house, shingled roof, 2 floors, 6 rooms, £60	Vacant land	506 Michael O'Connor, dray owner (owner Miss Harris), brick house, iron roof, 1 floor, 4 rooms, £26 Vacant land 518 John Colquhoun, gardener / Margaret Duffy (owner Miss Harris), brick house, shingled roof, 2 floors, 6 rooms, £45 520 John Lowe, cab owner (owner Miss Harris), brick house, shingled roof, 1 floor, 4 rooms, £45	Pymont St South – west side / Harris St 540 Harris St William Townsend (owner John Woods), wood house, iron roof, 1 floor, 4 rooms, £36 542 Harris St J Woods & Co.'s Depot, iron store, iron roof, 1 floor, 1 room, £40 3 off 520 Harris St Winifred Travers/S.U. Omnibus Co, wood stables, iron roof, 1 floor, 2 rooms, £200 1 off 542 Harris St Winifred Travers/S.U. Omnibus Co, brick chaff store, iron roof, 1 floor, 6 rooms; iron New Forge, iron roof, 1 floor, 1 room; wood Old Forge, shingled roof, 1 floor, 1 room; £289 [note says "pulled down"] Off 542 Harris St Edward Hanna, farrier etc (owner Harris estate/John Woods), iron farrier's shop, iron roof, 1 floor, 1 room, £24 Vacant land
1882 Sands/Rates Assessment	501 Pymont St William Pierce (owner Miss Margaret Harris), wood house, shingled roof, 1 floor, 4 rooms, £26 503 Pymont St	William Carroll, butcher (owner Margaret Harris), wood house, shingled roof, 2 floors, 7 rooms, £52	Miss Margaret Harris, land (400 feet)	518 John Grant (owner Miss Harris), brick house, shingled roof, 1 floor, 4 rooms, £44	Pymont St – west side / off Harris St Thomas Hales/Bus Company (S.U. Omnibus



Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
	Robert Reilly/Riley (owner Miss Margaret Harris), wood house, shingled roof, 1 floor, 4 rooms, £26 505 Pyrmont St John Port/Michael Leo (owner Miss Margaret Harris), wood house, shingled roof, 1 floor, 4 rooms, £26 505 Pyrmont St Michael Brown (owner Miss Margaret Harris), wood house, shingled roof, 1 floor, 4 rooms, £26 Miss Margaret Harris, land			520 John Lowe, cab proprietor (owner Miss Harris), brick house, shingled roof, 1 floor, 4 rooms, £45 Miss Margaret Harris, land (20 feet)	Company), iron stables, iron roof, 2 floors, 7 rooms, £260 Edward Hannah, brick workshop, iron house & stables, iron roof, 1 floor, 1 room, £26
<b>1883 Sands</b>	Pyrmont St – west side William Pierce Robert Reilly Matthew Leo, carrier Michael Brown	William Carroll, butcher		518 John Grant, contractor 520 John Lowe, cabman	Pyrmont St – west side Omnibus Company's stables
<b>1884 Sands</b>	Pyrmont St – west side William Pierce Robert Reilly Jacob Sargeant J Webber	William Carroll, butcher		518 John Grant, contractor 520 John Lowe, cabman	Sydney United Omnibus Company's stables
<b>1885 Sands</b>	Pyrmont St – west side George Smith Michael Flood August Webber Samuel Polglase, miner George Dodd Charles Stewart John Brown	William Carroll, butcher		John Grant, contractor John Lowe	City Carrying Co.'s stables [N.B. Omnibus Co.'s stables is listed here in Pyrmont St – west side]
<b>1886 Sands</b>		William Carroll, butcher		518 John Grant, contractor 520 John Lowe, cab proprietor	City Carrying Co.'s stables [N.B. Sydney Tramway and Omnibus Company's stables is listed here in Pyrmont St – west side]
<b>1887 Sands</b>		William Carroll, butcher		518 Mrs C Sampson, music teacher 520	Sydney Tramway and Omnibus Company's stables

Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
1887-1889 Sands		William Carroll, butcher		John Lowe, cab proprietor 492 Miss M O'Leary, storekeeper 518 David Sampson, butcher 520 John Lowe, cab proprietor	Sydney Tramway and Omnibus Company's stables
1890 Sands		William McCaffrey, drayman		554 David Sampson, butcher 556 John Lowe, cab proprietor	
1891 Sands/Rates Assessment	517 Pyrmont St P O'Hallaran (owner Miss Harris), wood house, shingled roof, 1 floor, 4 rooms, £31 519 Pyrmont St T McCarthy (owner Miss Harris), wood house, shingled roof, 1 floor, 4 rooms, £31 521 Pyrmont St L Davey (owner Miss Harris), wood house, iron roof, 1 floor, 5 rooms, £31 523 (off) Pyrmont St M Brown (owner Miss Harris), wood house, iron roof, 1 floor, 4 rooms, £26	William McCaffrey (owner Miss Harris), wood house, shingle roof, 1 floor, 7 rooms, £52	Miss Harris, land, £774	554 Thomas Fitzgerald, van proprietor (owner Miss Harris), brick house & stables, iron roof, 1 floor, 6 rooms, £52 556 John Lowe, cab proprietor (owner Miss Harris), brick house, iron roof, 1 floor, 6 rooms, £44 Miss Harris, land, £72	535-577 Pyrmont St John Woods/Sydney Bus Company, iron house & stables, iron roof, 1 floor, 4 rooms, £770
1891-1894 Sands		William McCaffrey		554 Thomas Fitzgerald, van proprietor 556 John Lowe, cab proprietor	
1895 Sands		William McCaffrey		556 John Lowe, cab proprietor	Sydney Tramway and Omnibus Company's stables
1896 Sands/Rates Assessment		William McCaffrey (owner Margaret Harris), house & stables	Miss M Harris, land, £312	554 Mrs Mary Black / Mrs Agnes Dooley (owner Miss M Harris), brick house & stable, iron roof, 1 floor, 6 rooms, £41 556	Sydney Tramway and Omnibus Company, wood stables & stores, iron roof, 2 floors, 4 rooms, £600



Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
				John Lowe, cab proprietor (owner Miss M Harris), brick house & stable, iron roof, 1 floor, 6 rooms, £41 Miss M Harris, land, £40	
1897-1899 Sands		Mrs Henrietta Meikle James O'Grady, butcher		554 Mrs M Black Mrs Agnes Dooley 556 John Lowe, cab proprietor	Sydney Tramway and Omnibus Company's stables
1900 Sands	Electric power station	Thomas Love		554 Mrs M Black Mrs Agnes Dooley 556 John Lowe, cab proprietor	Electric tram powerhouse
1901 Sands/Rates Assessment		Thomas Love / William McCaffrey (owner Margaret Harris), house & stables, £35	Miss M Harris, land (Block 23), £270	554 Mrs Mary Black / Mrs Agnes Dooley (owner Miss M Harris), house/stable, £33 556 John Lowe, cab proprietor (owner Miss M Harris), house/stable, £33 Miss M Harris, land (part Block 23), £34	
1902-1903 Sands	NSW Government Railway Commissioner Electric power station		Ultimo Post and Telegraph Office	496-504 The Sydney Glass & Tile Co Ltd 554 Mrs M Black 556 John Lowe	Electric tram traffic office
1904-1905 Sands	Electric power station	George Taylor	Ultimo Post and Telegraph Office	496-504 The Sydney Glass & Tile Co Ltd 554 Mrs M Black	Electric tram traffic office

Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
				556 John Lowe	
<b>1906-1908 Sands</b>	Electric power station	Charles Lacey	Ultimo Post and Telegraph Office	496-504 The Sydney Glass & Tile Co Ltd NSW Govt Electric Tramways, powerhouse Wright Sheard, fuel merchant 554 Mrs M Black 556 John Lowe	Electric tram traffic office and car sheds
<b>1909 Sands</b>	Electric power station	Charles Lacey	Ultimo Post and Telegraph Office	496-504 The Sydney Glass & Tile Co Ltd NSW Govt Electric Tramways, powerhouse Wright Sheard, fuel merchant 554 Mrs M Black 556 John Lowe [N.B. 554 and 556 are noted as being south of Macarthur St in this year]	Electric tram traffic office and car sheds
<b>1910 Sands</b>	NSW Government Railway Commissioner Electric power station	Charles Lacey	Ultimo Post and Telegraph Office	496-504 The Sydney Glass & Tile Co Ltd NSW Govt Electric Tramways, powerhouse Wright Sheard, fuel merchant 554 Mrs M Black Mrs Agnes Dooley 556 Miss L Lowe	Electric tram traffic office and car sheds



Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
1911 Sands/Rates Assessment	NSW Government Australian Gaslight Company brick Tramway Power House, iron roof, 2 floors, 4 rooms, £9,388	Charles Lacey (owner Margaret Harris), wood house, iron roof, 1 floor, 8 rooms, £31	The Commonwealth of the Govt, Ultimo Post and Telegraph Office, brick, tiled roof, 1 floor, 2 rooms, £78	496-504 The Sydney Glass & Tile Co Ltd (owner Margaret Harris), stone offices & workshop, 2 floors, 2 rooms, £464 The Sydney Glass & Tile Co Ltd (owner Margaret Harris), land, £112 Wright Sheard, fuel merchant (owner Margaret Harris), wooden wood and coal yard, iron roof, 1 floor, 1 room, £66 554 Mrs M Black / Mrs Agnes Dooley (owner Margaret Harris), brick house, iron roof, 1 floor, 6 rooms, £39 556 John Connolly (owner Margaret Harris), brick house, iron roof, 1 floor, 6 rooms, £39 Govt of NSW Railway Commissioners (owner Margaret Harris), land, £48	Govt of NSW (Railway Commissioners) electric tram traffic office and car sheds. Brick tram depot, iron roof, 1 floor, 1 room, £2777
1912-1913 Sands	Electric power station	Charles Lacey	Ultimo Post and Telegraph Office	496-504 The Sydney Glass & Tile Co Ltd NSW Govt Electric Tramways, powerhouse Wright Sheard, fuel merchant 554 John Black Mrs Agnes Dooley 556 John Connolly	Electric tram traffic office and car sheds

Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
1914 Sands/Rates Assessment	NSW Railway Commissioners brick Tramway Instruction Room, tiled roof, 1 floor, 1 room, £78 NSW Railway Commissioners brick Power House, iron roof, £9,388	Federal Govt, Ultimo Post and Telegraph Office, brick, slate roof, 1 floor, 1 room, £78 [N.B. Commonwealth Savings Bank noted here as well, on William Henry St]	496-504 The Sydney Glass & Tile Co Ltd (owner Margaret Harris), brick works & offices, iron roof, 1 floor, 2 rooms, £464 The Sydney Glass & Tile Co Ltd (owner Margaret Harris), land, £135 Wright Sheard, fuel merchant (owner Margaret Harris), wooden wood and coal yard, iron roof, 1 floor, 1 room, £59 554 John Black / Leo O'Connor / Mrs Agnes Dooley (owner Margaret Harris), brick cottage, iron roof, 1 floor, 6 rooms, £41 556 John Connolly (owner Margaret Harris), brick cottage, iron roof, 1 floor, 6 rooms, £41 Railway Commissioners iron workshop, iron roof, 1 floor, 1 room, £52	Railway Commissioner electric tram traffic office and car sheds. Brick tram depot, iron roof, 1 floor, 3 rooms, £2777	NSW Railway Commissioners brick Tramway Instruction Room, tiled roof, 1 floor, 1 room, £78 NSW Railway Commissioners brick Power House, iron roof, £9,388
1915-1917 Sands	Electric power station Tramway Instruction Room	Ultimo Post and Telegraph Office [N.B. Commonwealth Savings Bank noted here as on William Henry St]	496-504 The Sydney Glass & Tile Co Ltd NSW Govt Electric Tramways, powerhouse	Electric tram traffic office and car sheds	Electric power station Tramway Instruction Room



Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
			Wright Sheard, fuel merchant 554 John Black Mrs Agnes Dooley 556 William Houston		
1918 Sands/Rates Assessment	NSW Govt Railway Commissioners brick Tramway Rooms, iron roof, 1 floor, 1 room, £78 NSW Govt Railway Commissioners brick Power House, iron roof, 1 floor, £9,388	Federal Govt, Ultimo Post and Telegraph Office, brick & stone, slate roof, 1 floor, 1 room, £78	496-504 The Sydney Glass & Tile Co Ltd (owner Margaret Harris), brick works & offices, iron roof, 1 floor, 2 rooms, £416 Margaret Harris, land, £135 Harry/Henry Chapman, fuel merchant (owner Margaret Harris), wood woodyard & stables, iron roof, 1 floor, 1 room, £58 554 Mrs Agnes Dooley (owner Maurice Newstadt), brick cottage, iron roof, 1 floor, 6 rooms, £41 556 William Houston / Mrs Annie Houston (owner Maurice Newstadt), brick cottage, iron roof, 1 floor, 6 rooms, £41 Maurice Newstadt, land, £80	NSW Govt Railway Commissioners electric tram traffic office and car shed. Brick tram depot, iron roof, 1 floor, 3 rooms, £2777	NSW Govt Railway Commissioners brick Tramway Rooms, iron roof, 1 floor, 1 room, £78 NSW Govt Railway Commissioners brick Power House, iron roof, 1 floor, £9,388

Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
1919-1920 Sands	Tramway Instruction Room Electric power station	Ultimo Post and Telegraph Office and Commonwealth Savings Bank	496-504 The Sydney Glass & Tile Co Ltd NSW Govt Electric Tramways, powerhouse Harry Chapman, fuel merchant 554 Mrs Agnes Dooley 556 James Clapson	Electric tram traffic office and car shed	Tramway Instruction Room Electric power station
1921 Sands/Rates Assessment	NSW Govt Railway Commissioners brick Tramway Room, malthoid roof, 1 floor, £78 NSW Govt Railway Commissioners brick Power House, iron roof, £9,388	Federal Govt, Ultimo Post and Telegraph Office and Commonwealth Savings Bank, brick, slate roof, 1 floor, 1 room, £78	496-550 The Sydney Glass & Tile Co Ltd (owner Margaret Harris), brick works & offices, iron roof, 1 floor, 1 room, £780 Margaret Harris, land, £158 Harry Chapman, fuel merchant (owner Margaret Harris), yard & stables, £104 554 Mrs Agnes Dooley (owner Maurice Newstadt), brick cottage, iron roof, 1 floor, 6 rooms, £46 556 James Clapson (owner Maurice Newstadt), brick cottage, iron roof, 1 floor, 6 rooms, £46 Maurice Newstadt, land, £80	NSW Railway Commissioners electric tram traffic office and car shed. Brick tram depot, iron roof, 1 floor, £2777	NSW Govt Railway Commissioners brick Tramway Room, malthoid roof, 1 floor, £78 NSW Govt Railway Commissioners brick Power House, iron roof, £9,388

Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
1922 Sands	Tramway Instruction Room Electric power station	Ultimo Post and Telegraph Office and Commonwealth Savings Bank	496-550 The Sydney Glass & Tile Co Ltd NSW Govt Electric Tramways power-house Harry Chapman, fuel merchant 554 Mrs Agnes Dooley 556 James Clapson	Electric tram traffic office and car shed	Tramway Instruction Room Electric power station
1923 Sands	Tramway Instruction Room Electric power station	Ultimo Post and Telegraph Office and Commonwealth Savings Bank	496-550 The Sydney Glass & Tile Co Ltd NSW Govt Electric Tramways power-house Harry Chapman, fuel merchant	Electric tram traffic office and car shed	Tramway Instruction Room Electric power station
1924-1925 Sands/Rates Assessment	Railway Commissioner brick Tramway Room, iron roof, 1 floor, 1 room, £78 Railway Commissioner brick Power House, iron roof, 1 floor, 1 room, £9,388	Federal Govt, Ultimo Post and Telegraph Office and Commonwealth Savings Bank, brick, slate roof, 1 floor, £78	496-550 The Sydney Glass Co Ltd brick & wood factory office, offices & yard, iron roof, 1 floor, £780 Sydney Glass Co Ltd, land, £180 Harry Chapman, fuel merchant (owner Sydney Glass Co Ltd), offices & yard, £104 Public weighbridge, No.552 Maurice Newstead, land, £200	Railway Commissioner NSW electric tram traffic office and car shed. Brick tram depot, iron roof, 1 floor, 3 rooms, £2777	Railway Commissioner brick Tramway Room, iron roof, 1 floor, 1 room, £78 Railway Commissioner brick Power House, iron roof, 1 floor, 1 room, £9,388



Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
<b>1927 Sands/Rates Assessment</b>	The Crown, brick Tramway Room, malthoid roof, 1 floor, 1 room, £78 NSW Govt Railway Commissioners brick Power House, malthoid roof, 2 floors, £9,388	Commonwealth Government, Ultimo Post and Telegraph Office and Commonwealth Savings Bank, brick, iron roof, 1 floor, 1 room, £78	496-550 Sydney Glass Co Ltd, brick factory, iron roof, 1 floor & basement, 2 rooms, £780 Sydney Glass Co Ltd, land, £225 552 Harry Chapman (owner Sydney Glass Co Ltd), fuel merchant, brick wood and coal yard, iron roof, 1 floor, 1 room, £104 Public weighbridge, No. 31, brick shed and weighbridge Maurice Newstead, land, £257	NSW Gov electric tram traffic office and car shed. Brick tram depot, iron roof, 1 floor, 3 rooms, £2777	The Crown, brick Tramway Room, malthoid roof, 1 floor, 1 room, £78 NSW Govt Railway Commissioners brick Power House, malthoid roof, 2 floors, £9,388
<b>1930 Sands/Rates Assessment</b>	NSW Govt, brick Tramway Room, slate roof, 1 floor, 1 room, £78 NSW Govt Railway Commissioners brick Power House, malthoid roof, 2 floors, £9,388	Post Master General's Dept, Commonwealth Government, Ultimo Post and Telegraph Office and Commonwealth Savings Bank, brick, slate roof, 1 floor, 1 room, £78	496-504 Sydney Glass Co Ltd, brick factory, office & sheds, iron roof, 2 floors, 3 rooms, £780 Sydney Glass Co Ltd, land, £563 Maurice Newstead, land, £257	NSW Gov Tramways electric tram traffic office and car shed. Brick tram depot, iron roof, 1 floor, £2777	NSW Govt, brick Tramway Room, slate roof, 1 floor, 1 room, £78 NSW Govt Railway Commissioners brick Power House, malthoid roof, 2 floors, £9,388
<b>1932 Sands/Rates Assessment</b>	NSW Govt Railway Commissioner brick Tramway Room, slate roof, 1 floor, 1 room, £77 NSW Govt Railway Commissioner brick Power House, malthoid roof, 2 floors, 2 rooms, £9,388	Post Master General's Dept, Commonwealth Government, Ultimo Post and Telegraph Office and Commonwealth Savings Bank, brick, slate roof, 1 floor, 1 room, £78	496-504 Sydney Glass Co Ltd brick factory & offices, iron roof, 2 floors, 3 rooms, £702 506-550 Sydney Glass Co Ltd, land, £450 552-560	NSW Gov Metropolitan Transport Trust electric tram traffic office and car shed. Brick depot, sheds & offices, iron roof, 1 floor, 1 room, £2777	NSW Govt Railway Commissioner brick Tramway Room, slate roof, 1 floor, 1 room, £77 NSW Govt Railway Commissioner brick Power House, malthoid roof, 2 floors, 2 rooms, £9,388

Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
			Maurice Newstead, land, £198		
<b>1933 Rates Assessment</b>	NSW Govt Railway Commissioner brick Tramway Room, slate roof, 1 floor, 1 room NSW Govt Railway Commissioner brick Power House, iron roof, 2 floors, 2 rooms	Post Master General's Dept, Commonwealth Government, brick Post Office, slate roof, 1 floor, 1 room	496-504 Sydney Glass Co Pty Ltd brick factory & office, iron roof, 2 floors, 3 rooms, £585 506-550 Sydney Glass Co Pty Ltd, land, £395 552-560 Maize Products Pty Ltd, brick warehouse, cement sheets roof, 1 floor & basement, 2 rooms, £935	NSW Gov Transport Commissioners brick shed, offices & depot, iron roof, 1 floor	NSW Govt Railway Commissioner brick Tramway Room, slate roof, 1 floor, 1 room NSW Govt Railway Commissioner brick Power House, iron roof, 2 floors, 2 rooms
<b>1939 Rates Assessment</b>	NSW Govt Railway Commissioner brick Tramway Room, slate roof, 1 floor, 1 room NSW Govt Railway Commissioner brick Power House, iron roof, 2 floors, 2 rooms	Post Master General's Dept, Commonwealth Government, brick Post Office, slate roof, 1 floor, 1 room	496-504 Sydney Glass Co Pty Ltd brick factory & office, iron roof, 2 floors, 3 rooms, £585 506-550 Sydney Glass Co Pty Ltd, land, £395 552-560 Maize Products Pty Ltd, brick warehouse, cement sheets roof, 1 floor & basement, 2 rooms, £935	NSW Gov Transport Commissioners/ Dept of Road Transport & Tramways brick shed, offices & depot, iron roof, 1 floor	NSW Govt Railway Commissioner brick Tramway Room, slate roof, 1 floor, 1 room NSW Govt Railway Commissioner brick Power House, iron roof, 2 floors, 2 rooms
<b>1945 Rates Assessment</b>	NSW Govt Railway Commissioner Tramway Room NSW Govt Railway Commissioner Power House	Commonwealth Government, brick Post Office, slate roof, 1 floor, 1 room, £78	496-504 Sydney Glass Co Pty Ltd brick factory & offices, iron roof, 2 floors, 3 rooms, £585 506-550	NSW Gov Dept of Road Transport & Tramways brick shed, offices & depot, iron roof, 1 floor, 1 room	NSW Govt Railway Commissioner Tramway Room NSW Govt Railway Commissioner Power House

Year & Source	William Henry Street (east end, next to railway line)	137 William Henry Street	494 Harris Street	496-560 Harris Street	84 Mary Ann Street
			Sydney Glass Co Pty Ltd, land, £395 552-560 Maize Products Pty Ltd, brick warehouse, cement sheets roof, 1 floor & basement, 2 rooms, £935		
1948 Rates Assessment	NSW Govt Railway Commissioner Tramway Room NSW Govt Railway Commissioner Power House	Brick Post Office, slate roof, 1 floor, 1 room	496-504 Sydney Glass Co Pty Ltd brick factory & offices, iron roof, 2 floors + basement, 3 + 5 rooms, £585 506-542 Sydney Glass Co Pty Ltd, land, £413 544-550 Sydney Glass Co Pty Ltd (owner NSW Govt Railway Commissioner), land, £150 552-560 Maize Products Pty Ltd, brick warehouse, cement sheets roof, 1 floor & basement, 2 rooms, £935	NSW Gov Dept of Road Transport & Tramways brick shed, offices & depot, iron roof, 1 floor, 1 room	NSW Govt Railway Commissioner Tramway Room NSW Govt Railway Commissioner Power House



# APPENDIX D

## Evolution of the Powerhouse Site (Maps by Design 5 Architects)

APPENDIX D—Evolution of the Powerhouse Site (Maps by Design 5 Architects)

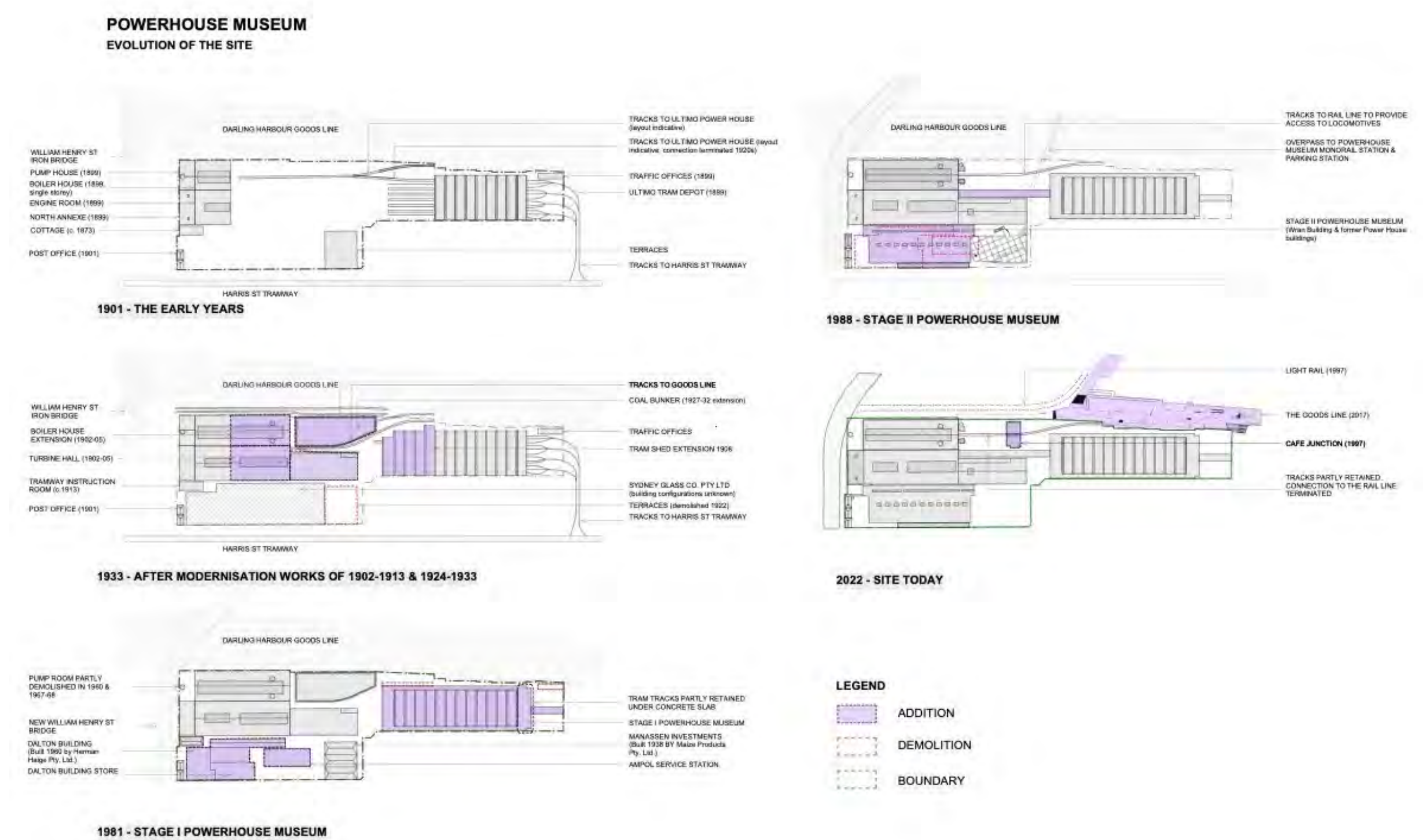


Figure 1: Evolution of the site, 1901 – 2022.

EVOLUTION DIAGRAMS  
BASEMENT 2022

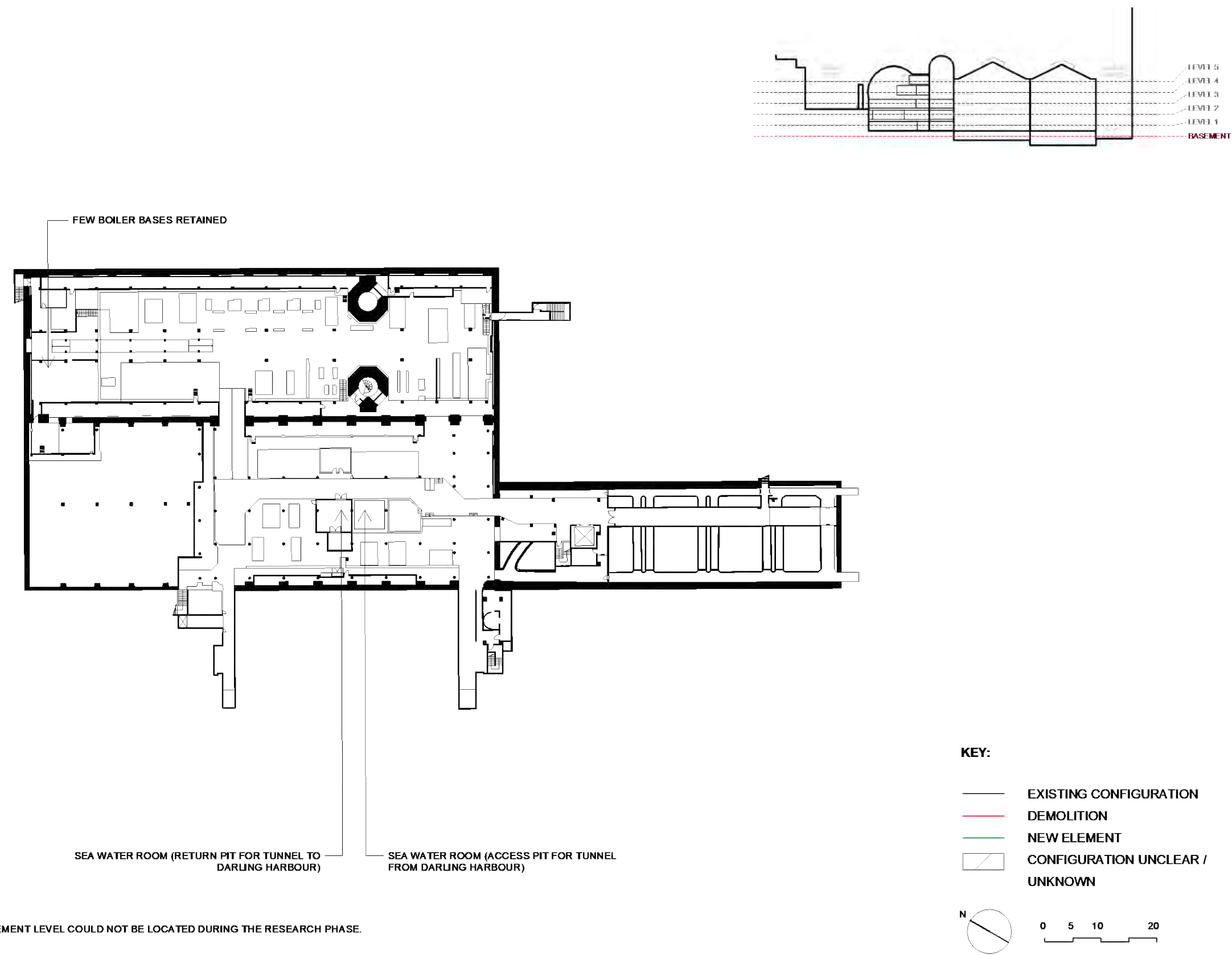


Figure 2: Stage II Powerhouse Museum Evolution Diagram for Basement Level, 2022.



EVOLUTION DIAGRAMS  
LEVEL 1 1988

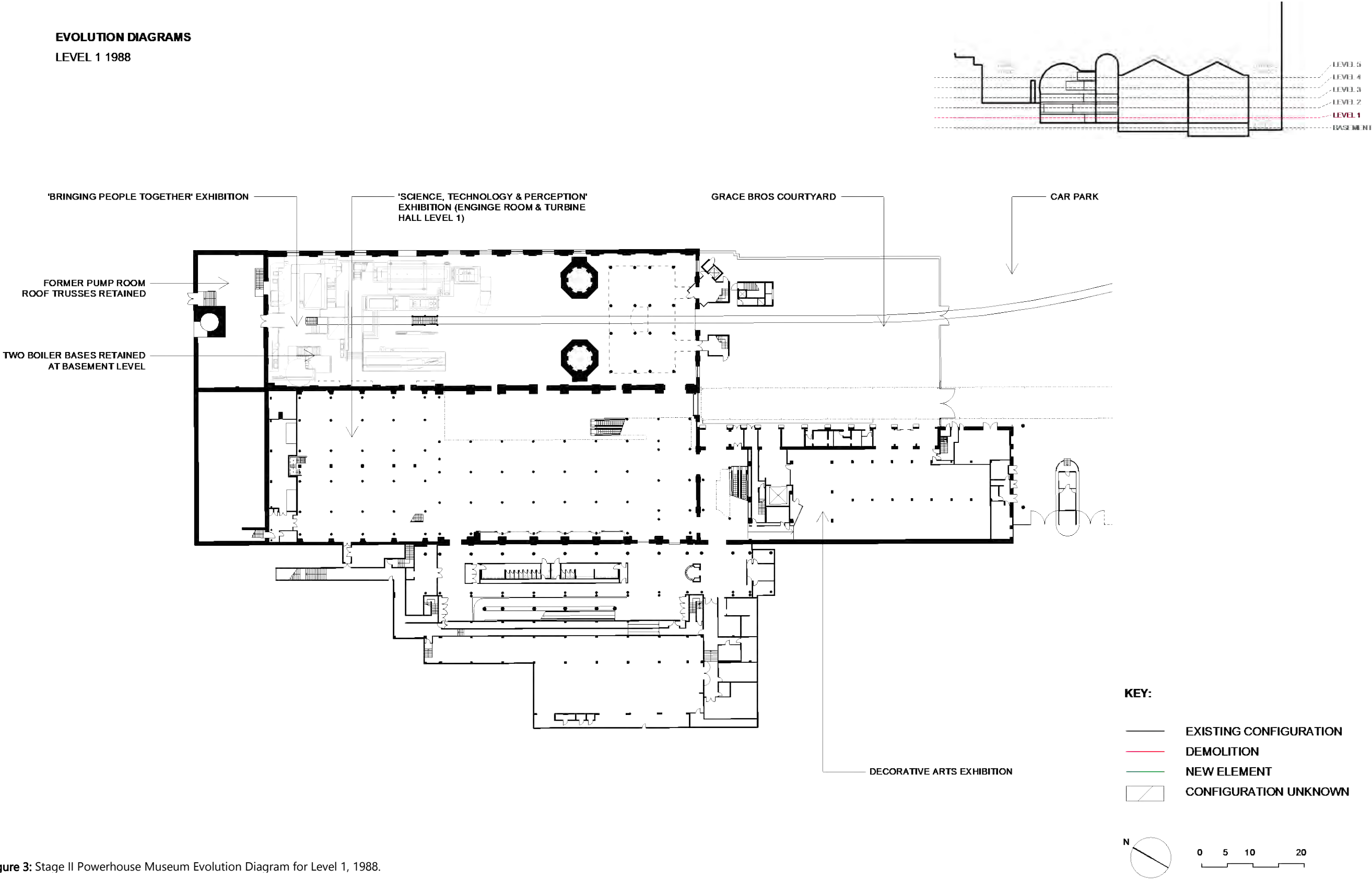


Figure 3: Stage II Powerhouse Museum Evolution Diagram for Level 1, 1988.

EVOLUTION DIAGRAMS  
LEVEL 1 2013

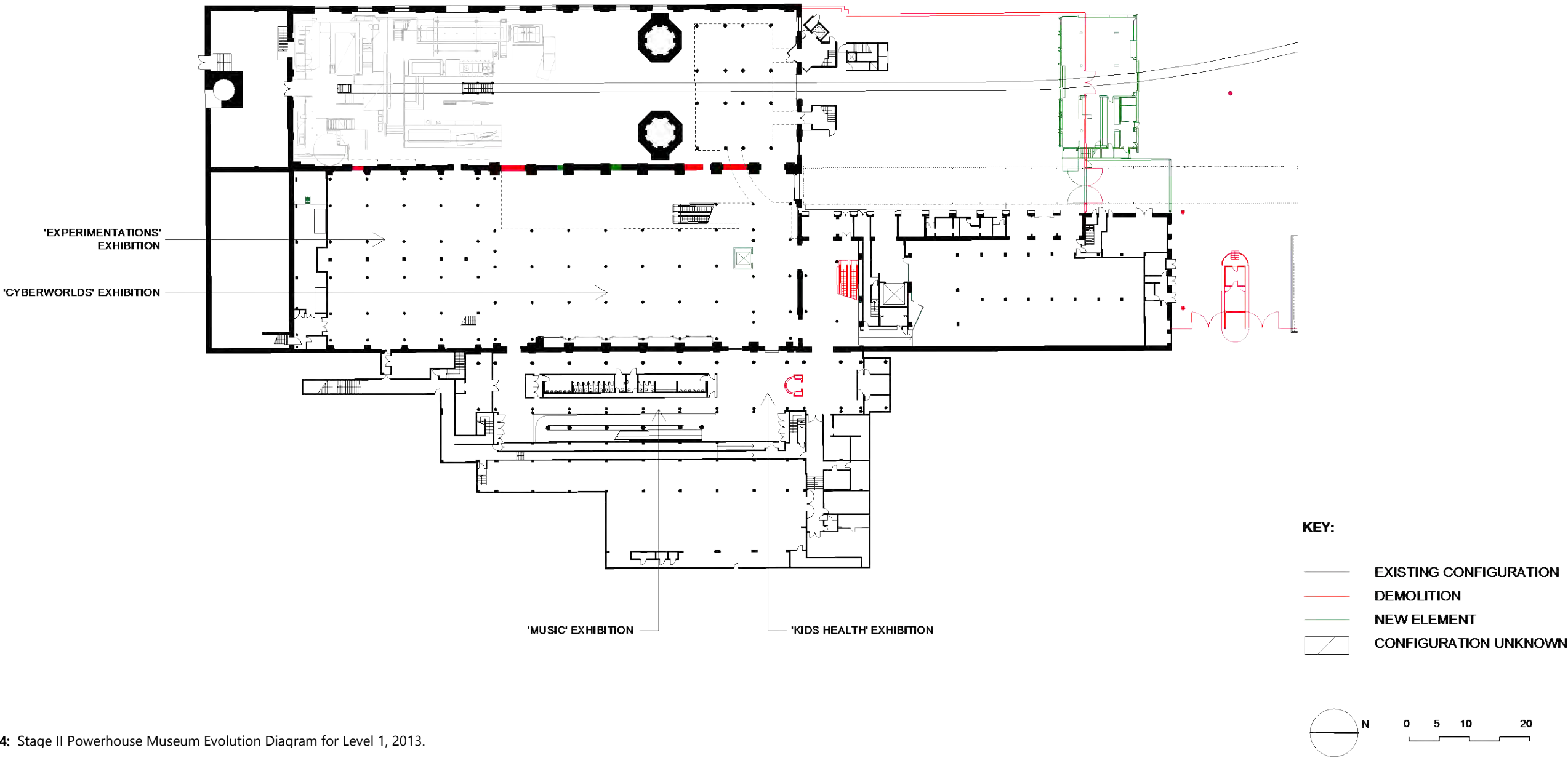


Figure 4: Stage II Powerhouse Museum Evolution Diagram for Level 1, 2013.

EVOLUTION DIAGRAMS  
LEVEL 1 2022

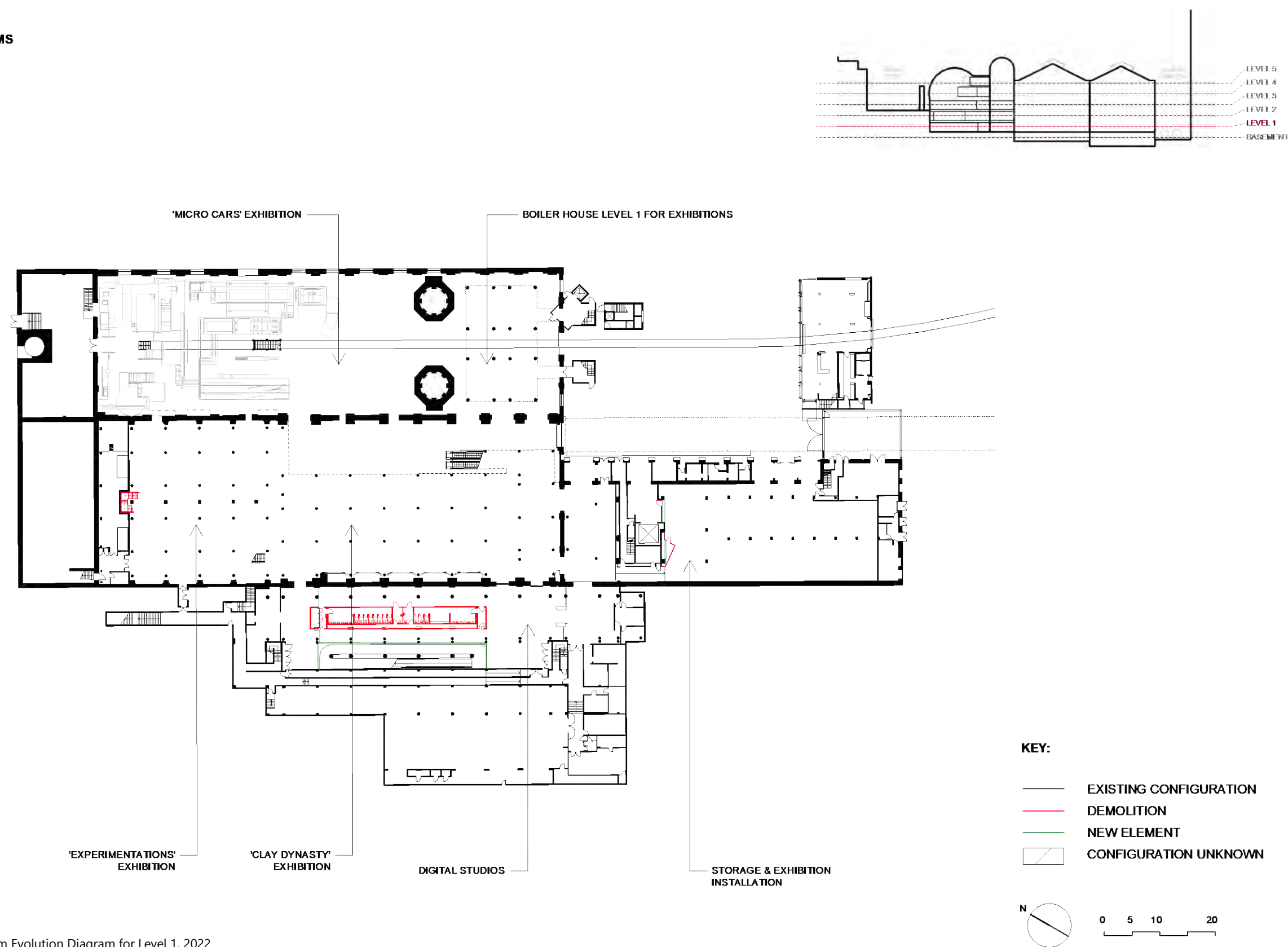


Figure 5: Stage II Powerhouse Museum Evolution Diagram for Level 1, 2022.



EVOLUTION DIAGRAMS  
LEVEL 2 1988

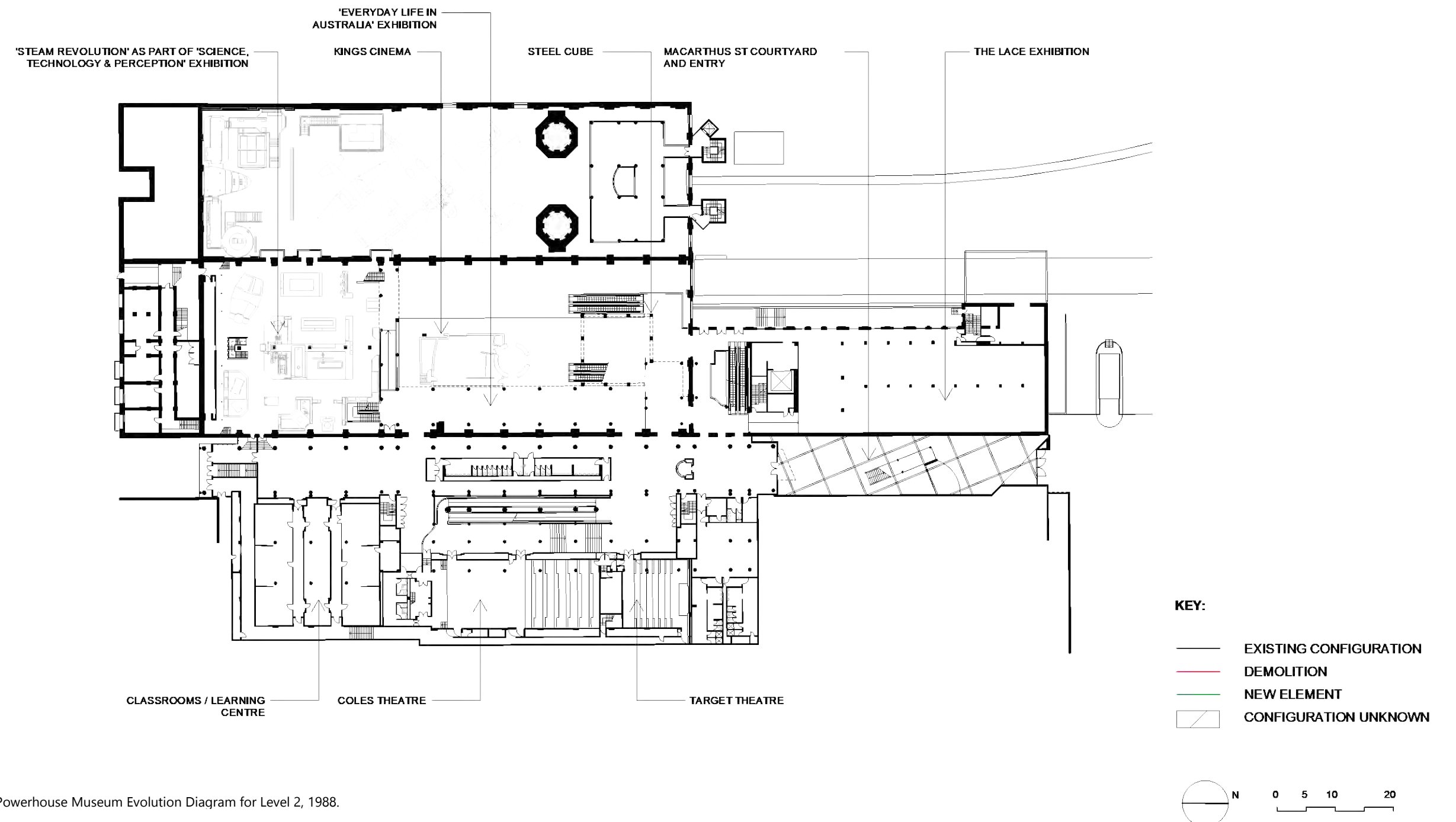


Figure 6: Stage II Powerhouse Museum Evolution Diagram for Level 2, 1988.

EVOLUTION DIAGRAMS  
LEVEL 2 2013

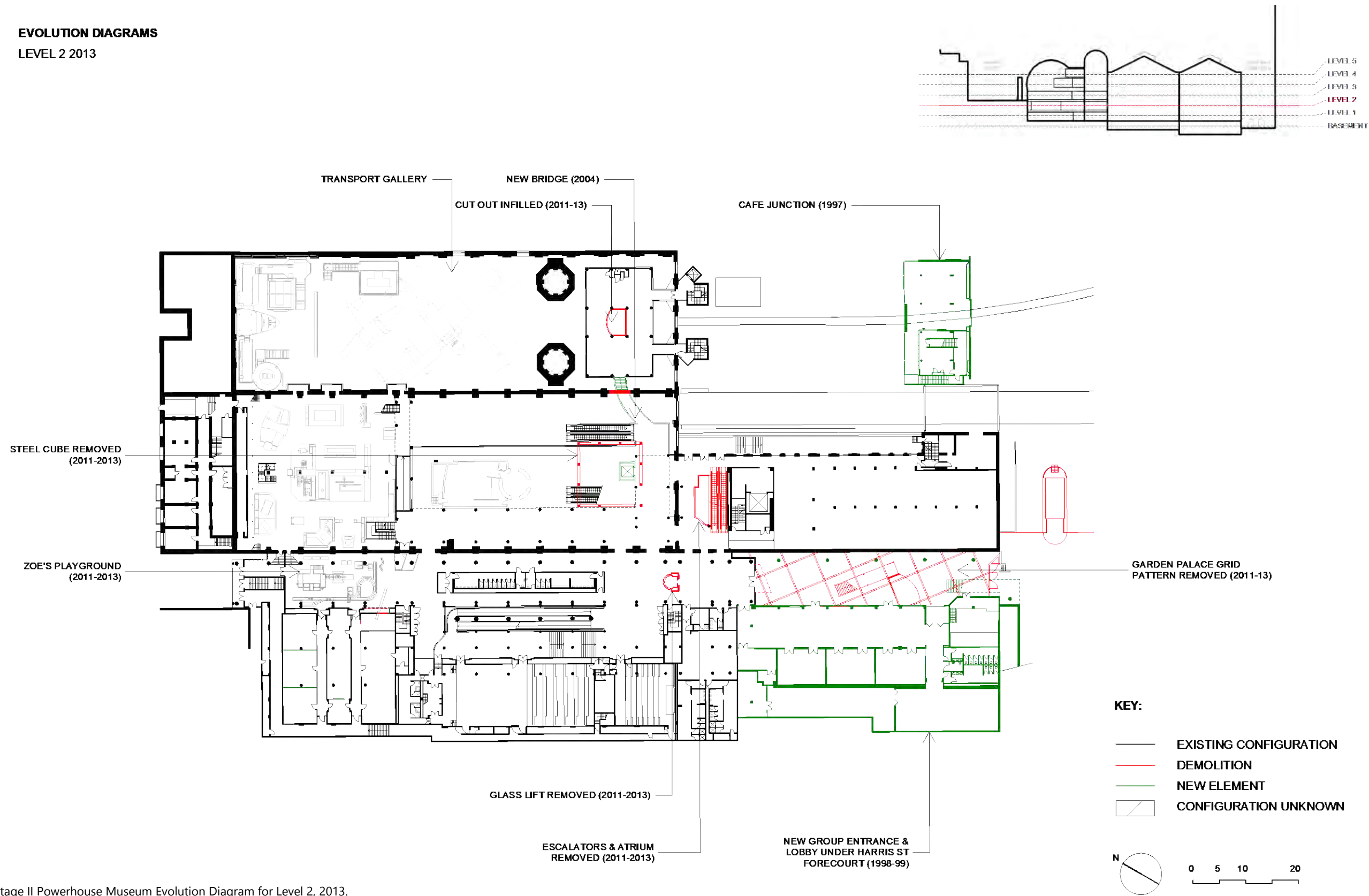


Figure 7: Stage II Powerhouse Museum Evolution Diagram for Level 2, 2013.

EVOLUTION DIAGRAMS  
LEVEL 2 2022

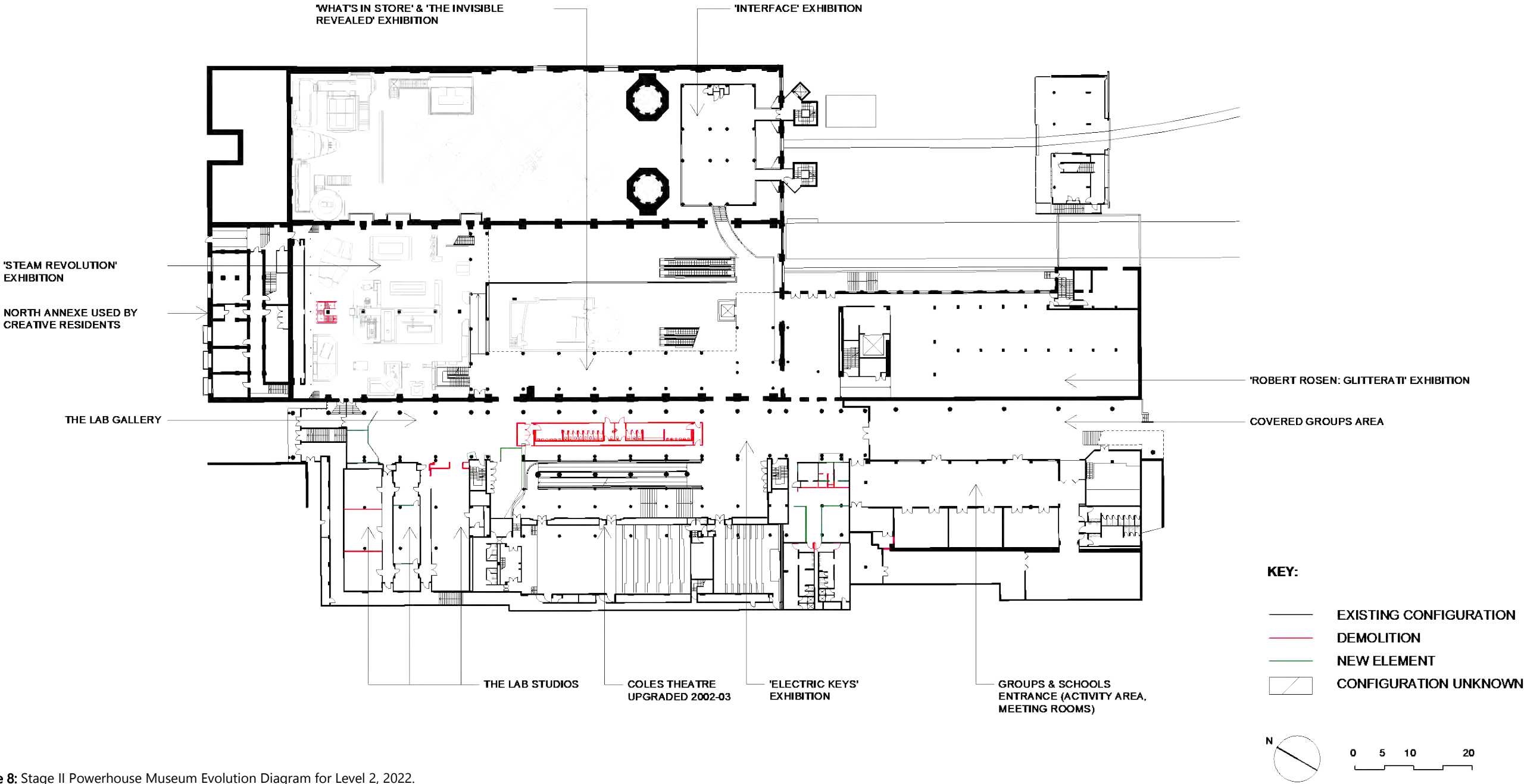
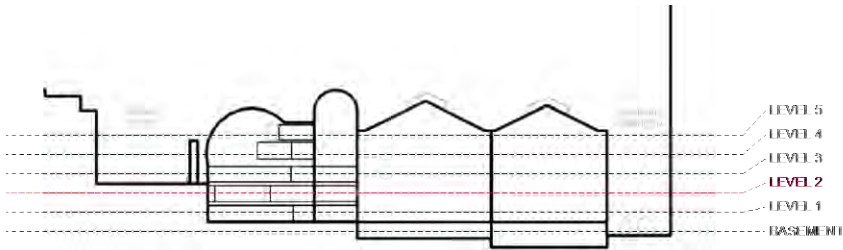


Figure 8: Stage II Powerhouse Museum Evolution Diagram for Level 2, 2022.



# EVOLUTION DIAGRAMS

LEVEL 3 1988

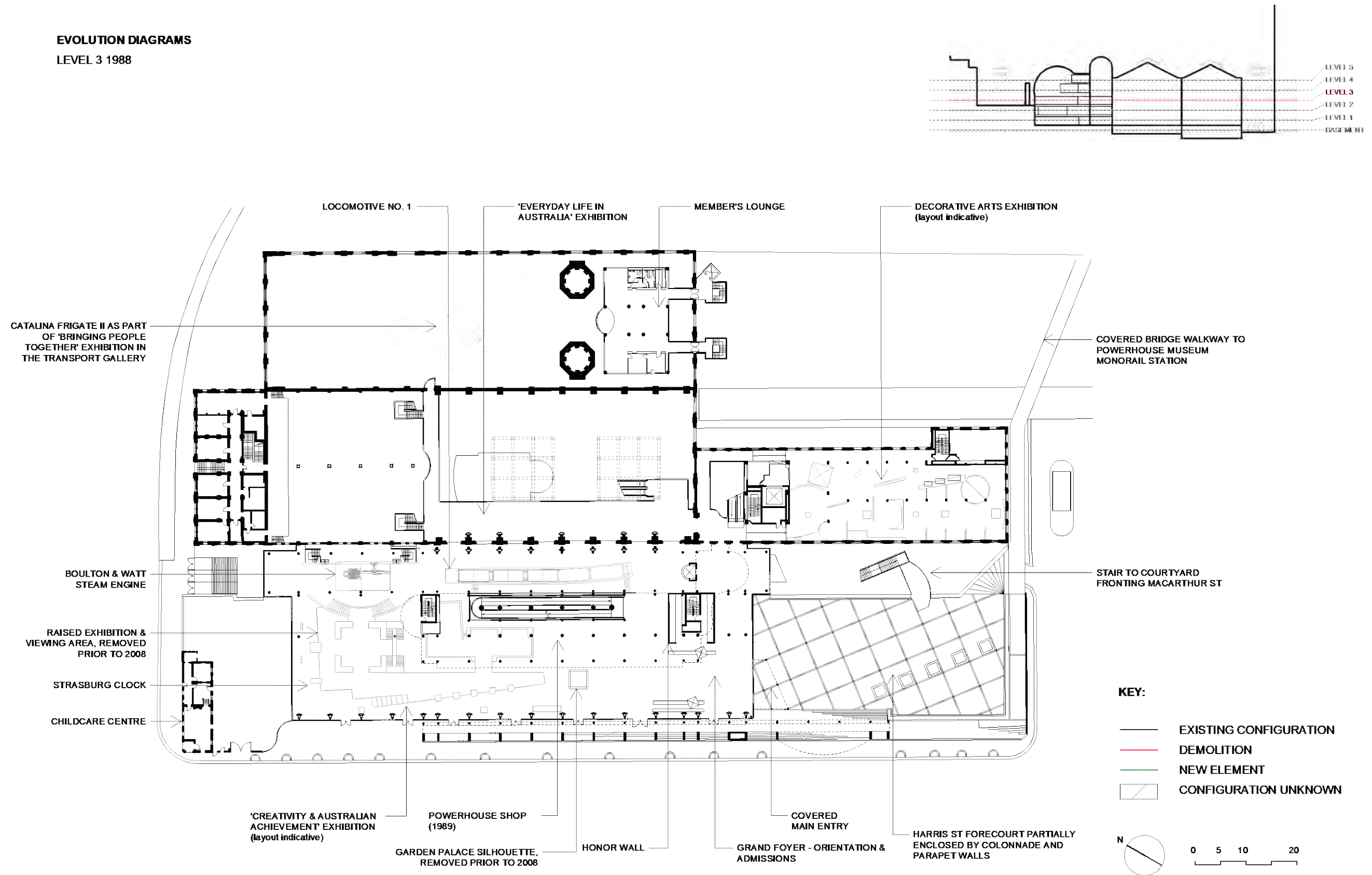


Figure 9: Stage II Powerhouse Museum Evolution Diagram for Level 3, 1988.

EVOLUTION DIAGRAMS  
LEVEL 3 2013

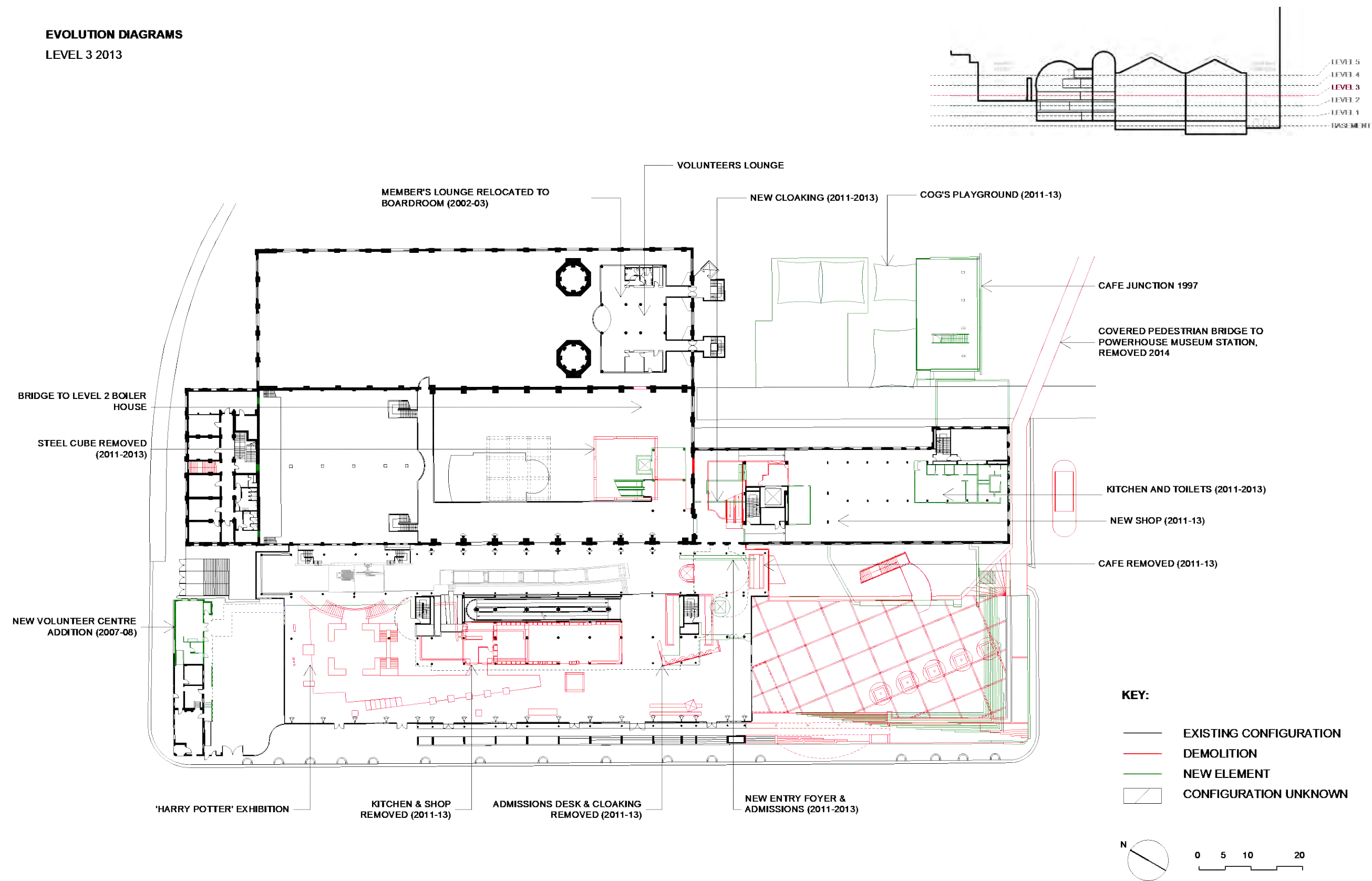


Figure 10: Stage II Powerhouse Museum Evolution Diagram for Level 3, 2013.

EVOLUTION DIAGRAMS  
LEVEL 3 2022

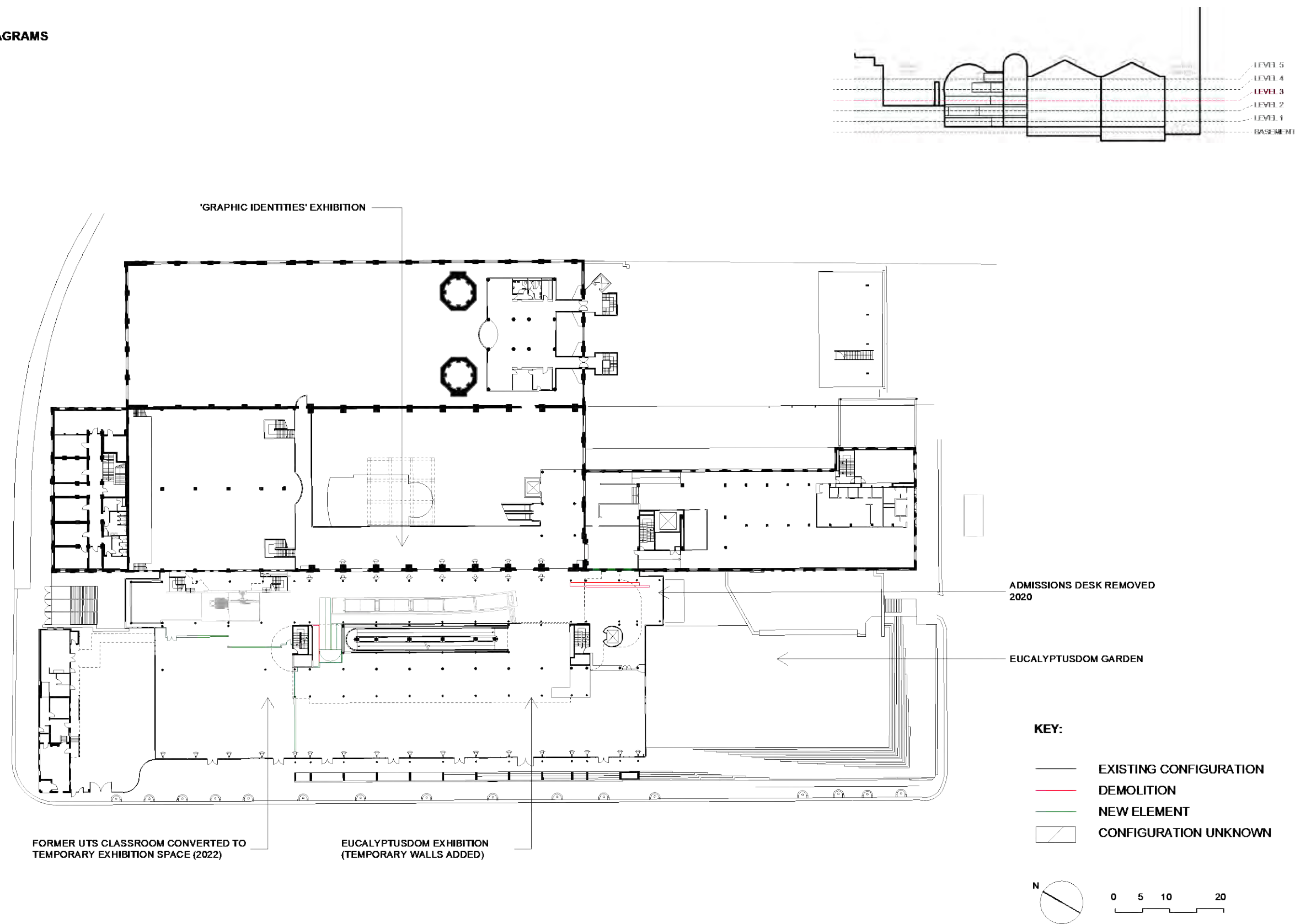


Figure 11: Stage II Powerhouse Museum Evolution Diagram for Level 3, 2022.



EVOLUTION DIAGRAMS  
LEVEL 4 1988

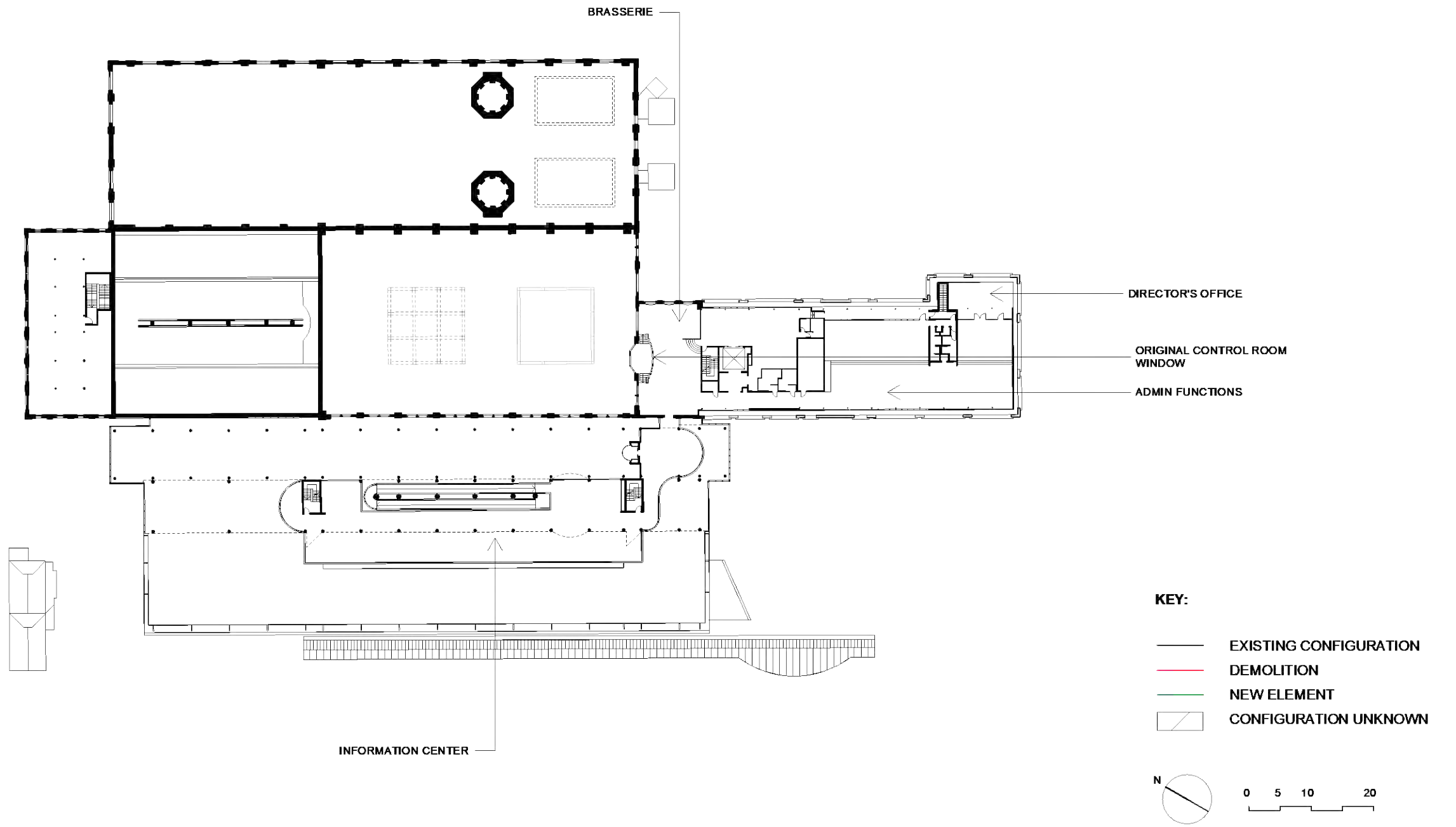


Figure 12: Stage II Powerhouse Museum Evolution Diagram for Level 4, 2018.

EVOLUTION DIAGRAMS  
LEVEL 4 2013

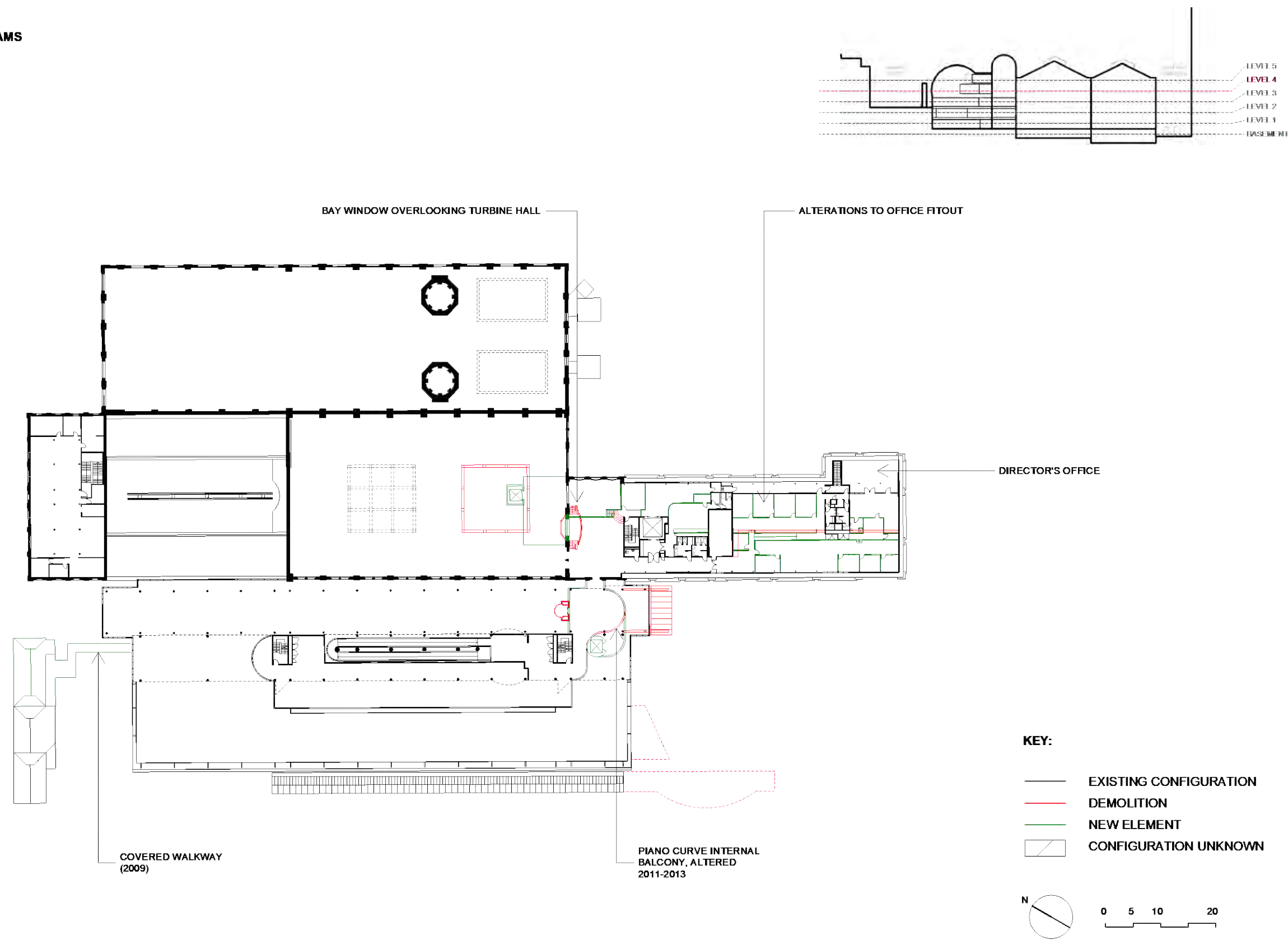


Figure 13: Stage II Powerhouse Museum Evolution Diagram for Level 4, 2013.

EVOLUTION DIAGRAMS  
LEVEL 4 2022

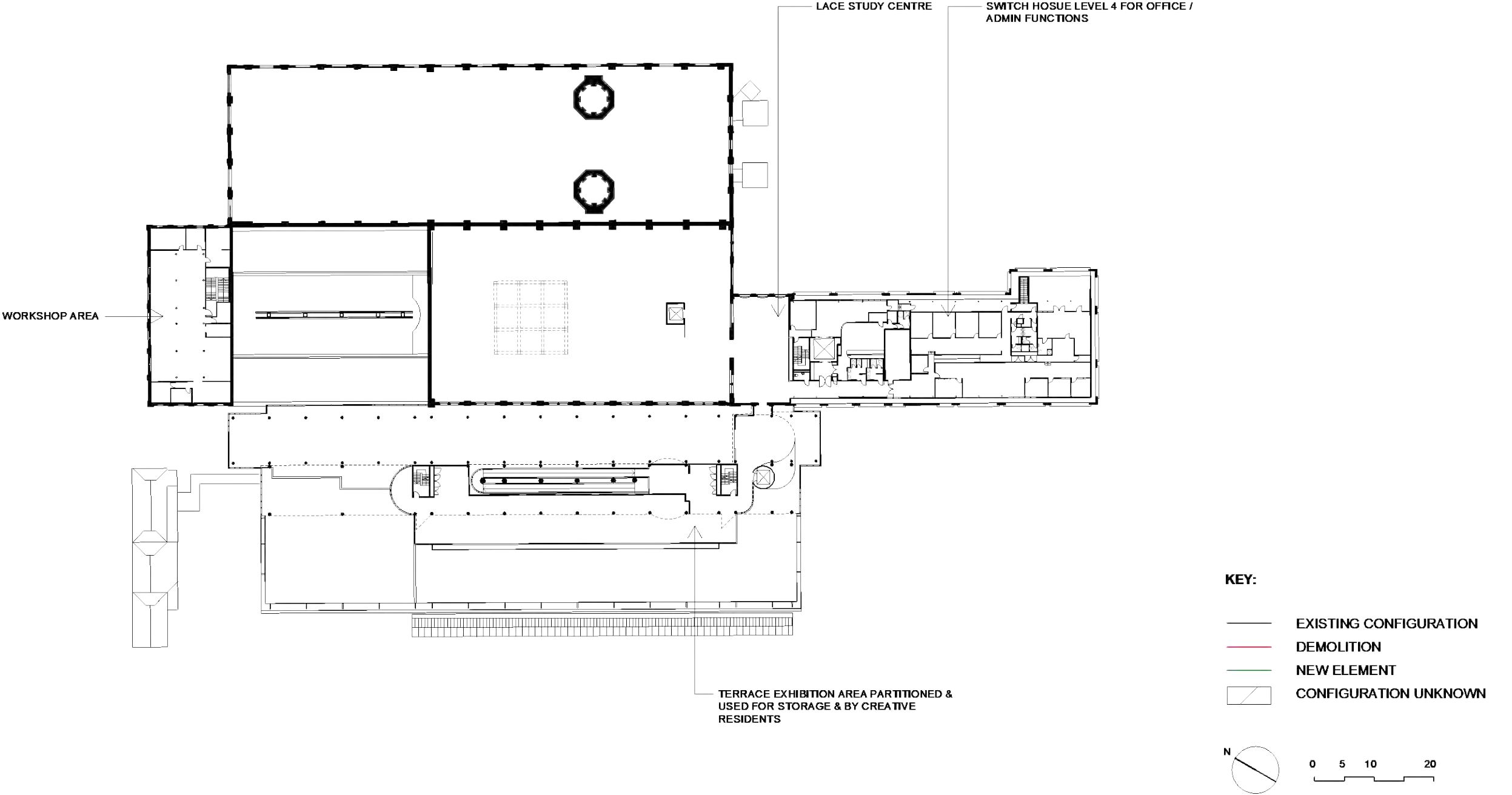


Figure 14: Stage II Powerhouse Museum Evolution Diagram for Level 4, 2022.



EVOLUTION DIAGRAMS  
LEVEL 5 1988

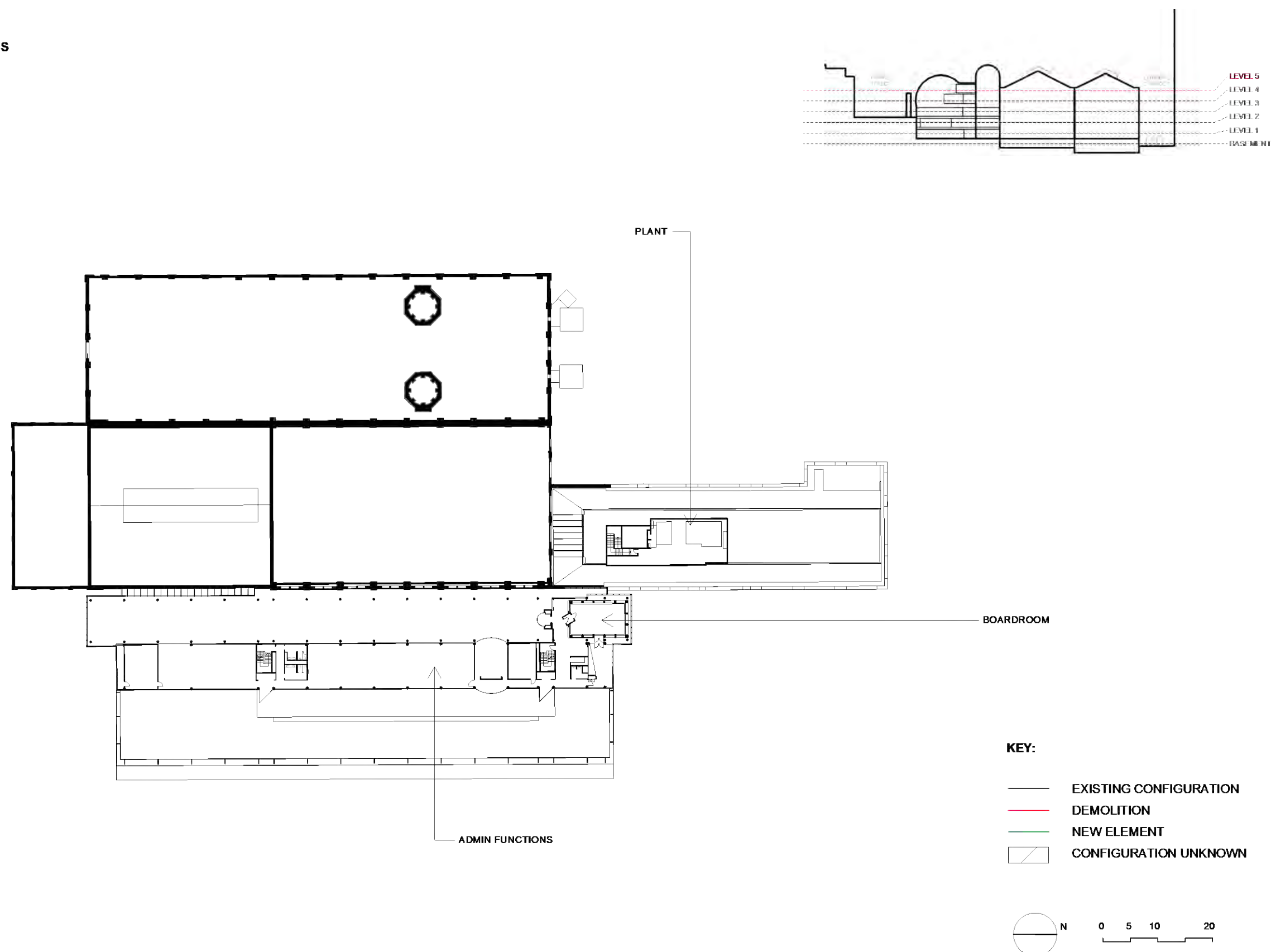


Figure 15: Stage II Powerhouse Museum Evolution Diagram for Level 5, 1988.

EVOLUTION DIAGRAMS  
LEVEL 5 2013

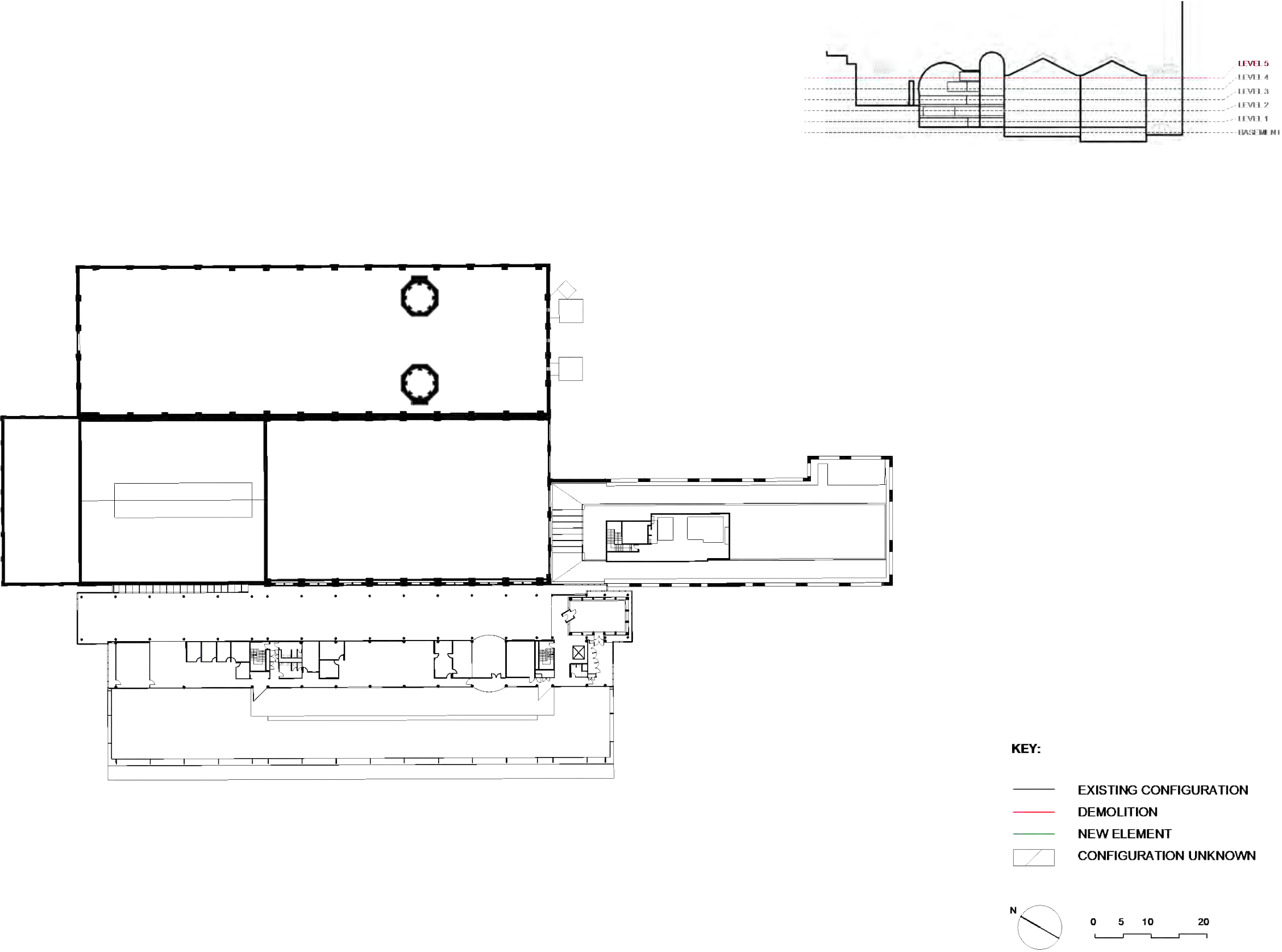


Figure 16: Stage II Powerhouse Museum Evolution Diagram for Level 5, 2013.

EVOLUTION DIAGRAMS  
LEVEL 5 2022

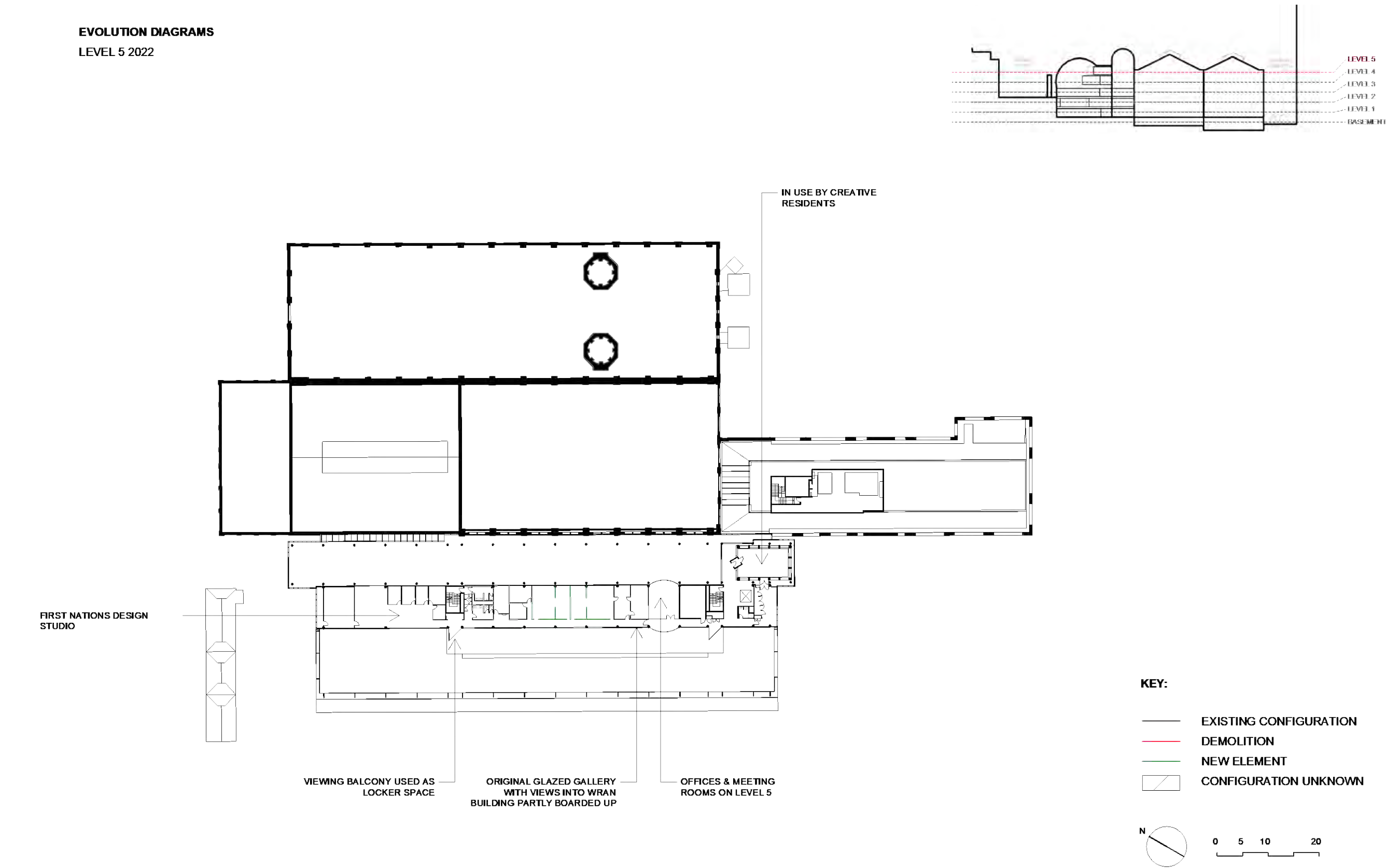


Figure 17: Stage II Powerhouse Museum Evolution Diagram for Level 5, 2022.



EVOLUTION DIAGRAMS  
HARWOOD BUILDING BASEMENT 1981

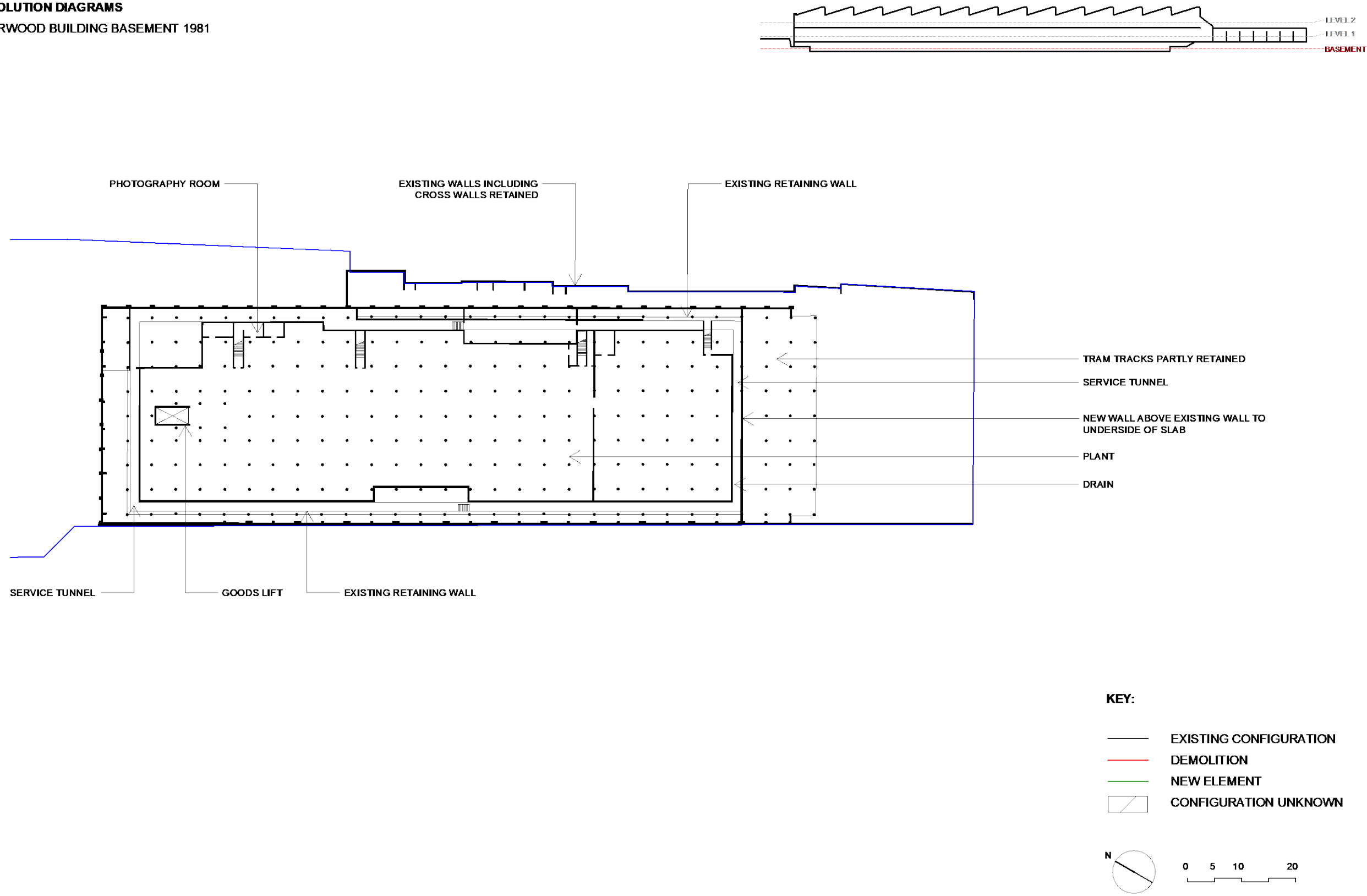


Figure 18: Stage I Powerhouse Museum Evolution Diagram for Basement Level, 1981.

EVOLUTION DIAGRAMS  
HARWOOD BUILDING LEVEL 1 1981

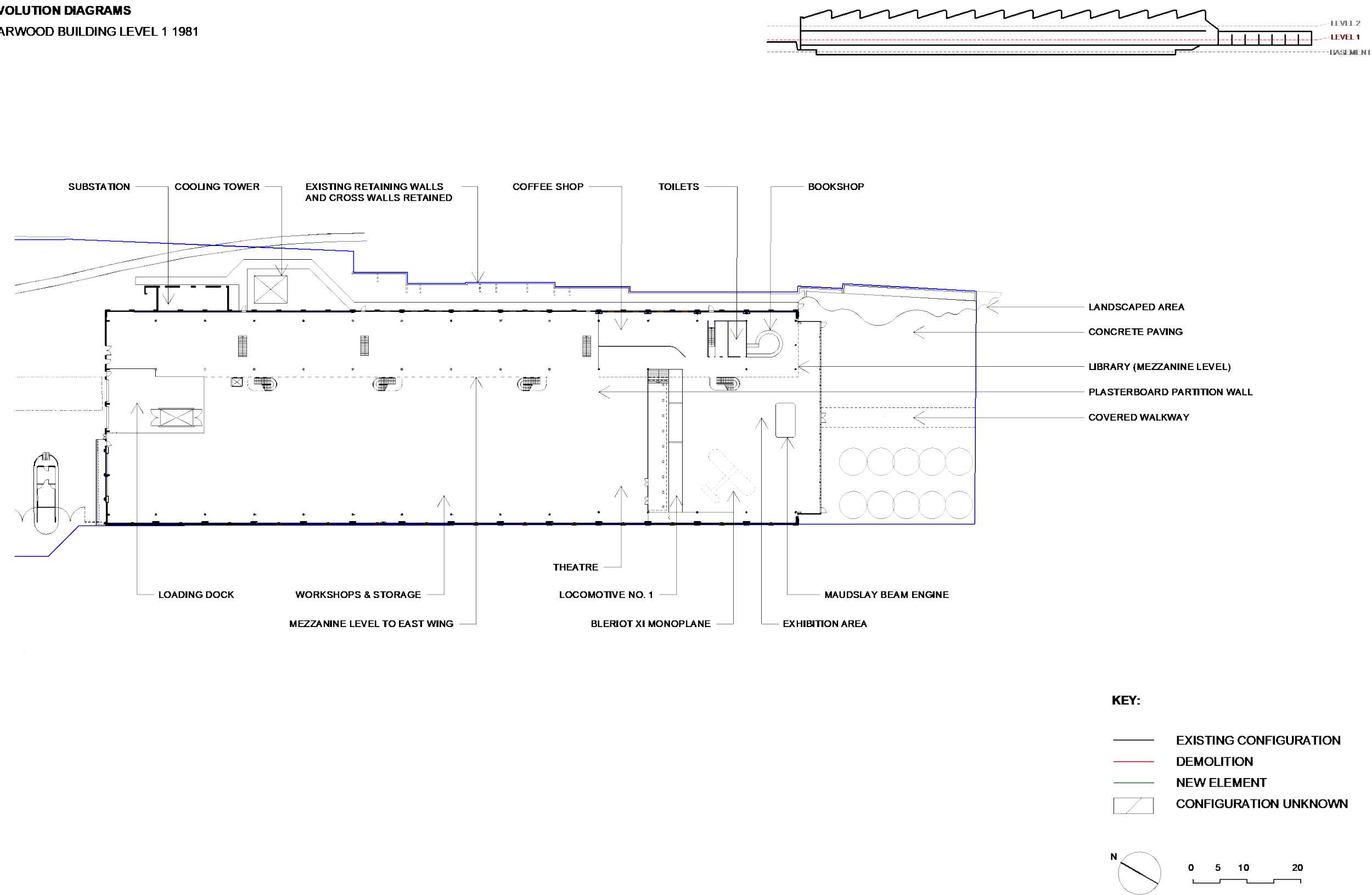
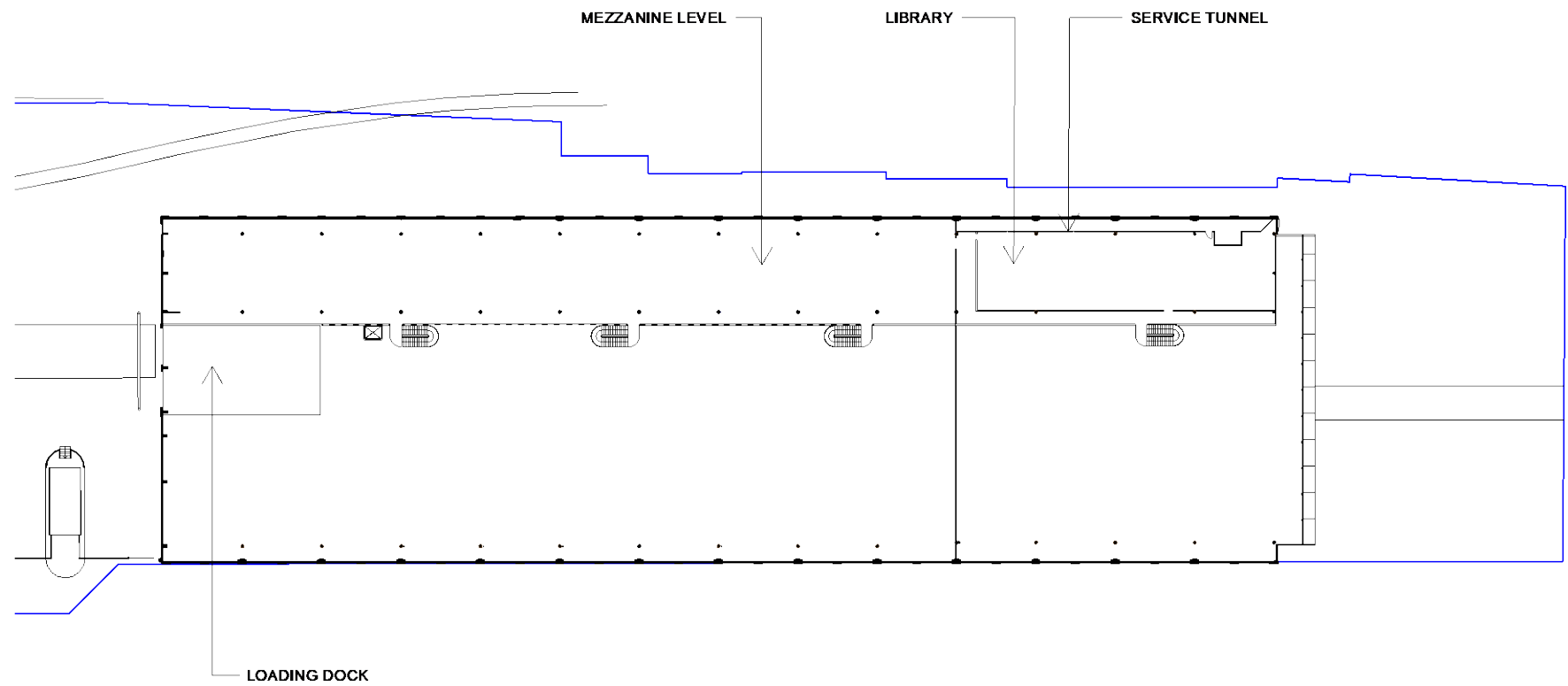
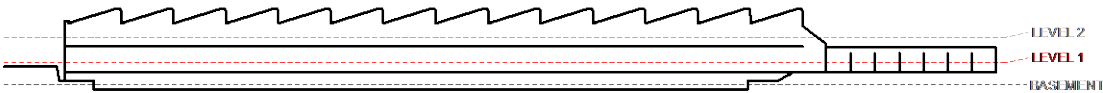


Figure 19: Stage I Powerhouse Museum Evolution Diagram for Level 1, 1988.

EVOLUTION DIAGRAMS  
HARWOOD BUILDING LEVEL 2 1981



**KEY:**

- EXISTING CONFIGURATION
- DEMOLITION
- NEW ELEMENT
- CONFIGURATION UNKNOWN

N

0 5 10 20

Figure 20: Stage I Powerhouse Museum Evolution Diagram for Level 2, 1988.



EVOLUTION DIAGRAMS  
HARWOOD BUILDING LEVEL 1 1995

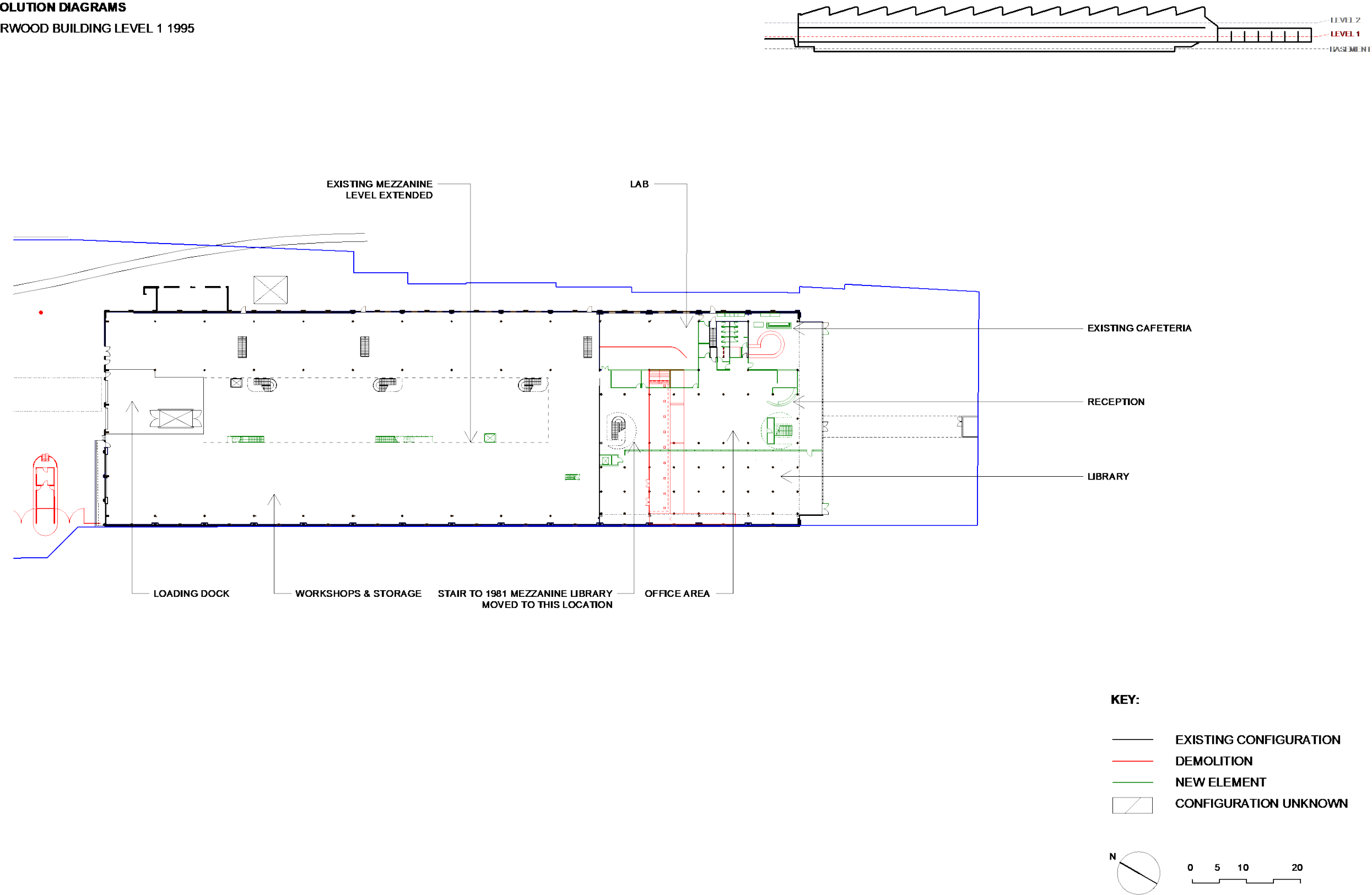


Figure 21: Stage I Powerhouse Museum Evolution Diagram for Level 1, 1995.

EVOLUTION DIAGRAMS  
HARWOOD BUILDING LEVEL 2 1995

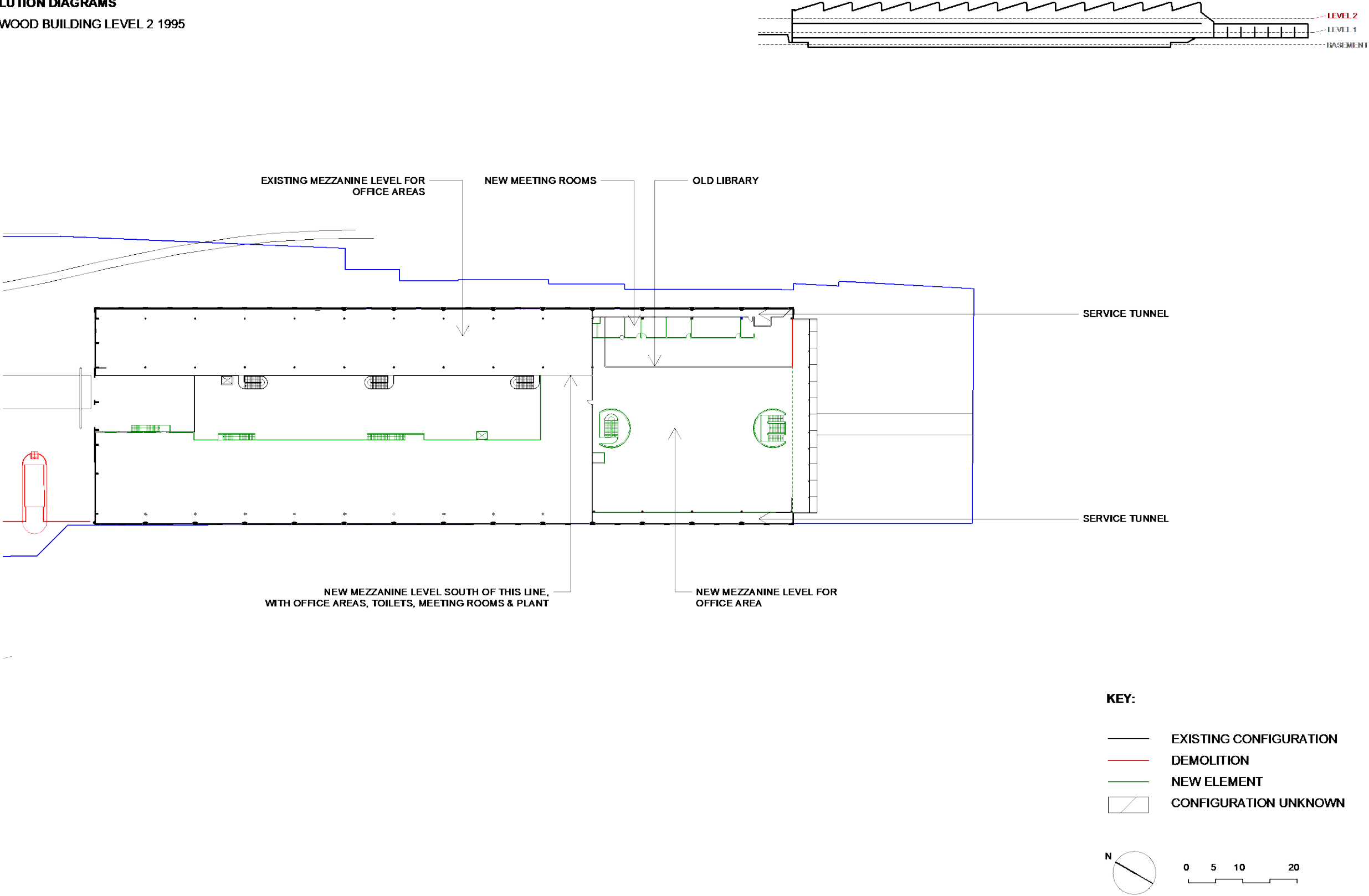


Figure 22: Stage I Powerhouse Museum Evolution Diagram for Level 2, 1995.

EVOLUTION DIAGRAMS  
HARWOOD BUILDING BASEMENT 2022

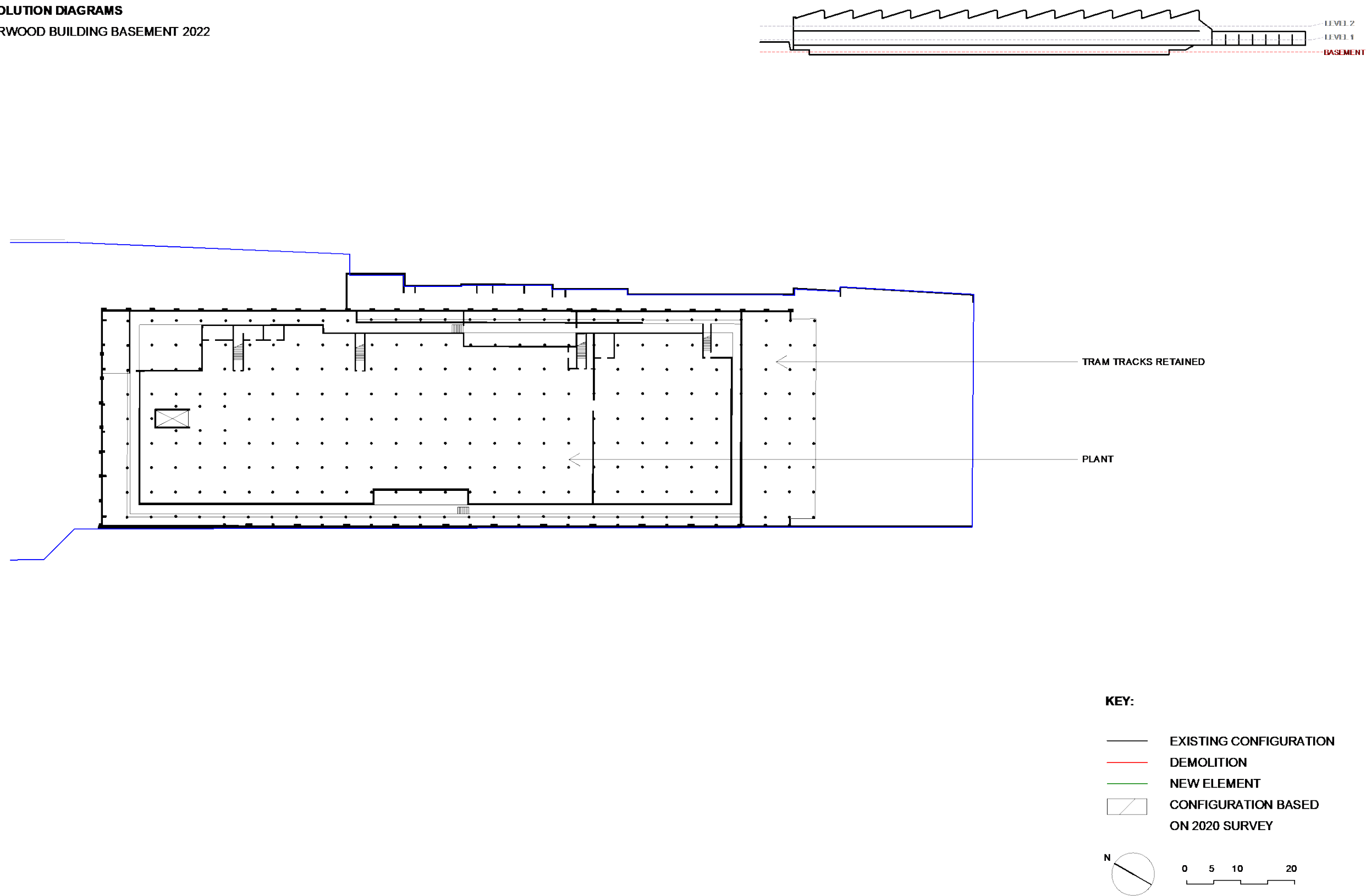
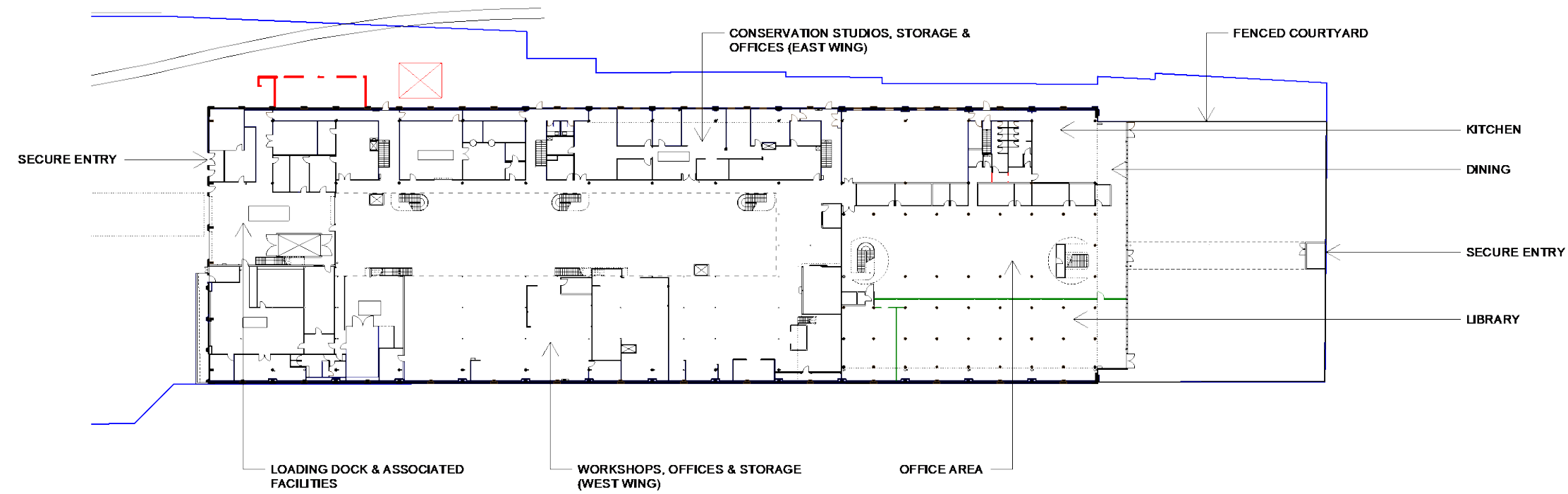
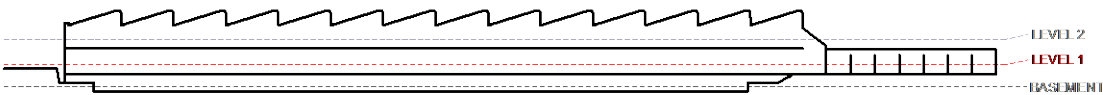


Figure 23: Stage I Powerhouse Museum Evolution Diagram for Basement Level, 2022.



EVOLUTION DIAGRAMS  
HARWOOD BUILDING LEVEL 1 2022



**KEY:**

- EXISTING CONFIGURATION
- DEMOLITION
- NEW ELEMENT
- CONFIGURATION BASED ON 2016 SURVEY

N

0 5 10 20

Figure 24: Stage I Powerhouse Museum Evolution Diagram for Level 1, 2022.

EVOLUTION DIAGRAMS  
HARWOOD BUILDING LEVEL 2 2022

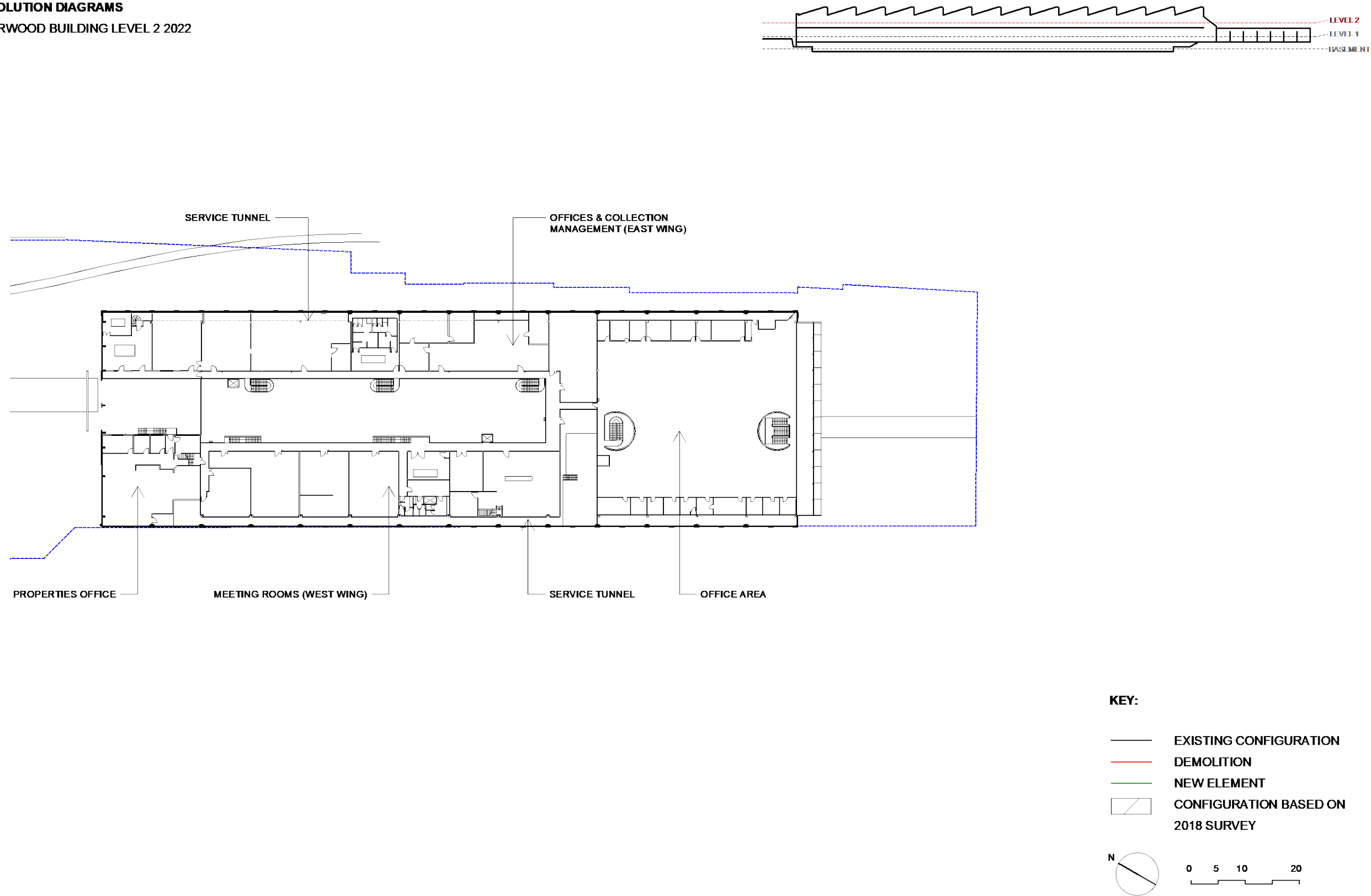


Figure 25: Stage I Powerhouse Museum Evolution Diagram for Level 2, 2022.

# APPENDIX E

Powerhouse Museum  
Design Principles (Draft),  
Design 5 Architects



# POWERHOUSE MUSEUM

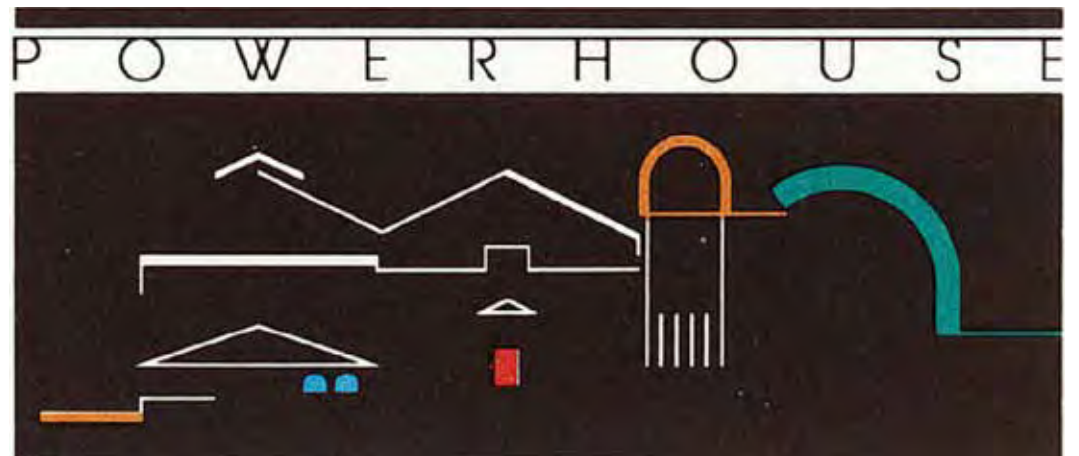
## DESIGN PRINCIPLES

LIONEL GLENDENNING | ARCHITECTURE

RICHARD JOHNSON | EXHIBITION DESIGN

DRAFT | 13 OCTOBER

2021 | ULTIMO | SYDNEY







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- 03 DESIGN PRINCIPLES I 1988
  - ORIGINS: HISTORICAL UNDERPINNINGS
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# INTRODUCTION

“Over 30 years and more than 20 million visitors, the Powerhouse Museum in Ultimo has become an outstanding cultural institution of state significance with a national and international profile.

Since the Museum’s 1st move to Ultimo in 1893, the Museum has been at the core of a sequence of changes - all strengthening the energy and identity of this Ultimo locale - ABC, Central Park, the Goods Line, Darling Harbour, Darling Park, UTS, Chippendale, Redfern, USyd, Notre Dame, Sydney TAFE and the expansion of start-ups, galleries and studios.

The Pyrmont Peninsula Place Strategy confirms Harris Street as the key frame for the development of Pyrmont Ultimo. As an instrument of public record and display, the Powerhouse has a pivotal role in supporting, recording, presenting and fostering connections in this creative space.”<sup>1</sup>

As part of the Powerhouse Ultimo Renewal, the NSW Government aims to retain and regenerate the Powerhouse Ultimo.<sup>2</sup> The Museum of Applied Arts & Sciences informs the reimagining of the Museum with two significant objectives.

To facilitate the ongoing maintenance, conservation and refurbishment of the Museum, its architecture, and its collections, exhibitions.<sup>2</sup>

To safeguard the original design integrity of the Museum through the documentation of the history, vision and design intent for the 1988 Museum.<sup>1</sup>

The history, vision and design intent are articulated in a set of Design Principles that act as a reference for the conservation of the building and its evolving role in Pyrmont Ultimo. The principles play a critical role in guiding the Conservation Management Plan which sets out how this vision can be retained into the future.

This document is structured into four parts;

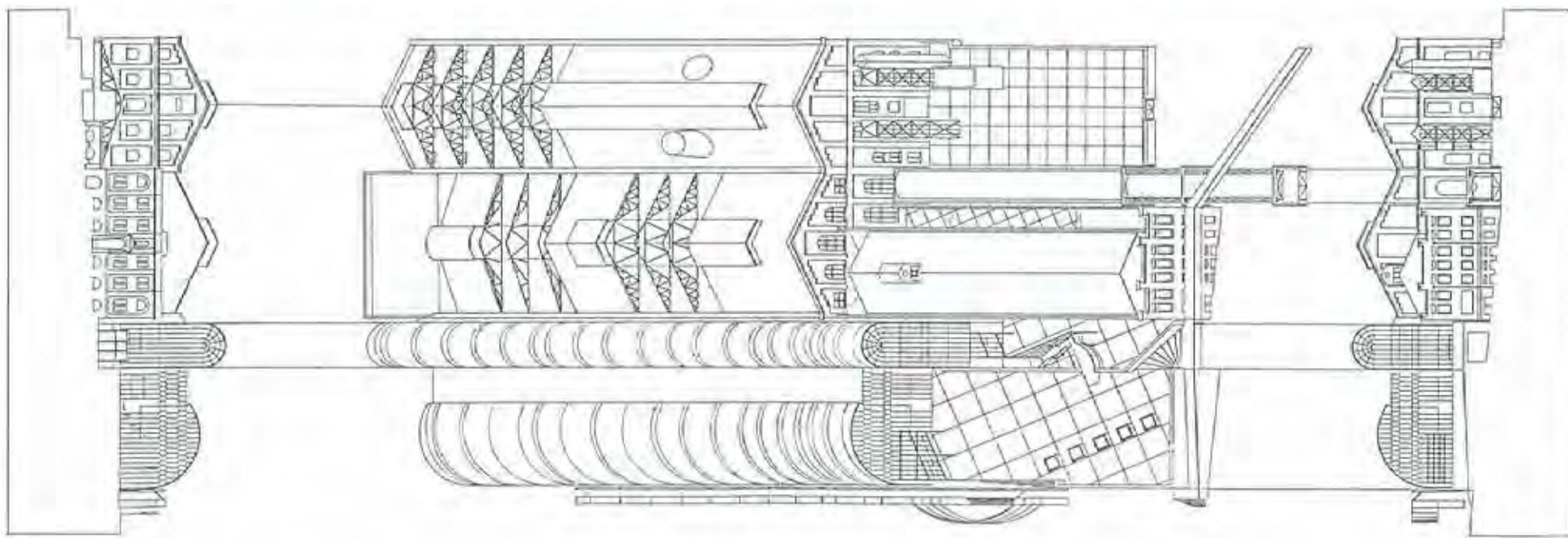
**Part I** - contains the objectives for the Design Principles accompanied by a brief history of the Museum.

**Part II** - contains Colin Wood’s 1988 discussion with Lionel Glendenning and Richard Johnson describing the vision for the 1988 design and the accompanying exhibitions.<sup>3</sup>

**Part III** - lists the fundamental principles underlying the designs.

**Part IV** - outlines the approach to the future of Powerhouse Museum and Powerhouse Precinct.

The Principles are based on writings by Lionel Glendenning and Richard Johnson, and on their recent conversations and site walk with Design 5 - Architects.



1 | Powerhouse Museum Axonometric Plan.



## THE OBJECTIVES

The Design Principles have the following objectives:

- a) Outline and explain the 1988 vision for the building as Lionel Glendenning and Richard Johnson envisioned it, and identify the value of achievement in cultural heritage conservation, architecture, adaptive re-use, innovation and exhibition design.
- b) Inform the Conservation Management Plan (CMP), a separate document, with a clear understanding of the original design intent for the museum. These Principles set out why the museum was designed as it was, and the CMP sets out how these principles can be retained and respected into the future.
- c) In conjunction with the CMP, act as a reference that informs future proposals for thoughtful modification and change to the Museum's architecture and exhibition design, in order to present and preserve the significance of Museum and the Museum precinct in Ultimo.
- d) Inform a mutually advantageous relationship between architecture and future exhibitors. A synergistic dialogue between the two should aim to maintain and enhance the architecture, the exhibitions and people's experience of the two.

The following quotations by Lionel Glendenning and Richard Johnson capture their original vision for Powerhouse Museum, and ideas on its future. The principles act as a means to encourage exploration in any future changes to architecture and the exhibitions.

### Lionel Glendenning

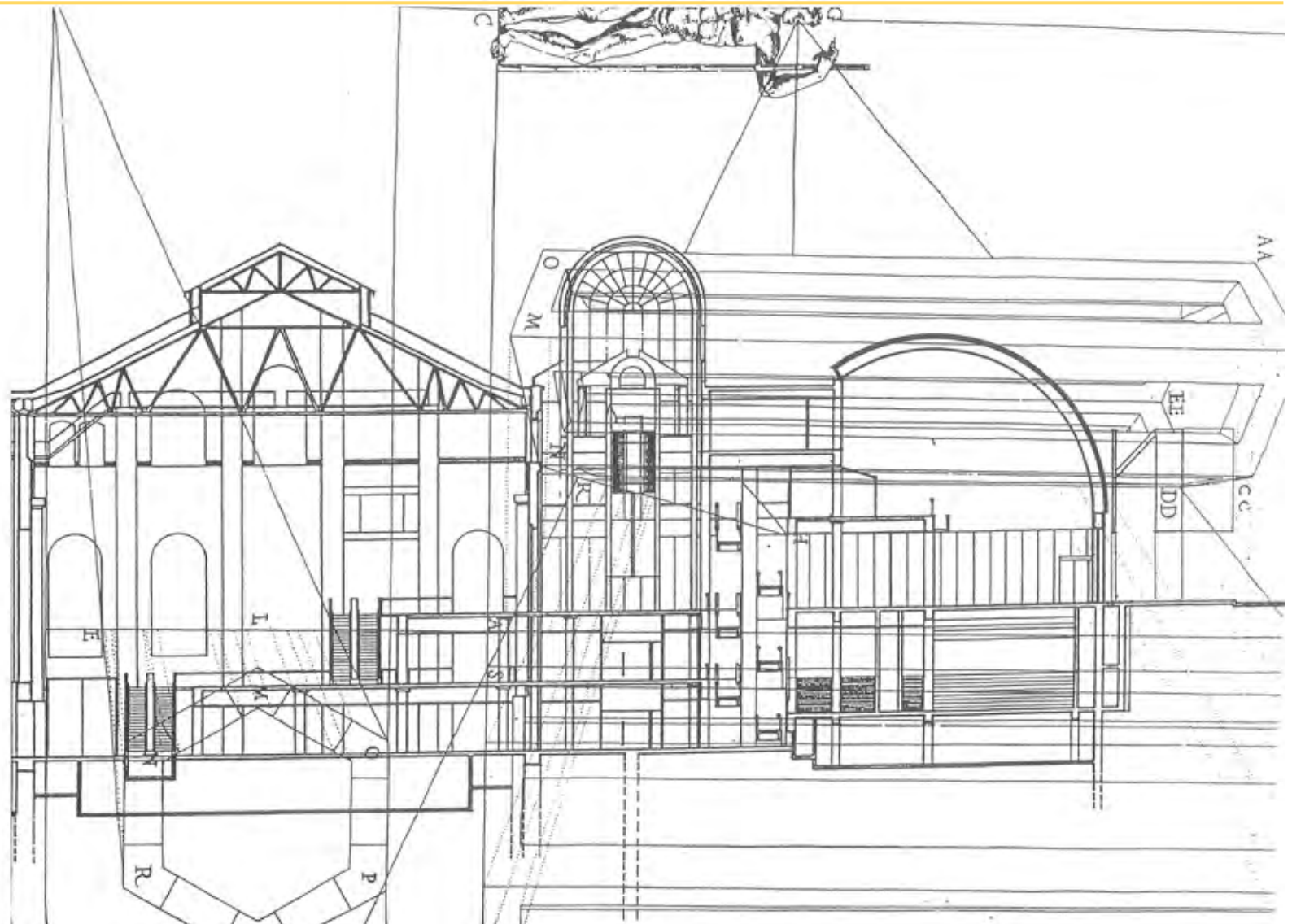
*"Buildings like this should live well beyond today, extending into the future the principles that we had put in place in early concepts developed in the great successes of 1988. Hopefully many of the principles are flexible enough to allow their growth and expansion into the future, with an awareness that certain elements are critically important, while others defined in this document have a range of possible development opportunities."*<sup>1</sup>

*"We should see this document as a document that stabilises that position and makes an emphatic statement that the Museum is fundamental to understanding how the profession of architecture, museology, anybody who ever wants to think about how we go about making our world, as an example of how you have to work with what you have as much as your own creativity and societies' issues now and into the future."*<sup>1</sup>

### Richard Johnson

*"One of the things that's probably embedded in all of them is the idea of diversity, it applied to the building, it applied to the exhibitions, it applied to the curatorial ideas, it applied to the story telling, it applied to the exhibition design, it applied to the audience that came. So that created the richness, but it all came out of the collections in the first place."*<sup>2</sup>

*"At the detailed design level what it was trying to do was to add to and be part of the total Museum experience. I call it 'Design as a Continuum,' that there was a continuum of thought historically, there was a continuum in the collection upto the contemporary times, there was a continuum of curatorial thought and there was a continuum of design."*<sup>2</sup>



2.1 Concept section through Turbine Hall by Lionel Glendenning.

## A BRIEF HISTORY

“The Powerhouse Museum was a 100 year Bicentennial investment in a core Sydney cultural institution, that in a radial city is accessible to all in New South Wales as well as Australian and international visitors. Adjacent to the CBD, in Darling Harbour, the genesis of the ‘creative precinct’ of the early development of Pyrmont, Ultimo, Eveleigh – a 5 min walk or tram ride from Central Station and buses in Broadway, on the city bus shuttle stops, and 8 km from the major domestic and international airports.”<sup>1</sup>

“The original Powerhouse Museum collection was acquired from the exhibits in the Sydney International Exhibition of 1879, held in the purpose-built Garden Palace in the Botanic Gardens founded in 1880 as the Technological, Industrial and Sanitary Museum. It was established in the Garden Palace after the exhibition closed (as was the Art Gallery of NSW and the Australian Museum). Unfortunately the timber and steel building was destroyed by fire in 1882 and most of the original collection was destroyed. The collection was quickly rebuilt by the

first curator J. H. Maiden and in 1893 the Museum moved into its purpose built home, designed by W. E. Kemp in 1893, on Harris Street in Ultimo as the new Technological Museum. From 123 years ago to the present day the Museum (with the adjacent and integrated college precinct also designed by W. E. Kemp in 1893) has been a significant cultural and educational player in a locale modelled on the museum and education precinct of V&A + Science Museum in South Kensington, London.

In 1896, the Museum opened its first branch museum in Albury, followed by Bathurst, Goulburn, West Maitland, Newcastle and Broken Hill – each attached to a technical college. Eventually all were closed because of lack of funding during the 1980s.

The Museum had become landlocked (with inadequate storage and facilities, and small substandard galleries over 3 levels) with no site adjacent to the Museum. The Museum Trust purchased the derelict Ultimo Tram Depot (opened 1899) for future Transport Museum in 1964.

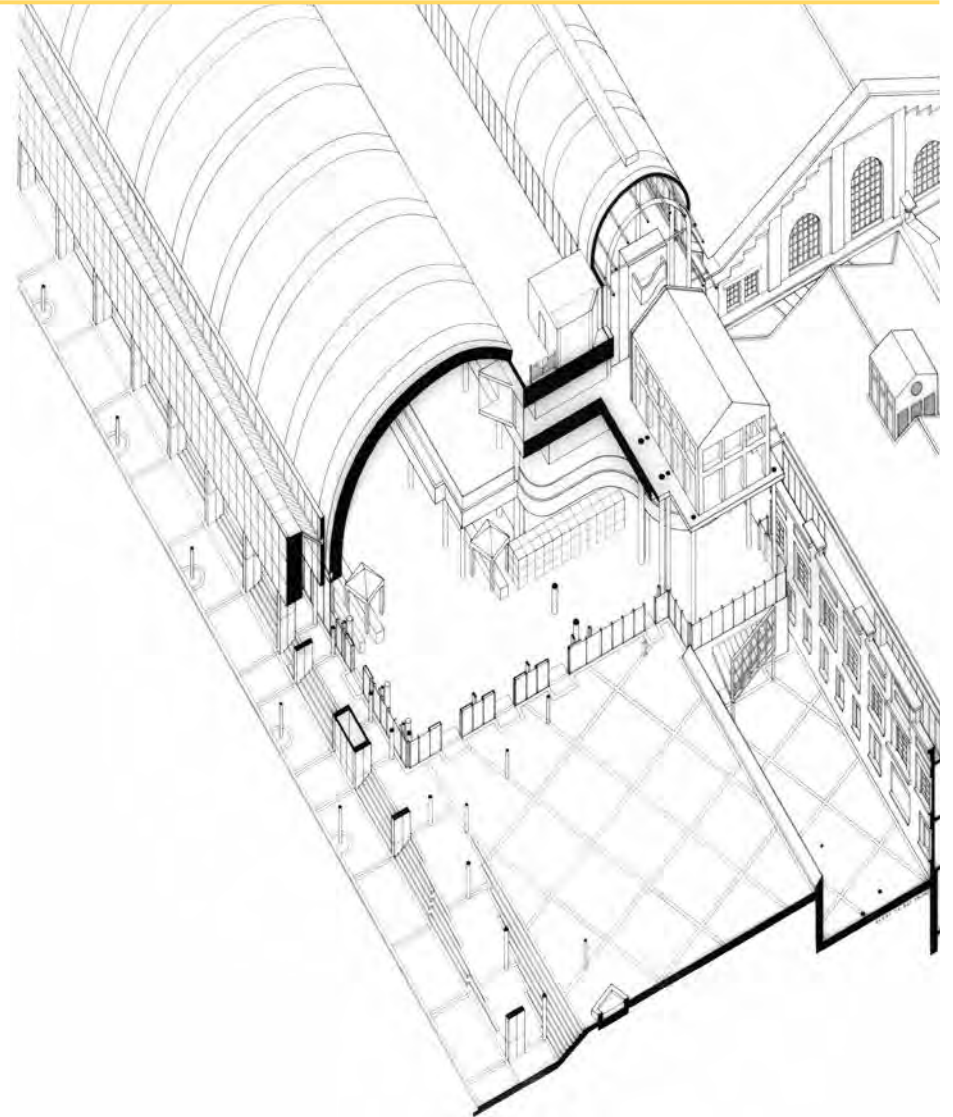
The expanding University of Technology and large Sydney Technical College were dominating development of the adjacent sites. Since the late 1950s, numerous proposals had investigated a range of sites but none were considered suitable till the old Sydney Market site and the decommissioned Ultimo Power House became available.

The Minister for Public Works, Jack Ferguson commissioned a feasibility study with the MAAS to explore options for development of a museum to rival the Centre Pompidou in Paris. These studies resulted over 10 years later in the Powerhouse Museum in the recycled Ultimo Power House that established a new paradigm for museums in Australia, indeed the state of the art access to the collection was vastly enhanced. With the highest museum standards, exhibits that ranged from Australian goldfields jewellery, musical instruments, decorative and applied arts to giant aircraft and locomotives, steaming engines and industrial heritage icons – the 1785 Boulton and Watt steam engine, the Saturn V rocket engine and the Catalina flying boat.



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The multiaward winning Powerhouse Museum became the litmus test for many new museums in Australia and internationally with museum and cultural leaders from the United Kingdom, USSR, China, Europe, Central Asia, Asia and the USA engaging with the Museum through VIP visitors, memoranda of understanding, study programs, staff exchanges, exhibition partnerships and tours, and object loans.”<sup>2</sup>



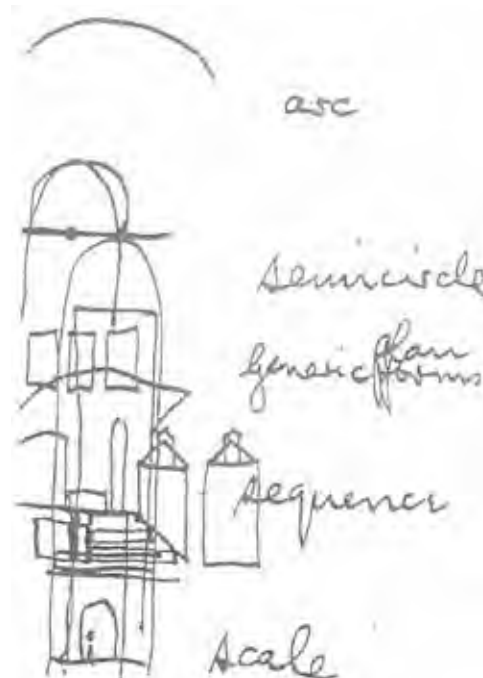
3 | An axonometric of the south west corner.



## THE VISION

The 1978 Feasibility Study for the development of the Powerhouse Museum undertaken by the NSW Government Architects Office, (prepared by Lionel Glendenning with critical support from Norman Harwood, Curator MAAS and reviewed by the MAAS Director Staff as submitted), noted the opportunities and advantages offered by the Ultimo Power Station and Tramway Depot:

*For the purpose of developing a new Science and Technology Museum in the late twentieth-century, the site has outstanding potential. It is historically appropriate, structurally flexible and remarkably cost-effective. What could be more appropriate for such a Museum than the first major powerhouse in Sydney? And what building in Sydney has interior spaces built on such a generous scale to accommodate the Museum's exceptional transport and engineering collections?*<sup>1</sup>



3 | An early conceptual figure by Lionel Glendenning.



## ARCHITECTURE

## LIONEL GLENDENNING

1988

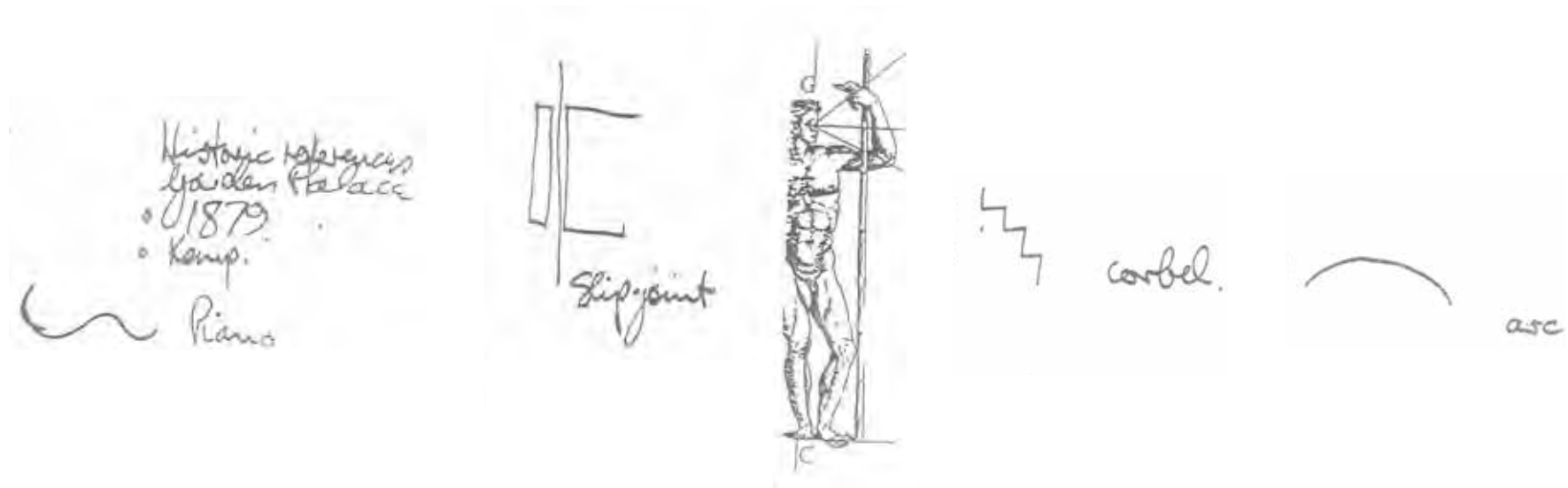
The following extracts have been taken from Colin Wood's 1988 discussion with Lionel Glendenning and Richard Johnson.<sup>1</sup> Lionel Glendenning describes his vision for the 1988 design and the accompanying collection.

"The beginnings of the Powerhouse Museum really begin with the Great Exhibition. In 1878 a building was very rapidly erected in London to great acclaim. Sydney had its own mini "Crystal Palace," the 1879 Garden Palace. This building was rapidly constructed, mostly wood on steel frame, and was destroyed in a conflagration in 1882 along with the Museum's first collection (elements and objects from the Garden Palace Exhibitions). The beginnings of the 1988 Powerhouse are reflected in the present design solution."

"The Architectural Brief was developed initially with Norman Harwood, Curator MAAS. There is always an evolutionary element in a Brief, but in this particular case Dr Lindsay Sharp, Museum Director had a view, an evolving view of the museums in that the traditional museum had pretty serious failings, particularly in its projection to the general public and he held that museums should change both their role and their ways of presentation; they needed to embrace the challenges of the new age. "

"The question of balance is always an issue. At this time the traditional approach was beginning to be reconsidered. The design resolution of the building offered variety and flexibility. This produced the opportunity for the museum to bridge the gap between the traditional style and the more radical, experimental, hands on experience, interactive type, of museum of today and the future potentially."

"In supporting the view that the Museum should offer the potential for traditional design options, being realised in certain exhibitions. There are parts of Museum exhibition design work that will be very beautiful, but explore quite traditional approaches to displaying objects of the collection. This spirit is reflected in the architecture in the retained character of and modified and drawn out of old architecture - the new architecture, and in the same way, the exhibitions don't deny the traditional view of museums, they embrace the old where it is appropriate."



4 | Early conceptual figures by Lionel Glendenning.

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“The bottom line is the beautiful dichotomy between observer and object; that magical sense of wonder that occurs when one comes face to face with the real object. The feasibility study discussed ‘television,’ ‘media,’ and ‘image’; the fact that we have a society sated with television; the gap between self and reality. To give people reality was just about the biggest ‘turn-on’ that one could create. So that point at which interaction occurs between the observer and object was what the museum is all about. It’s really about that magic moment, that sense of wonder, that confrontation.”

“To do that the architecture explored very controversial, very powerful and yet very sensitive and responsive design concepts. There was, however, a period in the development of the exhibitions where the building was seen as both a threat and impossible to work with. And yet working with Richard Johnson I felt that here was

an opportunity. It just needed someone capable of making that connection between the new and the old in the architecture.”

“The collaborative design work has been subjected to the most rigorous scrutiny, from curators through a whole range of museum specialists. What has emerged is a pretty powerful design message; a project that’s unique and blazing new trails at a level that had never been achieved in this country, at least in this particular field.”

“Design has a voice on a whole range of issues in the Powerhouse Museum. It is built into committee structures so that there were key people who influenced a whole range of issues which normally the design community wouldn’t believe was their turf. The design groups established a direction, a concept and an approach in which quality was incorporated as fundamental. With the Powerhouse Museum, design has achieved a credibility.”

“... I believe that there is a need to ensure that the city’s patterns, the city’s connections, the city’s ‘feel’ are generated in the buildings, which may become the generator of new urban forms. It’s not a very fashionable position but the ego trippers have been destroying the city. My feeling about architecture is that it’s evolutionary and revolutionary and so the Powerhouse, for me, is a demonstration of my thesis that the most revolutionary architecture can be evolutionary, and that design by constraint, design in context, can produce far more powerful, far more exciting, far more successfully integrated solutions than those that represent the current prototype for the city.”





5 | Early conceptual figures by Lionel Glendenning.

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“From its very beginning from 1898 the museum was built upon the guiding principle that the skin was enclosing the technology. It was changed, it was robust, it was adapted and I felt that I was part of that continuity. Such changes will go on. This is a beautiful aspect of museums; they have a life beyond all of us. so I am simply a part of a continuum and my modifications, adaptations and adjustments to this building were done without some of the constraints that might apply in other projects.”

“My feeling was that I was dealing here with a skin that was scarred, broken and had lesions, was modified and had band-aids. In effect, I've tried to recreate some of the feeling in the east facade with those black silhouettes which are the shadows of what was once there. I've tried to explain the robust broken nature of the facade.

- An echo.”



11 | An illustration of the interior of Wran building.



## EXHIBITION DESIGN

RICHARD JOHNSON

1988

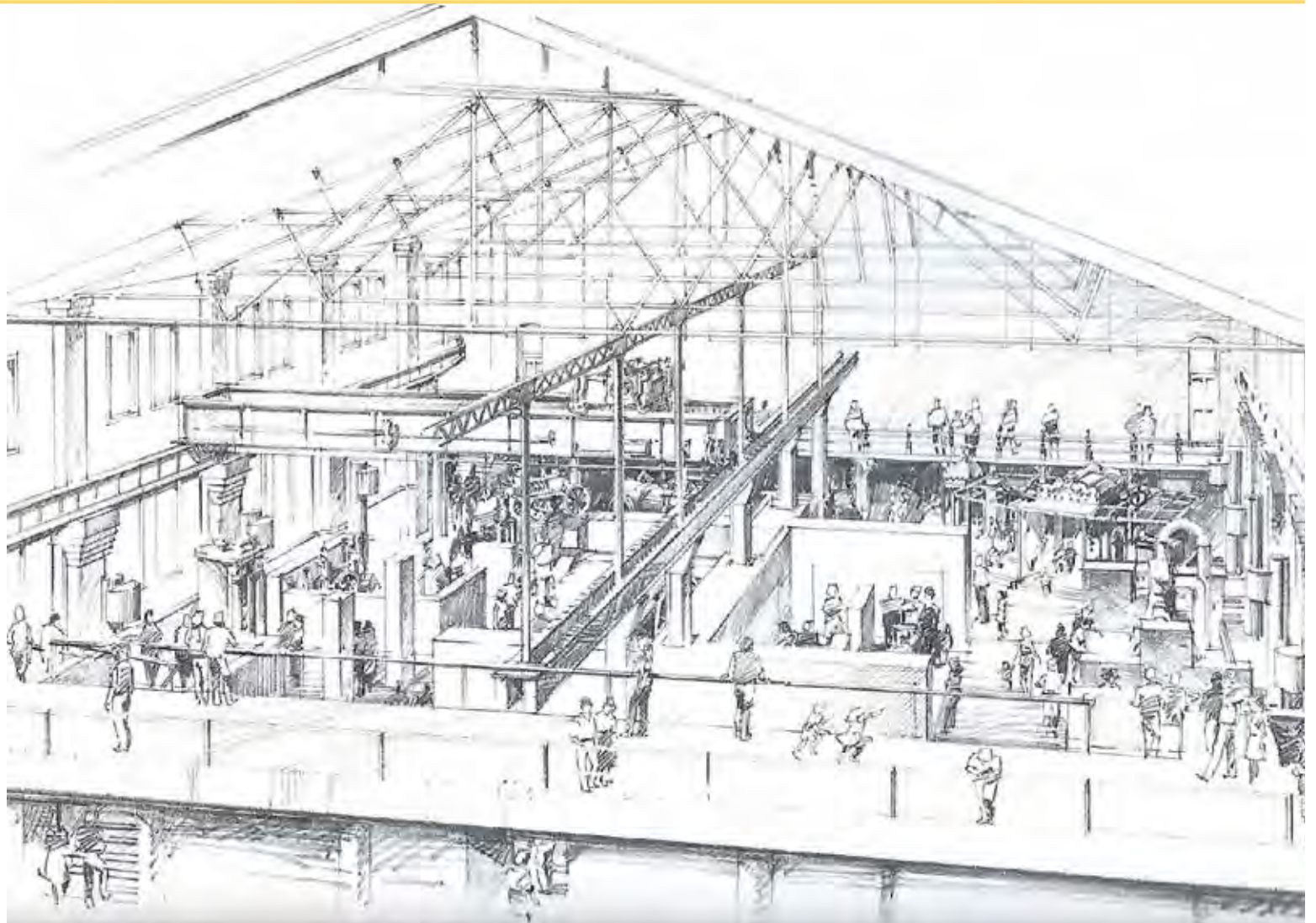
The following extracts have been taken from Colin Wood's 1988 discussion with Lionel Glendenning and Richard Johnson.<sup>1</sup> Richard Johnson describes his vision for the 1988 exhibition design.

"I suppose I have two roles. One is trying to give the exhibition design some cohesion as an overall activity. I am a consultant to the Powerhouse Museum, giving an overview and some criticism and direction to all of the exhibition design. No one had really looked at the exhibitions as a whole or from a design point of view. Most particularly they hadn't focussed on the fact that the exhibitions must feed from, and be part of, what Lionel Glendenning had already started; to grow and graft on to those things and exploit and add to what was already there rather than tussle against it"

"I see design art at its most effective as a continuum. It never stops. The building can open and the design is still there operating. The designer sets it in train with the client and various other bodies and people that inspire or generate the ideas. Those ideas and concepts have started the design process, generated it. Lionel Glendenning is carrying it through. Other

people will pick up and work with it. But to be most effective it shouldn't stop. People must identify with it and understand it. The design process is not simply something that happens sitting at a drawing board doing a couple of drawings, although there is a tendency in the community to think of it that way . . . People have simply got to be aware that design is not some mystical process. It is something they should understand and want to keep, want to maintain and build upon."

"It is a contextual building, a graft of old and new. It offered a great variety of spaces, immense scale, some of the largest spaces within which to display quite a diverse range of objects. Some objects are so tiny they could be overwhelmed by the space while others fit comfortably within it. So the space was very assertive, quite contrasting in some cases, but at the same time offered immense opportunities that a new museum would never offer.



11 | An illustration of the interior of the Engine House.

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The collection is an old one and very diverse and includes some significant internally recognised symbols. I tried to build up a discipline, a way of structuring the exhibition design, based upon the way a visitor sees and moves through the building. This 'vista' perception was necessary to understand the ideas, the collections and the buildings."

"First of all we have to understand how people will approach and enter the building, how they move through it, because some of the spaces are quite intimidating; big, grand, enormous volumes. The building is as it is because it evolved over such a long period of time. Like a city it has sort of loose fit circulation, there's no classical route through it. You don't enter a central exhibition hall and then relate back to the hall. It's not that sort of a building. It's not that sort of a collection either, and that makes it actually much more interesting to people. But at the

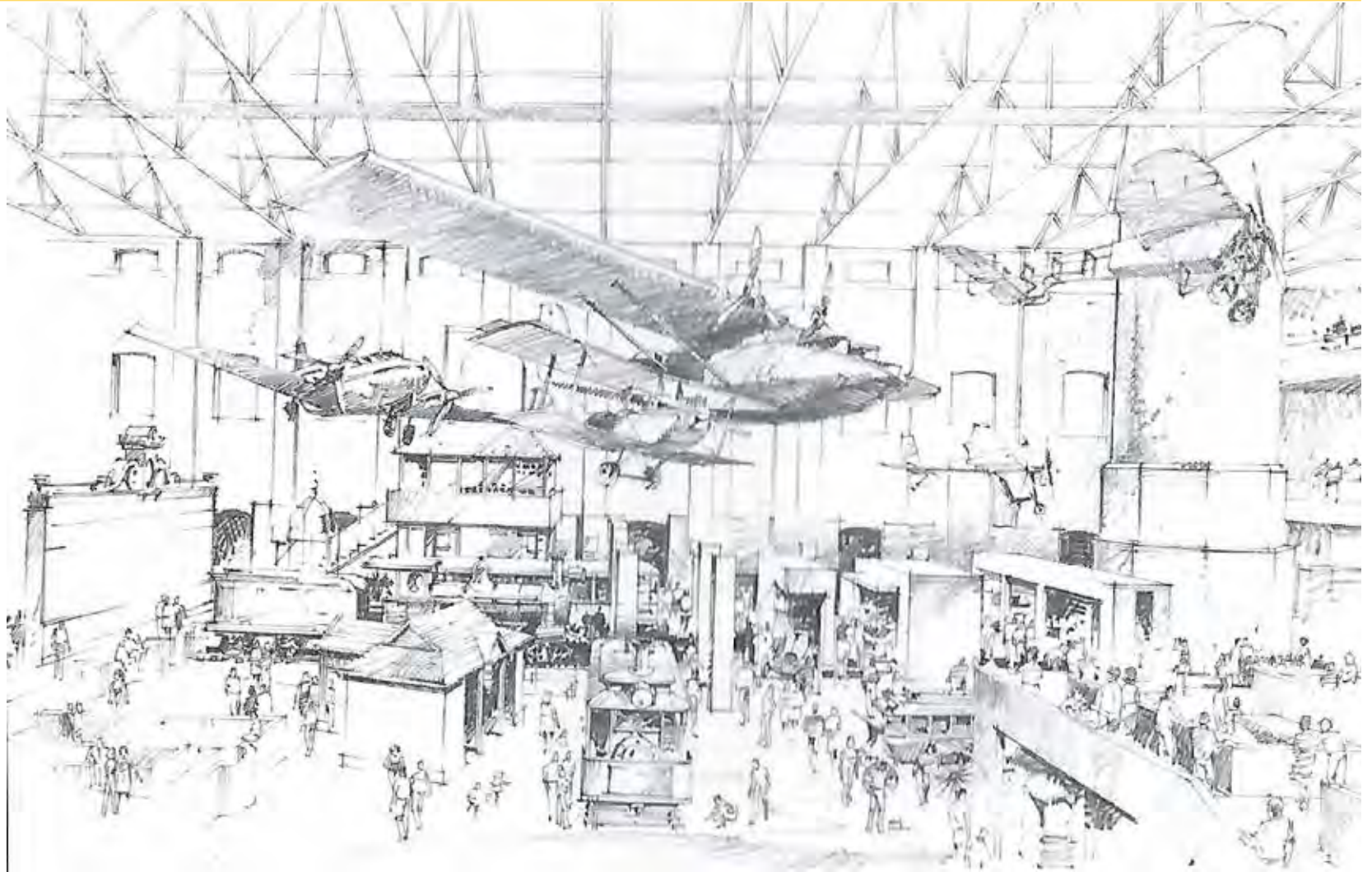
same time, every time we put another object, another statement, into the Powerhouse Museum, we could potentially confuse the reading of the building or the paths people have to take through it.

So we have to understand this and give people as they enter some comprehension of the total space, and then of the gallery space, and each bit that's devoted to an exhibition. The visitors have to comprehend the space, and feel comfortable with it, before they can focus on the exhibits. They must know where they are, and not feel they'll never find their way out of the maze.

Not only is the architecture challenging, but the objects and the ideas are also challenging. We try to give a range of different experiences so that if people are turned off by one particular thing, they can choose something else."

"There is quite a lot of learned debate among museum people that the 'black box environment' is the way to go for museums. This project has firmly convinced me otherwise. There are black box situations in the Powerhouse Museum, for individual exhibits, and they work well. But, overall one must have a balance. One nice thing about the project became very evident as soon as I walked through the site on the very first day. I felt here was a museum with a great range of diverse spaces, with a great diverse collection, with a whole range of thematic ideas that they wanted to project to the public. The architecture had responded to that diversity and contextualism and built upon the things that were already there and the exhibition design had to follow this lead.





11 | The Catalina flying boat 'Frigate Bird II' as the aerial centerpiece in the 1988 exhibition theme 'Bringing People Together.'

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There were obvious constraints, there were also spaces that exhilarated because they had great shafts of natural light penetrating into them. From a museum point of view, some curators and others will tell you that it's impossible; that it just won't work and has to be blacked out. However, if museum design is generated by public perception, if visitors like the feeling of walking into a space flooded with natural light, why blacken it out? Why not, more cleverly, look at the design opportunities presented and try and control the environment in another way by building shelters or cocoons for things that are light sensitive."

"... if the whole of Powerhouse Museum had been steam trains and huffing and puffing, with all the noise and excitement, then that would set up a relatively boring pattern. It might initially excite but it wouldn't sustain people's interest. One of the great things has been to attempt to arrive at a balance of content, space, experience, interactivity and classical

presentation of an object for its own sake. It would be terribly wrong to have every exhibition with the same level of interactivity, or every single exhibition at the same level of excitement, noise or stimulation . . . And just as your mood will change momentarily as you're moving through a visit, or it will change from one visit to another, your needs and demands of the Powerhouse Museum will change. Every visitor needs change. They find their own way. They find their own special little spaces in what I see as the 'townscape' of the museum, just as we do in a town. And no two peoples' preferences are the same."

"We have placed what we call landmark objects in public spaces that will guide people through the museum . . . the Boulton / Watt Engine is a major landmark structure. Once you see it you never forget it, and you know where it is in the Powerhouse Museum. There are aircraft, there are small precious objects, exciting individual items that people will see and remember and know where they are. These

are located at key points, generally with an axial approach to them so that people can see them from a distance and remember where they are and fit them to the structure of the circulation."

"Another thing that's happening is that we're putting in an electronic information system in the main foyer and every exhibition is identified by a stunning photograph of a key object within the collection. So, we are identifying exhibitions and themes by key objects. Every exhibition will have a poster on display in the forecourt, so people (before they enter the building) will know broadly what are the themes and what the content is going to be like. When they get into the Powerhouse Museum, they are directed to a particular exhibition by the poster image which is incorporated into the electronic information system."

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“... if you think about the design disciplines and specialist skills that have gone into the creation of the building, I don't think there would be any other building which would encompass and integrate so many of the design skills. Lionel Glendenning was talking about the theatrical set painters who painted the cloudscape. There are also audio and visual experts, there are sound experts, there are graphic designers, there are colour consultants, there are lighting design specialists, there are specialists in paint finishes, there are specialists in weaving special carpets... Public buildings actually demand the coordination and contribution of all that amount of design, technical and artistic expertise.”

“... it's like a town. It will evolve and details will change in an evolutionary way. That's how museums evolve. There's never sufficient money to redo the museum completely at any one point in time. That only happens once in a museum's life. So we've built in certain things that are less flexible than others in a hierarchy of broad elements to the fine grain. The most flexible are things like labels and text panels which are actually systematised to the point where the Powerhouse Museum, on its own desk-top computer can produce another instant label that will fit a perspex container. And if some fact is wrong they can change it. Additionally in some exhibitions there are items that, for conservation reasons, must be on constant change-over. Such items might be on display for only a matter of weeks or months before they are changed.”





## DESIGN PRINCIPLES | 1988

"It is worth restating the meaning of Museum and then exploring the potential of the term as it applied to the Powerhouse Museum in Ultimo. As defined by ICOM, the International Council of Museums :

*A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment."*<sup>1</sup>

The following principles are described by Glendenning (quoted in blue) and Johnson (quoted in green), and are illustrated where appropriate. Some of the quotations are reused due to their relevance for explaining different facets of the design principles.

ORIGINS: HISTORICAL REFERENCES

MUSEUM AS SYMBOL

MUSEUM & PRECINCT

MUSEUM & COLLECTION

OLD & NEW

ARCHITECTURE & EXHIBITION

INNOVATION & SUSTAINABILITY

ENTRY, ORIENTATION & MOVEMENT

ENGAGEMENT

COLOUR & LIGHT



<sup>11</sup> | The Interior of the Garden Palace, photographed in 1882. MAAS was given the ground and first floors in the south-west corner.



<sup>11</sup> | A close up view of the north western elevation of the Wran building.



<sup>11</sup> | Garden Palace Silhouette in the Wran Building as part of 1988 exhibitions.





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# ORIGINS: HISTORICAL REFERENCES

## **Beginnings in the Garden Palace, 1881**

"The beginnings of the Powerhouse Museum really begin with the Great Exhibition. In 1878, a building was very rapidly erected in London to great acclaim. Sydney had its own mini "Crystal Palace," the 1879 Garden Palace. This building was rapidly constructed, mostly wood on steel frame, and was destroyed in a conflagration in 1882 along with the Museum's first collection (elements and objects from the Garden Palace Exhibitions). The beginnings of the 1988 Powerhouse are reflected in the present design solution."<sup>4</sup>

## **A reference to the rich history of the Museum of Applied Arts & Sciences (MAAS)**

"The architectural design explored the rich history of the museum from its early beginnings in the great Garden Palace exhibition in 1879. The West Building (later Wran Building) and the galleria derive from the arched form of this earlier building whilst also creating spatial sequences that expand and augment the existing great rectangular volumes of the Turbine and boiler halls - the Ultimo / Pyrmont 'cliff of buildings.'<sup>2</sup>

## **Celebration of the correlation between Power Station and Museum's Transport collections**

"What could be more appropriate for such a Museum than the first major power-house in Sydney? And what building in Sydney has interior spaces built on such a generous scale to accommodate the Museum's exceptional transport and engineering collections?"<sup>3</sup>

## **Embodiment of Industrial Revolution**

"Unique to the Powerhouse Museum is the fact that the Museum's building - its historic fabric and contemporary architecture, and its Ultimo location - together with its diverse collection are metaphors for the overarching narrative that informs the Powerhouse Museum, for the Museum is born of the Industrial Revolution - its essence is designing and making for living."<sup>1</sup>

## **The vision and design intent of the 1988 Museum**

"A number of ideas are developed and explored in this project including:

- The great exhibition and railway buildings of the 19th century including Garden Palaces, Sydney; Melbourne Exhibition Building; Central Railway Station, Sydney.
- A contextual awareness and historic reference.
- Creating old and new linkages with the architecture of Ultimo and the Powerhouse.
- Architecture within Architecture. House within House.
- Adaption and reuse of existing fragments of the city.
- Separation, layering, transparency, screen, density, diversity, intervention."<sup>5</sup>



11 | An aerial view of Ultmo at completion of Stage I of the Museum.



11 | Boiler Hall during construction. The 1902 chimneys are now used as part of the air conditioning system.



11 | Colonnade along Harris Street in 1988, since partly demolished..

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### **Recollection of our industrial past**

"The building references the Garden Palace, Richard Johnson referenced the Garden Palace . . . Look how original that is, it has never existed before, how brilliant - a silhouette of a 'building as a building' - a ghost-like memory. The building references that through performance; through the Museum; and its beginning, and what you have is 200 years of incredible rich history."<sup>6</sup>

### **An Evolutionary Entity**

"My feeling about architecture is that it's evolutionary and revolutionary and so the Powerhouse, for me, is a demonstration of my thesis that the most revolutionary architecture can be evolutionary, and that design by constraint, design in context, can produce far more powerful, far more exciting, far more successfully integrated solutions than those that represent the current prototype for the city."<sup>4</sup>

"... it's like a town. It will evolve and details will change in an evolutionary way. That's how museums evolve."<sup>2</sup>

### **Museums are storytellers / Museology is storytelling**

"Museums are the narrative in a way, which is a wonderful thing if you see it as an opportunity, and develop them positively in that way."<sup>6</sup>

### **An archive for Ultimo's urbanity**

"I believe that there is a need to ensure that the city's patterns, the city's connections, the city's 'feel' are generated in the buildings, which may become the generator of new urban forms."<sup>6</sup>

"Concepts like the vault, built a powerful urban element which became almost rhetorical verandah, a really overstated urban element which we all know and recognise."<sup>4</sup>

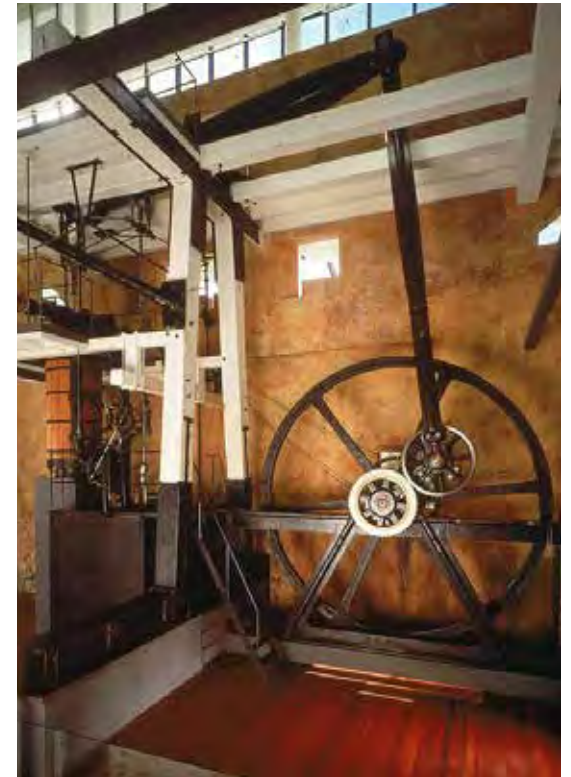




11 | The Engine House and Turbine Hall (foreground) during construction.



11 | Locomotive No. 1 pulled the first passenger train from Sydney Station (near where Redfern Station is today) to the Long Cove viaduct (near the present site of Lewisham) on 23 May 1855.



11 | Boulton and Watt steam engine, built in 1784 is oldest engine of its type to survive in the world. It is the Monalisa of the Museum's collections.



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# MUSEUM AS SYMBOL

## Museum as a lighthouse

“Whilst the world is changing in unexpected ways, the Museum is a ‘lighthouse’ that connects us to an unknown future and a known past – a vital cultural link in these complex times.”<sup>1</sup>

## A leader in museology

“We’re one of the first museums in the world to steam all the objects - the great steam engines. For the Boulton and Watt, the museum replaced the bearings with new bearings in ways that would not damage the original object. We kept all the original bearings (they are in store). The whole system that was designed around the Boulton and Watt is done with careful conservation issues resolved to avoid any damage to the engine in any way possible. In fact, the conclusion that Jonathan Minns, a U.K. engineering expert came to, was that if we keep it warm and working, it is in its most safe form.”<sup>6</sup>

## Cultural and social symbol

“The Powerhouse Museum is a collection which resonates, makes real the past, speaks of the present and looks to the future – it provokes thought and reflection and, it inspires. And it does all this through the stories that it tells – the themes embedded in the objects are incredibly rich and rewarding – people’s lives across time and space – across cultures.”<sup>4</sup>

“The museum was attracting great interest from sponsors, collectors and the media, establishing the museum’s pivotal place in the constellation of the Sydney’s cultural milieu.”<sup>2</sup>

“The museum opened in March 1988 to an amazing public reception to become internationally recognised as an institution that continues a tradition of eclectic, universal collecting (albeit considered), thoughtful communication, passionate advocacy and learned scholarship whilst maintaining its links to fine traditions.

In some small way the architecture contributes to this cultural memory.”<sup>2</sup>

“... the project began to capture the imagination of Sydneysiders.”<sup>2</sup>

“The Powerhouse Museum is the custodian of our cultural memory - DNA of our civilisation.”<sup>1</sup>

## Cultural engagement and partnerships

“The Powerhouse Museum became the litmus test for many new museums in Australia, and internationally with museum and cultural leaders from the United Kingdom, USSR, China, Europe, Central Asia, Asia and the USA engaging with the Museum through VIP visitors, memoranda of understanding, study programs, staff exchanges, exhibition partnerships and tours, and object loans.”<sup>6</sup>

## Essence of Australia

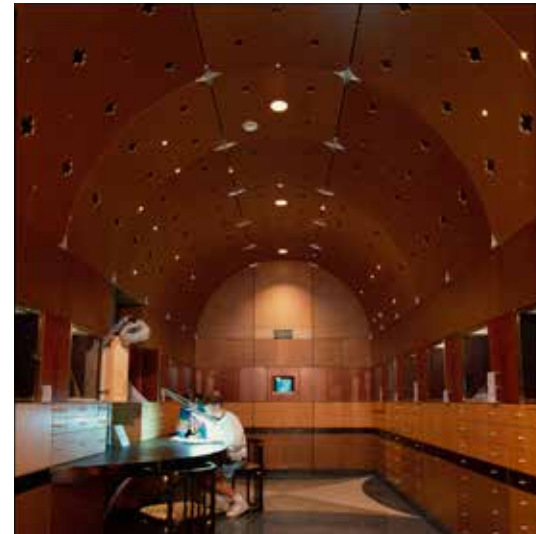
“The narratives of our nation - part of the world.”<sup>4</sup>

“So the sky is a trompe-l’oeil, it’s saying, “Look, I’m not afraid to decorate a building.” If you look at Jørn Utzon’s ceiling interiors for the Opera House, they were beautifully decorative, they were extraordinarily coloured draped curtains. So that’s the sky, capturing a piece of Australia. I couldn’t capture it enough, so I wanted that sense of infinity in the building.”<sup>6</sup>

“Whilst the modernist project continues in the architecture, the concept explores a historical and local contextual set of references in an open-ended plan that seeks to anchor the solution both in and of its time, referenced to the continuity of Australian architecture - an urban form highly innovative yet understood in its broader context.”<sup>2</sup>



11 | A copy of Lawrence Hargrave's box kite and Strasburg Clock displayed against the sky. The sky was painted by theatrical set painters from the Sydney Theatre Company.



11 | Exquisite cabinetry designed by Iain Halliday for 'Lace - A Study Centre' in the 1988 exhibition.



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### **Hand and Mind - MIND and HAND**

“At the Museum’s heart, it is about the power of creative and innovative minds combined with skilled and inventive hands - Hand and Mind - MIND and HAND.”<sup>1</sup>

“Its intellectual goldmine is the knowledge base generated by curatorial research and scholarship which reveals the story behind every object and the links between.”<sup>1</sup>

“... the most extraordinary thing about the museum and the project was how it brought together many high profile designers and architects in a way that other projects have not been able to do.”<sup>6</sup>

### **A symbol for sustainable reuse of buildings**

“Sustainability and resource management - this project has its roots deeply embedded in the environmental movement and the idea that resources shouldn’t be wasted. That we can find ways to reuse our buildings... and the life of buildings lives beyond the ego of the last architect.”<sup>6</sup>

“... this building is an exemplar for saving old buildings and I think therein lies a real lesson for environmentalists let alone architects. And I think there’s a lesson to be learnt about the way we use our precious resources in society.”<sup>6</sup>

### **Agglomeration of design, technical and artistic expertise**

“... if you think about the design disciplines and specialist skills that have gone into the creation of the building, I don’t think there would be any other building which would encompass and integrate so many of the design skills. Lionel Glendenning was talking about the theatrical set painters who painted the cloudscape. There are also audio and visual experts, there are sound experts, there are graphic designers, there are colour consultants, there are lighting design specialists, there are specialists in paint finishes, there are specialists in weaving special carpets... Public buildings actually demand the coordination and contribution of all that amount of design, technical and artistic expertise.”<sup>4</sup>

“There are quite a number of designers involved on the exhibition design side from a number of different firms.”<sup>4</sup>

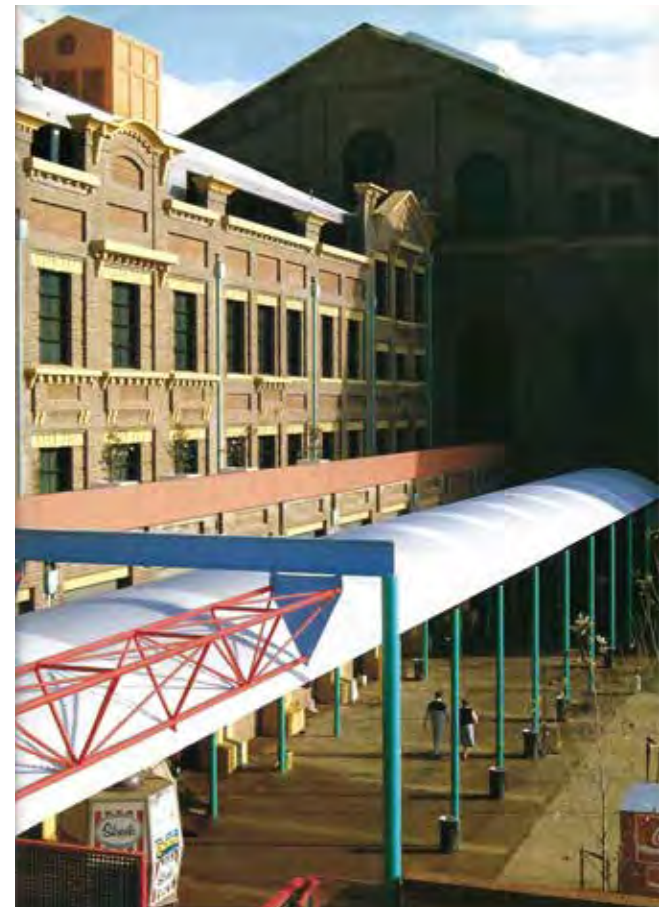
“Design has a voice on a whole range of issues in the Powerhouse Museum. It is built into committee structures so that there were key people who influenced a whole range of issues which normally the design community wouldn’t believe was their turf. The design groups established a direction, a concept and an approach in which quality was incorporated as fundamental. With the Powerhouse Museum, design has achieved a credibility.”<sup>4</sup>

### **Striving for best international museum standards**

“Pragmatic decisions on achieving the best international museum conditions and standards, allowing for future changes, and creating a flexibility of circulation in a wide variety of gallery spaces were implicit in the architectural solution.”<sup>2</sup>



11 | Entry forecourt of the Museum with the Garden palace grid and the colonnade intact.



11 | Switch House Covered Way through the former Grace Bros Courtyard



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# MUSEUM & PRECINCT

## A Museum Precinct for Ultimo | Sydney

“The Powerhouse Museum’s placement in the ‘creative precinct’ with UTS, ABC, the design studios of Surry Hills and Chippendale, Pyrmont and Eveleigh communications technology and IT start-ups is unique and synergistic, a critical element in the intellectual infrastructure of Sydney and NSW.”<sup>7</sup>

“The institution is one of the great repositories of collective memory and therein lies the redefinition of the museum . . . the architecture and the life of the project is as much heritage as the heritage issues that are identified as brick walls and all the other things. So therein lies the secret of the museum and I think that takes you to the future.”<sup>6</sup>

## An anchor in Ultimo’s creative precinct

“As an instrument of public record and display, the Powerhouse Museum has a pivotal role in supporting, recording, presenting and fostering connections in this creative space.”<sup>1</sup>

## An identifier of its place

“. . . the importance of the urban sense of the large thing. Its’ one of the last remnants, one that’s linked to the warehouses along Ultimo, the great “cliff” of building, and retains that dynamic. I always refer to it as the medieval cathedrals and the village around it . . . and Pyrmont is just these giant cathedrals of industry, of warehousing (and all the rest of it), you get a great example of it there. Its volume . . . the contrast is so extreme, it’s like Canterbury Cathedral in its low scaled village.”<sup>6</sup>

“Adjacent to Sydney TAFE and UTS, the Museum is the core institution in the Ultimo ‘IT, education, design and cultural precinct’ - predating the government’s recent announcement of an AI-tech precinct by 127 years.”<sup>1</sup>

## A Museum embedded in its location

“. . . when you are an architect you need to have a greater sense of your responsibilities as a social being - professional working in a particular context that you become conscious of that context and use it in a creative way. You could argue that the Sydney Opera House did that. You know Jørn Utzon’s building is so contextual that people compare it with spinnakers, boats and harbours and all the rest of it.”<sup>6</sup>

## Design cues derived from Ultimo’s industrial context

“And the other thing which is good is that it looks to the retention of the Harwood building. The roof followed the profile of the original Tram Depot building. If you get above Ultimo - there’s a wonderful photograph I have seen – an aerial photograph of Ultimo and Pyrmont with all these warehouse roofs - all ‘cross hatched’.

That link across the macro level and the urban level is well worth exploring - what is there from the heritage point of view. The profile of the roof is important, that was also considered in the Boiler Hall. They are all new trusses for various reasons - both structurally and otherwise, but it followed the profile of the original roof deliberately. A contextual awareness for the macro level of urbanity that existed between the spine of Ultimo - the warehouses. I call it the “cliff” of buildings, like the old sandstone cliff has been extended up Darling Harbour looking across from the city’s core. We have the opportunity to save it, it’s worth saving”<sup>6</sup>





11 | A model of Strasburg Clock in the MAAS collection.



11 | Bookplate design entitled 'Wrought Iron and Enamelled Bronze Gate,' from the Lucien Henry Collection.



11 | Locomotive No. 1 on display in the Galleria. Note the delineation of old and new structure.



11 | 'Cirrus Moth' de Havilland 60X VH-UAU biplane in the 'Transport Collection' in the Boiler Hall.



# MUSEUM & COLLECTION

## Unique and Synergistic relationship between collections and the buildings

**“The architecture needed to be a contradiction, a paradox, a labyrinth, to allow the discovery, the wonder, the excitement of finding anew the collection.”<sup>2</sup>**

“One of the most powerful concepts that struck me immediately when I became involved, and guided a lot of our thinking was this rare synergy that existed between the real ethos of the Museum and its diverse collections. The diversity of the building fabric that Lionel Glendenning contemporised by adding new contemporary layers to; the diversity of stories that were being told; the diversity of the audience that was attracted (this wasn't a specific audience, this was a very broad Church in a sense, of the people in Sydney and internationally that it appealed to). As a consequence, the detailed exhibition design was trying to do was to add to and be part of the total experience of the Museum. It wasn't saying “Oh very well, that's all good, but I need my ‘black box.’ I need to exclude all of that because I want to do something new.” Because that big picture is part of the detail.”<sup>8</sup>

“It is a contextual building, a graft of old and new. It offered a great variety of spaces, immense scale, some of the largest spaces within which to display quite a diverse range of objects. Some objects are so tiny they could be overwhelmed by the space while others fit comfortably within it. So the space was very assertive, quite contrasting in some cases, but at the same time offered immense opportunities that a new museum would never offer.”<sup>2</sup>

## A correlation between Power Station and Museum's Transport collections

“What could be more appropriate for such a Museum than the first major power-house in Sydney? And what building in Sydney has interior spaces built on such a generous scale to accommodate the Museum's exceptional transport and engineering collections?”<sup>3</sup>

“The different scales and volumes of the spaces were a great match to the collection's range and diversity—equally, the Power House itself was an excellent fit with the museum as a museum of industry and technology.”<sup>2</sup>

## Museum's buildings and the collections embody the Australian spirit

“This museum has a uniqueness, it has a quality that captures the mongrel character of Australia.”<sup>6</sup>

“When I think of the collections - it's bound up in the society in a holistic way, which I think is distinctly Australian. So, it's quite wonderful.”<sup>6</sup>

“These buildings represent the essential spirit that created Sydney, and the great Australian civilisation. There's a lot to be understood about the impact of electricity on people's lives. And this building was seminal very early in the adoption of electricity. And it's an important artefact.

So, the museum is almost unique with this collection in this building - it's quite an amazing fit. The uniqueness of the collection, and it's appropriateness in these various spaces is wonderful. So often, buildings interfere with the understanding of the objects. This museum doesn't do that, it has an affinity for the collections.”<sup>6</sup>

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### **A repository of diverse collection**

“The collection is an old one and very diverse, and includes some significant internationally recognised symbols.”<sup>2</sup>

### **Emphasising the role of design and technology in life**

“The Museum was stimulating curiosity about science and technology with its collection decades before STEM education was an issue. As for STEAM - the Museum from its founding in 1880 has been all about the Applied Arts and the Applied Sciences.”<sup>4</sup>

“This is an irreplaceable historic context for audiences to be inspired about the history, synergies and potential of design and technology ‘to enrich the quality of life for all.’ (1945 MAAS Act)”<sup>4</sup>

### **Architecture and Collections: A mutually advantageous relationship**

“At the time the decision to retain and recycle the existing building fabric posed huge complexities; particularly the sheer scale of the project was unique. Driven by the belief that it was not possible to construct new buildings of this scale with the restricted budget, and that the great breadth of the museum’s collections required a variety of spatial types from vast halls (Catalina flying boat) to intimate galleries (decorative arts), the museum’s signature element was decided.”<sup>2</sup>

### **Inspiration from the bowerbird-like nature of the collections**

“The other insight was built around the eclectic, slightly mad, universal, bowerbird nature of the collection in an age of specialisation - this serendipitous finding of the breadth of the collection across the range of human endeavour and social existence posed a potentially impossible demand upon the architecture.”<sup>4</sup>

### **Deriving inspiration to innovate from the collections**

“Using the museum’s extraordinary diverse collection as inspiration, and the curatorial and design genius; it is possible to explore and experience the narratives of lives and collection, with new technologies, interactives, multimedia rich techniques.”<sup>4</sup>





<sup>11</sup> | The interior of the Vran building in 1988. Note the slenderness and openness of the new structure in comparison to the robustness of the brick buildings which are displayed against the new upon arrival. This view through to the brick screen of the Turbine Hall strengthens this 'openness and transparency.'



<sup>11</sup> | Stage I exhibitions highlighting some of the museum's treasures in Harwood Building ahead of the opening of the 1988 Museum. The Bleriot XI monoplane (in the foreground) is very similar to the Bleriot aircraft that made the first epic flight across the English Channel on 25 July 1909.



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# OLD & NEW

## Retention and adaption for future use

“At the time the decision to retain and recycle the existing building fabric posed huge complexities; particularly the sheer scale of the project was unique.. Driven by the belief that it was not possible to construct new buildings of this scale with the restricted budget and that the great breadth of the museum’s collections required a variety of spatial types from vast halls (Catalina flying boat) to intimate galleries (decorative arts), the museum’s signature element was decided.”<sup>2</sup>

“The initial architectural design included extensive reuse of the existing remaining fabric of the tram depot and powerhouse . . .”<sup>2</sup>

## A clear relationship between new and old

“Develop a convincing combination of old and new in a positive manner.”<sup>5</sup>

“Modulate and sequence spatially the relationship between new and old buildings - accentuating, layering and contrasting.”<sup>5</sup>

“The new structures are deliberately not attached to the old buildings. In the Galleria, the glass does not touch the old building - it steps out over the cornice and goes down into the gutter behind the brick wall.”<sup>6</sup>

## Harwood Building - Stage I of the Museum

“Staged over four elements, the first critical stage was the conversion of the derelict, collapsed Ultimo Tram Depot to a new conservation laboratory, workshops, store and most importantly, a ‘taste’ of the future museum. It was at this time that the name Powerhouse was used: constantly titling drawings ‘Museum of Applied Arts and Sciences’ was less than inspiring. ‘MAAS’ was meaningless - so using our ‘corb’ stencils, the project became the Powerhouse Museum. Later, arts secretaries sought to change this simple, effective brand to the ‘Museum of Human Achievement and Creativity’ and other pretentious titles, but the Powerhouse has become etched in the colloquial consciousness. Somehow the extraordinary breath of that initial observation of the eclectic, bowerbird-like collection, ranging across the broad range of human existence is captured in the word ‘Powerhouse’”<sup>4</sup>

## The great cube of the existing Powerhouse Buildings

“The additive and sequential development of the original massive buildings to the east of the site is modulated by the intervention of structures inserted, layered and sequenced.”<sup>5</sup>

## New forms drawn out of the old

“I have retained the character of and modified and drawn out of the old architecture, the new architecture . . . I have tried to make the architecture very controversial, very powerful and yet very sensitive and responsive.”<sup>4</sup>

“There was, however, a period in the development of the exhibitions where the building was seen as both a threat and impossible to work with. And yet working with Richard Johnson I felt that here was an opportunity. It just needed someone capable of making that connection between the new and the old in the architecture.”<sup>4</sup>

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### A subtle distinction between new and old

"My feeling was that I was dealing here with a skin that was scarred, broken and had lesions, was modified and had band-aids. In effect, I've tried to recreate some of the feeling in the east facade with those black silhouettes which are the shadows of what was once there. I've tried to explain the robust broken nature of the facade which has had brick in-fill."<sup>4</sup>

"Externally, the great brick halls of the old buildings have an enormous presence in important views from Darling Harbour and the city, matching in scale the wool stores and warehouses of the district. The new buildings have a much lighter construction in glass and metal, some of it brightly coloured and the new forms are large, bold and simple."<sup>6</sup>

"If you look at the building (Galleria), the building changes at the intersection of the various phases of the brick building; so there's a sense that the new columns are not just repetitive, ignoring what happened before. It's progressive development, which is not repeated, but acknowledged in the grid of the building (Galleria). Layering or the separation of the elements is deliberately done in a way to not be like the massive rectilinear, orthogonal character of the old building, but almost a contrast and a contradiction. And the curves or the tubular frames are slightly different, modern expression of what was being done in the Turbine and Boiler halls, rather than using the same steel frames. So, you get a more responsive, modern building. Even though you may not be totally aware of it, your brain is still registering that there's a link between the old and the new."<sup>6</sup>

### Expressing the robustness of existing fabric

"The cubic volumes of the existing Powerhouse buildings.

Massive brickwork

Thickness

Dimension

Gravity

Solid."<sup>5</sup>





11 | The Board Room in the Galleria. The two cherubs painted across the sky represent new beginnings for the Powerhouse.



11 | The design approach adopted for the Museum's centenary of Federation exhibition, 'Visions of a Republic.'



11 | Christian Dior silk bridal gown displayed against the sky.



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# ARCHITECTURE & EXHIBITION

## **Embracing the bigger scale of the buildings in exhibition design**

"We don't want the volume, the character and the sequence of spaces to be destroyed."<sup>6</sup>

"... if you are a creative and you are going to have small exhibition in the building, you need to embrace the bigger scale, the bigger dimensions and be aware of that what you are doing - idea of the 'buildings within buildings' ... "<sup>6</sup>

## **Exhibition design as a spatial design exercise**

"It was a training ground for exhibition design in the country. Exhibition design prior to the Powerhouse was done by people who were graphic designers, they were not spatial designers."<sup>8</sup>

## **Critical armature links architecture and exhibitions**

"An important step is to reinstate the critical armature linking architecture and exhibitions. This armature is the key framework mediating the internal architecture and the smaller scale of the exhibitions and other elements. This will reinstate the circulation which is both flexible and in sync with the building and conceptual sequences"<sup>4</sup>

"You have to use an intermediate element to register, to give a sense of purpose and focus to an exhibition within such big volumes."<sup>6</sup>

## **Exhibition design responds to its envelope**

"There is quite a lot of learned debate among museum people that the 'black box environment' is the way to go for museums. This project has firmly convinced me otherwise. There are 'black box' situations in the Powerhouse, for individual exhibits, and they work well. But, overall one must have a balance."<sup>4</sup>

## **'Buildings within buildings'**

"The Powerhouse and what I'm doing to it is like having a 'building inside a building.' The board room is the reversal. I put the Power House form, the rectangular prism of the building plan which is the barrel vault in section. I've reversed what I was doing, it's a reversal ... if you go into the building it's really important to look up and look at the Board Room in the galleria because it's a paradox, it's a play on the thing that was the Powerhouse itself which is the big rectangular volume."<sup>6</sup>

"What Richard Johnson did was to create an intermediate scale element within the spaces that captured the Board Room idea - 'a building within a building.'"<sup>6</sup>

Referring to the Board Room at the top level in Galleria

"It's a miniature Boiler Hall / Turbine Hall, its the primal hut, if you study the beginnings of architecture they say that architecture really emerged when that form of rectangular building with a pitched roof originated, and it captured the essence of architecture. So it's a 'building within a building' and it's reflective of how you might deal with the bigger spaces in the building."<sup>6</sup>

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### **An intermediate scale to achieve an interplay between buildings, exhibitons and individual objects**

"... work the scale of the building down to the object ..."<sup>6</sup>

"The intermediate scales between the objects and the small exhibitions and the architecture - the scale and dimension of the architecture need this mediating character within the spaces, which Richard Johnson and others were the designers of and which the Board Room at the top of the galleria - the little Board Room - 'a building within a building,' I used that term in '84. I wanted 'buildings within buildings' which would then be colonised by exhibitions as well as the big Boiler Hall exhibitions ..."<sup>6</sup>

"... increasing the depth and dimension of what you're doing to embrace that intermediate scale and reference the exhibitions in that overall umbrella of the museum ..."<sup>6</sup>

"... the architecture, the objects and the small scale exhibition is critical to the interpretation of these buildings ... it's an intermediary scale that mediates between the big vast character of the Boiler Hall and if necessary an individual object in that hall. That's the only way. If you put the object in the hall it's dead, the object can't survive."<sup>6</sup>

### **Integration of fabric, technology and museum's requirements**

"Materiality and detail became critical with the integration of engineering systems; whilst maintaining the overall cost-time framework for the project became increasingly problematic as the demands of the museum became more profound and more and more teams were created to develop the museum's requirements."<sup>2</sup>

### **Progression in journey is expressed in architecture**

"I have always had a love for baroque architecture of Francesco Borromini. In baroque architecture the curves are incidental to the way the space is manipulated. The Wran building has a half complete arc and this incompleteness takes you to the perfect expression of the arc in the Galleria. You are compressed by the building between the Wran building and the Galleria and then when you walk into the Galleria the explosion is extraordinary. That's what baroque architects did."<sup>6</sup>





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# INNOVATION & SUSTAINABILITY

## Museum as a valuable investment

“The existing Power House buildings represented a valuable investment by our society both in time and collective memory and the thought that this resource should not be wasted was primarily a consequence of my interest in environmental issues and sustainability – issues that are now very much to the fore.”<sup>2</sup>

“This project sets a new paradigm for our industrial urban fabric - no longer can the major resource commitment of past investment be discounted or ignored in the future. Depreciation also represents appreciation when ‘values’ are considered. Twenty years ago, this consideration was radical. Pressure for demolition was intense. Retention of the remnant power as a ‘base resource’ from which the new Museum might emerge - an appropriate metaphor for a venerable institution - led quickly to many innovative systems that exploited existing elements of the structures - the spectacular volumes + spaces, the harbour cooling conduits, the structural capacities, free spans and the cultural memory - a link to a past and a reaffirmation of the value not only of past generations but our generation providing a link to the future generations - a cultural investment in the ‘collective memory.’ from this primary decision to forego demolition and to work with the existing fabric came countless innovations.”<sup>10</sup>

## Responsiveness to our environment

“... this project is an exemplar of thinking that integrates those two fundamentally opposed ideas. You have the beginnings of the industrial revolution and the impacts of the industrial revolution and you’ve got a building that’s being recycled and saved and trying to adopt environmentally responsible attitudes.”<sup>6</sup>

“Sustainability and resource management - this project has its roots deeply embedded in the environmental movement and the idea that resources shouldn’t be wasted. That we can find ways to reuse our buildings ... and the life of buildings lives beyond the ego of the last architect.”<sup>6</sup>

## Ingenuity in Design, Innovation & Sustainability

“... this building is an exemplar for saving old buildings and I think therein lies a real lesson for environmentalists let alone architects. And I think there’s a lesson to be learnt about the way we use our precious resources in society.”<sup>6</sup>

“The initial architectural design included extensive reuse of the existing remaining fabric of the tram depot and powerhouse ... ”<sup>6</sup>

## Attention to design process and design detail

“... when I explore design concept for a building, as you begin the evolution of the design, and the drawings and the documentation, even through contract and detailing, the implications of the first concept being realised through all the subsequent work is critical. If it doesn’t it’s failing and you see the breakdown of concepts when they have big ideas and then the detailing lets it down.”<sup>6</sup>

## Retention and adaption for future use

“For the Ultimo Power Station, demolition was a ‘collective lobotomy.’ Often infrastructure is a key element for our ‘mental maps’ of our environment that enhances our sense of oneself, our world and our experience - its removal is not just demolition of a physical structure but a removal of our reference points, a loss of resource, past investment and a coarse economic and cultural decision.”<sup>10</sup>

“At the time the decision to retain and recycle the existing building fabric posed huge complexities; particularly the sheer scale of the project was unique. Driven by the belief that it was not possible to construct new buildings of this scale with the restricted budget and that the great breadth of the museum’s collections required a variety of spatial types from vast halls to intimate galleries, the museum’s signature element was decided.”<sup>2</sup>

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### **New technology complements extant fabric**

“It’s interesting to also consider the many engineering issues posed by the project that sought similar defining positions; stratification of the large halls, titanium heat exchangers using Darling Harbour water and existing conduits for cooling and specialist lighting systems for various times in the museum’s day and unique structural systems, all developed with Dave Rowe, services engineer; Ian Norrie, structural, lighting and acoustics engineer, who joined the architectural team at this time to develop many innovative engineering prototypes for the project.”<sup>2</sup>

### **Fostering shared experiences through innovation in collaboration**

“These shared and personal museum experiences will encourage and foster our imagination and thinking about the future of our cultural, technological and design development – inspiration underpinning aspiration.”<sup>1</sup>

“When the ideas are right, appropriate and commonly owned, everyone wants ownership of the outcome.”<sup>8</sup>

### **A complex building**

“This building is a complex building. A giant machine running at the highest museum standards that were developed from the museums in England, America. All the services designed operated to the highest standards, in terms of environmental response. The lighting, the security lighting and all the fluorescents. All the glazing in the building, it’s laminated with a special interlayer that filters out UV light, that’s why we can place objects in the galleria.”<sup>6</sup>

Referring to air handling system in the Boiler Hall

“They throw air across the space and stratify the spaces to best museum conditions, gradually tapering up through the building. They are critical to be retained, it’s the perfect solution. They were developed by Dave Rowe and it applies through the building. It was one of the really innovative things he did. They were designed very carefully and they do about four things – security, monitoring, air handling and humidity control. They are designed to spread the air evenly across a big volume and there was a lot of worry about throwing air that distance, at least half the width of the space without drafts and with proper mixing. They are quite sophisticated in a mechanical engineering way.”<sup>6</sup>

“... one of the things that has to be carefully considered with the Boiler Hall is that its structure depends on the load coming down from the trusses and the aircraft hanging from it. All that load is transmitted as compression to stop the brick work from going into tension. That’s how the structure works. If you take this out and lighten it you’re actually weakening the structure potentially.”<sup>6</sup>

Referring to the Switch House

“There were escalators within the building linking all the levels, so it could be operated independently from the rest of the building and use the entrance at the same time, that was the idea.”<sup>6</sup>

“Switch House was a simple ‘black box’ gallery. It was perfect for small scale exhibitions.”<sup>6</sup>

### **Deriving inspiration to innovate from collections**

“Using the museum’s extraordinary diverse collection as inspiration, and the curatorial and design genius, it is possible to explore and experience the narratives of lives and collection, with new technologies, interactives, multimedia rich techniques.”<sup>1</sup>



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# ENTRY, ORIENTATION & MOVEMENT

## A sense of arrival

"A key to the architecture was the sense of 'beginning a journey,' hence the railway station metaphor, the space-capturing arch of Normanton railway station, Queensland."<sup>2</sup>

## The meaning of Harris Street forecourt

"Reinstate Colonnade and explore options to extend structure to mark and define Harris St forecourt, including possible external museum cafe and shop."<sup>1</sup>

"Reinstate paving as per 1988 design to express grid linked to Garden Palace."<sup>1</sup>

## The meaning of Harris Street Colonnade

"The Harris Street colonnade - intended to house design shops and showcases - was designed to mediate . . . between the grand scale of the power station and the tiny terrace houses across the street - a great verandah"<sup>9</sup>

## Sequential development of spaces

"The spatial sequence beginning with the vaulted "railway station" ('sense of arrival')."<sup>5</sup>

"Enter at right angles to layering buildup. Then rotate to sequence (in-complete vault)."<sup>5</sup>

"Compression as the visitor moves to the Galleria."<sup>5</sup>

"Organising - memorable - monumental."<sup>5</sup>

"Great spaces and see beyond to the great original brick buildings through the arcaded screen of the west wall of the Turbine Hall."<sup>5</sup>

"We don't want the volume, the character and the sequence of spaces to be destroyed."<sup>6</sup>

". . . the intermediate elements that were part of understanding the spatial progression through the building. This issue of entries is critical and is going to be addressed in ways, which are extraordinarily complex but equally simple and conceptually stunning."<sup>6</sup>

## Insertion, layering and sequence

"The additive and sequential development of the original massive buildings to the east of the site is modulated by the intervention of structures inserted, layered and sequenced."<sup>5</sup>

"Modulate and sequence spatially the relationship between new and old buildings - accentuating and contrasting."<sup>5</sup>

Referring to the meaning of gradual setback of levels in the Wran building and Turbine Hall

"The terraced overview."<sup>5</sup>

## Galleria as an uncluttered spine that links spaces and guides movement

"Contributing to both variety and identity, the Galleria is the central organising space within the larger cubic volumes of the older buildings as well as a foci for movement and reciprocal views."<sup>4</sup> "The Galleria is the building's axial street and source of interior light and space. Added to these multiple roles are vertical and lateral circulation paths. The pedestrian ramp adjacent the central lift rises free within the space at the bridge linking old and new."<sup>1</sup>



### Familiarising visitors with exhibitions upon arrival

"... we're putting in an electronic information system in the main foyer and every exhibition is identified by a stunning photograph of a key object within the collection. So, we are identifying exhibitions and themes by key objects. Every exhibition will have a poster on display in the forcourt, so people (before they enter the building) will know broadly what are the themes and what the content is going to be like. When they get into the Powerhouse, they are directed to a particular exhibition by the poster image which is incorporated into the electronic information system."<sup>4</sup>

### Vantage points to orient the visitors

"We have placed what we call landmark objects in public spaces that will guide people through the museum ... the Boulton/ Watt Engine is a major landmark structure. Once you see it you never forget it, and you know where it is in the Powerhouse. There are aircraft, there are small precious objects, exciting individual items that people will see and remember and know where they are. These are located at key points, generally with an axial approach to them so that people can see them from a distance and remember where they are and fit them to the structure of the circulation."<sup>4</sup>

### A navigable museum

"... every time we put another object, another statement, into the Powerhouse, we could potentially confuse the reading of the building or the paths people have to take through it. So we have to give people as they enter some comprehension of the total space, and then of the gallery space, and each bit that's devoted to an exhibition. The visitors have to comprehend the space, and feel comfortable with it, before they can focus on the exhibits. They must know where they are, and not feel they'll never find their way out of the maze."<sup>4</sup>

"The spatial character of building is read in our emotional experience of the architecture ..."<sup>6</sup>

"The organisation of the building be easily "read" by the visitor."<sup>5</sup>

### An approachable museum

"It's surprising how many people are frightened in a big public space and that constrains the way they approach or explore a building and exhibits. So we have to make them comfortable and ensure that they aren't fatigued. In a building like this it's a much more important consideration because of its vast scale and its overall challenge."<sup>4</sup>

### Museum journey designed to visitors' expectations

"I tried to build up a discipline, a way of structuring the exhibition design, based upon the way a visitor sees and moves through the building. This 'vista' perception was necessary to understand the ideas, the collections and the buildings."<sup>4</sup>

"We try to give a range of different experiences so that if people are turned off by one particular thing, they can choose something else."<sup>4</sup>

### A coherent pattern of Museum's experience

"... I made maps of experience - so where was density of objects, where was the sound, where was the audio-visual, where were the interactives, where were the quiet spaces, where were the points of landmark objects, where could somebody delve and get into immense detail in a subject that fascinated them. And then I mapped it all out and I put it on layers of clear acrylic and I mapped these sensory perceptions with a coloured dot on the plan and then I put them all together ... and then when I did it to some of our emerging exhibitions, it was like reading music, you could actually see through the colour - the variation, the pauses, the changes of emphasis; you could read the experience of moving through the museum. The building itself did that and if the exhibitions negated that, it was all pointless to conserve those buildings."<sup>8</sup>



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# ENGAGEMENT

## Fostering interaction and stimulation through powerful design

"To do that the architecture explored very controversial, very powerful and yet very sensitive and responsive design concepts."<sup>4</sup>

"Modulate and sequence spatially the relationship between new and old buildings - accentuating and contrasting."<sup>1</sup>

"Each of us has a pattern of the city that we carry in our mind . . . The reaction that most people have to the Powerhouse is one of identification. They feel good, they respond to a lot of the retained elements and in a positive subconscious way."<sup>4</sup>

## Avenues for varied experiences

"We try to give a range of different experiences so that if people are turned off by one particular thing, they can choose something else."<sup>4</sup>

## A sense of wonder

"The bottom line is the beautiful dichotomy between observer and object; that magical sense of wonder that occurs when one comes face to face with the real object . . . To give people reality was just about the biggest 'turn-on' that one could create. So that point at which interaction occurs between the observer and object was what the museum is all about. It's really about that magic moment, that sense of wonder, that confrontation."<sup>4</sup>

## The power of movement

"And the flight - the idea that things are all flying through the space . . ."<sup>6</sup>

## An element of surprise

"Having an element of discovery."<sup>6</sup>

Referring to the balconies overlooking the transport collection in Turbine Hall

"The balconies are meant to be a surprise viewing point from the upper levels, to keep people interested, they would be surprises, exclaiming 'Oh, my God, who would have thought.'"<sup>6</sup>

## An essence of Australia

Referring to the sky at either ends of Wran building

"Those clouds are actually exploited in the exhibits in the west building. As you enter through a tower structure, attention is focussed on the Strasburg clock with a cloud backdrop. It's the sort of item that stylistically would have been seen against a sky. In the middle ground there's a wonderful box kite of Lawrence Hargraves soaring up into the vaulted space. That's seen against the clouds. There's also the first major exhibition as you enter. It involves you up a long theatrical ramp, not only into the vault but up into the clouds. This creates an elevating experience of coming into a museum of concepts and ideas to explore and think on a different level to the everyday"<sup>4</sup>

". . . the vastness - the people it amazes every time. I see people walk in, the sky does affect them, they sense the infinite nature of the space."<sup>6</sup>

## A balance of excitement, noise and stimulation

"One of the great things has been to attempt to arrive at a balance of content, space, experience, interactivity and classical presentation of an object for its own sake. It would be terribly wrong to have every exhibition with the same level of interactivity, or every single exhibition at the same level of excitement, noise or stimulation."<sup>4</sup>

### **Eclecticism, responsiveness and play**

“With the overriding belief shared with Lindsay Sharp, Director MAAS that the ‘ah ha’ moment in a museum comes when the observer views the real object; this became the essence of the many decisions made about the architecture and the exhibition. The other insight was built around the eclectic, slightly mad, universal, bowerbird nature of the collection in an age of specialisation - this serendipitous finding of the breadth of the collection across the range of human endeavour and social existence posed a potentially impossible demand upon the architecture.”<sup>2</sup>

“And the flight - the idea that things are all flying through the space . . .”<sup>6</sup>

### **Careful integration of exhibition design tools**

Referring to integration of interactives, audio visuals and graphics with the overall exhibition design and the buildings

“The scale, the dimensions and the way you move through the spaces, these things are intrinsically interacting as we experience the buildings and the exhibitions.”<sup>6</sup>

“But in themselves they are a recipe for chaos.”<sup>8</sup>

### **Uniqueness of the Museum generates interest**

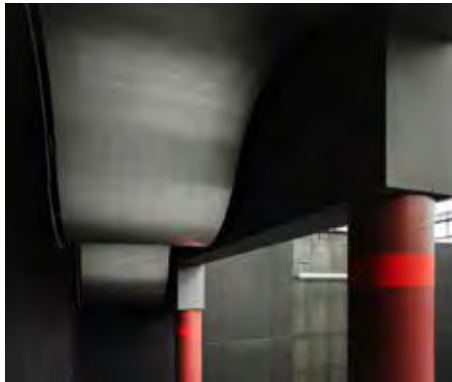
“The building is as it is because it evolved over such a long period of time. Like a city it has sort of loose fit circulation, there’s no classical route through it. You don’t enter a central exhibition hall and then relate back to the hall. It’s not that sort of a building. It’s not that sort of a collection either, and that makes it actually much more interesting to people.”<sup>4</sup>

### **A ‘Circuit Tour’**

“Circuit tour for the person who can spend a brief half hour with the collection at a series of stops where an exhibit of some of the best pieces of the museum collections historically organised are available. From this overview if more time is available one could engage oneself a little more. If, as many visitors, you have a special interest or more time you may go onto any one of the great museum collections. This is better than dragging yourself through gallery after gallery to find the things you want to see.”<sup>5</sup>

“The idea of the museum was to not have an enfiladed way of doing things - you go here you go there, here’s the path, here’s the way you’ve to experience the building. It’s more a sense of being drawn into this experience. And you can come in and do it quickly. Or you can do it very detailed way, and come and be fascinated with an object and stay there and not feel that oh I’ve got to continue on now and go and do it all. So return visits were implicit in the design of this breakthrough idea that you don’t tell people what they’re going to do. You might have a way of experiencing the museum, but also a way for people with limited time.”<sup>6</sup>





11 | *Rippled ceiling over the stairs in the Powerhouse Theatre.*



11 | *The use of extraordinary colours in the Powerhouse Theatre.*



11 | *Transport collection in the Boiler Hall in 1988.*



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# COLOUR & LIGHT

## **Eclectic colours represent the real world**

"I've battled with modernism's white hygienic view of the world. The world is coloured, its textured, it's not as pure."<sup>6</sup>

## **Use of exciting colours**

"I became quite excited when George Freedman started to use all these wonderful colours . . . the hand rails are black and the green of the columns. But particularly the colours are intriguing and arouse great interest in a new modern Museum building."<sup>6</sup>

"The colours were driven by George Freedman's extraordinary sense of the way colours work together. When you go into the theatres, it's a bit of a shock, they are like jewels - they are full on colour."<sup>6</sup>

"George wanted to introduce a range of colours into the decoration of the walls as he was a colourist. He enjoyed working with a range of different colours - earthy mixes of grays, browns, greeny green and the windy blues."<sup>6</sup>

## **Use of colour and decoration in moderation**

"The Powerhouse Theatre (big theatre) is simpler in comparison to the small theatre in architectural expression. It has coffered bays, and uses a combination of extraordinary colours. It's a shock for most modern architects who walk into the space. I was exploring the idea that there's something missing in the sterile world of modern architecture. We are relying on almost white or black forms. Don't be afraid of decoration, use it in moderation."<sup>6</sup>

"The other thing about modern architecture that worries me is this belief that somehow you can't decorate it. I think decoration is fundamental to our existence as human beings."<sup>6</sup>

## **Effective use of daylight to generate human interest**

"There is quite a lot of learned debate among museum people that the 'black box environment' is the way to go for museums. This project has firmly convinced me otherwise. There are 'black box' situations in the Powerhouse, for individual exhibits, and they work well. But, overall one must have a balance."<sup>4</sup>

". . . if museum design is generated by public perception, if visitors like the feeling of walking into a space flooded with natural light, why blacken it out? Why not, more cleverly, look at the design opportunities presented and try and control the environment in another way by building shelters or cocoons for things that are light sensitive."<sup>4</sup>



### Colours and design responses to capture fluidity and excitement of architecture

"I designed both theatres. George Freedman - the colour scheme. The Powerhouse Theatre (small theatre) is a play on art deco, Otto Wagner Post Office and the Mackintosh grid. It has a lantern shape ceiling, but it has a white illuminated ceiling with black grid, it's quite expressive. I have always been fascinated by the mark we make as an architect, and the idea of a scribble or a continuous ripple. The ceilings over the stairs in both the theatres have the rippled ceiling following you down, so one gets a sense of flow on the stairs. It has a neon stripe that follows the edge of the theatre."<sup>6</sup>

Referring to the red colour in steam vents in the west brick wall of Boiler Hall

"When architects colour drawings, the brickwork in section is coloured with dark red watercolour (international colour standards). It's a little architectural joke for other architects who visit the Museum."<sup>6</sup>

"When people look at the holes, they ask - What are these holes, why didn't you patch them and fill them up? But that's where the steam went through, it's part of the story of the building."<sup>6</sup>

Referring to the carpets designed by George Freedman

"The carpet was specially designed by George Freedman for the buildings. It has a neutral appearance from mid distance, but if you look at it close up, there are all these colours."<sup>6</sup>

Referring to the green grey colours of the columns in Wran building

"Wet concrete colour - it is an attempt to try and replicate that sense of it being fluid before it becomes solid."<sup>6</sup>

Referring to the Italian nougat tiles (with large stone aggregates) in the Wran building

"I liked the excitement, complexity and texture of the tiles against the fine grain of the stones. Everyone loved the tiles including the curators. A number of people have commented over the years - how they love it. It's a really exciting finish. The patterning of the tiles resembles the great cathedrals.

The floor pattern is critical to the site. It's exploring the way in which you can manipulate the variety of finishes to both be a margin and an infill element. The infill is rotated through 90 degrees and the texture of the margin is always at right angles."<sup>6</sup>

### The 1988 Emery Vincent graphics

"The exemplary work that Garry Emery did - the corporate identity of the Museum, the building identity, the graphic design, the marketing, the publications, and the graphic imagery of the exhibitions were all integrated. And that was even inspired or connected to the design of the carpets, it was the same colours. That's an example of not only collaboration but interdisciplinary collaboration - where one design inspired the other."<sup>8</sup>





## DESIGN PRINCIPLES I THE FUTURE

With evolution, exploration and collaboration at its heart, the Powerhouse Museum as part of the Ultimo Cultural Precinct would be managed based upon a set of fundamental design principles.

The comments by Lionel Glendenning and Richard Johnson are made in the context of their understanding of the Museum, its past, and its current and future needs.

The following principles are described by Lionel Glendenning (quoted in blue) and Richard Johnson (quoted in green).

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### **A clear understanding of the 1988 Museum is essential to guide future interventions**

“A major element implicit in what the Powerhouse did is missing in the way people are about to approach it.”<sup>6</sup>

“An understanding spatially, of what themes or collections or focus each space is going to have. You can’t design anonymous spaces without understanding what is the nature of this particular Museum.”<sup>8</sup>

### **Regeneration of Powerhouse for the 21<sup>st</sup> century**

“It’s feasible for the government to announce an extraordinary expansion, an extraordinary capacity for the museum to move into the future, in a way that captures the imagination.”<sup>6</sup>

“One of the great possibilities of a regenerated Powerhouse is that synergy between what the Museum is trying to do, its collection, the fabric of the architecture, and the display technique; all work together in unison. And then it’s incredibly powerful because it is very very rare internationally, and we had that in 1988.”<sup>8</sup>

### **A Museum Precinct for Ultimo | Sydney**

“... a coherent POWERHOUSE MUSEUM PRECINCT, which builds on the area’s and the Museum’s history and heritage, its contemporary design values which enhance and drive further development and create a new paradigm for the Museum to emulate the quantum change of 1988 which was a remarkable rebirth of this distinguished 1880 institution ...”<sup>1</sup>

“As a precinct it should become an evolving bubble. This building in particular is part of the urban design character of Sydney.”<sup>6</sup>

### **Museum as the locus of Ultimo’s Creative Precinct**

“As an instrument of public record and display, the Powerhouse Museum has a pivotal role in supporting, recording, presenting and fostering connections in this creative space.”<sup>1</sup>

### **Harwood Building is intrinsic to the Museum**

“Staged over four elements, the first critical stage was the conversion of the derelict, collapsed Ultimo Tram Depot to a new conservation laboratory, workshops, store and most importantly, a ‘taste’ of the future museum. It was at this time that the name Powerhouse was used ...”<sup>2</sup>

### **Advance the urban connections of the Precinct**

“The success of the Goods Line evolution as a key pedestrian link presently ends at the Museum, as does the Hay Street to George St and the CBD beyond. These interactions at the Museum present real opportunities for the Museum to create direct links and nodal places / squares integrating with these successful developments and crafting opportunities for activation, and links creating new value adding elements of the Museum’s activities and exhibits.”<sup>1</sup>

Referring to the north eastern end of Museum’s curtilage

“There’s a chimney base there which has been chewed up by part of the bridgework, but it’s original and it’s important not to damage it. I’ve been thinking about how to connect through under the bridge and the best solution is to keep the tram and the pedestrians together till you get to the point where you can take the pedestrian off and let the tram run, because once the tram leaves Central Railway it’s running on the street system. It comes up Hay Street on the true street system, there’s nothing to stop it carrying on briefly for another 100 or 200 meters, and this simplifies how you might treat it from an urban design point of view - it’s a tram running in the street.”<sup>6</sup>



### Strive to achieve 'Interdisciplinary Collaboration'

"Before you go to the actual process of creating buildings, a group of intellectual minds comes together in a collaborative sense - in a respectful context where ideas and concepts are listened to, and discussed in ways that make the whole exercise an escalating process aimed at perfection."<sup>6</sup>

### Hand and Mind - MIND and HAND

"At the Museum's heart, it is about the power of creative and innovative minds combined with skilled and inventive hands - Hand and Mind - MIND and HAND."<sup>1</sup>

### 'Design as a Continuum'

Referring to the design intent in 1988:

"At the detailed design level what it was trying to do was to add to and be part of the total Museum experience. I call it 'Design as a Continuum,' that there was a continuum of thought historically and Lionel Glendenning added a contemporary layer; there was a continuum in the collection up to the contemporary times; there was a continuum of curatorial thought and there was a continuum of design."<sup>8</sup>

### Design that interests and excites

"I have tried to make the architecture very controversial, very powerful and yet very sensitive and responsive." (Designworld)

"Opportunity to demonstrate interest in:

- consolidation;
- use of constraints as design generators;
- creating old and new linkages with the architecture of ULTIMO and POWERHOUSE;
- a contextual awareness and historical reference."<sup>5</sup>

### Ensure highest quality design input

Referring to the gradual dilution of design quality in recent changes

"Ensure highest quality of design input"<sup>6</sup>

"Good design doesn't cost money."<sup>6</sup>

### Strive for best international museum standards

"Pragmatic decisions on achieving the best international museum conditions and standards, allowing for future changes, and creating a flexibility of circulation in a wide variety of gallery spaces were implicit in the architectural solution."<sup>2</sup>

### Preserve the integrity of the original architecture

"The cubic volumes of the existing Powerhouse buildings.

Massive brickwork

Thickness

Dimension

Gravity

Solid."<sup>5</sup>

### Additional space / facilities

Referring to the Harris Street forecourt

"I think you should excavate here and put in a 20 storey building down like the State Library of NSW has on Macquarie Street (the Library has seven storeys below ground). The roof of it would be level 3 (entry level), and the edge (to Macarthur Street) could be cafes or shops. It would be a very simple thing to do."<sup>6</sup>

### **Reinstate the meaning of Harris Street forecourt**

“Reinstate Colonnade and explore options to extend structure to mark and define Harris Street forecourt, including possible external museum cafe and shop.”<sup>1</sup>

“Reinstate paving as per 1988 design to express grid linked to Garden Palace.”<sup>1</sup>

### **‘A sense of arrival, generosity and welcome’**

“A key to the architecture was the sense of ‘beginning a journey,’ hence the railway station metaphor, the space-capturing arch of Normanton railway station, Queensland.”<sup>2</sup>

“This issue of entries is critical and is going to be addressed in ways which are extraordinarily clever, but equally simple and conceptually stunning.”<sup>6</sup>

### **Retain the concept of ‘Layering-in’ from Harris Street**

“The additive and sequential development of the original massive buildings to the east of the site is modulated by the intervention of structures inserted, layered and sequenced.”<sup>5</sup>

### **Manage the Galleria as an uncluttered spine that links spaces and guides movement**

“The Galleria is “the building’s axial street and source of interior light and space. Added to these multiple roles are vertical and lateral circulation paths. The pedestrian ramp adjacent the central lift rises free within the space at the bridge linking old and new.”<sup>1</sup>

“I think you could extend the Galleria to the end (Macarthur Street), embrace the Switch building and put that inside the building and link it down to the schools and coming in from the back courtyard. It would work brilliantly. You would have this amazing triple height space with the galleria coming through.”<sup>6</sup>

Referring to the northern end of the Galleria

“The view across to the Ian Thorpe Aquatic Centre would be quite interesting. The shape of the pool is reflected in the Galleria.”<sup>6</sup>

### **Potential for cross link connection**

“The Switch House connection is a great opportunity for a cross link between Harris Street / Galleria / Goods Line square.”<sup>6</sup>

Referring to the northern end of Switch House and its possibility to be a grand entry into the museum

“It’s like a giant junction of all the elements that go out into the museum. You could link the lower level entry with the upper level entry through this space. You could take the back courtyard level right through the building, extend the Galleria right down into that level and bring all the school kids in there. Put in a set of escalators that serve each level, and, as you enter, you would look up through the building to beyond the Galleria. It would be quite an extraordinary thing. It would be like the big concourse at the Louvre. There could be shops, cafes and all the other free-standing elements within this grand space. It would be an articulation of the shopping feeling that you get across the way (along Hay Street) as you come up the Goods Line, onto this one level going right through till you are in the Galleria. The potential is wonderful.”<sup>6</sup>

### **Retain clear relationship between new and old**

**“Develop a convincing combination of old and new in a positive manner.”<sup>5</sup>**

Referring to the brightly coloured stair cores at the south brick wall of Boiler Hall

**“They were an intervention. Depending upon what happens in the rear courtyard, these could be removed or retained. New interventions in this courtyard have the potential to have the openness, accessibility and transparency that the Galleria offers. The robustness of this massive brick wall of Boiler Hall should be retained and new interventions should be lightened.”<sup>6</sup>**

### **Re-establish the unique and synergistic relationship between collections and buildings**

**“The architecture needed to be a contradiction, a paradox, a labyrinth, to allow the discovery, the wonder, the excitement of finding anew the collection.”<sup>2</sup>**

### **A comprehensible and navigable museum journey**

**“... give people as they enter some comprehension of the total space, and then of the gallery space, and each bit that's devoted to an exhibition. The visitors have to comprehend the space, and feel comfortable with it, before they can focus on the exhibits.”<sup>4</sup>**

### **Museum Exhibition design not independent of the buildings**

**“The building had, if you sought it out - a natural geometric rigour, and therefore the insertions within the building needed to understand and take their cues from it ... if you don't understand it, you can't work with it”<sup>6</sup>**

Referring to the distinction between an art gallery / art museum and the Powerhouse Museum

**“The concept of museum has been diminished by the dominance of art galleries and their success in attracting huge number of people, and museology has lost its way a little. In a strange way, an art gallery can be divorced from its paintings, they have never had a tradition like museums have had, of really delving deeply and explaining themselves to the viewer, whereas the museums are the opposite of this. And this particular collection is so eclectic, so bowerbird-like, so societal, it's a very strange collection. It's like no other in the world that have experienced.”<sup>6</sup>**

**“Despite that diversity there was an electric synergy between the building fabric and its spaces, and the collections. Because even the decorative arts, which needed more intimate spaces, had the intimate spaces and everything worked together. And therefore that gave it an authenticity ... In most cases, the architecture of an art museum doesn't reflect the nature of the art.”<sup>8</sup>**

### **Exhibitions should have a balance of excitement, noise and stimulation**

**“One of the great things has been to attempt to arrive at a balance of content, space, experience, interactivity and classical presentation of an object for its own sake. It would be terribly wrong to have every exhibition with the same level of interactivity, or every single exhibition at the same level of excitement, noise or stimulation.”<sup>4</sup>**



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### **Responsive design to reinstate and retain the authenticity of spaces in the buildings**

“There is some sort of restitution necessary in the process of clearing out some of the egregious interventions by others. The damage done is so much - the openness of the Wran building, which was one of its features, has been blocked completely by a lot of plasterboard. The attempt to convert it into a black space bemuses me because great exhibits were placed in there from around the world, and no one ever said that the volume, the space was an issue.”<sup>6</sup>

“It wasn’t an issue if the exhibition designer understood that there was a natural light issue that had to be dealt with by cocooning the object in a showcase or by other exhibition design means. It is an easy way out to blacken everything. I often say, if you are putting a painting in a major room in the Louvre or in the Palace of Versailles and you wanted to hang it next to the window, and you said that “the window is not in the right spot, I am going to brick it up because I want the painting there.” You would put the painting somewhere it wasn’t in harm.”<sup>8</sup>

### **‘Buildings within Buildings’**

“The intermediate scales between the objects and the small exhibitions and the architecture - the scale and dimension of the architecture need this mediating character within the spaces, which Richard Johnson and others were the designers of, but which I called up and which the board room at the galleria up the top - the little board room, a ‘building within a building,’ I used that term in 84. I wanted ‘buildings within buildings’ which would then be colonised by exhibitions as well as the big Boiler Hall exhibitions . . .”<sup>6</sup>

### **Embrace the scale of the buildings in exhibitions**

“ If you are a creative and you are going to do a small exhibition in the building, you need to embrace the bigger scale and the bigger dimensions and be aware of that what you are doing to the idea of the buildings within buildings.”<sup>6</sup>

### **Reinstate the principles that underpinned the intermediate scale elements**

“An important step is to reinstate the critical armature linking architecture and exhibitions. This armature is the key framework mediating the internal architecture and the smaller scale of the exhibitions and other elements. This will reinstate the circulation which is both flexible and in sync with the building and conceptual sequences”<sup>1</sup>

### **New interventions to link architecture and exhibitions**

“There is no point in recreating the interventions that I put into the Powerhouse that are now demolished. They were never intended to be permanent, some had a permanence well beyond the exhibition, but I envisaged that ultimately they would all go and the building would still be there, but the principle of them wouldn’t go. They would be replaced by better interventions that did the same thing functionally or aesthetically.”<sup>8</sup>

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### **Undertake research to understand the complexity of the building**

“This building is a complex building . . . It was a giant machine running at the highest standards, museum standards that were given to us from the museums in England, and America and we operated on that basis.”<sup>6</sup>

### **The potential in recycling and adaptive reuse**

“The existing resource in buildings that the society has invested in, is worth working with and building up as contextual ways for great design.”<sup>6</sup>

### **A corporate identity for the Museum**

“Reinstate and reconfigure the outstanding 1988 Emery Vincent signage and graphics scheme.”<sup>1</sup>

### **An urban design study to resolve urban connections of the precinct**

“As part of the revitalisation and activation of the Powerhouse Precinct, resolution of the urban design issues at the conjunction of Hay Street - ‘Urban Nest’ - Darling Drive, Light Rail, Macarthur Street and the Goods Line node. This key arrival node is an unresolved confusion of paving and levels, steep stairs and an assortment of residual walls and handrails, miscellaneous engineering elements - an urban design mess. With clear unambiguous urban design, a resolution of this important public arrival and transition place is vital. To that end, the City of Sydney Council, Light Rail and NSW Govt should commission an urban design study”<sup>1</sup>

### **Explore and present Museum’s context and linkages**

“Exploring the existing precinct, sites and architectural heritage through research and revelations underpinning Site Heritage Interpretation at all the Museum’s sites. For example, the Castle Hill historic plantation and the Museum’s early record of research and experimentation into the potential of Australia’s Essential Oils industry and, Native Timber industry.”<sup>1</sup>

### **Familiarise the visitor with the rich history and heritage of the Museum**

“Whole of the site interpretation of the history of the Museum’s precinct, site, all buildings, and of the institution of the Powerhouse Museum itself, will be a feature of the public’s experience of the one of Australia’s oldest museums.”<sup>1</sup>

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### **Celebrate the diversity and difference of people**

“Engaging many audiences through the broad sweep of the Powerhouse Museum’s Collection, based on our social, cultural, technical and scientific history. The First State, recognising First Nations culture - the foundation of our nation’s prehistory, developing penetrating insights into the formative and developmental influences on today and into the future.”<sup>1</sup>

### **Conserve the intangible heritage of the Museum**

“Heritage at the moment is evolving into the beginnings of an understanding of the intangible benefits of a site or a building. We are focussed on the artefact - the physical reality, but not on the intangible. And the Powerhouse has all of those other layers of intangible benefits that go beyond the physical fabric - that’s the collections, the synergy of the collections and the building, it’s the building and the precinct, its inspiration as the training ground for designers . . .”<sup>8</sup>

### **A robust Conservation Management Plan that builds upon the Design Principles**

“A properly prepared CMP guided by Design Principles to maintain the original design integrity of the Powerhouse Museum is essential . . . The CMP should be a robust framework to consider, debate and prioritise a range of options proposed in the master planning process.”<sup>1</sup>

“The important thing about the CMP is that it should manage change in a sensitive, thoughtful way, and ensure that the quality continues and that we pass it on.”<sup>6</sup>



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### Section 2.2: Exhibition Design I Richard Johnson

1. Wood. "Powerhouse."

### Section 03: Design Principles I 1988 &

### Section 04: Design principles I The Future

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## LIST OF IMAGES

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Figure 01:

Section 1.1: The Objectives

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Section 2: The Vision

Section 2.1: Architecture I Lionel Glendenning

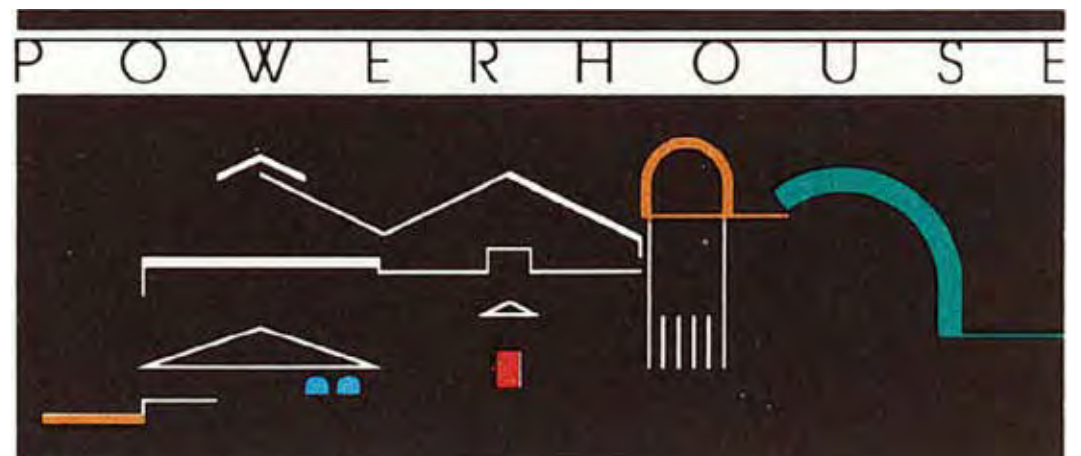
Section 2.2: Exhibition Design I Richard Johnson

Section 03: Design Principles I 1988 &

Section 04: Design principles I The Future



2021 | ULTIMO | SYDNEY





# APPENDIX F

## Powerhouse Museum

### Moveable Heritage List



**L4154/2** Work cap, fabric / plastic / metal, owned by Hiram Lennon, safety officer at Ultimo Power Station, Sydney, New South Wales, Australia, maker unknown, 1940-1970

Work cap, fabric / plastic / metal, owned by Hiram Lennon, safety officer at Ultimo Power Station, Sydney, New South Wales, Australia, maker unknown, 1940-1970

Black fabric cap with black plastic brim and fabric braid around the edge of the crown. A metal badge is at the centre of the front of the braid.

**Physical Numbering**

Not physically numbered

**Dimensions**

Type	Length	Width	Height	Depth	Diam	Units
General		263	130	293		mm



**L4154/1** Shaving brush, mug and razor, metal / wood / [hair], owned by Hiram Lennon, safety officer at Ultimo Power Station, Sydney, New South Wales, Australia, makers unknown/England, 1940-1970

Shaving brush, mug and razor, metal / wood / [hair], owned by Hiram Lennon, safety officer at Ultimo Power Station, Sydney, New South Wales, Australia, makers unknown/England, 1940-1970

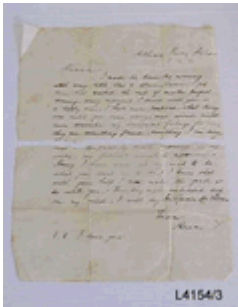
Shaving brush with wooden base painted brown. A gold coloured ring is at the top of the base. The brush consists of blonde coloured hair. Silver coloured mug with handle soldered to side. Silver coloured razor with bronze coloured handle.

**Physical Numbering**

Not physically numbered

**Dimensions**

See parts for dimensions



**L4154/3** Letter, paper, owned by Hiram Lennon, Australia, 1940

Letter, paper, owned by Hiram Lennon, Australia, 1940

The love letter was written by Hiram Lennon of Ultimo Power Station to his fiancée Grace. The letter has been torn horizontally through the centre and is now in two halves. The letter is handwritten in black ink on a loose sheet of lined and margined paper and dated 2.10.40.

**Dimensions**

Type	Length	Width	Height	Depth	Diam	Units
General		200	250			mm

Dimensions refer to letter as a whole (the letter has been torn into two halves)



**2000/26/1** Book, 'First Aid to the Injured', hardcover with paper cover, paper, published by St John Ambulance Association, London, England, 1938, used by Lloyd Birdsall, Ultimo Power Station, Sydney, New South Wales, Australia, 1939

A small, hard-cover book loosely covered with brown paper and inscribed by the donor's mother. White pages with black ink text and illustrations. Attached to the inside front cover is a diagram of the bones and arteries of the human body. 'First Aid/L. Birdsall/Ultimo Power Station' is written on the front of the brown paper in black ink. 'First Aid to the Injured' is the authorised textbook of the St John Ambulance Association. This is a copy of the 39th edition.

#### Physical Numbering

Numbered on verso inside last page, I.I. in 2b pencil

#### Dimensions

Type	Length	Width	Height	Depth	Diam	Units
General		108	135	20		mm

This refers to the book when it is closed.

No image

**88/332** Photographs (8), black and white prints, featuring the Ultimo Power Station and White Bay Power Station, paper, photographer unknown, Ultimo, New South Wales, Australia, c. 1911-1925

Photographs, (8), black and white Ultimo & White-Bay Turbine Generator & Switch Eq. Australia, 1911-1925

#### Dimensions



**85/123** Vesta case for matches, presented by the English Electric Co of Australia Ltd, in March 1923, commemorating the starting up of the first Australian-made steam turbo-alternator at Ultimo Power Station, Ultimo, New South Wales, Australia, silver, Australia, 1923, made by Magnus Goldring, Sydney

Vesta case for matches, presented by the English Electric Co of Australia Ltd, in March 1923, commemorating the starting up of the first Australian-made steam turbo-alternator at Ultimo Power Station, Ultimo, New South Wales, Australia, silver, Australia, 1923, made by Magnus Goldring, Sydney

#### Dimensions

Type	Length	Width	Height	Depth	Diam	Units
General		20	50	60		mm



**96/1/1** Keys (13), attached, metal / leather, possibly Ultimo Power Station, Australia, 1924-1928

Keys, 13, metal/leather, [Ultimo Power Station], Australia, 1924-1928. A set of 13 keys, possibly used originally in the switch rooms of the Ultimo Power Station Switch House. Rooms A & D had 50HZ cycles generators. Some of the keys are marked for these rooms (see: vol 5 of the Ultimo Powerhouse Study).

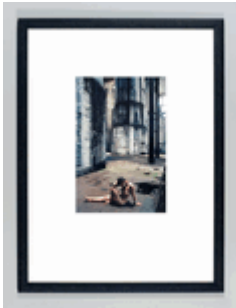
Set of 13 keys, all attached to a circular cloth bound ring, consisting of 2 groups of 5 & 6, with 2 separate keys. All are attached to brass & cloth bound metal wires. Keys are identified by leather tags, and two brass tags.

#### Dimensions

Type	Length	Width	Height	Depth	Diam	Units
General		150	200			mm

Dimensions are of the entire set of keys





**2007/25/4** Photograph, Chromogenic print, 'Model in boiler hall of the Ultimo Power Station', paper / wood, photographed by Jozef Vissel, Sydney, New South Wales, Australia, 1975-1980

Portrait photograph, 'Model in boiler hall of the Ultimo Power Station', type C, paper / wood, photographed by Jozef Vissel, Sydney, New South Wales, Australia, 1975-1980

Framed type C photograph of a nude female model sitting in the interior of the disused boiler hall of the Ultimo Power Station prior to its conversion to the Powerhouse Museum during the early 1980s. The model is reclining in the foreground and wears a necklace, earrings, bracelet, ring and watch. Inscription on reverse.

#### Physical Numbering

Numbered on the reverse lower right hand corner in 3B pencil.

#### Dimensions

Type	Length	Width	Height	Depth	Diam	Units
Framed	597	452				mm

The measurements above are of the frame only. The measurements of the print by sight only are 196(W) x 295 (L).



**B579** Blueprints, section of Babcock and Wilcox boiler at Ultimo Power Station, paper, maker unknown, place of production unknown, c. 1930

Blueprints showing section of boiler recently installed at Ultimo Power Station, Sydney (SB). One mounted blueprint of the Babcock and Wilcox boiler unit installed at the Ultimo Power Station in 1930.

#### Dimensions



**99/20/1** Pressure gauge, portable recording, metal / glass / paint, made by Foxboro-Yoxall Ltd / Alfred Snashall Pty Ltd, London, England / Sydney, New South Wales, 1934-1947, used at Ultimo and White Bay Power Stations, Sydney, New South Wales, Australia

Pressure gauge, portable recording, metal / glass / paint, used at Ultimo and White Bay Power Stations, Sydney, made by Foxboro-Yoxall Ltd / Alfred Snashall Pty Ltd, London, England / Sydney, New South Wales, 1934-1947.

Round-faced gauge with hinged glass front (catch is broken). Stand and handle (at top) in one piece bolted to the back of the gauge. Plate bearing the words 'Tech. Invest. Officer Ultimo Power Station' screwed onto the back of the gauge. Gas inlet at back below handle. Label on face has room for details of temperature and pressure, but the only information stamped into it for this gauge is: serial number E4710, chart 79805 type DIA, and one pen to record pressure from -3"W.G. to +3"W.G. (referring to the measurement of pressure from vacuum of 3 inch water gauge to positive 3 inch water gauge). The pen holder hangs from the top left of the gauge face. Attached to the metal rim holding the glass front is a metal label bearing the words 'Manufactured for Alfred Snashall Pty Ltd Civic House 477 Kent St Sydney NSW by Foxboro-Yoxall Limited'.

#### Physical Numbering

Numbered on back, inner rim of stand, in white ink, acetone in paraloid base coat with petroleum in paraloid top coat.

#### Dimensions

Type	Length	Width	Height	Depth	Diam	Units
General		335	390	140		mm

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No image

**97/44/1** Photographs (4), aerial views of Sydney streets, paper, Australia, c.1940s

Photographs (4), aerial views of Sydney streets, paper, Australia, c.1940s.

Four horizontal format black and white photograph prints on gloss paper. The photographs depict aerial views showing the development of Sydney streets. These photographs include:

view from the Ultimo power station across to the Darling Harbour goods yards with the city in the background;

view from the city end of Sydney to Central station and surrounds and Prince Alfred Park;

view from the Royal Botanical Gardens across Macquarie Street to Pyrmont Bridge and Darling Harbour; and

view across the Lavender Bay side of the Sydney Harbour bridge to Circular Quay, with the Royal Botanic Gardens in the left middle ground and the city in the background.

**Physical Numbering**

2B pencil on reverse

**Dimensions**

See parts for dimension information

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# APPENDIX G

## Aboriginal History

### Overview-Powerhouse

### Ultimo



# Aboriginal History Overview – Powerhouse Ultimo

**FINAL DRAFT – April 2022**

***WARNING: Aboriginal & Torres Strait Islander readers should note that this document discusses, and contains images of, deceased Aboriginal people***

## ***Using this overview***

This overview was prepared by Coast History & Heritage (Coast) for the Powerhouse Museum, to inform the preparation of a Conservation Management Plan for the Powerhouse Ultimo site. It was written by historians Michael Bennett and Paul Irish with assistance from Neenah Gray.

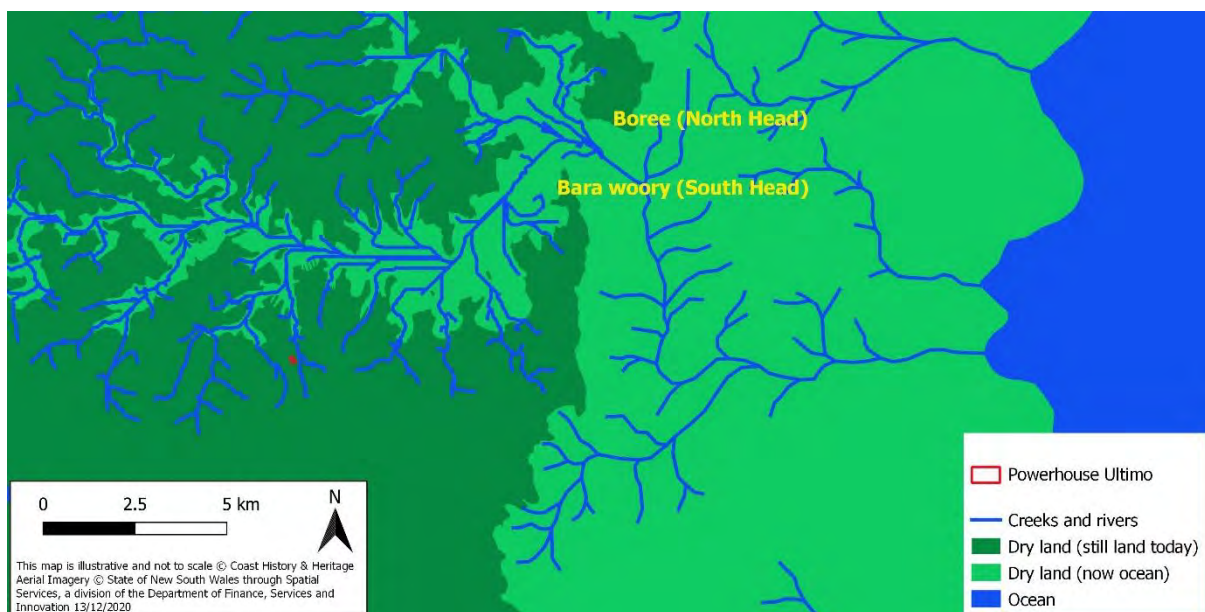
There are many more Aboriginal stories and linkages to the Powerhouse Ultimo sites and surrounds than this overview contains. It is not a comprehensive Aboriginal history of the Powerhouse Ultimo site and should not be read in this manner. It is intended only as a preliminary overview to flag some of the major themes in the Aboriginal history of the Ultimo/Pymont area. The overview was based on desktop research only, and is written from the perspective of non-Aboriginal historians. It is presented in a linear (chronological) fashion and we acknowledge that this may not reflect how past or present Aboriginal communities would relate to the site.

We have not included some images and content of a potentially personal and sensitive nature in this document because obtaining appropriate community and family permissions were beyond the scope of this initial research. More comprehensive research into Aboriginal connections to the area will be undertaken in future by the Powerhouse Museum, which will involve Aboriginal community collaboration, extensive archival research and incorporation of Aboriginal knowledge about the site. The outcomes from this research will present a more rounded and Aboriginal community focussed view of the Aboriginal history of the area, and will also ensure that appropriate permissions and attributions are obtained and used.

## **1 Before Tumbalong**

These days it is hard to imagine how the lands around Tumbalong (Darling Harbour) looked before the arrival of Europeans in Sydney. The entire shoreline has disappeared beneath wharves and straightened shorelines, creeks flow in covered drains, and large buildings on either side obscure the lay of the land. Aboriginal people have witnessed these changes over recent centuries, but their ancestors experienced one far more fundamental – the creation of Tumbalong itself. Here we consider what archaeology and geology tells us about the birth of Sydney Harbour. We do not discuss Aboriginal creation stories, which would require detailed research and extensive consultation to ensure that this information is appropriately told from an Aboriginal community perspective.<sup>1</sup>

If we wind back the clock 20,000 years, the world was at the height of the last ice age. There were no glaciers in Sydney but it was drier, 6-10 degrees colder and looked very different to today. Glaciers elsewhere in the world held vast amounts of water, resulting in sea levels more than 100 metres lower. Tumbalong, and indeed the entire harbour, did not exist. The ocean lay more than 10 kilometres further to the east, at the base of a cliff we know today as the submerged continental shelf.<sup>2</sup> Back then, more than 1,000 generations ago, Aboriginal people had already been living in the Sydney region for a long time.<sup>3</sup> They knew this as a very different landscape (see **Figure 1**). Standing on today's harbour heads, they were not surrounded by lapping waves, but looked east over a vast coastal plain. Turning west, Sydney Harbour looked a bit like the landscape of the Blue Mountains most of us are familiar with – fingers of ridges looking down on a timbered valley with a river snaking along its floor.



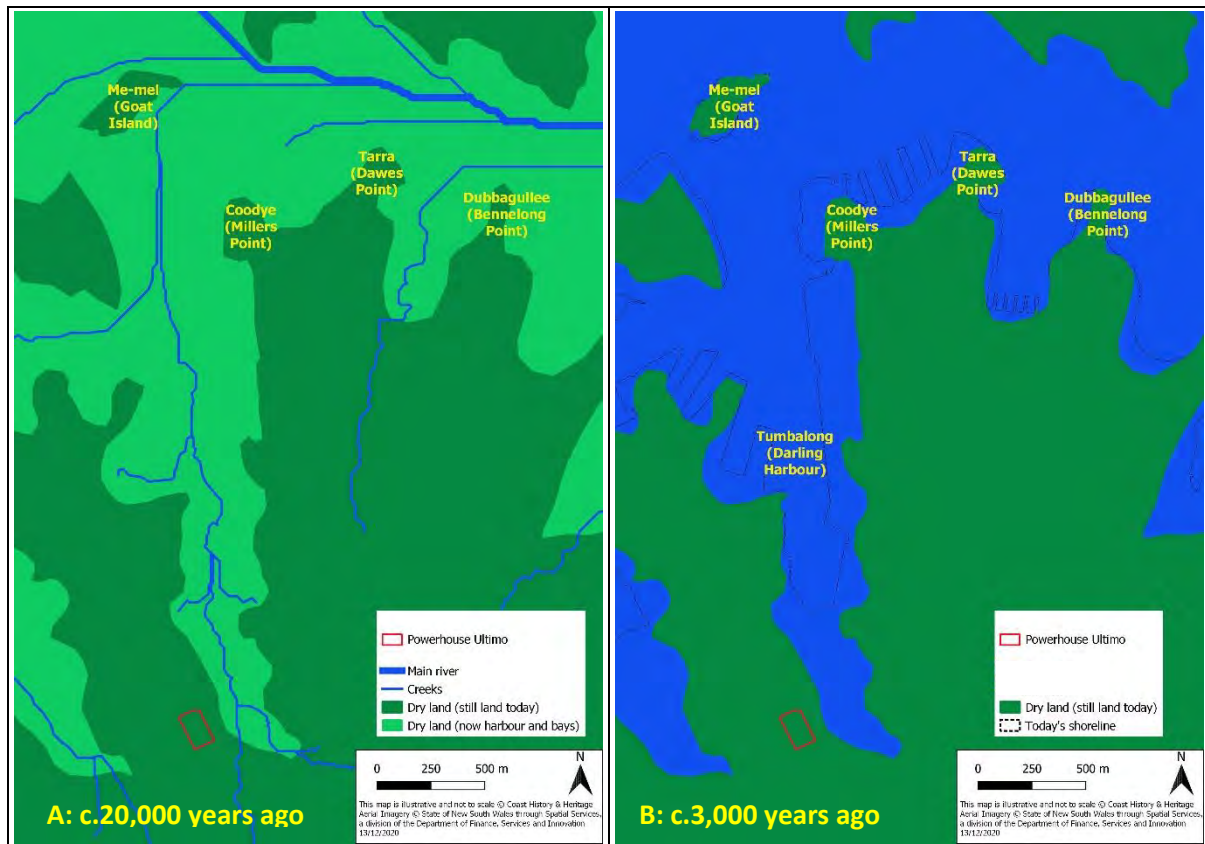
**Figure 1. An impression of what Sydney looked like around 20,000 years ago.**

[Spelling of Aboriginal place names follows Attenbrow 2010. *Sydney's Aboriginal Past*, Table 2.1. Source:<sup>4</sup>].

At this time, Tumbalong was not a bay, but a forested creek wending its way down to the main harbour river (**Figure 2A**). On either side of the creek the ridges of today's Ultimo and the Sydney CBD would have been covered in woodland. This was freshwater, inland country. Plants, birds and land animals probably provided most, if not all, of the food for people living around Tumbalong. They would have travelled around this area along ridges and creeks and could have walked right across what is now the harbour - perhaps not even needing a canoe to wade or swim cross the pre-harbour river.

About 18,000 years ago, the global temperature began to rise, sending glacial meltwater back into the ocean. Aboriginal people around Tumbalong would have seen or heard of this change as the waters at the base of the continental shelf cliff got higher and eventually began to creep across the coastal plain and between Boree (North Head) and Bara woory (South Head).<sup>5</sup> The harbour gradually took shape, like a very slow-filling bath. Saltwater eventually began to fill the wooded gully of Tumbalong, until around 7,000 years ago the bay was formed. Over the next few thousand years the

seas rose and fell slightly but by around 3,000 years ago Tumbalong would have looked more or less like it did to Aboriginal people when they encountered Europeans in 1788 (**Figure 2B & Figure 3**).



**Figure 2. Tumbalong before and after sea level rise.**

[Note: creeks and shorelines are approximate only. Spelling of Aboriginal place names follows official dual namings where available, or Attenbrow 2010. *Sydney's Aboriginal Past*, Table 2.1. Sources<sup>6</sup>].

## 2 On the shores of Tumbalong



**Figure 3. View from the site of Sydney Observatory across the outlet of Tumbalong.**

[The timbered hill behind the people is Barangaroo and behind that is Me-Mel (Goat Island). Tumbalong is the waterway extending left and the Parramatta River stretches into the distance. Source: Heath, J 1798, *By water to Parramatta; with a distant view of the western mountains, taken from the Windmill-hill at Sydney*, 25 May 1798, State Library NSW, DL Pd 764].



Recreating a sense of how Aboriginal people have lived around Tumbalong over the past few thousand years is difficult. The massive disruptions to Aboriginal life caused by the arrival of Europeans and the spread of the colony mean that we are often forced to rely on archaeological and historical records to supplement continuing community knowledge. The records are valuable, but have some important limitations. The historical records created by early Europeans in Sydney for example, provide a unique snapshot of Aboriginal life around the harbour. These are nonetheless taken from particular viewpoints. They missed more than they captured, and tried to explain what they saw by observation alone, while overlooking the very spiritual beliefs and cultural practices that influenced everything that Aboriginal people did. The legacy of this is far more than just a historical footnote, it has ongoing impacts today. For example, in areas like Ultimo in response to the seemingly basic question – who lived here?

Aboriginal people in Sydney related to the land through clans based around shared totems and a common male ancestor. Each clan probably had between 25 and 60 people, and these people had primary rights to their clan estate.<sup>7</sup> The clan estates around the harbour were relatively well defined by early Europeans, and clan names literally referred to the people of each particular estate. As Governor Phillip wrote in 1790

From ‘the entrance of the harbour, along the south shore, to the cove adjoining this settlement [Tumbalong], the district is called Cadi, and the tribe Cadigal; the women Cadigalleon...The south side of the harbour from the above-mentioned cove to Rose Hill, which the natives call Parramatta, the district is called Wann, and the tribe Wanngal’<sup>8</sup>

What do we do with this information? According to early Europeans, and many later historians and archaeologists, these clan boundaries defined how Aboriginal people lived.<sup>9</sup> Tumbalong, for example, was the ‘boundary’ between the Cadigal and Wanngal.<sup>10</sup> But day to day, the Aboriginal people camped on both sides of Tumbalong and fishing its waters were smaller and more diverse groups (sometimes called ‘bands’) than entire clans. Women married into other neighbouring clans, so any family contained people from at least two different clans. Each individual had primary responsibilities to look after their own clan estate, but could also have responsibilities in other clan lands to which they were linked through parents, grandparents or by marriage. This web of responsibilities was constantly being re-spun and reconfigured as senior people passed, as babies were born and as couples married. Caring for Country drove the movement of Aboriginal people, binding them closer to the land.<sup>11</sup>

So while it is probably correct to say that Ultimo, on the western shore of Tumbalong is Wanngal land, we should remember that this land also had meaning to the Aboriginal people living across the saltwater clans of coastal Sydney who linked back to the Wanngal. Based on this, we should avoid the temptation to assume (as many early Europeans did) that any Aboriginal person observed in a particular area was necessarily ‘from’ that clan. This is very important to bear in mind when we look at how Aboriginal people lived around and on the waters of Tumbalong.



**Figure 4. The rough extent of tidal flats compared to today's shoreline.**

It is hard today to get a sense of the Tumbalong that Wanngal, Cadigal and other coastal Aboriginal people knew intimately over the last few thousand years. Some early colonial images, like the 1798 sketch in **Figure 3**, give a sense of what the outlet of the bay into the harbour looked like and we can also imagine this from some of the other preserved woody headlands around the harbour. But what about the headwaters nearest to the Powerhouse at Ultimo? Early maps show us that there were extensive tidal flats of mud and sand here, home to the cockles which gave Tumbalong its early European name (**Figure 4**). Later reclamation of the foreshore completely remade this landscape, but archaeological and historical information give us clues as to how it was used by Aboriginal people.

As early colonial images and descriptions in coastal Sydney show, fishing was a central part of Aboriginal life on the harbour (**Figure 5**). Both women and men fished, though women were more frequently and continually seen fishing from nawi (bark canoes), with a fire burning on a clay pad in

the centre.<sup>12</sup> Men carried their fishing spears with them at all times, while women carried their hooks and string fishing line (made from twined bark) in a small bark container that resembled (fittingly) the canoes from which they frequently fished. Their canoes were mobile fishing platforms. The low draught allowed easy access to shallow bays like Tumbalong where shellfish could be scooped out of the mud, opened on the fire, chewed up and eaten or spat into the water as burley. Unsuspecting fish were hooked or speared, and the process continued. Women fished all day in their canoes and into the night, when men also took spears and torches into the shallows of the harbour bays. It is likely that fish traps were also used in some areas.<sup>13</sup>



**Figure 5. Aboriginal people camped around the entrance to Tumbalong in the early 1880s.**

[Note the canoes fishing the bay. Source: *Native camp, Cockle Bay with Parramatta River from Dawes Pt*, NSW State Library, Government Printing Office 1 – 09422]



**Figure 6. Shells and stone artefacts from an Aboriginal camp (midden) at the head of Tumbalong.**

[Note: the shells have been mixed in which mud and historical material from the reclaiming of the bay. Source: <https://www.sydneybarani.com.au/sites/darling-walk-midden/>].

Despite the massive changes to the shoreline, some traces of Aboriginal fishing camps have survived around Tumbalong. The remains of coastal campsites called shell middens have been found on both sides of Tumbalong in recent years. On the western side, one of these middens was found to be about 300 years old.<sup>14</sup> Another midden on the opposite shore was found in 2009, mixed with historical materials from the reclaiming of the bay. These middens show that Aboriginal people fished cockles, rock oysters and mud whelks out of the mudflats and ate them on the nearby rocks (**Figure 6**).<sup>15</sup> They may also have cooked fish like snapper and bream, as were found at another camp on the opposite side of Tumbalong, but no traces were found.<sup>16</sup> Their wooden tools and weapons have also not survived in the ground, but several pieces of worked stone show that Aboriginal people fashioned implements at the camp. The stone for these implements probably originated in western Sydney, as it is not found locally.<sup>17</sup> Stone artefacts have also been found at other camps to the southwest of the Powerhouse, around the mudflats of Blackwattle Bay.<sup>18</sup>

Aboriginal people would have slept at these camps in bark huts like the ones shown in **Figure 5** and **Figure 8**. They camped elsewhere on the rocky shores and ridges around Ultimo and Pyrmont in sandstone overhangs (**Figure 7**). Many of these have since been destroyed by the extensive sandstone quarrying that has taken place around the peninsula, but would originally have been numerous and variable in size, perhaps including some large enough to accommodate several families at a time. Aboriginal people sometimes created artworks in shelters such as hand stencils or outlined figures in pigment, and carved motifs into exposed sandstone rocks. While many such artworks are known from elsewhere in coastal Sydney, none have yet been documented in Pyrmont or Ultimo. This does not mean that they were none present, but more likely reflects the early destruction of sandstone outcrops through quarrying before they could be recorded. The sandstone ridges also contained springs, providing precious freshwater which flowed down into the salty bays below. One of these springs at Pyrmont was known as 'Tinkers Well'.<sup>19</sup> It was located in a large rock shelter, and contained shells which were almost certainly from Aboriginal people living there (**Figure 7**).





**Figure 7. Rockshelter and natural spring known as ‘Tinkers Well’, both at Pyrmont.**

[Source: (left) – Paul Irish, 2012. (right) – “‘Tinker’s Well.’ An Everflowing Spring’, *Evening News* 12/12/ 1912, p. 11].

Both archaeological and historical records show that Aboriginal people continued to live, more or less, traditionally for decades after the arrival of Europeans. A single piece of worked glass fashioned into a tool at Ultimo shows the adoption of new materials into traditional practices, while colonial images and descriptions show that Aboriginal people were still camping and fishing around Tumbalong into the 1820s (**Figure 5** and **Figure 8**).<sup>20</sup> This continuity is important for showing the enduring strength of Aboriginal culture, but it does not mean that the arrival of Europeans in 1788 had little effect. The most devastating impact occurred just a year after they arrived, when a smallpox epidemic swept around the harbour and carried away a huge number of Aboriginal people.<sup>21</sup> No reliable figures are available, but it seems likely that a majority of coastal Sydney people perished and it is certain that all families lost loved ones, and perhaps some entire families may have died. So when we look at colonial images of Aboriginal people around Tumbalong, like the one below, we should also think about how many more canoes on the water, and how many more huts and campfires on the shores and ridges, would have been there had the epidemic not occurred.



**Figure 8. View from Millers Point to Tumbalong in the 1820s.**

[Tumbalong extends up to the left to Ultimo. Source: Taylor, James ca 1819-1820, *Cockle Bay now Darling Harbour, ca 1819-20*, State Library NSW, ML941].

### 3 Living around a changing shore

In the 1790s, the survivors of the smallpox epidemic regrouped along old lines, perhaps drawing in more distant family connections to reconstitute their groups.<sup>22</sup> They did so in a climate of trauma; of increasing dispossession as the Sydney colony grew; and of violent conflict. One documented incident took place west of the Powerhouse, possibly at the head of Iron Cove, a few months after Europeans arrived, when two convicts were speared and clubbed to death while gathering reeds for thatching roofs.<sup>23</sup> These kinds of violent incidents were rarely unprovoked, and were often the result of unrecorded violence perpetrated by Europeans, as some acknowledged at the time.<sup>24</sup> Although this frontier violence subsided around the harbour in the 1790s, the docks and huts around Tumbalong remained dangerous places for Aboriginal people. In 1817 for example, a young Aboriginal woman known to Europeans as Nanny Cabbage, was brutally attacked on the city shore of Tumbalong, and died of horrific injuries hours later without anyone acting on her desperate cries for help.<sup>25</sup>

The brutal reality of life for Aboriginal people in colonial Sydney makes it all the more remarkable that they were able to remain. This owed largely to the enduring strength of their cultural connections, coupled with an adaptability to changing circumstances. Most notably, Aboriginal people cultivated relationships with Europeans that were of benefit to them. Also, it is important to note the uneven pace at which different parts of Sydney were transformed by the expanding colony. The pace of nineteenth century development along the bay and shore next to the Powerhouse influenced what Aboriginal people were able to do.



**Figure 9. Looking southwest across Tumbalong to the fields of Ultimo in 1856.**

[Source: Gill, Samuel Thomas 1856 'Pyrmont Bridge from Erskin [i.e. Erskine] Street Wharf' in *Scenery in and around Sydney*, Sydney, Allan & Wigley].



The Ultimo area was part of an early land grant to John Harris in 1803, and lands to the north and south were already being used by Europeans in the 1790s. But it was only from the 1860s after the subdivision of Harris's land, that major transformations occurred in the area.<sup>26</sup> In stark contrast to the opposite shore of Tumbalong, most of Ultimo remained farmland (**Figure 9**). As images and descriptions show, Aboriginal people still camped in this landscape for decades after the arrival of Europeans, around the shores of Tumbalong (**Figure 5** and **Figure 8**), above its mudflats (**Figure 10**) and most likely on the Ultimo estate where the Powerhouse later stood. In the mid-nineteenth century, Aboriginal children were still playing on the shore, and Aboriginal people would still 'come and gather oysters and cockles round the shores of the bay' as John Harris's grandson recalled.<sup>27</sup>



**Figure 10. Aboriginal camp above Tumbalong on the Parramatta Road in 1829.**

[The visitor in the hat is Broken Bay man Bungaree, who was living in Sydney with his coastal Sydney wife Cora Gooseberry and their family. Source: Carmichael, J. 1829. *Sydney from the Parramatta Road* (National Library of Australia, PIC Drawer 2316 #S2787)].



**Figure 11. William Annan in 1843.**

This image was made the year before Annan died. Source: 'William Minam [Minan ?] Walamata Port Aitken' from *Portraits of the Aborigines of New South Wales Sydney*, 1843 (SLNSW PXA74, a624002).

It has been argued that the clearing of land at Pyrmont in the 1830s drove Aboriginal people south to Ultimo.<sup>28</sup> This is possible, but it is likely that they continued living around its rocky shores in rock shelters such as Tinkers Well, and continued fishing the waters. It is suggested that the fishing grounds at the head of Tumbalong were always favoured. Edward Smith Hill, who hunted and fished with Aboriginal people around Sydney in the nineteenth century, noted that the upper reaches of Tumbalong were 'celebrated for cat-fish', which Aboriginal people were 'very fond of'.<sup>29</sup> This is what Hill and Port Hacking man William Annan (c.1790s-1844) were after in the autumn of 1838 at Tumbalong when Annan was stung by a catfish and had to have his arm amputated (**Figure 11**).<sup>30</sup> Though he survived, his death six years later, triggered the formation of a volunteer committee to look after the surviving Aboriginal people around Sydney.<sup>31</sup>



Annan's story points to the complex and strategic relationships that Aboriginal people developed with some Europeans as colonial Sydney relentlessly grew in the nineteenth century.<sup>32</sup> This allowed them to develop a network of 'friendly' places, even in the city. In 1846 for example, on the opposite shore of Tumbalong from the Powerhouse site, Jack Stewart and another Aboriginal man came to Robert McEwen's house on the Erskine Street wharf (**Figure 9**) looking for shelter and warmth, possibly because Stewart was ill. They were let into the house, provided with tea and left in the kitchen by the fire. Though Jack sadly passed away over that night, the familiarity of this incident suggests both a prior relationship and a sympathy (or certainly lack of fear) of Aboriginal people.<sup>33</sup> This was not universal though. In the same period though along Parramatta Road above Tumbalong, Aboriginal people were being abused by gangs.<sup>34</sup> They were also dying young. Charlotte Tamarrar, a familiar face around Ultimo with others from her 'tribe', passed away on the steps of a house there in 1844 at the age of 16,<sup>35</sup> and Mary Ann Burns died in her twenties in 1857 while living a hard life in the slums of Durands Alley (Haymarket).<sup>36</sup> These incidents remind us of the harsh realities faced by Aboriginal people, despite their resilience.

In the following decades, there are less records of Aboriginal people living around Ultimo. Perhaps the subdivision of Harris's estate by his sons in the 1860s, and the rapidly urbanising neighbourhood made it harder to camp around Tumbalong, or perhaps records just become scarcer. We know that some Aboriginal people were still living in the area. In 1868, an Aboriginal woman named 'Annie' was said to frequent Pyrmont, and also knew Gamay (Botany Bay) man Johnny Malone, which suggests that Ultimo and Pyrmont were still in the orbit of coastal Sydney people.<sup>37</sup> But by the 1880s and 1890s, as the Powerhouse, railways and land reclamation were transforming Tumbalong and Ultimo into an industrial landscape, coastal Sydney people were slowly moving out of their camps around the harbour to the Aboriginal fishing settlement at La Perouse.

This move was driven by the formation of the Aborigines Protection Board in the early 1880s, after decades of government indifference to the welfare of Aboriginal people in Sydney (and throughout NSW). Under pressure by missionaries and the police to intervene, the government established the Board as a means of coordinating government assistance to Aboriginal people. Initially the Board had no legal powers, but it could influence Aboriginal people's lives by where, how, and if it distributed aid. In coastal Sydney for example, La Perouse became the primary place where government assistance could be obtained. The result was a slow drift of Aboriginal people from various places around the harbour and Gamay. By 1900 La Perouse was virtually the only settlement in use.<sup>38</sup>

Those that continued to visit the inner city often had to contend with greater police surveillance. There are records from the 1890s and 1900s of the repeated arrests of Aboriginal people, some with ties to the coastal Sydney area.<sup>39</sup> By this time the Aboriginal people (mostly women) documented in Ultimo and Pyrmont tended to come from outside of Sydney, and often worked as domestic servants. The twentieth century pathway of legalised child removal and indentured service had not been established, and it is often hard to trace how or why these women came to Sydney. Some may have come for work or to escape the draconian control of the government.

## 4 Urban and industrial living



**Figure 12. Tumbalong in the 1840s and 1900s.**

[Overlay by Coast 2022. Source: Wells, W.H. 1843. *Map of the City of Sydney* (State Library NSW, Map Z M2 811.17/1843/2); *Map of the City of Sydney, NSW, 1903* (3rd Edition). Compiled, Drawn and Printed at the Department of Lands, Sydney, N.S.W. 1903, Historical Atlas of Sydney, City of Sydney].

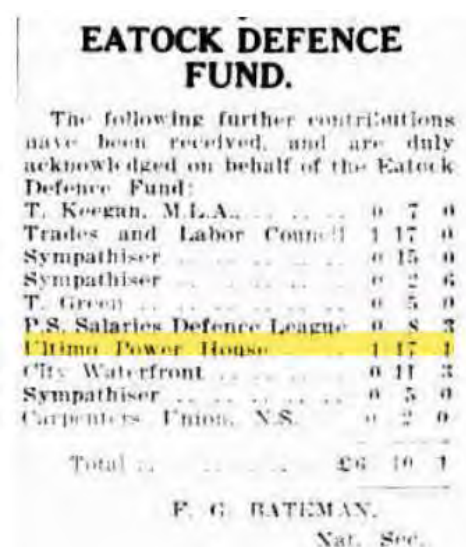
The completion of the Ultimo Power House in November 1899 is emblematic of the dramatic changes that took place to the landscape and Aboriginal occupation throughout the nineteenth century. Maps shown in **Figure 12** compare the 1840s and 1900s and clearly show the transformation. It was now an industrial and urbanised landscape, unsuitable for traditional activities such as fishing and hunting. The old shoreline was no longer visible, hidden beneath brick buildings, hard-paved roads and rail lines. Nevertheless, the Aboriginal story of the peninsula continued into the twentieth century as Aboriginal people from Sydney and distant parts of the colony adapted economically, socially and politically in attempting to find a place in broader society. They had new obstacles to contend with, including increasing government control exemplified by the passage of the Aborigines Protection Act in 1909 which gave the Aborigines Protection Board various powers to remove children and determine who was eligible to live in Government institutions known as reserves.

Aboriginal people from outside of Sydney continued to account for the majority of those connected to the peninsula in the early 1900s. Not surprisingly, many struggled to find a secure place in society, and like in earlier years stories of police arrests for both petty and more serious crimes are sadly common.<sup>40</sup> But not all recorded Aboriginal interactions were with the police. Sport was a

means by which Aboriginal men in particular could find a place in broader society in the early 20<sup>th</sup> century. Some Aboriginal men excelled at boxing – Jerry Jerome won the Australian middleweight belt in 1912 – and the gyms near central Sydney attracted Aboriginal competitors. The Metropolitan Club on Harris Street staged regular boxing contests in the early 1900s. In late March 1900, an Aboriginal boxer named “Warrigal” defeated his opponent in the fourth round. Further information about “Warrigal” is unknown, although the word means “wild dog” or “dingo” in the Wiradjuri language.<sup>41</sup>

There is also evidence of an Aboriginal woman from western Sydney living at Ultimo in the early 20<sup>th</sup> century, also outside the criminal justice system. Harriett Martha Locke was born at Blacktown in the late 1880s. Her grandmother, Maria Locke, is recognised as an important matriarch for many Darug descendants in western Sydney. An early student at the Parramatta Aboriginal School, Maria lived much of her life at Blacktown on land where the Aboriginal School was transferred to and nearby to early land grants given to several Aboriginal men.<sup>42</sup> Her daughter-in-law Sarah Castle (Harriet’s mother), also came from a prominent Darug family. Sarah gave information about the Darug language to ethnographer R.H. Mathews in the 1890s.<sup>43</sup> Harriett was living at Ultimo in February 1913 when she married Scotsman Alexander Walker Petrie at Redfern. It is uncertain why Harriett was living at Ultimo before her wedding – perhaps she was working as a domestic servant for a local non-Aboriginal family (her occupation on her marriage certificate is listed as “domestic duties”). Harriet does not appear to have remained at Ultimo for long. By 1922 she was living at Parramatta when she summoned her husband to court for abusive language. The couple were already living apart and divorced several years later. Harriet remained in Parramatta at least into the 1930s, living on lower Harris Street towards the river.<sup>44</sup>

Some Aboriginal families who moved and settled in Sydney were able to find employment and a degree of stability. Lucy Eatock from the Rockhampton district, Queensland, moved to Sydney via Brewarrina in western NSW in the early 1900s. Politically active, she joined the Industrial Workers of the World (an organisation that supported socialist revolution) and later the Australian Labor Party. Several of her sons may have been members of the Communist Party. The extended family lived near The Rocks and other inner-city suburbs. The sons became increasingly active politically as the Great Depression threatened the security of the working class. Both participated in a series of protests against the decision of the Lang NSW Government to require the completion of a form containing personal details before the dole would be paid. Noel Eatock was arrested at what became known as the Glebe Dole Riot in October 1932 when baton-wielding police charged a group of 500 people at the Glebe Town Hall who had gathered to discuss their opposition to the dole form. Eatock was arrested, charged and later convicted for assaulting two officers. Workers’ groups rallied around Eatock and the others who were arrested



EATOCK DEFENCE FUND.		
The following further contributions have been received, and are duly acknowledged on behalf of the Eatock Defence Fund:		
T. Keegan, M.L.A.	0	7 0
Trades and Labor Council	1	17 0
Sympathiser	0	15 0
Sympathiser	0	2 6
T. Green	0	5 0
P.S. Salaries Defence League	0	8 3
Ultimo Power House	1	17 1
City Waterfront	0	11 3
Sympathiser	0	5 0
Carpenters Union, N.S.	0	2 0
Total	2	6 10 1
P. G. BATEMAN, Nat. Sec.		

**Figure 13. Ultimo Power House workers contribution to the Eatock Defence Fund**

[Source: ‘Eatock Defence Fund’, *Workers’ Weekly* 14/7/1933, p. 3].



and raised money for their defence fund. One group who contributed were workers at the Ultimo Power House who donated £1.17.1 (**Figure 13**), a significant sum that only one other group was able to match (the Trades and Labor Council).<sup>45</sup>

Aboriginal people became increasingly active in the political sphere in the 1960s about issues that related directly to their lives such as citizenship and land rights. An organisation which attracted prominent political campaigners was the Foundation for Aboriginal Affairs, which had its headquarters on 810-812 George Street, just a few hundred metres from the Powerhouse. Speakers such as Charlie Perkins, Harry Williams and Chicka Dixon (from the NSW south coast) spoke about issues such as the 1967 Referendum and Land Rights. Many Aboriginal people from Redfern and the inner-west attended these events.<sup>46</sup> Another purpose of the Foundation was to provide support to the increasing number of Aboriginal people who were migrating to Sydney from rural NSW. Many lived in Redfern, but other families were scattered in various suburbs throughout the inner-west, including adjacent suburbs to Pyrmont and Ultimo.

## 5 Conclusions

Without even scratching the surface of available records for the Ultimo and Pyrmont areas, this overview has shown that Aboriginal people continued to live a traditional lifestyle around Tumbalong and the peninsula. It is evident that culture continued to be practiced for many decades after the arrival of Europeans, despite the cumulative impact of disease, dispossession and conflict. The shoreline and waters continued to provide many crucial resources for survival. Coupled with enduring cultural connections, and an adaptability to changing circumstances, this allowed Aboriginal people to live as much as possible on their own terms as Sydney grew around them in the nineteenth century. Towards the end of the century though, urbanisation and industrialisation greatly changed the landscape, and the advent of government surveillance and control of Aboriginal people greatly restricted their lives. Aboriginal people no longer camped around Ultimo, but instead worked and socialised in the area, sometimes travelling from interstate to start a different life. The connections continued through the twentieth century as the number of Aboriginal people living in the inner city increased with new forms of social and political activity emerging.

How the actual site of the Powerhouse was used by Aboriginal people in the past is not yet clear. More research both in archives and particularly with Aboriginal community members will no doubt reveal currently undocumented connections. For example, this overview has not considered Aboriginal connections to the Powerhouse as a Museum since 1988, or Aboriginal people who may have worked at the Ultimo Power House or in nearby industries including the railway. However, we can see even from this brief overview that this part of the western shore of Tumbalong was, and remains, Aboriginal Country, much as this is now obscured. It forms part of a broader Aboriginal landscape that was used for thousands of years and through to the present day, as Aboriginal people have adapted to both localised changes in the expanding colony, and to laws and policies that controlled and restricted their lives and opportunities.

Many more stories are no doubt yet to be told.

## 6 References

- <sup>1</sup> There are some published writings about the harbour's creation e.g. Bodkin, F. & Robertson, L. 2008. *D'harawal : seasons and climatic cycles* (Sydney; self published); Foley, D. 2001. *Repossession of our Spirit. Traditional Owners of Northern Sydney* (Canberra, Aboriginal History Inc). However further information is needed. These accounts appear to be the views of individuals and do not reference or represent Aboriginal communal knowledge. They would need to be corroborated with others.
- <sup>2</sup> Attenbrow, V. 2010. *Sydney's Aboriginal Past: Investigating the archaeological and historical records* (Sydney, UNSW Press), p. 38.
- <sup>3</sup> Stockton, E. 2009. 'Archaeology of the Blue Mountains', in E Stockton & J Merriman (eds) *Blue Mountains Dreaming: the Aboriginal heritage*, 2nd edn, (Sydney, Blue Mountains Education & Research Trust), pp. 41-72; Attenbrow 2010. *Sydney's Aboriginal Past*, pp. 18-21; Williams A.N. *et al.* 2014, 'A glacial cryptic refuge in south-east Australia: human occupation and mobility from 36 000 years ago in the Sydney Basin, New South Wales', *Journal of Quaternary Science* vol. 29, no. 8.
- <sup>4</sup> Developed by Coast 2021 based on data and maps in Albani, A.D., Rickwood, P.C., Quilty, P.G. and Tayton, J.W. 2015. 'The morphology and late Quaternary paleogeomorphology of the continental shelf off Sydney, NSW', *Australian Journal of Earth Sciences* 62, pp. 681–694; Derricourt, R.M. 2010. 'The South Head peninsula of Sydney Harbour: boundaries in space and time', *Journal of the Royal Australian Historical Society* 96, pp. 27–49; Wilson, K.M. & Power, H.E. 2018. 'Seamless bathymetry and topography datasets for New South Wales, Australia' Sci. Data 5:180115 doi: 10.1038/sdata.2018.115 and other data from Spatial Services NSW
- <sup>5</sup> Attenbrow 2010. *Sydney's Aboriginal Past*, p. 38.
- <sup>6</sup> Developed by Coast 2021 based on data and maps in Albani, A.D., Rickwood, P.C., Quilty, P.G. and Tayton, J.W. 2015. 'The morphology and late Quaternary paleogeomorphology of the continental shelf off Sydney, NSW', *Australian Journal of Earth Sciences* 62, pp. 681–694; Derricourt, R.M. 2010. 'The South Head peninsula of Sydney Harbour: boundaries in space and time', *Journal of the Royal Australian Historical Society* 96, pp. 27–49; Wilson, K.M. & Power, H.E. 2018. 'Seamless bathymetry and topography datasets for New South Wales, Australia' Sci. Data 5:180115 doi: 10.1038/sdata.2018.115 and other data from Spatial Services NSW
- <sup>7</sup> Attenbrow 2010, *Sydney's Aboriginal Past*, pp. 22-30, 57-58.
- <sup>8</sup> Attenbrow 2010, *Sydney's Aboriginal Past* p22; Phillip, A. "Letter from Governor Phillip to Lord Sydney 13/2/1790 " *Historical Records of New South Wales* 1, no. 2, p. 309 [author's addition in square brackets]. The suffix 'gal' actually means the men of Cadi or Wann, while 'galleon' refers to women. Also note numerous spellings – Wangal, Wanngal, Cadigal, Gadigal
- <sup>9</sup> This is discussed by Powell, M. and Hesline, R. 2010. 'Making tribes? Constructing Aboriginal tribal entities in Sydney and coastal N.S.W. from the early colonial period to the present', *Journal of the Royal Australian Historical Society* 96(2), 117. For examples see Ross, A, 1988. 'Tribal and linguistic boundaries: A reassessment of the evidence', in *A Difficult Infant: Sydney before Macquarie*, ed. G. Aplin (Kensington, New South Wales University Press), pp.42-53; Kohen, J. and Lampert, R. 1987 'Hunters and Fishers in the Sydney Region', in *Australians to 1788*, ed. D. Mulvaney and J. White (Broadway, Fairfax, Syme & Weldon Associates), pp.342-65; Ford, G.E. 2010. *Darkiñung Recognition. Identifying The Aborigines to the West and North of Sydney* (Masters thesis, University of Sydney); Smith, K.V. 2004. *Eora Clans. A history of indigenous social organisation in coastal Sydney, 1770-1890* (Masters thesis, Macquarie University); Steele, J. 2005. *The Aboriginal Language of Sydney* (Masters thesis, Macquarie University).
- <sup>10</sup> First fleet naval officer Philip Gidley King recorded the 'boundary' as being 'Long Cove' and this has led to subsequent confusion [King in Hunter, J, 1793 [1968]. *An Historical Journal of the Transactions at Port Jackson and Norfolk Island* ed. Bach, J. (London, J. Stockdale, Australian Facsimile Editions No. 148, Adelaide, Libraries Board of South Australia), p. 412. Long Cove was actually used for a short period to describe Darling Harbour/Cockle Bay before being applied to what was later known as Iron Cove to the west of the Balmain

Peninsula. It seems therefore that King was also referring to Darling Harbour just as Phillip had. See Attenbrow 2010, *Sydney's Aboriginal Past*, pp.24, 26.

<sup>11</sup> Irish, P. 2017. *Hidden In Plain View, The Aboriginal People of Coastal Sydney* (Sydney, NewSouth Publishing), pp. 17-19.

<sup>12</sup> Karskens, G. 2009. *The Colony. A History of Early Sydney*, (Sydney, Allen & Unwin), pp. 40-41, 406-7.

<sup>13</sup> Attenbrow, V. & Steele, D. 1995. 'Fishing in Port Jackson, New South Wales - more than met the eye', *Antiquity* 69(262), pp. 46-59.

<sup>14</sup> Curio Projects 2020. *Aboriginal Heritage Due Diligence Assessment Report. Powerhouse Ultimo* (Report to Create Infrastructure), p. 39.

<sup>15</sup> See <https://www.sydneymarani.com.au/sites/darling-walk-midden/>

<sup>16</sup> <https://www.sydneymarani.com.au/sites/campsite-lilyvale/>. Registered with Heritage NSW as Aboriginal site #45-6-2629 and #45-6-1853.

<sup>17</sup> <https://www.sydneymarani.com.au/sites/darling-walk-midden/>

<sup>18</sup> <https://www.sydneymarani.com.au/sites/blackwattle-creek/>. Registered with Heritage NSW as Aboriginal site #45-6-2629 and #45-6-2663.

<sup>19</sup> <https://www.sydneymarani.com.au/sites/tinkers-well/>

<sup>20</sup> <https://www.sydneymarani.com.au/sites/blackwattle-creek/>. Registered with Heritage NSW as Aboriginal site #45-6-2663. Note that another apparent glass object registered as #45-6-2987 is actually a European gunflint recorded in error as an Aboriginal object.

<sup>21</sup> Irish 2017. *Hidden in Plain View*, pp. 19-21.

<sup>22</sup> Irish 2017. *Hidden in Plain View*, pp. 22-24.

<sup>23</sup> Karskens 2009. *The Colony*, pp. 15-16; <https://thesydneywars.com/2019/03/11/finding-bloody-point/>

<sup>24</sup> Karskens 2009. *The Colony*, pp.361-70.

<sup>25</sup> 'Sydney', Sydney Gazette and New South Wales Advertiser 14/6/1817, p.2; 'Sydney', Sydney Gazette and New South Wales Advertiser 21/6/1817, p.3; Turbet, P. 2011. *The first frontier: the occupation of the Sydney region 1788-1816* (Sydney, City of Sydney Archives), p. 267.

<sup>26</sup> Matthews, M. 1982. *Pymont and Ultimo: A History* (Ultimo, Southwood Press), pp. 9-11.

<sup>27</sup> 'The Progress of Pymont', *Australian Town and Country Journal*, 13/10/1900, p. 30; 'News of the Day', *Sydney Monitor* 27/1/1840, p. 2.

<sup>28</sup> (Fitzgerald. S. & Golder, H. 1994. *Pymont and Ultimo Under Siege* (Sydney, Hale & Ironmonger), p. 24.

<sup>29</sup> (Tenison-Woods, 1882: 81), p.81.

<sup>30</sup> J.E. Tenison-Woods, J.E. 1882. *Fish and fisheries of New South Wales* (Sydney, Government Printer), p. 81; Robertson [Colonial Surgeon], 'Original Correspondence - Colonial Hospital', 7/6/1838, p. 3; 'Domestic Intelligence', *The Sydney Herald* 11/6/1838, p.2.

<sup>31</sup> Irish 2017. *Hidden in Plain View*, pp. 61-65.

<sup>32</sup> Irish 2017. *Hidden in Plain View*, Chapters 3 and 4.

<sup>33</sup> 'Inquests', *The Australian* 8/9/1846, p. 3; 'Inquests', *Sydney Chronicle* 9/9/1846, p. 3.

<sup>34</sup> 'Aboriginal Intemperance', *Empire*, 31/1/1857, p. 2.

<sup>35</sup> 'Coroner's Inquest', *The Australian*, 2/5/1844, p. 3, 'Inquest' *Morning Chronicle*, 5/4/1844, p. 3.

<sup>36</sup> Irish 2017. *Hidden in Plain View*, pp. 81-82.



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- <sup>37</sup> 'Police Burglaries, Stealing from Premises', *New South Wales Police Gazette*, 22/4/1868, p. 124.
- <sup>38</sup> Irish 2017. *Hidden in Plain View*, pp. 130-131.
- <sup>39</sup> E.g. 'Police Courts', *Sydney Morning Herald* 7/12/1894, p. 3; 'Quarter Sessions', *Evening News* 30/1/1895, p. 5.
- <sup>40</sup> E.g. 'Cowardly Assault and Robbery', *Evening News* 2/5/1905, p. 3; 'Queensland Aboriginal in Trouble', *Daily Telegraph* 25/1/1907, p. 10; 'Another Awful Tragedy', *Evening News* 24/12/1902, p. 3.
- <sup>41</sup> 'Boxing', *Evening News* 3/4/1900, p. 7; Grant, S. & Rudder, J. 2005. *A first Wiradjuri dictionary : English to Wiradjuri, Wiradjuri to English and categories of things* (O'Connor ACT, Restoration House), p.318.
- <sup>42</sup> Karskens, G. 2020. *People of the River. Lost Worlds of Early Australia* (Sydney; Allen & Unwin), p. 381.
- <sup>43</sup> R.H Mathews notebook (National Library of Australia MS 8006, series 3, folder 7: notebook 7B untitled), p. 23.
- <sup>44</sup>; Marriage Certificate of Alexander Walker Petrie and Harriett Martha Locke 1913/00569; 'Parramatta Police Court', *Cumberland Argus and Fruitgrowers Advocate* 19/7/1922, p. 2; NSW Electoral Roll 1933, Commonwealth – Parramatta, State – Parramatta, Subdivision of Parramatta.
- <sup>45</sup> Plater, D. 1993. *Other Boundaries: Inner-city Aboriginal stories* (Sydney, Bagnall Publications), p. 80; 'Dole Meeting is Scattered', *Daily Telegraph* 28/10/1932, p. 1; 'Gaol for Assaulting Police', *Sun* 20/4/1933, p.20; 'Eatock Defence Fund', *Workers' Weekly* 14/7/1933, p. 3.
- <sup>46</sup> City of Sydney 2011. *Barani Barrabugu (Yesterday Tomorrow): Sydney's Aboriginal Journey* (Sydney, City of Sydney), pp. 23, 59.

# APPENDIX H

## Draft Conservation Management Plan Community Consultation Report (March 2022)

# Powerhouse Ultimo – Conservation Management Plan Engagement 'What we heard' Consultation Report

Create NSW | Powerhouse Ultimo

March 2022



**aurecon**  
*Bringing ideas  
to life*



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**Aurecon pays respect to Elders past,  
present, and emerging and recognises  
and celebrates the diversity of  
First Nations communities and their  
ongoing cultures and connections to the  
lands and waters of NSW.**

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# Executive summary

On 4 July 2020 the NSW Government announced the Powerhouse Museum at Ultimo (Powerhouse Ultimo) would be retained and renewed as the anchor of the Ultimo Creative Industries Precinct, Museum Discovery Centre at Castle Hill, Sydney Observatory and the future flagship museum Powerhouse Parramatta.

The land is owned by the Museum of Applied Arts and Sciences Trust and includes the original Ultimo Power Station buildings, the Wran building (temporary exhibition hall opened in 1988), the Harwood building and the former Ultimo Post Office. Some components of the buildings on the site are heritage listed.

The Ultimo Creative Industries Precinct with the Powerhouse Ultimo at its core sits within the context of the new Darling Harbour precinct and the Central Station renewal to the south, adjoining the late-night trading areas of Haymarket. It is in a unique position for renewal, contributing to the future of the Pyrmont Peninsula and supporting partnerships with creative, technology and innovation industries in inner Sydney.

As part of the Conservation Management Plan, and on behalf of the Powerhouse and its partner Create NSW, Aurecon engaged and consulted with the community and key stakeholders on what they valued about Powerhouse Ultimo, including what works well and where the opportunities are for improvement. These key questions have gathered insights that will inform the social significance of the Powerhouse Ultimo to the community and its key stakeholders.

In the lead up to the Powerhouse Ultimo Open Weekend seven facilitated feedback sessions were held with staff and volunteers.

The Powerhouse Open Weekend was held over 19 and 20 March and included:

- five public consultation sessions as well as a private consultation session with Guilds, Honourable Associates and Associations
- Creative Industry Residents open studios
- guided and curated tours
- interactive sessions for kids
- Powerhouse Histories multimedia exhibition

The online survey was publicly available between 3 to 20 March (2.5 weeks). The consultation session with First Nations community was held on 21 March.

During the consultation period:

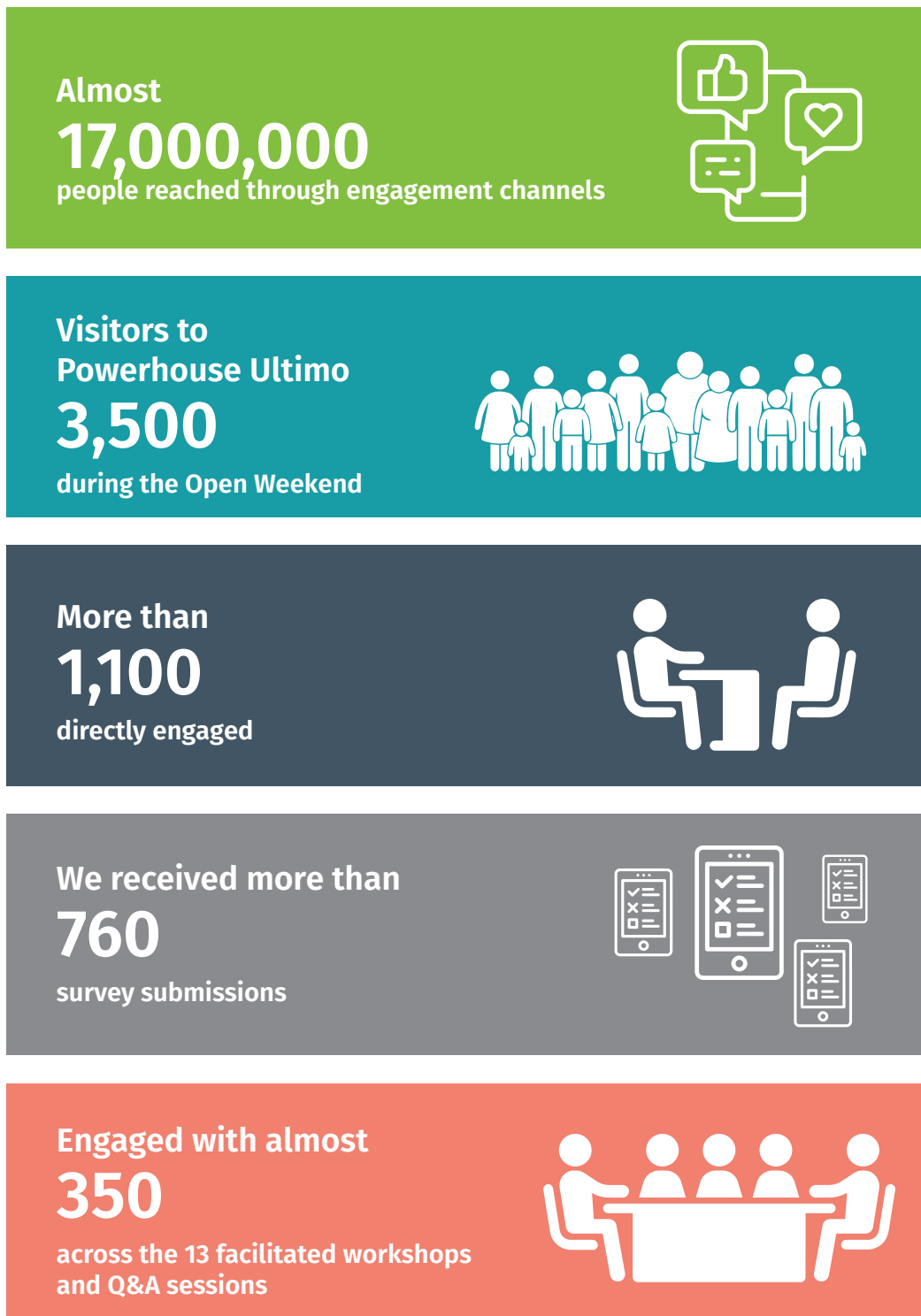
- almost 17 million people were reached via socials (15,000+), email (145,000+) and advertising (16 million+)
- there were more than 3,500 visitors to Powerhouse Ultimo during the Open Weekend
- more than 1,100 people were directly engaged
- we received more than 760 survey submissions
- we engaged almost 350 people across the 13 facilitated workshops and Q&A sessions

Powerhouse Ultimo is loved by many people.

- 94% of people engaged identify Powerhouse Ultimo as either important or very important
- People highly valued key elements of the Powerhouse Ultimo including exhibitions (82%), collections (61%) and the history of the building (54%). People also valued the central location of the museum, its industrial and transport history and its architectural significance to Ultimo
- The Boulton and Watt Steam Engine was named as the most memorable exhibition. Interactive play exhibitions were also cited as a big attractor for visitors, as were science, engineering and technology exhibitions
- The exhibitions (77%), conservation of heritage (59%) and customer service (52%) were rated as the top three things that worked well at the Powerhouse Ultimo. Maintenance (27%), conservation of heritage (22%) and exhibitions (20%) were rated as the top three things that could be improved
- 88% of people engaged found the Powerhouse Ultimo was easy to find and 83% found it easy to access. However additional wayfinding signage throughout the museum was cited as important for many people (88%) saying the museum was hard to navigate once inside
- Other recommendations for improvement included:
  - changing the entrance to the Powerhouse Ultimo, with many people suggesting a new entrance to face the Goods Line and city
  - better use of outdoor space for families and children's interactive play
  - changes to back of house elements such as storage, a fit for purpose loading dock and improved event space including the ability to install new exhibitions during opening hours
- Almost 80% of survey respondents were aged 30+ and 34% of them visit the Powerhouse Ultimo at least once or twice a year.



Figure 1 - Executive summary snapshot





# 1

## Introduction

# 1 Introduction

## 1.1 Project overview and context

As part of the renewal process, a Conservation Management Plan (CMP) is being prepared for Powerhouse Ultimo. The CMP is used to guide the use, management and change of a place.

The CMP will follow the principles and processes for caring for significant places, outlined in the Australia International Council on Monument and Sites (ICOMOS) Burra Charter. The objective is to achieve the best possible conservation of significant values for the place within the context of the real-world management circumstances of the item. The CMP is a primary resource in guiding changes when these are considered for a significant place and is required as part of a development application.

The report typically will detail the follow:

- Description of the place – buildings, elements, setting and context
- Research into the history of the place and its evolution – documentary and physical
- Assessment of significant values – historic, aesthetic, technical, social and spiritual
- Summary statement of significance
- Details of factors that may impact conservation, use and management
- Policies to guide conservation and management
- Resources consulted
- Appendices

A previous Conservation Management Plan for Powerhouse Ultimo was prepared in 2002. This 2022 Conservation Management Plan will look to:

- Understand the original design ideas and intent for Powerhouse Ultimo
- Assess the significance of all parts of the site
- Include history and associations of First Nations with the site
- Consider public esteem and associations to Powerhouse Ultimo
- Identify the significant tangible and intangible values of the site including historic, aesthetic, scientific, social, and spiritual
- Consider constraints and identify opportunities to guide future changes to the site for its continued use as a museum
- Review policies to reflect site conditions, including internal and external changes
- Reflect current principles for the management of heritage assets
- Reflect changes to NSW heritage and planning legislation.

## 1.2 Project objectives

Aurecon has been engaged by the Powerhouse and its partner Create NSW to support the development of Powerhouse Ultimo's Conservation Management Plan.

The project objectives include:

- Support the timely delivery of Powerhouse Ultimo's Conservation Management Plan (CMP)
- Engage the public and key stakeholders in the CMP process and broader Powerhouse Ultimo Renewal project
- Integrate the Museum's First Nations Engagement Strategy with the CMP process
- Set context for the Powerhouse Ultimo Design Competition.





# 2

## Consultation

## 2 Consultation

### 2.1 Communication and engagement objectives

The following priorities for engagement were developed using the Heritage Council of NSW's '[Statement of best practice for conservation management plans](#)':

- Provide quantitative and qualitative evidence of the museum's social significance to the community
- Provide opportunities for the community to comment on the social significance of Powerhouse Ultimo, including tourism potential and alignment with the activation of the creative precinct
- Identify how Powerhouse Ultimo forms the identity of the community and its aesthetic surroundings
- Accurately represent a diverse range of feedback on the social significance of Powerhouse Ultimo
- Provide opportunities to present, interpret, engage and celebrate Powerhouse Ultimo with the community and key stakeholders
- Engage with First Nations community members on the social significance of Powerhouse Ultimo and the land on which it resides.

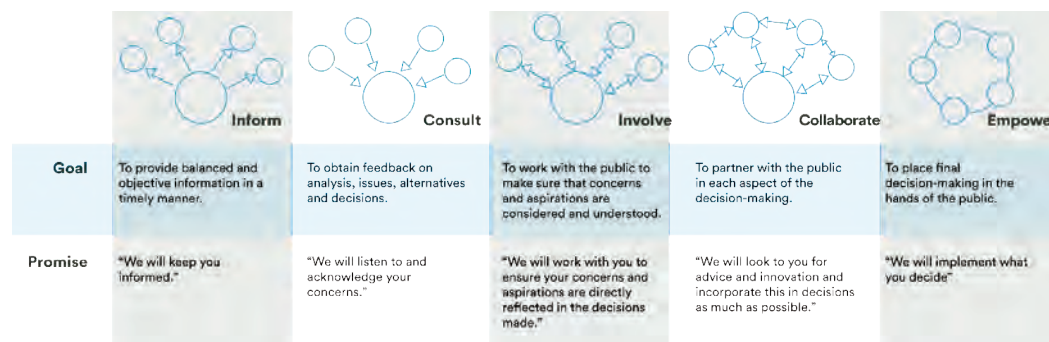
Our aim was to achieve this by:

- Engaging the community through a wide range of accessible and inclusive channels and platforms
- Collecting key sentiment, ideas, thoughts and considerations from the community and key stakeholders through a streamlined access point
- Providing clear timeframes around the consultation period to enable maximum participation
- Identifying key stakeholders and groups that have a connection to Powerhouse Ultimo
- Using the museum as a stimulus to activate public participation in the engagement.

### 2.2 Engagement framework

The International Association of Public Participation (IAP2) engagement framework will be used to guide all engagement activities throughout the life of the project. This framework helps to establish the role of community and other stakeholders in the engagement process and their impact on the decision-making outcomes of a project. The level of engagement will vary depending on the project phase and stakeholder influence/ impact.

**Figure 2 - IAP2 Spectrum of Public Participation**



Source: International Association for Public Participation – IAP2 International. Public Participation Spectrum

## 2.3.1 Stakeholders and the community

One of the main objectives of the consultation was to ensure that the engagement was comprehensive, and a diverse range of stakeholders were engaged. Our stakeholders were identified during earlier consultation for Powerhouse Ultimo and were grouped as per below.

**Table 1 – Targeted stakeholder list**

<b>Government Institutions</b> DPC Create NSW DPIE Department of Transport Greater Sydney Commission Destination NSW NSW Government Architect Heritage NSW Greater Sydney Commission Youth Panel Local Government City of Sydney Lord Mayor City of Sydney Deputy Lord Mayor City of Sydney Councillors City of Sydney Council staff	<b>Peak Groups</b> Accessible Arts	Surrounding businesses Surrounding residents Youth groups Sydney residents Sydney businesses	Sulphide Street Railway & Historical Museum Synagogue of The Outback Museum The Albert Kersten Mining and Minerals Museum (Geocentre) Port Macquarie Museum, Regional Museum volunteer Shellharbour City Museum, Regional Museum staff New Italy Museum, Regional Museum volunteers
<b>Elected Members</b> Deputy Lord Mayor of Sydney (Ms Jess Scully)	<b>Aboriginal and Torres Strait Islander Representatives</b> Metropolitan Local Aboriginal Land Council NSW Aboriginal Land Council	<b>Regional Arts and Museums</b> Arts Eastern Riverina, Regional Arts NSW Arts Mid North Coast, Regional Arts NSW Arts North West, Regional Arts NSW Arts OutWest, Regional Arts NSW Arts Upper Hunter, Regional Arts NSW Murray Arts, Regional Arts NSW Arts Northern Rivers, Regional Arts NSW Orana Arts, Regional Arts NSW Outback Arts, Regional Arts NSW South East Arts, Regional Arts NSW South West Arts, Regional Arts NSW Southern Tablelands Arts, Regional Arts NSW West Darling Arts, Regional Arts NSW West Riverina Arts, Regional Arts NSW Museums & Galleries NSW Bega Valley Regional Museum Old School Museum Merimbula Eden Killer Whale Museum Cobargo District Museum Tumut and District Historical Society Museum Adelong Alive Museum Batlow Museum Weethalle Whistle Stop Museum The Ungarie Museum and Historical Society Wyalong Museum Blue Mountains Historical Society and Tarella Cottage Museum Glenbrook and District Historical Society and Museum Mount Victoria and District Historical Society Museum Mount Wilson Historical Society and Turkish Bath Museum Valley Heights Locomotive Depot Heritage Museum Lithgow Small Arms Museum Eskbank House Museum Parkside Cottage Museum Narrandera Albury Library Museum Jindera Pioneer Museum Holbrook Submarine Museum Station Master's Residence at Culcairn Headlie Taylor Header Exhibition at Henty Woolpack Inn Museum, Holbrook Wymah Museum Sir Henry Parkes Museum Tenterfield Transport Museum Tenterfield Railway Museum Sydney Tramway Museum Sutherland Shire Historical Society and Museum Great Cobar Heritage Centre Moruya and District Historical Society Museum Batemans Bay Heritage Museum Narooma Historical Society Greens Gunyah Museum Yamba Museum – The Story House Maclean Bicentennial Museum and Stone Cottage Lawrence Museum Alumny Creek School Museum Nambucca Historical Museum Bowraville Folk Museum Frank Partridge VC Military Museum Mary Boulton Pioneer Cottage and Museum Nambucca Headland Museum Silverton Gaol and Historical Museum	<b>Media</b> Sydney Morning Herald Australian Financial Review ABC The Australian The Daily Telegraph Inner West Courier
<b>Powerhouse</b> Senior Leadership Executive Trustees Members Volunteers Staff Casual staff Former trustees Recent donors Creative Industry Residents Artists' in Residence Generations Music Fellow	<b>Business</b> Business NSW Sydney Business Chamber Pyrmont/Ultimo Chamber of Commerce Committee for Sydney		
<b>Arts, culture and heritage</b> Australian Museum Transport Heritage NSW Museums & Galleries NSW National Trust of Australia ICC Sydney Exhibition Centre	<b>Powerhouse Affiliated Societies</b> National Space Society of Australia Philatelic Association of NSW The Royal Australian Historical Society National Trust of Australia (NSW) The Royal Photographic Society of Great Britain The Pyrmont History Group The Colour Society of Australia The Academy of Technology and Engineering Flute Society of NSW Antique Arms Collectors Society of Australia The Silver Society of Australia Australian Numismatic Society Oral History NSW Australian Woodwork Association of NSW Watch and Clockmakers of Australia Walter Burley Griffin Society Inc The Knitters Guild of NSW Inc The Jewellers and Metalsmiths Group of Australia The Early Music Association of NSW The Aviation Historical Society of Australia (NSW Branch) The Australiana Society The Australian Ceramics Association The Asian Arts Society of Australia Inc Royal Aeronautical Society Sydney Space Frontier Society Australian Lace Guild NSW Branch Australian Design Centre Association of Australian Decorative & Fine Arts Societies (Paddington) The Wedgewood Society of NSW The Twentieth Century Heritage Society of NSW The Doll Collector's Club of NSW Sydney City Skywatchers Oriental Rug Society of NSW Ceramic Study Group Ceramic Collectors Society Association of Australian Decorative & Fine Arts Societies (Kuring-Gai) The Embroiderers' Guild NSW Inc The Quilters' Guild Inc		
<b>Knowledge Institutions</b> UTS UNSW TAFE Sydney University of Sydney Department of Education Ultimo Public School International Grammar School Sydney Sydney Secondary College Blackwattle Bay Campus Forest Lodge Public School St Andrew's Cathedral School Inner Sydney High School Australian Performing Arts Grammar School Western Sydney University University of Notre Dame Sydney School of Entrepreneurship Sydney Knowledge Hub INCUBATE Sydney Startup Hub Ultimo Community Centre	<b>Community groups</b> Save the Powerhouse Powerhouse Museum Alliance Pyrmont Action Group Inner West Mums CBD and Harbour Village Coalition of Glebe Groups Council of Ultimo/Pyrmont Associations Forest Lodge and Glebe Coordination Group Friends of Pyrmont Point Glebe Community Action Group REDWatch Ultimo Village Voice Pyrmont History Group Community members		
<b>Intersecting Precincts</b> Atlasian Greater Sydney Commission Sydney Fish Markets South Eveleigh Precinct (Mirvac) Carriageworks Transport Heritage NSW (also under Arts and Cultural Leaders) Commonwealth Bank Data 61 Darling Square ICC Sydney ICC Sydney Theatre Ian Thorpe Aquatic Centre			



## 2.4 Consultation snapshot

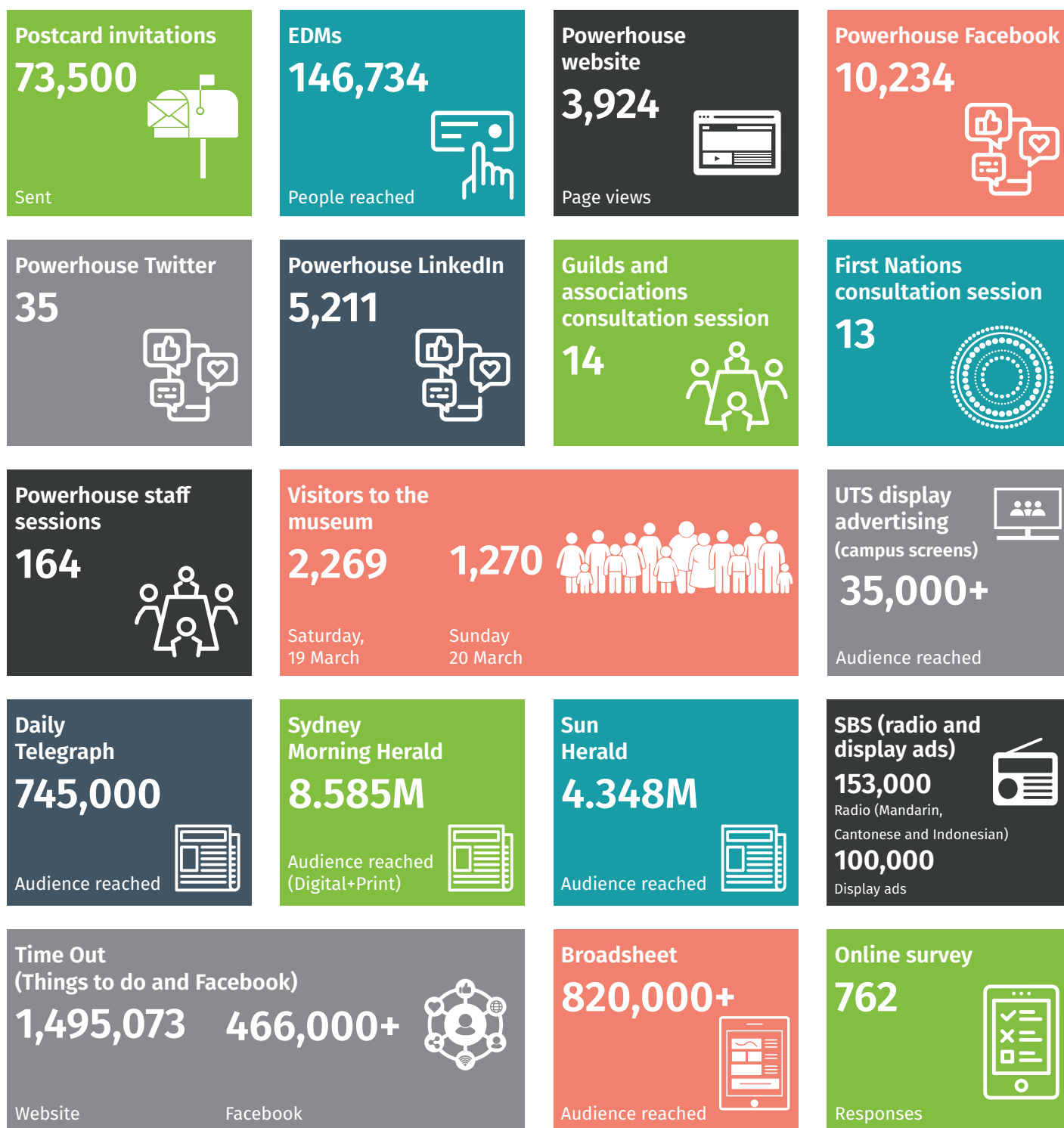
Communication during the preparation of the Consultation Management Plan is essential to ensure stakeholders and the local community were aware of the project and able to provide feedback on the social significance of Powerhouse Ultimo.

A wide variety of traditional and digital tools and channels were used to reach a diverse audience.

At the end of the consultation period, the outcomes achieved demonstrated high levels of engagement from both the key stakeholders and the community. The insights and feedback received were detailed and well informed.

A snapshot of the consultation, the channels and tools used for engagement is shown below and we will explore the Open Weekend and online survey in more detail on the following pages.

Figure 3 - Consultation snapshot



## 2.4.1 Powerhouse Ultimo Open Weekend

A face-to-face event was held to attract members of the public to Powerhouse Ultimo. By activating the space, we encouraged visitors to reflect on the space whilst also promoting the museum and creative precinct.

Through the use of diverse and accessible feedback options (in person, digital, self-guided or supported feedback) we sought to diversify our feedback for the Conservation Management Plan and encourage members

of the community that may not be captured through other engagement channels to take part in the process.

Powerhouse Ultimo Open Weekend was held on 19 and 20 March, in conjunction with the museum's Nowruz celebration. Several spaces and special events were organised to encourage high visitation.

Below are activation tools that were chosen for the event:

**Table 2 - Event activations**

Activation	Delivery format	Description	Audience experience	Target stakeholder groups
Memory Lane	Audio visual exhibit	A collection of archival footage and photos of Powerhouse Ultimo's history and past exhibitions. Voice overs were completed by Margaret, a volunteer for over 30 years.	Visitors were encouraged to connect with the building and reminisce on personal experiences of the space.	Local businesses and neighbours, past visitors of the museum, broader community, guilds and associations, First Nations community.
Creative industry residents open studio	Tour/talk	Showcased the future of the Powerhouse as a creative precinct by exhibiting inside the artist's studios on site.	Visitors were able to tour the studio space.	Local businesses and neighbours, broader community, schools and universities, Regional Arts and Museums, guilds and associations.
Guided Tours by volunteers and curators	Face-to-face	Encouraged visitors to connect with the building, exhibitions and collections and reminisce on personal significance and value of Powerhouse Ultimo.	Visitors were able to attend guided tours by curators, staff and volunteers.	Local community, broader community, schools and universities, First Nations community, guilds and associations.
Family Adventure Trails	Printed/digital collateral, QR codes, survey	Encouraged visitors to attend the face-to-face event, explore the museum and discover new experiences whilst providing feedback.	Visitors were given a finder's sheet with exhibits/hidden items to find around the museum. They completed the finder's sheet and was asked to fill out the survey for a chance to win a prize.	Families, local businesses and neighbours, schools and universities, disability groups and community members, First Nations community.
Interactive children's feedback	Face-to-face, interactive	Encouraged visitors to attend the event face-to-face. Allow young children an opportunity to express what do they value about the museum.	A station was set up with paper and colour pencils. Children were asked to draw parts of the museum they like.	Families.
Public consultation sessions on the CMP	Face-to-face, open forum	Informed participants and visitors about the renewal, CMP and provided a chance to provide feedback on the social significance of the museum.	Provided interested visitors with information relating to the renewal. Using plain English to explain the CMP and gave time for audience to ask questions and provide feedback.	Local businesses and neighbours, broader community, guilds and associations, disability groups and community members, schools and universities, First Nations community.

## 2.4.2 Online survey

Feedback was collected from the wider community through an online survey, swipEngage. A QR code was available on all promotional materials and collateral to maximise the opportunity to respond. The online survey was promoted through print and radio advertising, adverts at UTS, a postcard letterbox dropped to residents and businesses in Ultimo and Glebe, as well as via the Powerhouse website, email and social platforms.

The overarching purpose of the survey was to:

1. Identify key demographic groups that have interacted with the engagement campaign
2. Understand general sentiment and specific concerns of the most interested and critical stakeholders as well as if and how this is likely to shift
3. Understand general sentiment and specific concerns of the broader community and how it aligns with more critical stakeholders
4. Provide stakeholders with the opportunity to provide input and get their feedback to inform the CMP.

Stakeholders who attended the Powerhouse Ultimo Open Weekend on 19 and 20 March were also invited to participate in providing feedback via the survey.

Staff were positioned at key areas and activations to maximise feedback collected, including the following locations:

- Front entrance
- Café
- Creative play located in front of the Powerhouse Histories activation
- Experimentations.

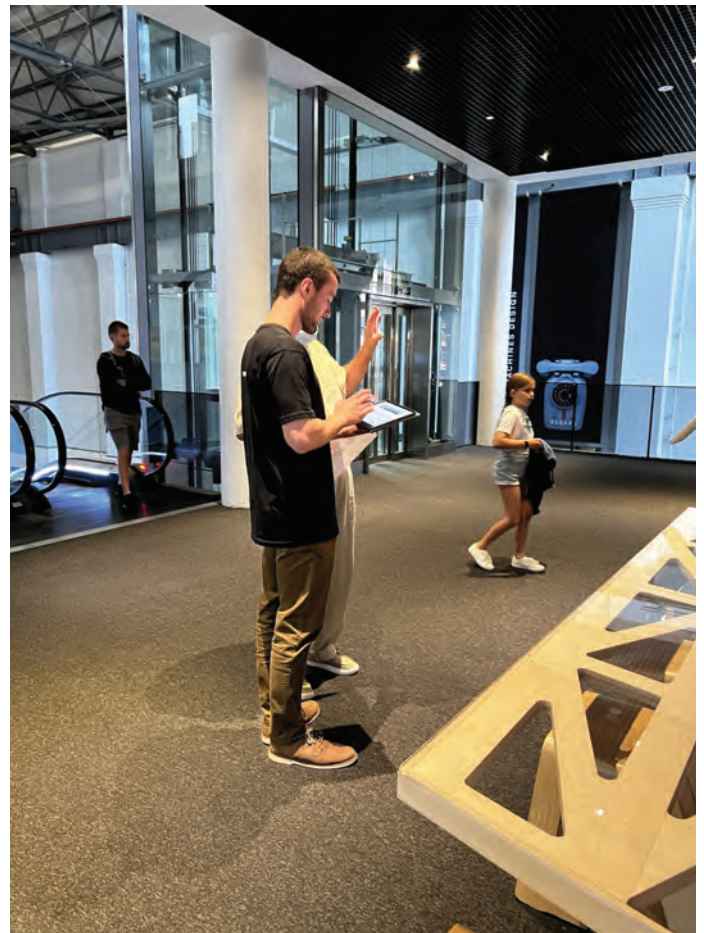
The survey aimed to understand what visitors' value about Powerhouse Ultimo, including what works, what doesn't and what people would change. Additional surveys were created in Simplified Chinese and Indonesian in the event in-language feedback was needed.

The same set of questions were asked across all consultation activities to enable comparative data for the purpose of the CMP. This ensured feedback opportunities are consistent and measurable across segments groups.

Refer to Appendix B for the survey questions.



SwipEngage survey being taken by community member at Open Weekend event







# 3

## Findings and key insights

## 3 Findings and key insights

This section outlines the findings and key insights generated during the consultation period. Responses were gathered from staff, First Nations community, guilds and associations and the broader community through various platforms outlined in Section 2.4.

### 3.1 Online survey

Feedback was gathered via the online survey platform, swipEngage. Between 3 and 21 March, 762 people completed the survey.

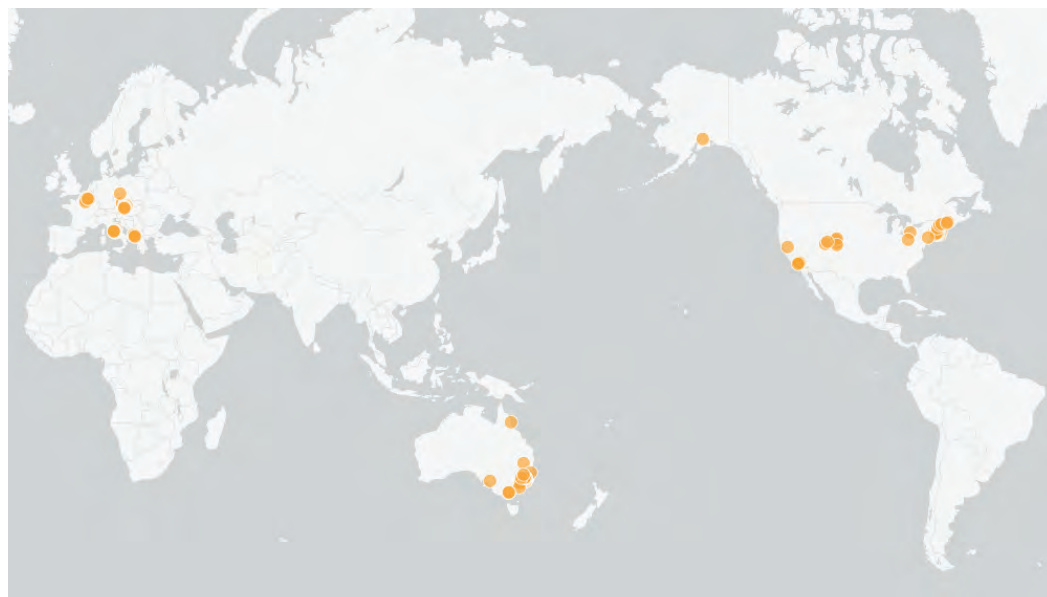
Of the respondents who completed the survey:

- 79% were 31 years old and above
- 15% were between the ages of 19 – 30 years old
- 4% were 18 years old or younger

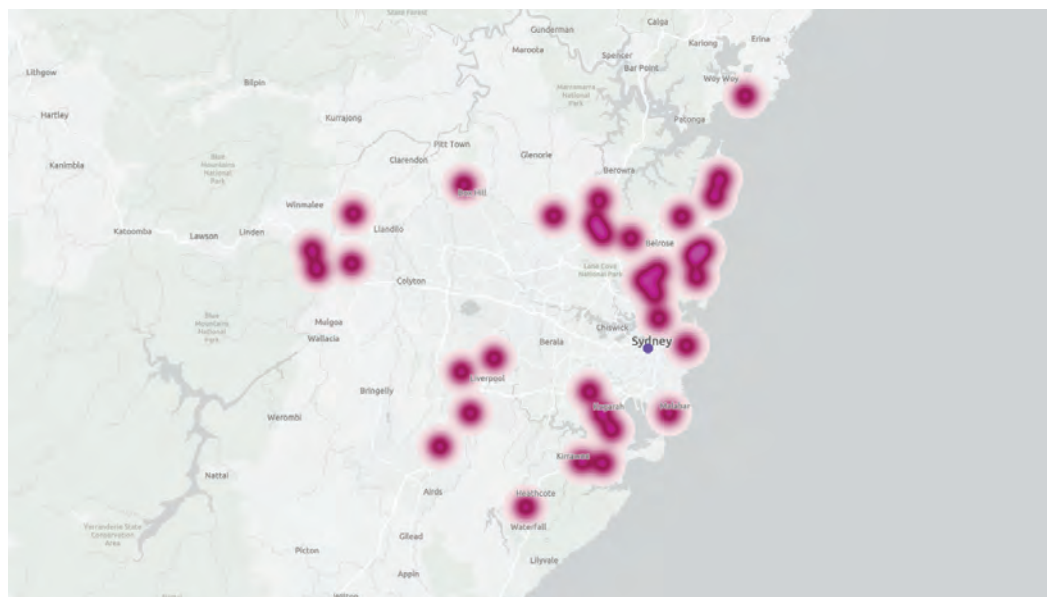
For the data presented below, please note question percentages are based on the total number of responses received per question – some respondents did not answer all questions.

Feedback results was gathered by residents not only from Australia, the image below captures the postcodes that were collected from visiting participants from other countries that completed the online survey.

**Figure 4 - Online survey reach by postcode (worldwide)**



**Figure 5 - Heatmap of online survey reach in CBD and Greater Sydney radius**



When completing the survey, respondents were asked questions regarding the following topics:

The value of  
Powerhouse Ultimo to  
them

Way finding, navigation  
and accessibility

What works well

What requires  
improvement

Below are some key insights provided from the results.

**Top three ways that help  
visitors navigate the  
museum**



- 57% Guides and volunteers
- 52% Arrows and directions
- 33% Organisation of exhibitions

**Top three things that work  
well at the museum**



- 77% Exhibitions
- 59% Conservation of heritage
- 52% Customer service

**Top three things that  
could be improved**



- 27% Maintenance and renovation
- 22% Conservation of heritage
- 20% Exhibitions

**88% find the museum  
difficult to navigate**



**88% agree the museum  
is easy to find**



**83% agree the museum  
is easy to access**



**94% rate Powerhouse  
Ultimo as 'important' and  
'very important'**



From the online survey we gathered feedback and comments from respondents on what they valued about Powerhouse Ultimo. The image below showcases the different topics mentioned in the responses.



Figure 6 - Values by volume of interest



### Questions 1, 2 & 3 – Value of Powerhouse Ultimo

These questions focused on what the respondent valued about the existing Powerhouse Ultimo. Questions inquired into the building itself, the respondents' sentiment and particular elements of the building that held special meaning.

Ninety-four percent (94%) of respondents ranked Powerhouse Ultimo as either important or very important. Feedback focused on the museum's value in its centralised location in Sydney (for locals and overseas tourists who visit), the industrial and transport history of the museum and the architectural significance of the space.

The Boulton and Watt Steam Engine was one of the most memorable exhibits for respondents. Interactive play also ranked highly as an attractor for visitors to the museum and people remarked on the impactful exhibitions based around science, engineering and technology.

### Questions 4,5 & 6 - Getting to and around Powerhouse Ultimo

These questions focused on the respondent's experience with locating and accessing Powerhouse Ultimo. Questions explored potential barriers to navigating the museum and investigated what people found helpful when navigating the space.

A majority of respondents found Powerhouse Ultimo easy to find (88%) and access (83%).

Building layout was one of the highest ranked categories when respondents were asked what make it difficult to navigate the museum. Of the respondents that ranked building layout hard to navigate (88%), 34% visit the Museum at least once or twice a year.

Additional wayfinding signage throughout the museum was cited as important with many people saying the museum was hard to navigate once inside.

### Question 7 – What works well at Powerhouse Ultimo

This question asked respondents about what areas of Powerhouse Ultimo currently worked well. The exhibitions (77%), conservation of heritage (59%) and customer service (52%) were rated as the top three things that worked well.

Responses in the free text area of the question also remarked on the collection and the museum's appeal to children and families. Respondents praised the interactive exhibits such as *Experimentations*. Respondents also highlighted the improved experience following the upgraded amenities (café) and looked for further integration and connection into the surrounding precinct.

### Question 9 – Areas for improvement at Powerhouse Ultimo

Respondents were asked to identify areas for improvement at Powerhouse Ultimo. Maintenance (27%), conservation of heritage (22%) and exhibitions (20%) were rated as the top three things that could be improved. Feedback on this question is captured below on category and comment. There was also a strong request for more interactive and family orientated exhibits and activities.

**Table 3 - Areas for improvement**

Restoration and maintenance	Education facilities / programs	Café and amenities	Collections	Exhibitions	Building features	Entrance
<ul style="list-style-type: none"> <li>Exhibitions require renewal</li> <li>Architectural features of the building require restoration</li> <li>Better maintenance on the building.</li> </ul>	<ul style="list-style-type: none"> <li>Education facilities need to be updated</li> <li>Dedicated education programs for all age groups and education levels</li> <li>Water education</li> <li>More school visits</li> <li>Support for regional schools to travel to the museum.</li> </ul>	<ul style="list-style-type: none"> <li>Café options to be improved</li> <li>Café feels sterile</li> <li>Better coffee at the café</li> <li>Improve toilet amenities</li> <li>Improved café</li> <li>Better access to toilets around the building</li> <li>Relaxed outdoor space where people can eat, and children play</li> <li>Better use of outdoor spaces</li> <li>Better selection of food at café</li> <li>Easier to find toilets</li> <li>More places to eat</li> <li>Outdoor bar/café</li> <li>More options in cafe for dietary requirements and dietary choices (gluten free, dairy free, halal, vegetarian, vegan).</li> </ul>	<ul style="list-style-type: none"> <li>Collection signage is too small</li> <li>Preservation of unique artifacts</li> <li>Collections that can travel to each museum and regionally</li> <li>More responsive process for donating to the collection</li> <li>Better acquisition of collections</li> <li>More visiting collections</li> <li>Better process for donating cultural artifacts</li> </ul>	<ul style="list-style-type: none"> <li>Interactive science exhibitions</li> <li>More technology/ science exhibits</li> <li>More costume and textiles exhibitions</li> <li>More funding to maintain exhibitions</li> <li>Larger exhibition spaces</li> <li>Exhibits need refreshing</li> <li>New and diverse exhibitions</li> <li>Exhibits that display Australian culture</li> <li>A renewed focus on industrial and science exhibitions and displays, presented in a meaningful and interactive way</li> <li>More technical knowledge of exhibits</li> <li>More permanent exhibits</li> <li>More informative labels on exhibits</li> <li>Virtual exhibits</li> <li>Better use of the spaces</li> <li>More focus on technology and engineering</li> <li>Bring back original exhibitions</li> <li>Accessible exhibitions that are easy to explore and understand.</li> </ul>	<ul style="list-style-type: none"> <li>Solar garden on the roof top</li> <li>Need more natural light from roof.</li> </ul>	<ul style="list-style-type: none"> <li>Customer service could be more welcoming at the entrance</li> <li>Front façade of building is uninviting (blacked out windows on Harris Street)</li> <li>Entrance needs to be more welcoming - currently feel like you're intruding with no sense of welcome</li> <li>Use the Goods Line for the main entrance</li> <li>The front entrance needs to be reoriented towards the city/Goods Line/Darling Square</li> <li>Include a visible information desk at the entrance providing a warm welcome</li> <li>Warmer entrance experience</li> <li>Easier to find entrance.</li> </ul>



**Table 4 - Areas for improvement feedback continued**

Activities for children and family	Signage and wayfinding	Heritage	Promotion and advertising	Events	Interactive experience	Connection to surrounding precincts	Access
<ul style="list-style-type: none"> <li>• Bring back the children's playground on the ground floor</li> <li>• More children's events</li> <li>• Children's workshops outside of school holidays</li> <li>• Spaces for children and families</li> <li>• Bring back the Wiggles exhibition.</li> </ul>	<ul style="list-style-type: none"> <li>• External signage needed for what exhibitions are on</li> <li>• Building layout needs improving</li> <li>• Layout of building needs to be less confusing</li> <li>• Simple layout</li> <li>• More signage and natural lighting</li> <li>• Better directions and use of ramps</li> <li>• Better layout of exhibitions</li> <li>• Signage to show what level you are on.</li> </ul>	<ul style="list-style-type: none"> <li>• More information on the heritage of the building</li> <li>• More information on the history of the building</li> <li>• Display Sydney's industrial heritage</li> </ul>	<ul style="list-style-type: none"> <li>• More community outreach on what the Powerhouse is doing</li> <li>• More advertising for the museum</li> <li>• Branding of the museum needs to be clearer</li> <li>• More advertising on social media</li> <li>• Better promotion of exhibitions</li> <li>• Advertisements around the museum for what exhibits are on.</li> </ul>	<ul style="list-style-type: none"> <li>• Fewer events at Powerhouse Ultimo</li> <li>• Interactive family events.</li> </ul>	<ul style="list-style-type: none"> <li>• More interactive play for adults and kids</li> <li>• Interactive workshops for the public.</li> </ul>	<ul style="list-style-type: none"> <li>• Visual connection to Sydney</li> <li>• Connect the Goods Line with the Darling Harbour and Haymarket precincts</li> <li>• Link to the surrounding precinct and heritage.</li> </ul>	<ul style="list-style-type: none"> <li>• Convenient parking</li> <li>• Improved entrance on Harris Street</li> <li>• Better access to public transport</li> <li>• Improved pram access around the museum</li> <li>• Sensory accommodations for neurodivergent</li> <li>• More representation of Aboriginal culture</li> <li>• Access to the Harwood building including the collections and library</li> <li>• Improve safety around the museum</li> <li>• Keep entry free</li> </ul>

## 3.2 Facilitated staff and volunteer workshops

Aurecon facilitated a series of staff and volunteer sessions via Zoom engaging staff on the following questions below:

- What do you value about Powerhouse Ultimo?
- What works well at Powerhouse Ultimo?
- What doesn't work well at Powerhouse Ultimo?
- What are the opportunities for change, improvement or efficiencies?
- Are there any other issues relevant to your role/function?

Responses from staff and volunteers indicated that wayfinding and staff navigation between the Harwood and Wran Building is a historic issue. The lack of back-of-house areas, fit-for purpose loading dock and event spaces challenges staff daily from an operational perspective. Many spaces in the museum are perceived as hidden or

under-utilised. Staff also highlighted the importance of correct building environmental monitoring and controls to ensure the collection is kept up to international museum standards. Physical and cultural accessibility were also raised as important.

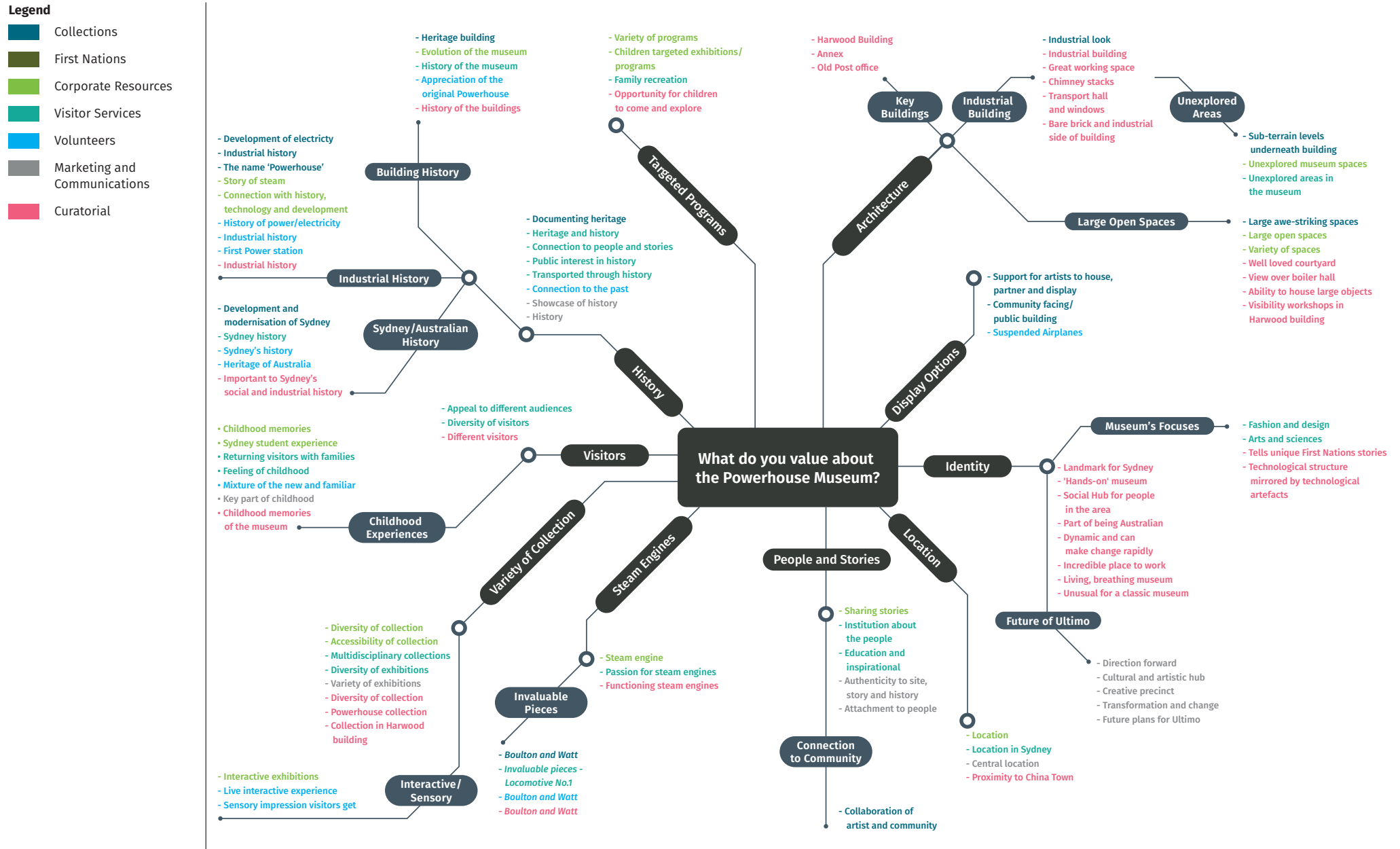
### Question 1: What do you value about the museum?

An analysis of responses from staff was conducted on what they valued most about the museum. Responses were then collated into key themes which are featured below.

**Table 5 - Feedback on what staff and volunteers value**

Value	What we have heard?
<b>History</b>	<ul style="list-style-type: none"> <li>• History and architecture of the museum</li> <li>• Industrial history and history of the building</li> <li>• Origin of the museum as a power station</li> <li>• Unique opportunity to showcase the history of power and electricity in Sydney</li> <li>• Connection to the history and modernisation of Sydney and Australia</li> </ul>
<b>Returning visitors</b>	<ul style="list-style-type: none"> <li>• Diversity of visitors</li> <li>• Diverse collection and programming appeals to different audiences</li> <li>• Fond memories of visiting the museum as a child, now able to bring their own children and grandchildren</li> <li>• Key experience for Sydney students, many staff indicating they visited the museum as students</li> </ul>
<b>Collection and exhibitions</b>	<ul style="list-style-type: none"> <li>• Diverse collection and variety of exhibitions</li> <li>• Invaluable pieces including <i>Boulton and Watt</i> and <i>Locomotive No.1</i></li> <li>• Functioning steam engines</li> <li>• The collection is prepared in the Harwood Building</li> </ul>
<b>Architecture</b>	<ul style="list-style-type: none"> <li>• Unique architecture</li> <li>• Large spaces that bring an 'inspiring' experience</li> <li>• Ability to display large objects e.g. suspended airplanes</li> <li>• Key buildings of importance eg. North Annex, Harwood Building, old post office</li> <li>• Unavailable areas to the public eg. unfinished basement</li> <li>• Industrial look and aesthetic including bare brick, large windows and chimney stacks</li> </ul>
<b>Creative Precinct</b>	<ul style="list-style-type: none"> <li>• Future of Powerhouse Ultimo as a creative precinct and potential to increase visibility of the creative residents</li> </ul>
<b>Location</b>	<ul style="list-style-type: none"> <li>• The museum is central to the Sydney CBD and close to key Sydney sites including China Town and Darling Square</li> </ul>
<b>Museum focus</b>	<ul style="list-style-type: none"> <li>• Large variety of themes that the museum focuses on including: <ul style="list-style-type: none"> <li>– Science</li> <li>– Innovation</li> <li>– Fashion and design</li> <li>– Arts</li> </ul> </li> </ul>

Figure 7 - Map of feedback from staff feedback sessions





## Question 2: What works well at the museum?

An analysis was completed of the staff workshops providing a list of different aspects of the museum that they thought worked well.

**Table 6 - Feedback on what works well**

What works well at the Museum?	What have we heard?
<b>Museum spaces</b>	<ul style="list-style-type: none"> <li>Large open spaces</li> <li>Small spaces to create a more intimate atmosphere</li> </ul>
<b>Plant room</b>	<ul style="list-style-type: none"> <li>Has large ventilation ducts and is easy to navigate to other parts of the museum</li> </ul>
<b>Open plan office</b>	<ul style="list-style-type: none"> <li>Open plan office is working well</li> </ul>

## Question 3: What doesn't work at the museum?

Feedback from the staff on what doesn't work well at the museum was collated. The responses were separated and compiled into categories.

**Table 7 - Feedback on what doesn't work well**

What doesn't work at the Museum?	What we have heard?
<b>Storage</b>	<ul style="list-style-type: none"> <li>Storage is not accessible during museum opening hours</li> <li>Positions of storage rooms at the museum needs to be carefully considered</li> </ul>
<b>Exhibition spaces and Installation</b>	<ul style="list-style-type: none"> <li>Positioning of the columns make it difficult to design exhibition spaces</li> <li>High ceilings and open spaces functioning make it difficult to install infrastructure</li> <li>The space is non-regular and not grided</li> <li>Solid slab so there is no sub floor access</li> <li>Heritage spaces with limitation where the lighting team can install lights</li> <li>Museum spaces too dark</li> </ul>
<b>Back of house</b>	<ul style="list-style-type: none"> <li>Lack of back of house areas. Navigation around the museum is difficult</li> <li>Hard to move anything around the museum</li> <li>Exhibition spaces cannot easily be sectioned and closed off – installation needs to be done outside of museum operation hours</li> </ul>
<b>Loading dock</b>	<ul style="list-style-type: none"> <li>Loading dock is too small</li> <li>There are often issues with large deliveries</li> <li>They cannot get containers into the loading dock</li> </ul>
<b>Moving between the Harwood Building and Wran Building</b>	<ul style="list-style-type: none"> <li>Environmental climate when transferring collections</li> <li>Congestion and pedestrian foot traffic including pets, delivery drivers and people with children etc</li> </ul>
<b>Underutilised space</b>	<ul style="list-style-type: none"> <li>The spaces that are currently closed off to the public</li> <li>The unfinished basement</li> <li>Powerhouse Learning Centre (PLC)</li> <li>Hidden corners of the museum that are not often visited</li> </ul>
<b>Environment and climate control</b>	<ul style="list-style-type: none"> <li>Challenge to keep collection conditions up to international museum standard</li> <li>Door needs to be double layer to create airlock</li> <li>Humid and temperature</li> <li>Large windows/light damages objects</li> </ul>
<b>Amenities</b>	<ul style="list-style-type: none"> <li>Location of the shop and café outside the museum is perceived to be separate</li> <li>Location and signage of toilets can be improved</li> </ul>
<b>Way finding and navigation</b>	<ul style="list-style-type: none"> <li>Ensure new building is open, to provide better flow through the museum</li> <li>Friendly and more casual design</li> <li>Architecture and spaces that are flexible and adaptable over time</li> </ul>

What doesn't work at the Museum?	What we have heard?
<b>Positioning, location, and visitor experience</b>	<ul style="list-style-type: none"> <li>• There is a need to reorientate the entrance of the museum to face the rest of the city</li> <li>• Harris Street entrance feels redundant</li> <li>• There is a disconnection between Powerhouse Ultimo and spaces and communities around it</li> </ul>
<b>Student and education experience</b>	<ul style="list-style-type: none"> <li>• Student entry through the courtyard and Powerhouse Learning Centre (PLC) is bad experience</li> <li>• Storage options and educational spaces should be considered as they current do not work well</li> <li>• Educational spaces should have more visibility and have natural lighting</li> <li>• Shelter and spaces outside should be added for students to have lunch</li> </ul>
<b>Volunteer workspaces</b>	<ul style="list-style-type: none"> <li>• The volunteer workspaces with the long desk is soulless and when speaking the voice is carried throughout the whole room</li> <li>• The spaces are inhibiting</li> <li>• The Volunteers sometimes have to work in the lunch room</li> </ul>

#### Question 4: What are the opportunities for change, improvement, or efficiencies?

Comments provided regarding opportunities, improvements or efficiencies have been compiled in the table below.

**Table 8 - Feedback on opportunities and improvements**

Category	Team	Location/Idea	Opportunity
Way finding	Corporate Resources Curatorial Marketing and Communications	Building	<ul style="list-style-type: none"> <li>• Ensure new building is open, to provide better flow through the museum</li> <li>• Friendly and more casual design</li> <li>• Architecture and spaces that are flexible and adaptable over time</li> </ul>
Building/Facilities	Corporate Resources Volunteers Curatorial	Forecourt	<ul style="list-style-type: none"> <li>• Provide cover at the level 3 courtyard entrance to ensure visitors are protected from the weather conditions</li> <li>• Importance of making use of the front area continuously instead of just once a year</li> <li>• The forecourt is a barren space and odd way to enter the building. Many visitors come from Central station through the Goods Line</li> </ul>
Building/Facilities	Corporate Resources	Loading dock	<ul style="list-style-type: none"> <li>• Ensure loading dock serves multiple purposes and think about how it should integrate back into the museum</li> <li>• Ensure the loading dock can sustain the huge amount of activity transporting objects to and from Castle Hill</li> <li>• Provide security</li> </ul>
Events	Corporate Resources	Events	<ul style="list-style-type: none"> <li>• Would like to see more paid events and function</li> <li>• Events space</li> </ul>
Environment and Sustainability	Corporate Resources	Adaptive Reuse	<ul style="list-style-type: none"> <li>• In 1988 the Museum was a benchmark for adaptive reuse. Would like to see if this can be a focus again</li> </ul>
Exhibitions	Visitor Services	History	<ul style="list-style-type: none"> <li>• Display images of what the museum was previously like, include old photos with a plaque explanation</li> <li>• Use of digital history board alongside objects to tell its life span</li> </ul>
Amenities	Visitor Services Collection	Bathrooms	<ul style="list-style-type: none"> <li>• Bathrooms in the foyer (main entrance near Harris Street)</li> <li>• Bathrooms down in the collection stores</li> </ul>
Accessibility	Visitor Services Curatorial	Accessibility	<ul style="list-style-type: none"> <li>• Provide more ways to engage with audiences eg. audio guides, braille, signage/plaques at wheelchair height</li> <li>• Multi-language resources</li> <li>• Quiet spaces for accessibility</li> <li>• Compelling and intriguing design for all ages</li> </ul>
Building/ Facilities	Visitor Services	Break space	<ul style="list-style-type: none"> <li>• Provide outdoor uncover spaces for families that are activated</li> </ul>
Exhibition	Visitor Services	Interactive	<ul style="list-style-type: none"> <li>• Exhibitions to have interactive and multi-sensory elements</li> </ul>

Category	Team	Location/Idea	Opportunity
Exhibition	Collections Curatorial Marketing and Communications	Exhibition spaces	<ul style="list-style-type: none"> <li>Flexible and adaptive exhibitions spaces</li> <li>The ability to expand and contract is challenging</li> <li>Design opportunities to be able to create a space that is more intimate</li> <li>Spaces to prep, gather objects and dressing mannequins</li> <li>White box spaces – issues relating to hearing café and bathroom noise when looking at objects</li> <li>Flexible spaces that can be activated in multiple ways</li> </ul>
Building/Facilities	Collections Curatorial	Storage	<ul style="list-style-type: none"> <li>Never enough storage</li> <li>Provide versatile storage spaces to cater for a wide range of object types and sizes</li> <li>Provide spaces to stage, prepare and complete back of housework across all three sites</li> <li>Basement storage in the Harwood Building</li> </ul>
Building/Facilities	Collections	TAFE	<ul style="list-style-type: none"> <li>Would like to reclaim the old TAFE building for decorative arts</li> </ul>
Exhibitions	Collections Volunteers Curatorial	Exhibitions	<ul style="list-style-type: none"> <li>Bring the locomotives back into the courtyard</li> <li>Focus on steam exhibitions and Sydney's history</li> <li>Cabinet of curiosity (connection with the old style of displays)</li> <li>Stories about innovation</li> <li>Reflect the ethnic, social and cultural diversity in Sydney</li> <li>Visual representation of buildings history – sensory exhibitions and photographs and footage</li> <li>Ensure the exhibitions are not hidden away</li> <li>Include something natural</li> </ul>
Creative Industries Residents	Collections	Australian innovation	<ul style="list-style-type: none"> <li>Opportunity for Australian design, artists and strategies to be built into the fabric of the building. From flooring to furnishing to support Australian makers and designers</li> </ul>
Creative Residents	Curatorial	Creative Residents	<ul style="list-style-type: none"> <li>Greater collection presence of the creative residents and research fellows together with a thoughtful entrance</li> <li>More visibility to Creative Industries Residents and teams. Showcase as a living, breathing, active museum</li> <li>Creative and research, prototyping spaces and studio spaces that can be booked</li> </ul>
Exhibitions	Volunteers	Energy	<ul style="list-style-type: none"> <li>Look at the original function of the powerhouse including power and energy</li> <li>Look at all aspects of energy including how energy works in humans</li> </ul>
Exhibitions	Volunteers	Textiles	<ul style="list-style-type: none"> <li>Develop the textiles area</li> <li>Expand the collection so it is not only lace on display</li> <li>This is important for emerging designers and students</li> </ul>
Buildings/ Facilities	Volunteers Curatorial	Harwood Building	<ul style="list-style-type: none"> <li>Preserve Harwood Building – provide additional exhibition space</li> <li>Acknowledge the importance of the Harwood building as the launching pad for workshop/storage facility</li> <li>Pathway from the Harwood workshop underground through the museum</li> </ul>
Buildings/ Facilities	Volunteers	Former Post Office	<ul style="list-style-type: none"> <li>Very important building, there are plenty of post offices around Sydney that are gone</li> <li>Should focus on the building, cannot change but repurpose it to reflect the social history of NSW</li> </ul>
Buildings/ Facilities	Curatorial	Children	<ul style="list-style-type: none"> <li>Access for large locomotives to make their way into the museum and the forecourt</li> </ul>
			<ul style="list-style-type: none"> <li>Ensure the architects understand the requirements of the steam engines</li> <li>The machines require low pressure but high volumes of steam</li> </ul>



Category	Team	Location/Idea	Opportunity
Buildings/ Facilities	Curatorial Marketing and Communications	Theatre/ Theatrette	<ul style="list-style-type: none"> <li>Spaces that honour children and young people and thoughtfully created for these visitors</li> </ul>
Building/Facilities	Curatorial	Lifts	<ul style="list-style-type: none"> <li>Decent size lift</li> </ul>
Exhibitions	Curatorial	First Nations	<ul style="list-style-type: none"> <li>Have more permanent Indigenous programming</li> </ul>
Building/ Facilities	Marketing and Communications	Gates	<ul style="list-style-type: none"> <li>Dismantle the old junction gates as it does not match</li> <li>Create a functional space tied to the Goods Line</li> </ul>
Buildings/ Facilities	Marketing and Communications	Staff spaces	<ul style="list-style-type: none"> <li>Private bookable staff meeting rooms</li> <li>VC compatible</li> <li>Functional kitchen</li> <li>Space in building design with future technologies in mind</li> </ul>

### Question 5 - Are there any other issues relevant to your role/function?

**Table 9 - Feedback on any other issues**

Other	What have we heard?
<b>Researchers feedback</b>	<ul style="list-style-type: none"> <li>External staff and researchers want to ensure that the presence of the collection be kept at Ultimo</li> <li>When visitors travel to do their research, they want to travel within the CBD</li> </ul>
<b>Community engagement</b>	<ul style="list-style-type: none"> <li>More community engagement is needed</li> <li>Museum Victoria looks to community support for their programming</li> <li>Bring Sydney and NSW into the museum, there is currently a disconnect as the museum sits in Ultimo, it caters for other audiences</li> </ul>

## 3.3 First Nations Workshop

An engagement session with First Nations community members took place on 21 March and was organised and facilitated by the newly formed First Nations Directorate of the museum. Questions asked during this feedback session included:

- What memories do you have of Powerhouse Ultimo?
- How often do you come to Powerhouse Ultimo and what makes you want to visit?
- What do you value about Powerhouse Ultimo, including the site and the Museum?
- Do you hold any special associations with specific buildings, parts of the site or exhibitions (past and current)?
- What would make it easier to visit Powerhouse Ultimo more regularly?
- What stories do First Nations communities want to tell through Powerhouse Ultimo?
- How can Powerhouse Ultimo reflect First Nations cultural values?
- This is the start of ongoing conversation and relationship building; we want to design and shape our engagement process to meet community needs and expectations. How do you like to be consulted?

Feedback from First Nations community members identified connection with the museum and representation in exhibited collections as being a high priority. Feedback highlighted the importance of art that reflect First Nations culture and recognised the individual stories of the community. The use of outdoor space and the land was raised as important and future plans to use the space were supported with further consultation of the First Nations community. Food and culture were also identified as big drivers in attracting First Nations community members to the museum and creating an accessible and welcoming environment.

### Question 1 : What memories do you have of Powerhouse Ultimo?

Feedback was provided by participants on the memories they have of Powerhouse Ultimo.

**Table 10 - First Nations feedback on Powerhouse Ultimo memories**

What have we heard?
<ul style="list-style-type: none"> <li>Have not visited the Powerhouse Ultimo very often</li> <li>Some only visited during school trips</li> <li>There is a lack of First Nations stories, history, and representation in the collection</li> </ul>

## Question 2: How often do you come to Powerhouse Ultimo and what makes you want to visit?

Responses were gathered from the participants on why they want to visit the Powerhouse Ultimo.

Table 11 - First Nations feedback on visitation

What have we heard?	
First Nations representation	<ul style="list-style-type: none"><li>• Would visit more often if there was a focus on the history and culture of First Nations community members</li><li>• More First Nations exhibitions</li><li>• <i>Bayagul: Contemporary Indigenous Communication</i> was a great exhibition of interest</li></ul>
Museum experience	<ul style="list-style-type: none"><li>• Would like a culturally safe experience</li></ul>

## Question 3: What do you value about Powerhouse Ultimo, including the site and the museum? Do you hold any special associations with specific buildings, parts of the site or exhibitions (past and current)?

Participants were asked what they valued most about the museum. Responses included:

Table 12 - First Nations feedback on values

What do you value about Powerhouse Ultimo?	What have we heard?
Architecture	<ul style="list-style-type: none"><li>• Unique architecture including:<ul style="list-style-type: none"><li>– Tin roofs</li><li>– Large windows</li><li>– Open space</li></ul></li></ul>
Exhibitions	<ul style="list-style-type: none"><li>• Tactile nature of exhibitions</li><li>• Ability to ignite curiosity</li><li>• Potential to spark curiosity for First Nations community members</li></ul>

## Question 4: What would make it easier to visit Powerhouse Ultimo more regularly?

Responses below outline the ideas put forward by the participants when asked the question 'what would make it easier to visit Powerhouse Ultimo'.

Table 13 - First Nations feedback on accessibility

What have we heard?
<ul style="list-style-type: none"><li>• Acknowledgement of the contribution of First Nations engineers and scientists to STEM, as well as the industrial history of the Powerhouse site, including on the railways and Power Station</li><li>• Acknowledgement of the contribution of First Nations community members to early inventions</li><li>• Celebrate the entirety of Australia's history including 60-80,000 years of pre-colonial existence, the British invasion, First Nations resilience and the subsequent waves of immigration</li><li>• Clearly positioning a First Nations artwork / cultural object at the museum entrance would send a powerful signal about representation and draw people in</li><li>• First Nations performances particularly school holiday programs</li><li>• First Nations decorative arts and fashion</li></ul>

### Question 5: What stories do First Nations communities want to tell through Powerhouse Ultimo?

Participants covered a large range of ideas when asked to identify stories that they want to tell.

The ideas below outline some responses provided when asked about the stories First Nations communities wish to convey through the Powerhouse.

**Table 14 - First Nations feedback on storytelling**

What have we heard?
<ul style="list-style-type: none"><li>• Use of audio and visuals to tell local histories from Creation until now</li><li>• Moving away from just the collection of cultural objects to the acknowledgment of cultural knowledge and placing the emphasis on relationships</li><li>• Look at First Nations involvement above and beyond science and technology</li><li>• Stories that connect the younger generation and older mob, showing more heroes or role models within communities</li><li>• Stories relating to Country and the Sydney area</li><li>• Embed First Nations design principles in the spaces in the renewed building</li><li>• Using Indigenous cultural plant knowledge to express the application of science</li></ul>

### Question 6: How can Powerhouse Ultimo reflect First Nations cultural values?

The conversations capture regarding the question ‘how can Powerhouse Ultimo reflect First Nations cultural values’ sparked feedback from the participants.

**Table 15 - First Nations feedback on cultural values**

What have we heard?
<ul style="list-style-type: none"><li>• Value the space between the inside and outside</li><li>• Acknowledgement of Country – have markers on the history of the place</li><li>• Invest First Nations Values</li><li>• Include the First Nations experience of living in Urban environments and how they can invite non-indigenous peoples to see and learn</li><li>• Focus on contemporary Aboriginality and what that means</li><li>• Think beyond the museum as a cultural space and more about culture itself</li><li>• Include night markets and stalls from First Nations creators</li></ul>

### Question 7: How do you like to be consulted?

First Nations community members prefer face-to-face, in person conversations. They welcome the opportunity to meet and cook together and have a conversation with food. Additionally, consultation in regional areas is invited.



### 3.4 Live consultation sessions

During the open weekend visitors were invited to attend a facilitated consultation session in Powerhouse Ultimo Theatrette. There were five sessions available to the public over the weekend and an invitation only session for the guilds and associations on Sunday 20 March. Feedback was collected on the following key questions:

- What do you value about Powerhouse Ultimo?
- What works well at Powerhouse Ultimo?
- What doesn't work well at Powerhouse Ultimo?
- What are the opportunities for change, improvement or efficiencies?
- Other

Ninety-four percent of respondents identify Powerhouse Ultimo as either important or very important. People highly valued key elements of the Powerhouse Ultimo including exhibitions (82%), collections (61%) and the history of the building (54%). People also valued the central location of the museum, its industrial and transport history and its architectural significance to Ultimo.

The *Boulton and Watt Steam Engine* was cited as the most memorable exhibition. Interactive play exhibitions were also cited as a big attractor for visitors, as were science, engineering and technology exhibitions.

The exhibitions (77%), conservation of heritage (59%) and customer service (52%) were rated as the top three things that worked well at the Powerhouse Ultimo. Maintenance (27%), conservation of heritage (22%) and exhibitions (20%) were rated as the top three things that could be improved.

Eighty-eight percent of people engaged found Powerhouse Ultimo was easy to find and 83% found it easy to access. However additional wayfinding signage throughout the museum was cited as important with many people saying the museum was hard to navigate once inside.

Other recommendations for improvement included:

- changing the entrance to Powerhouse Ultimo, with many people suggesting a new entrance to face the Goods Line and city
- better use of outdoor space for families and children's interactive play
- changes to back of house elements such as storage, a fit for purpose loading dock and improved event space including the ability to install new exhibitions during opening hours

Almost 80% of survey respondents were aged 30+ and 34% of them visit Powerhouse Ultimo at least once or twice a year.

An analysis was completed on the responses and then collected into key themes as seen in the image below.

Figure 8 - Live consultation questions flow chart

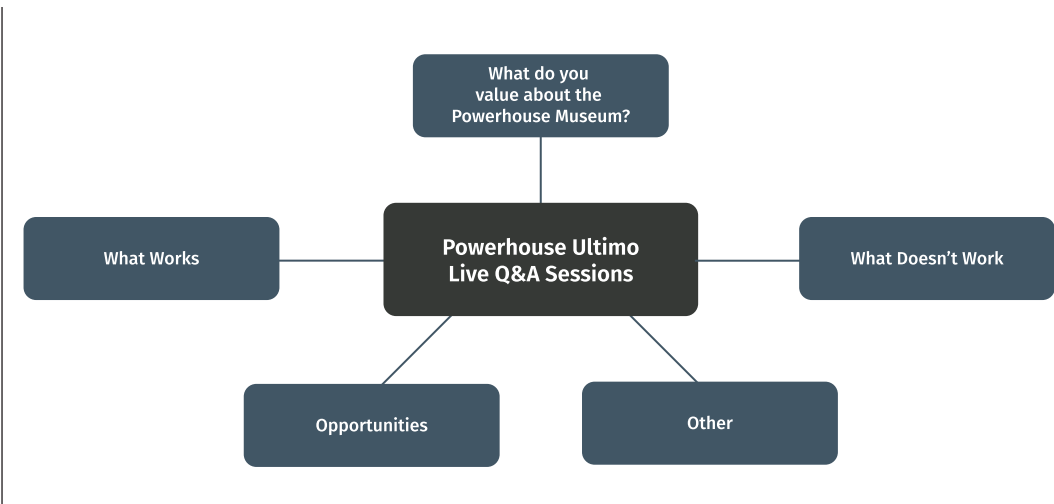


Figure 9 - 'Question 1: What do you value about the Powerhouse Ultimo?' map

**Legend**

- Session 1
- Session 2
- Session 3
- Session 4
- Session 5
- Session 6

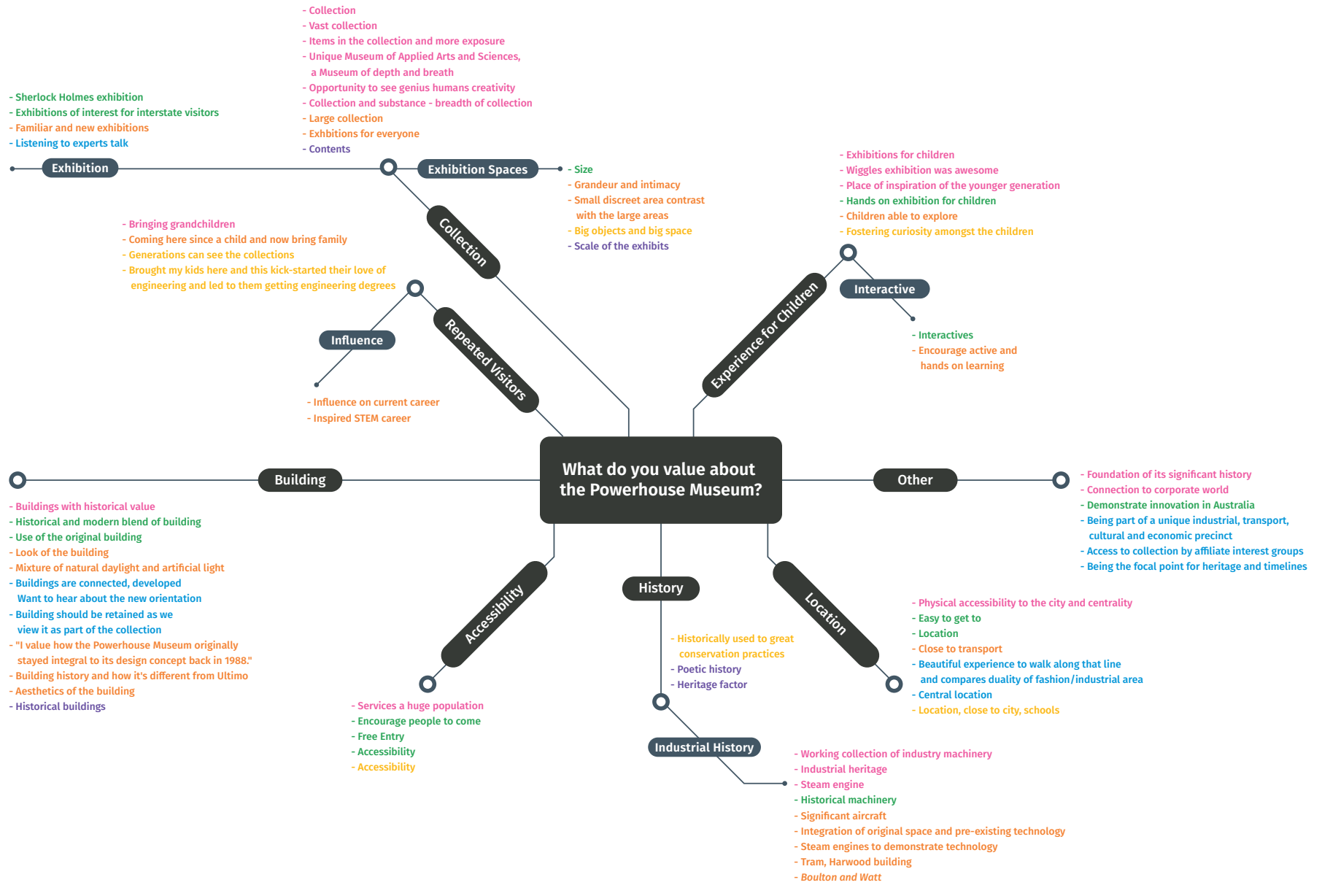


Figure 10 - 'Question 2: What works well at Powerhouse Ultimo' map

Legend

- Session 1
- Session 2
- Session 3
- Session 4
- Session 5
- Session 6

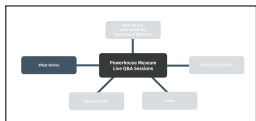
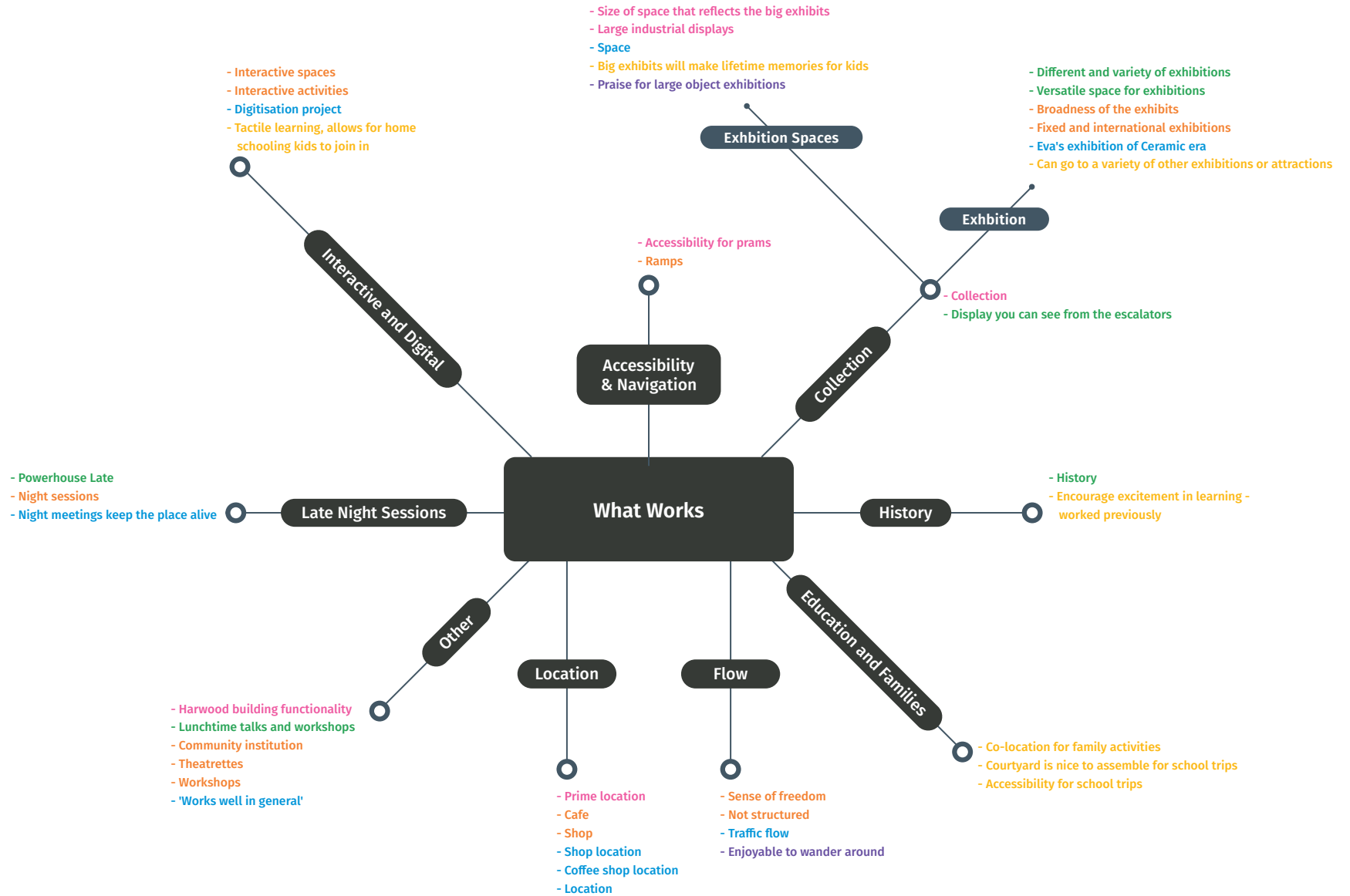




Figure 11 - 'Question 3: What doesn't work well at the Powerhouse Ultimo' map

#### Legend

- Session 1
- Session 2
- Session 3
- Session 4
- Session 5
- Session 6

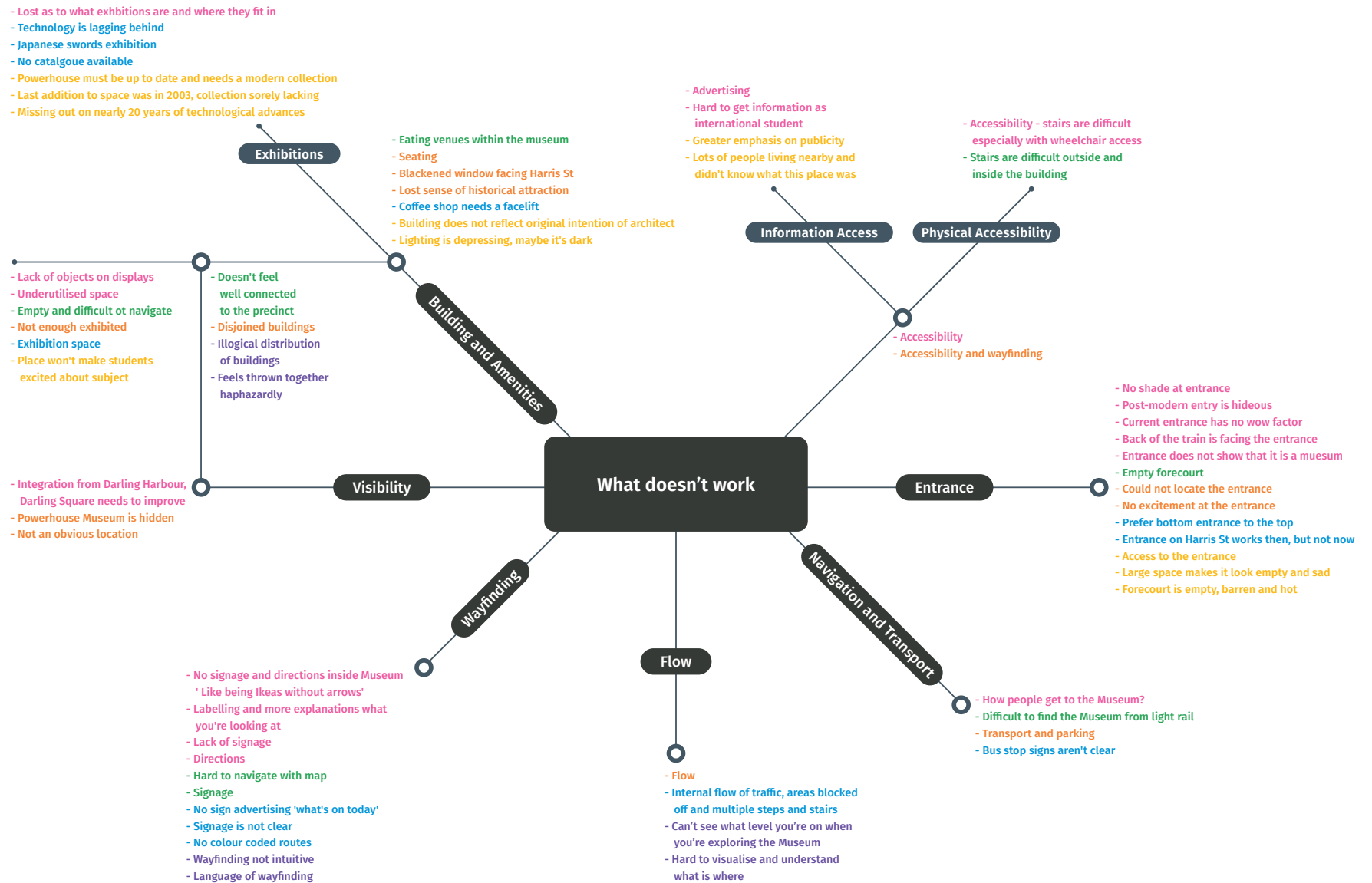


Figure 12 - 'Question 4: Opportunities' map

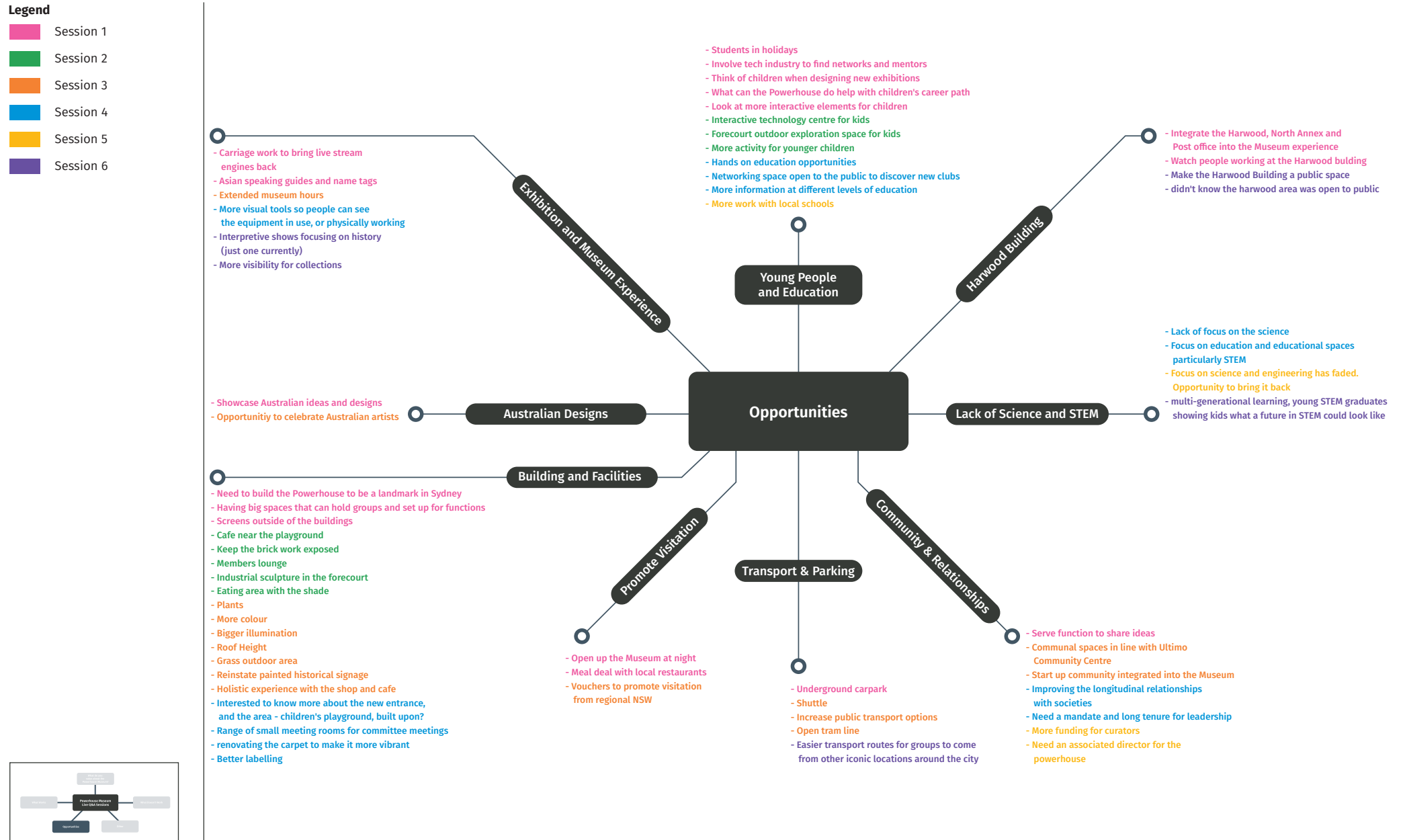


Figure 13 - 'Question 5: Other comments' map

Legend

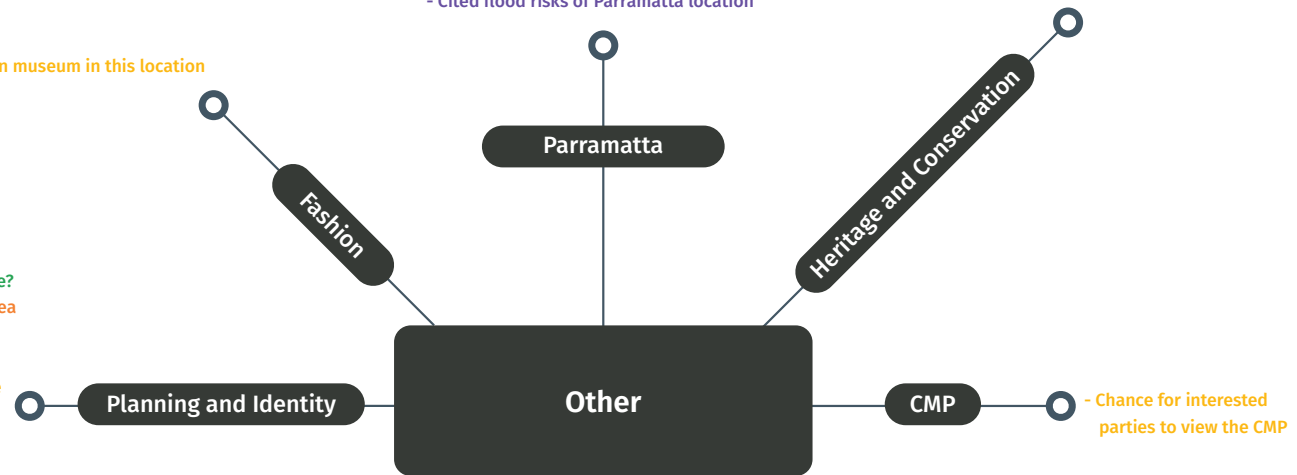
- Session 1
- Session 2
- Session 3
- Session 4
- Session 5
- Session 6

- Identity of the museum is important - we need to cover the breadth. Fashion is only a small part of design.
- Language - use of the word fashion - be careful how you treat fashion (ephemeral - immediate idea that disappears)
- Choose terminology carefully
- Fashion will bring people
- Stakeholder does not want a fashion museum in this location

- Understand what the identity for Powerhouse will each museum have?
- Discussion with town planning in area
- Strong heritage focus - no residential buildings
- Wants to keep it as a cultural centre

- Cited flood risks of Parramatta location

- Concern that the Harwood Building is not Heritage listed
- Acknowledge of all stages the museums history and architecture
- Continue to evoke the original architecture whilst being renewed
- Area of concern - decorative arts collection





During the open weekend activation an exhibit was displayed in the museum showcasing photos and videos from the archive. Visitors were asked to reflect on their most memorable experience at the museum, writing on the back of a postcard. The purpose of this activity encouraged visitors to look back to the past and identify their personal connections to Powerhouse Ultimo. Below show key themes in a word cloud, larger words occurred more frequently in the feedback received.

[illegible]

Powerhouse Ultimo is undertaking a historic renewal. As part of this process, a Conservation Management Plan is being prepared to help guide the future design and use of the museum.


---

**What's your favourite memory of Powerhouse Ultimo?**  
Share your thoughts below and submit them to our event staff.

the big plane


charlie

---



You can also take our online survey  
by scanning the QR code

Engine Hall, Ultimo Power Station, 905  
Powerhouse Archive



Museum of  
Applied Arts  
& Sciences

### 3.6 Interactive children's feedback session

During the open weekend children were invited to answer the question 'What do you value about the museum'. Children could answer using drawing materials.

Larger exhibits within the museum were prominent in the children's responses with a focus on transport modes and the sciences. Children identified the *Locomotive No 1*, Space, Transport and the experimentations area as some of their most memorable exhibits within the museum.

Figure 16 - Interactive children's feedback







# 4

## The Way Forward



## 4 The Way Forward

The insight received during consultation will be considered as part of the development of the Conservation Management Plan (CMP). The CMP process is expected to be completed by mid-2022.

Engagement with stakeholders and the community remains ongoing, with the community expected to provide feedback at the next stage of planning and design. The dedicated contact details for the project team (phone and email) remain available and open for comments and questions.

Comments and feedback received during the current consultation will inform the development of future engagement which will help shape future activities to ensure they are effective and informative.

We thank our community and stakeholders for their involvement in shaping the future of the Powerhouse Ultimo.

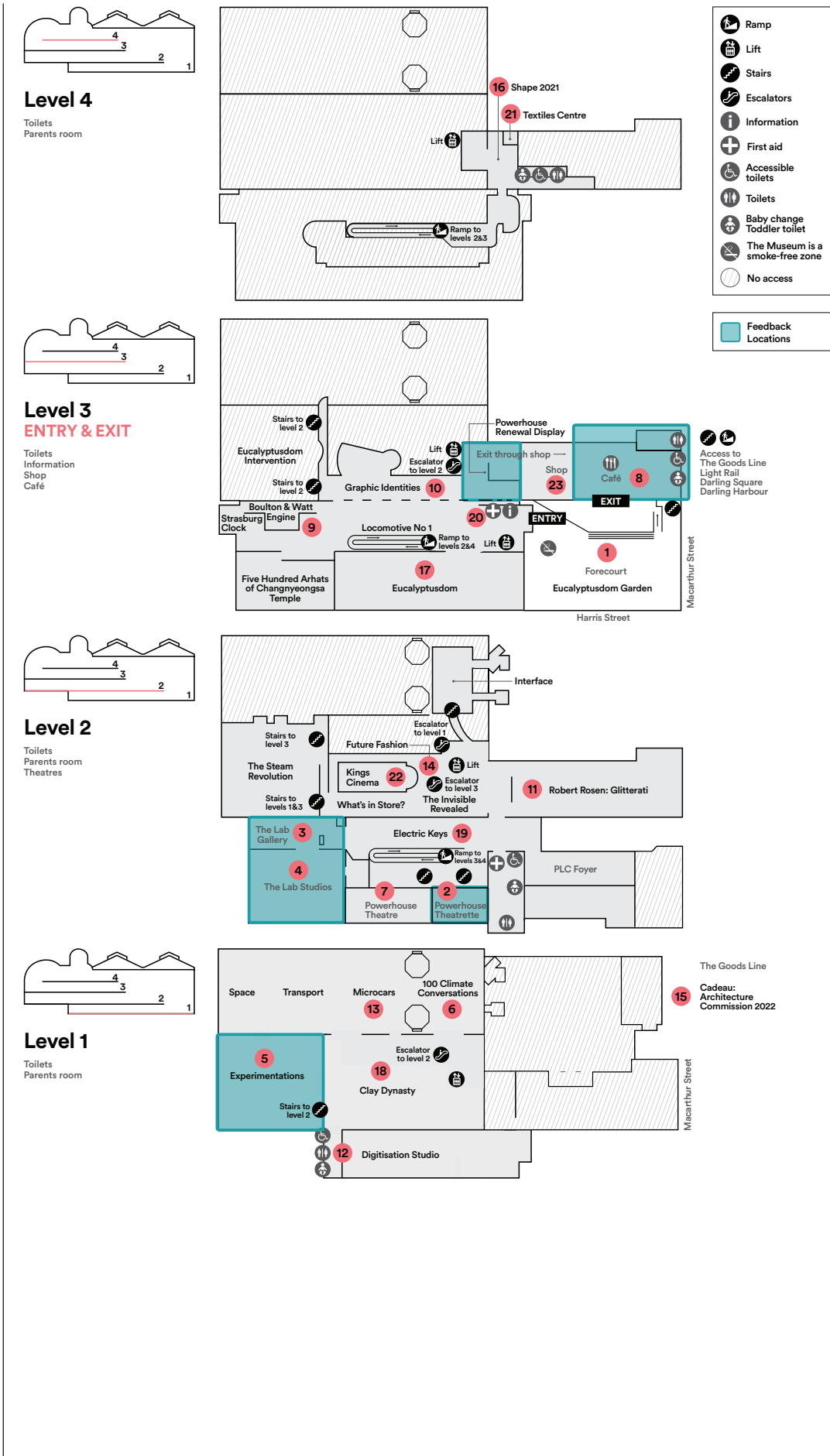


# 5

## Appendices

# Appendix A - Powerhouse Ultimo Open Weekend Site Map

Figure 17 - Powerhouse Ultimo Open Weekend Site Map





# Appendix B - Online Survey Questions

Figure 18 - swipEngage survey questions

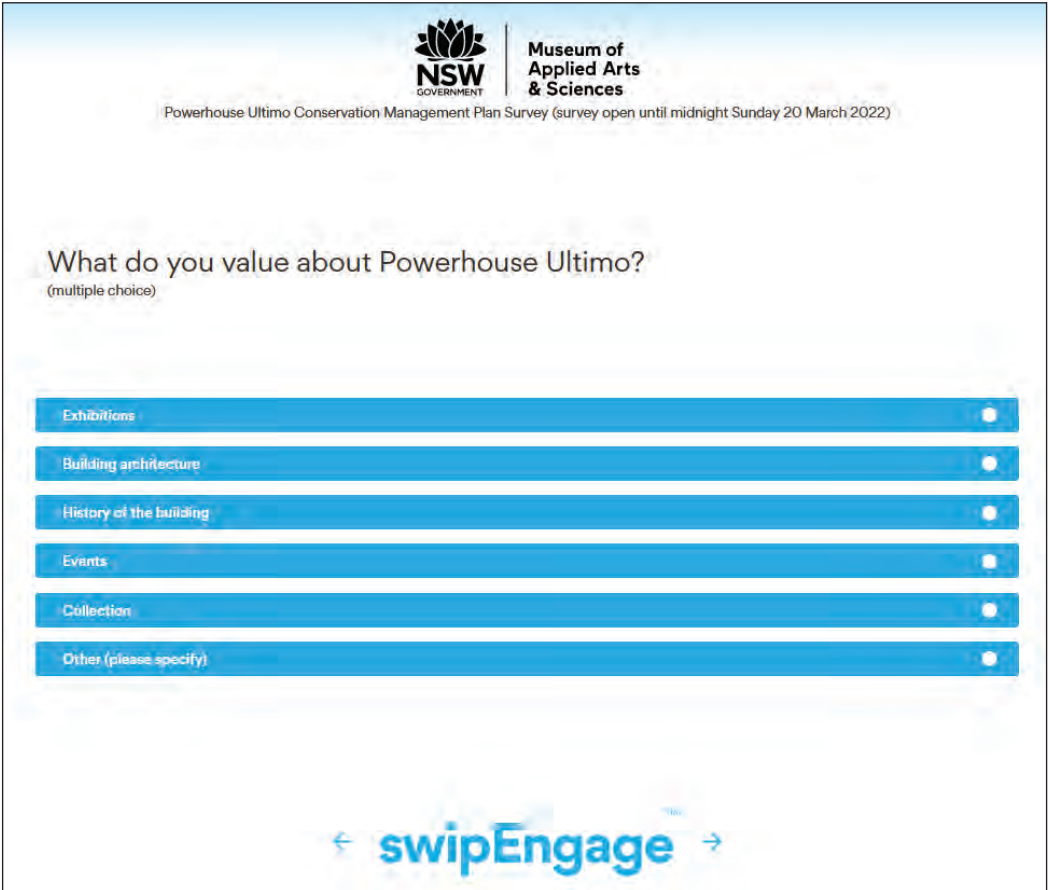
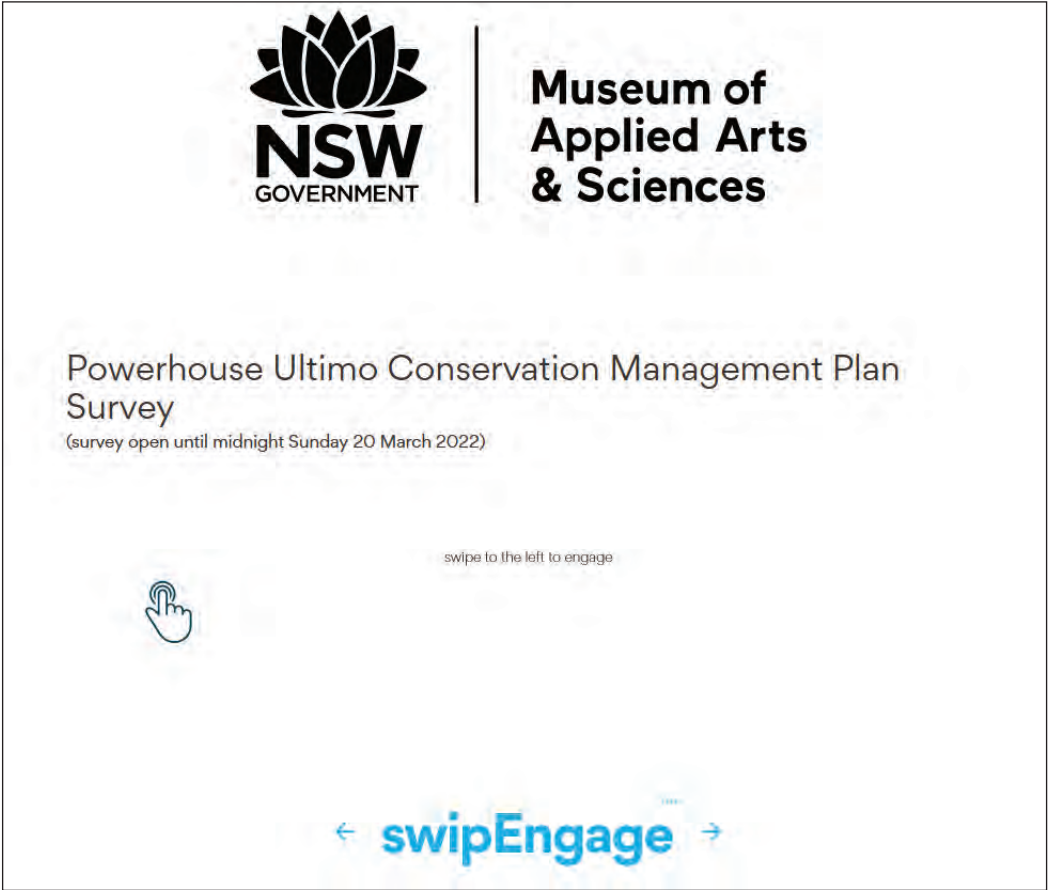



Figure 18 - swipEngage survey questions



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

What do you value about Powerhouse Ultimo?  
(multiple choice)

Exhibitions

Building architecture


History of the building

Events

Collection

Other (please specify)

swipEngage



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)


Are there any features/buildings/spaces within Powerhouse Ultimo that hold special meaning for you?

Yes (please specify)

No

swipEngage

Figure 18 - swipEngage survey questions



Museum of Applied Arts & Sciences


Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

Do you think that Powerhouse Ultimo is easy to find?

←

swipEngage

→



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

Do you think it is easy to access/enter Powerhouse Ultimo?


←

swipEngage

→



Figure 18 - swipEngage survey questions



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

What makes it difficult to navigate Powerhouse Ultimo and its spaces?  
(multiple choice)

Guides


Building layout

Organisation of exhibitions

Arrows and directions

Other (please specify)

← swipEngage →



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

What works well at Powerhouse Ultimo?  
(multiple choice)

Customer service

Exhibitions

Maintenance and renovation

Conservation of heritage

Events


Guides and navigation

Amenities (café, gift shop, toilets)

Other (please specify)

← swipEngage →

Figure 18 - swipEngage survey questions



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

What helps you navigate Powerhouse Ultimo and it's spaces?  
(multiple choice)

Arrows and directions


Building layout

Guides/volunteers

Organisation of exhibitions

Other (please specify)

← swipEngage →



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

What requires improvement at Powerhouse Ultimo?  
(multiple choice)

Customer service

Exhibitions

Maintenance and renovation

Conservation of heritage

Events

Guides and navigation

Amenities (café, gift shop, toilets)

Other (please specify)

← swipEngage →

Figure 18 - swipEngage survey questions



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

Where did you hear about this survey?  
(multiple choice)

Social media

Newspaper

Powerhouse Ultimo website

Radio

Flyer


Word-of-mouth

Other (please specify)

←

swipEngage

→



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

How often do you visit Powerhouse Ultimo?

Never visited

Visited once or twice in my lifetime

Every few years

Once or twice a year

Several times a year

At least once a month


←

swipEngage

→



Figure 18 - swipEngage survey questions



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

Which age group best represents you?

Under 12 years old

13-18 years old

19-25 years old

26-30 years old

31-50 years old


51-70 years old

71 years or older

←

swipEngage

→



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

Please provide the postcode in which you live.

Please type here...


Characters left: 2000

←

swipEngage

→

Figure 18 - swipEngage survey questions



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

Do you have any further comments or questions?


Please type here...

Characters left: 2000

←

swipEngage

→



Museum of Applied Arts & Sciences

Powerhouse Ultimo Conservation Management Plan Survey (survey open until midnight Sunday 20 March 2022)

Please provide your email address if you'd like to stay updated on Powerhouse Ultimo Renewal Project.

Please type here...

Characters left: 2000

←

swipEngage

→

## Appendix C - Collateral

Figure 19 - Collateral produced for Powerhouse Ultimo



### POWERHOUSE OPEN WEEKEND 19–20 March 2022

Learn more about the historic renewal of Powerhouse Ultimo.

Join us for behind-the-scenes tours, meet our creative industry residents, learn more about our history and participate in live feedback sessions.

Powerhouse Ultimo is undergoing transformative renewal. To inform the renewal we are developing a Conservation Management Plan to guide the future design, use and management of your much-loved museum. As a member of our community, we would love to hear what the Powerhouse means to you and your ideas on our renewal.

Register at: [ma.as/openweekend](https://ma.as/openweekend)



Can't make it?  
Scan the QR code to have your say  
via our online survey.

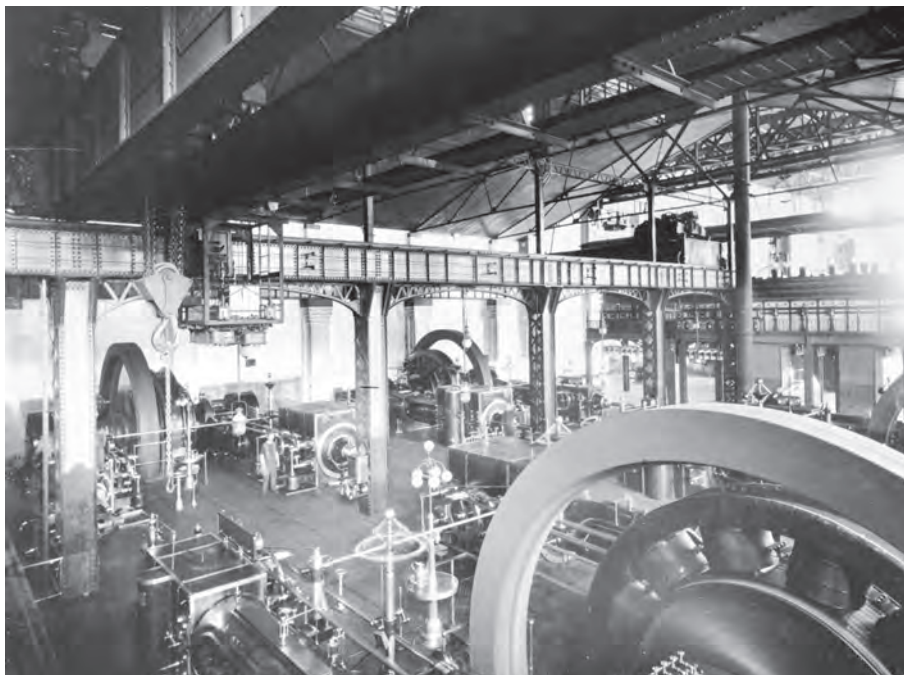
Image: Artist's impression of Powerhouse Ultimo created by Mogamma



Museum of  
Applied Arts  
& Sciences



Figure 19 - Collateral produced for Powerhouse Ultimo



Powerhouse Ultimo is undertaking a historic renewal. As part of this process, a Conservation Management Plan is being prepared to help guide the future design and use of the museum.

### What's your favourite memory of Powerhouse Ultimo?

Share your thoughts below and submit them to our event staff.



You can also take our online survey  
by scanning the QR code

Engine Hall, Ultimo Power Station, 1905  
Powerhouse Archive



Museum of  
Applied Arts  
& Sciences



**POWERHOUSE  
ULTIMO  
OPEN WEEKEND**

19-20 March 2022

[MORE >](#)

NSW

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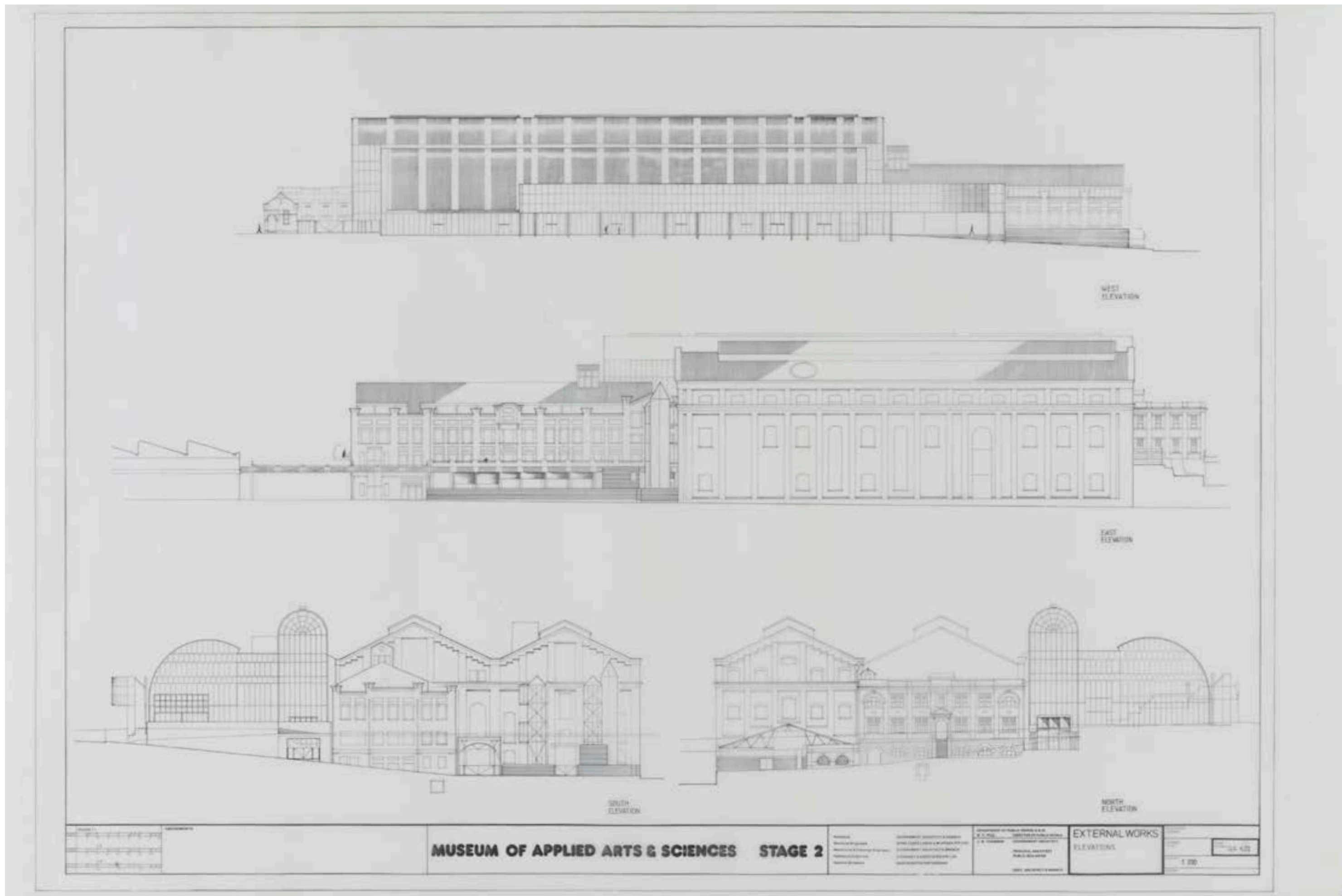


# APPENDIX I

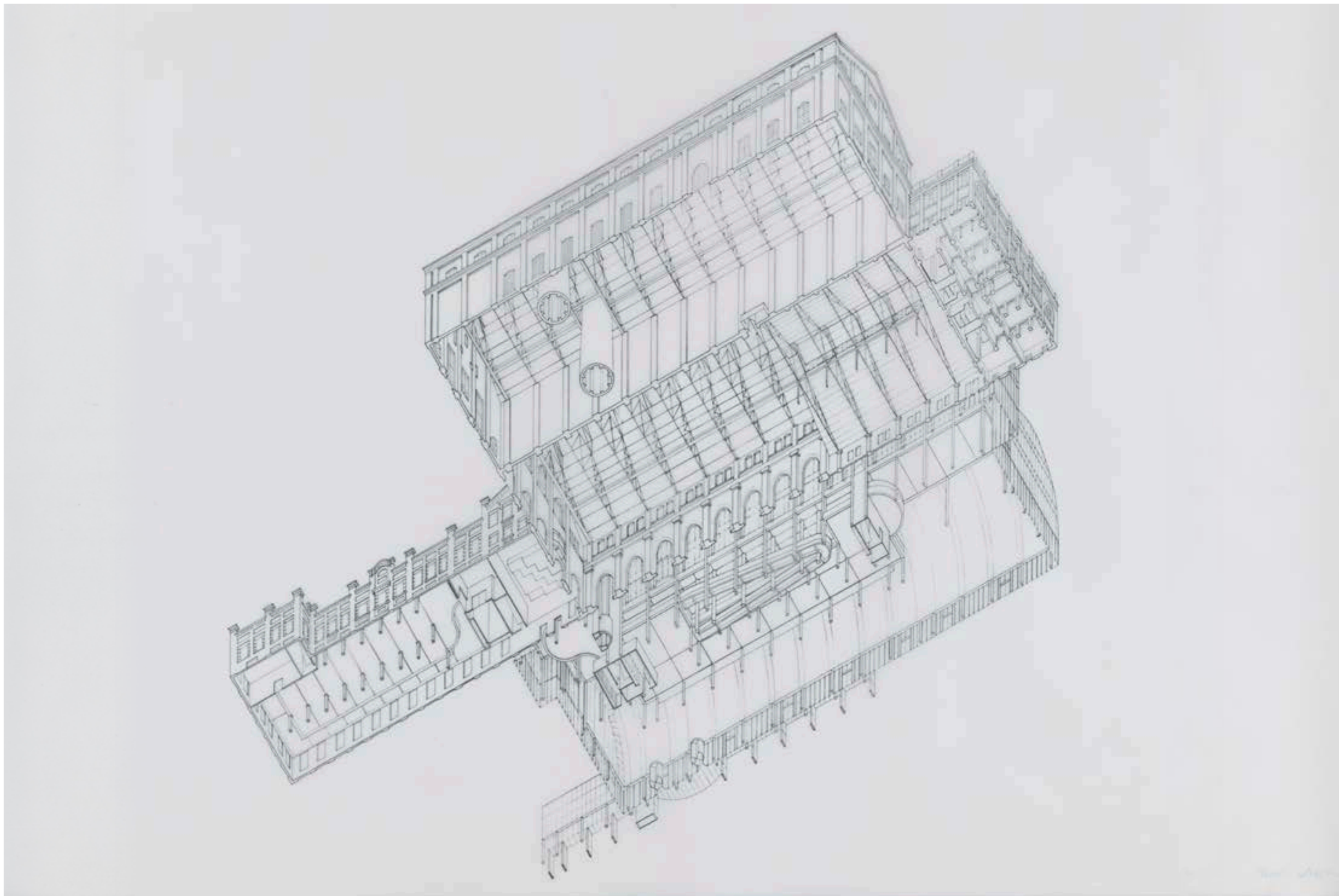
## Powerhouse Ultimo Stage 2

### Architectural Drawings by

### Lionel Glendenning

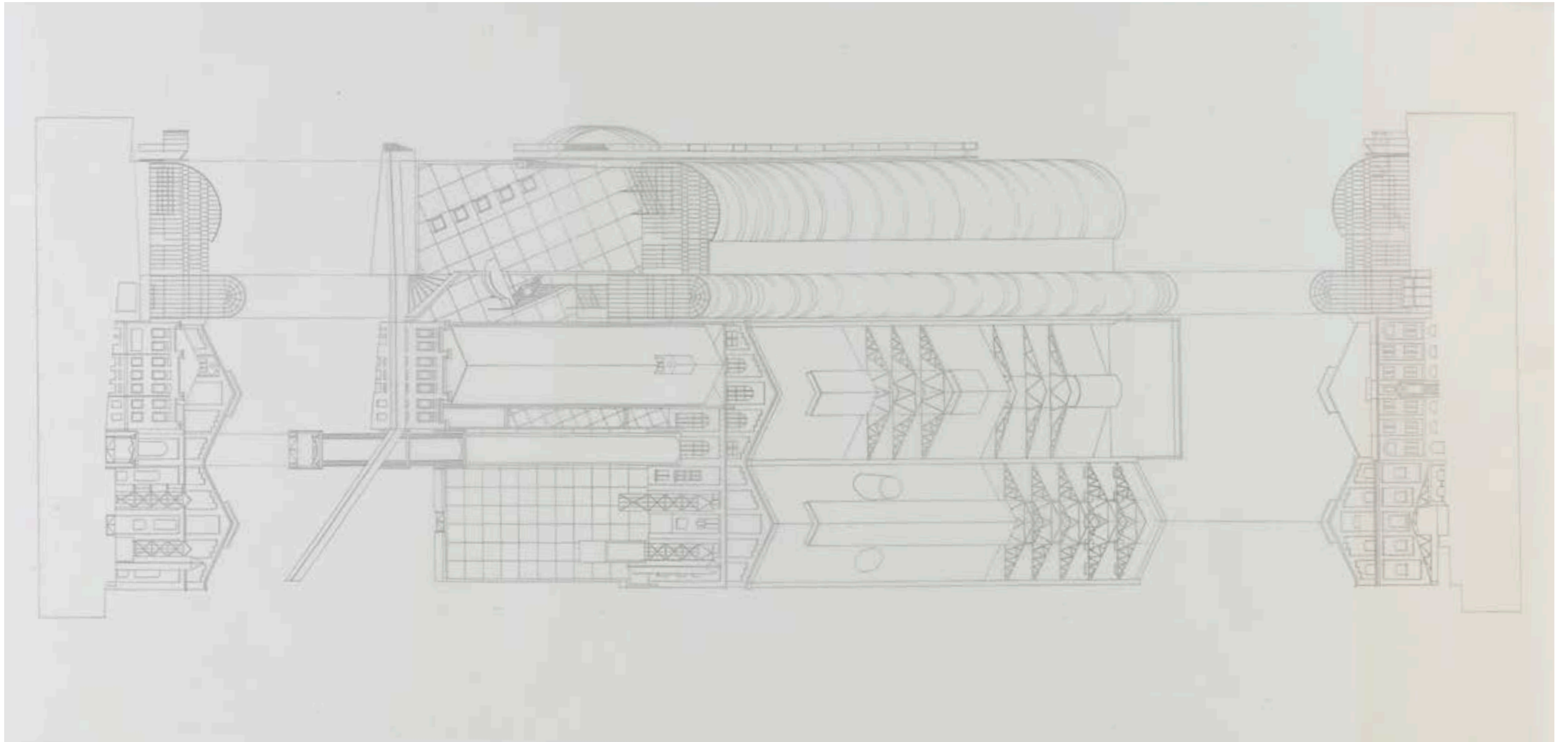


Appendix I.1 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987

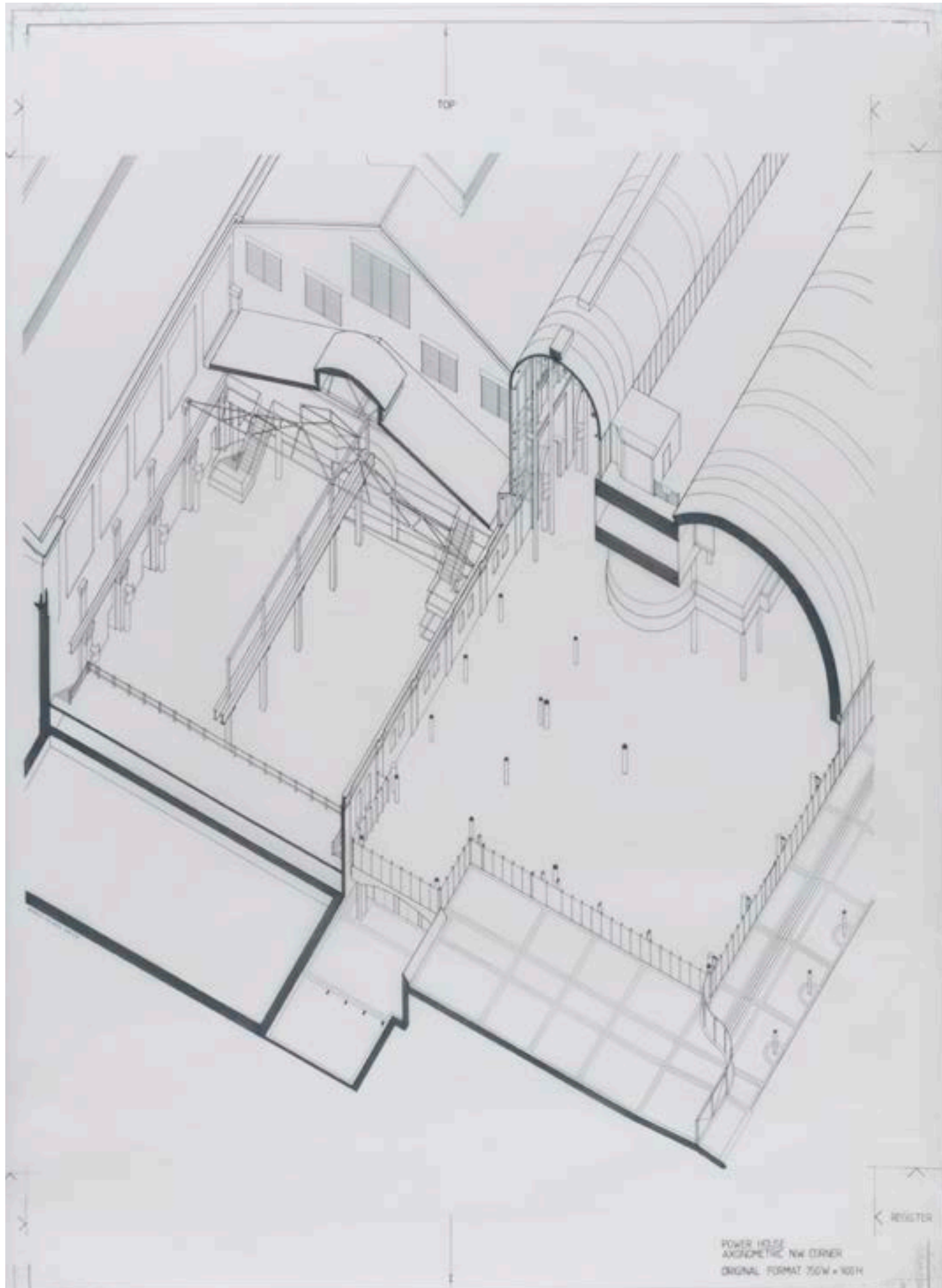


Appendix I.2 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987





Appendix I.3 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987

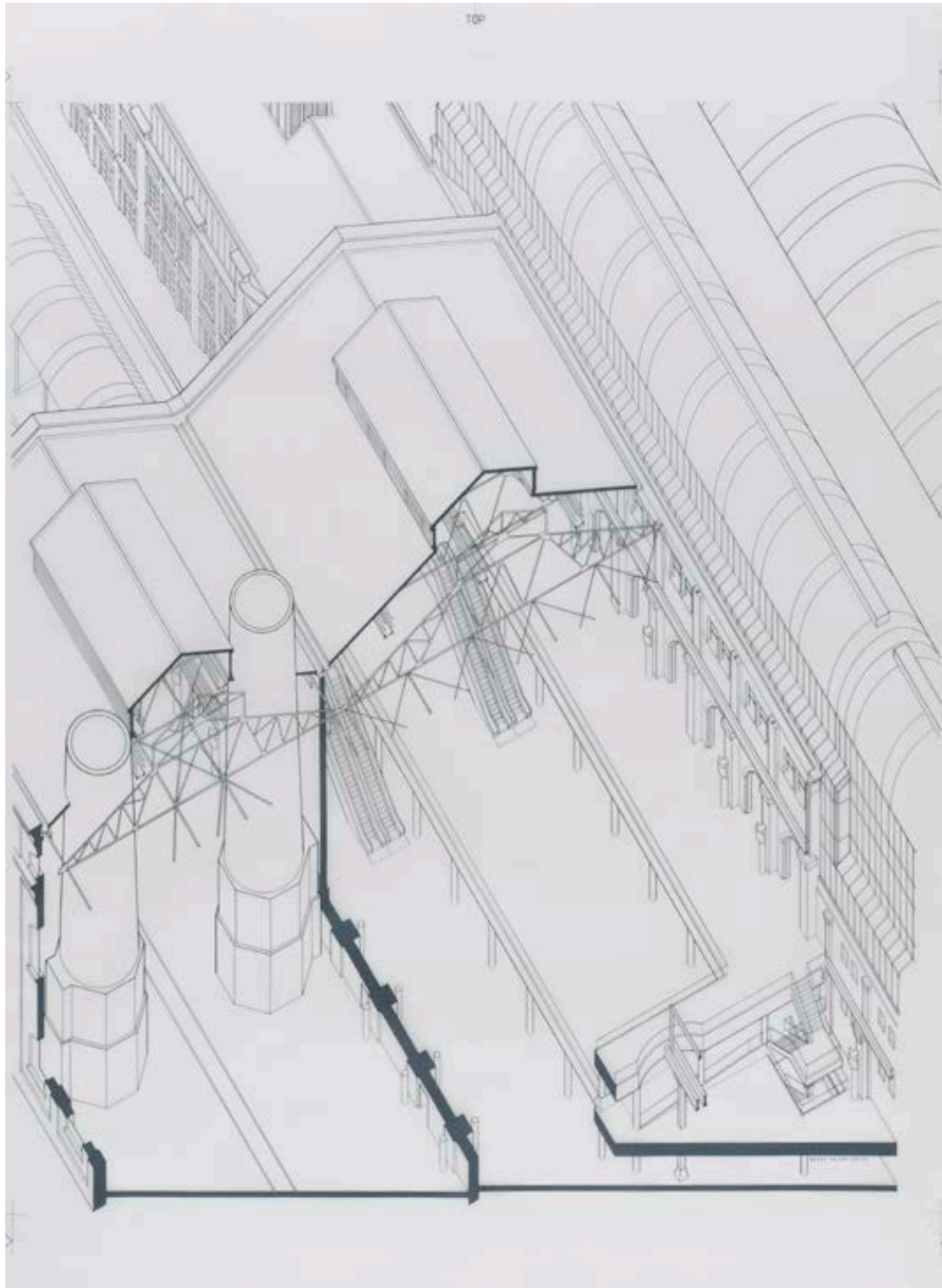


Appendix I.4 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987



Appendix I.5 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987





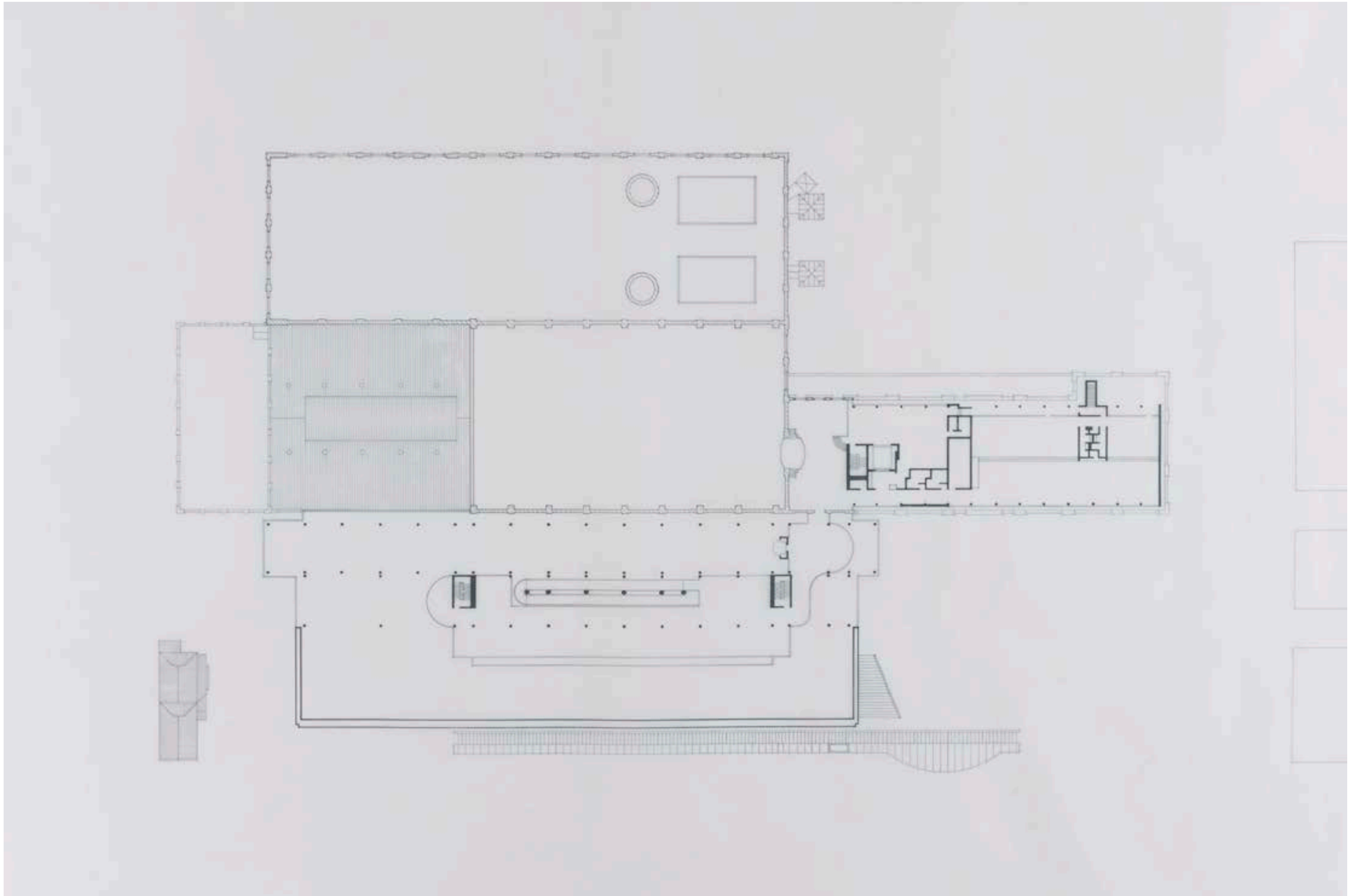
Appendix I.6 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987



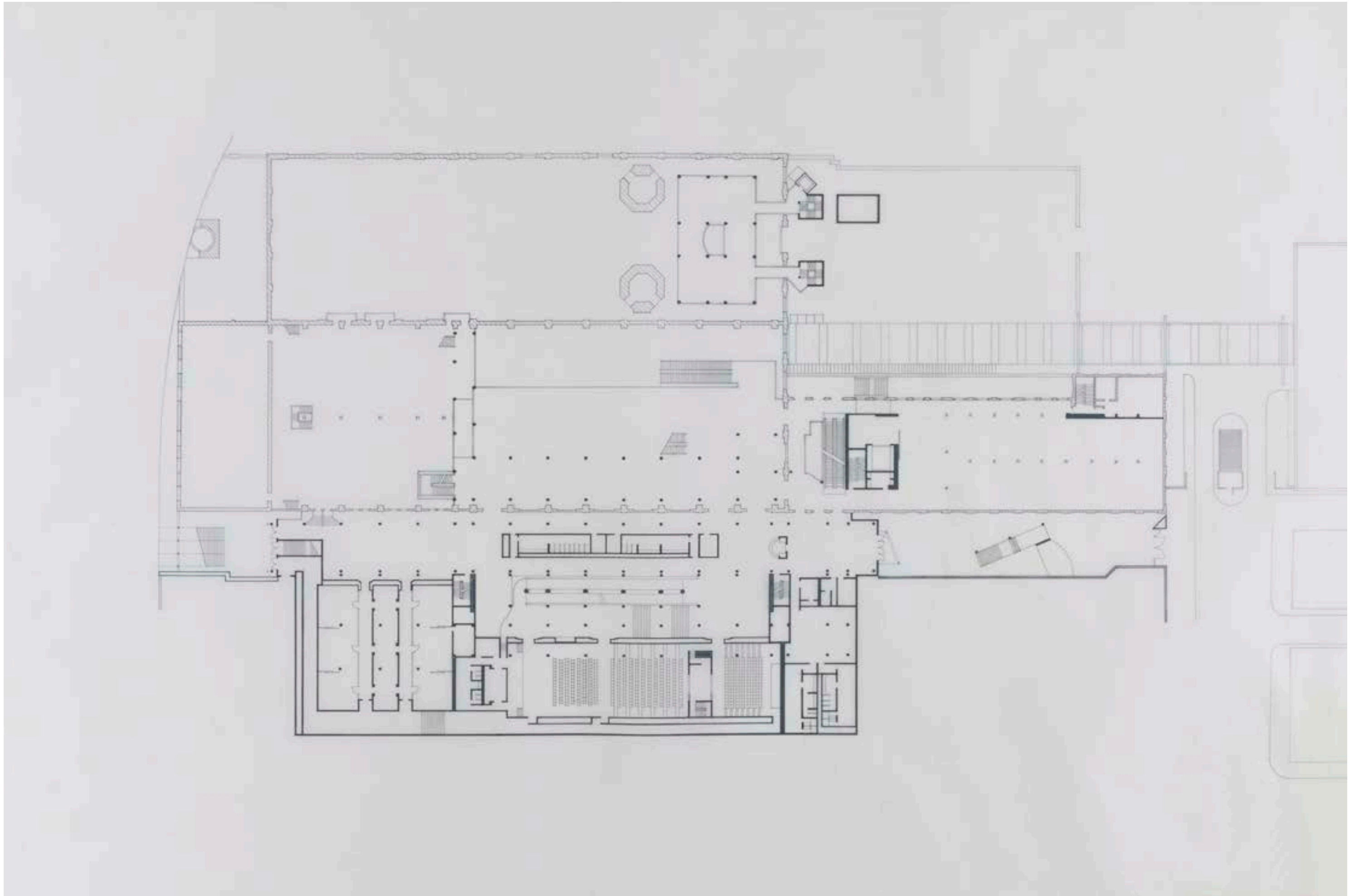
Appendix I.7 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987



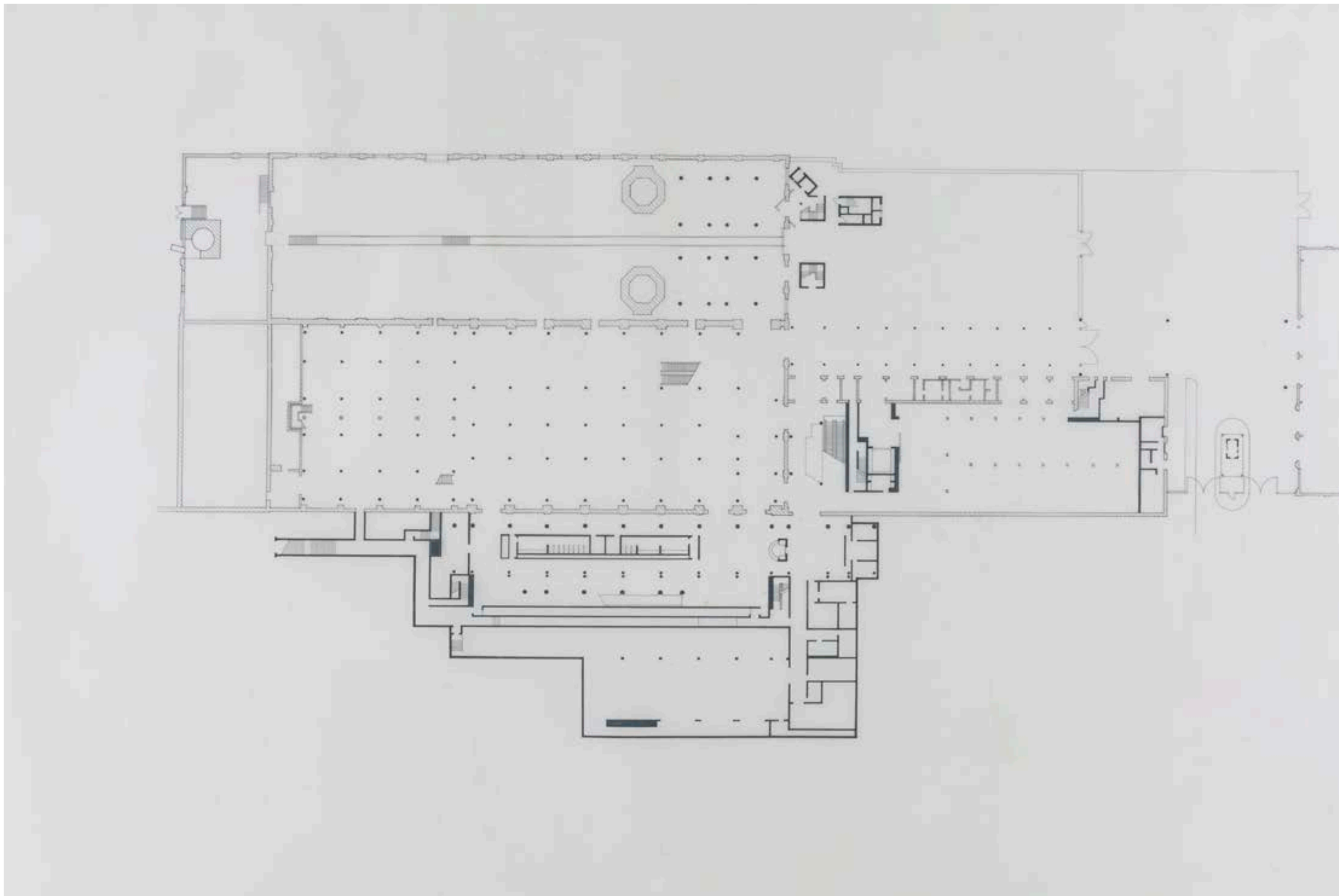




Appendix I.9 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987

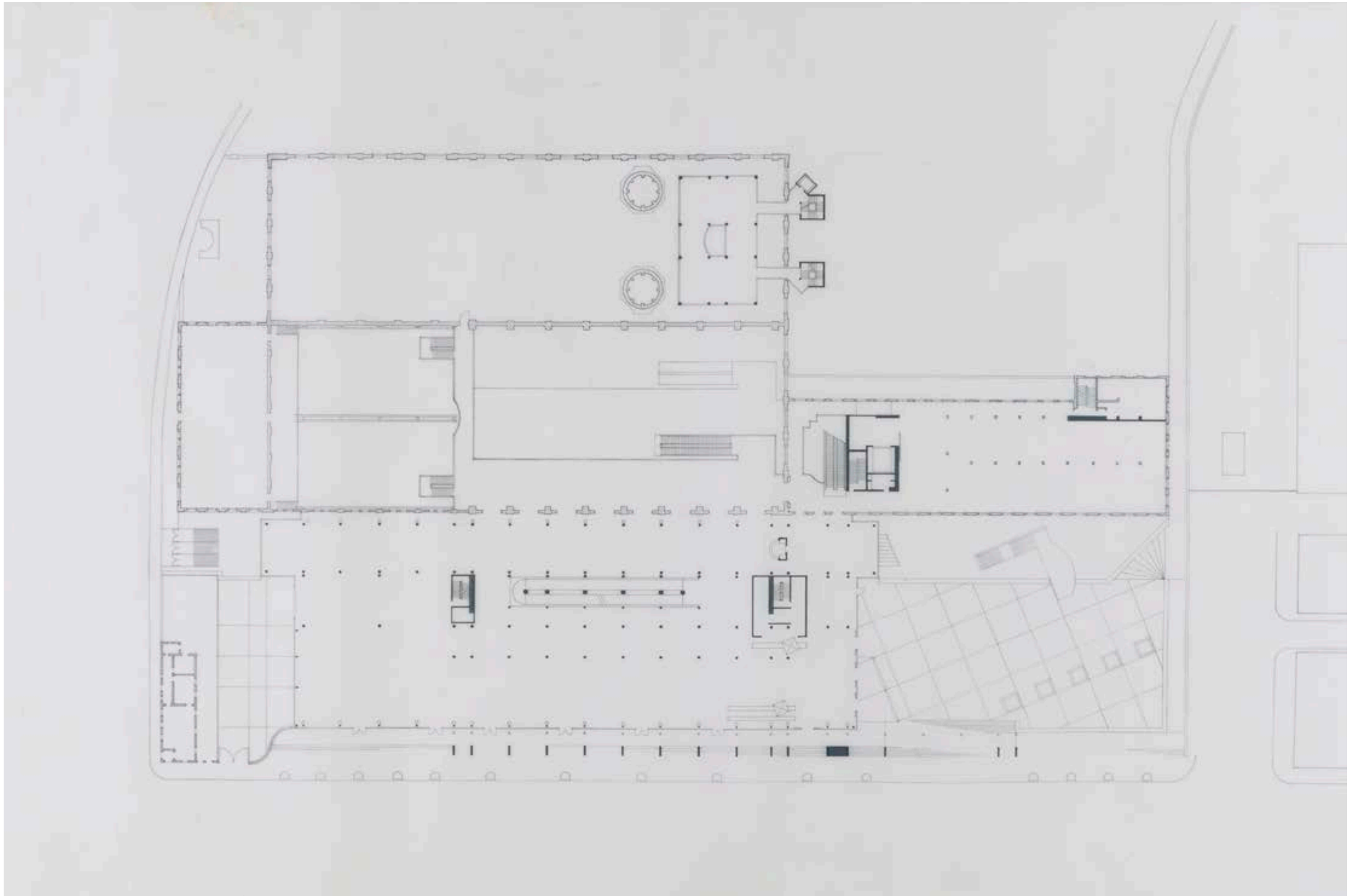


Appendix I.10 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987



Appendix I.11 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987





Appendix I.12 2008/88/1 Architectural drawings (14), Powerhouse Museum, tracing paper / microfilm / ink, designed by Lionel Glendenning, made and used by New South Wales Department of Public Works, Sydney, New South Wales, Australia, 1987