

# APPENDIX B ARCHITECTURAL PLANS AND DESIGN REPORT

Moreau Kusunoki with Genton



ARCHITECTURAL DESIGN REPORT

# POWERHOUSE PARRAMATTA

MOREAU KUSUNOKI — GENTON

4 MAY 2020

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Artist Impression

## 0. EXECUTIVE SUMMARY

This report supports a State Significant Development Application (SSDA) for the development of Powerhouse Parramatta at 34-54 & 30B Phillip Street and 338 Church Street, Parramatta.

Powerhouse Parramatta is a Museum (information and education facility) that has a capital investment value in excess of \$30 million and as such the DA is submitted to the Minister for Planning pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). Infrastructure NSW is the proponent of the SSDA.

The purpose of this document is to provide an overview of the development proposal and to describe how each of the design related Planning Secretary's Environmental Assessment Requirements has been specifically addressed in the proposed architecture and landscape solutions documented in the SSDA.

The Lead Architect and Designer is Paris based firm, Moreau Kusunoki. This report has been prepared by Genton, the local Sydney based Architect for the Project, in consultation with Moreau Kusunoki.

The development will accommodate the following functions:

- Presentation Spaces for the exhibition of the Powerhouse Collection
- Concierge
- Retail, Food and Beverage
- Education Spaces
- Powerlab Co-working spaces and Residences
- Back of House Areas
- External Public Domain

The creation of Powerhouse Parramatta represents the most important cultural transformation of the institution. It will establish a new paradigm for museums through a design that is inherently adaptable. It is designed to constantly evolve in response to the needs of its growing communities. It will be a place of collaboration, a mirror of its communities, forever embedded in the contemporary identity of the city.



Artist Impression

## I. INTRODUCTION - Background

The Powerhouse is Australia's contemporary museum for excellence and innovation in applied arts and sciences. The Powerhouse was established in 1879 in the Garden Palace which emerged from a history of 19th Century grand exhibition halls, including the Grand Palais. It currently encompasses the Powerhouse Ultimo, Sydney Observatory in The Rocks and Powerhouse Castle Hill.

Parramatta, in the heart of Western Sydney, is entering a period of rapid growth. It was identified in 2014's A Plan for Growing Sydney as the metropolis' emerging second Central Business District, with the provision of supporting social and cultural infrastructure regarded as integral to its success. The strategic importance of Parramatta as an economic and social capital for Sydney has been subsequently reinforced and further emphasised through its designation as the metropolitan centre of the Central City under the Greater Sydney Region Plan.

Powerhouse Parramatta will be the first State cultural institution to be located in Western Sydney – the geographical heart of Sydney. In December 2019, the Government announced the winning design, by Moreau Kusunoki and Genton, for Powerhouse Parramatta from an international design competition. The winning design was selected unanimously by the competition jury.

Powerhouse Parramatta will establish a new paradigm for museums through the creation of an institution that is innately flexible. It will become a national and international destination renowned for its distinctive programs driven by original research and inspired by its expansive collections. It will be a place of collaboration, a mirror of its communities forever embedded in the contemporary identity of Greater Sydney and NSW.

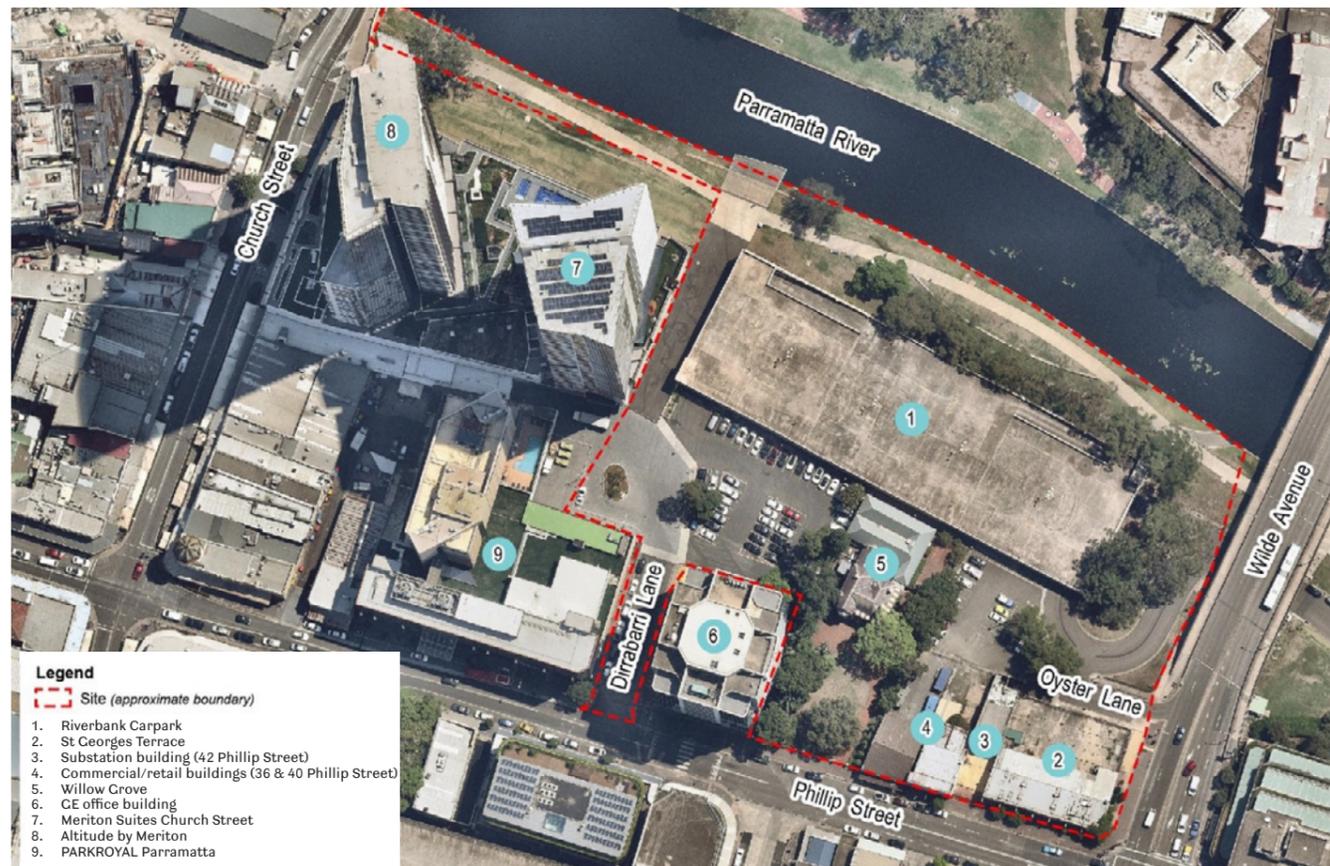
## Site Description

The site is located at the northern edge of the Parramatta CBD on the southern bank of the Parramatta River. It occupies an area of approximately 2.5 hectares and has extensive frontages to Phillip Street, Wilde Avenue and the Parramatta River. A small portion of the site extends along the foreshore of the Parramatta River to the west, close to the Lennox Street Bridge on Church Street. The site boundary is identified in the diagram below. The site excludes the GE Office Building at 32 Phillip Street.

The site is currently occupied by a number of buildings and structures, including:

- Riverbank Car Park – a four-level public car park
- Willow Grove – a two-storey villa of Victorian Italianate style constructed in the 1870s.
- St George’s Terrace – a two-storey terrace of seven houses fronting Phillip Street constructed in the 1880s.
- 36 Phillip Street – a two-storey building comprising retail and business premises
- 40 Phillip Street – a two-storey building comprising retail and business premises
- 42 Phillip Street – a substation building set back from the street.

The immediate context of the site comprises a range of land uses including office premises, retail premises, hotel, serviced apartments and residential apartments. To the north is the Parramatta River and open space corridor, beyond which are predominately residential uses. Riverside Theatres is located to the north-west across the Parramatta River.



Site boundary, key existing features, and immediate local context. Source: Ethos Urban

## Overview of Proposed Development

This application will deliver a new cultural institution for Parramatta in the heart of Sydney’s Central City. The SSDA seeks consent for the delivery of Powerhouse Parramatta as a single-stage, comprising:

- site preparation works, including the termination or relocation of site services and infrastructure, tree removal and the erection of site protection hoardings and fencing;
- demolition of existing buildings including the existing Riverbank Car Park, ‘Willow Grove’, ‘St George’s Terrace’ and all other existing structures located on the site;
- construction of Powerhouse Parramatta, including:
  - seven major public presentation spaces for the exhibition of Powerhouse Collection;
  - front and back-of-house spaces;
  - studio, co-working and collaboration spaces comprising the ‘Powerlab’, supported by residences (serviced apartments) for scientists, researchers, students and artists, and dormitory beds for school students;
  - education and community spaces for staff, researchers and the Powerlab residents, the community, and education and commercial hirers;
  - commercial kitchen comprising the ‘Powerlab Kitchen’ used for cultural food programs, research, education and events;
  - film, photography, and post-production studios that will connect communities with industry and content that will interpret the Powerhouse Collection;
  - research library and archive for community, industry, and researchers to access materials; and
  - a mix of retail spaces including food and drink tenancies.

- operation and use of Powerhouse Parramatta including use of the public domain provided on the site to support programs and functions;
- maintenance of the existing vehicular access easement via Dirrabarri Lane, the removal of Oyster Lane and termination of George Khattar Lane, and the provision of a new vehicular access point to Wilde Avenue for loading;
- public domain within the site including new public open space areas, landscaping and tree planting across the site; and
- building identification signage.

The project does not seek consent for the carrying out of works outside of the site boundary, and in particular, does not involve any alterations to the existing edge of the formed concrete edge of the Parramatta River or to the waterway itself.

## Design Outcome

The key urban relationships driving the site are its relationship with the City and Parramatta River, laneway connections and its integration with the surrounding public domain. The design outcome celebrates its urban condition and embraces its natural context.

The public domain within and surrounding Powerhouse Parramatta is designed to enhance connectivity through porosity. There are primary circulation axes north-south created by the continuation of the Civic Link to the water's edge of the Parramatta River and the east-west axis by connecting the Powerhouse Parramatta retail with the adjacent Meriton retail that then extends across the site through Powerhouse Square to create the Powerline. Additional links are created through Dirrabarri Lane, new pedestrian access between the GE Building to align with City of Parramatta's planned Civic link and a Phillip Street forecourt.

The majority of the site is delivered as public realm and the placement of the built form defines a new diverse public realm including:

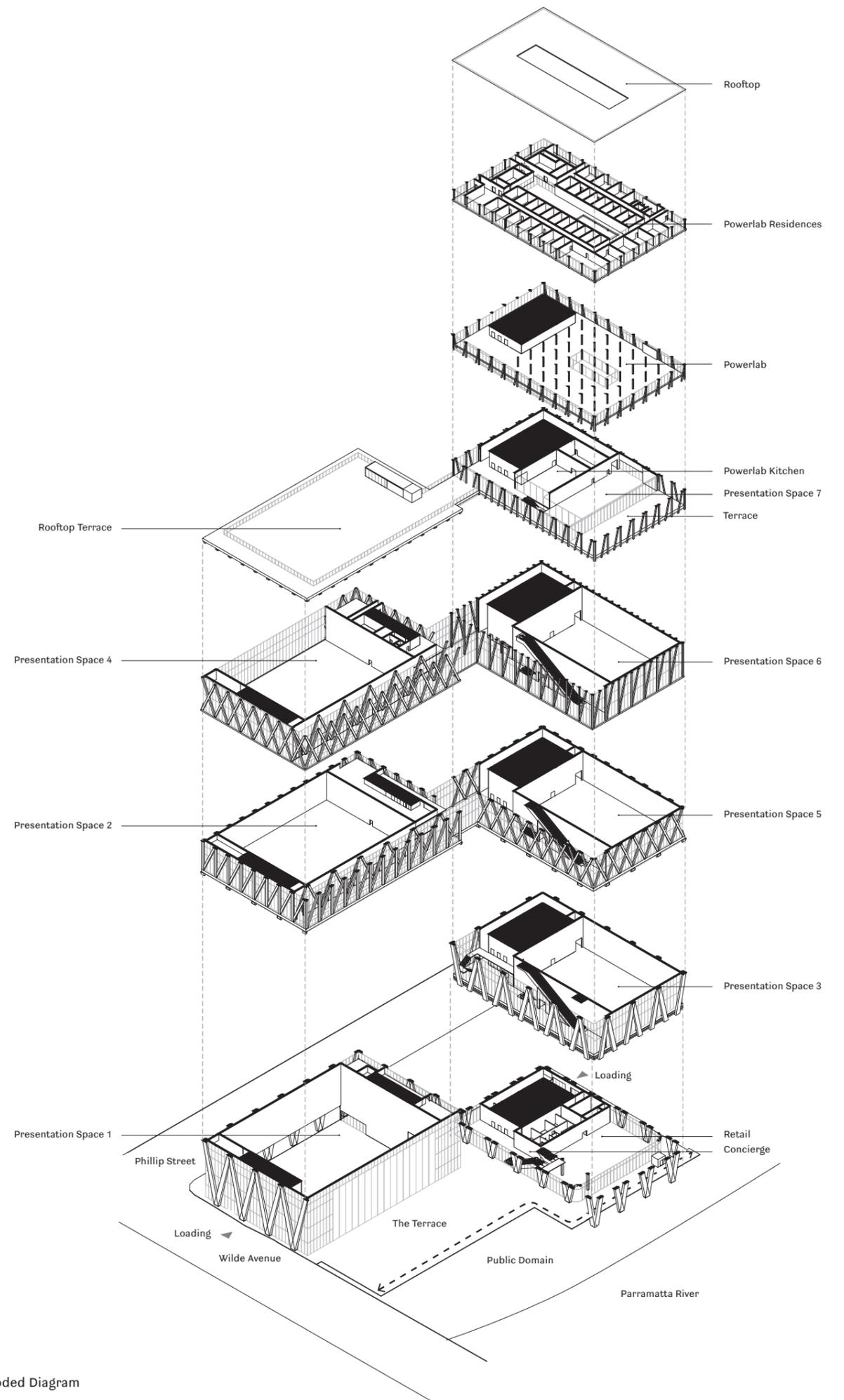
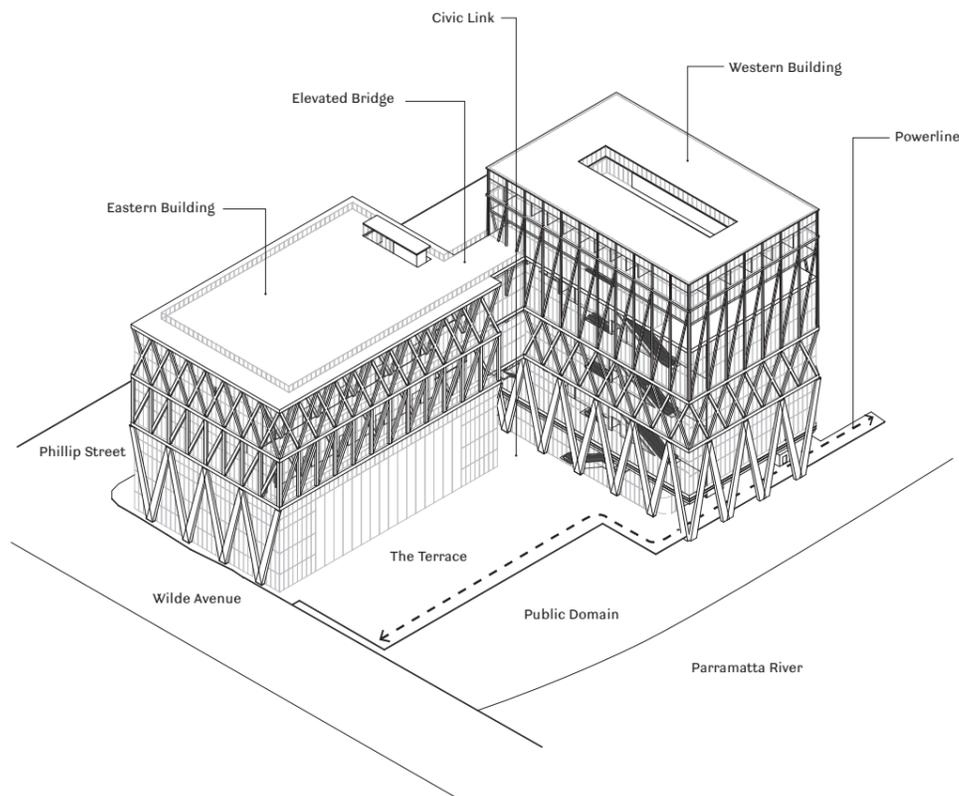
**Civic Link** - the continuation of the city's vision for a continuous pedestrian path from the heart of the city to the water's edge which is preserved and enhanced through a Civic Portal framing views from the city towards the nature of Parramatta River.

**The Terrace** - A new public space that extends from the internal Presentation Space and affords views over Parramatta River. The space faces North East and catches natural day light and views and is enhanced by surrounding façades of Powerhouse Parramatta and their front of house circulation.

**Public Domain** - the continuation of riparian corridor and the Riverfront Promenade connecting the site to Parramatta Wharf and Sydney Harbour to the east and Bankwest Stadium and parklands to the west.

**Dirrabarri Laneway** - a more urban context with finer grain connections through revitalised existing and newly proposed links that allows movement of people, loading and access.

The building and surrounding space is further characterised by visual and physical transparency. The arrangement of programming within the built form is achieved with a highly legible and visible public circulation that connects directly with Civic Link and culminates in a rooftop garden terrace.



Exploded Diagram

## Assessment Requirements

The Department of Planning, Industry and Environment have issued the Secretary's Environmental Assessment Requirements (SEARs) to the applicant for the preparation of an Environmental Impact Statement for the proposed development. This report has been prepared having regard to the SEARs as follows:

Key Assessment Requirements	Response
<b>3. Built form, heritage and urban design</b>	
The EIS shall:	
– outline the design process which informed the proposal including justification and analysis of the benefits and impacts of the proposal and any alternative schemes considered, including any designs which could have retained Willow Grove and the St George's Terrace	Refer Design Excellence Report
– address and respond to the height, bulk and scale of the proposed development within the context, streetscape and visual and physical character of the locality	Refer Section IV. Urban Design - Building Envelope
– give specific consideration to the overall site layout, open spaces, interface with the public domain (including River Square, Civic Link and River foreshore), through site links, laneways, street interfaces, façades, massing, setbacks, building articulation, solar access and overshadowing, materials, colours, signage or signage envelopes	Refer Section IV. Urban Design - Public Domain
– include a table identifying the proposed land uses, including a floor by floor breakdown of gross floor area (GFA), total GFA and FSR	Refer Architectural Plans - DA500-DA504
– provide an analysis of the proposed built form against the applicable development standards and controls	Refer Section IV. Urban Design - Building Envelope
<b>4. Integration with surrounding area</b>	
The EIS shall demonstrate how the proposal:	
– will be designed and staged to integrate with the future development of surrounding sites and the wider redevelopment of Parramatta including Civic Link, River Square, River foreshore and the future laneway to Church Street	Refer Section IV. Urban Design - Urban Integration
– will address public accessibility, connectivity and major events at Civic Link, River Square and the River foreshore	Refer Section IV. Urban Design - Public Accessibility and Major Events
– addresses amenity impacts, visual and view impacts, servicing and loading arrangements, pedestrian connectivity and activation of public spaces.	Refer Section V. Architecture - Circulation - Servicing and Loading Refer Section IV. Urban Design - Activation, Building Envelope
<b>5. Public domain</b>	
The EIS shall:	
– identify how ground level (both the street and river frontage) uses are configured to provide safe and active street frontages and provide visual interest and activation to the public domain	Refer Section IV. Urban Design - Public Domain
<b>9. Environmental Amenity</b>	
The EIS shall:	
– address solar access and overshadowing impacts on surrounding (and known future) public spaces, public domain areas and any affected residential developments	Refer Section IV. Urban Design - Building Envelope - Shadow Analysis



Artist Impression

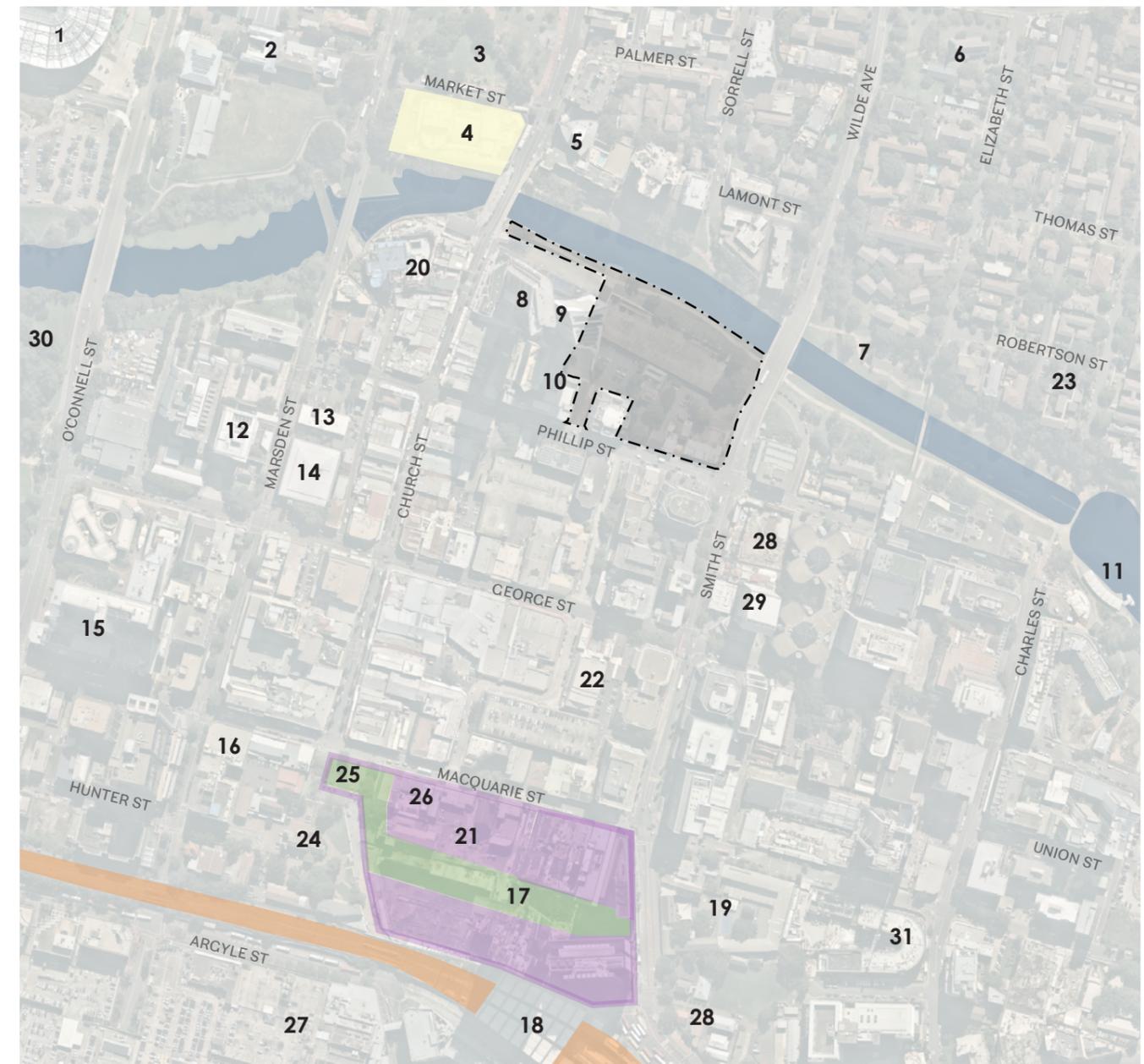
## II. CONTEXT - Locality Plan

The following diagram outlines the Powerhouse Parramatta site within the context of Parramatta indicating key surrounding land uses and destinations.

The site reinforces an existing network of public and civic venues positioned within the Parramatta CBD. It also creates a cultural precinct along the Parramatta River, complementing the existing Riverside Theatres.

### Legend

1 Bankwest Stadium	10 PARKROYAL Parramatta	19 Arthur Phillip High School	28 Lancer Barracks
2 Old King's School	11 Parramatta Wharf	20 The Lennox Parramatta	29 Western Sydney University
3 Prince Alfred Square	12 Justice Precinct	21 Parramatta Town Hall	30 Parramatta Park
4 Riverside Theatres	13 Police Station	22 Roxy Theatre	31 Parramatta Public School
5 Novotel Sydney Parramatta	14 Court House	23 Macarthur Girls High School	- - - - - site boundary
6 All Saints Anglican Church Parramatta North	15 Federal Government Offices	24 St Johns Anglican Cathedral Church	■ cultural institution
7 River Foreshore Reserve	16 Post Office	25 Centenary Square	■ Parramatta River
8 Altitude by Meriton	17 Parramatta Square	26 Leigh Memorial Church	■ rail corridor
9 Meriton Suites Church Street	18 Parramatta Station	27 Westfield Parramatta	■ Parramatta Square
			■ public domain



**Context Analysis**

**VEHICULAR AND PUBLIC TRANSPORT ANALYSIS**

The site is easily accessed from a number of nearby public transport services including Parramatta Train Station to the south, the Ferry Terminal on Parramatta River to the east, the future light rail station on Church Street to the west and the future Metro station set to be positioned along the Civic Link. It is accessible by a comprehensive bus network.

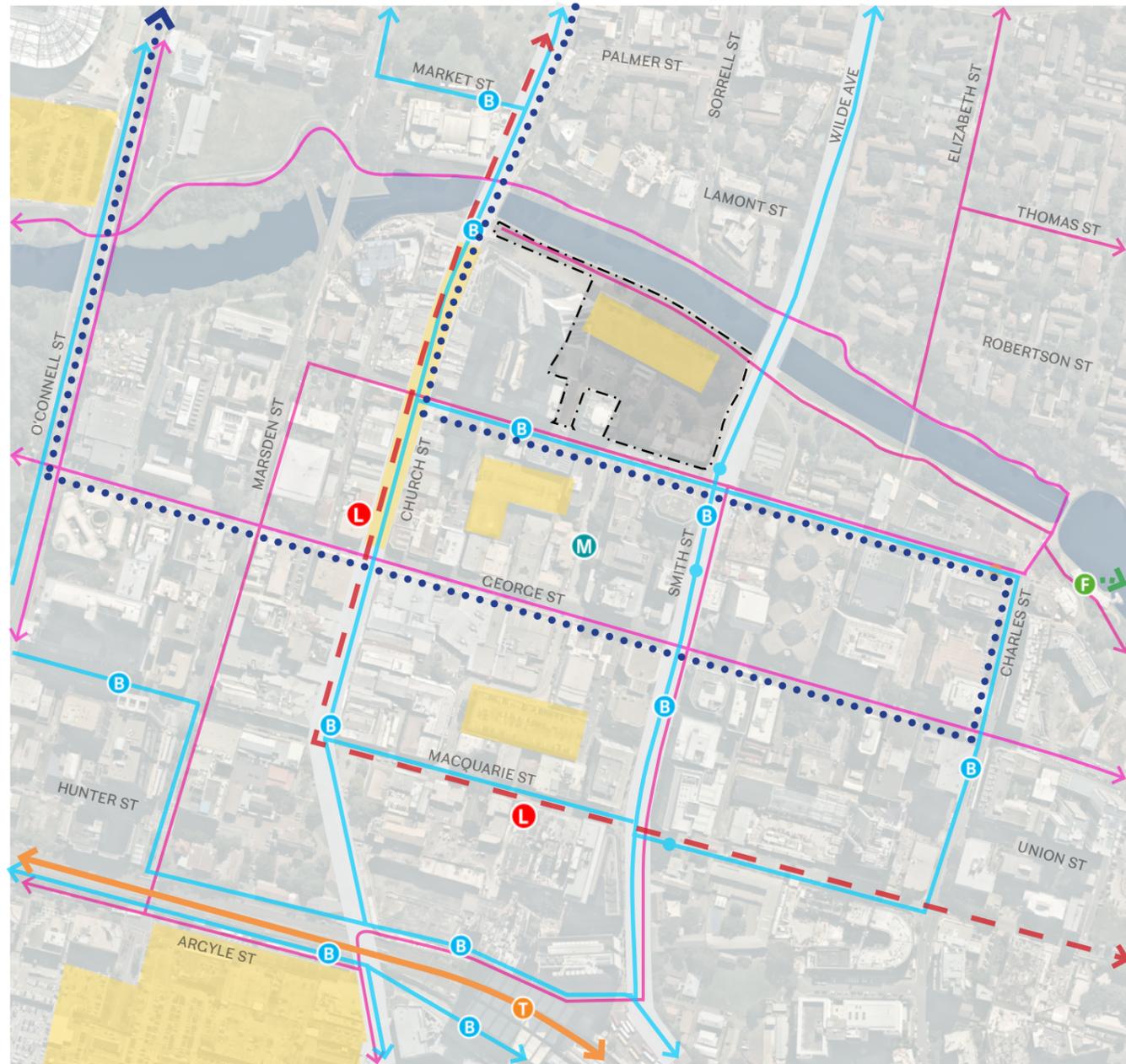
A recreational cycling route runs along the banks of the Parramatta River and occupies a portion of the subject site.

The site is located between two primary north-south streets, Church St to the west and Wilde Ave to the east, and is also serviced by a hierarchy of smaller roads.

Parramatta City Centre Integrated Transport Plan highlights City of Parramatta's aspiration to reduce reliance on private vehicles and promote alternative modes of transport, including walking, cycling and public transport.

**Legend**

- |  |                       |  |                       |
|--|-----------------------|--|-----------------------|
|  | train line            |  | future lightrail stop |
|  | train station         |  | future metro stop     |
|  | major bus route       |  | major cycling path    |
|  | bus stop              |  | major carpark         |
|  | CBD free shuttle loop |  | significant road      |
|  | ferry stop            |  | site boundary         |
|  | ferry route           |  | Parramatta River      |
|  | future lightrail line |  |                       |



**PEDESTRIAN ANALYSIS**

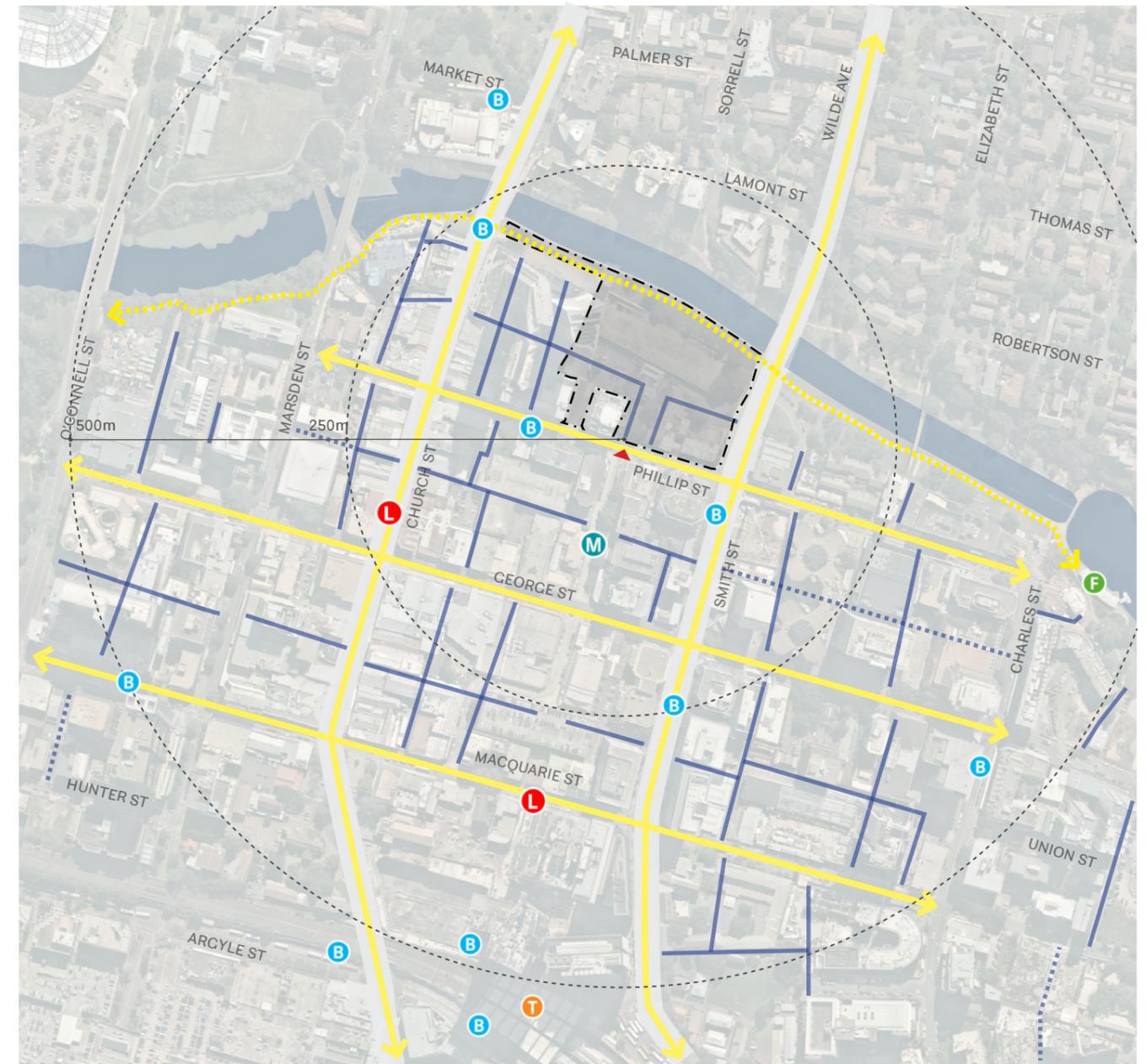
Public transport nodes are within 5 to 10 minutes walking distance of the site entrance to Powerhouse Parramatta including Parramatta Station and the Parramatta Ferry Terminal.

The site interfaces directly with an established pedestrian network along Wilde Avenue, Phillip Street and the Parramatta River foreshore.

Additionally, the location and scale of the site give the opportunity to tie in with and further expand on the Parramatta City Centre Lanes Policy.

**Legend**

- |  |  |  |  |
|--|--|--|--|
|  | major pedestrian routes                            |  | significant road                             |
|  | through site link                                  |  | site boundary                                |
|  | main entry point                                   |  | Parramatta River                             |
|  | existing public transport stop (train, bus, ferry) |  | Lanes, arcades etc. per Lanes Framework Plan |
|  | walking distance                                   |  | Cross-site links per DCP 2007                |



**RELATIONSHIP TO THE CITY AND THE RIVER**

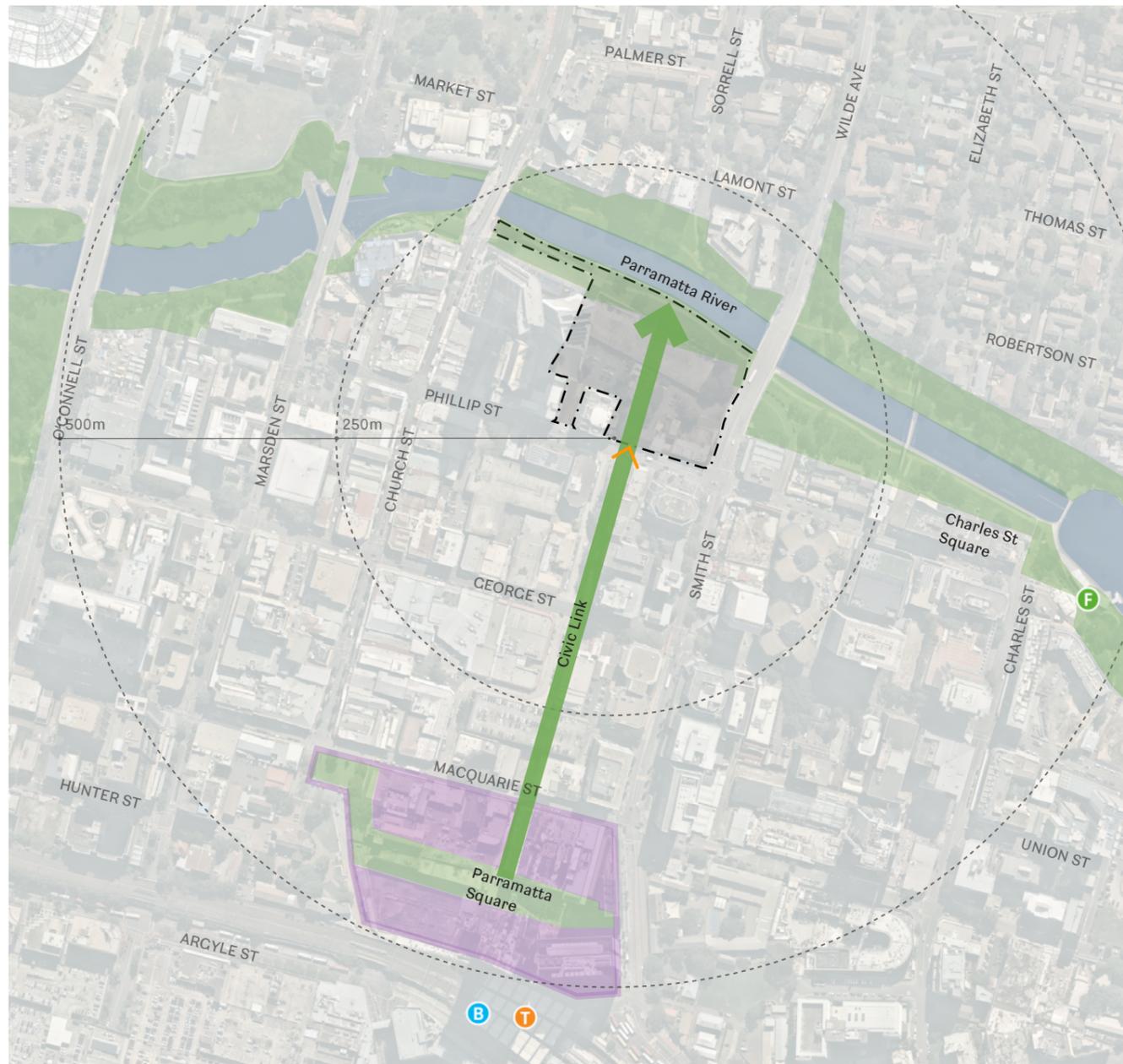
The building and its public domain will facilitate a stronger connection between the city and Parramatta River through the creation of a key cultural destination at the river end of the proposed Civic Link.

The site forms the northern anchor to the future civic link, which transverses the Parramatta CBD from Parramatta Square and Railway Station through the future retail pedestrianised strip.

The positioning of the site on the banks of the Parramatta River and at the northern fringe of Parramatta conclude the proposed Civic Link at the site of Powerhouse Parramatta linking Parramatta Square with the riverfront.

**Legend**

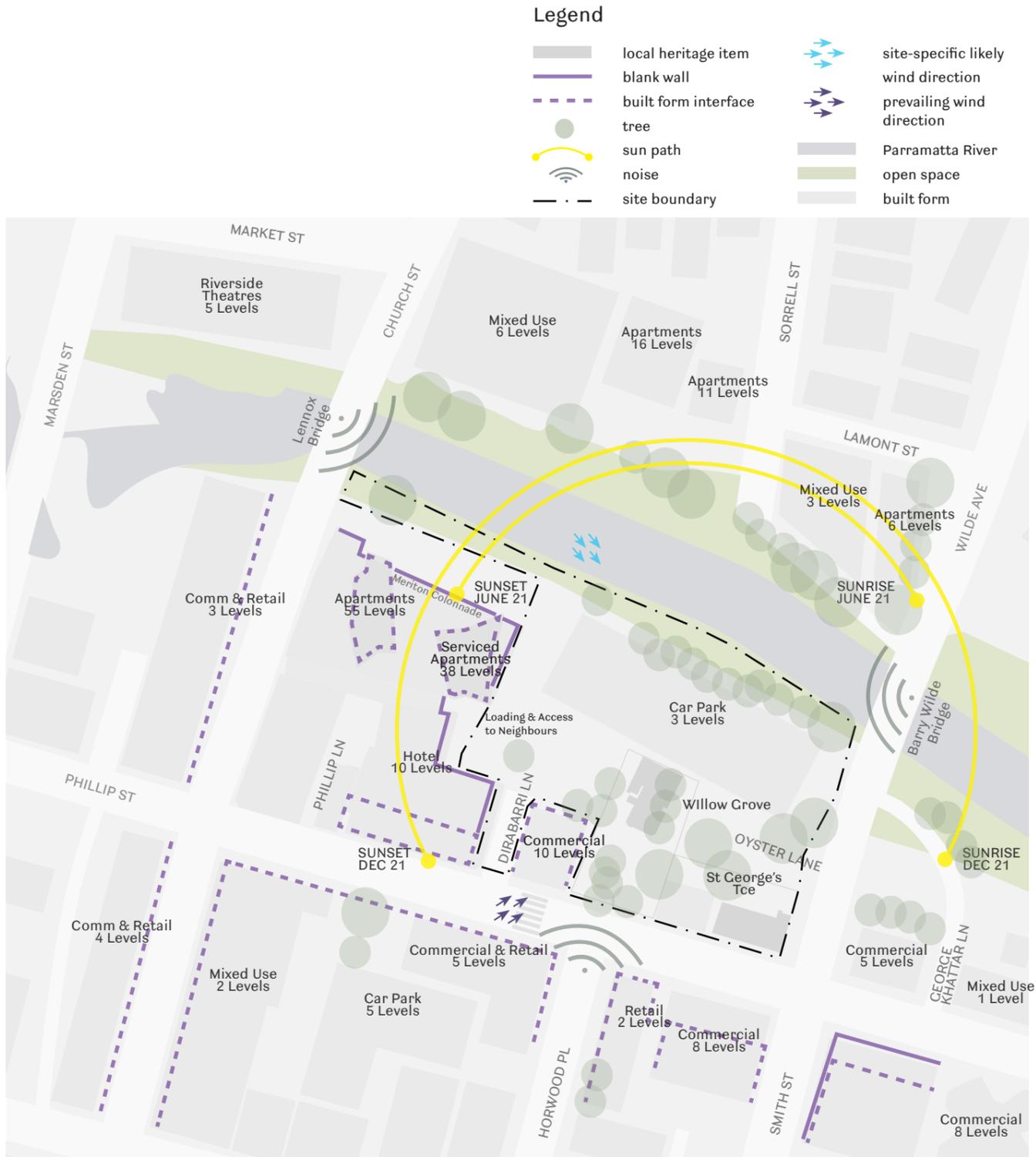
- Proposed Civic Link
- public domain
- Parramatta River
- main entry point
- walking distance
- site boundary
- Parramatta square precinct
- T B F existing public transport stop (train, bus, ferry)



## Site Analysis

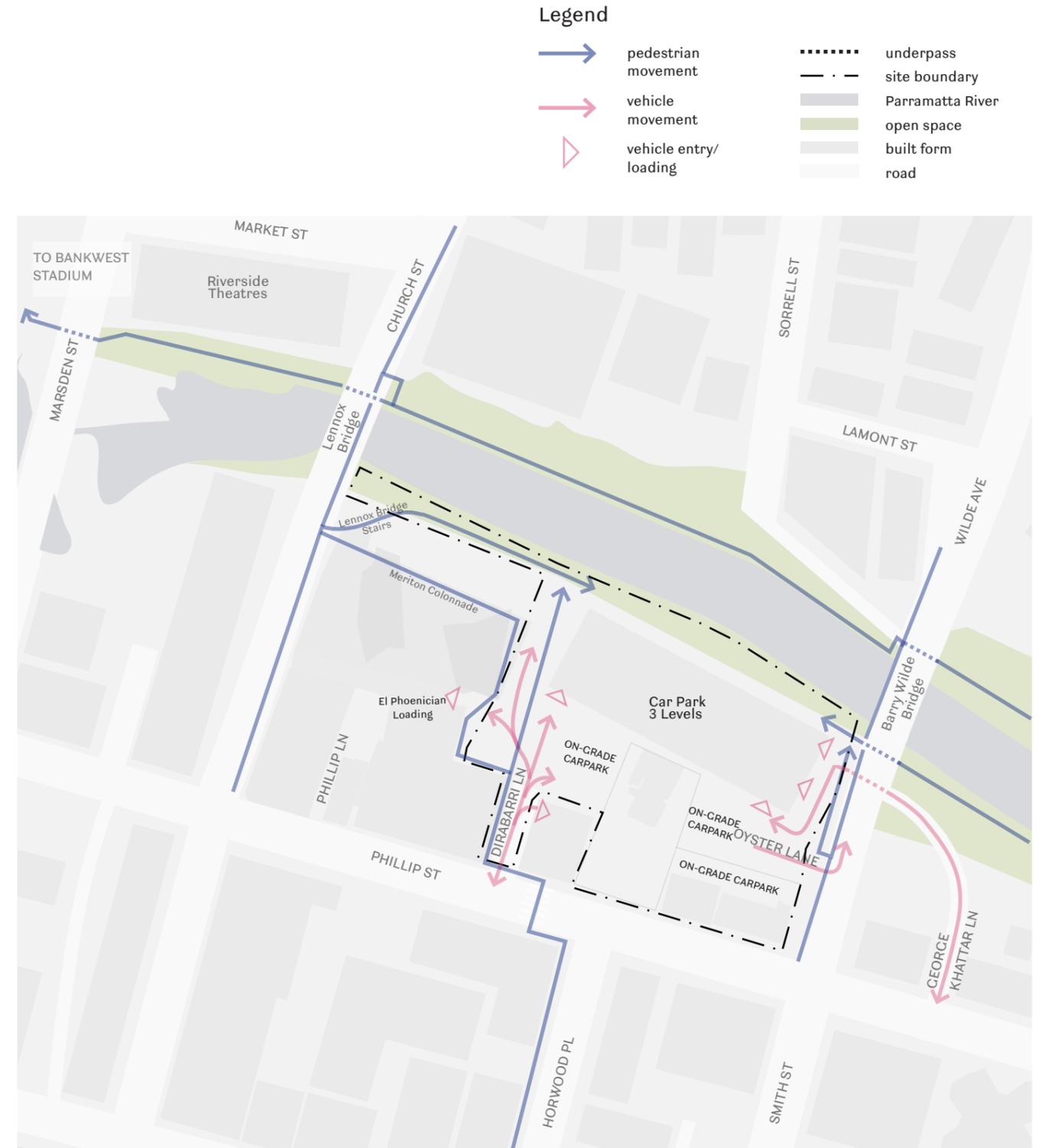
### ENVIRONMENTAL ANALYSIS AND KEY INTERFACES

The following diagram summarises the key built form interfaces that surround and define the Powerhouse Parramatta site. It also documents the position of two Locally Listed Heritage listed items which currently occupy the subject site. The environmental conditions of the Powerhouse Parramatta site are outlined including solar access, prevailing winds and noise. Prevailing wind to the site is from the south-west, with additional consideration of wind from north-west down the Parramatta River.



### EXISTING ACCESS AND ENTRY

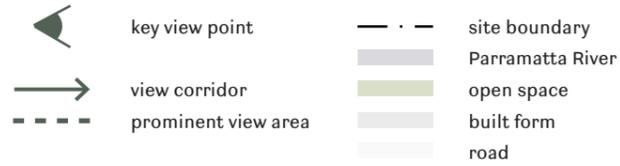
The current site is used for multi-deck and at grade public carparking. Therefore the circulation currently prioritises vehicle movements including George Khattar Lane and Oyster Lane, designed to access and exit the Riverbank Carpark and rear of the private properties fronting Phillip Street. At the western edge of the site Dirrabarri Lane also provides access to the Riverbank Carpark as well as other car parking and loading facilities for the GE Building, Meriton Suites and retail premises.



## VIEWS

Powerhouse Parramatta's site has high visibility from several surrounding vantage points. The following diagram summarises the key views into the subject site from the surrounding urban environment. These exist in two forms, firstly focused glimpses of the building through narrow, urban view corridors to encourage movement to and through the site, and secondly views of the building from more distant vantage points such as the foreshore on the northern banks of the Parramatta River and the Lennox and Barry Wilde bridges.

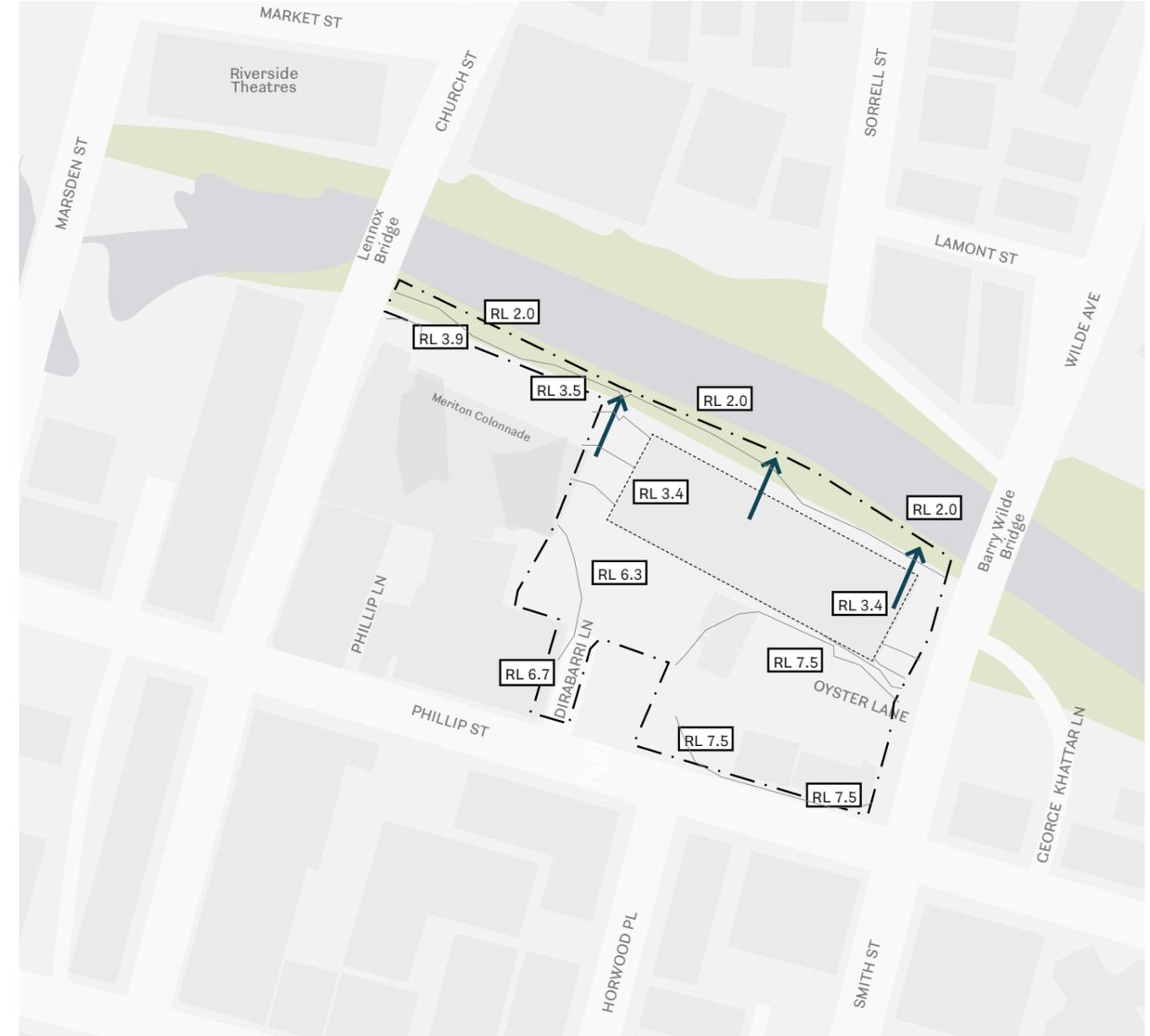
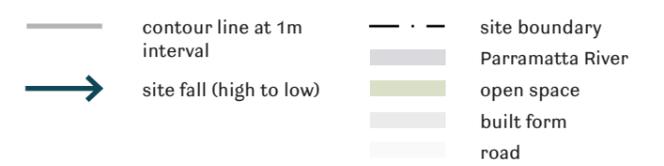
### Legend



## Topography

The southern portion of the site just north of Phillip Street is relatively flat. Approximately half way between Phillip Street and the Parramatta River, the site begins to slope down towards the bank of the river, falling approximately 5m to 6m across the remaining length of the site. A key feature of the site's topography is the man-made cutting at RL3.4 and long east-west retaining wall this creates to achieve the Riverbank Carpark.

### Legend





### III. VISION

#### ARCHITECTURAL VISION

The proposal for Powerhouse Parramatta combines dynamic functionality with a simple design, creating a coherent architecture where the beauty is derived from the capacity of the building to meet the needs of the user. *“Choice will be a defining element of design in the future... If design is to respond to our needs and wants, it must find new ways of delivering the choices we crave, even though this will demand radical shifts in design practice”*<sup>1</sup>. The continual activation of high-performance spaces, along with the simplicity of their massing, establishes the building’s relevance irrespective of time.

The proposal adopts a compact yet porous approach to massing and forms a building footprint which treads lightly on the site landscape, creating sheltered spaces for the Parramatta community to freely engage. *“Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody.”*<sup>2</sup> The gift of open space relieves Powerhouse Parramatta users from urban density, allowing them to reconnect with the site’s natural qualities: earth, water, wind and sky. Whether a special occasion or everyday activity, Powerhouse Parramatta accommodates an intimate scale with grand capabilities.

#### DESIGN OBJECTIVES

The design responds to the design objectives for Powerhouse Parramatta:

##### Indigenous perspectives

Powerhouse Parramatta seeks to build a culture of respect and exchange, acknowledging the deep Australian Aboriginal and Torres Strait Islander connections and continuing practices in applied arts and sciences. It recognises and shares the value of preserving, revitalising and strengthening Australian Aboriginal and Torres Strait Islander cultures, histories and achievements.

##### A reflection of Sydney

Powerhouse Parramatta demonstrates a shift in how Sydney thinks about itself, its culture and its communities, demonstrating a new international benchmark in how cultural institutions transform to reflect the changing needs of urban contemporary communities. It is a celebration of all that is Sydney, and in particular a celebration of Western Sydney - a special and unique place of meeting, making, storytelling and celebrating.

##### Powerhouse Program

The building will support the delivery of a dynamic and active program including multiple concurrent activities such as exhibitions featuring the Powerhouse’s Collection, major public events, community and education programs. Powerhouse Parramatta will also provide a collaborative working space and residencies, which will be available for visiting artists, students, researchers and scientists.

##### Clarity of circulation

Centralised circulation with an emphasis on intuitive wayfinding contributes to the visual activation of Powerhouse Parramatta.

##### Fine-grain

Powerhouse Parramatta generously integrates with the fine grain of the city with multi-layered, multi-level social and recreational spaces.

##### Responsiveness

The building is designed to embrace change in the daily program; allowing for multiple and diverse uses of space; and delivering a precinct that fosters collaboration and sharing.

##### A connected precinct

Each space plays a distinct role in Powerhouse Parramatta works together to create a 24-hour cultural place.

##### Concurrent utilisation

Powerhouse Parramatta’s program will allow for concurrent activities being held in different parts of the building with opportunity for total acoustic and light isolation when required.

##### Operationally efficient

The building will focus on enabling ease of operation to support high levels of production and to maximise public-facing programming.

##### Porous

The building and site are designed to be accessed from all sides and multiple levels, creating a new urban realm for local residents, workers and visitors and opening up the Parramatta CBD to the riverfront.

##### Consolidated facilities

Powerhouse Parramatta intends to contain flexible, consolidated facilities throughout, across the back of house and public-facing facilities.

##### Accessibility

Will support best practise accessibility ensuring that Powerhouse Parramatta is welcoming, safe and equitable.

##### Sustainability

Powerhouse Parramatta will actively promote sustainable design principles maximising environmental opportunities through energy conservation, reduction of waste, water usage education and materials from sustainable sources.

##### Visitor-centred

The visitor experience will be central to the design process, which will result in an experience that is welcoming, engaging and relevant to the diverse communities that it serves.

<sup>1</sup> Alice Rawsthorn, *Design as an Attitude* (2018)

<sup>2</sup> Jane Jacobs, *The Death and Life of Great American Cities* (1961)



#### IV. URBAN DESIGN - Design Principles

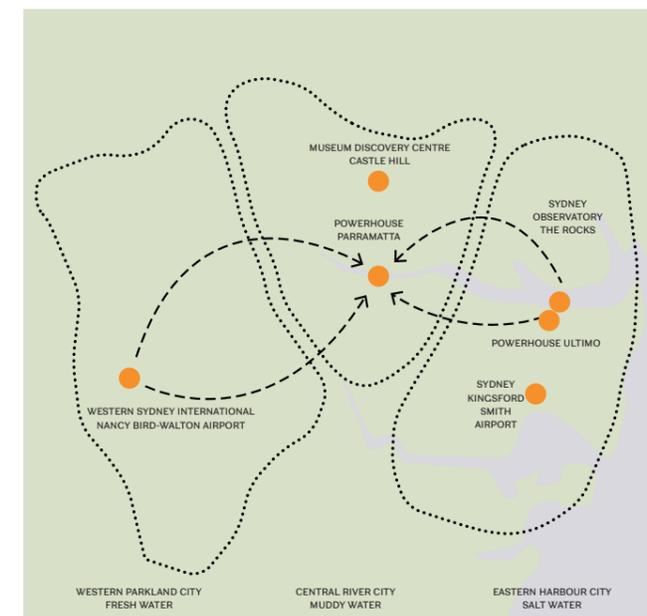
Parramatta’s symbolism as a place of meeting has roots deeply ingrained in cultural exchange. Powerhouse Parramatta is a reflection of its diverse local cultures and communities in the area. A city mirror, invariably shifting as the city evolves. Enriched by a collage of cultures, Powerhouse Parramatta offers an inclusive safe place for all visitors and residents alike.

The Central River City vision brings major transformational changes. With improvements to Greater Sydney’s public transport infrastructure underway, Parramatta is given the opportunity to establish itself as an international destination, facilitating stronger economic resilience. At walking distance from the central train station and the ferry terminal, Powerhouse Parramatta will be the beating heart of Parramatta, playing a significant role in preserving and showcasing the city’s identity and culture.

The masterplan of Powerhouse Parramatta weaves the site into its surroundings. Powerhouse Parramatta acts as a porous network of fine-grained gateways, a sequence of considered thresholds between the Civic Link, Parramatta River Corridor and its surrounding street network. The numerous future transport links support the Powerhouse Parramatta design with a sense of arrival from every direction. With its iconic structure and activated street frontages, Powerhouse Parramatta becomes the cultural focal point of the city, acting as a point of reference and visual guide for visitors as they navigate the streets of Parramatta.

#### Legend

-  train line
-  train station
-  ferry stop
-  ferry route
-  future lightrail line
-  future lightrail stop
-  future metro stop
-  major pedestrian links to site
-  Parramatta River



Greater Sydney Region



Parramatta Urban Context

Artist Impression

**URBAN APPROACH**

The porosity and connections of Powerhouse Parramatta are structured along two main axes: North-South and East-West. On the North-South axis, the Civic Link extends through the site, linking the Parramatta CBD with the Parramatta River. This transition from city to nature reaches its culmination at Powerhouse Parramatta, the final node of the city's cultural infrastructure along the proposed Civic Link. On the East-West axis, we trace different paths which create new links, such as the Powerline and reinforce existing ones, like the Riverfront Promenade.

The permeability of the site establishes connections with the adjacent public and civic venues including Parramatta Riverside Theatre, Bankwest Stadium, Prince Alfred Square, Parramatta Town Hall, Western Sydney University and Westfield Parramatta. The landscape treatment also integrates with a broader network of public open space, including the Parramatta River Corridor, Parramatta Square, Parramatta Park and Lake Parramatta. These connections and significantly the presence of Powerhouse Parramatta are formative in creating a cultural precinct along the Parramatta River, connecting public space of the city back to the water's edge.

**KEY DESIGN ELEMENTS**

The key urban design elements for the site:

- Relationship between the City and Parramatta River
- Laneway Connections
- Integrated Public Domain

The building derives its positioning from the main civic connections, and from the desire to define a generous public space, open towards Parramatta River. The design seeks to liberate a large part of the site to re-establish contact with the land, to interact with the water and to offer the city of Parramatta an active public place.

After a comprehensive concept design process, the clarity of connection between the city and Parramatta River was prioritised.

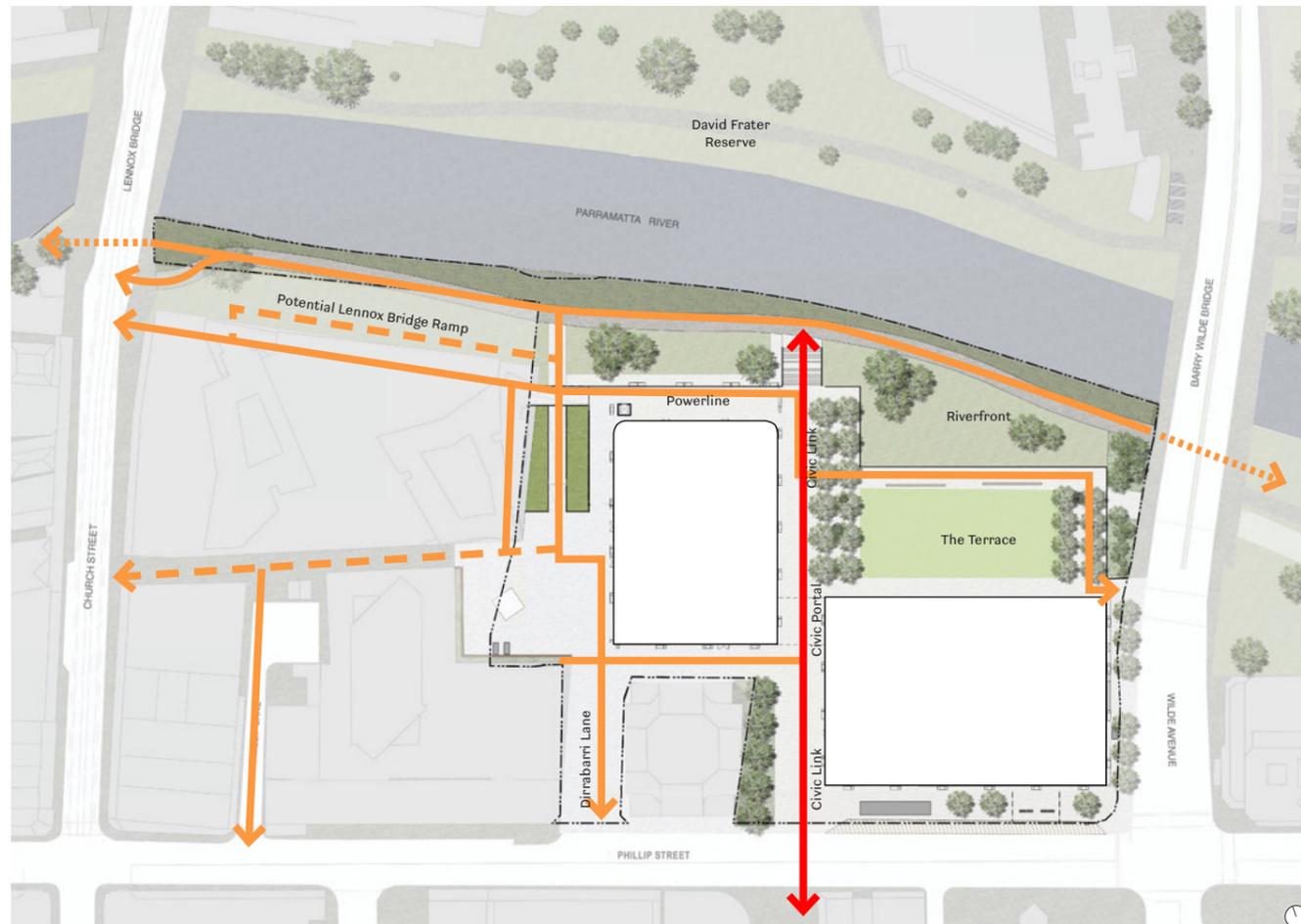
The Powerhouse Parramatta will be a new city destination with a direct physical connection to the primary presentation space on the ground level. The terrace which extends from the facade is a place for public programs and active recreation. The new river front landscaping provides a pedestrian connection from the riverbank to the upper Phillip Street level.

**DESIGN PROCESS**

For the details of the design process, refer to the Design Excellence Report.

**Legend**

-  civic link
-  existing pedestrian links
-  underpass
-  planned pedestrian links



Site Context Diagram



Proposed Master Plan

**OPEN SPACES**

**The Terrace and Riverfront**

The Terrace is an extension of Powerhouse Parramatta's largest Presentation Space, providing an elevated vantage point to the Parramatta River landscape and is intended to host everyday individual moments and larger formal events. The Terrace activates the connection to Parramatta River, creating an integral link along the broader river corridor.

**PEDESTRIAN CONNECTIVITY**

**Civic Link**

The Civic Link is a north-south pedestrian link, located between Church Street and Wilde Avenue along the alignment of Horwood Place. It provides the future primary access route between Parramatta Train Station and Powerhouse Parramatta and establishes a strong, physical, visual and symbolic connection between the city and Parramatta River. The Civic Link is the heart of the precinct, the transition between the urban grain of the city and the engagement of Parramatta River.

**Dirrabarri Lane**

Dirrabarri Lane is the main vehicular entrance to the site, used for exhibition-related loading and other deliveries. Dirrabarri Lane continues onto a descending path that leads to Parramatta River, passing under the Powerline.

**Powerline and Lennox Bridge Ramp**

The Powerline and potential Lennox Bridge Ramp connect Powerhouse Parramatta's activated ground plane and the Civic Link to Eat Street and Lennox Bridge via the Mertiton colonnade.

The creation of these connections in the neighbourhood fabric supports the formation of a continuous ribbon of existing and newly activated retail spaces for the City. The retail has been placed to activate the Civic Link and the Powerline complementing the commercial activity of Phillip Street, extending the animation of the Civic Link right through the site and reinvigorating Dirrabarri Lane. The placement offers abundant opportunities to enjoy the riverfront with food and beverage outlets will reflect the diversity which characterises the City of Parramatta, while other retail tenancies will be integrated into Powerhouse Parramatta programs and will connect communities with industry, local cultural activity and technological innovation.



**Activation**

**ACTIVATION OF PUBLIC SPACE**

The direct physical and visual connections between Powerhouse Parramatta, public domain spaces and Parramatta River, invite users to interact with the river landscape.

Once at the river, the landscape becomes host to all number of events, aided by numerous public facilities, cycle paths and pedestrian walkways. These link visitors to the northern bank of the river and surrounding parklands, and ferry to the Sydney CBD.

The Terrace extends north from Presentation Space 1, providing an elevated platform for the public to congregate and take part in activities linked to events within the Presentation Space and the Terrace. This public space acts as a focal point for activity and supports activation across Powerhouse Parramatta. The Riverfront

extends under the Terrace, providing the opportunity for shaded and weather protected space. The volume of the undercroft space supports a resilient design for the site and for the City, by accommodating flood waters in accordance with flood modelling requirements.

A concentration of retail and front of house uses positioned on either side of the Civic Link work together with the passive framing provided by the building and overhead bridge to create a unique sense of place. One that responds to the urban context of the city and the more natural setting of the Parramatta River.

Dirrabarri Lane, positioned at the western edge of Powerhouse Parramatta, supports the establishment of a network of laneways and public spaces which stitch Powerhouse Parramatta into the surrounding urban fabric.

**STREET INTERFACES**

**Phillip Street**

The Civic Link bridges Phillip Street, channelling pedestrian activity into the heart of Powerhouse Parramatta. The southern facade of the eastern building reinforces Phillip Street. The ground plane incorporates a series of generously sized doors which enables a dynamic relationship between the street and the presentation space behind. Phillip Street also hosts the primary pedestrian drop off zone serving Powerhouse Parramatta.

**Wilde Avenue**

Wilde Avenue serves as a primary vehicular connection between both sides of the Parramatta River. The built form on eastern portion of the site reinforces the Parramatta city grid, defining the street edges with a recognisable architectural presence. This serves to orientate key points of arrival from North Parramatta, the Parramatta Wharf, Phillip St and Wilde Avenue.

**Dirrabarri Lane**

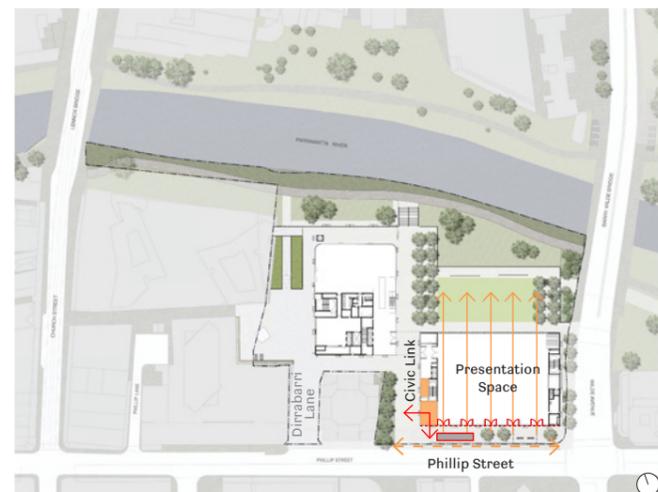
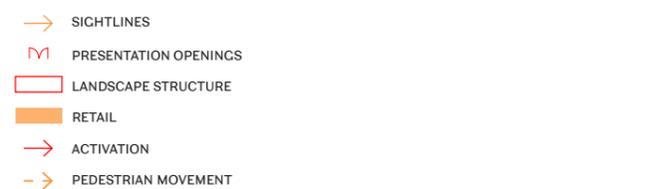
Dirrabarri Lane is a laneway which facilitate an additional and important pedestrian link into Powerhouse Parramatta from the west and are both characterised by an intimacy of scale and use.

**GROUND PLANE PERMEABILITY**

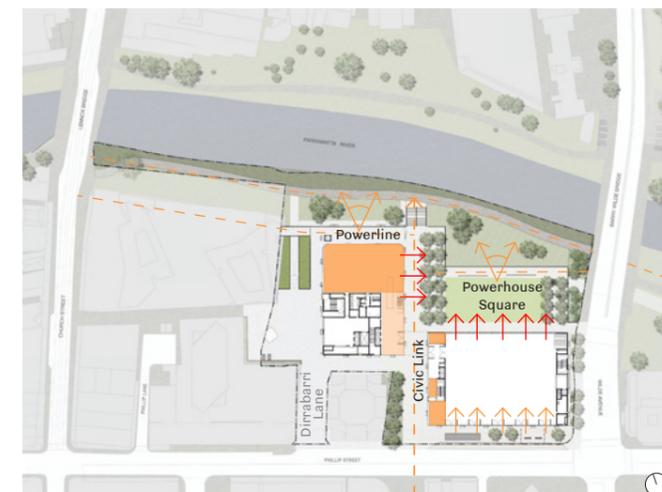
Powerhouse Parramatta's ground plane serves as a seamless continuation of the surrounding streetscape and public domain. An inviting, barrier free, urban lounge, openly welcoming visitors in. It acts as a central place in the urban fabric, a destination for pause and reflection. The controlled porosity of Powerhouse Parramatta, and its mixture of uses, contributes to a secure day and night-time community. Powerhouse Parramatta offers a safe place for all members of the community to meet, engage and inform its evolution.



Activation of Civic Link



Activation of Phillip Street



Activation of Powerhouse Square and Powerhouse Park

## Urban Integration

### LONG TERM CIVIC INTEGRATION

Upon completion, Powerhouse Parramatta will integrate into the surrounding public domain with a number of additions to the ecosystem of Parramatta's public space network. These include:

#### Civic Link

The north south Civic Link runs through the heart of the site, meeting with the Parramatta River, and will serve as the primary pedestrian connection between Powerhouse Parramatta and Parramatta train station to the south. The primary circulation is consolidated and located alongside the eastern facade of the Western building. Powerhouse Parramatta has a highly legible and visible public circulation that connects directly with Civic Link.

City of Parramatta's Civic Link is defined in the Civic Link Framework Plan 2017 as a green, pedestrianised public space and cultural spine that connects public life from the heart of Parramatta CBD through the site to the Parramatta River. The link is anchored at both ends by Parramatta Square (and train station) and the site (and Parramatta River) and is divided into 5 unique Character Areas. The Civic Link extends across four city blocks in the heart of the Parramatta CBD.

#### River Foreshore

The River Foreshore occupies the full length of the northern edge of Powerhouse Parramatta and also serves as a pedestrian connection to the ferry terminal to the east and other cultural and recreational facilities along the foreshore to the west.

The Parramatta City River Strategy 2015 highlights a significant public domain offering on the site, including a link from Phillip Street to the foreshore and a new public space.

The site is a key unifying element within the river corridor, establishing a direct connection with Parramatta Square, the CBD's major public space. Powerhouse Parramatta's public domain will complement Parramatta Quay, the city's new improved ferry terminal once complete. Linking these river spaces together are a series of active focal points that take the form of landscaped terraces and sheltered riverfront spaces.

The Terrace and the Riverfront are Powerhouse Parramatta's premier riverside public space linking directly to Parramatta Square and Parramatta Station

through the Civic Link.

#### Laneways

The network of laneways surrounding Dirrabarri Lane serves as informal connections to the light rail stations and retail precinct on Church Street to the west.

The Parramatta CBD Pedestrian Strategy 2017 recognises the development of Powerhouse Parramatta on the subject site in Parramatta as a key consideration for the CBD Pedestrian Strategy. Walkability and accessibility are prioritised, particularly for cultural sites.

In the long term, connections to existing and future cultural institutions throughout Parramatta and particularly along the river front, can be further strengthened through localised interventions, strategic public domain upgrades as well as future improvements to transport infrastructure.

### PUBLIC ACCESSIBILITY

Powerhouse Parramatta will be serviced by public transport networks including train, ferry, buses and light rail. Vehicular access is readily supported along Phillip Street.

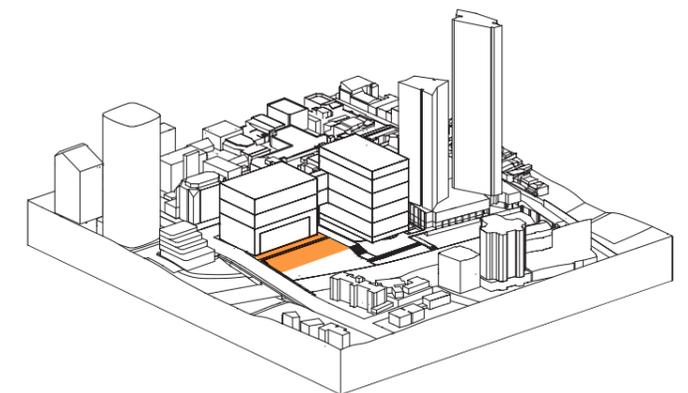
The Powerhouse Parramatta site is tightly interwoven within the existing network of pedestrian routes. Pedestrian connections into the site will be further reinforced once the Civic Link and the river front approach are developed in line with the Parramatta CBD Pedestrian Strategy 2017 and other corresponding frameworks.

For patrons and visitors to Parramatta arriving by ferry, Powerhouse Parramatta, by way of its positioning, urban design and visual presence, can also serve as the gateway to the broader city.

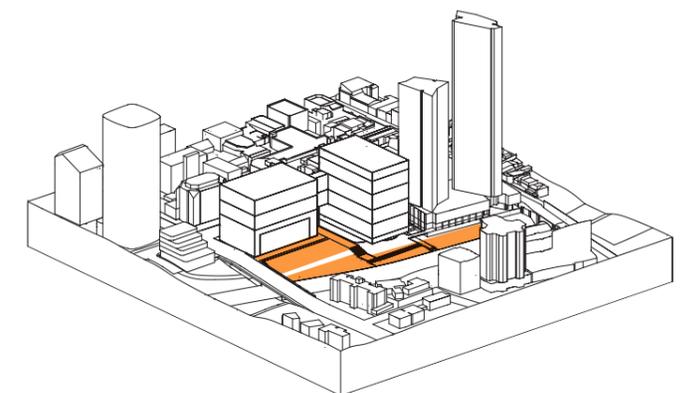
### MAJOR EVENTS

The precinct is designed to accommodate large scale public events. The physical permeability of the site which dissolves any boundary between Powerhouse Parramatta and the broader public domain network of Parramatta, will enable Powerhouse Parramatta to host events linked to city wide celebrations and festivals in a highly integrated manner.

The proximity to the river bank allows for collaborative partnerships for larger networked events along the Parramatta River.



Large Event at The Terrace



Large Event at Civic Link and River Foreshore

## Building Envelope

### HEIGHT, BULK AND SCALE

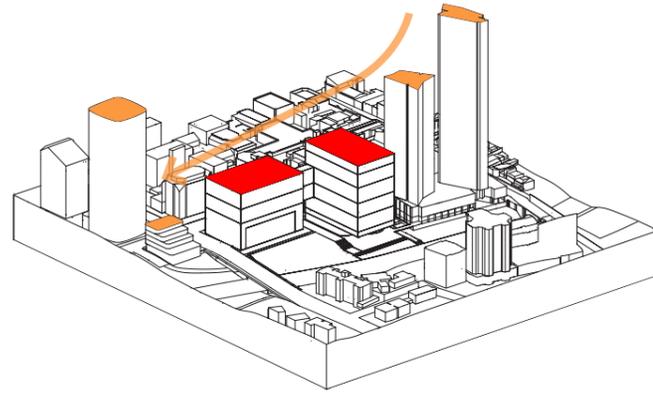
The proposed building height and mass responds to key aspects of the existing condition as well as the vision for Powerhouse Parramatta.

The building area is split into two volumes to frame and reinforce the Civic Link. These are staggered by setting back the eastern volume from the river to create a large, generous and well lit public domain in the form of the Terrace and its adjacent public domain spaces. This allows the Powerhouse to have a large and prominent address to the river precinct.

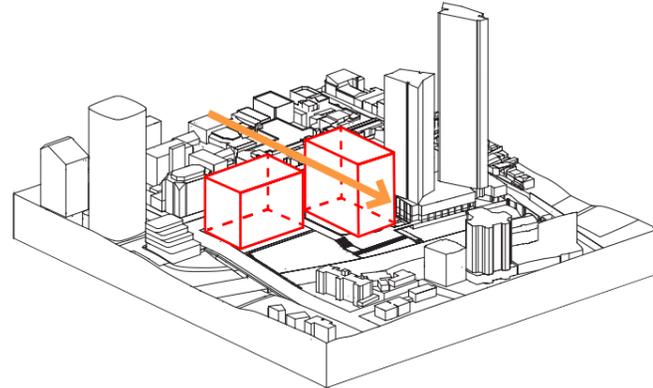
The height of the two masses are then determined by the inclined height plane established by Altitude by Meriton and Meriton Suites Church Street towers to the west and provides a gradual transition in scale to the smaller developments to the east of Wilde Avenue.

The massing and architectural expression firmly positions itself to align with the fabric of the Parramatta CBD and the Parramatta River.

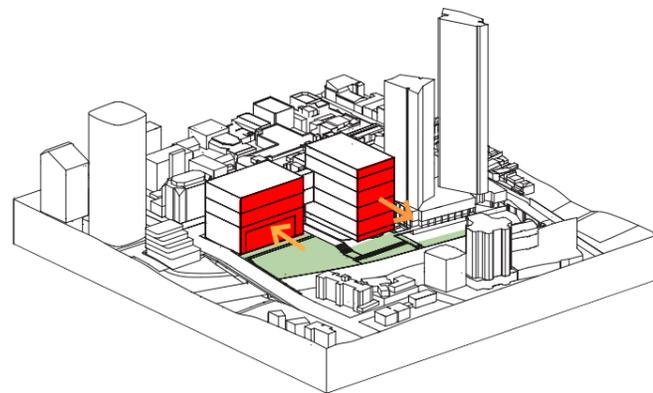
The massing intentionally breaks the podium character of the neighbouring residential to distinguish the vastly different use and level of public importance of Powerhouse Parramatta.



Building within Context - Height



Building within Context - Civic Link



Building within Context - The Terrace

### SETBACKS

The building's positioning creates a diversity of large and fine-grain public spaces that interface with the different scales of the surrounding context. The two buildings reinforce and formalize the eastern and western street walls that define the Civic Link, channelling pedestrian movement directly into the public domain and the river foreshore. Two interconnecting bridges sails overhead, servicing the operational need to connect both buildings as well as reinforcing the urban role of the building acting as the threshold and gateway between the city and Parramatta River.

### Western Building

The setback from the GE Building is positioned close to the site boundary reinforcing the small network of streets and laneways characterising the western side of Powerhouse Parramatta.

The western setback creates sufficient curtilage to the residential buildings and allows for the loading functions on Dirrabarri Lane, pedestrian connectivity through the network of existing and proposed laneways and the continuation of the north-south pedestrian link to Parramatta River.

The northern glass line at the ground plane adopts a significant setback from Parramatta River in order to create generosity along the foreshore. The building projects further north to meet the waterfront promenade, effectively embracing the public domain and creating a dynamic zone for civic interactions between patrons and passers-by. This embeds the function of Powerhouse Parramatta as a key component of public infrastructure.

### Eastern Building

The northern facade line at the ground plane adopts a significant setback from the river in order to create generosity along the foreshore. The western building projects further north to transition to the Meriton foreshore setback that also opens onto the riverfront promenade, effectively embracing the waterfront public domain and creating a dynamic zone for civic interactions between patrons and passers-by.

The eastern edge of the building has a minimal setback along Wilde Avenue, addressing the approach from Barry Wilde Bridge

The southern facade is setback from Phillip Street to create public space for museum arrival. The facade of Presentation Space 1 has a series of large operable doors that will afford views from Phillip Street into the presentation space, right through to Powerhouse Square and Parramatta River beyond. The architecture defines the proposal as a cultural building and the additional forecourt spaces enhance that legibility. The forecourt space functions as part of an arrival space for the presentation space as well as managing the arrival and departure of passengers on buses and coaches. The forecourt also provides opportunity for direct loading objects into the presentation space, directly through the facade above.

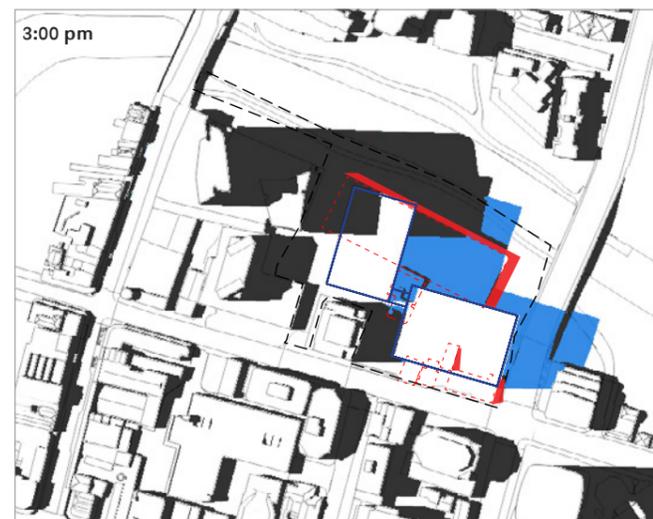
Diagrams have been prepared to indicate solar access and overshadowing of the proposed building, including public open space at Parramatta River foreshore and adjoining buildings and context. The diagrams are taken at 9am, 12pm and 3pm during the summer solstice, winter solstice and equinox.

The summer solstice shadow analysis indicates that the proposed building will not cast shadows on the Parramatta River foreshore public open space except in the late afternoon. The placement of the proposed building preserves solar access to the foreshore.

During the afternoon, the foreshore is significantly overshadowed by the adjacent Altitude by Meriton and Meriton Suites Church Street towers to the west. In summer, the proposed buildings provide shading against the harsh afternoon heat.

The studies indicate that the existing adjacent buildings cast some shadows throughout the day, from south-west to south-east. The proposed building will add minimal additional overshadowing.

SHADOW ANALYSIS - DECEMBER 21



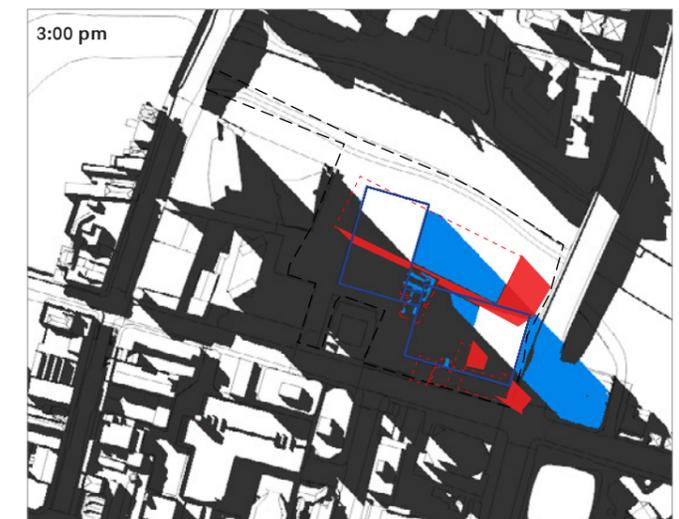
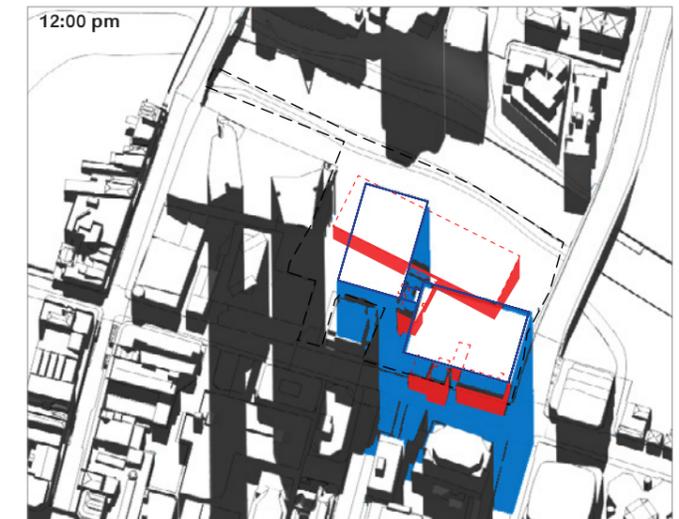
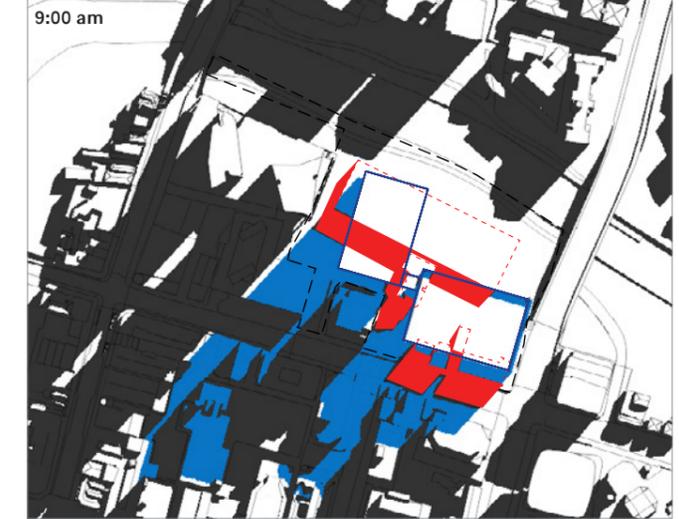
Scale 1:5000

- site boundary
- proposed building
- shadow of proposed building
- shadow of existing context
- - - demolished building
- shadow of demolished building

The winter solstice shadow analysis indicates that the proposed building will not cast shadows on the Parramatta River foreshore public open space.

The studies indicate that the existing adjacent buildings cast significant shadows throughout the day, from south-west to south-east. During the morning and midday, the proposed building will cast additional overshadowing along Phillip St. In the afternoon, the proposed building will cast minimal additional overshadowing to the south-east across Wilde Avenue in excess of the existing shadow cast by the Meriton towers to the west.

SHADOW ANALYSIS - JUNE 21



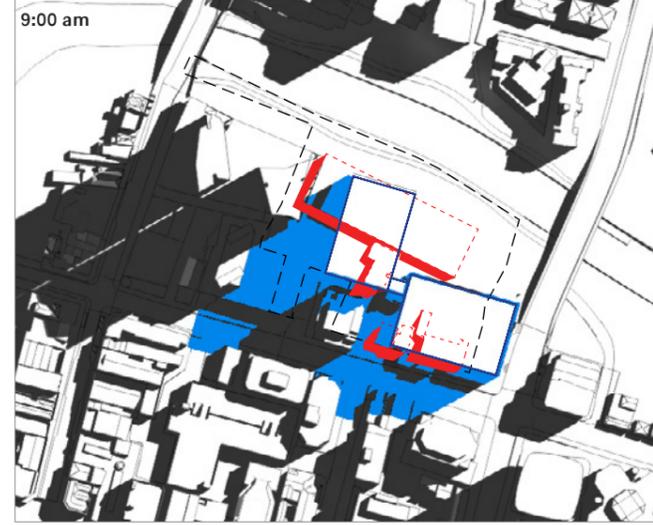
Scale 1:5000

- site boundary
- proposed building
- shadow of proposed building
- shadow of existing context
- - - demolished building
- shadow of demolished building

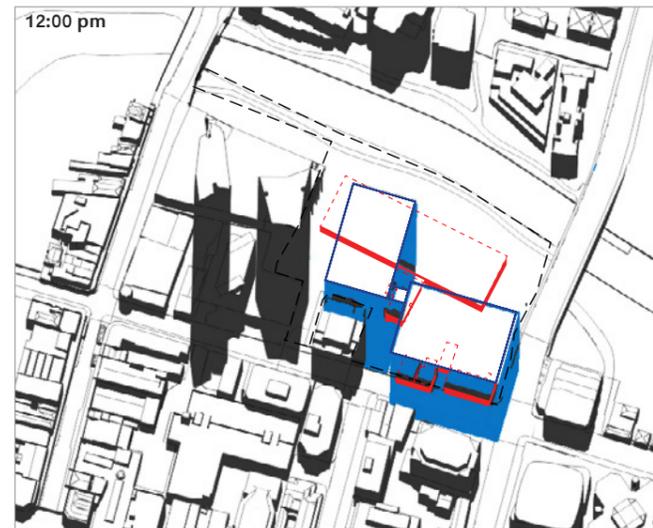
The equinox shadow analysis indicates that the proposed building will not cast shadows on the Parramatta River foreshore public open space, except in the late afternoon. During the afternoon, the foreshore is overshadowed by the adjacent Altitude by Meriton and Meriton Suites Church Street towers to the west. The proposed building adds minimal additional overshadowing to the footprint of the existing car park, preserving solar access to the foreshore.

The analysis indicates that the existing adjacent buildings cast significant shadows throughout the day, from south-west to south-east. During the morning and midday, the proposed building will add some additional overshadowing along Phillip St and by the afternoon only add minimal additional overshadowing to the south-east across Wilde Avenue.

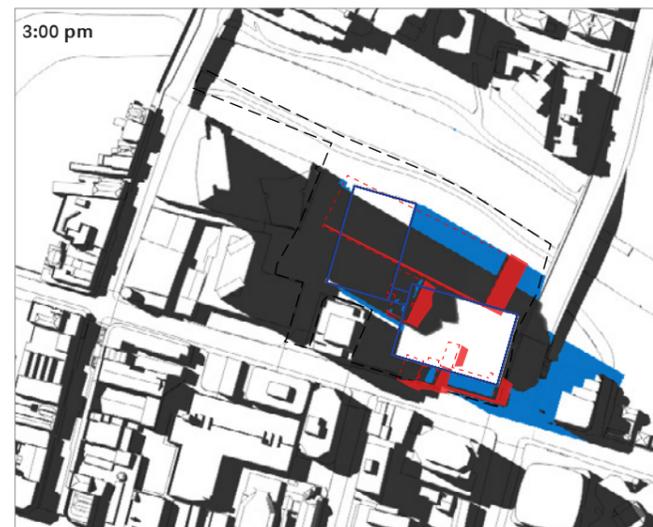
SHADOW ANALYSIS - MARCH 21



1



2



3

Scale 1:5000

- site boundary
- proposed building
- shadow of proposed building
- shadow of existing context
- demolished building
- shadow of demolished building



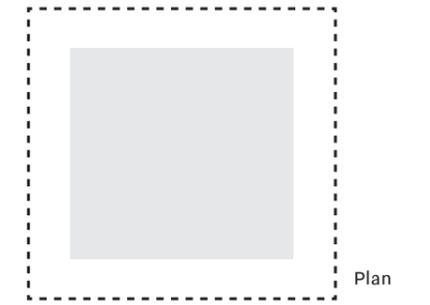
Internal View - Competition Image

## V. ARCHITECTURE - Architectural Concept

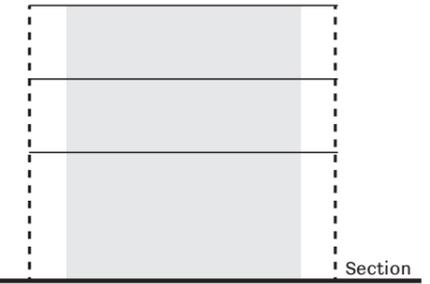
As the identity of Powerhouse Parramatta evolves, responding to advancements in technology and shifting visitor preferences, so will its requirements to meet increasingly complex and nuanced exhibition needs.

The Presentation Spaces to exhibit the Powerhouse Collection, are the core of Powerhouse Parramatta, highly flexible spaces which act as social and cultural incubators. A structural exoskeleton which wraps around them facilitates and supports their dynamic programming, providing complete column free interiors. In contrast with the opaque nature of the Presentation Spaces, the front of house circulation space is transparent and full of natural light, offering connectivity with the surrounding landscape and a vivid reminder of the notions of Country.

The operation of these elements is supported by Back-of-House infrastructure, the operational backbone of the building, which ensures that servicing can coexist without disruption to exhibitions and visitor amenities during exhibitions set-up.

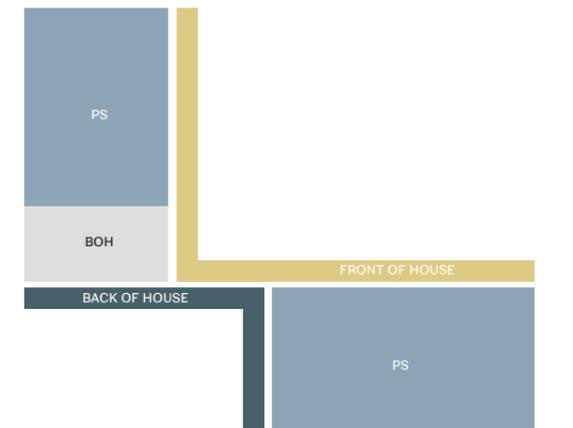


Plan

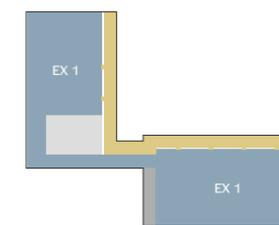
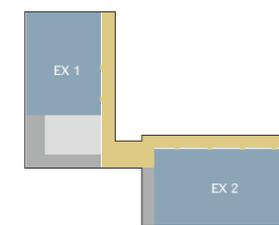
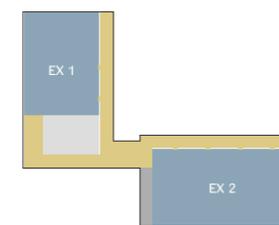


Section

Exoskeleton, Presentation Space, In-between



Front of House, Back of House Organisation Principle



Different number & scales of events , uninterrupted public activation

The primary concept of the building evolves around its structure and the way it informs the visitor experience. The building is conceived as an active machine that exposes the beauty of its structure, it reveals its functionality, efficiency and lightness. The presentation spaces and the activity around them are visible from the outside.

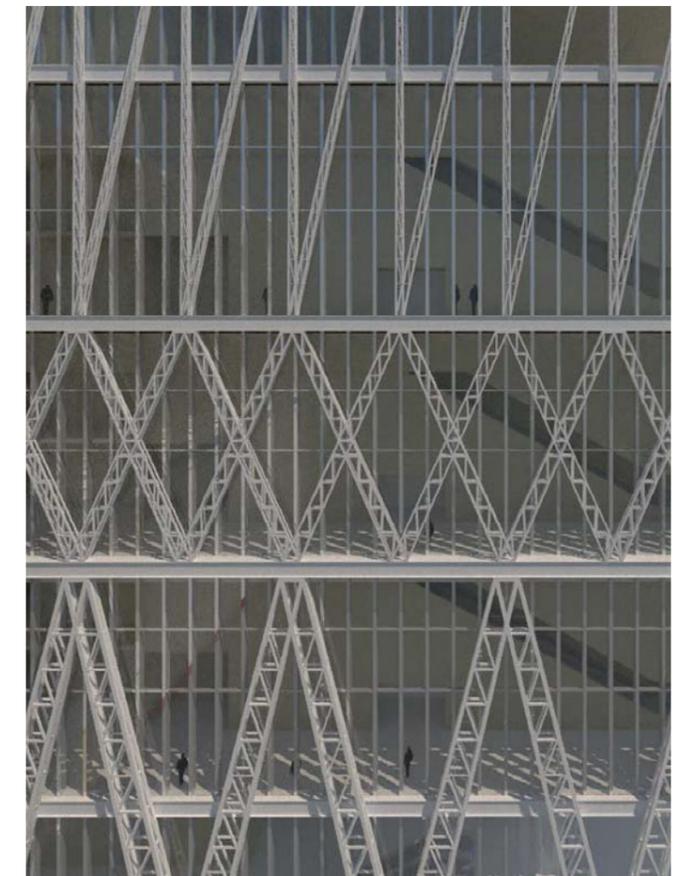
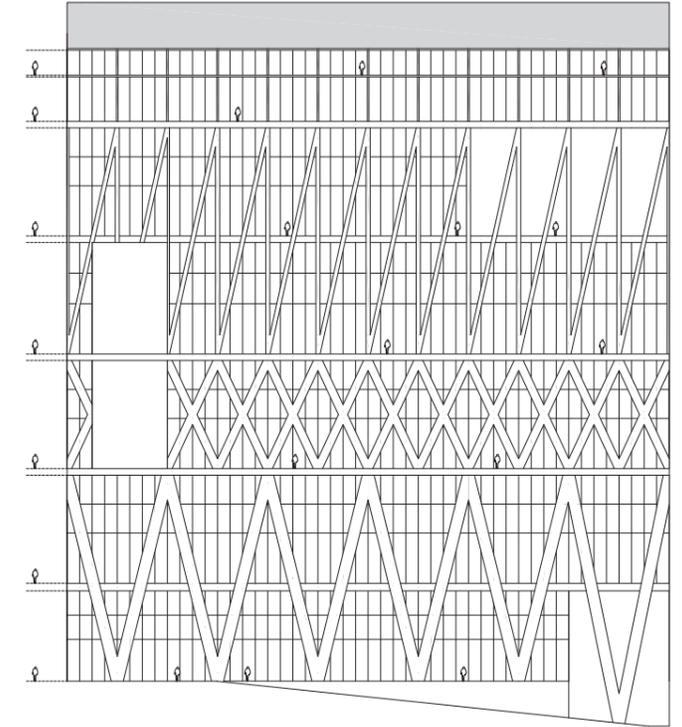
The structural lattice, which is the main element of the architectural expression, differs from level to level, adding to the recognisable character of each, and becoming lighter as building heights increase, thus helping the building dissolve. The structure is visually porous, an intentional decision which adds transparency, minimizes weight and waste, without compromising structural capacity.

The resolution of the structure into a latticework transcends the scale of the building and addresses different extents of its surroundings. Starting with the first, smallest degree of lattice, we preserve a scale that is human, and tangible, contributing to the comfort and attachment of the individual visitor. The second, medium level of lattice relates more to the scale of the neighbourhood, integrating the building into the urban fabric. Finally, the third, largest degree of the lattice is what makes the Powerhouse Parramatta building monumental, a landmark of international appeal.

Complementing the efficient and flexible steel lattice structure, the materiality of walls in the solid parts of the building link us back to the land, the site, and Country. The proposal seeks to create a unique and site-specific earthy material.

FACADE AND MATERIALS

The building articulation is characterised primarily by the light coloured, steel latticework which envelopes the building mass. Its consistency in material expression and detailing provide a unified character.



- Façade and Lattice diagram
- Rendered view of Lattice and Façade pattern

••

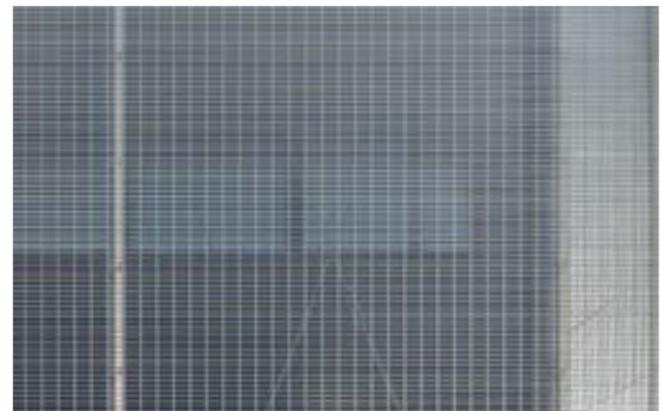
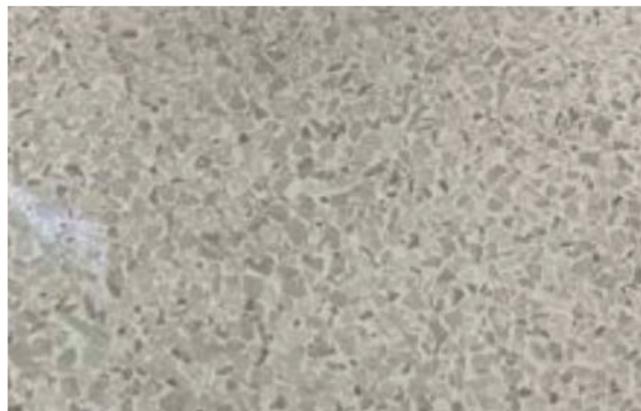
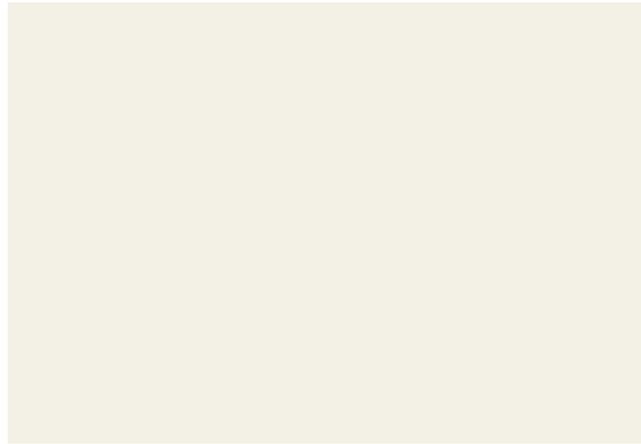
The façade behind the latticework will exist in two forms - clear glass for maximum visual permeability and solid opaque walls for the enclosure of light-sensitive functions and presentation spaces.

The glass allows a direct visual connection between Powerhouse Parramatta's interior and the external public domain and reveals key vertical and horizontal circulation routes, certain exhibitions as well as the key back of house functions. The glazed structure has been detailed and sized in accordance with the primary structural grid to minimize its presence and maximise the perception of permeability and accessibility between inside and out. There are two types of glazing: clear vision glazing and high performance glazing.

The opaque portions of the façade provide a contrast to the lightness of the glazed façade. The material will be cementitious and warm in tone, conveying a modest sense of solidity, reinforcing its purpose, whilst also creating a soft canvas of diffuse light which will humanise the internal environments. Functionally, they create a solid enclosure to light-sensitive and controlled exhibition environments as well as the more discrete back of house areas.

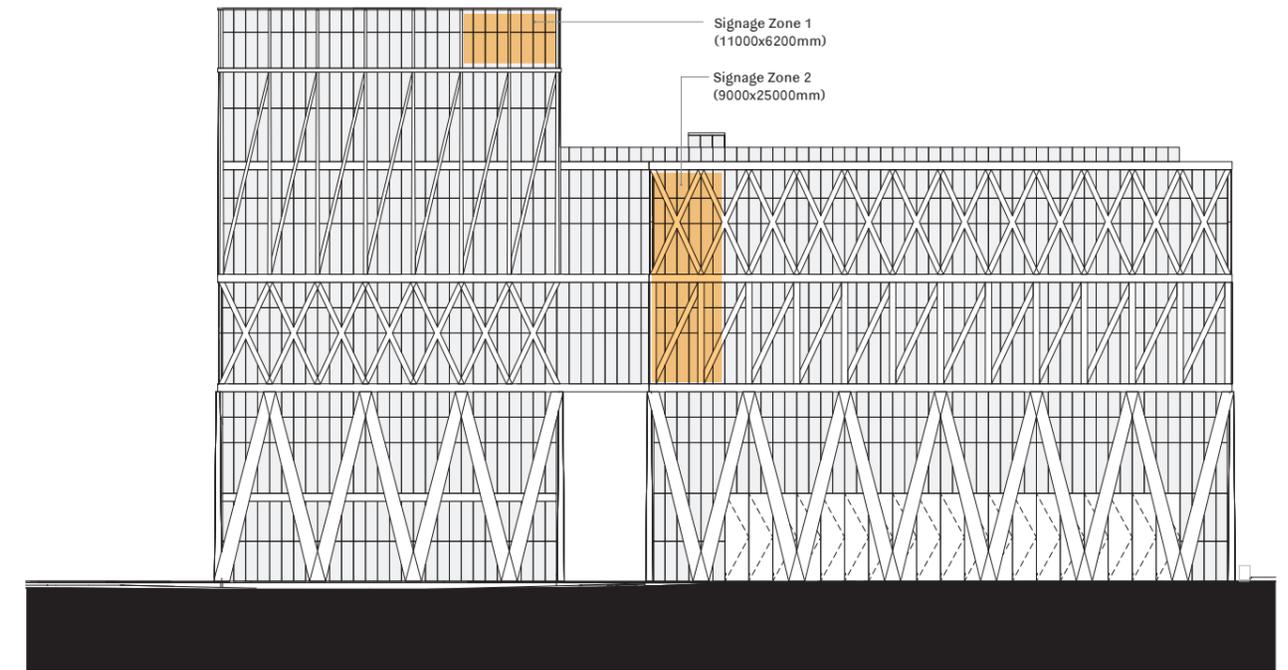
Collectively, these materials form an earthy, grounded and muted backdrop to the vast range of activities housed within Powerhouse Parramatta.

- White intumescent paint
- Fine concrete, light grey tones
- Glazed curtain wall façade, aluminium framing, clear low iron, performance glass
- Opaque curtain wall façade with block wall structure, quartz concrete
- Aluminium screen mesh, white powdercoated

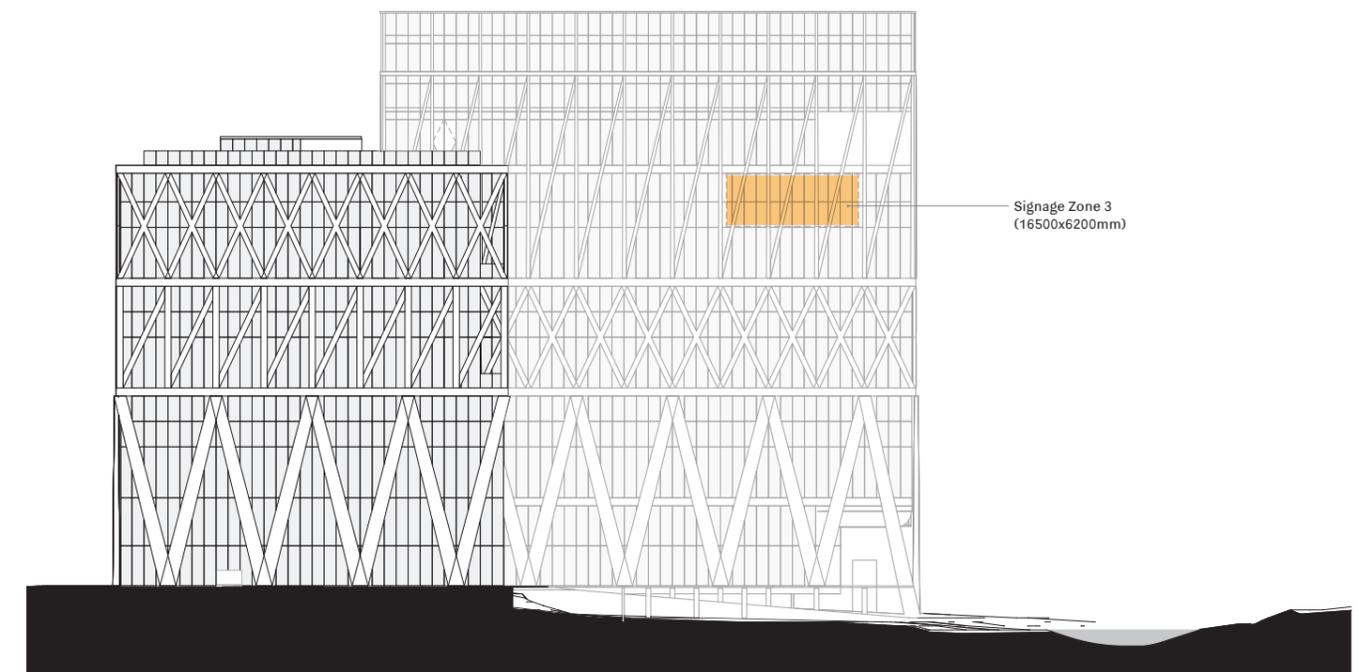


## SIGNAGE

Three potentially illuminated signage zones are proposed, two of which are located on the façade of the western building and one on the eastern building. Signage zone 1 and 2 face Phillip Street and are positioned on either side of the Civic Link. Signage Zone 3 is positioned on the eastern façade of the western building.



Southern Elevation - Signage Zone



Eastern Elevation - Signage Zone

## STRUCTURE

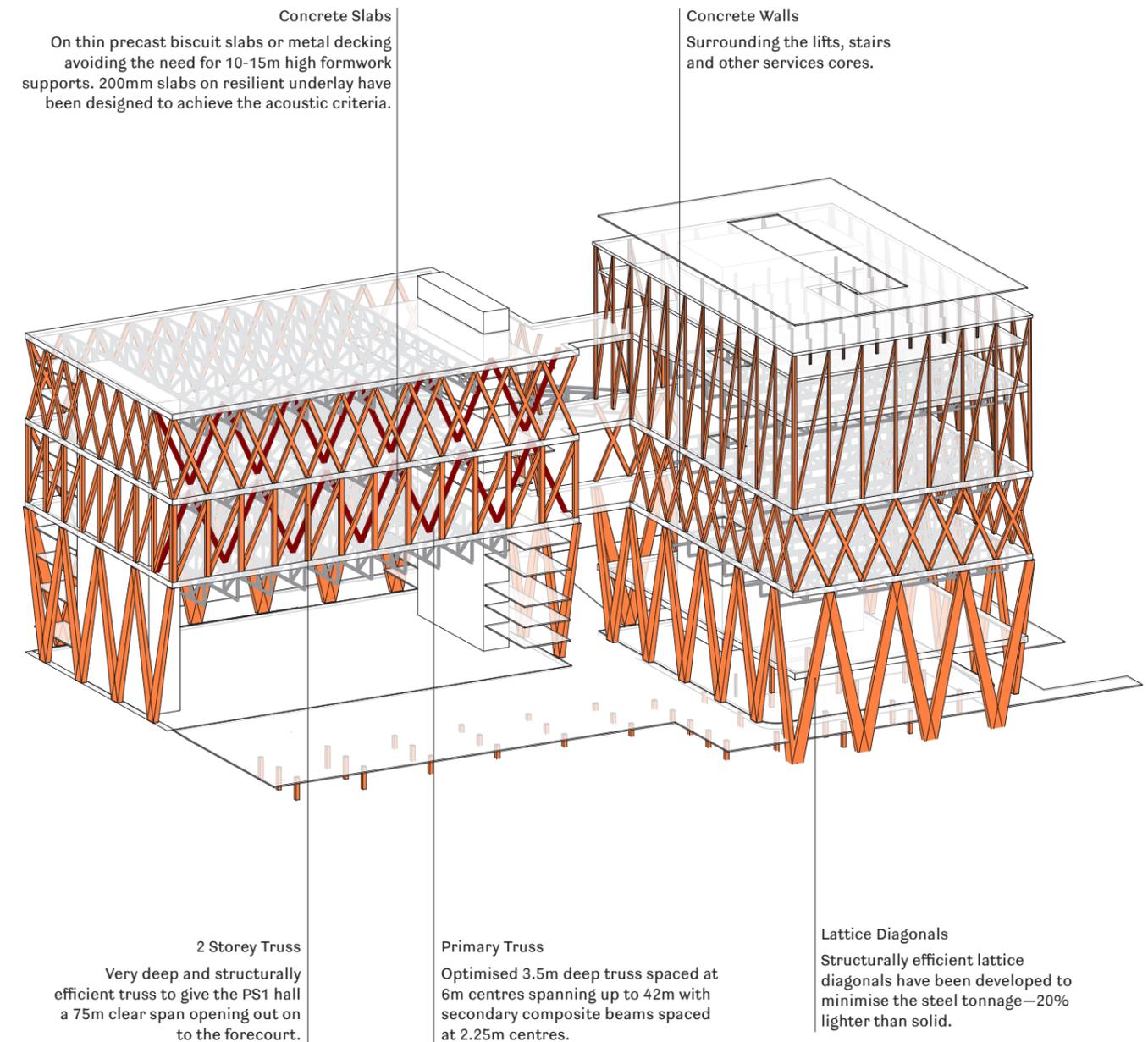
The building's structure has been developed to maximise the efficiency of materials, through the lattice system, as well as off-site prefabrication to assist with speed of construction.

Structural concepts have been developed to comply with the long spans and high floor loading capacities specified by the project brief for the exhibition floors. The building will be supported on large diameter bored concrete piles. The piles will be connected to the superstructure via pile caps supporting the main building columns.

The superstructure is composed of approximately 4m deep primary steel trusses spaced at 6m centres spanning up to 42m with secondary composite (steel/concrete) beams spaced at 2.25m centres and spanning 6m between primary trusses. This system is modular and lightweight and can be lifted in place. The concrete slabs are formed on the beams and trusses via metal decking or thin precast biscuit slabs avoiding the need for 10-15m high formwork supports. The system has been designed with the required floor trenches and the ability to support point loads for exhibitions. Structural dynamics checks have confirmed the system is sufficiently stiff. A very deep and structurally efficient façade truss has been developed to give the PS1 hall a 75m clear span opening out on to the forecourt.

Building stability against wind and earthquake loads is provided via the perimeter bracing and concrete walls surrounding the lifts, stairs and other services located in the cores. The system is structurally efficient and highly ductile.

The steel lattice elements that make up the structural exoskeleton provide the same stability and capacity as solid elements while reducing the quantity of steel by around 20%. This minimizes the carbon footprint of the building and, although its fabrication is more demanding in human labour, ultimately brings cost benefits as well. Finally, from a design intent perspective, the lattice contributes to the language of transparency and lightness conveyed by the structure.



## Functional Uses

### CONCIERGE AND RETAIL

The concierge is positioned in the heart of the site, on the south-eastern corner of the western building, anchored to the Civic Link. Although the building ground plane is permeable, with numerous entry points, this is treated as the primary point of arrival for patrons of Powerhouse Parramatta and is a critical component of the visitor experience.

The concierge will act as the central hub for all activities within the precinct. It will be the first port of call for all visitors. It will centralise activities and will include transactions, customer service, member services, information and directions, cloaking, group orientation and exhibition entry. It will act as the central meeting point within the precinct.

It will be found easily by new visitors and will direct people across all areas of the precinct. It will be a space that minimises any detail to ensure simplicity and flexibility of function.

It is envisaged that the concierge will be flexible and modular to enable the space to change and adapt in response to operational needs.

In addition to this, a ribbon of retail situated along the western frontage of the eastern building provides further activation to the ground plane.

Retail will be integrated into Powerhouse Parramatta programs and will connect communities with industry, local cultural activity and technological innovation.

### PRESENTATION SPACES

Powerhouse Parramatta will comprise a series of 21st-century Presentation Spaces to exhibit the Powerhouse Collection.

The design of each Presentation Space will maximise scale and volume and simplify and minimise internal surfaces to ensure primacy of the exhibitions and activities presented. There will be a consistency of finish to each space.

Presentation Spaces will support multiple uses and a high turnover of exhibition activity. The design of the Presentation Spaces will be minimal in finish and detail with an industrial feel.

#### Presentation Space 1

PS1 is situated on the Wilde Avenue and Phillip Street level and offers a porous interface with the city.

Presentation Space 1 will be of monumental scale. It will be an international destination and will frame Powerhouse Parramatta as an international benchmark for cultural institutions. It will be a space that will support large-scale exhibitions and events, and can open to the Public Domain to allow seamless indoor/outdoor events and exhibitions. Given its floor loading capacity it will be utilised to display very large objects from the Powerhouse Collection.

#### Presentation Space 2

Presentation Space 2 will be an international museum standard space for the display of the Powerhouse Collection and the loan of international collection objects and exhibitions. The space will be highly flexible and adaptable for a range of layouts and media as well as world-class collection display. With a direct loading capacity onto the floor it will be utilised for changing exhibitions including very large objects from the Powerhouse Collection.

#### Presentation Space 3

Presentation Space 3 will be an international museum standard space for the display of the Powerhouse Collection and the loan of international collection objects and exhibitions. The space will be highly flexible and adaptable to cater for a range of layouts and media as well as world class collection display. Retractable and movable seating banks with integrated or loose and gangable seating will be provided to allow for a flexible configuration that responds to varied uses and programmes.

#### Presentation Space 4

Presentation Space 4 will be an international museum standard space for the display of the Powerhouse Collection and the loan of international collection objects and exhibitions. The space will be highly flexible and adaptable to cater for a range of layouts and media as well as world class collection display.

#### Presentation Space 5

Presentation Space 5 will be an international museum standard space for the display of the Powerhouse Collection and the loan of international collection objects and exhibitions. The space will be highly flexible and adaptable to cater for a range of layouts and media as well as world class collection display.

#### Presentation Space 6

Presentation Space 6 will be a world first, setting a new international benchmark for immersive screen environments. It will be equipped with ultra-high definition screen/projection technology on all surfaces, and be totally flexible to allow for experiences in a range of seated and other configurations.

#### Presentation Space 7

PS7 is the highest point of the visitor's trajectory, a partially transparent space which has direct access to an external area, with views to the River, Parramatta, and the wider area. It can also expand onto the Rooftop Terrace with stunning panoramas. Acoustic and audiovisual design for this space will focus on the support of corporate functions alongside the adjacent Powerlab Kitchen. A double-glazed façade is sufficient to control noise ingress, and permanent room acoustic treatment will be incorporated to maintain internal noise levels and control reverberance to promote speech intelligibility.

In addition to the Powerhouse Program, the focus for Presentation Space 7 is to support commercial activity including conferences, corporate dinners and launches.

### POWERLAB WORKSPACES AND RESIDENCES

The Powerlab co-working space is the heart of the Powerhouse Parramatta's outreach activity, enabling engagement between staff, scientists, researchers and artists from Western Sydney and around the world, collaborating with different industries, and inviting local communities. It will bring together Powerhouse employees, researchers, artists in residence, industry, partners, students and members of the community into one collaborative working space.

The Powerlab residences provide temporary accommodation for resident and visiting scientists, researchers and artists as well as dormitory accommodation for regional and remote school groups. These residences, along with the facilities of the Powerlab Workspaces, provide comprehensive and critical infrastructure to support Powerhouse Parramatta's outreach activity and facilitate the realisation of its broader function as the cultural heart of Western Sydney.

The residences are situated on the upper floor of the western building. They are either orientated outwards towards the city or internally to the Powerlab atrium. This provides each residence with access to an abundance of natural light and opportunities for ventilation.

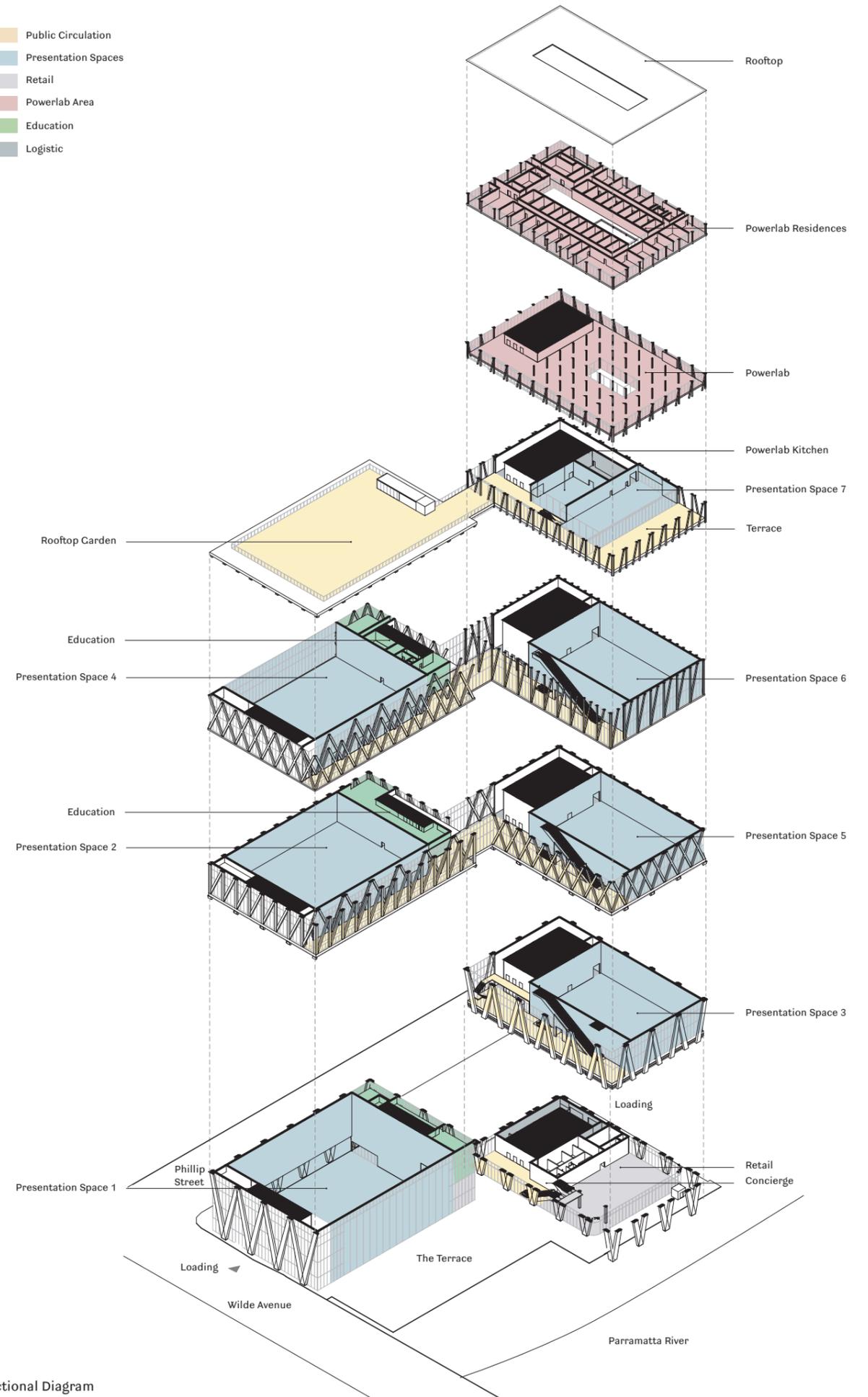
### EDUCATION SPACES

The Education and Community Spaces are a core component of Powerhouse Parramatta's community infrastructure and will incorporate flexible spaces for use by the community, researchers, Powerlab residents, education and commercial hirers where people can work together.

The multifunction spaces will cater to a number of different group sizes and three of the spaces will be technologically enabled to support use as a high performance cinema.

They are all positioned along the western edge of the eastern building across multiple levels. The bottom two spaces serve as dedicated dormitory style accommodation with adjacent communal spaces.

- Public Circulation
- Presentation Spaces
- Retail
- Powerlab Area
- Education
- Logistic



Functional Diagram

## Circulation

### CIRCULATION AND ACCESSIBILITY

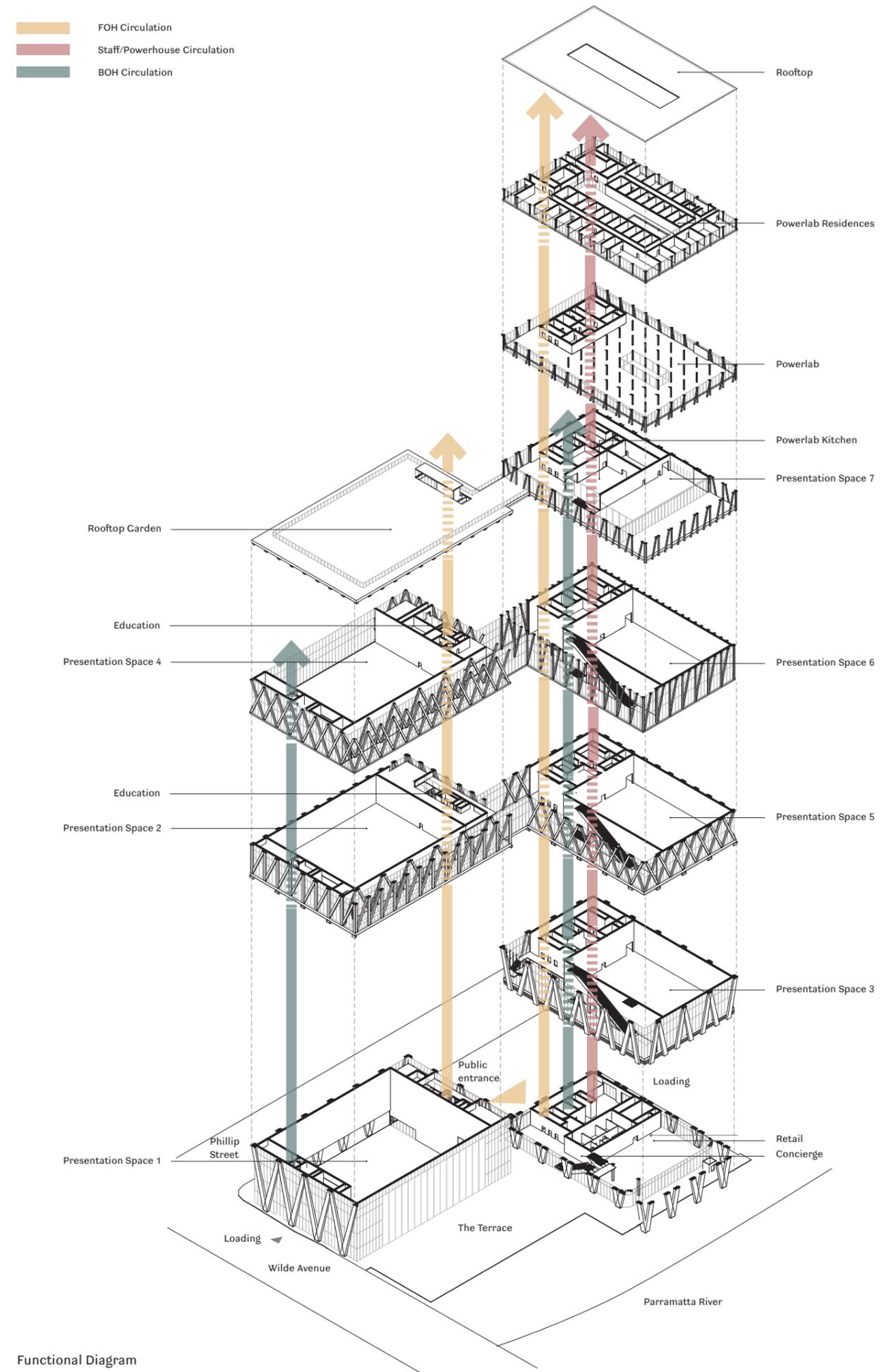
Powerhouse Parramatta's porous nature takes into consideration many arrival points, and the circulation paths of different users are seamlessly coordinated within the building.

The entrance is placed at the merging point of the Civic Link and public domain. Visitors are guided into the concierge, a secure threshold where they first learn how the building functions, determining how they wish to experience the building. Intuitive way-finding is promoted by the visible vertical circulation paths and the clear organisation of the upper floors. The constant visual connection between the circulation and the outside, allow the river and the public domain to act as consistent reference points to assist with way-finding.

As the users progress through the building via escalator or direct elevator access, they encounter the generosity of the front of house circulation space. This transparent right angle foyer, frames the public domain like an arena, activating the façade. As visitors journey up the building, they begin to see the city from a new perspective. As a result, the circulation becomes an activity in itself, a place to view the city.

There is a clear separation between visitors, Powerlab staff and object circulation, though they remain in close proximity to enable connections when desired. The design of the back of house areas prioritises operational requirements of the presentation spaces enabling the uninterrupted installation and dismantling of exhibitions, minimising public disruption to museum operations and the visitor experience.

A spine of escalators central to the development provides the main vertical transportation for visitors (to take the load off the passenger lifts). A series of goods lifts are provided in the back of house areas for vertical transportation of the Powerhouse Collection. The plant areas will be connected via the back of house lifts to enable easy maintenance and removal of the main plant.



Functional Diagram

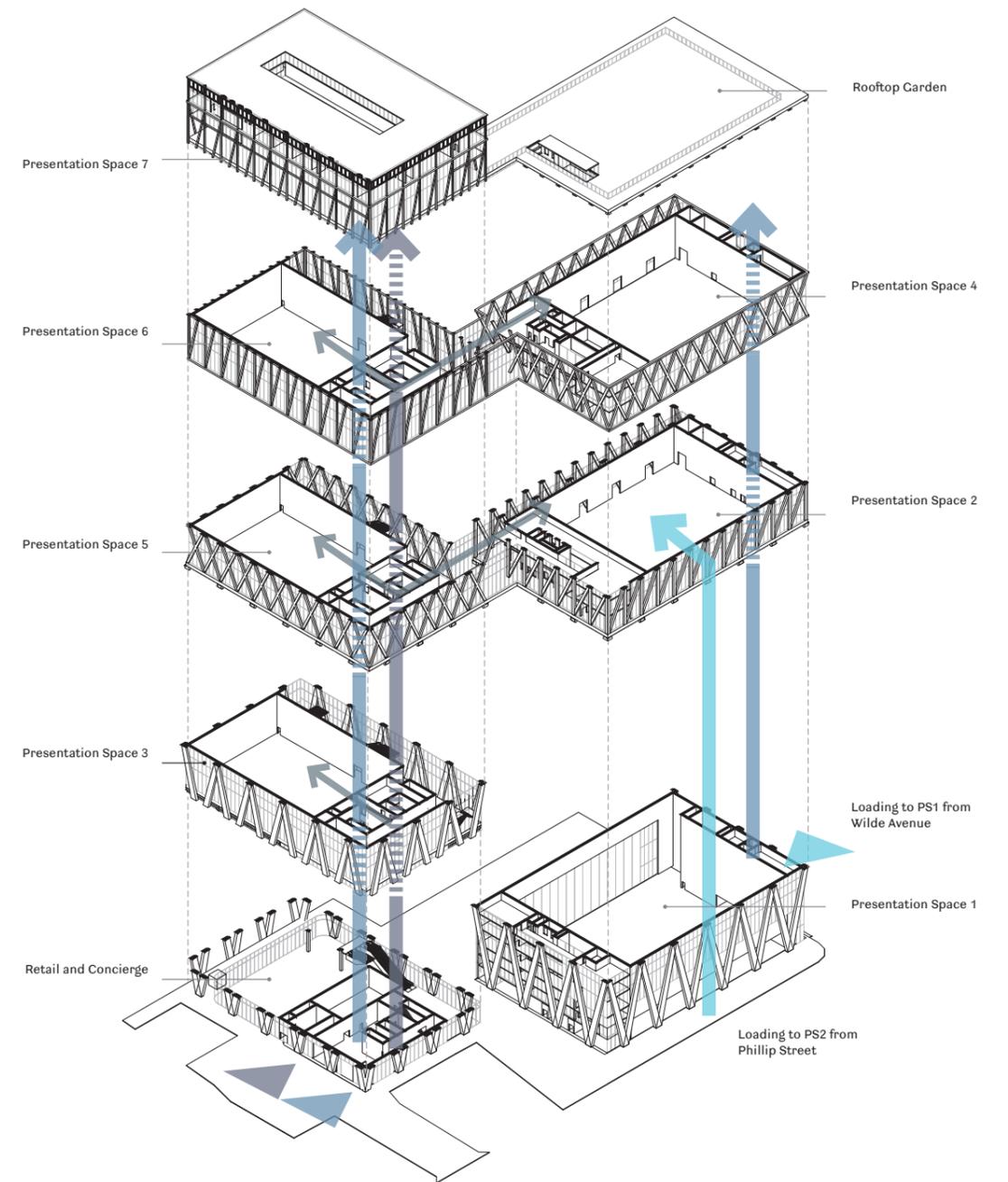
## SERVICING AND LOADING

The Back of House activity, the transportation of Powerhouse Collection, and the service functions of the building are its backbone, enabling the Presentation Spaces and the activated circulation zones to operate to capacity. The design provides a compact and efficient back of house space which can accommodate different sizes of objects from the Collection. It enables a seamless connection between Presentation Spaces in both buildings with minimal disruption to the public activity areas.

The main point of loading is located in the western building and it is accessed from Phillip Street via Dirrabarri Lane which ensures minimal crossover with pedestrian paths. The loading occurs through one shared loading dock, which facilitates both the Powerhouse Collection loading and smaller deliveries loading to support all retail and function uses.

The western building offers horizontal and vertical transportation options for very large objects from the Powerhouse Collection of all anticipated scales, through a combination of a Goods Lift, and direct loading. This responds to the brief requirement for every Presentation Space to be equally versatile. Objects and goods can be transported to the eastern building via bridges on two levels.

In addition, the eastern building has direct loading points for Presentation Space 1 and Presentation Space 2. Presentation Space 1 has direct loading accessed from Wilde Avenue on the ground plane. Direct loading for Presentation Space 2 is achieved through the large operable opening in the building facade, accessible from Phillip Street.





Artist Impression

## APPENDIX

Architectural Drawings

Materials and Finishes

Shadow Diagrams

Area Schedules

