Welsh + Major

SSD-35962232: Burrows Road Multi-level Warehouse, St Peter
Gadigal Country

DNA

for Goodman Property Services
Date RevB 02.11.22
Project Ref. 2213A

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Surry Hills NSW 2010
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1-3 Burrows Road is located on the lands of the Gadigal people of the Eora nation.

We pay our respects to Elders past, present and emerging.

Contents

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

Part 1

Introduction

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
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Introduction + Project Vision

This report has been prepared by Welsh + Major Architects on behalf of Goodman to accompany the State Significant Development Application (SSDA) for the development of a multi-storey warehouse and distribution centre with ancillary offices located at 1-3 Burrows Road, St Peters.

It is intended that the project will be a benchmark for the newly emerging typology of multi-storey logistics in Australia - a showcase providing flexible workplaces, engagement with community, environmentally sustainable construction and operational systems, and physical and digital placemaking.

Located within an established, yet still evolving urban industrial context, this proposed development must provide functionality but must also make a meaningful contribution to its location. The issues of place and of placemaking –cultural, physical and digital is forms the heart of this project. So too the idea of placeholding – making spaces that people want to return to and interact with multiple times.

Underpinning the design proposal is the understanding that the land on which this development is set was until recently river marshland. It is the Country of the Gadigal people of the Eora Nation who have occupied and cared for Country here for many thousands of years. They have experienced great joy and great tragedy on this land. They have seen it change.

First Nations consultancy, Yerrabingin, have been an integral part of the design team during the development of this proposal - establishing a framework within which to Design with Country, facilitating an active listening and co-design process with Aboriginal designers and representatives of the local Aboriginal community, closing the design loop through testing ideas and incorporating feedback. This is the start of an ongoing process of meaningful dialogue with the traditional owners: of design, placemaking and active reconciliation to be facilitated through the development process.

Key design outcomes supported by the co-design process include:

- the celebration of movement as a fundamental part of the development;
- the relationship to Country through water and ecology, particularly the former river wetlands / current Alexandria Canal;
- the acknowledgment of different scales, speeds and perspectives - of the scale of the built form and the making of spaces that people occupy;
- the incorporation of environmentally sustainable design principals, considering the full lifecycle of the building, minimising greenhouse gas emissions, encouraging sustainable approaches to workplace, and repairing ecology on this highly modified site.

The Project

This proposed SSDA seeks approval for the following:

- Demolition of all existing structures and buildings on site.
- Site remediation and establishment works.
- Design, construction and operation of a three-storey industrial warehouse and distribution centre building with an ancillary office building, including:
  - Approximately 512,150sqm of total GFA, comprising:
  - 47,076 sqm of warehouse and distribution centre GFA; and 5,074 sqm of GFA for ancillary office space and retail (café); and 198 sqm of end of trip facilities and gymnasium.
  - Maximum building height of RL 33.18 (30.14 height in metres)
  - Operation 24 hours per day seven days a week.
- Provision of a single storey undercroft basement car parking area accessed off Burrows Road which provides 224 car parking spaces (including 12 accessible bays), 17 service vehicles spaces, 19 motorcycle spaces, 15 visitor bicycle parking spaces and end-of-trip facilities (including 58 bicycle parking spaces, showers, lockers and change rooms).
- Site landscaping works including two 6-metre landscaped setback areas to both the Burrows and Canal Roads site frontages, and comprising:
  - 7,464 sqm or 21.6% Total Landscape area (not incl. roof gardens);
  - 5,293 sqm or 15.3% deep soil,
  - 5,075 sqm or 14.7% tree canopy coverage;
  - 1,423 sqm of roof gardens.
- Provision of building / business identification signage.

Proposed Scheme - view along Burrows Road from north

Design Excellence Process

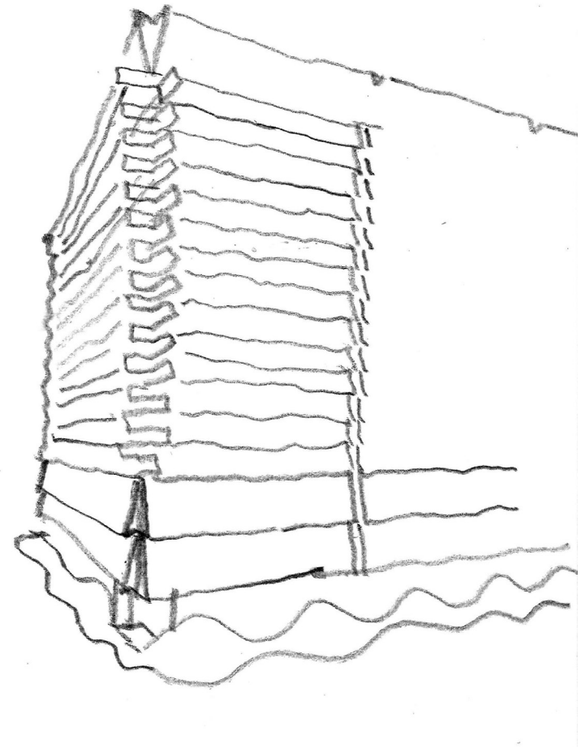
The proposed development has been subject to a Competitive Design Alternatives Process (competitive design process) in order to facilitate design excellence. The competitive design process undertaken between January and April 2022 . The proposal designed by Welsh + Major was selected by the competition Selection Jury in April 2022. Key design approaches supported by the Jury at competition stage included:

- The overall sweeping form and facade along Burrows Road;
- The facade simplicity, consistency and composition, in particular the interlocking corners, the strong pre-cast base, the clean edge of the top fascia and the silvery materiality.
- The facade lighting public art strategy.
- The strong sense of arrival created by the vehicle and office entry.
- The strong Connecting to Country outcome created through the water narrative and landscape.

The proposal has since been further developed and refined by Welsh + Major and the design team to address the matters raised by the Jury for further consideration.

The design development of the proposal incorporated many inputs from the Jury feedback, the Designing with Country process, collaboration with other members of the design team and coordination with advice from specialist consultants. Key considerations addressed during this process include:

- collaboration with Yerrabingin to ensure that Designing with Country underpinned the design development of the proposal;
- the development of landscape design proposal to further incorporate designing with Country approaches and extend the water narrative through the site.
- development of the ramp design to create a more sculptural expression including the addition of green roofs over part of the ramps.
- refinement of the facade in terms of materiality, corner design and in particular the expression and performance of the office facades.
- enhancement to the western presentation of the proposal through the refinement of the massing of the watertanks, and ramps at either end, as well as the extension of the facade public art lighting strategy to the western warehouse facade.
- development of the facade lighting proposal including integrating with the designing with Country response and the public art strategy.



Design Excellence Process

A further presentation of the developed design was made to the Design Integrity Panel (DIP) in August 2022, obtaining endorsement from the DIP to lodge this SSDA.

A number of matters were noted by the DIP for further consideration and resolution. These issues have been addressed during further design development and the preparation of the SSDA submission and are summarised below with further detail discussed of some issues in the body of this report:

Designing with Country

- A continuation of the Designing with Country process has included further integration with the expression of the foyer materials, landscape design and planting selections and the art strategy. The process continued with obtaining feedback on the design from aboriginal elders and designers and is proposed to continue into the future through ongoing engagement with community.

Colour + Materiality

- Further consideration of materiality has refined the selection of facade materials including cladding panel materials and elements such as downpipes, as well as the use of colour themes across the proposal.

Landscape design

- Further development of an integrated landscape design proposal that reflects and heals Country, champions biodiversity and water sensitive urban design, and creates rich landscape spaces along the street and extends these through and around the site.
- Development of the rooftop garden design to create a sweeping raised garden bed that provides an integrated and expressive solution to soil depth requirements for successful planting.

Facade development

- The cornice of parapet proportions and expression has been refined across all facade types to strengthen the continuity of this element while allowing for variations to adjust to the requirements of each application. Cross-sectional details are provided as part of the submission.
- Solar loads to office facades have been analysed to guide development of sunscreening and glazing performance.
- The north-west corner of the office building has been further developed to express the sharp profile edges of each of the meeting facade types, creating a recessed pocket with visual depth and intermittent planting.
- The western elevation concrete base paneling has been further refined to accommodate openings and using these to further articulate the base.

Amenity - breakout spaces for people

- Further development of the foyer design proposal to provide a kiosk style cafe and seating for 50 patrons that will activate the building entry.
- Further development of the rooftop pavilion and roof bushtucker garden to provide for flexible use including break-out spaces.
- Creation of small seating alcoves along Burrows Road for workers and passing pedestrian to retreat into the landscaped zone.

Maintenance Strategy

- Building maintenance access provisions have been developed to ensure access for landscape and building maintenance. Irrigation for landscaping is provided through rainwater capture and reuse.

Design Quality Principles

The design proposal has been developed in consideration of the seven distinct objectives of “Better Placed” to achieve good design of the built environment.

Better fit

The proposal has been designed as a direct response to the context of site, the Country on which it is located, the adjacent canal and former creekline, the emerging environment of the St Peters Interchange and the changing nature of the local area. The designing with Country process fundamentally underpins the design approach. The sweep of the building massing response to the former creek / canal and the integration with landscape seeks to regenerate Country.

In doing this the proposal seeks to create a better built environment for the future, setting a standard for future developments in the area. Unique elements such as the proposed facade add richness and character; the building massing and materiality create a connection to the ground plane as well as to the sky; the landscape setbacks and rooftops create dialogues with adjacent green spaces.

Better performance

The proposal is designed to be sustainable in its construction and operation, adaptable in its use and durable in its construction.

- The building is proposed to be constructed of materials that minimise resource usage, maximise lifespan and optimise end-of-life recycling. Considered simplicity in construction will reduce unnecessary material use and structure and create clean lines and elegance in finish.
- The office components of the building are designed to 5-Star Greenstar rating, 5.5-star NABERs energy rating and 4-Star NABERs water rating. The building includes numerous sustainability initiatives including water efficiency, reuse and WSUD initiatives; initiatives to reduce energy use as well as the incorporation of extensive photovoltaic energy generation; initiatives to encourage low / no carbon travel to work; and incorporation of extensive landscaping including green roof areas.
- The planning of the building is designed for flexibility, with warehouse and office floors configured to be adaptable for a wide variety of tenant types and sizes. Warehouse spaces are designed to have minimal columns for a variety of configurations while at the same time using column spaces optimised for efficient use of standard storage racking. Office floors are paired around connecting voids, allowing for open plan use over 2 floors or smaller tenancy configurations. Areas in the building lobby and rooftop are flexible for a variety of uses into the future.
- As a large building in an industrial environment, the building is designed for robustness and durability. Wherever possible materials are selected with integral finishes to minimise wear and maintenance.

Better for community

The proposal seeks to provide an inclusive and connected environment for its users and the community.

- The main building entry is designed to be welcoming, accessible and to contribute to the activation of the street through the inclusion of a lobby cafe and meeting areas.
- The landscaped spaces around the edges of the building and at the entry are designed to provide places for people to either sit quietly or gather with others. Lobby and rooftops spaces also act as communal gathering spaces for building users.
- Amenity spaces within the building are provided equally for users of warehouse and office.
- The building is designed for equitable and dignified equitable access to all areas across the warehouse and office.

Design Quality Principles (cont')

Better for people

The proposal seeks to provide safe, comfortable and livable spaces for the people who use it.

- The building is designed with safety in mind, separating pedestrian pathways from vehicles, ensuring clear sidelines for safety and surveillance.
- Internal spaces are designed to optimise natural light and create user-friendly and rich enjoyable environments. The office working environments are design to provide access to abundant but controlled natural light, generous double height spaces and interesting outlooks. Warehouse environments are created to be safe,, well lit and well ventilated.
- Facilities are provided for building users to travel to work safely, provide suitable amenities and spaces for healthy living

Better working

The proposal is designed for functionality and effectiveness to ensure its ongoing viability and utilisation. Considerable analysis and design refinement has developed a proposal that efficiency in spaces and circulation, streamlines workflows for warehouse use, creates integrated workspaces across warehouse and ancillary administrative functions, and provides flexibility in use to accommodate future work practices. The design integrates these considerations with creating rich and flexible environments for people to enhance their work experience

Better value

The proposal creates value for the building owners, users and the community, setting a high standard in the design of multi-level warehousing, improving efficiency of land use, creating social and well-being benefits for building users and enhancing the adjacent public spaces. The design of the building fundamentally considers and integrates responses to the needs of sustainability, social impact and economic viability.

Better look + feel

- The proposed development seeks to create an environment in and around the building that contributes to the sense of place and enriches the surrounding environment.
- At the macro scale the building incorporates a large scale public art lighting display along its facades that will generate interest and engagement.
- The unique design approach of the massing and facade treatment also contribute to a rich and diverse environment in this rapidly changing industrial context.
- At the human scale the streetscape and entries to the building are softened and enriched with a landscape treatment that creates rich and varied environments around the perimeter of the site. This landscape treatment is underpinned by the regeneration of Country and incorporates direct response to first nations engagement such as marker casurina groves and key access and view points.
- The design of the building lobby makes a significant contribution visually and in terms of activation to the public realm, through transparency, material use, greening of internal and external spaces and the use of cafe and meeting spaces.

Part 2

The Site

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The Site - History

The site is located on the traditional lands of the Gadigal people of the Eora nation. This land at the beginning of European colonisation is likely to have been a mix of river marshland, coastal heath and coastal dry forest, providing food and resources for Aboriginal people. Located in the Botany Basin, the topography and ecology of the area has dramatically changed over thousands of years, with a time of periodic marine inundation up to 4,000 years ago. Evidence of large scale landscape changes are supported by the traditional narratives of local Aboriginal people.

Burrows Road to the east of the site runs parallel to the Alexandra Canal, an artificial waterway constructed at the turn of the 20th Century. The canal follows the former path of Sheas Creek, a partially tidal flowing tributary of Cooks River (Goolay'yari). Early diagrams of the canal suggest that the creek edge may have extended to the alignment of Burrows Road on the eastern edge of the site. During the construction of the canal in 1896 a disturbed Aboriginal camp site dating to the Pleistocene period was found including remains of a dugong and stone tools.

Early European land uses in the area were largely industrial in nature as the land was not considered suitable for agriculture. Uses included former brickworks to the north and west of the site, tanneries, woolwashing and chemical manufacturing (releasing waste into Sheas Creek). It is likely that lime was also manufactured using shells taken from middens along Sheas Creek.

Source: Draft ACHAR Report prepared by Arteface Heritage Services, 2022

North Botany Parish Map, Higinbotham & Robinson, 1890s

The Site - Location + Context

The site at 1-3 Burrows Road and is located within an established industrial precinct on the corner of Burrows Road and Canal Road. The surrounding industrial precinct is rapidly developing, with surrounding sites occupied by a mix of warehouse, industrial and commercial facilities.

Immediately to the north and the west of the site is the St Peters WestConnex Interchange motorway project that connects the M8 tunnel, the M4 / M5 link tunnels and the future Sydney Gateway and airport link.

The site is currently occupied by older low-rise industrial units that are largely consistent with development in the surrounding area which is predominantly of an industrial nature. The industrial units comprise four large format steel framed warehouse / distribution facilities. These buildings no longer meet the requirements of contemporary industrial users in this market.

The site is strategically located in close proximity to both the airport and the CBD. Access to the M8 tunnel from both the south and the east passes along the western and northern edges of the site. The new airport link gateway road will cross Canal Road and continue north immediately to the west of the site. The impacts from these busy roads as well as from Canal Road have been considered in the design proposal.

There are several links in the vicinity to open space. The spiral landscape park of the St Peters Interchange is on the opposite side of the gateway road immediately to the west. North of the site, there is an extension proposed to Sydney Park immediately to the north of the interchange.

Under the roadway connecting to Gardeners Road there is an open space area that links Burrows Road to the Canal. This area has some limited landscaping but provides easy pedestrian access from the northern end of the site to the canal - strengthening the connection to water.

Location + Context

- Green Space
- Residential Area
- Industrial Area
- Non-residential Area Incl. Infrastructural
- Traffic Connection
- Future Sydney Gateway
- Future pedestrian and cycle way

Marrickville
Sydney Park
Future Sydney Park Extension
St Peters Interchange
Site
Alexandra Canal
Alexandria
Sydenham
Sydney Gateway
Tempe
Mascot
Waterworth Park
Tempe Lands
Alexandra Canal
Tempe Reserve
Cooks River
Sydney Airport
Wolli Creek

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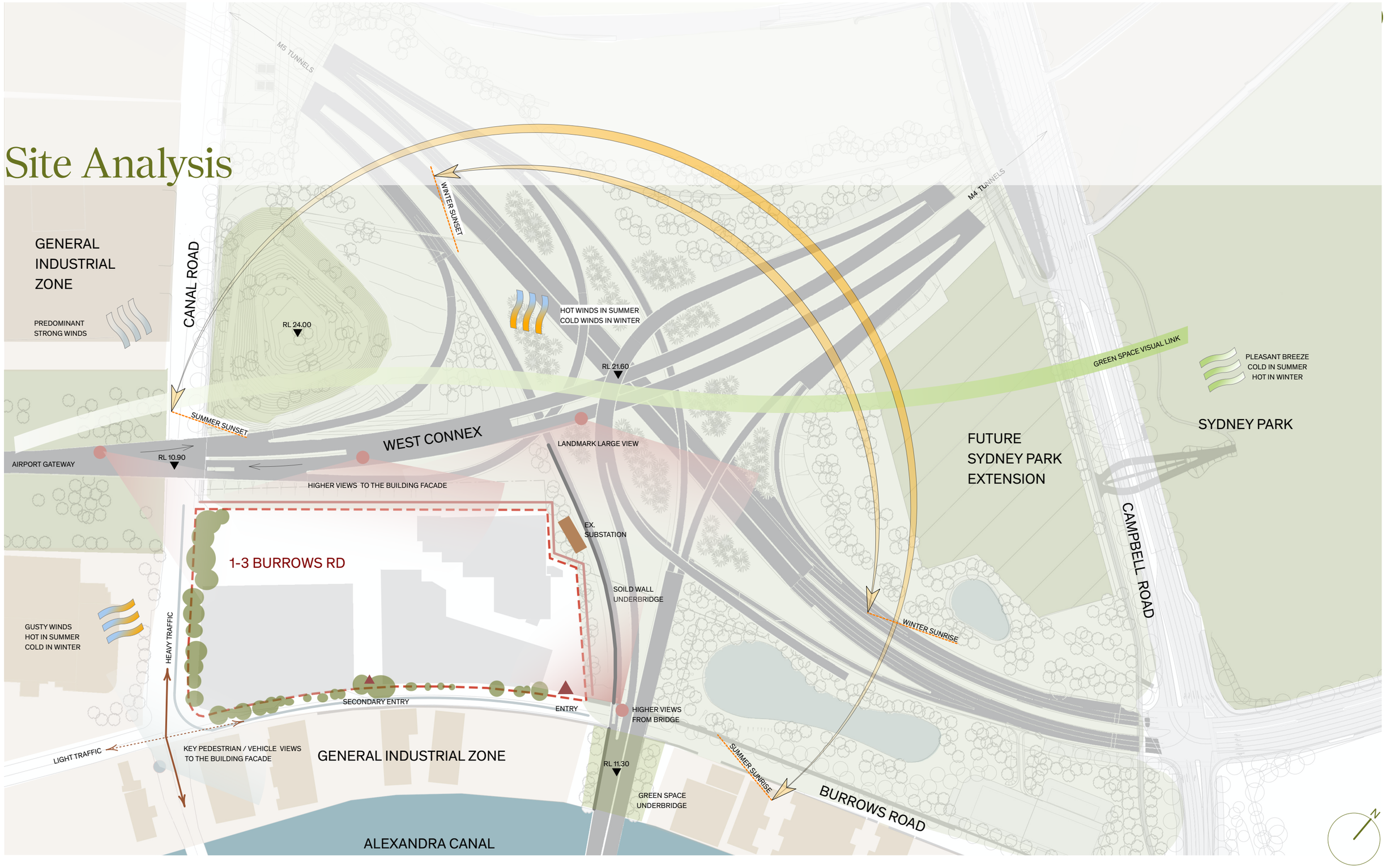
Site Analysis



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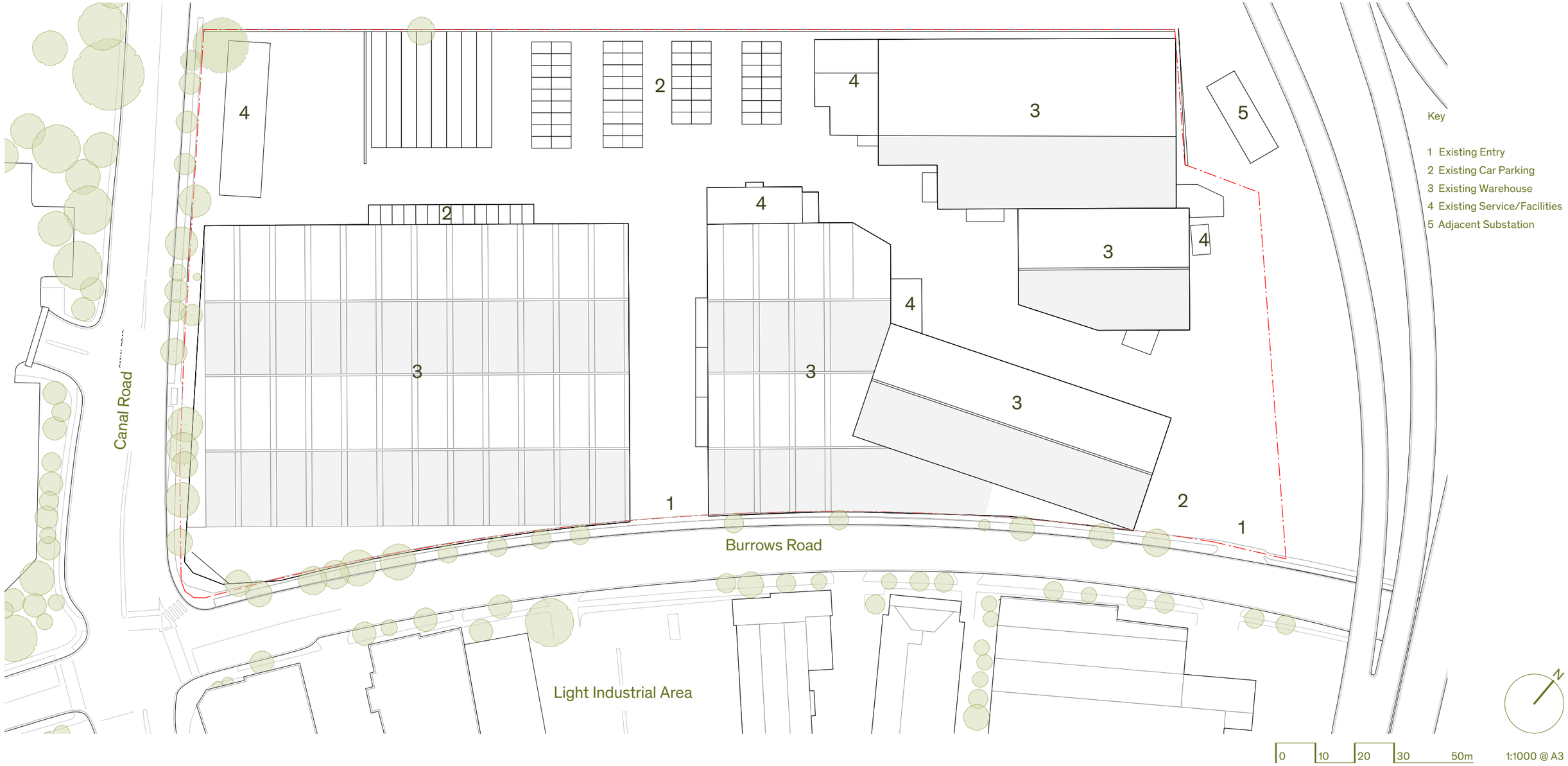
Existing Site Plan



Part 3

Built Form + Urban Design

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Part 3.1

Built Form + Urban Design

Design Approach

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Design Approach - Designing with Country

YERRABINGIN

Yerrabingin are engaged as a critical part of the design team to guide the Designing with Country response. This has included activities such as walking the site with Gadigal elders, a “design jam” workshop with elders and First Nations designers, and followups with workshop participants to test ideas. This process is ongoing and is proposed to continue through the design development of key aspect of the project prior to construction.

The key principles that emerged during this process were:

- Pre-colonial landscape
- The human scale
- Reciprocity with Country

Details of the Wanggani Dhayar (listen to Country) process and outcomes are set out in the Yerrabingin Visual Design Report in **Appendix A.**

These principles were further developed through a process of collaborative design to fundamentally underpin the design concepts:

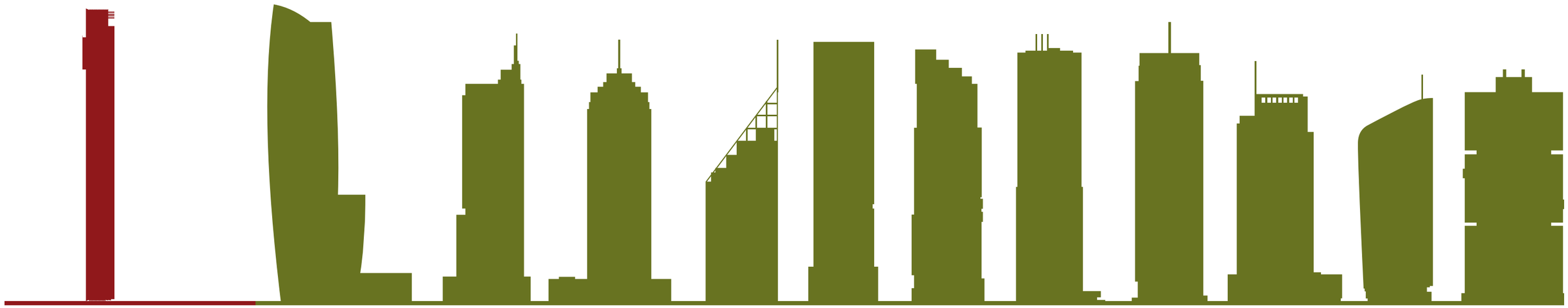
- **Water** - the narrative of water on the site, particularly representing the curve of the former creek and current canal and interpreting water on the site through landscaping design and biofiltration.
- **Movement** - celebrating the concepts of journeys through the site and around the site, ancient and contemporary; the movement of water, people, goods.
- **Scale** - recognising human scale in the context of a large building; making places for people and natural ecosystems to occupy the site, individually and collectively.
- **Seasonality** - celebrating the seasonality of Country through art and interpretation.
- **Repair and Care of Country** - establishing connections with community, creating endemic landscapes, celebrating water cycle management.

Designing with Country Design Jam

Design Approach - Understanding the Scale

The nature of the warehouse typology calls for a large building. The site is approximatively 280m along Burrows Road with the proposed building being 260m long. It is as long as the tallest buildings in the Sydney CBD are high.

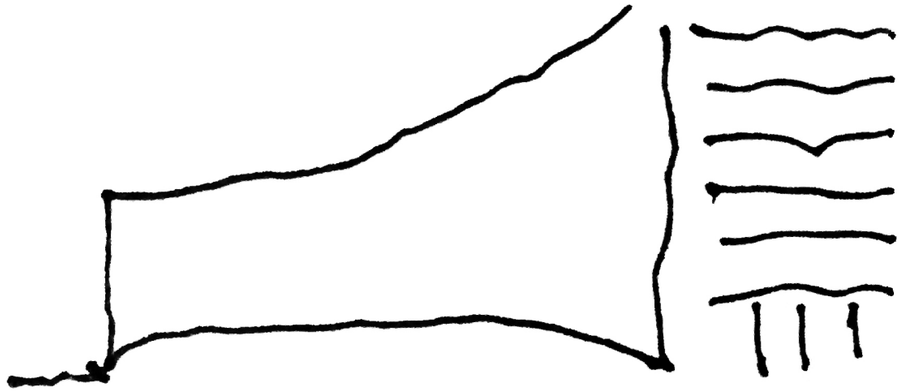
Fundamental to the understanding of scale is that the proposed building mass will be viewed in different ways from different contexts – from a distance, at speed, and up close.



Design Approach - Curved Form

The scale of the building is an opportunity to create a dynamic building form that echoes and celebrates the sweep of the canal and former natural waterway.

A sweeping curved building façade 260m long establishes the Burrows Road elevation. The curve is accentuated by a clean silhouette against the sky created by a continuous sweeping cornice-like fascia.



The Circus, Bath

Edifício Copan, Oscar Niemeyer, 1966

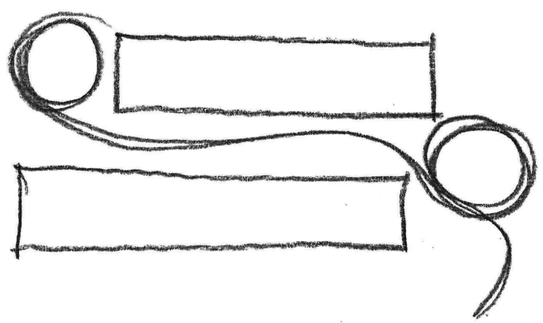
Design Approach - Movement

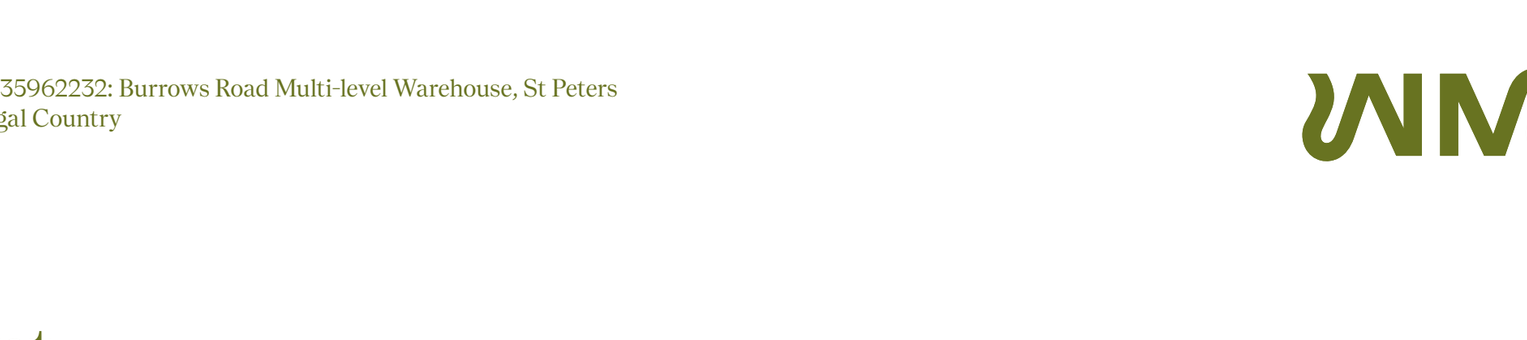
The design of the building celebrates movement through the site - expressing the movement of water, people and vehicles; horizontally and vertically. This is also an expression of the purpose of the building - designed to bring honesty and beauty to this industrial form.

Two multi-level circular truck ramps sit at either end of the main warehouse building forms - the smooth spiral ramp forms accentuate the concept of movement. The central breezeway vehicle zone on each level is open at either end to provide visibility into the activity spine of the warehouse.

Vehicles enter at the northern end of the site adjacent to the building lobby and under the office floors. The office building responds directly to the curve of the northern ramp, directing views toward the movement of vehicles.

People movements follow the long edges of the building, connecting warehouse to office.





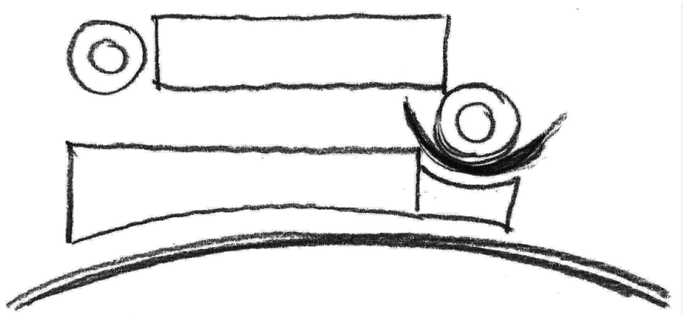
Canal Road elevation - early concept sketch

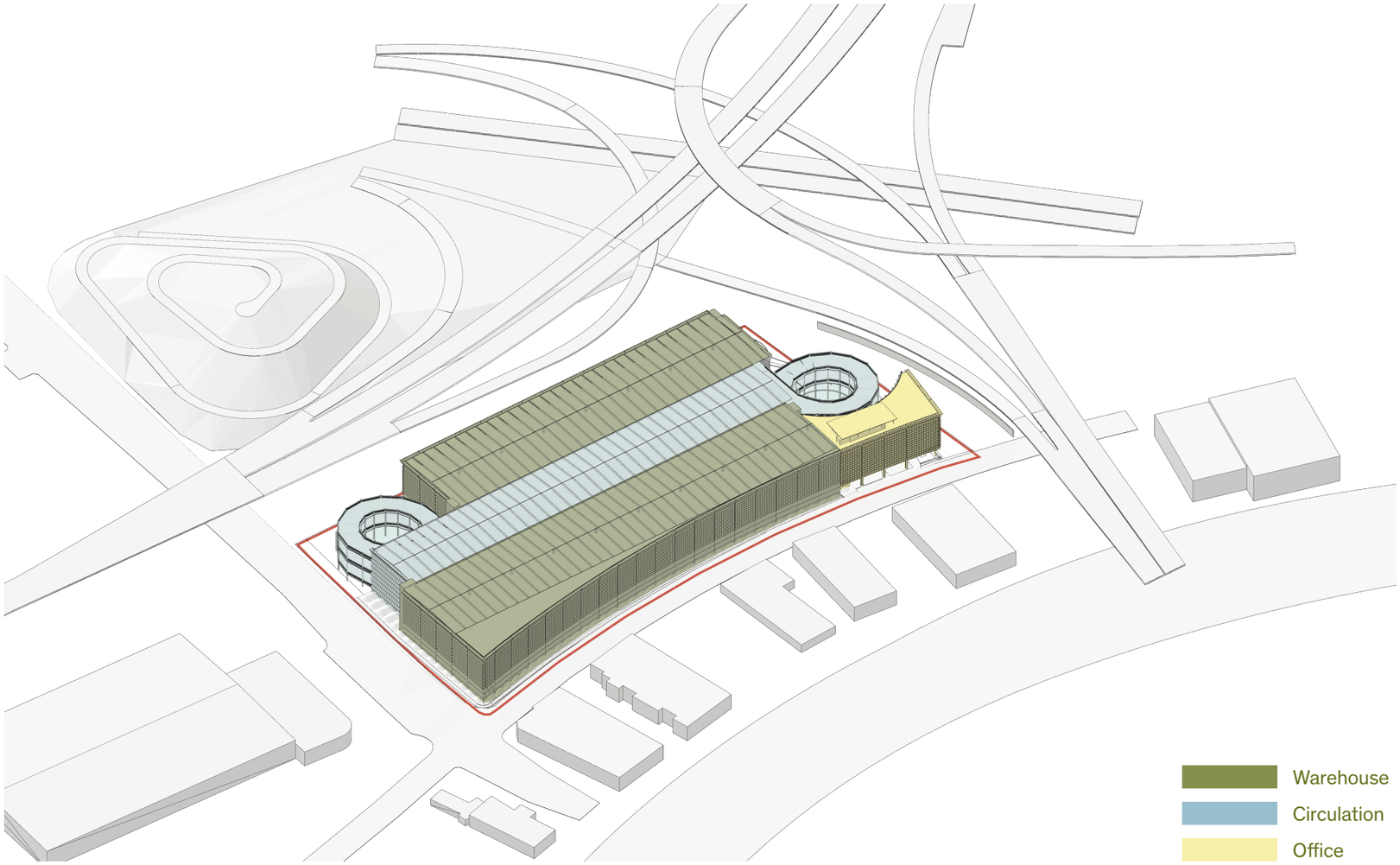
Design Approach - Massing + Modulation

The massing and modulation of building elements on the site responds directly to its context and the conceptual principles embedding in the design with country approach.

The curve of the canal is echoed in the curved form along Burrows Road; The commercial office component is continuous with the massing of the eastern warehouse to further accentuate the curve. The western edge of the office is carved out to wrap around northern ramp.

A central circulation breezeway spine both connects and separates the eastern and western warehouse forms, allowing for a shift between these forms. At either end of the breezeway the vehicle circulation ramps sit as adornments to the main form of the building. The southern ramp echoes the spiral hill park across the western side of the airport link road.





Massing study

Design Approach - Expression + Articulation

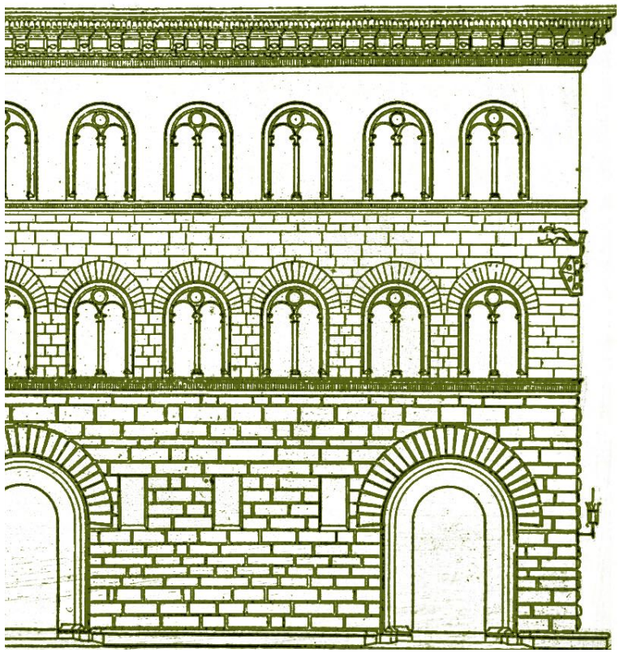
The overall height of the proposed building facade is approximately 25m. Taking cues from classical tripartite facades, the facade proportions and detail express the scale of the building, grounds it into the landscape and articulates it against the sky.

The finely detailed facade utilises a suite of complementary silvery materials to enhance the overall scale and form at distance and at speed, whilst up close the detail reveals itself as a more humane and finegrain response.

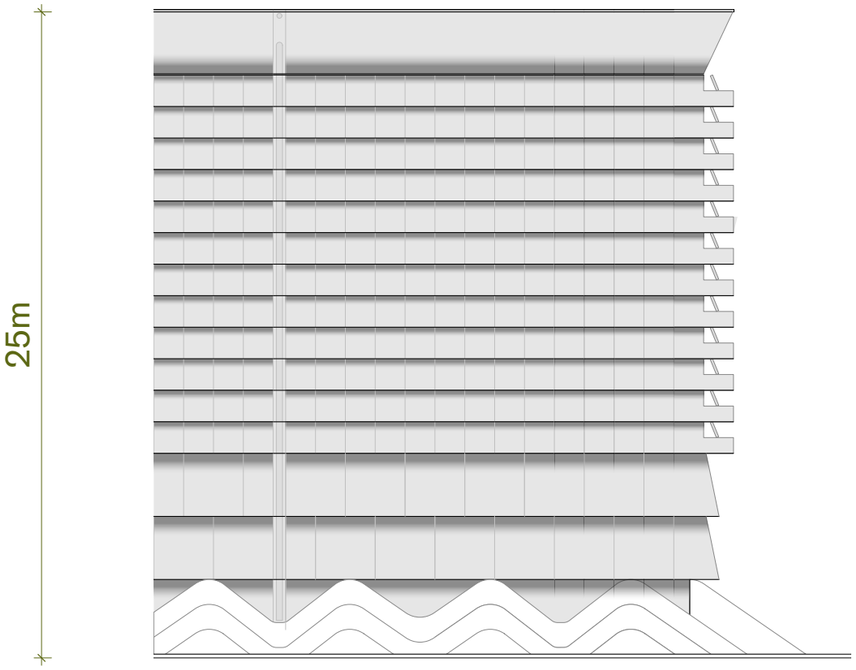
The angled facade panels create a strong linear articulation and a depth that provides changing conditions of light and shade - avoiding long flat facades that appear “thin”.

‘Green’ pre-cast concrete panels at the base ground the building into the site. The angled anodised aluminium fascia panels create a clean sharp edge against the sky.

On the warehouse fibre cement sheets at mid level and profiled anodised aluminium panels at the upper level will add a level of detail that will reveal itself when viewed up close. On the office the profile sheets become perforated to act as sunshading to the office glazed curtain wall. On the end of the breezeway the same facade profile is wrapped in wire mesh.



Palazzo Medici- Ricardi, Florence



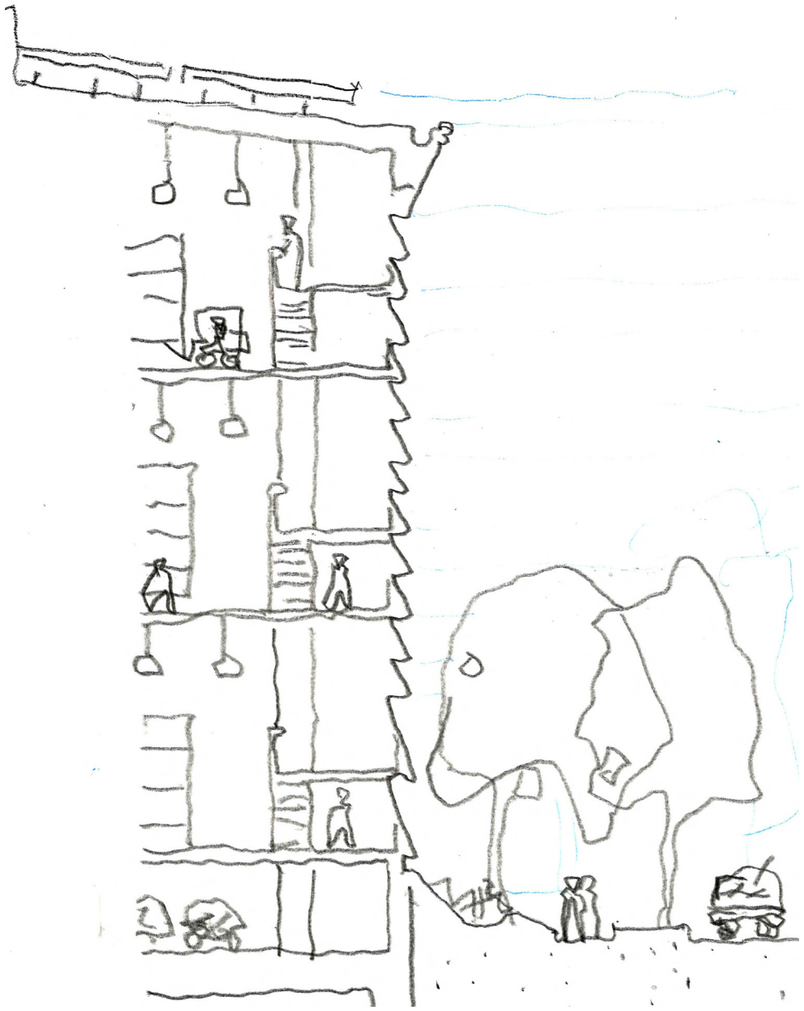
Concept facade study

Design Approach - Expression + Articulation

The façade takes a single geometry of angled panels and wraps the building in it's entirely - the consistency of the geometry bringing a sense of elegant continuity across the site.

The horizontal articulation of angled facade panels create depth and constantly changing shadows while emphasising the linear nature of the building. The lower gaps between the panels allow for natural light and ventilation across the length of the warehouse.

At the corners, a finely detailed 'tenet' corner detail sees the scale of the façade break down into a series of interlocking panels that float out past the corners to present a filigreed leading edge to each of the key facades.



Concept section of facade

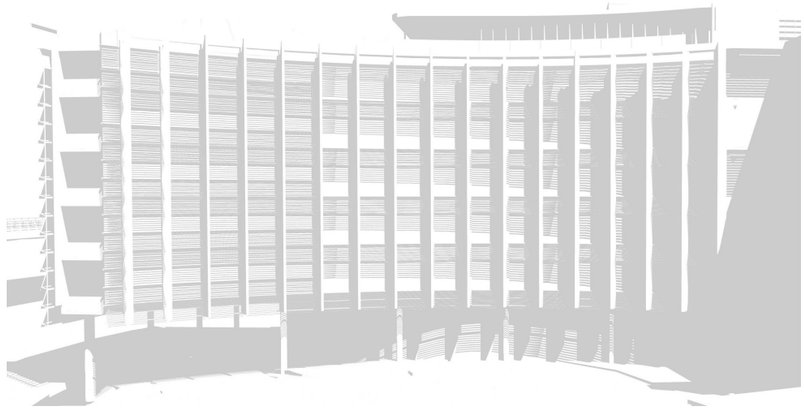
Study model showing interlocking edges of the facade

Design Approach - Environmentally Sustainable Design

The proposed development is designed to achieve a minimum 5-star Green Star rating, 5.5 star NABERs energy rating and 4 Star NABERs water rating for office areas.

Key sustainability initiatives include:

- Photovoltaic panels to supply 2 megawatts of electricity including provision for future battery storage.
- No use of gas within the development.
- A calibrated office façade system, which employs external sun screens to the office building to reduce / eliminate direct sunlight heat loading on glass.
- Passive design initiatives in both the warehouse and office components to accommodate open panels for ventilation.
- Natural lighting strategies for both warehouse and office components reduce the reliance on artificial lighting, with no office work areas more than 10m from an external window.
- Low energy LED timed / sensor lighting.
- End of trip facilities to encourage low or zero transportation (walking and running, bikes, e-bikes and scooters).
- Electrical vehicle car parking / recharging points.
- Use of water efficient fixtures.
- Incorporation of WSUD principles in the landscape design, including bio-swales and reuse of stormwater for irrigation
- Incorporation of endemic species in the landscape design to minimise irrigation needs.
- Creation of 7,464 sqm (21.6%) of landscape area including, 15.3% deep soil landscape, as well as 1,423 sqm of rooftop gardens and 14.7% canopy coverage to minimise the heat island effect
- Selected materials that minimise resource usage, maximise lifespan and optimise end-of-life recycling, including:
  - profile aluminum paneling reduces the need for extensive framing being lightweight, self supporting in one direction and has the added benefit of being fully recyclable. This selection significantly reduces the amount of secondary framing required for the warehouse facade and office sunscreening.
  - standard sizing of construction modules reduces offcuts and material wastage.
  - low carbon materials such as “green” fly-ash concrete used for precast cladding panels.
  - rigorous structural design to optimise the building megastructure to reduce “overdesign”.
  - minimisation of additional finish layers in the building to reduce material usage and maintain a clean industrial design aesthetic.
- Implementing waste management practices through the life-cycle of the building to reduce waste.
- Supporting wellbeing and social sustainability through equitable access throughout, management of acoustic and air quality issues arising from vehicle movements, and providing high-quality outdoor landscaped areas.



Western office facade sunscreen studies - 21 Dec 2pm

Western office facade sunscreen studies - 21 Dec 4pm

Part 3.2

Built Form + Urban Design

Placemaking

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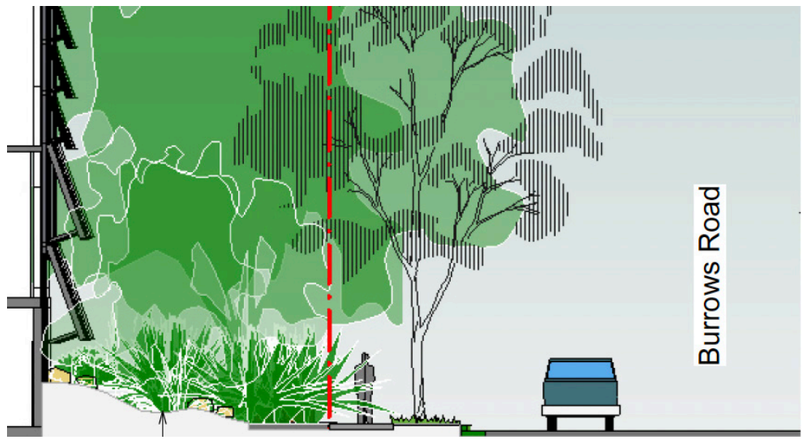
Placemaking - Streetscape + Public Realm

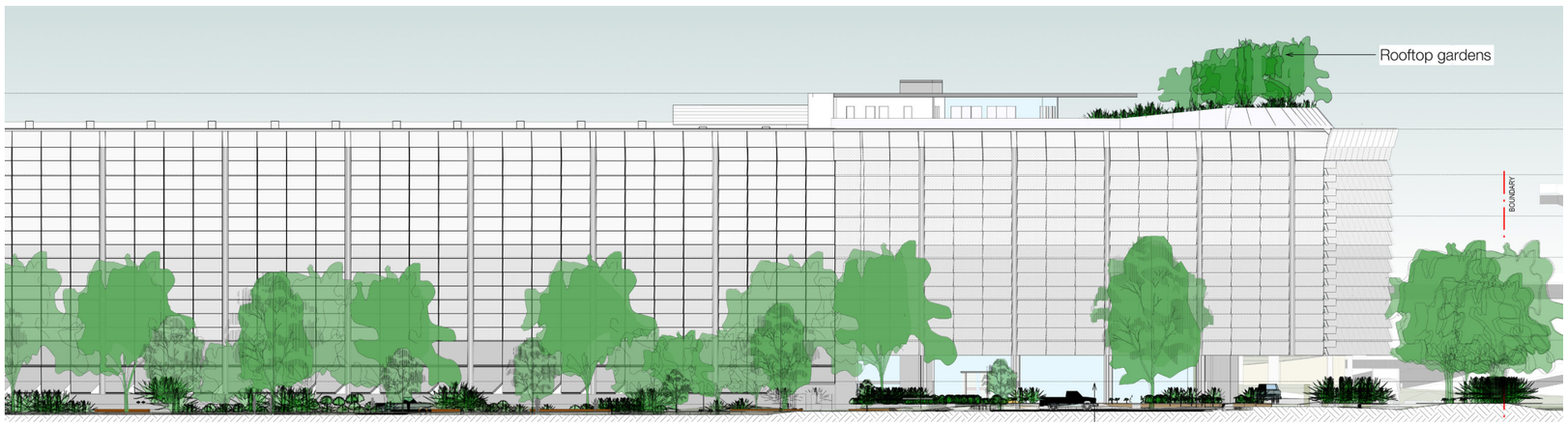
The continuity of the facade creates an opportunity for a consistent substantial landscaped setback to Burrows Road and Canal Road. The 6m setback of the building from the site boundary combined with the 3m strip of footpath and verge will wrap the building with a wide green band of landscape, which in turn will link into landscaped spaces within the site.

This band provides space for meaningful outdoor places - for interpreting the pre-colonial water landscape and ecology, providing break-out spaces for people to pause and sit, and to create bio-swales that will treat and return water to the canal system.

The proposal will also generate its own population and an expected increase in pedestrian activity around the site. The focal point for pedestrians is the main building entry at the north-eastern corner of the site on Burrows Rd. This location takes pedestrians away from the more hostile edges of the site around Canal Road and it is also located in close proximity to the existing pedestrian link to the edge of Alexandra Canal / Shea's Creek (underneath the West Connex flyover), which is an important 'break-out' point for the people working in and visiting the new building.



Concept section of street setback - Taylor Brammer Landscape Architecture



Concept elevation of street streetscape along Burrows Road

Placemaking - Landscape Strategy

A cohesive site-wide landscape strategy has been developed, recognising and integrating Country and regenerating the endemic ecology of the place. The key landscape design principles are to:

- Integrate the landscape typology of place
- Regenerate Country and connect ecologies
- Create human scaled environments

Further details of the landscape approach are set out in the Landscape Design Statement In **Appendix B** and in the Landscape drawing package prepared by Taylor Brammer Landscape Architecture.

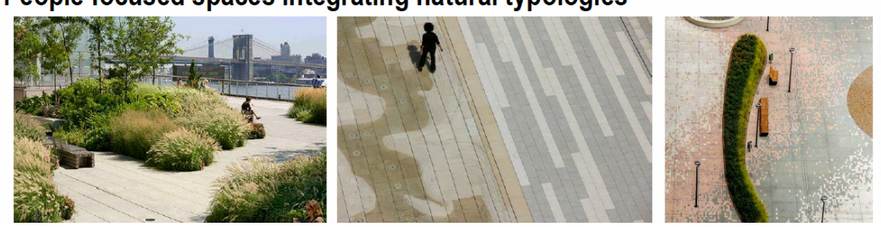
The landscape proposal expresses the water narrative of the site both literally, integrating bio-swales, recreated swamps and rain gardens, and figuratively in the meandering patterns and pathways around and through the site.

An irregular concertina landform up against the base of the building creates a geometry that complements the building form and expression and brings the proposal down to a social scale that encourages engagement with nature and a sense of well-being.

Planting selections are made in consideration of Connecting with Country narrative around food, shelter and seasons. Endemic species such as paperbarks that also form a large proportion of the existing street tree planting of the area, provide scale and texture, shelter and shade and are flowering species to promote pollinator “highways” linking to adjacent open spaces.

Regenerated Country

People focused spaces integrating natural typologies



Application of design principles - Taylor Brammer Landscape Architecture

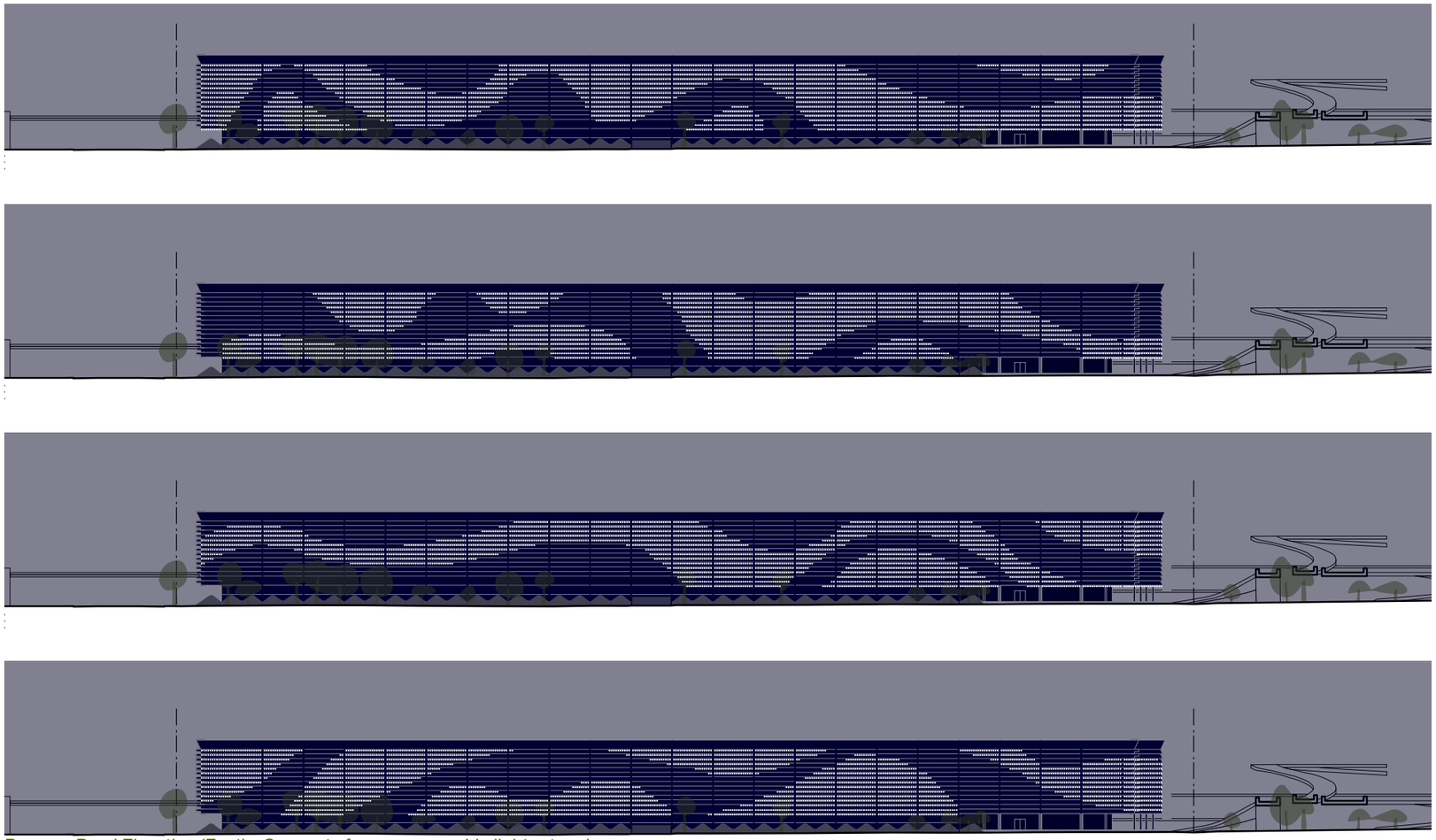
Placemaking - Art Strategy

A key aspect of the placemaking strategy is the incorporation of a facade lighting public art display as an integral part of the development. The facade lighting provides a framework for programmable light art displays that can be curated to change over time. Cultural Capital working with the design team have developed a curatorial vision for the site:

> "The 1-3 Burrows development sits within a constellation of human movement. Situated between two major freeways, and in close proximity to the airport, it will be experienced by thousands of people in transit daily.
>
> Its monolithic structure will rise above the industrial skyline, serving as a memorable landmark within a network of flowing activity. The grand scale of the architecture against the dramatic backdrop of the sky provides a canvas for a cultural statement. It will serve as an impressive moment of connection and contemplation for travelers as they move through this busy area.
>
> The concept of constant change forms the curatorial vision for the site. This encompasses both the First Nations experience of seasonality and natural rhythms, as well as the context of the site as a nexus of urban activity.
>
> Artists will be invited to use light and scale to explore the layered cultural histories and contexts at this site."

The Art Strategy developed by Cultural Capital is attached in **Appendix C**.

A preliminary design solution for the programmable LED matrix on the east, west, north and south facades has been developed. Further technical details of the Facade Lighting Concepts are set out in the report by Lighting Art and Science in **Appendix D**.



Burrows Road Elevation (East) - Concepts for programmable light artworks

Part 4

Project Proposal

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

Part 4.1

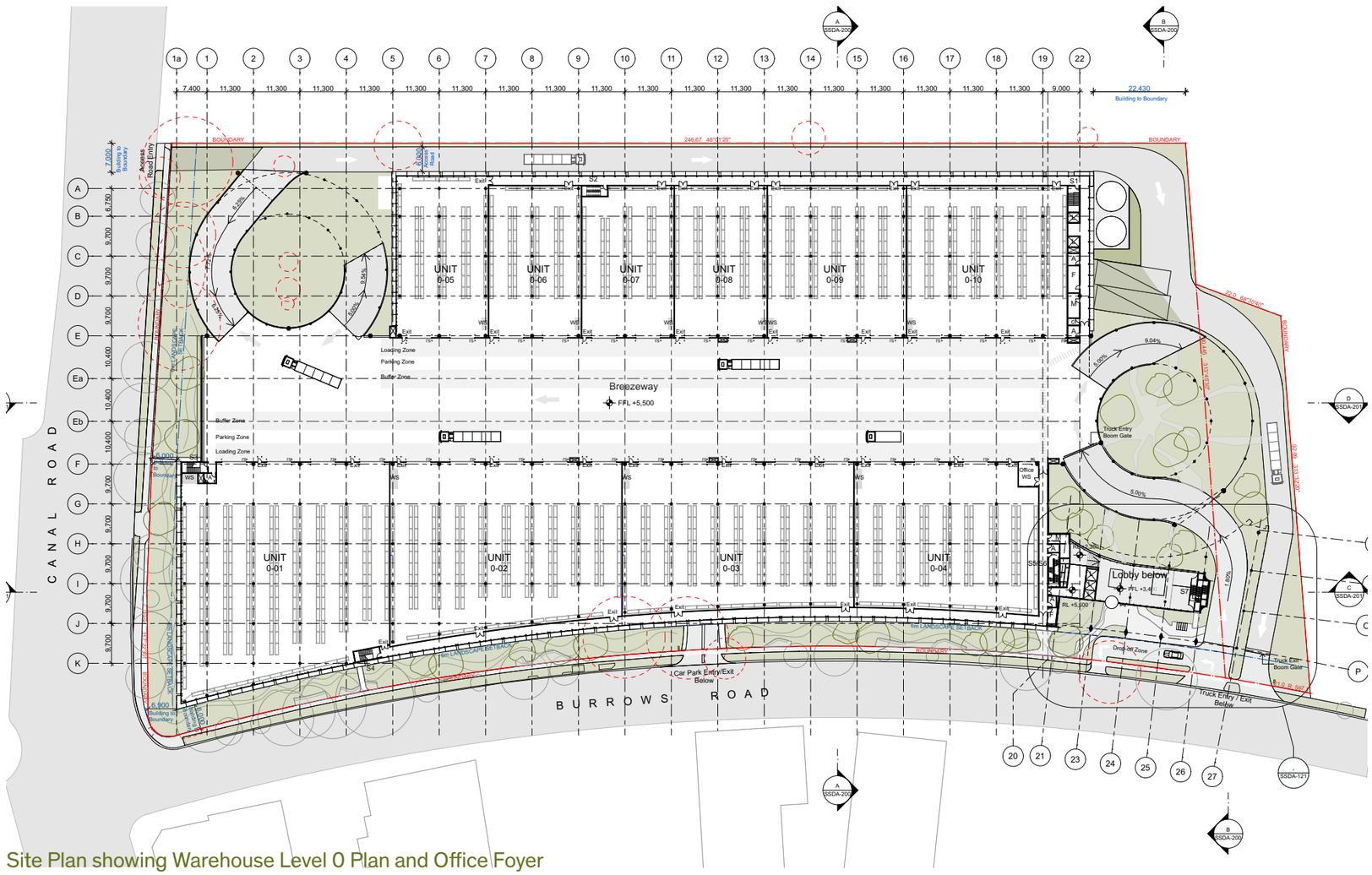
Project Proposal

Spatial Arrangement + Design

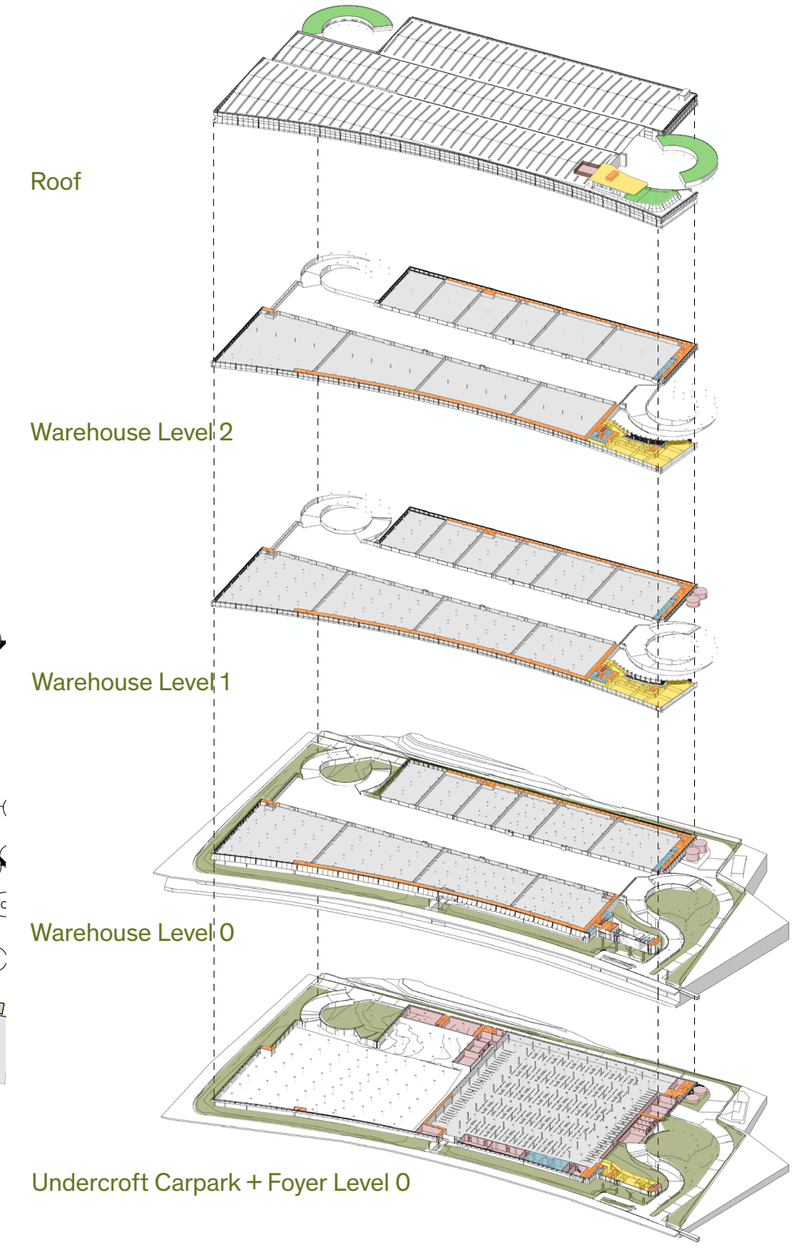
for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

Warehouse Spatial Arrangement

- Warehouse / Carpark
- Office / Commercial
- Amenities
- Circulation
- Services
- Landscape



Site Plan showing Warehouse Level 0 Plan and Office Foyer



Warehouse Design

The multi-level warehouse is set across three levels of approximately 21,300 square metres each including breezeway. Each floor is divided into an east and west warehouse block either side of the central breezeway spine. The circulation spine comprises a three lane covered hardstand area to accommodate the set down, unloading and safe entry / exit of delivery vehicles.

To future proof the building, the warehouse unit configuration and sizing is designed for flexibility to accommodate individual tenant requirements. The proposed initial warehouse configuration accommodates areas from 820 to 2650 square metres, however future tenancies could be configured with smaller tenancies or potentially full blocks of up to 9000 square metres.

Safe pedestrian circulation is provided via access corridors that run along the east and west facades and then across the north edge of the warehouse blocks. A safe pedestrian crossing point is provided across the northern end of the breezeway. The pedestrian circulation corridors provide access to the office, lifts and fire egress stairs as well as to shared amenities at the north of both warehouse blocks.

These long corridors have been designed to provide natural light and ventilation, and views out of the building. They are articulated by the geometry and rhythm of the facade which is legible internally and provides a sense of scale to the spaces.

Above the perimeter corridors, the warehouse spaces extend to the facade to provide natural light and ventilation, as well as make up air for smoke exhaust.

Warehouse units have options for both shared and joint facilities. Each warehouse unit will have a dedicated in-tenancy waste storage area and services risers in the base building will provide the option for future in-tenancy amenities. In addition driver amenities are provided at each end of the breezeway for respite prior to their next journey.

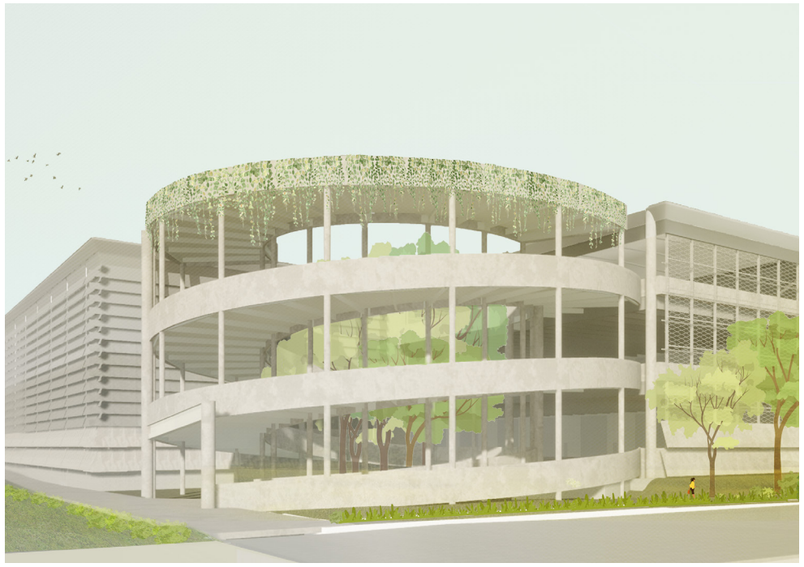
Warehouse + Breezeway Section

Ramp Design

Significant ramp structures are required to provide vehicle access for 20m articulated vehicles to each warehouse level. These ramps are configured as spirals of nearly 50m diameter that create sculptural counterpoints to the long massing of the site.

The southern ramp when viewed from the future Sydney Gateway motorway responds to and mirrors the adjacent hilltop park.

The northern ramp is a focal point for the commercial office areas. The movement of trucks around the central recreated swamp / raingarden landscaping contributes to the activation and sense of purpose within the office space. The northern ramp roof garden also creates a green outlook from the office rooftop terrace.



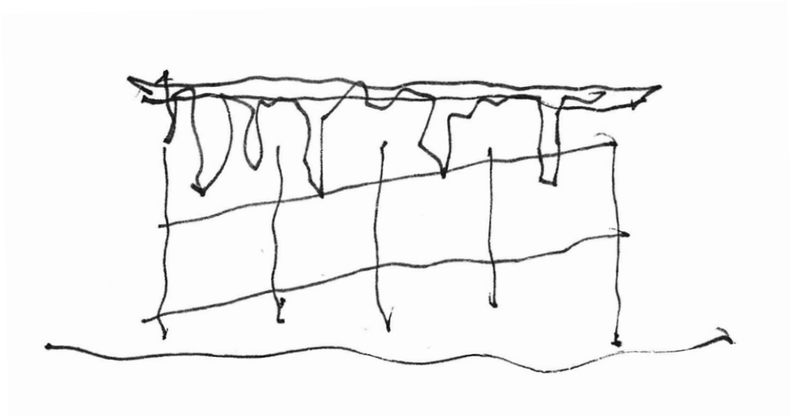
Concept study - southern ramp

Concept study - northern ramp

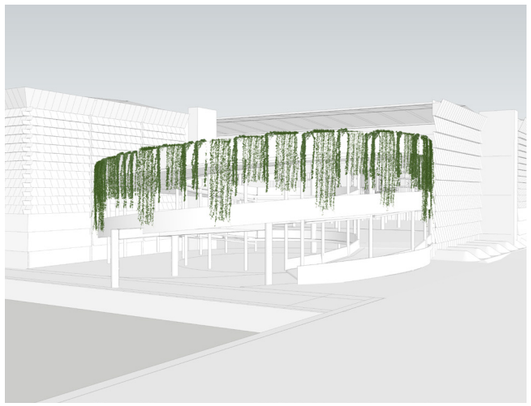
Ramp Design - Articulation

The expression of the ramps has been significantly developed since the competition design in response to feedback from the Selection Jury and Design Integrity Panel.

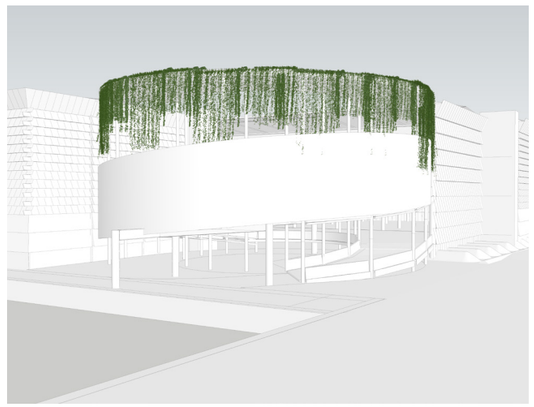
The ramp articulation comprises a spiral pre-cast concrete crash barrier strip to emphasise movement with a partial roof-garden cap with cascading planting to visually connect the ramps to the landscape. A subtle green finish to the underside of the ramp structure will reflect the gardens below. Water runoff from the ramps will be directed to the recreated swamp landscapes in the centre of the spiral.



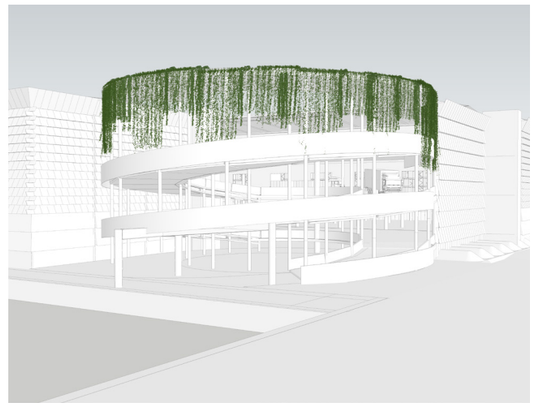
Concept development - Ramp with green roof



Ramp articulation studies - crash barrier garden

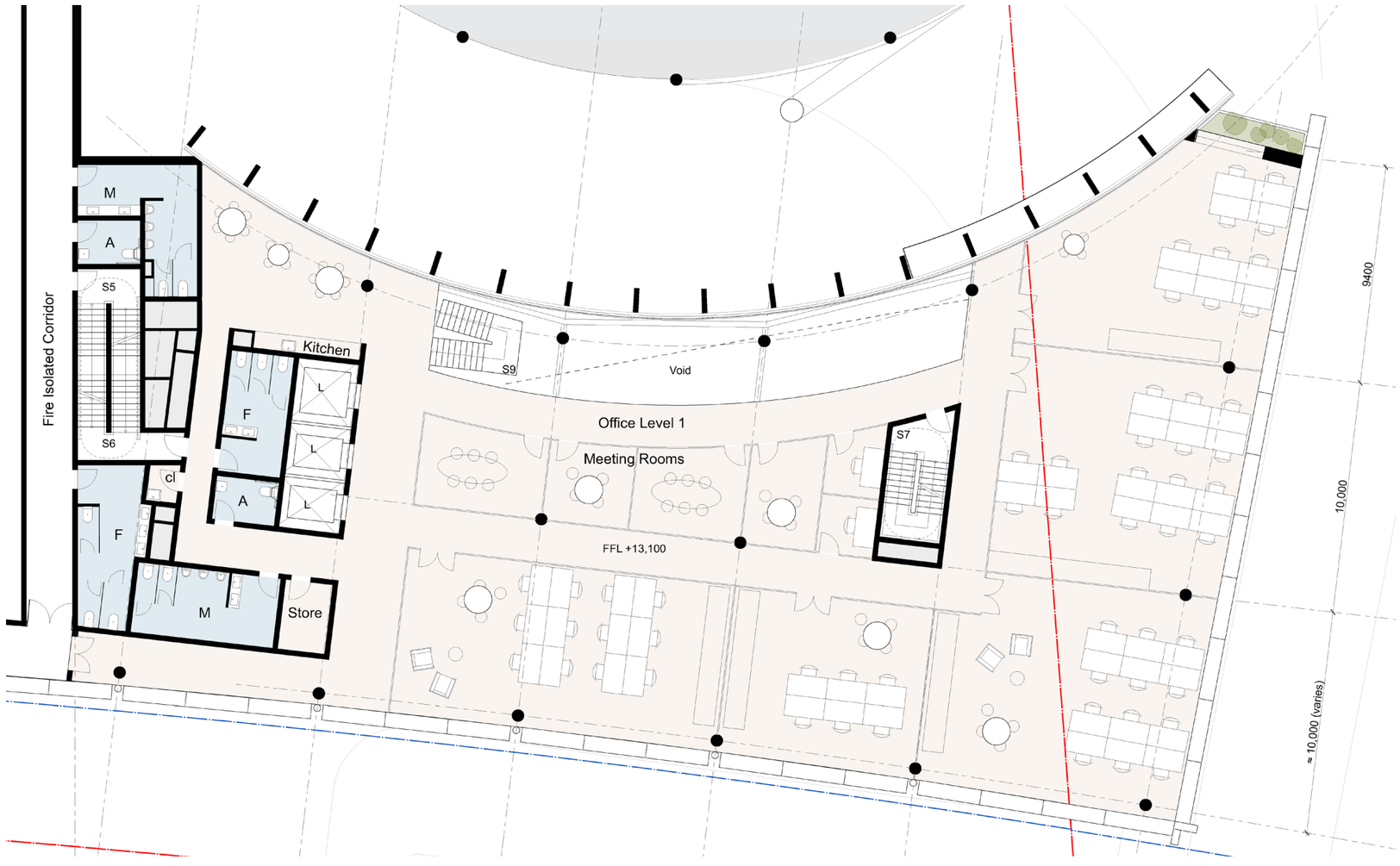


Ramp articulation studies - single band + roof garden

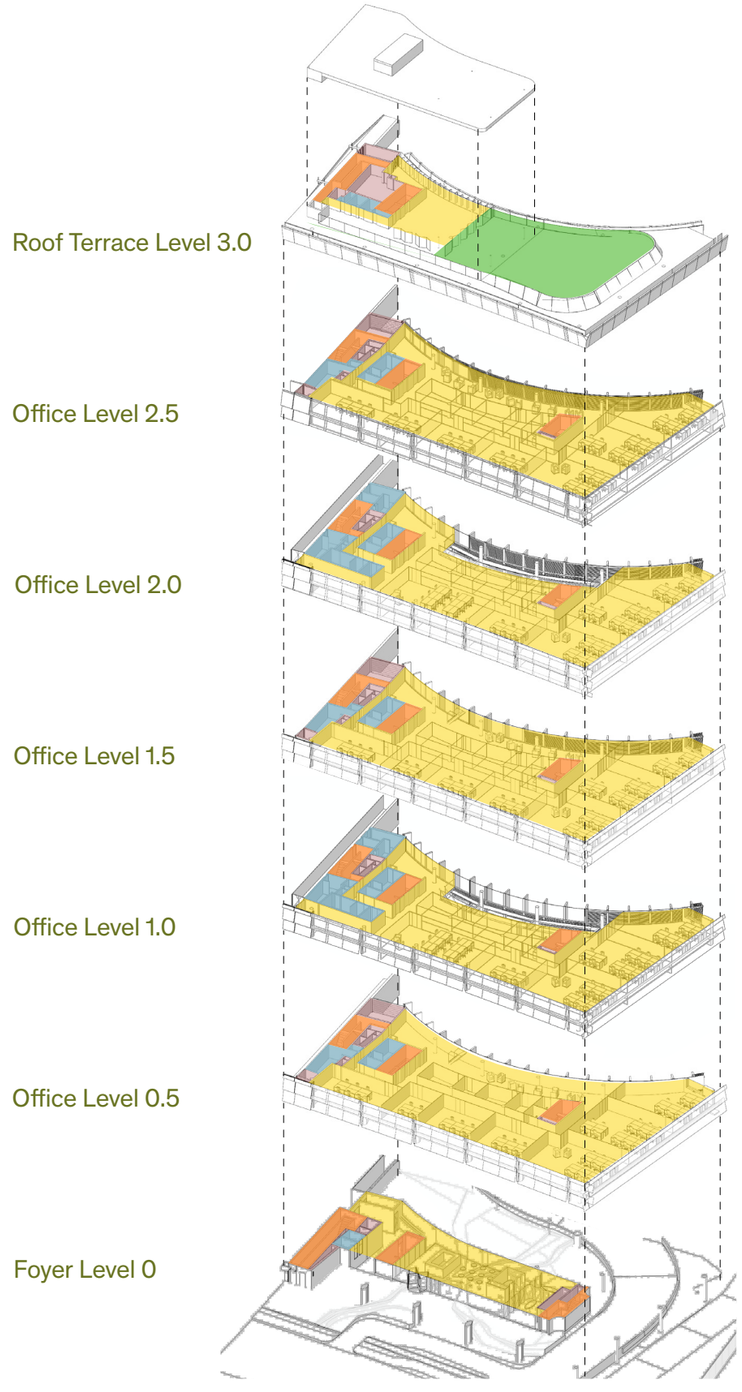


Ramp articulation studies - spiral band + roof garden

Office Spatial Arrangement



Typical office plan with void



Workplace Design - Amenity + Flexibility

The office component of the development sits on the north-east corner of the site - an area that is north facing, in close proximity to the existing pedestrian link to the Alexandria Canal and removed from the busy and hostile Canal Road frontage.

The office is integrally connected to the warehouse - physically, visually and operationally, to promote and integrated workplace culture. The built form is orientated around the northern ramp and extends over the truck access to the site - creating a strong connection to purpose and celebrating the movement of vehicles and goods.

The office is approximately 5,000 square metres set across 7 levels, including the lobby, meeting rooms and a café space at ground level, and a flexible rooftop terrace space with roofgarden. It has been designed to optimise workplace flexibility and enhance user wellbeing. The office levels are paired, connected by a void and stair to encourage social interaction and shared synergies between different companies and co-working user groups. The voids along the western edge of the floorplate create double height curved facades to enhance the visual connection with the ramps.

Each office level is serviced by central meeting rooms, breakout spaces, kitchen and eating areas and staff amenities. 30 office tenancies with shared meeting and other facilities are proposed to provide office accommodation for each of the warehouse units, however floorplates are designed for future flexibility and could if necessary be configured as open plan, or into alternative sized office units. Fire egress and services locations have been tested to provide for a variety of possible layouts.

The lift and services core is located between the office and the warehouse to provide circulation and amenities for both.

Curtain wall glazing with external sunscreens maximises controlled natural light. The floorplate layout means all work areas are located within 10m of external windows, with most being within 7m of an external wall.

Office Section

Entry + Lobby

The main building entry is located under the office component of the development. Both pedestrian and delivery vehicle entries flow under the office building above; integrating the sense of arrival with the purpose and functions of the broader development. Through the lobby the circulation ramps are clearly visible, celebrating the movements of vehicles and goods.

The lobby provides a key opportunity for Designing with Country. The narrative of water and landscape is continued through the lobby space - the entry ground plane being used to represent water + landscape flowing through and under the building to the recreated swamp in the centre of the ramp beyond. The soffit of the building over is designed to be subtly reflective of the patterns in the ground plane - inspired by reflections of light on water. The columns of the office building and ramps create a “forest”, reflecting the trees of the landscape.

A strong solid northern supporting wall containing the fire egress stairs and meeting room storage also provides separation of pedestrians and heavy vehicles. This element and the supporting element of the lift core provide further opportunities for material expressions of Country. The northern wall is proposed as a layered concrete element externally, that can be subtly textured to reflect patterns of Country such as shells or weaving.

Activation of the foyer space is achieved through a 50 seat kiosk style cafe and a suite of flexible meeting areas that could be used by the tenants for meeting and training purposes. These space are designed to be able to be used independently by external community groups.

A small car drop-off area and visitor bicycle parking is located immediately adjacent to the lobby. The lobby is also connected directly to the undercroft carpark and will serve as the main day-to-day entry point for the majority of workers in the development. A building managers office is centrally located at the entry to the carpark as to be well placed to provide assistance, coordination + surveillance.

Entrance lobby - enhanced sense of arrival (artists impression)

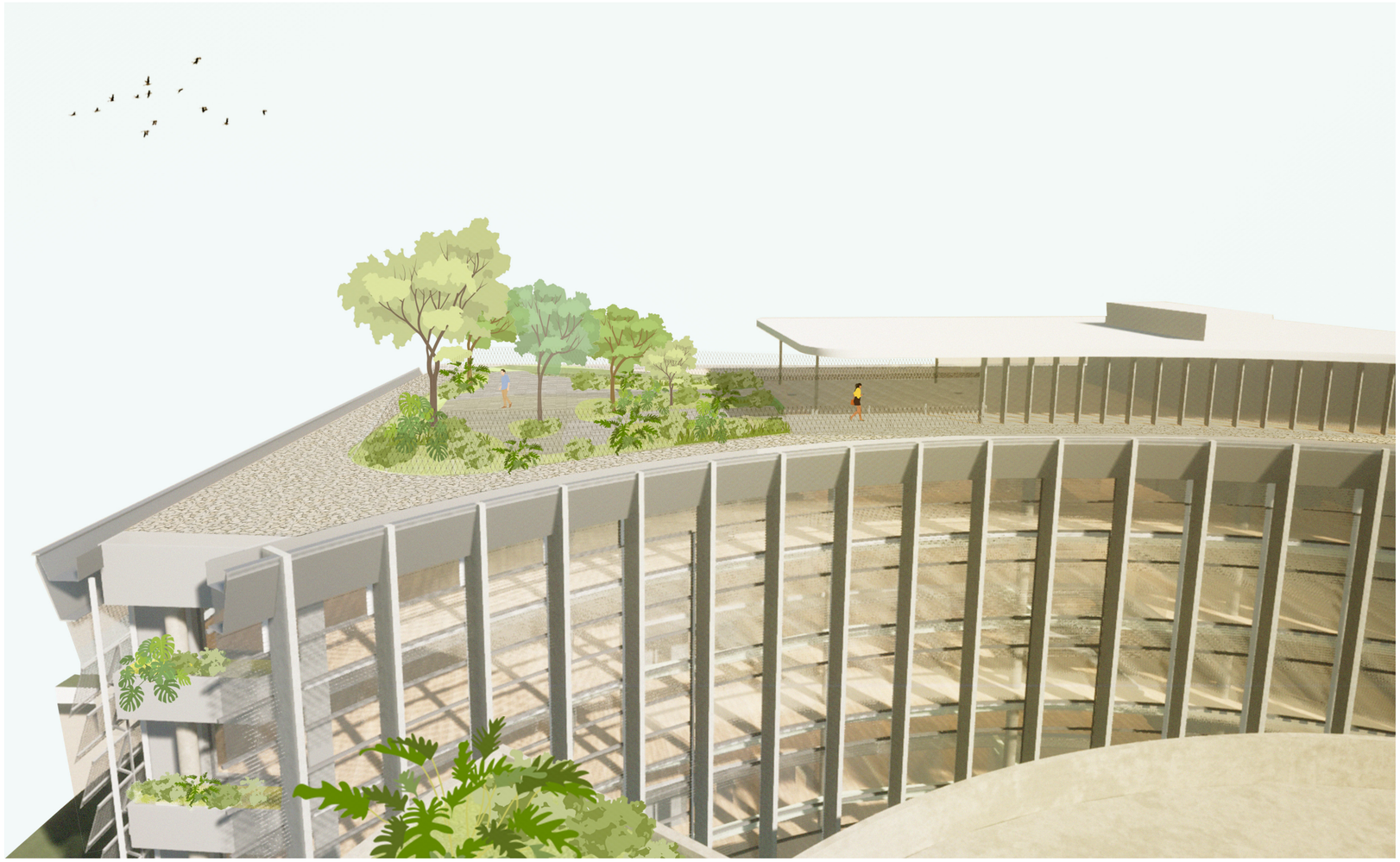
Office Rooftop Terrace - Pavilion + Garden

The upper level of the office consists of a rooftop terrace with pavilion and garden. This area is provided for flexible use by workers, tenants and potential external community groups. Activities could include workplace events, break-out space, classes or courses.

Lifts provide direct access into the flexible pavilion space that can be opened up to the north with a large undercover area. Facilities such as a kitchen space and amenities are located behind the lift core along with fire egress stairs.

Beyond the pavilion the rooftop garden slopes up to the north to provide planting depth for a bushtucker garden - a living classroom for learning about the local landscape and indigenous culture. The rooftop landscape will be connected to the ground plane by 'pollinator ladders' a series of planted elements integrated into the northwest corner of the office to allow bees and other insects to visit the rooftop and ensure it is productive and abundant.

Views from the rooftop look out over the green roof and recreated swamp of the adjacent ramp to the west and towards the canal from the east. To the north the buffer of rooftop trees provide screening from the adjacent roadway and provide views to the Sydney CBD skyline.



Concept study - View of rooftop garden and pavilion

Undercroft Carpark

The carparking and main services area is located directly below the warehouse in an undercroft level.

Car, motorbike and bicycle access to this level is via a driveway crossover point situated midway along the Burrows Rd boundary, approximately in the location of an existing vehicle access point.

Car parking is provided to the requirements of the City of Sydney DCP2012 S3.11 for car and motorcycles for workers and visitor including accessible parking, EV charging and service vehicle spaces. A courier / deliveries drop-off zone is provided adjacent to the lobby access.

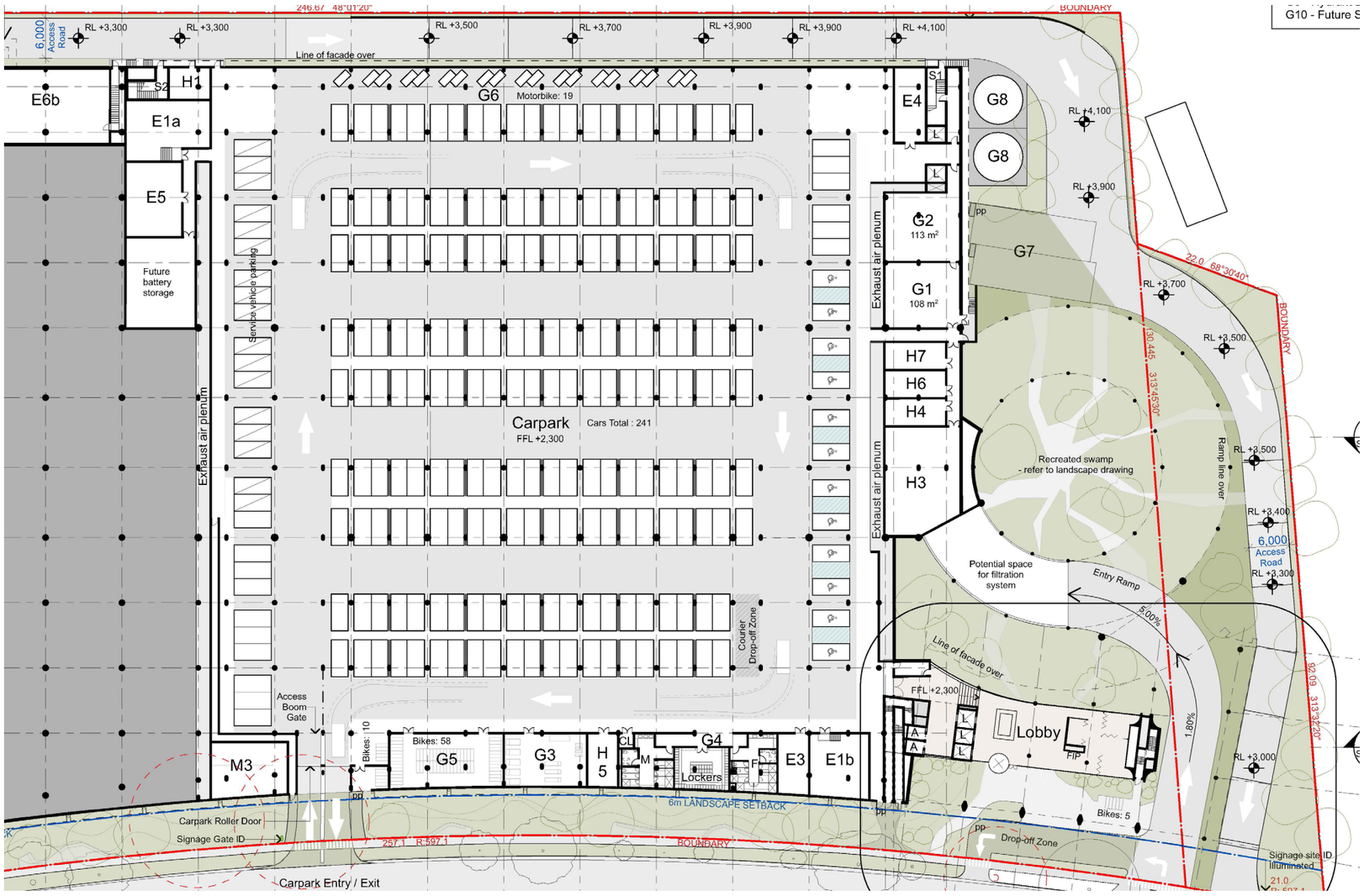
Bicycle parking is provided in a lockable bike storage room, with additional visitor bicycle parking adjacent to the vehicle access driveway. Five short term visitor bicycle parking spots are also provided at the office foyer entry.

Vehicle circulation loops around the carpark in a clockwise direction.

Pedestrian circulation is provided between rows of carparks and along the rear of perimeter parking. Dedicated pedestrian circulation is also provided along the eastern side of the carpark level where the bike storage and end-of-trip facilities are located.

The pedestrian pathways provide access to the lift core servicing the office and eastern warehouse and the lift core servicing the western warehouse block.

Central building services are largely located in the undercroft level. Electrical services are grouped near the chamber substations in the southwest corner; communications and office electrical services located adjacent to the office; firefighting and hydraulic services located in the north; some smaller service areas located along the eastern Burrows Road building edge. A mechanical exhaust plenum runs along the northern and southern sides of the carpark area.



Carpark undercroft plan

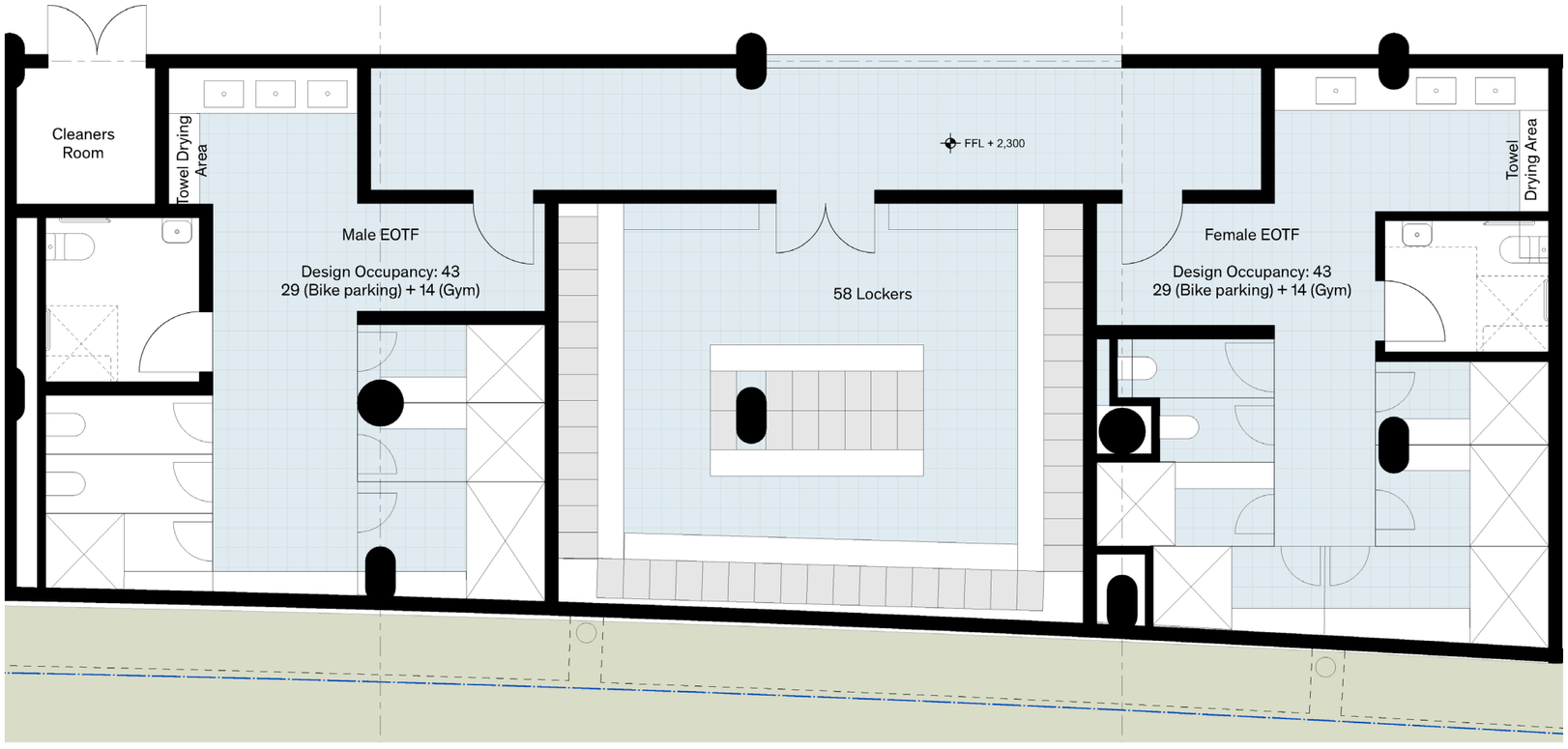
End of Trip Facilities

End of trip facilities encourage low or no-emitting transportation (walking and running, bikes, e-bikes and scooters) and provide amenity for workers. The end-of-trip (EOT) facilities have been provided to meet the provisions of the City of Sydney DCP Section 3.11.

They comprise:

- Storage room with lockers based on staff bicycle parking for 58
- Male amenities + change facilities: 1 accessible shower+WC / 2 pans / 4 showers / 3 basins (design occupancy of 43 based on 29 staff bike parking + 14 gym users)
- Female amenities + change facilities: 1 accessible shower+WC / 2 pans / 4 showers / 3 basins (design occupancy of 43 based on 29 staff bike parking + 14 gym users)
- Gymnasium 95 square metres (design occupancy 27)
- Cleaners store.

The EOT facilities are located in the undercroft level adjacent to the office and eastern warehouse entry. An access alcove is provided off the carpark area to provide dedicated pedestrian circulation at the entry to storage lockers and change facilities. This connects the main pedestrian carpark pathway to both the gymnasium and main building entry.



End of Trip Facilities plan

Equity + Accessibility

The proposed development is designed to meet the requirements, principals and intent of providing dignified and equitable access for all.

External to the building envelop, all pedestrian pathways are designed to a maximum gradient of 1:20. This includes access from the car drop-off area to the main building entry.

All pedestrian pathways throughout the building allow for clearances suitable for accessible access. Where changes in level are required, lift access is available for both ambulant and non-ambulant people. Lifts are located immediately adjacent to all non-fire egress stair locations.

Accessible carparking spaces are provided within the carpark and located immediately adjacent to the building entry foyer.

Accessible amenities are provided in all locations where amenities are provided. Ambulant amenities are provided where required under the NCC. Accessible amenities are also provided within the breezeway for truck drivers.

Sanitary Facilities

Sanitary Facilities have been provided in compliance with BCA requirements as follows:

EOT Facilities (design occupancy 58 bicycle parking + 27 gym users)

- Male: 1 accessible shower+WC / 2 pans / 4 showers / 3 basins
- Female: 1 accessible shower+WC / 2 pans / 4 showers / 3 basins

Office Lobby incl. cafe seating (design occupancy 50 cafe + meeting)

- Accessible WC amenities: 2x unisex

Office floor - typical (design occupancy 95 / 85 floors with void)

- Accessible WC amenities: 1x unisex
- Male amenities: 2 pans / 2 urinals / 2 basins
- Female amenities : 3 pans / 2 basins

Office rooftop terrace (design occupancy 18)

- 2x unisex accessible WC amenities
- 2x unisex ambulant WC amenities

Warehouse (design occupancy 260 per level)

To both East and West warehouse blocks:

- Accessible WC amenities: 1x unisex
- Male amenities : 2 pans / 3 urinals / 2 basins
- Female amenities: 3 pans / 2 basins

Breezeway (for delivery drivers - not required under BCA)

- Accessible WC amenities: 2x unisex

Part 4.2

Project Proposal

Built Form + Facade Design

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

Built Form

The proposed built form celebrates the scale of the building in its industrial setting. The horizontally expressive facade and strong cornice-like fascia accentuates the length and sweep of the building along Burrows Road.

Despite the emphasis on scale, the articulation of the facade in geometry and materials and in particular, the “tenet” corner detail provide a high level of detail that reveals itself when viewed up close.

Substantial landscaped building setbacks on Burrows Road and Canal Road create a green blanket that wraps the building, grounds it and humanises the scale along tough roadside context. Existing established tress around the perimeter of the site will be supplemented with endemic species, water management bio-swales and pedestrian refuges.

The building facade contributes strongly to the placemaking and contribution to the public domain - providing a canvas for a programmable light art, to be curated to reflect the concepts of change and movement.

Artist impression - evening view from corner of Canal Road + Burrows Road from the southeast

Built Form

The north eastern corner of the building contains the office component of the development. The office facade continues the geometry and silvery materiality of the warehouse form and the sweep along Burrows Road. This continuity emphasises again the scale and linearity of the built form.

At the base, the office building lifts up and over the pedestrian and vehicular entries - creating a strong sense of arrival and connection with purpose. The soffit of the lobby is proposed takes on a textured reflective glowing property to announce the entry and reflect the ground plane.

An existing sculptural eucalypt immediately next to the building entry is to be retained as a signifier of the entry location. A proposed grove of casurinas to the right of the building entry will also act as a landscape marker, with another grove at the southern end of the warehouse visible through the breezeway.

Artist impression - day view along Burrows Road from northeast

Built Form

When occupied in the evening, the office component of the building is designed to subtly glow through the perforated sunscreening.

Facade lighting will activate at night to create a platform for a changing light art installation.

Artist impression - evening view along Burrows Road from northeast

Built Form

The building is surrounded on the north and west by elevated roadways that form part of the St Peters Interchange. Views of the building from these vantage points happen at fast speeds.

The lineal expression of the facade continues along the western and northern warehouse providing an articulated backdrop to the facade lighting artwork. The facade lighting here will be designed and programmed with this in mind, including taking into account considerations of safety in lighting colour and dwell intervals.

On the north east corner twin sprinkler tanks and the vehicular ramp create counterpoints to the long mass of the warehouse.

The massing of the building is viewed on these edges from an elevated perspective with the building sitting into the ground between 5-12m below the viewing level.

Artist impression - view from St Peters Interchange flyover to the north west

Facade Concept

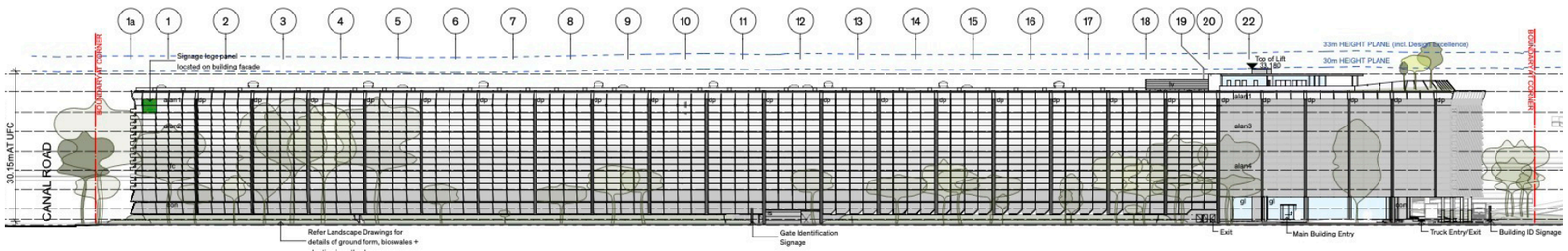
The building façade takes a single geometry based on standardised construction dimensions and wraps the building in it's entirely. The simplicity and consistency of the façade is maintained around the building whilst accommodating and responding to change in use and orientation.

Alongside the environmental imperatives noted above, using material systems that are typically utilised in buildings of this type, that are robust and readily available has been a key strategy for the design development.

The facade concept is based on layers of horizontal cladding panels angled at 20° provide a weather and sun-screen under which light and air can flow.

Across the length of the building the lineal horizontal cladding panels are punctuated by downpipes every 11.3m creating a rhythm along the street without interrupting the flow of the facade. This is further broken down into 2.7m length panels of cladding.

The apparent curve along Burrows Road is made up of straight 2.7m long panels which, when viewed on mass create the impression of a continuous curve.



1 East Elevation - Burrows Road
Scale 1:500

2 West Elevation
Scale 1:500

Burrows Road Elevation

Facade Articulation + Detailing

The simplicity and consistency of façade detailing is maintained around the building whilst accommodating and responding to change in use and orientation. At key corners an interlocking cladding detail or “tenet” accentuates the facade geometry.

Along the approximately 480 lineal metres of warehouse facade a single, adaptable framing system is proposed. It will enables an economy of scale to achieve a unique, yet cost effective outcome. A simple framing system of wind brace columns and secondary framing accommodates lightweight aluminium and fibre cement panels at upper levels and a base of pre-cast concrete.

The cornice-like fascia panels continue around the whole of the building including warehouse, breezeway and office.

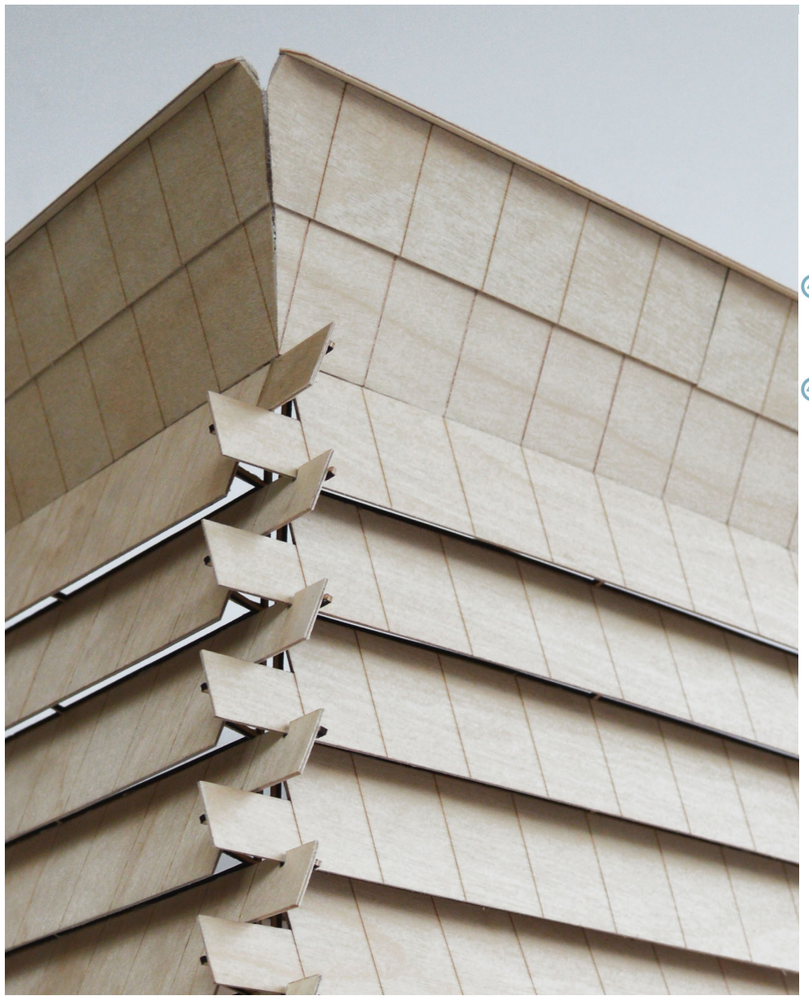
The base elements are composed of pre-cast concrete panels that continue around the warehouse and breezeway to ground the built form. A series of diagonal openings are made into these base panels to create window and door openings in the base panels where required.

Across the face of the office the profile aluminium panels of the warehouse become perforated aluminium sun-screen panels providing sun protection to an office curtain-wall system behind.

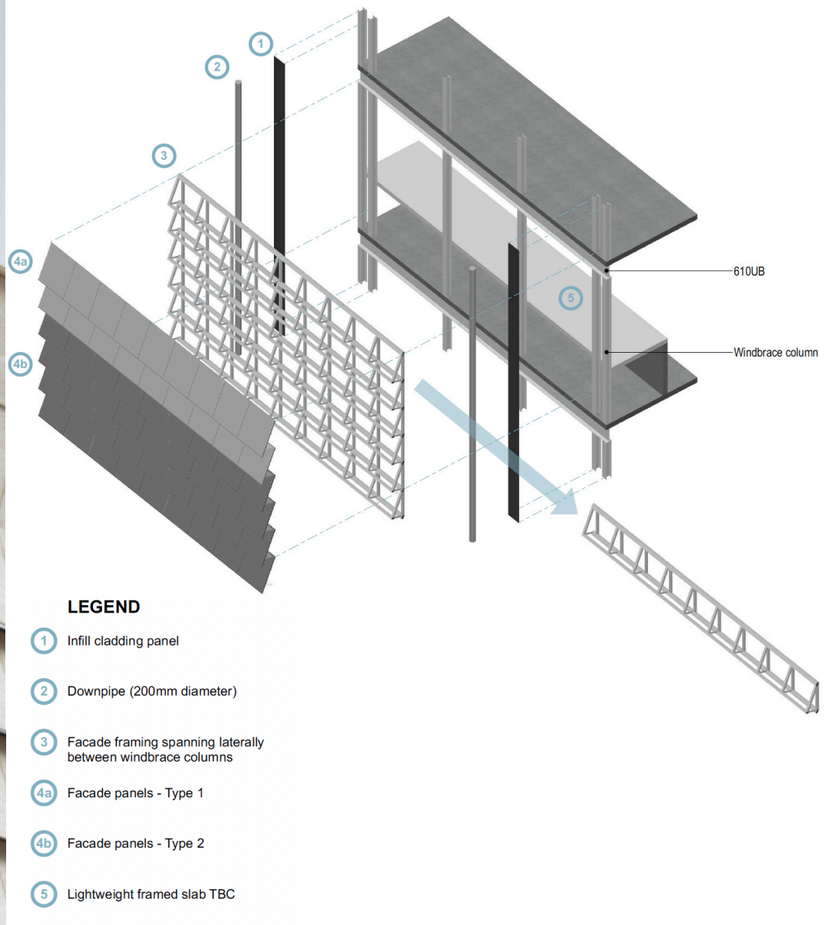
Vertical flat aluminum panels at each downpipe provide a rhythm across the facade that adds to the perspective across the warehouse and office facade length.

Across the breezeway the angled secondary framing supports a mesh screen that continues the geometry while providing maximum ventilation.

Standardisation of the grid module minimises waste in the facade construction, creates a readily transportable module and enables a quick and simple construction of the facade on site. Facade cleaning will rely on a absail access and/or BMU solution across the office and warehouse.



Facade study model



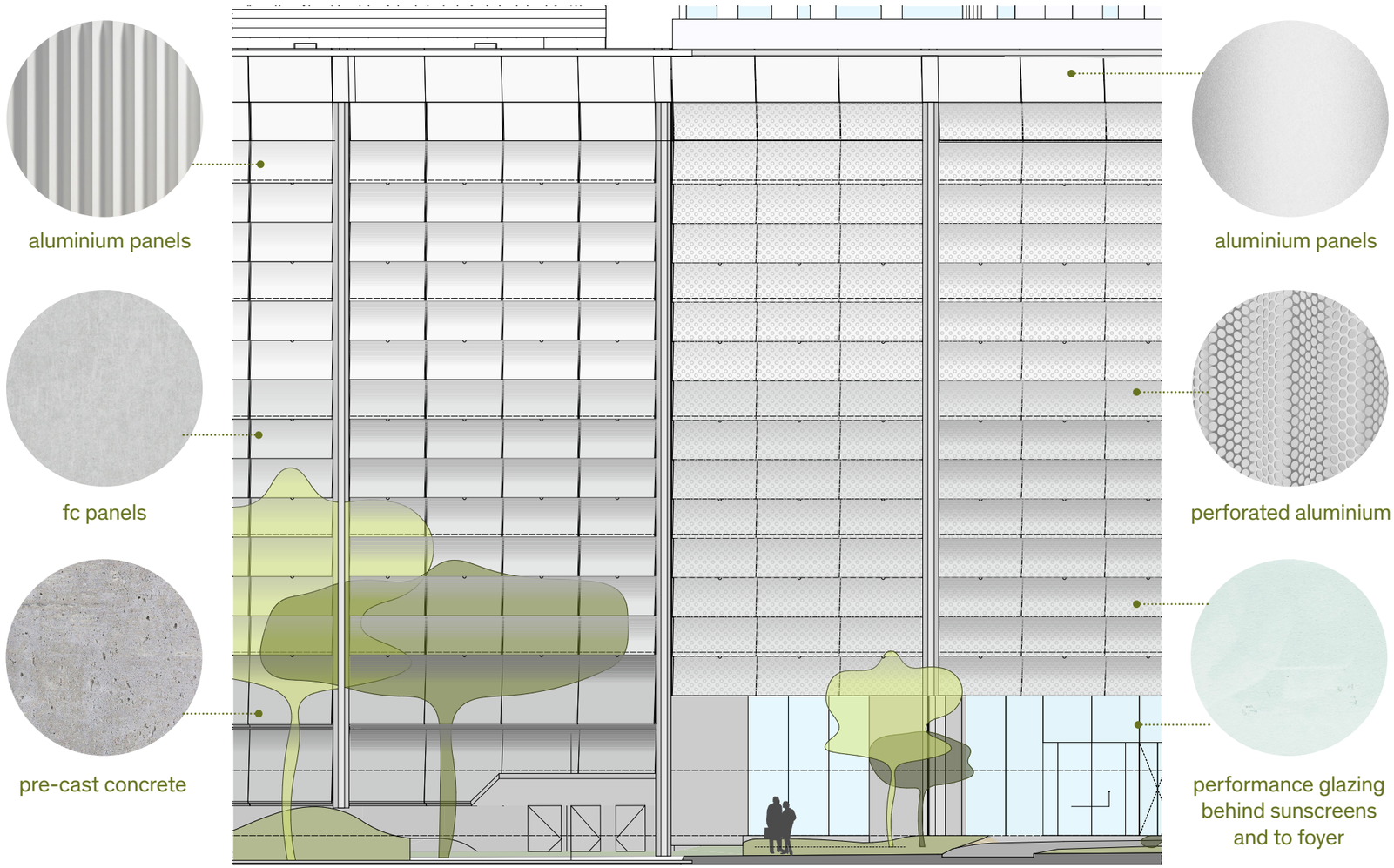
Warehouse facade development study

Facade - Materials

A tripartite façade material composition provides a format to implement a silvery material palette across the building with subtle shifts in tone and reflection. The proposed materials consist of:

- Flat anodised aluminium paneling to the upper fascia around the whole building
- Profiled anodised aluminium lightweight paneling to the top section of the warehouse
- Perforated profiled anodised aluminium screens over performance glazing to the office.
- Fibre cement sheet to the mid section of the warehouse
- Pre-cast concrete panels to the base.
- Stainless steel mesh to the southern breezeway.
- Recessed flat anodised aluminium panels at each downpipe bay with an aluminium downpipe.

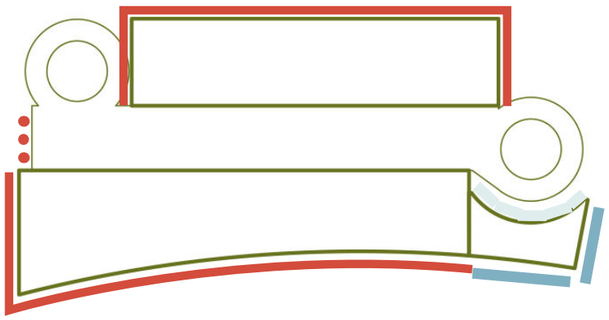
Facade materials have been selected for visual materiality, durability and low-maintenance in an industrial context as well as for sustainability considerations.



Facade Types

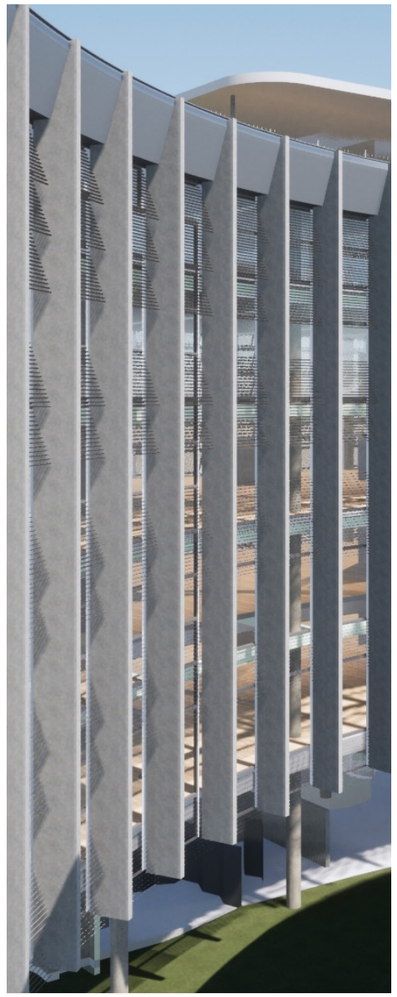
There are four primary facade types that wrap around the building, all based on a consistent angled geometry and expression.

Each facade type has been adapted to suit the use, performance requirements and orientation of the various uses and locations. Structural and ventilation requirements have been integrated into the warehouse and breezeway facade solutions while environmental performance and views are taken into consideration in the office facade.

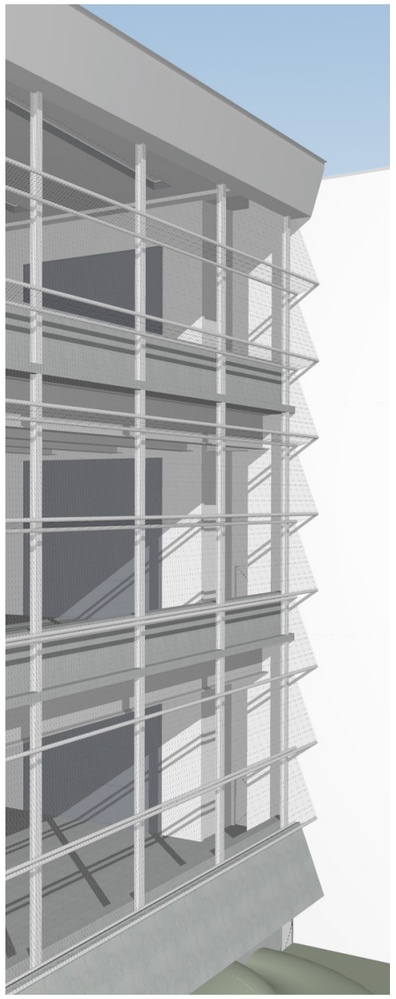


Warehouse facade

Office facade - East + North



Office facade - West



Breezeway facade

Warehouse Facade

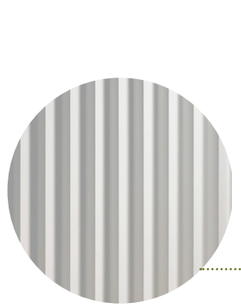
The 11.3m warehouse facade bays are each broken down into 4x 2.7m horizontal panels. At each bay junction a 0.5m flat panel sits behind an expressed downpipe.

The main section of the facade consists of 20° angled panels approximately 1.5m high that overlap to provide a weather screened zone below for natural light and ventilation.

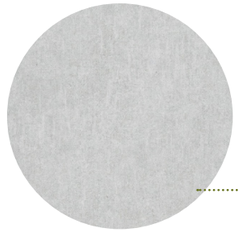
Within the screened zones ventilation through the facade to the warehouse is provided by fixed grated infills between the cladding panels which also provide make-up air for smoke exhaust. Solid infill panels are provided at floor levels for fire separation.

Along the top edge a cornice panel is created from a reverse angled double fascia to screen the gutter behind. The double fascia detail allows for the downpipes to neatly penetrate the facade.

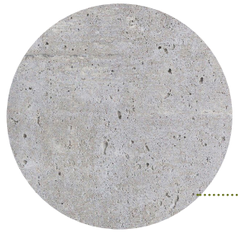
At ground level the panel height is doubled to 2.4m and consists of pre-cast concrete panels. Where required to suit the functions behind, the base concrete panel is cut at an angle to provide light to window or clear access for doors.



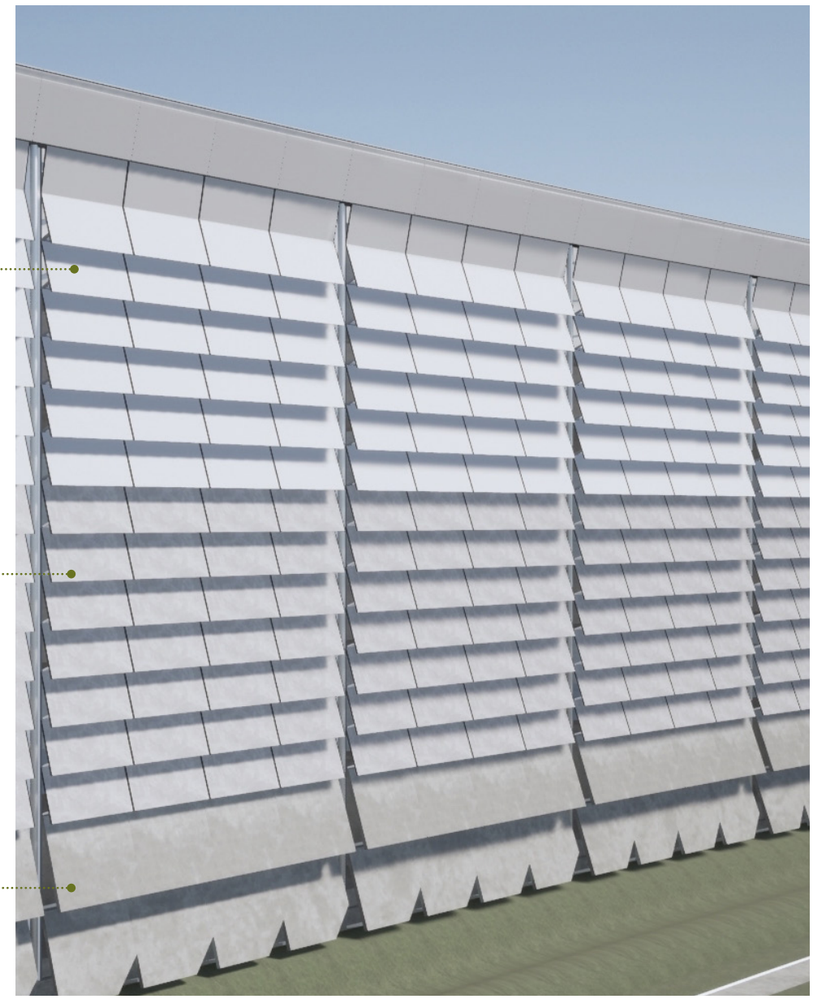
aluminium panels



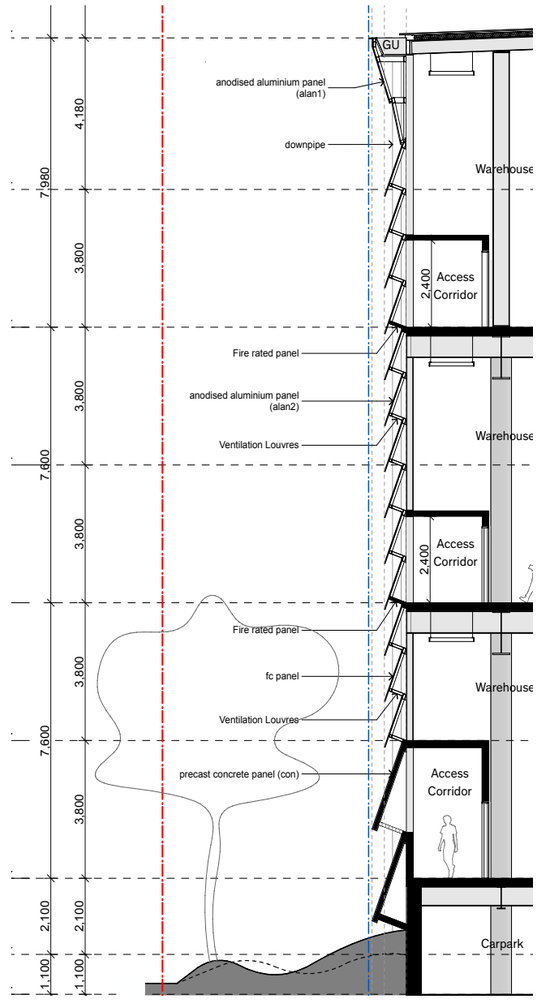
fc panels



pre-cast concrete



Proposed warehouse facade concept study - panel breakup and articulation



Proposed warehouse facade section

Office Facade - East + North

The office facade is broken into bays of 8.6m, consisting of 3x 2.7m horizontal panels. At each bay junction a 0.5m flat facade panel sits behind an expressed downpipe.

The office facade consists of a glazed curtain wall system set behind 20° angled sunscreen panels that align with the geometry of the adjacent warehouse facade. Clear performance glazing to meet 5.5 star NABERs certification will provide additional protection from heat gain / loss and noise. Spandrel panels at each floor level screen the ceiling void and provide fire separation.

The angled sunscreen panels are profiled anodised aluminum sheet, with 50-60% perforated open area to provide sun-screening and protection from glare while still maintaining views out from the office floors. A subtle change in perforation pattern is proposed to mimic the subtle banding of the adjacent aluminium and FC panels on the warehouse.

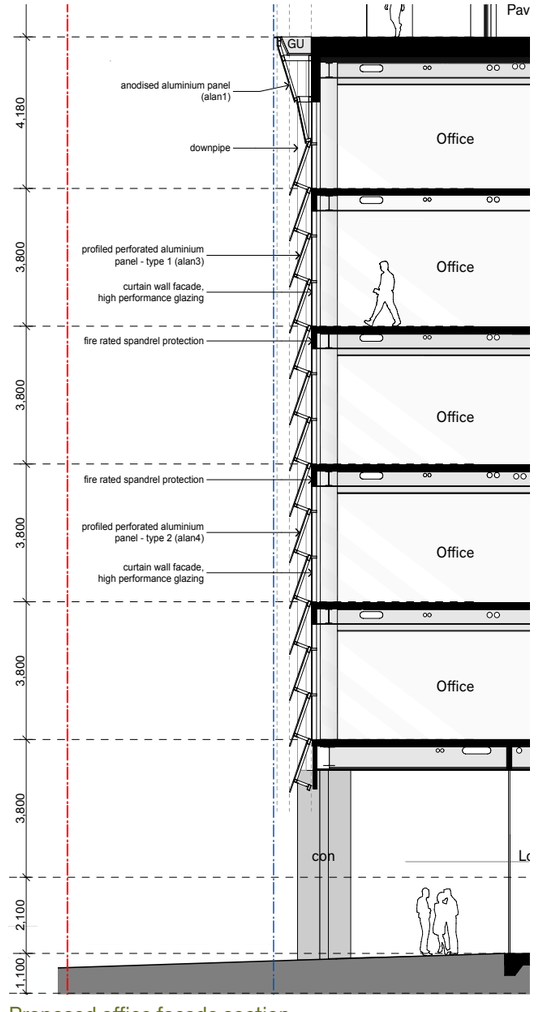
The open area at each horizontal panel overlap allows for clear views down towards the street to enhance a sense of openness within the office and increase passive surveillance of the street and building entry below.

The reverse angled cornice geometry also continues across from the warehouse. Broken into two sections the upper panel is solid to screen the gutter behind; the lower section perforated to provide an outlook from the upper level of the office.

At ground level the office facade to the lobby is fully glazed and set back 6m on the east under the edge of the building above to provide suitable shading of the facade.

The office facade continues the silvery materiality of the warehouse, maintains transparency and visibility into and out of the office, and will allow the office component of the building to glow from within under certain dull daylight or evening light conditions.

Proposed office facade - panel breakup and articulation



Proposed office facade section

Office Facade - West and NW Corner

The west facing facade of the office is set on a radius of approximately 35m to reflect the curve of the adjacent northern vehicle ramp. This facade also continues the angled panel geometry of the rest of the building while incorporating additional sunshading devices to address the varied western facing orientation.

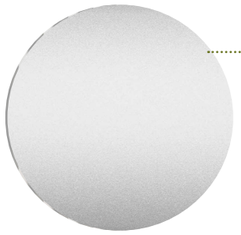
A series of deep vertical aluminium blades in conjunction with areas of angled perforated profiled aluminium sunscreens provide protection from the western sun. These blades also perform the function of accentuating the radial nature of the western facade and directing views towards the ramps.

The adjacent northern vehicle ramp also provides some additional shading to some areas of the western office facade.

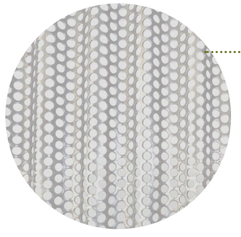
As with the northern and eastern office facades, the reverse angled cornice geometry continues around this edge with the upper section solid to conceal the gutter and the lower section perforated to provide views out for the upper level office.

At ground level the glazed lobby facade is protected by both the shadow of the ramp and the overhang of the office floors above.

The corner where the western and northern office facade systems meet is design as an oversized rebate. With this rebate a banded series of external GRC planters are supported off the facade to provide a green outlook from the corner office areas and to create a pollinator ladder for insects to use in accessing the rooftop bush-tucker garden.



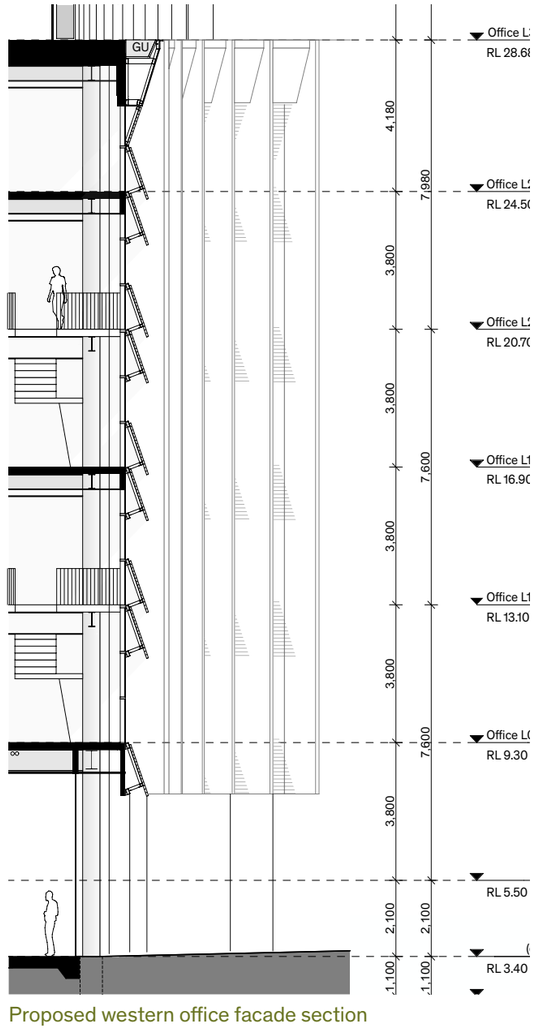
aluminium panel blades



perforated aluminium

performance glazing
behind sunscreens

Proposed western office facade- sunscreening study



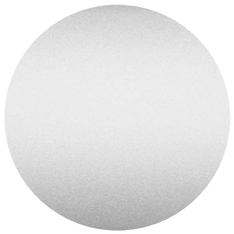
Proposed western office facade section

Breezeway Facade

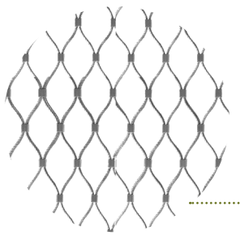
The breezeway facade continues the 20° angled panel geometry of the warehouse, translating this into a double height panel of expanded stainless steel wire mesh tensioned across an angled steel frame. This scaled up geometry reflects the size and arrangement of the concrete base panels.

The open stainless steel mesh allows for maximum airflow to the truck driveway and parking area while allowing for some of the activity and movement of this area to be seen from the street. Behind the mesh at the end of the breezeway is a concrete upturn at the slab edge to provide a suitable crash barrier.

The upper section of the reverse angled cornice-like fascia of flat anodised aluminium panels continues across the breezeway to create continuity across the whole building. At the base a single row of pre-cast concrete panels provide the grounding element.

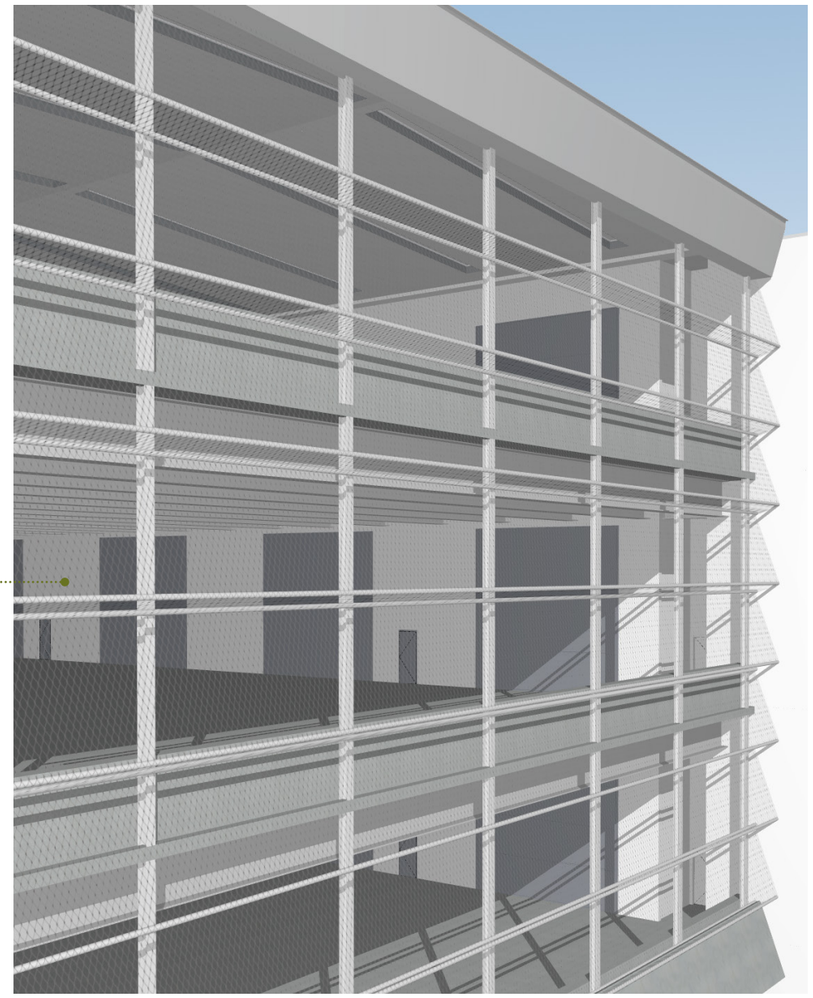


aluminium panel

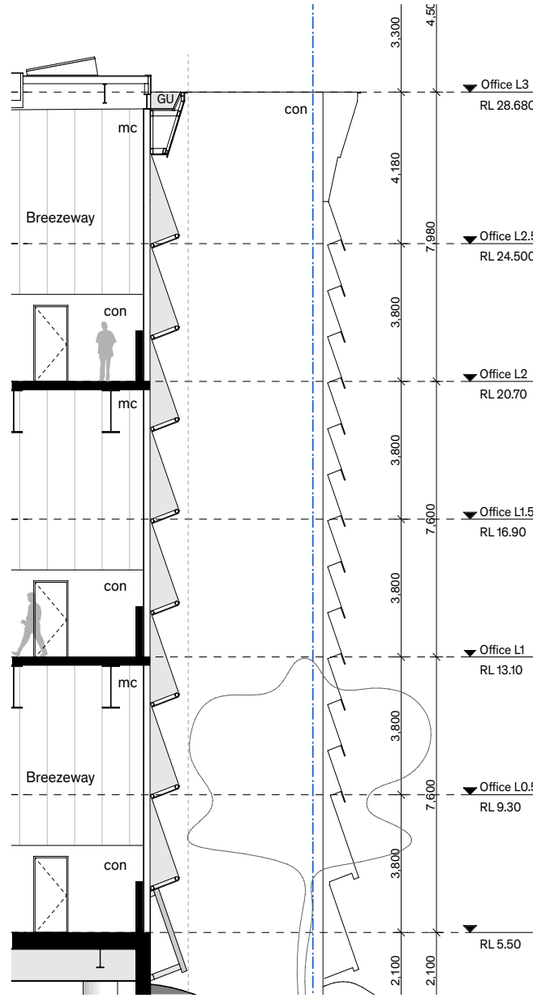


stainless steel mesh

pre-cast concrete



Proposed breezeway facade concept study



Proposed breezeway facade section

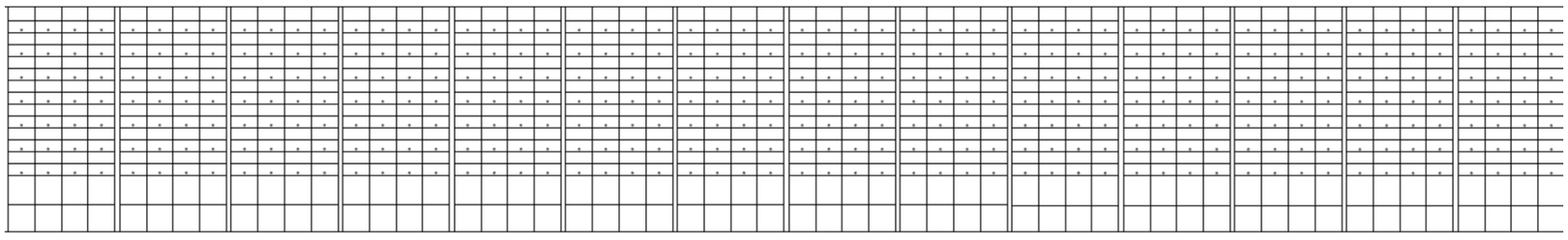
Digital Placemaking + Facade Lighting

The facade lighting art strategy provides many possibilities for digital placemaking. The facade lighting display infrastructure is designed as an LED matrix integrated into the facade along the east and wrapping around sections to the south and north as well as along the motorway facing western facade. Analysis has been undertaken to ensure that intrusive lighting is not an issue for either aircraft or vehicles in the vicinity.

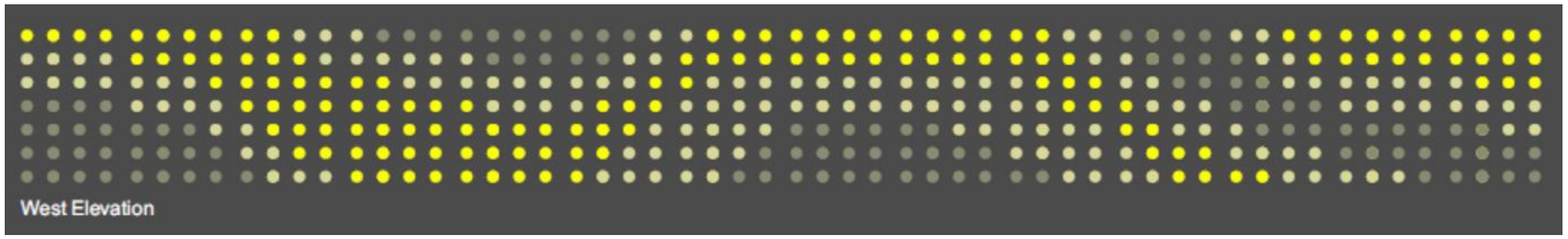
The proposal developed by Lighting Art & Science utilises locally made SpaceCannon luminaires and will provide a programmable colour light matrix to carry the public art strategy that wraps the building.

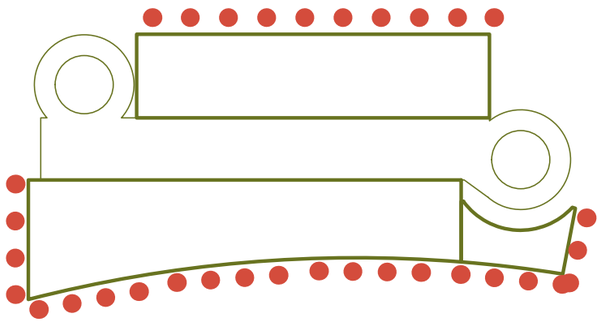
The matrix grid is designed to integrate with the arrangement of facade panels, with 2.7m horizontal spacing and 2.4m vertical spacing. Lights are positioned to create both a pinpoint of visible light as well as a reflective glow on the surface of the facade,

The intended lighting system can provide either static or moving lightscapes that can be changed both in and out as part of the building's public art programme. Cultural Capital have been engaged to provide a public art strategy with a strong focus on cultural engagement utilising Designing for Country principles developed with Yerrabingin.

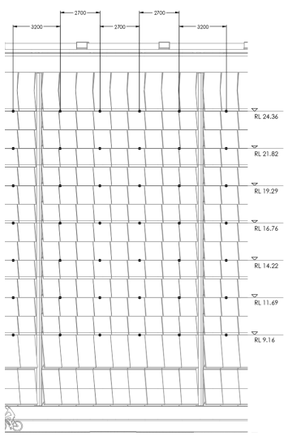


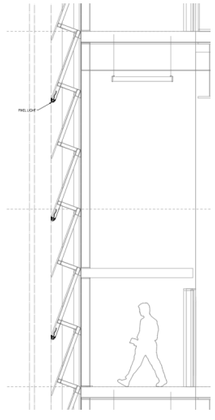
West Elevation **Distance between light fittings 2.7 m**

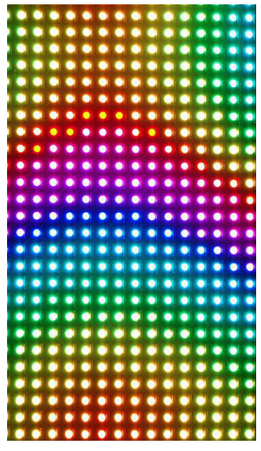


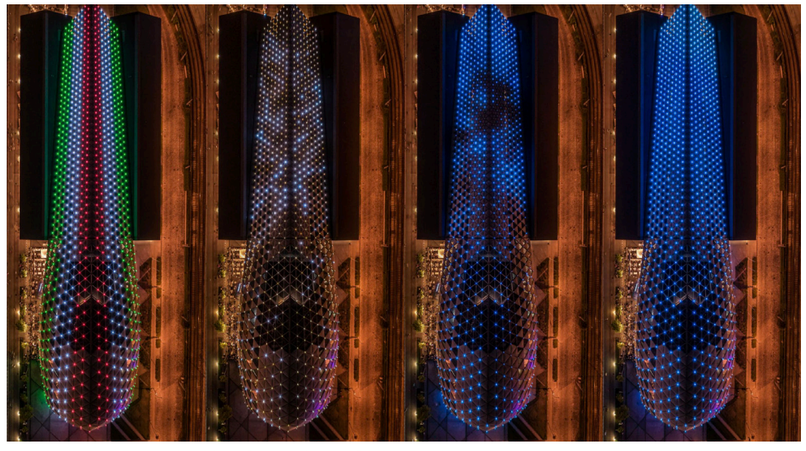


Extent of facade art lighting









Precedent - Balna by Kas Oosterhuis (ONL), Budapest

Part 4.3

Project Proposal

Wayfinding + Signage

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

Wayfinding + Signage

Wayfinding around the proposed development has been considered as an integrated design response. The sweeping building form with a raised, lighter and yet connected office facade at the northern end, which will assist in signifying the main entry location. The visibility of the ramp when approaching from the north will also provide subtle wayfinding clues for truck drivers.

Within the building a layered colour strategy that evolved through interactions with first nations community will assist in orientation on the warehouse floor levels.

Augmenting this is a signage strategy that provides building identification and wayfinding signage at key entry points to the building. This includes:

- an illuminated Site Identification plinth sign adjacent to the main building and vehicle entry point on Burrows Road (see image);
- two illuminated Building Identification signage panels positioned below the building cornice - one located on Burrows Road near the Canal Road corner (see image next page), and one located on the south facade of the western warehouse block facing Canal Road.
- a Gate Identification plinth sign located at the carpark entry on Burrows Road.

Refer to plan drawing SSDA-110 and elevation drawings SSDA-300 and 301 for signage locations.

Signage is designed to comply with SLEP 2012 Cl 6.57(3), specifically the signage is located fronting to Burrows and Canal Roads only, the signs are not visible from the St Peters Interchange, and the signage does not negatively impact the visual amenity.

Proposed pedestrian and main vehicular entry with Site Identification signage

Wayfinding + Signage

A series of signs both on and adjacent to the building will provide clear identification and direction signage to facilitate wayfinding. These consist of:

- Two building identification signage logo panels located at high level on the east and south facing facades. The location of these signs has been selected to provide clear visibility without dominating any particular viewpoint.
- A freestanding illuminated plinth sign proving site identification adjacent to the main entry facing Burrows Road.
- A secondary access point freestanding plinth sign at the carpark entry on Burrows Road.
- Wayfinding signage will continue within the building to provide clear direction for pedestrian and vehicles to individual tenancies.

Building identification signage with logo panel - corner of Burrows and Canal Roads

Part 4.4

Project Proposal

Services Integration

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

Services Integration

Services have been careful considered at early design stages to ensure that any complexities of multi-level warehousing can be addressed in an integrated manner with the overall building design.

Key provisions and strategies include:

Electrical

- Two substation chambers (one for future provision) have been located adjacent to the western perimeter access road and undercroft carpark. A hardstand area for standby power generation has also been located adjacent to this area.
- The layout of the warehouse roof is optimised to accommodate a 2 megawatt solar photovoltaic array angled to face north at an optimum 10° to provide power, sufficient to generate electricity for use in the development with excess fed into the grid. Inverters and a future battery storage room are located adjacent to the undercroft carpark and substation.
- Separate main switch rooms for the eastern and western zones of the building are located off the undercroft carpark area. Power reticulation will run vertically from these areas and distribute across each floor.

Communications + Security:

- Comms rooms and mobile phone coverage equipment are located adjacent to the office entry to provide best possible coverage.

Mechanical:

- Natural ventilation requirements for the warehouse have been integrated into the facade design, with weather protected ventilation grilles incorporated into the overlap area between cladding panels. This ventilation also acts to provide make-up air for smoke exhaust.
- Smoke exhaust to the warehouse area is extracted through plenums located adjacent to the dockface, drawing make-up air from the opposite facade.
- Fresh air to the Breezeway is supplied through the large open areas at each end. Vertical exhaust risers along the dockface extract air from the breezeway on the lower levels and roof mounted fans extract air directly from the breezeway upper level.
- Carpark exhaust is extracted through plenums running along the north and south faces of the undercroft area.
- Office air conditioning plant is located in both enclosed and screened areas on the office and warehouse roof. Within the office fresh air supply is drawn through louvred facade panels on the western elevation through heat exchange units housed on alternate floors. Reticulation of ductwork has been designed to be able to run through primary structural elements where required.
- No air conditioning is proposed to be supplied to the warehouse spaces.

Hydraulic:

- Water meter assemblies and cold water pump rooms are accommodated at the undercroft level.
- Hot water plant areas are accommodated at the undercroft level for the EOT facilities and in the screened warehouse plant area.

Stormwater + WSUD:

- Rainwater captured from the roof is filtered and stored at undercroft level for irrigation purposes and flushing of amenities.
- Bioswales are incorporated in the landscape setback and in the centre of the ramps to provide filtrations before water enters the stormwater system. Additional filtration system locations have been identified under the lower levels of the vehicle ramps for use if required.

Fire Services:

- 2 sprinkler storage tanks of approximately 330 kl each are located in the northwest corner of the building to meet the requirements of a building with an effective height greater than 25m.
- Hydrant pump room and tank are located at the undercroft level in the northwest corner immediately adjacent to the Fire Utility hardstand.
- A 6m wide access road for fire utility vehicles runs around the west and northern site boundaries, integrated with the egress road for trucks. Fire utility vehicles can enter directly off Canal Road in the south west corner of the site.

Part 4.5

Key Planning Controls

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

Sydney LEP 2012

A Planning Proposal approved for the site at 1-3 Burrows Road amended the Sydney Local Environment Plan 2012 (SLEP 2012) to increase the maximum height of the site to 30m. It also introduced a set of site-specific provisions for the site into both the SLEP 2012 and the Sydney Development Control Plan 2012 (SDCP 2012). They include:

- Clause 6.57 of SLEP 2012; and
- Section 6.3.19 of SDCP 2012.

Both the SLEP 2012 and SDCP 2012 outline key built form and design controls, as well as sustainability provisions for the site. A summary table of the design response to the control applicable to the site is provided and further detail on the key controls of Building Height, GFA and Landscape areas are detailed below.

Clause	Control / Objective	Design Response
2.1 Land Use Zoning	IN1 General Industrial Industrial uses such as 'warehouse or distribution centres' are permitted with consent in the IN1 zone.	Warehouse and industrial use support zone objectives. Office spaces are ancillary to support the warehouse distribution use and designed to provide 1 office unit for each warehouse space.
4.3 Height of Buildings	The maximum building height control is 30 metres.	The proposal seeks to utilise the Design Excellence bonus which permits additional height up to 33m (i.e. up to 10%). The proposed building design is predominantly within the 30m building height control, however small section (16 sqm) of the eastern lift overrun exceeds the 30m building height by a maximum of 140mm. Refer to detail analysis below.
4.4 Floor Space Ratio / Max. GFA	The floor space ratio (FSR) for the site is 1.5:1. The total site area is 34,614 sqm. The maximum allowable GFA is 51,921 sqm.	The proposed design has a GFA of 52,150 sqm, being 229 sqm above the allowable FSR. This includes the 31 sqm general waste storage area located on the lowest warehouse level - note that this area would be excluded from the GFA if located in a basement; and 198 sqm of End-of-Trip facilities and gym located in the undercroft carparking level where they do not impact on the bulk or scale of the development. This represents a deviation of 0.44% of the allowable GFA.
6.21 Design Excellence	The project to demonstrate a response to the following objectives: (a) whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved, (b) whether the form and external appearance of the proposed development will improve the quality and amenity of the public domain, (c) whether the proposed development detrimentally impacts on view corridors, (d) how the proposed development addresses the following matters - (i) the suitability of the land for development, (ii) the existing and proposed uses and use mix, (iii) any heritage issues and streetscape constraints, (iv) the location of any tower proposed, having regard to the need to achieve an acceptable relationship with other towers (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form, (v) the bulk, massing and modulation of buildings,	(a) The proposed design is designed to a high standard to provide an appropriate response to its physical, social and environmental context and use. It incorporates and Designing with Country framework and proposes a development of a suitable scale, massing, urban design response, materiality and detailing. (b) The sweeping curve of the Burrows Road elevation, the articulation of the facade and the public art lighting strategy, together with the high quality landscaping in the 6m setback zone along Burrows and Canal Road will significantly improve the quality and amenity of the public domain. (c) No existing important view corridors are impacted. (d)(i) Located in an industrial area and in close proximity to the St Peters Interchange intersection the land is considered highly suitable for the proposed development. (d)(ii) The existing uses on the site are warehouse and industrial. The design is for a development that proposes warehouse distribution uses with ancillary offices. The mix of warehouse with associated office spaces provides an improved workplace environment for administrative activities associated with the industrial use. (d)(iii) There are no heritage items on the site or on immediately adjacent land. A row of mature existing trees exists along Burrows and Canal Roads, a small number of which will be removed to achieve access and required sight-lines from new driveways, leaving the majority of the existing tree line intact. The remaining trees will be supplemented with additional planting. (d)(iv) No towers are proposed. (d)(v) The design proposal utilises the scale of the building to create a dynamic building form that utilises landscape and building articulation to its full potential. The massing of the proposal is articulated to emphasis the scale of the building while breaking the form into legible components. There are three main masses: two 3-level warehouse blocks with an office building attached to the eastern block along Burrows Road; a central breezeway spine between the east and west warehouse blocks; and two spiral truck ramps at either end of the breezeway act as counterpoints to the main form of the building and elements expressive of the movement inherent in the buildings function.

Sydney LEP 2012

Clause	Control / Objective	Design Response
6.21 Design Excellence (cont)	(d) (vi) street frontage heights, (vii) environmental impacts, such as sustainable design, overshadowing and solar access, visual and acoustic privacy, noise, wind and reflectivity, (viii) the achievement of the principles of ecologically sustainable development, (ix) pedestrian, cycle, vehicular and service access and circulation requirements, including the permeability of any pedestrian network, (x) the impact on, and any proposed improvements to, the public domain, (xi) the impact on any special character area, (xii) achieving appropriate interfaces at ground level between the building and the public domain, (xiii) excellence and integration of landscape design.	d)(vi) the proposed building street frontage height is below the allowable 30m height limit. A strong cornice-like fascia is a key part of the design response to create a sharp consistent building line against the sky. (d)(vii) Environmental impacts are minimised or mitigated through the design proposal including: sustainable design initiative; design to 5-star Green Star rating; design of offices to 5.5 star NABERs certification; no adverse overshadowing impact; office spaces and rooftop terraces receive controlled solar access; the office facade provide acoustic separation from noise sources while maintaining visual links; the majority of glazing is screened for both sun control and to minimise reflectivity. (d)(viii) The proposal incorporates a number of sustainability initiatives including 2 megawatts of solar power generation, passive facade design, electrical vehicle car parking/charging points, low energy LED/timed lighting, as well as the consideration of the material usage and embodied energy. (d)(ix) The building use requires an integrated approach to circulation design and management. Heavy vehicle circulation is designed to loop through the site with a consolidated access point at the north of the site adjacent to the main building entry. Car, motorbike and bicycle access and parking is consolidated in an undercroft carpark level. The existing pedestrian footpaths along Burrows and Canal Roads will be maintained and improved by the proposed 6m landscape setback. Footpath crossovers are minimised and consolidated and pedestrian refuge islands provided where possible. Cycle, vehicular and service access and circulation requirements have been addressed. (d)(x) The existing public domain around the site consists of a narrow strip of footpath and street tree planting. This creates a poor pedestrian environment due to the narrow space between building and road in combination with high traffic area on Canal Road. The proposal will generate its own population and an expected increase in pedestrian activity. The proposed 6m landscape setback along Burrows and Canal Rd edges including seating area and water swales will significantly improve the public domain experience for pedestrians and for passing vehicles (d)(xi) There are no special character areas in this location. (d)(xii) The 6m landscape edge between site boundary and the proposed building incorporates ground modulations, water swales, some seating areas and extensive endemic planting. This green edge increases the perceived size and quality of the public domain, softening the façade base and creates an interface between the large scale building and the public domain at ground floor level. (d)(xiii) The high quality landscaping is an integral part of the design proposal adding a human scale to the large scale of the building and providing integrated outdoor areas for the office at the ground floor entry roof level.

Sydney LEP 2012

Clause	Control / Objective	Design Response
6.57 1-3 Burrows Road, St Peters Site	(2) Development consent must not be granted to development involving the erection of a building on land to which this clause applies unless the consent authority is satisfied that— (a) the development will provide for setbacks of at least 6 metres from Burrows Road and Canal Road that are landscaped and not built on, and (b) the development will incorporate the principles of ecologically sustainable development, including measures— (i) to minimise the consumption of energy and water, and (ii) to capture energy and water on site, and (c) the development will incorporate measures to minimise the adverse impact of emissions from the road tunnel ventilation facility at Canal Road. (3) Development consent must not be granted to development for the purposes of business identification signs and building identification signs on land to which this clause applies unless the consent authority is satisfied that the signage— (a) will be limited to those parts of the development fronting Burrows Road and Canal Road, and (b) will not be visible from the St Peters Interchange, and (c) will not adversely affect the visual amenity of the land.	(2)(a) A minimum 6m landscaped setback is provided on both the Burrows Road and canal Road frontages. (b) The development incorporates ecologically sustainable design principles including: (i) Low energy and water use fixtures will be used throughout the development; passive solar design, natural ventilation and light are utilised to minimise energy consumption; endemic planting species minimise irrigation requirements.; low and no emission travel to work is encouraged by the provision of EV charging, bicycle storage and EOT facilities. (ii) PV panel as are designed on the roof to generate 2 megawatts of solar power; the building incorporates provision for future battery storage; captured stormwater is used for irrigation. (c) The Canal Road ventilation facility is approximately 300m away from the south west of the site. The main pedestrian entry and office component of the proposed building is located at the northeast corner at the furthest point for the ventilation stack. (d) Business identification signage is located facing towards Burrows Road to the east and Canal Road to the south. Signage is not visible from the St Peters Interchange and will not adversely impact the visual amenity of the land.
7.6 - 7.8 Maximum Car Parking Provisions	7.6 (c) Office premises and business premises (Category F): - 1 space for each 75 square metres of GFA of the building. 7.7 (b) Retail premises (Category F): - 1 space for each 50 square metres of GFA of the building. 7.8(2) (c) Industry and warehouse or distribution centres: - 1 space for each 300 square metres of GFA of the building	Allowable carparking spaces (224 spaces): - Office 5,014 GFA (5,074 less 60 sqm) = 66.85 carpark spaces - Retail (cafe) 60 sqm GFA = 1.2 carpark spaces - Warehouse 46,878 sqm GFA = 156.26 carpark spaces Total carparking provision: - 224 general carparking spaces
7.25 Sustainable transport on southern employment land	(2) Development consent must not be granted to development to which this clause applies unless the consent authority is satisfied that the development will promote sustainable transport modes and minimise traffic congestion. (3) In considering whether development promotes sustainable transport modes and minimises traffic congestion, the consent authority must have regard to the following matters— (a) the extent to which the land on which the development is proposed to be carried out is currently accessible by sustainable transport modes, (b) the capacity of the transport network to accommodate the development, (c) the extent to which the development will contribute to achieving any mode share targets identified in a development control plan made by the Council in respect of the land,	The proposal encourages active and sustainable transport through the provision of electric vehicle charging stations, bicycle parking and end of trip facilities. The total number of provided car parking spaces is the maximum allowable car parking spaces for the proposal.

Sydney DCP 2012 incl. Section 6 Specific Sites

SDCP 2012 includes general provisions applicable to the site as well as controls under Section 6.3.19.

Clause	Control / Objective	Compliance
Section 3.5 Urban Ecology		
2. Urban Vegetation	(2) Provide at least 15% canopy coverage of a site within 10 years from the completion of development.	The proposal creates canopy coverage of 5,074.82 sqm of 14.7% of the site area .
Section 3.11 - Transport + Parking		
Bicycle Parking	Office or business premises: - Employees – 1 space per 150sqm GFA - Customers / visitors – 1 space per 400sqm GFA Industry, warehouse or distribution centre - Employees – 1 per 10 staff - Customer / visitors – n/a	A total of 73 bicycle spaces have been provided as follows: - 34 bicycle spaces have been included in the carpark for office employees; - 13 bicycle spaces for office visitors; - 1 bicycle space has been included in the carpark for cafe employees; - 2 bicycle spaces for cafe visitors; - 23 bicycle spaces have been included in the carpark for warehouse employees
End of Trip Facilities	- 1 personal locker for each bike parking space; - 1 shower and change cubicle for up to 10 bike parking spaces; - 2 shower and change cubicles for 11 to 20 or more bike parking spaces are provided; - 2 additional showers and cubicles for each additional 20 bike parking spaces or part thereof; - showers and change facilities may be provided in the form of shower and change cubicles in a unisex area in both female and male change rooms; and - locker, change room and shower facilities are to be located close to the bike parking area, entry and exit points and within an area of security camera surveillance where there are such building security systems.	The following end of trip facilities have been allowed to service bicycle riders and users of the gymnasium (design occupancy 58 bike riders and 27 gymnasium = 85 users): - 58 lockers for bike riders - Male EOT facilities (design occupancy 43) - 1 accessible WC+Shower cubicle / 3 WCs / 3 basins / 4 shower+change cubicles - Female EOT facilities (design occupancy 43)- 1 accessible WC+Shower cubicle / 3 WCs / 3 basins / 4 shower+change cubicles
Service Vehicles	Commercial premises: - 1 space per 3,300sqm GFA, or part thereof, for the first 50,000sqm; plus. - 1 space per 6,600sqm, or part thereof, for additional floor area over 50,000sqm and under 100,000sqm; plus - 1 space per 13,200sqm, or part thereof, for additional floor area over 100,000sqm. Industry, warehouse, distribution centre: - 1 space per 700sqm GFA, or part thereof. The total requirement identified above may be reduced for developments with GFAs in excess of 50,000sqm where it can be demonstrated to the satisfaction of the consent authority that: (a) the proposed uses are complementary in terms of servicing demand; and (b) at least one space per tenancy for business owners is provided.	17 service vehicle parking spaces provided in the undercroft carpark - including 2 spaces for office servicing and 15 spaces for warehouse servicing. The remaining 52 services spaces required for warehouse service vehicle parking will be managed by direct servicing to the front of the warehouse tenancies utilising the breezeway parking areas on each warehouse level.

Sydney DCP 2012 incl. Section 6 Specific Sites

Clause	Control / Objective	Design response
Section 5.8.2.5.1 Landscaping		
(1) Deep soil	Deep soil planting is to be provided for a: (a) minimum of 15% of a site where it is located in the B6 Enterprise Corridor or the IN1 General Industrial zones;	Deep soil area of 5,293 sqm is provided across various areas of the site including 666 sqm of permeable paving areas. This is 15.3% of the site area, compliant with the DCP control. In addition there is an additional 2,169 sqm of soft landscaped area and 1,423 sqm of roof garden landscaping, totalling 7,464 sqm of total landscaping or 21.6% of the site area.
Section 3.11 - Transport + Parking		
Motorcycle	1 motorcycle parking space per 12 car parking spaces	19 motorcycle spaces are provided in the carpark
Accessible parking	1 space per 20 car parking spaces	12 accessible car spaces are provided in the carpark adjacent to the main lobby
Section 6 (Specific Sites): 6.3.19 - 1-3 Burrows Road, St Peters		
Objectives	(a) Ensure development results in high quality design and materiality appropriate to the high visibility of the site from the public domain and the St Peters Interchange. (b) Ensure development provides adequate setbacks to Canal Road and Burrows Road to soften the built form and provide opportunity for deep soil and increased canopy cover. (c) Ensure development results in an active frontage to Burrows Road to activate the street. (d) Ensure development achieves a high standard of sustainability.	(a) the proposed design and materiality of the facades (concrete, fibre cement, metal and glass) responds appropriately to the high visibility of the site to the public domain and the St Peters Interchange; (b) the proposed development incorporates a minimum 6m landscape setback to Burrows Road and Canal Road that softens the built form, provides deep soil landscape and canopy cover. (c) the main entry to the proposed development facing Burrows Road and the northern end creates pedestrian activity and the visibly open lobby and cafe promote activation of the street; (d) the proposal achieves a high standard of sustainability through the numerous initiative outlined above.
6.3.19.1 - Built Form, Landscape Setbacks and Access		
(1)	Development is not to exceed the maximum number of storeys and height in metres shown in Figure 6.177: Height in Storeys and Table 6.4: Height in Storeys and Metres. **Table 6.4**: Height in Storeys and Metres Height in storeys shown in Figure 6.177 / Maximum height in storeys for industrial uses / Maximum height in storeys for ancillary office uses / Maximum height in metres for buildings 0 st / 0 / 0 / 0 3 st / 3 (excluding mezzanines) / 6 / 30 (33 including additional height awarded for design excellence)	The proposed building design complies with the maximum storeys for the warehouse (3) and the ancillary office building component (6). The proposed building design is predominantly within the 30m building height control. A small section (16 sqm) of the eastern lift overrun exceeds the maximum building height by a maximum of 140mm and therefore takes advantage of the additional height allowable under design excellence. Refer to detail analysis below.
(2)	The building is to be entirely within the envelope shown at Figure 6.177: Height in Storeys and Table 6.4: Height in Storeys and Metres.	Refer above for compliance with table 6.4 and detail analysis below.

Sydney DCP 2012 incl. Section 6 Specific Sites

Clause	Control / Objective	Compliance
6.3.19.1 - Built Form, Landscape Setbacks and Access (cont)		
(3)	Development must provide minimum 6m wide landscape setbacks in accordance with Figure 6.178: Landscape Setback. Landscape setbacks are to accommodate substantial planting including densely planted large trees. Landscape setbacks are not to be overhung by building elements or include any above ground services. They may include pedestrian paths and vehicle driveways.	The proposed design complies with the minimum 6m landscape setbacks. The 6m setback is not overhung by any building elements of above ground services.
(4)	Landscape setbacks are not required to be dedicated to Council.	The setback areas are retained as part of the site.
(5) + (6)	Pedestrian access points must be provided that are direct, clear, accessible (step free) and safe (provided with natural surveillance from streets).	The proposed design includes a direct, safe, clearly visible and fully accessible pathway (max. 1:20 gradient) to the office/main pedestrian entry area.
6.3.19.2 - Design and Materiality		
(1)	Development is to be of high aesthetic quality in relation to its materials and architectural composition and details, and is not to show exposed services.	The proposed design is of high aesthetic quality with regards to the chosen materials and architectural composition and detailing, no services are exposed.
(2)	Services, structure, soffits, vehicle circulation, parking, loading areas and the like are not to be visible from outside the site except where they have been purposefully designed as part of a high quality coherent composition.	Only where part of the design composition are services, structure, soffits, vehicle circulation, parking, loading areas and the like a visible from the outside of the building. Areas where these elements are integrated into the design expression of the building are: • the spiral vehicle circulation ramps which are expressed and the north and south of the building to act as counterpoints to the warehouse building massing. • distance views into the vehicle breezeway spine from Canal Road as an expression of building activity and purpose. • downpipes used as part of the facade articulation.
(3)	Vehicle ramps visible from Canal Road or Burrows Road are to include suitable shielding.	The proposed vehicle ramp on Burrows Road and Canal Roads are both expressed in their massing as noted above. The articulation of these ramps includes a 2.4m high spiral crash barrier band that will partially shield vehicles from view. Adjacent to these ramps at either end of the site are large groups of tree planting that will soften and partially shield the ramps from view.
(4)	Development is to have ground floors designed to maximise views from internal office spaces to the street and be visually interesting.	The proposed ground floor lobby design includes landscaped areas to the front and the back of the office to create visually interesting views. The view from the street into and through the main building lobby has many point of interest and activity including the cafe kiosk, lift lobby, meeting areas and views to the vehicle ramps and recreated swamp beyond.
6.3.19.3 - Communal Open Space		
(1)	Any communal open space must be easily accessible to workers and tenants of all parts of the building.	The proposal includes a communal green open space on the roof of the office building which can easily be accessed by all occupants via the lift core. Smaller breakout outdoor seating spaces are provided on Burrows Road near the main building entry.

Sydney DCP 2012 incl. Section 6 Specific Sites

Clause	Control / Objective	Compliance
6.3.19.3 - Communal Open Space		
(2)	Any communal open space must be protected from pollution impacts from St Peters Interchange and internal vehicle ramps.	The proposed communal open space at the roof top of the office level is situated higher than the access ramp and adjacent roads. It is also screen by rooftop tree planting for added protection against pollution. The enclosed area on the rooftop can also be used as conditioned space while providing views to the green spaces beyond. The smaller breakout outdoor seating spaces on Burrows Road are screened from high traffic areas by the building and landscape.
6.3.19.4 - Sustainability		
(1)	Buildings should be designed to meet 5 Star Green Star rating.	The proposed design is designed to meet a 5 Green Star rating.
(2)	Any ancillary office space, provided separately to warehouse, must enter into a 5.5 Star NABERS Energy Commitment Agreement.	The ancillary office component of the building is designed to meeting the requirements of a 5.5 star NABERs Energy Commitment Agreement.
(3)	On-site stormwater detention and treatment are to be delivered in the form of water tanks and water sensitive urban design bioswales at ground level.	Water management and treatments forms a fully integrated part of the landscape design concept. Bioswales to treat on-site stormwater are located along Burrows Road, Canal Road and in the centre of the spiral circulation ramps. Additional locations for water treatment are identified under the ramps and can be utilised if required. Water is also captured on site and used for landscape irrigation.
(4)	A green roof must be provided, as described in Section 9 - Green roofs and walls, to the greatest possible extent of roof coverage.	There a several green roof element in the proposed design: • the office roof includes a raised bushtucker roof garden including a number of medium trees. • each of the circulation ramps includes a “half donut” green roof with cascading planting.
(5)	Green walls, as described in Section 9, are encouraged to be delivered on both the Burrows Road and WestConnex St Peters Interchange frontages.	A vertical pollinator wall is proposed on the north west corner of the office building facing toward the St Peters Interchange. This location provides the best pathway for pollinating insects to gain access to the bush-tucker roof garden.
(6)	A photovoltaic system must be delivered on the roof of the building to achieve a minimum of 2000 kWp.	The roof of the warehouse accommodates a photovoltaic array sized to create 2 kilowatts of solar power.
(7)	Any ancillary office component is to include suitable window shading.	The facade to the office component of the building includes large areas of perforated horizontal sunscreening and vertical sunscreen blades to shade window glazing.
6.3.19.5 - Signage		
(1)	All signage must only be located on the Canal Road and Burrows Road frontages, and not be visible from the St Peters Interchange or Sydney Park.	The proposal includes external signage to Burrows Road and Canal Road. • A freestanding plinth style Site Identification sign is located adjacent to the vehicle and pedestrian entry to the site at the northern end of the Burrow Road frontage. • A smaller freestanding Gate identification sign is located at the carpark entrance on Burrows Road. • Facade mounted illuminated Building Identification signage is located in two positions: on the corner of Canal and Burrows Roads facing to Burrows Road; and on the south-western corner of the warehouse facing towards Canal Road adjacent to the southern vehicle ramp.

GFA + FSR

The allowable FSR for the site is determined by clause 4.4 of the Sydney LEP 2012.

The floor space ratio (FSR) for the site is 1.5:1.

The total site area is 34,614 sqm.

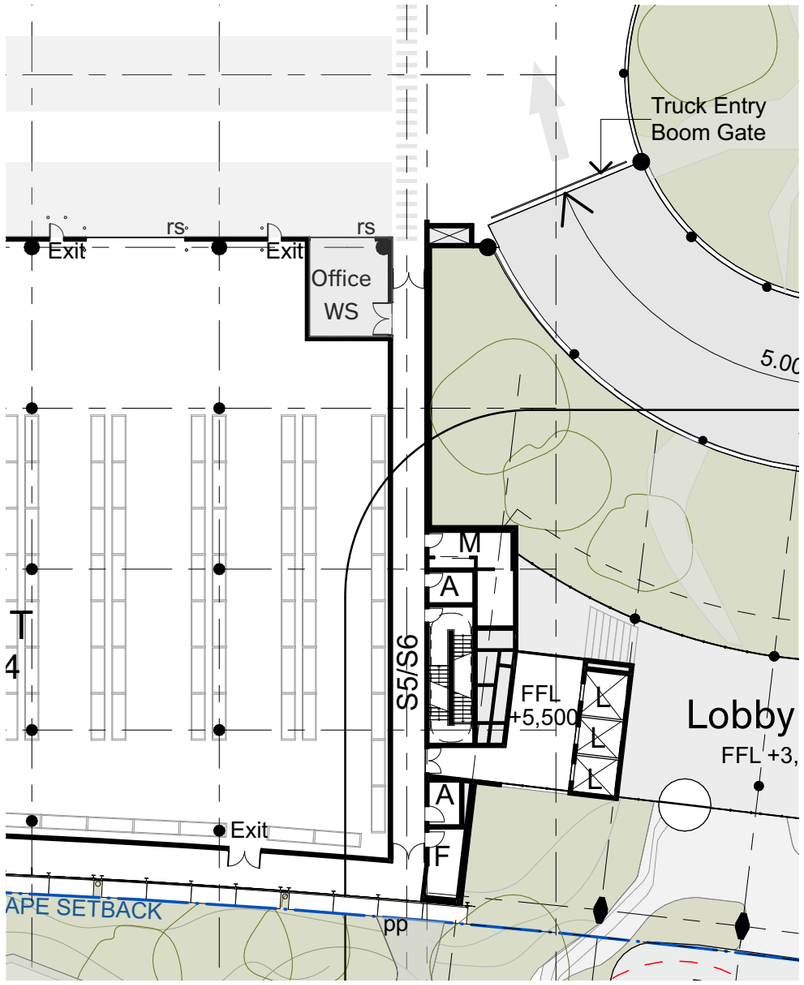
The maximum allowable GFA is 51,921 sqm.

The proposed design has a GFA of 52,150 sqm, being is 229 sqm above the allowable FSR.

The overrun of GFA above the 1.5:1 includes:

- A 31 sqm general waste storage area located on the lowest warehouse level (see adjacent plan excerpt. We note that general building waste storage such as this would in many circumstances be located in a basement, in which case it would not be counted as GFA under the SLEP definition. In this building the waste storage cannot be located in the undercroft level due the height clearance requirements for waste collection vehicles. To avoid raising the level of the undercroft clearance and therefore the height of the building as a whole, the location of waste storage on the lowest warehouse level takes advantage of the ample truck circulation provided for the general warehouse activities. The location on the lower warehouse level is therefore in lieu of a basement storage arrangement.
- 198 sqm of End-of-Trip-Facilities including amenities, shower and change facilities and a gymnasium that provide enhanced amenity for staff. These facilities are located in the undercroft level in what would otherwise be utilised as plant or storage areas and does not contribute to increased bulk or scale of the proposal.

Refer drawings SSDA-500 and SSDA-501 for further details.



Plan of 31 sqm General Office Waste Storage area located adjacent to the hardstand on Warehouse Level 0

Landscape Areas

The proposal includes a total landscape area of 7,464 sqm or 21.6% of the site area. This total includes deep soil compliant areas, permeable paving areas and other landscaped areas that may not comply with the definition of “deep soil” such as the large areas under the raised ramps or areas where a minimum dimension of landscape area is less than 3mx3m.

In addition the proposal incorporates 1,423 sqm of green roof area including ramps roofs and areas on the office rooftop garden.

Sydney DCP 2012 section 5.8.2.5.1 Landscaping control is for the site to achieve 15% deep soil planting or 5,192 sqm. The proposal achieves a total compliant deep soil area of 15.3% or 5,293 sqm.

Refer drawings SSDA-502 and SSDA-503 for further details.

Canopy coverage of 14.7% is achieved within the boundaries of the site including the canopy trees proposed for the office roof garden.

Refer landscape drawing LA212 Tree Canopy Calculations for further details.

Building Height

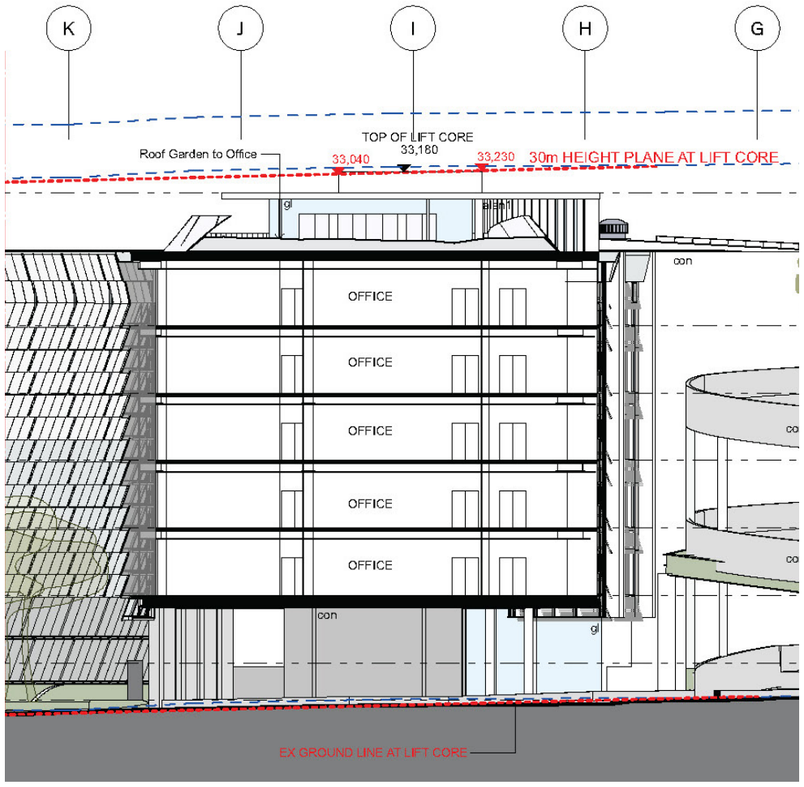
The maximum building height for the site is 30m defined as “the vertical distance from ground level (existing) to the highest point of the building” under the Sydney LEP 2012.

The highest point of the proposed building is RL 33.180 at the lift overrun in the office component of the building in the north-east section of the site. There are existing warehouse buildings currently in this location on the site so an extrapolation approach was used to determine what would constitute existing ground level in this location.

The existing ground levels at either side of the existing warehouse building have been extrapolated as a consistent gradient between the two points. This results in a sloping 30m height plane of between RL 33.040 on the eastern edge of the lift core to RL 33.230 on the western edge of the lift core.

The maximum resulting height of the lift core is 140mm above the height plan on the eastern edge, reducing to 0mm across 16 sqm of lift overrun area.

All other areas of the proposed development are below the 30m height limit.



Section through office building indicating height of lift over run that exceeds 30 m height above existing ground

Roof plan indicating area of lift over run that exceeds 30 m height above existing ground

Appendix A

Connecting with Country

Visual Design Report

29 August 2022

Yerrabingin

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

GOODMAN, 1-3 BURROWS RD

INITIAL IDEAS DRAFT

29 AUGUST 2022

We acknowledge Country, the Cultural Landscape that we are working upon, We acknowledge the custodianship of its people and the privilege and responsibility to Connect with Country.

We acknowledge the Gadigal people and their ongoing connection to culture, lands and waters and their valuable contribution to the community. We recognise and acknowledge the surrounding clans to the North, South, East and West whilst honouring and celebrating their Elders past, present and emerging.

WE ARE YERRABINGIN. WE WALK TOGETHER.

YERRABINGIN

DISCLAIMER

This presentation may contain images and names of deceased people, they may cause sadness or distress to Aboriginal and Torres Strait Islander People

YERRABINGIN

WANGGANI DHAYAR (LISTEN TO COUNTRY)

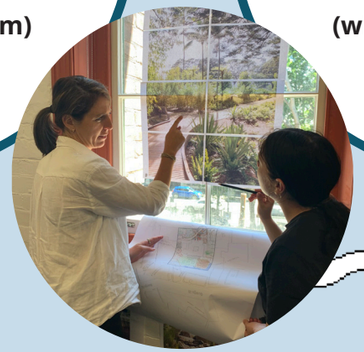
COMMUNITY ENGAGEMENT PROCESS

COLLECTING THE SEED

FRAMING THE DESIGN:

Articulate the problem / opportunity. How Might We? What are the benefits or best outcomes we want this to achieve?

(with the Project team)



HOW MIGHT WE?

Revisit our thoughts / ideas.
Who is our audience / user?
What is their experience?
Redesign our HMW?

(with the Project team)

PLANTING AND NOURISHING THE SEED

DESIGN JAM

Pushing for the widest possible range of ideas.
Divergent styles of thinking
Converging to combine and refine insights.
Rapid prototypes as themes, principles and features of the Indigenous Design Principles.

(with the local Aboriginal community and project team)

LOGIC AND ASSUMPTION TESTING

Closing the feedback loop with internal and External stakeholders.
Cultural logic checking.
Is Country appropriately represented in the design?

(Project team presenting back to Aboriginal community for feedback)

TENDING THE GARDEN

PITCH

From a somewhat chaotic start we now have a feasible, viable and desirable solution to share.

(Project team finalising design with accurate designing with Country principles approved by community)

TRACKING THE PROCESS

DESIGN JAM

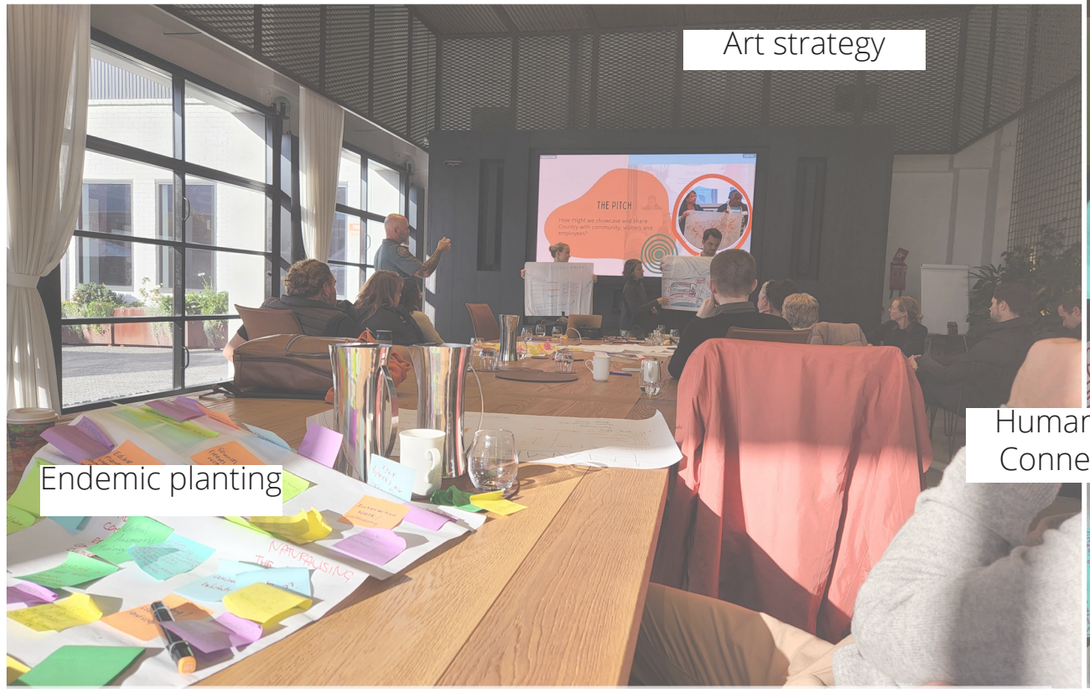
14/07/2022

GOODMAN, 1-3 BURROWS RD

YERRABINGIN

DESIGN JAM OUTCOMES

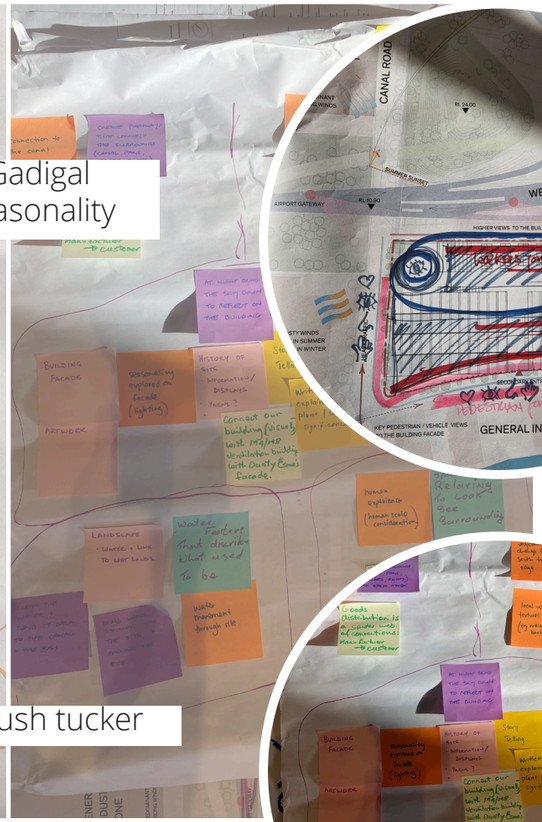
14/07/2022



Art strategy

Endemic planting

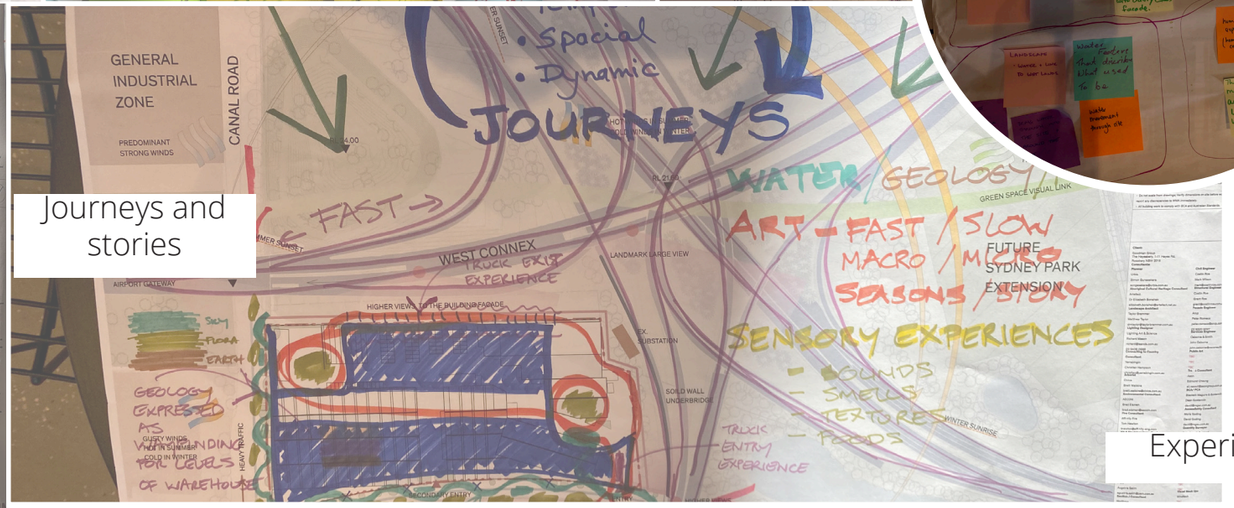
Human Scale Connections



Gadigal seasonality

Bush tucker

Water Country; connection to canal and creek edge



Journeys and stories

Experience

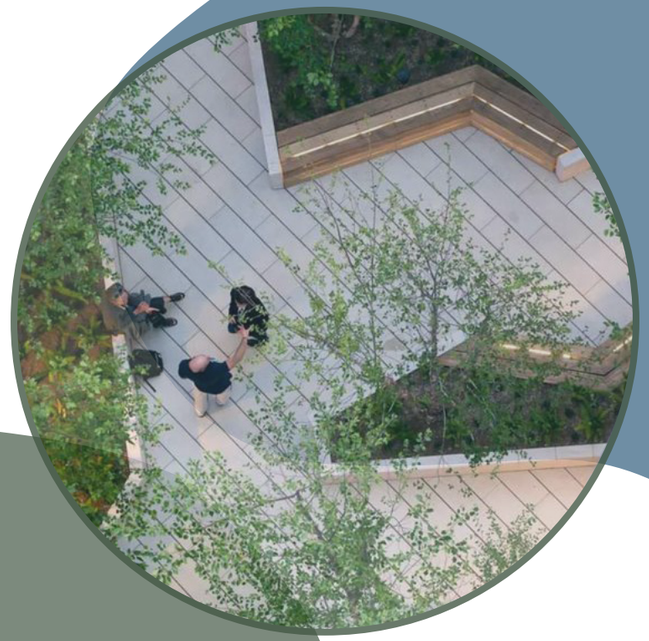
YERRABINGIN

GOODMAN, 1-3 BURROWS RD

KEY PRINCIPLES

PRE-COLONIAL LANDSCAPE

The Gadigal landscape before colonisation was rich in layers of vegetation, beautiful colours of geology, natural flow of water and an abundance of resource uses. The complex habitat was home to many animals and birds whilst also being a place of resources for the Gadigal. These resources were reflective of the local seasons and indicator species would specify when a particular resource was ready to harvest and eat.



THE HUMAN SCALE

This theme moves away from the massive building scale to focus on the more intimate details of the human experience on site. Identifying different users of the space to provide a multi-layered and unique experience of Country for everyone. This is achieved through activating elements of the design through the incorporation of Indigenous narratives and practices that allow people to develop a further appreciation of Indigenous culture on site.

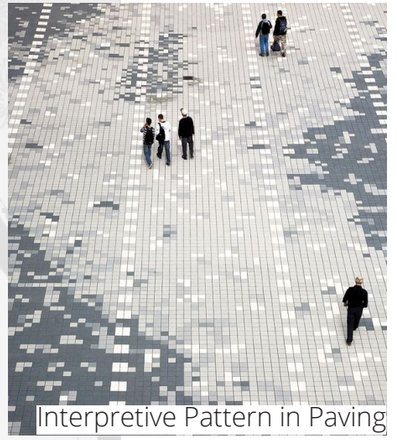
RECIPROCITY WITH COUNTRY

Throughout the process of this site, giving back to Country is crucial in the success of the project. Looking towards a sustainable future and ensuring the correct ongoing care for the site and Country will allow for future opportunities with community. The re-use of water and materials on site, looking towards Aboriginal employment opportunities such as a local run maintenance team to care for the proposed vegetation, ongoing community engagement through events and on site tours.

CONCEPT PLAN

Casuarina Groves

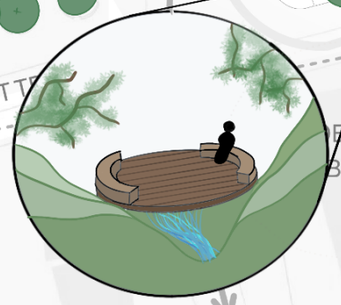
Biofiltration Wetlands within Ramps

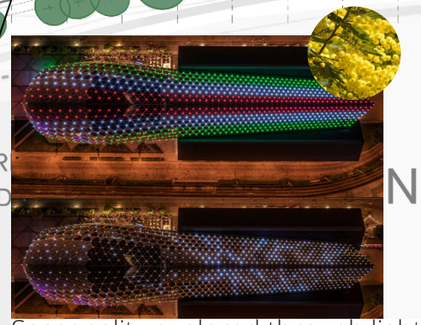


Interpretive Pattern in Paving

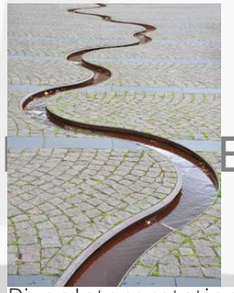
Endemic Planting on Spirals

Communal Native Rooftop Garden

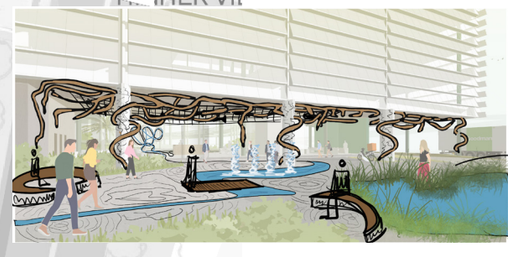




Seasonality explored through light facade



River Interpretation through Dry Creeks and Paving



GREEN S

YERRABINGIN

GOODMAN, 1-3 BURROWS RD

Appendix B

Landscape Design Statement

November 2022

Taylor Brammer Landscape Architecture

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

DESIGN STATEMENT

LANDSCAPE ARCHITECTURAL STRATEGY

The goal of the landscape architectural design is to regenerate the native ecologies of the place within an urban setting. This will create a sustainable and social environment for the users through engagement and comprehension of the surrounding natural and urban context.

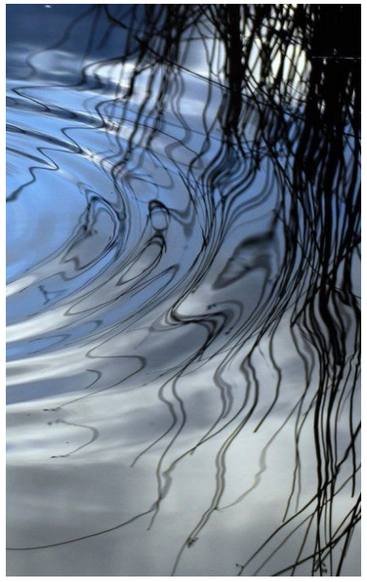
To achieve this goal an understanding of the evolution of the site has been undertaken. A major focus of the place is the substantial and formal characteristic of the Alexandra Canal as it makes its way to Botany Bay. Prior to Colonial times, the canal was characterised by a meandering natural marsh environment that was place of importance to first nations people.

It is understood that the lands were a vital source of food, shelter and was used for moving through the lands by the first nations people of the area, the Gadigal. By a process of in-depth and ongoing consultation with the first nations community facilitated by Yerrabingin, a thorough appreciation has been gained of the significance and Country and place.

The landscape design incorporates these stories and placemaking of the Gadigal through the regeneration of the native ecologies of the place. This is realised in extensive tree, shrub and ground cover plantings to the site and incorporation of sitting and gathering places to appreciate the outcomes of this design approach.

Extensive tree and shrub plantings are located in the 6 metre setback to Burrows and Canal Roads. These plantings extend the full length of the site's frontages thus creating a substantial street and site presence. The result is the creation of an urban forest of some 500 metres in length. The majority of the tree species are Paperbarks (Melaleuca quinquenervia) that were characteristic of the place in pre colonial times. These trees are supplemented with native Eucalypts and shrubs

This urban forest is located in deep soil ensuring a sustainable outcome. These areas are complemented by generous lobby areas, a recreated swamp to the centre of the vehicle spirals that feature extensive green roof treatments with green walls and planting to the boundary treatment to the rear of the site. The extensive planting areas utilise locally occurring species and thereby enhance and strengthen the natural identity and qualities of the place.



Fluvial movement and patterns informing design outcomes

Existing and proposed tree character, Melaleuca quinquenervia; Site photo TBLA July 2022

Natural marsh character; Source TBLA July 2022

DESIGN STATEMENT

SITE LANDSCAPE ARCHITECTURAL STRATEGY

Urban Greening
The planting strategy for the proposed development applies extensive greening and urban tree canopy planting across the site. 26 trees are proposed for removal through the proposed works (See Arboricultural Impact Assessment by Civica 14.09.2022).

As recommended in the submitted Arboricultural Impact Assessment by Civica 14.09.2022 offset tree planting is proposed extensively across the site in deep soil locations complementary to the mature size of the proposed trees. This extensive tree planting strategy includes the installation of over 100 trees which have the capacity to establish to over 10m in height at maturity as recommended by Civica

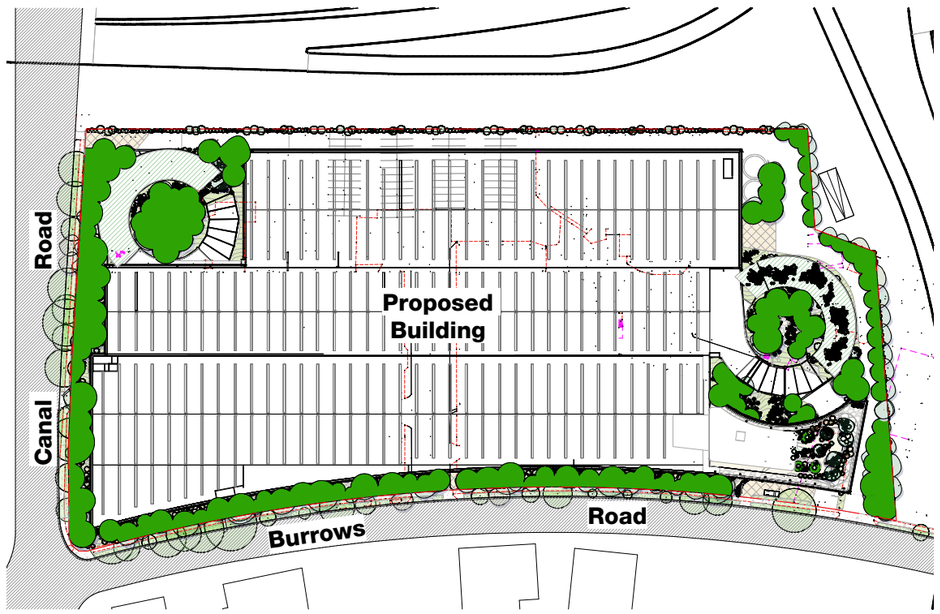
Two existing street trees are proposed to be removed and replaced to accomodate the proposed development. One on Canal and a second on the Burrows Road frontage. As a compensatory measure, two street trees are proposed on Canal Road to provide a continuity of tree canopy amongst existing trees and similarly another two on the Burrows Road frontage. Tree species and installation detail are recommended to follow Councils public domain design guides and technicals manuals.

This extensive urban canopy replenishment proposal will substantially improve the vegetation canopy and amenity across the site and for the area through its implementation and establishment.

Streetscape
An urban forest of more than 6 metres in width is provided to both Burrows and Canal Road landscape zones. The urban forest incorporates the existing street trees and nature strip so that the effective overall width is more than 9 metres. These zones provide an opportunity to supplement and regenerate the native canopy plantings that achieve the 14.7% site coverage for urban tree canopy targets set by the City of Sydney. The realisation of this strategy provides a continuous tree canopy to the street frontages. The enjoyment and use of the urban forest is supplemented with the installation of seating and breakout spaces along the Burrows Road setback. These breakout areas provide opportunities for persons employed on site and the general community to experience these native ecologies in an area that provides a zone of suitable environmental comfort for the use and enjoyment of the place.

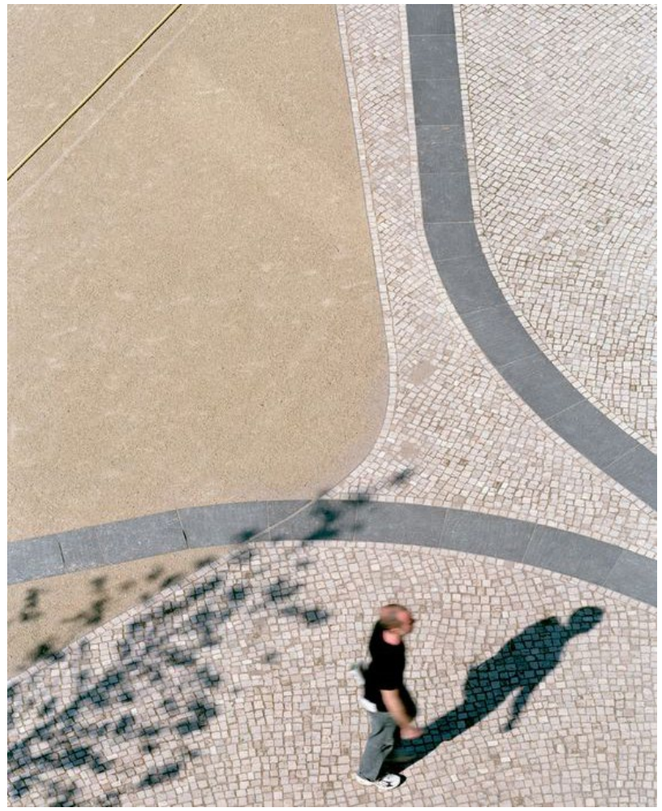
In relation to the integration of overall systems for the site, the ground plane to these areas is modulated to capture and re-integrate rainwater to the natural systems leading to the Alexandra Canal. This is deliberate and integrated design approach with the building's hydraulic strategies.

TaylorBrammer



Exerpt from Proposed Tree Canopy Plan; Refer LA212 for further detail


Selected planting highlighting seasonality and character of Country


Groundplains inspired by natural patterns and colours of the locale

DESIGN STATEMENT

SITE LANDSCAPE ARCHITECTURAL STRATEGY

Lobby
As the main pedestrian entry to the site, the lobby design is focused as a pedestrian friendly space and embraces as part of the overall landscape theme, the natural fluvial and ecological characteristics of the place. This design principle is expressed with fine textured pavements, planting, sculptural seating and selected lighting to create a constructive and welcoming environment. The materiality and layout reflects the natural tones of the area's rich Indigenous history, flora and fluvial patterns. The selected pavement reflects the natural flows of water, whilst assisting in wayfinding through the area linking key moments for pedestrian access and pause points.

Rooftop Gardens
The rooftop garden is designed to create a range of opportunities to engage with nature for all the community. The design provides a graded path network with various opportunities to sit, rest and pick the selected gardens under the shade of native and productive tree canopy. This is achieved through mounded growing medium thereby creating consolidated soil volumes and depths compliant and exceeding Council policies for planting over structures requirements. A bee-highway is incorporated to the side of the roof top gardens to enhance the ecological values of these important spaces.

Recreated swamp
Located to the centre of the vehicular spirals these landscape areas feature Paperbark trees as the key vegetated element. Supplementing these trees are a range of shade tolerant native groundcovers, ferns and grasses that emulate the natural ecologies of place while maintaining clear sight lines through the vehicular spirals. An extensive WSUD raingarden is proposed to the centres of these spirals to support plant growth whilst collecting, storing and returning rainwater to the surrounding natural systems.

Green roof over spirals
Over these vehicular spirals, extensive vegetated green roof environments are proposed to provide visual and ecological amenity to these key architectural features. Planting to these areas will include a diverse mix of low water use native shrubs with native "spill over" planting to the edges of the green roof areas to provide a filtered green curtain of vegetation. The selected planting is focused on providing a hardy and floristically diverse outcome which reflects the natural environment of the area and providing habitat for small fauna.

Creation of people focused environments in vegetated setting

Selected marker planting for visual amenity and cultural use

Native scrambling spill over planting character

Selected planting for visual amenity and cultural uses

TaylorBrammer

Appendix C

Public Art Strategy

September 2022

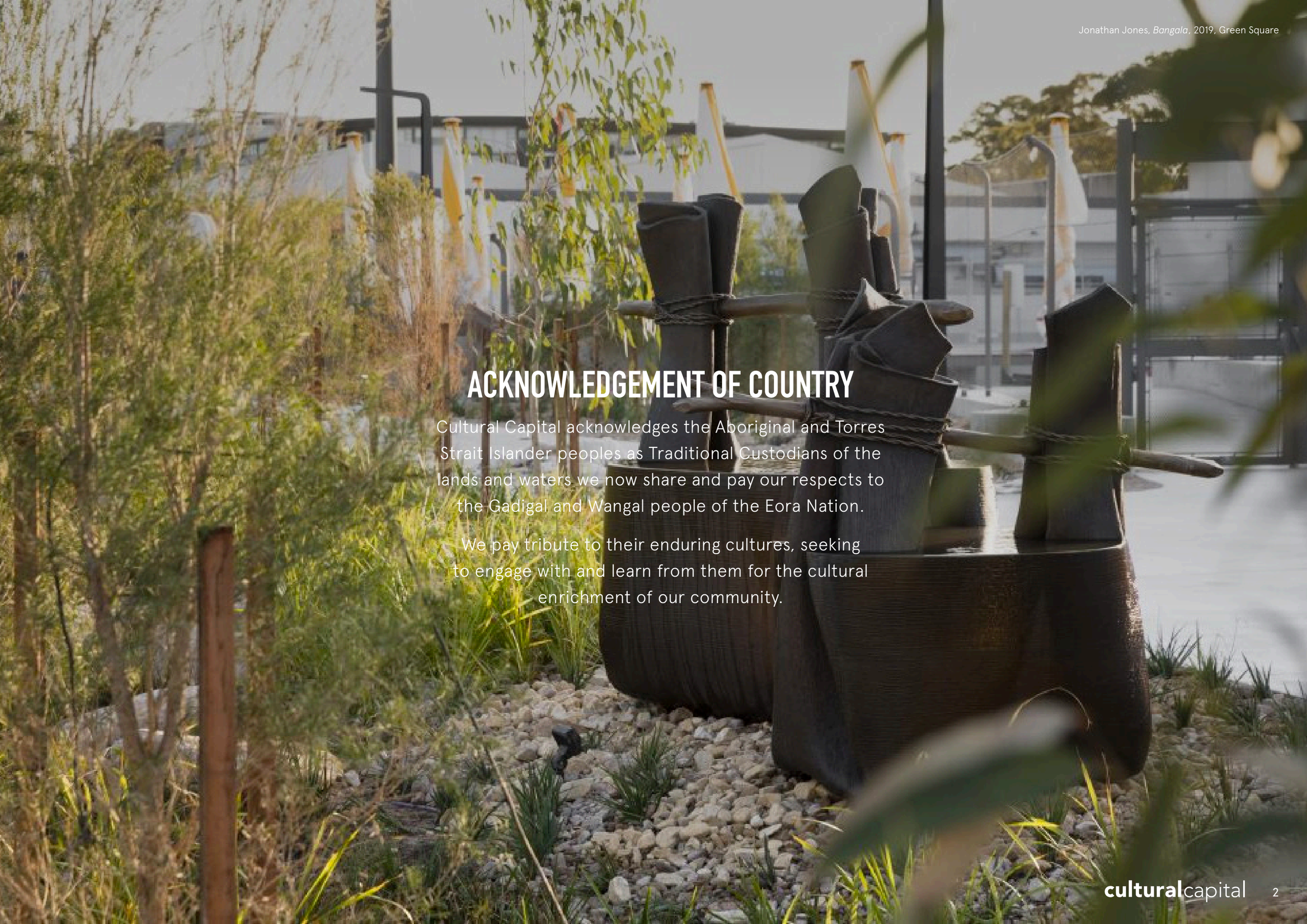
Cultural Capital

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

1–3 BURROWS ROAD

SSDA – PUBLIC ART STRATEGY, SEPTEMBER 2022

culturalcapital



Jonathan Jones, *Bangala*, 2019, Green Square

ACKNOWLEDGEMENT OF COUNTRY

Cultural Capital acknowledges the Aboriginal and Torres Strait Islander peoples as Traditional Custodians of the lands and waters we now share and pay our respects to the Gadigal and Wangal people of the Eora Nation.

We pay tribute to their enduring cultures, seeking to engage with and learn from them for the cultural enrichment of our community.

TABLE OF CONTENTS

This document shows images of artworks of varying scales.
Please note these are not curatorial recommendations, they are reference images only.

Aerial St Peters. Source - Mark Merton Photography

CONTEXT

CHAPTER 01

1.1 THE CLIENT

This preliminary public art strategy, prepared by Cultural Capital, has been undertaken for Goodman Property.

DEFINITIONS
Goodman - Client
Welsh and Major - Architect
Cultural Capital (CC) - Public Art Consultant

1.2 THE SITE

The site is located on the southern boundary of the City of Sydney local government area (LGA), on the corner of Burrows Road and Canal Road at the following address:

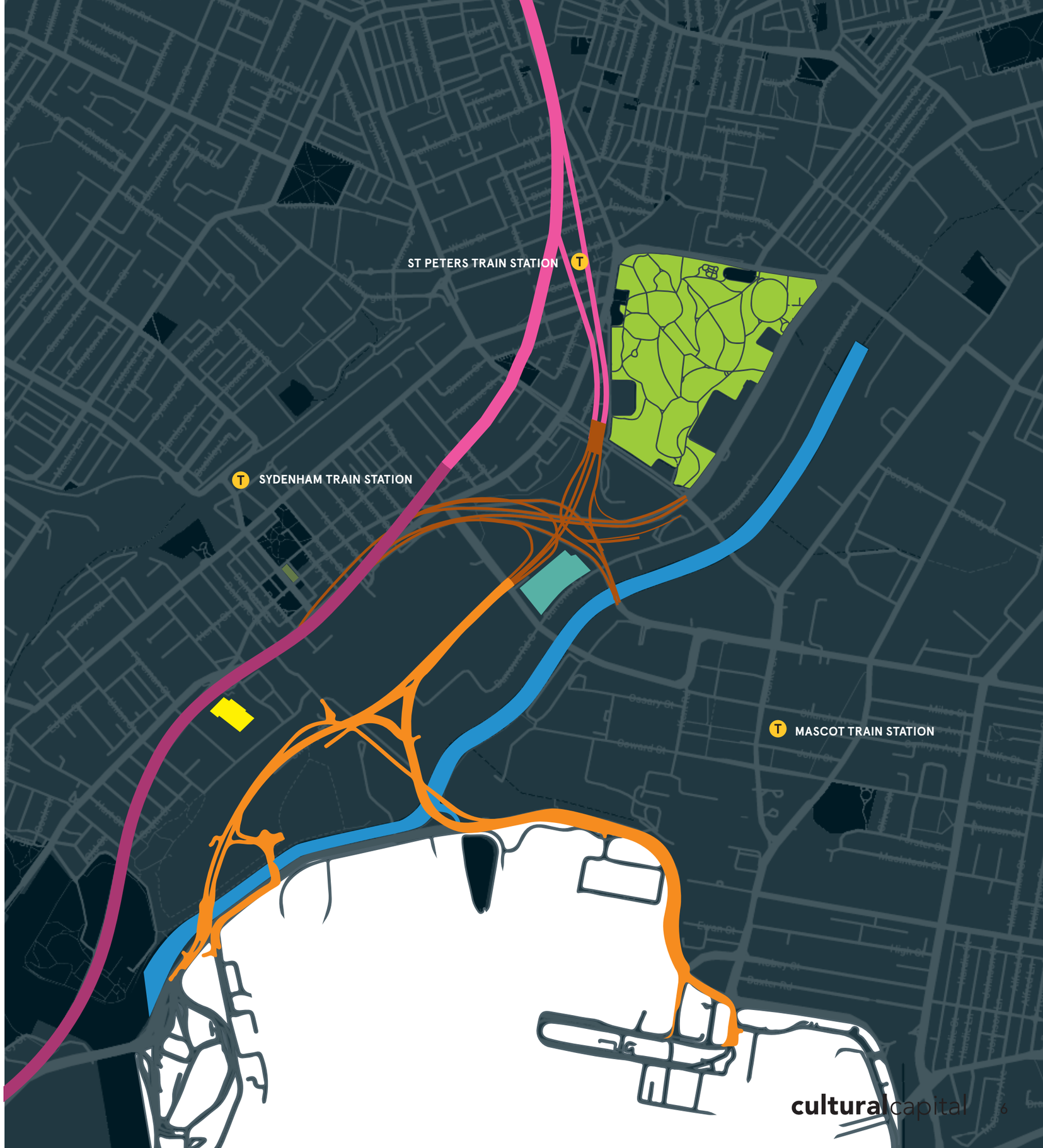
Lot 11, DP 606737 and Lot 1, DP 1227450, 1–3 Burrows Road, St Peters.

The site is owned by Tallina Pty Ltd and is managed by Goodman. It is known as the Burrows Industrial Estate.

The site is roughly rectangular in shape and has a site area of 34,714 square metres.

ST PETERS

- 1-3 1-3 Burrows Road, St Peters
- T Sydenham Train Station
- T St Peters Train Station
- T Mascot Train Station
- Alexandra Canal
- Sydney Park
- WestConnex New M5
- WestConnex M8
- Sydney Airport
- Sydney Gateway (under construction)
- St Peters Interchange
- Sydenham Green Skatepark
- IKEA



1.3 INDIGENOUS CONTEXT

This site sits on the Traditional lands of the Gadigal and Wangal clans of the Eora nation. Before European settlement, the St Peters and Alexandria area was known in local language as 'Kangaroo Ground'. Aboriginal people hunted kangaroo on the grasslands here, and fished and camped at the swamps, creeks and rivers that crisscrossed the area.

Aboriginal hunting kangaroos, 1840s, artist unknown. Source - State Library

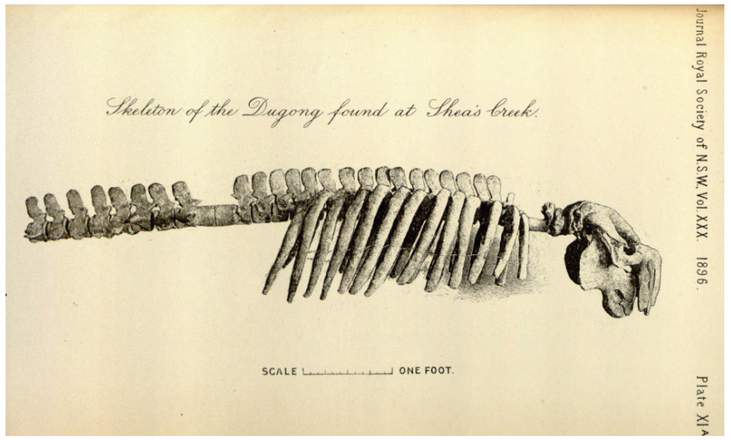
The site is very close to the Alexandra Canal, which was once a natural waterway called Sheas Creek. It was a narrow, winding creek, part tidal, part free-flowing and fed by streams further upstream. Aboriginal people are known to have frequented this stream for food and middens with discarded oyster shells were found in the area by early colonisers.

It is likely that the original road to the Cooks River, running from Chippendale to St Peters, followed an Aboriginal track across the ridgeline through Newtown. Originally known as the Bulanaming Road, it was officially named King Street in 1877.

An example of an Indigenous shell midden, this one is located in Sydney's Cockle Bay. Source - Sydney Barani.

Alexandra Canal was constructed along the general line of Sheas Creek in 1896. Dugong bones, Aboriginal axes, and the remains of an ancient forest were discovered in the estuarine clay below the creek, indicating the long standing occupation of First Nations people on the land. These findings have also been used for scientific research into changing sea levels along the Eastern seaboard.

According to the map opposite, the site on which Burrows Road now stands would have been a swampy, mangrove area. Mangroves have traditionally been used by Indigenous Australians as sources of food and tools. Mangrove timber was used to make paddles and weapons such as spears and boomerangs.



Above: Skeleton of Dugong found at Shea's Creek. Source - Dictionary of Sydney

Opposite: Detail from 'Atlas of the Suburbs of Sydney' North Botany 1888.
Source -Dictionary of Sydney

1.4 HISTORICAL CONTEXT

St Peters has an industrial legacy. It was discovered that the soil was rich in clay alluvium, so it attracted many brick, pottery and tile works. St Peters became the epicentre of brick working in NSW with a large brickworks located at what is now Sydney Park.

The largest brickworks was the Bedford Brick Works established by Josiah Gentle, located at Cooks River Road (present day Princes Highway). Deep clay brick-pits were dug on site to source material, and large kilns were built to fire the works - also on site. Gradually, as Gentle purchased more land, Bedford Brick Works expanded to what is now Sydney Park. In 1936 the Austral Brick Company bought the Bedford Brick Works and operated the company across different sites until 1983.

The original site of the brick works near the Cooks River Road was closed after World War II. The deep clay brick-pits were repurposed into a major rubbish tip. The tip was known by several names including the St Peters tip, Campbell Road Disposal Depot, Alexandria Tip, and the Disposal Depot Alexandria and operated until 1976.

From 1980s, Sydney Park was redeveloped over the existing site transforming the area from wasteland to parkland. Now Sydney Park provides one of the largest greenspaces in the CIty of Sydney.

Sydney Park includes a series of visually prominent hills which provide panoramic views of the city skyline and Sydney Airport. The park is popular for recreational activities such as kite flying, family picnics and walking. Stormwater detention ponds have been transformed into wetland habitat to partly recreate the pre-European environment. At the same time the area's industrial heritage has been preserved with the kilns and brickworks chimneys at the corner of Sydney Park Road and the Princes Highway being restored and made accessible to the public.

Aerial view of site of St Peters brickpits and surrounds 1949. Source - Dictionary of Sydney

St Peters Brickworks, c1984. Source: City of Sydney archives

1.5 URBAN CONTEXT

St Peters is located seven kilometers south of Sydney CBD and neighbours suburbs of Newtown, Marrickville, Alexandria, Mascot and Sydenham.

The area is a mix of suburban homes, industrial facilities and major transport infrastructure projects such as the WestConnex, new M8 and the Sydney Gateway Road Project. It is a dense urban area characterised by terrace housing and light industry.

St Peters is well connected with train, bus and road infrastructure making it a popular inner city suburb in which to live and/or work. The St Peters Interchange, a part of WestConnex M5 project, connects the New M8, the M4 corridor and local surrounding suburbs such as Alexandria and Mascot.

St Peters has many traditional Sydney terrace houses signifying the roots of the brick industry of St Peters past.

St Peters warehouse, couresty of commercialrealestate.com


Present day Sydney Park, City of Sydney Council


St Peters terrace houses, courtesy of BRD Real Estate

1.6 CULTURAL CONTEXT

The site is within City of Sydney and in a desirable inner city area. A majority of its residents consist of students, families and young professionals who commute to the city.

The movement of young residents into previously industrial areas of St Peters has given rise more creative spaces. Artist studios, warehouse-style exhibition spaces, music studios and rehearsal spaces are a common feature of this suburb.

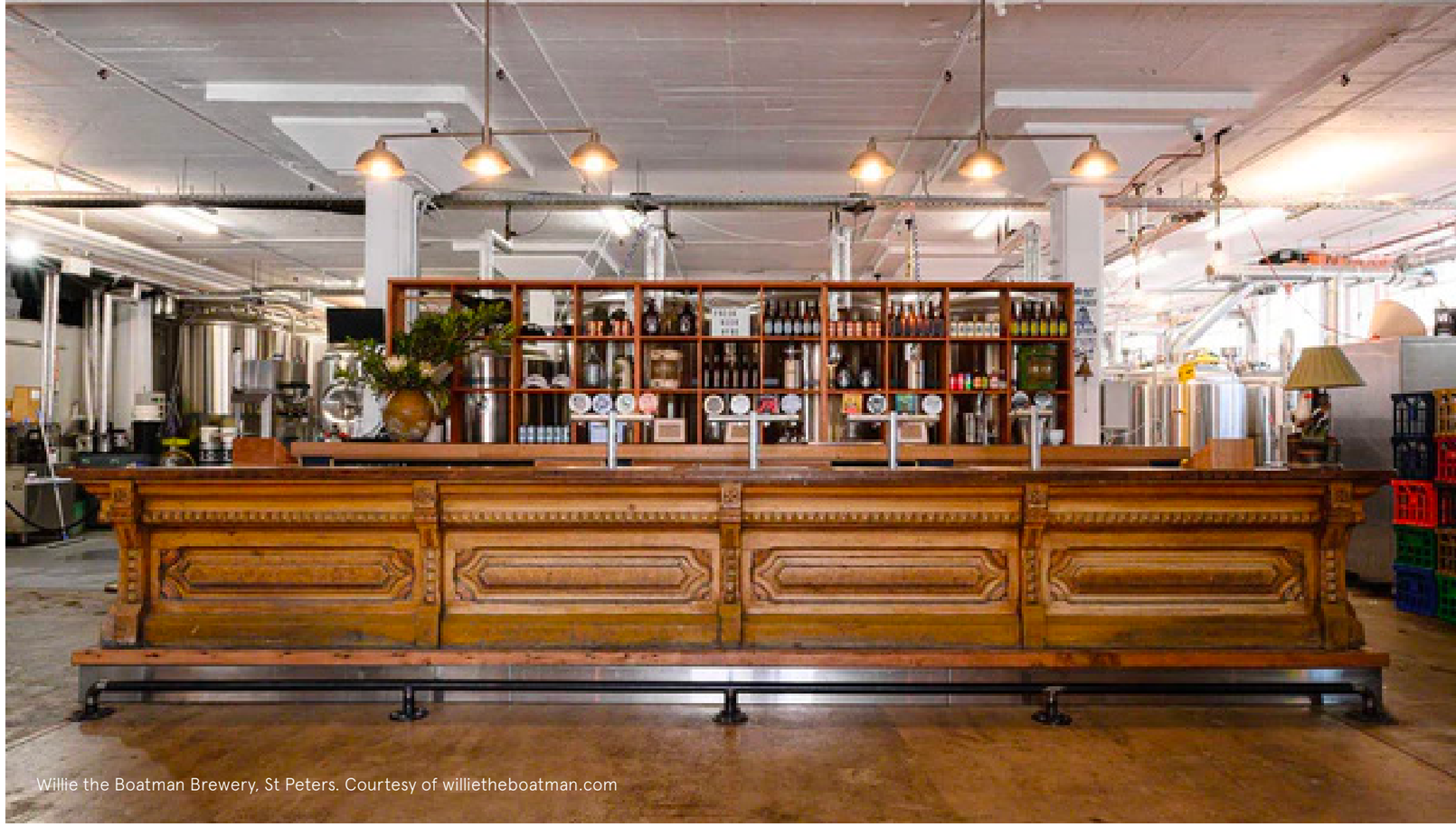
The proximity of St Peters to the ever-expanding city centre, and growing appeal of the area as a creative hub has seen an increasing gentrification of St Peters in the last two decades. Median incomes are nearly double that of the rest of NSW and Australia.

The "St Peters Triangle" has been outlined in the Marrickville Council Masterplan. This historically industrial area will be rezoned for new residential and commercial developments.

Key Demographics:

- Population: 8278
- Most highly represented age bracket: 25-45 years
- 63% born in Australia, and England, New Zealand, Vietnam, Philippines and China
- Languages used at home other than English are Vietnamese, Greek and Cantonese

A number of the warehouses and workshops from St Peters industrial past have been taken over by breweries, creative spaces and local business outlets making it an eclectic neighbourhood increasingly attractive for young professionals.



Willie the Boatman Brewery, St Peters. Courtesy of willietheboatman.com

May Street Studios, St Peters. Courtesy of May Street Studios

1.7 PUBLIC ART CONTEXT

Many of the current public works near the site are focused around major roadways, new developments and pedestrian walking tracks in the area. Many of these works are part of the Westconnex Canal to Creek Public Art Program.

Movement of Shells, Movement of Time
M4-M5 Link Tunnel Facade

Mariyln Russell and Esme Timbery, *Movement of Shells, movement of time*, 2022

Movement of shells, Movement of Time is an integrated facade artwork commissioned by Cultural Capital for the Westconnex M4-M5 Link Tunnels Ventilation Building. The design is made by Indigenous artists Marilyn Russell and her mother Aunty Esme Timbery, Bidjigal women from La Perouse. They wished to share their concept of Connection to Country and of being 'Saltwater People' through this work, which is one of the largest public artworks in Australia.

St Peters Fences Playground
Simpson Park

Mike Hewson, *St Peters Fences Playground,* 2019, Simpson Park, St Peters

St Peters Fences Playground is an assemblage of climbable brick fences and play equipment commissioned for Westconnex by Cultural Capital. Each fence is built brick-for-brick from archive images recreating the front fences of homes in St Peters demolished for infrastructure expansion projects. The playground was co-created with community, including a series of community engagement workshops with St Peters Public School students who contributed ideas that were incorporated into the final design.

St Peters Interchange Sculpture Park

Greg Johns, *Near The Centre (There Is Music)*, 2021

St Peters Interchange houses seven sculpture commissions creating a trail of art through the new parkland area. Commissions were managed by Cultural Capital and include works by Greg Johns, Andrew Rogers, Gill Gatfield and Yioryios Papayioryiou.

1.7 POLICY CONTEXT

Jenny Holzer, National Gallery Berlin, 2001

New artworks will be considered within the context of existing Council strategies and policies which influence this jurisdiction, particularly:

CITY OF SYDNEY, CITY ART: PUBLIC ART STRATEGY, 2014

CITY OF SYDNEY, CITY CENTRE, PUBLIC ART PLAN, 2013

CREATE IN NSW: THE NSW ARTS AND CULTURAL POLICY FRAMEWORK, 2015

CREATIVITY GUIDELINES FOR TRANSPORT SYSTEMS, DECEMBER 2015

BEYOND THE PAVEMENT, RMS

Brook Andrew, Warang, 2012, Museum of Contemporary Art

CURATORIAL FRAMEWORK

CHAPTER 02

2.1 CURATORIAL VISION

The 1-3 Burrows development sits within a constellation of human movement. Situated adjacent to a major freeway and interchange, and in close proximity to the airport, it will be experienced by thousands of people in daily transit.

Its monolithic structure will rise above the industrial skyline, serving as a memorable landmark within a network of flowing activity. The grand scale of the architecture against the dramatic backdrop of the sky provides a canvas for an equally dramatic cultural statement. It will serve as an impressive moment of connection and contemplation for travellers as they move through this busy area.

The concept of 'constant change' forms the curatorial vision for the site. This encompasses both the First Nations experience of seasonality and natural rhythms, as well as the context of the site as a nexus of urban activity.

Artists will be invited to use light and scale to explore the layered cultural histories and contexts at this site.

Ned Kahn, Turbulent Line, 2012, Brisbane Airport

2.2 THEME

“RHYTHMS OF CHANGE”

Constant change is a defining characteristic of this site. Once a passageway for flowing water and now a bustling industrial hub, activity constantly ebbs and flows around the building like a beating heart.

Artists will be invited to consider the sensory experience of change at the site as well as historical, environmental, cultural and emotional patterns of change in this dynamic area.

journeys
day to night
constellations
ebb and flow
movements of people
seasonality
tides
rebirth
movement of stars
afterlife
tributaries of water
walking tracks
regeneration
reinvention
networks
deep time
songlines
cosmic space

Carmen Glynn-Braun, *Everything is Written Twice – Once on the Ground and Once in the Sky*, 2022, Parrtijima Festival of Light

2.3 THE COMMISSION

FACADE LIGHTWORK

The major artwork opportunity that has been identified with the architects and client is a lightwork that wraps around the building, using the 6000 LED lights embedded in the facade design.

The lights can flash, change colour or brightness to create dynamic images or text that will flow across the immense canvas that is around 700m long.

This artwork is an integrated work and the infrastructure will be largely provided by others, with the artist providing the content.

It is recommended a single established artist (or artist team) be engaged to produce this work. The calibre of artist should reflect the scale of this opportunity.

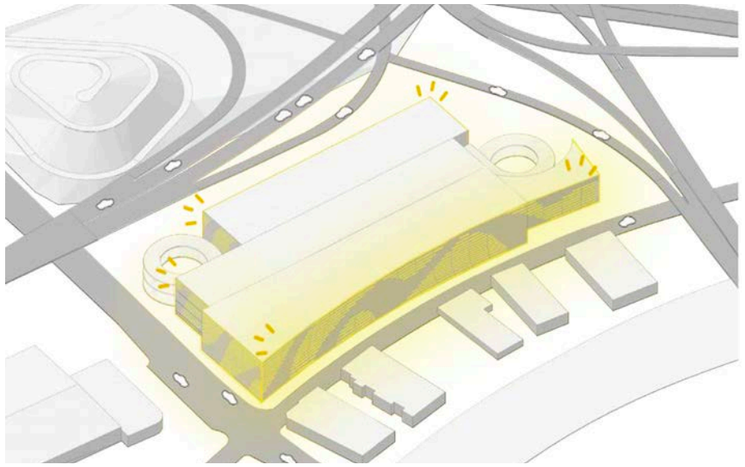
This will also:

- ensure the artist fee is high enough to attract top tier artists
- allow a strong campaign to be built around the artist and their story - without diluting the strength of the concept (which could happen with multiple artists)
- prevent the technical costs exceeding the allowance, more artworks mean more complexity with programming

The work will be predominantly be viewed by drivers on the Gateway and Burrows Road. The artist will need to be mindful of creating various moments within the work which can be experienced in short periods of time, without distracting drivers and compromising their safety.

The artist will be briefed to create a dynamic and changeable work. The work may be programmed to begin at different times of day so commuters regularly passing the work can enjoy different experiences.

This is a spectacular opportunity that has the potential to be one of Australia's most significant public artworks.

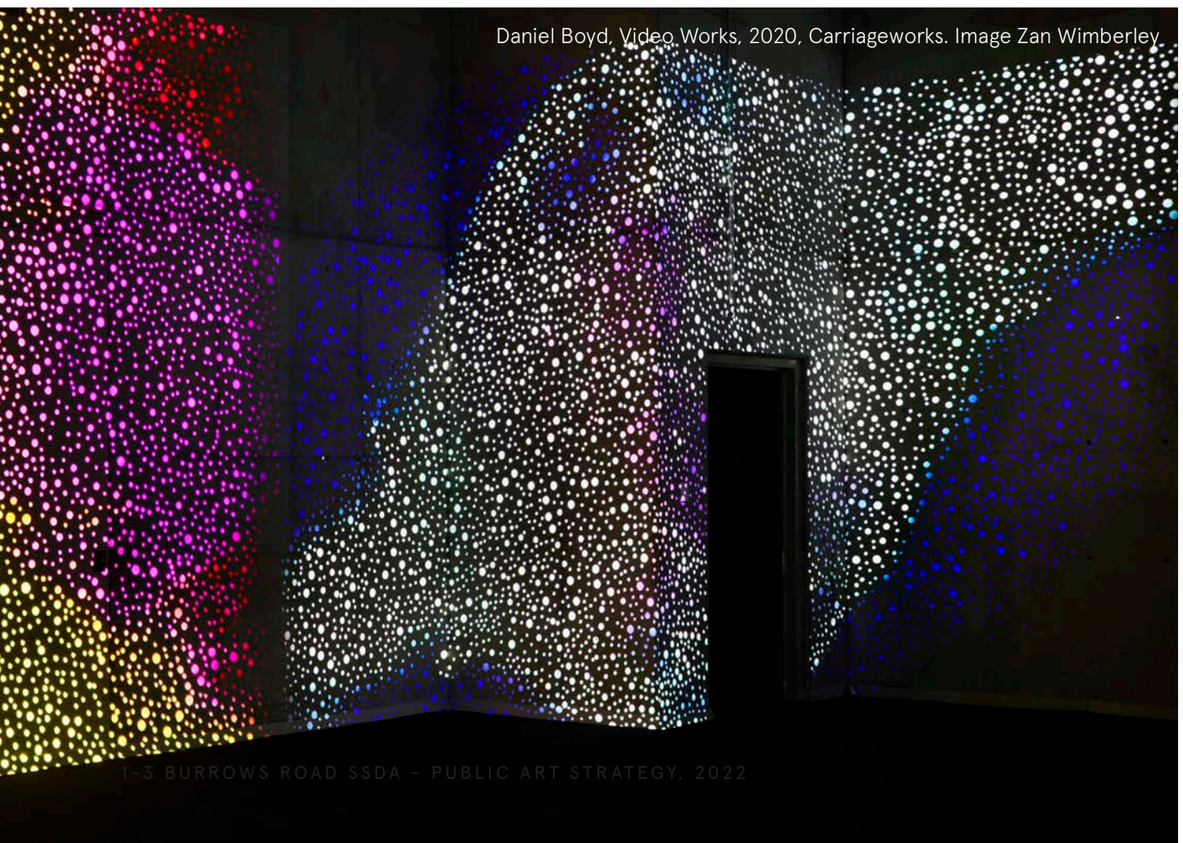


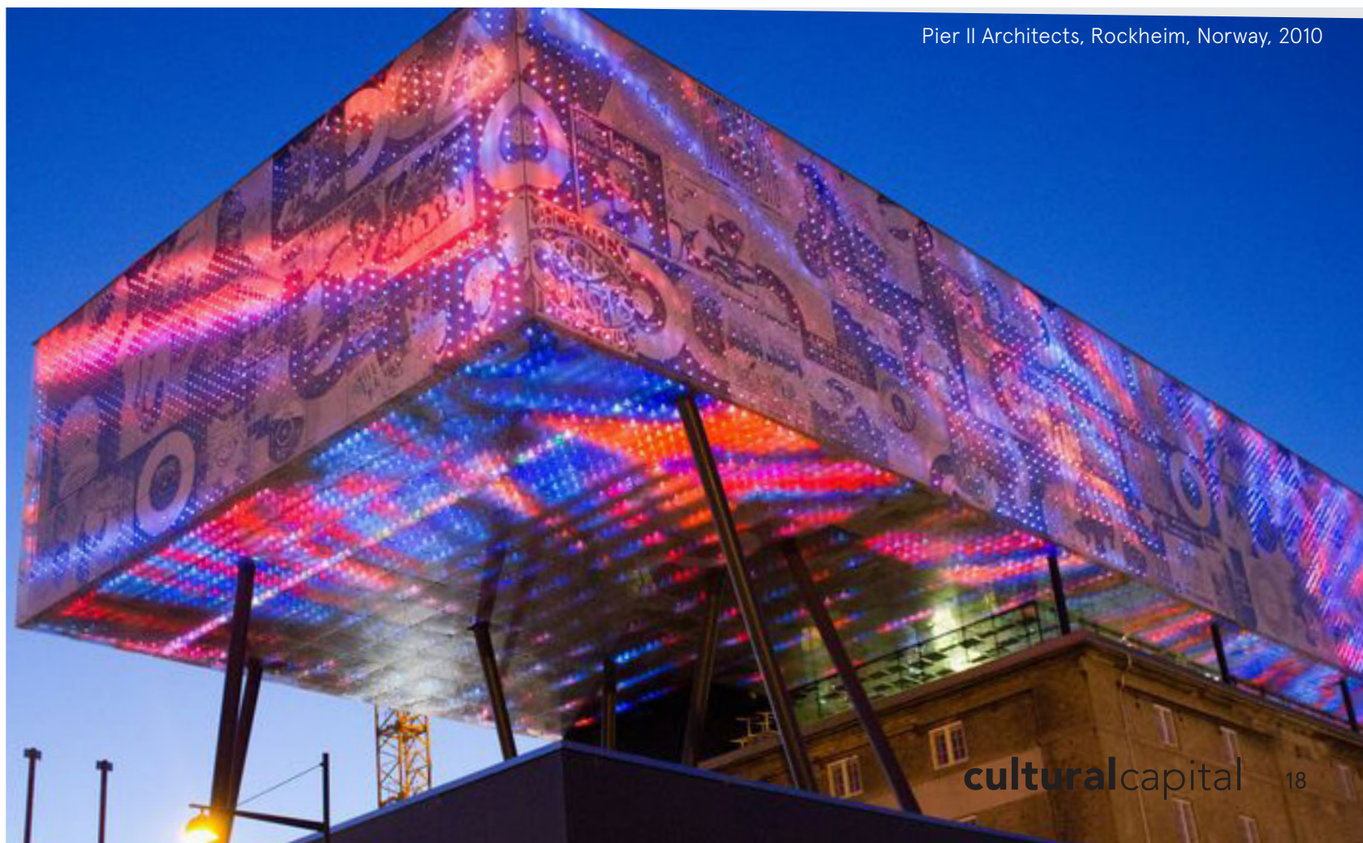
Pier II Architects, Rockheim, Norway, 2010

Robyn Backen, *Voices Within*, 2019, Sydney


Designworks, Vivid Festival, 2013, Sydney

EXAMPLES OF LIGHTWORKS


Daniel Boyd, Video Works, 2020, Carriageworks. Image Zan Wimberley


Pier II Architects, Rockheim, Norway, 2010

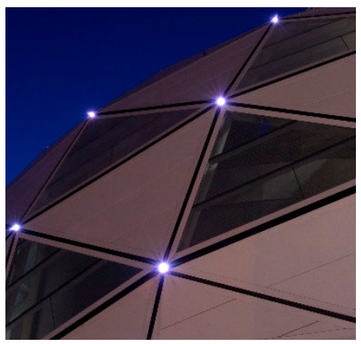
2.4 CASE STUDY

ALEXANDER KNOX & BRUCE RAMUS, AAMI PARK MELBOURNE 2015

Artworks by multimedia artists Alexander Knox and Bruce Ramus illuminate the roof of AAMI Park every night from dusk with colours and patterns specially designed for the stadium.

The 1544 colour-changing and weatherproof LED fittings act like a low resolution video screen and each artist contributed a number of sequences for different events such as Game Day, Team Colours, Resting and Festival modes.

Alexander Knox worked with senior Wurundjeri elder Aunty Joy Wandin Murphy to reference traditional language and stories for some of his artworks.



Kevin Schmidt, *Reckless,* Vancouver, 2018

METHODOLOGY

CHAPTER 03

3.1 COMMISSIONING STAGES

There are typically six stages involved in successfully commissioning an artwork in the public realm. These are outlined below.

The following pages provide further information on the deliverables and considerations for each stage.

STAGE 1
ARTIST BRIEF AND CONTRACT

- curator prepares artist brief, artist contract and project plan

STAGE 2
ARTIST SELECTION AND ENGAGEMENT

- curator manages the agreed procurement process to select the artist/s
- curator negotiates signing of contract with the artist

STAGE 3
CONCEPT DEVELOPMENT

- selected artists develop concepts. The concept may be revised up to three times during this stage
- the artist and curator develop a stakeholder engagement plan for consultation and begin this process (if required)

STAGE 4
DESIGN DEVELOPMENT

- the artist develops the concept to make it ready for fabrication. This stage may include prototypes, quotes from industry and any other processes necessary to demonstrate the design is within budget and fit for its designated purpose

STAGE 5
FABRICATION AND INSTALLATION

- the artist begins fabrication and manages the process through to installation. **Note: this phase does not apply to integrated works**

STAGE 6
HANDOVER AND LAUNCH

- the client undertakes a final inspection of the work and formalise the handover
- the client organises a launch event, the work is promoted through various media channels

3.2 ENGAGING THE ARTIST

Once selected, the artist will be engaged, contracts negotiated, and scope of work agreed. The successful artist will be contracted using a Commissioning Agreement.

Artists often have a team to facilitate design and documentation as well as a preferred fabricator who will be responsible for the fabrication and installation of the proposed artwork. The artist may act as the head contractor, with all members of their team sub-contracted to the artist. The commissioning body reserves the right to review the artist's team and preferred fabricator prior to their engagement. Note: the artist is not responsible for fabrication and installation of integrated works.

Alternatively, artists who do not have an established delivery team can be supported and advised by Cultural Capital who can recommend fabricators and other collaborators. C

It is the artist's responsibility to hold all necessary insurances, abide by WH&S legislation, the appointed Builder's WH&S policies and to have agreements in place with their sub-consultants. The fabricator will be required to sign the declaration of ability to work within the project budget and program.

ARTIST MILESTONES

The artist's payments are granted in a staged process as shown in the example below. The artist's fees are dependent upon approval to proceed at each stage.

Deliverables	% of the Fee
Signing the contract	10%
Approval of developed concept	15%
Approval of developed design	15%
100% completion of production	30%
Approval of testing on facade	20%
Project completion and handover	10%

This staged payment schedule allows close scrutiny of the progress of the work to ensure it is being produced to a high quality and is completed within budget and time frame.

This system will invest Goodman with a robust management control system (via Cultural Capital) throughout the fabrication stage, minimising risk and ultimately ensuring that the work being delivered meets or exceeds expectations.

AEPioneer's Light Tunnel Project, Mellat Park Tehran

3.3 RECOMMENDED PROCUREMENT MODEL

Due to the specific typology and the large scale we recommend that an EOI procurement model is used. This will be sent out to the broader arts community - both within Australia and internationally - to attract a diverse range of artists to consider.

EXPRESSION OF INTEREST (EOI)

01 Open call for artists to register their interest. The curator reviews and presents suitable submissions to the client

02 Cultural Capital recommend a shortlist of three artists. The shortlist artists are sent the artist brief and invited to submit initial concept, CV and examples of relevant works for a fee

03 The shortlisted artists present their concept to the client. The client selects one artist to proceed with the work. If Goodman approves the successful artist is then awarded the contract

Leo Villareal, Multiverse, 2008

3.4 ARTIST BRIEF

The research and writing that informs the Public Art Strategy will be carried over into the Artist Brief. The Artist Brief is a comprehensive document designed to inspire and challenge artists. At the same time it establishes parameters for the commission.

CHAPTERS INCLUDE:

Context

Curatorial themes

Heritage interpretation themes and stories

First Nations engagement framework

Stakeholder consultation requirements

Site analysis

Technical specifications

Guidelines for use of durable materials

Fabrication stages and requirements

Submission requirements for concept proposal

Selection criteria

Sample templates for budget and timeline

Research references

Pier II Architects, *Rockheim*, Norway, 2010

3.5 ARTIST SELECTION CRITERIA

Artists will be expected to respond to the Artist Brief and be accompanied by a concept for one or more of the identified public art opportunities. The concept proposals may be considered against the below criteria.

CONTEXT

- Relevance to City Council principles and criteria when commissioning public art
- Relevance to the site and themes
- Appropriateness of the concept to the historical, cultural and urban site context of the project

ARTISTIC MERIT

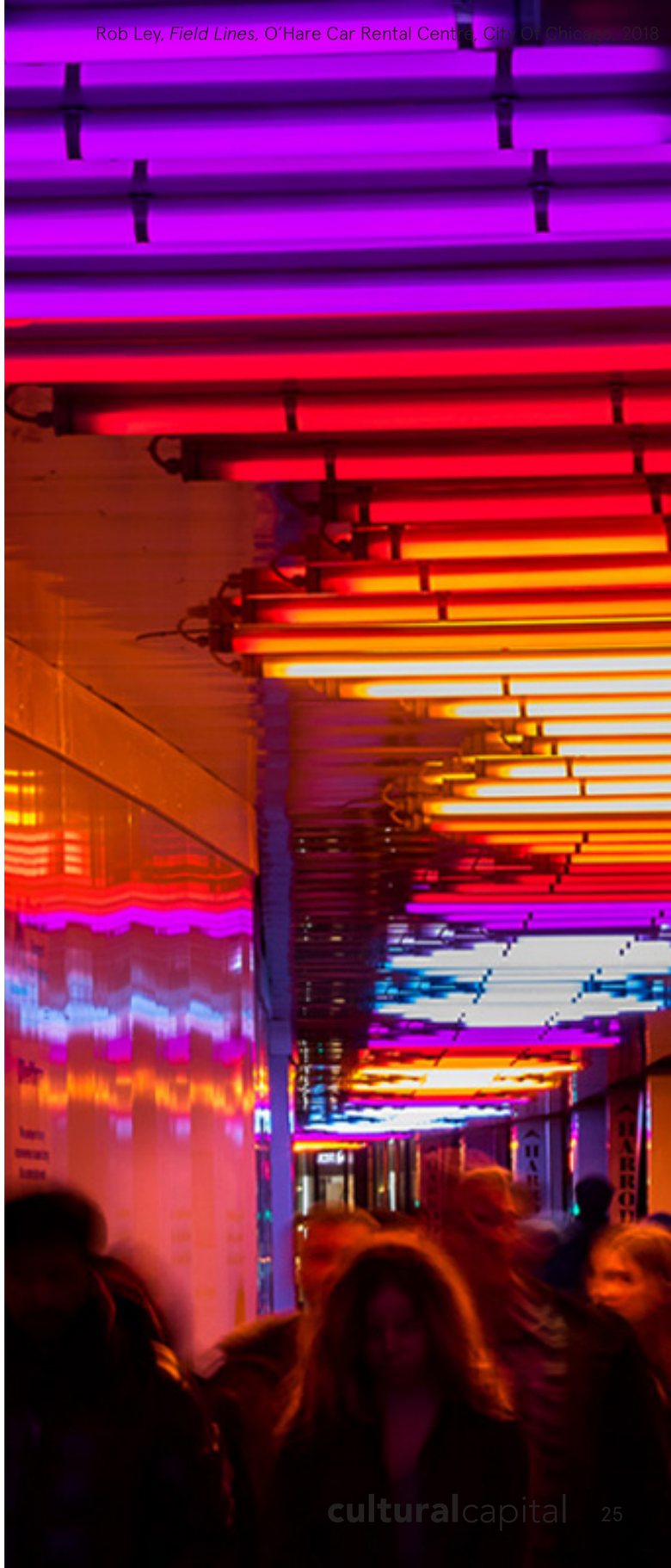
- Appropriateness of response to the brief
- Artistic rationale and process
- Degree of originality or innovation inherent in the concept
- Quality of works previously produced

VIABILITY

- artistic ability and technical skills of the people involved
- demonstrated capacity to produce work within agreed timeline and budget
- meets procurement guidelines & demonstrates value for money
- demonstrated cultural competencies
- maintainability of work without regular monitoring

AUDIENCES

- strong potential to engage, stimulate and inspire a wide range of audiences
- increases or diversifies audiences for the arts and strengthens their artistic experiences
- may increase Australians' and visitors experience of Aboriginal and Torres Strait Islander arts and culture


Rob Ley, *Field Lines,* O'Hare Car Rental Centre, City of Chicago, 2018

3.6 CONSIDERATIONS

MAINTENANCE, PUBLIC SAFETY AND CERTIFICATION

MATERIALS

The basic materials specified and approved for any artwork will be non-corrosive and long-lasting, durable materials for long term outdoor exposure, including, but not limited to stainless steel, bronze, aluminium, stone, masonry, and some timbers. It is expected that all materials will be able to be warrantied for a 10-year minimum life, before any remedial works will be necessary. Any manufacturers warranties to be passes on to the client. Fittings and cables for any hanging works will be of high-quality marine grade stainless steel. Suitable material certification of quality will be part of the artist brief and artists are encouraged to source sustainable and Green Star certified materials.

CLEANING

Cleaning will vary depending on the work and the public's interaction with it. However, typically the work would be washed down and cleaned annually – and this would be combined with an overall inspection of all components.

Goodman will use reasonable endeavours to ensure that the maintenance program is in accordance with fabricator's specification.

MAINTENANCE

Maintenance will be at the cost of the owners/operators of the building. A maintenance manual outlining any specific cleaning or upkeep requirements for the artworks will be prepared by the artists and supplied to building owners/operators upon completion of install. Building owners/operators will be responsible for following guidelines in the manual.

3.7 ARTWORK PROGRAM

PHASE	DESCRIPTION	TIMEFRAME	OUTCOMES
Concept selection	Shortlisted artists are briefed and develop high level concepts for the facade lights. They present concepts to the project team who review and select the successful artist	3 - 4 months	Three high level artwork concepts for the facade lights are delivered for the client to review and select one successful artist
Concept development	Selected artist works with the artist technical consultant and Cultural Capital to further develop concept for adaptation into the digital facade light format. The concept may develop aesthetically at this stage	2 months	One final concept presented to the client for review and approval
Design development	The selected artist works with the artist technical consultant to develop their design within the specific technical specifications of the LED lighting system as provided by the client's lighting team, Light Moves	3 - 4 months	Concept is developed into the correct format and a visualisation is provided to the client/Light Moves for review and approval
Production	Artwork is developed further and finalised, incorporating any feedback from client and technical feedback from Light Moves	3 -4 months	One final artwork is delivered to Light Moves in the correct format for loading into the facade light control system
Facade testing period	Artwork is tested on the LED lighting system by Light Moves	2 months	Any technical issues are resolved with the artist's technical consultant and Light Moves
Project completion and handover	Artwork is loaded into LED lighting system	TBC	

Ryoji Ikeda, Datascape, ICC Sydney, 2018

BUDGET

CHAPTER 04

4.1 RECOMMENDED ARTWORK BUDGET

The art budget is approximately $1.3 million, which represents 1.3% of total project construction costs. The below budget outlines all costs associated with delivering the artwork. The procurement and install of the lighting infrastructure is the responsibility of the architects and construction team.

Item No. from Strategy	Description	No. of artists shortlisted	Total per artist	Total	Comments
1	**Cultural Capital consultancy fees**	*NA*	*NA*	$130,075	Cultural Capitals costs to oversee all stages of artwork delivery including: strategy, artist selection, design development & fabrication and installation oversight
2	**Artist Concept fees**	3	$5000	$15,000	Assumes that from a longlist of at least 12, 3 artists are selected to develop a concept. One artist will be selected for the commission
3	**Artist technical consultant**	*NA*	*NA*	$50,000	Works with the artist to provide technical support, assists the artist to prepare final artwork. They may be engaged as a subcontractor to the artist or they may be contracted by Cultural Capital. Their role is to ensure that the artwork concept is delivered to the correct specifications provided by the client's lighting consultant Light Moves
4	**Indigenous consultation**	*NA*	NA	$25,000	Artist engages with First Nations community, elders and Cultural Knowledge holders for themes and narratives to include in artwork. This could be via Yerribingin or otherwise
5	**Artist fee**	1	$100,000	$100,000	Includes artist fee and time spent working with lighting consultant to prepare and deliver artwork for LED facade lights
6	**Fabrication and installation**	*NA*	*NA*	$985,000	Includes cost of procuring and delivering the lighting infrastructure, including all LED lights, lighting fixtures, controls for lights, and lighting install costs. Also includes client's lighting consultant, Light Moves, to program facade lights for the artwork. This includes providing technical specifications, testing the artwork and operating lighting controls. This scope of the art budget will be managed by the architects and construction team. This cost has been provided by the architect's quantity surveyor.
7	**Contingency**	*NA*	$10,000	$10,000	For unanticipated design costs, or subconsultant costs
			Total ex GST	**$1,315,075**	

Jeannie Nungarrayi Egan, *Eagles Eye,* 2022, Parrtijima Festival of Light

MANAGEMENT

CHAPTER 05

5.1 PROJECT GOVERNANCE CHART

DEPARTMENT OF PLANNING & ENVIRONMENT NSW (DPE)

Review and approve public art strategy

CITY OF SYDNEY (CS)

Consult with DPE for approval of public art strategy

GOODMAN PTY LTD (PI)

Own and operate 1-3 Burrows Road. Oversees the procurement of the public art strategy, consults with WM, YB, and CC on public art component

WELSH AND MAJOR (WM)

Oversees the architectural design development

YERRIBINGIN (YB)

Consults to Goodman, WM and CC for Connection to Country component

PUBLIC ART CONSULTANTS - CULTURAL CAPITAL (CC)

- Engages with Goodman, WM and YB for public art strategy
- Develops public art strategy
- Manages the artists through project delivery

ARTIST

- Creates concept
- Develops and fabricates commissioned artwork
- Submits deliverables for approval at completion of each stage.

5.2 REVIEW AND APPROVAL GATEWAYS

PUBLIC ART STRATEGY

Goodman engage Cultural Capital to draft the Public Art Strategy

Cultural Capital prepares Public Art Strategy

Cultural Capital presents draft Public Art Strategy to Goodman for review

Cultural Capital incorporates Goodman feedback and prepares final Public Art Strategy

Goodman submits the Public Art Strategy to DPE for review

DPE and the City of Sydney Public Art Panel review Public Art Strategy with DA Application

ARTIST CONCEPTS

Cultural Capital requests site plans and any other relevant documents that will contribute to artist information pack

Cultural Capital artist create concept package

Cultural Capital presents the artist's concept to Goodman for review

Cultural Capital incorporates Goodman's feedback and submits final artist concept package

Goodman approves artist concept package

Figure 9: Review and approval gateways

DEFINITIONS
CS - City of Sydney
G - Goodman Pty Ltd - Client
WM - Welsh and Major- Architect
CC - Cultural Capital - Public Art Consultant
YB - Yerribingin

ARTWORK DELIVERY

Artist attends inception meeting

Artist develops their concepts in consultation with individual project design teams and expert advice provided by the team

Cultural Capital presents developed concepts to Goodman for comments and endorsement

Goodman approve concept development to proceed to next stage

Artist works concept design into a design development package to the specification of the facade for approval

Cultural Capital reviews and recommends approval of designs

Third party technical team carries out feasibility, costing and risk assessment and provides report to Cultural Capital

Goodman approve designs to proceed to design development

Cultural Capital and Goodman review and approve design development package

Cultural Capital reviews 50% design

Goodman approve 50% design

Cultural Capital reviews 100% design

Goodman approve 100% design

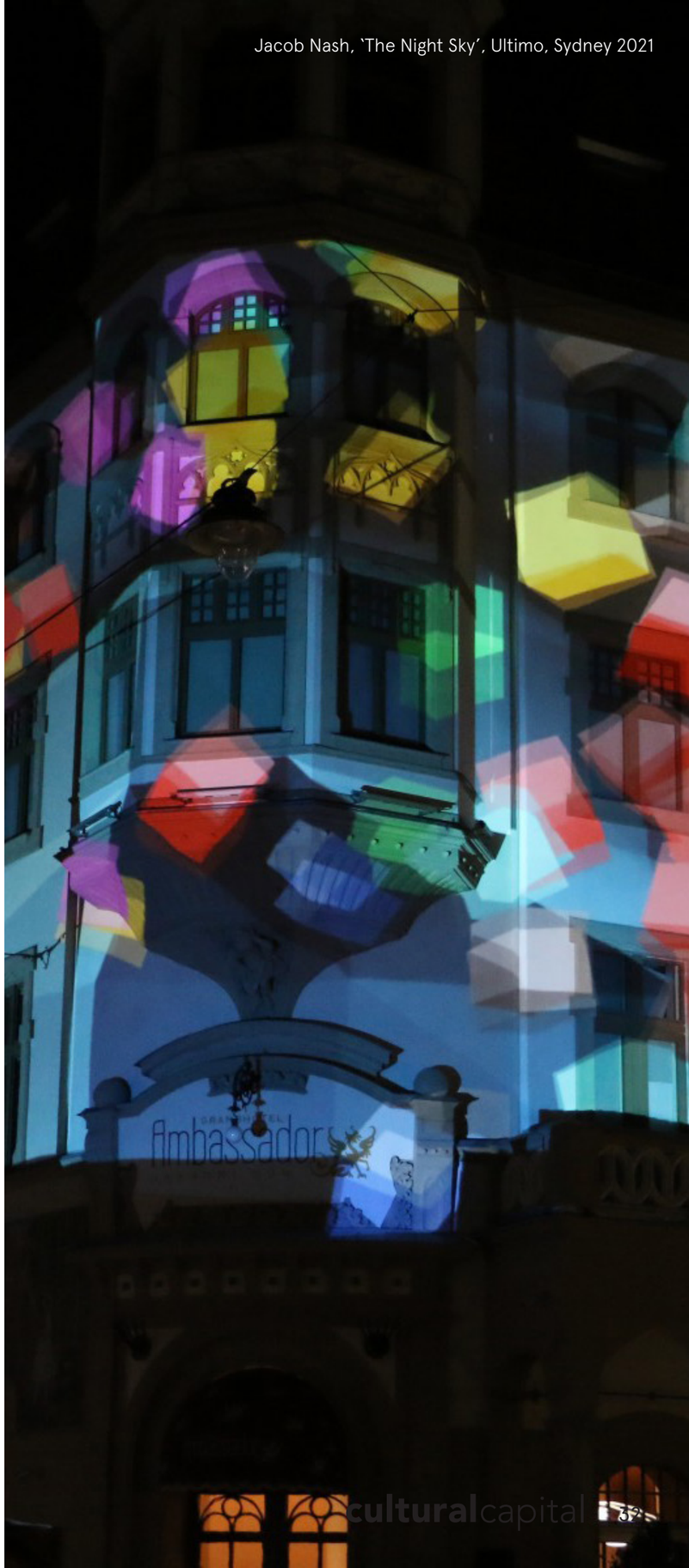
Work delivered to client's lighting consultants

Lighting consultants install and test the artworks

Cultural Capital inspect final works

The works are commissioned. Approval from Goodman of completion of the project and handover.

Figure 9: Review and approval gateways



Jacob Nash, 'The Night Sky', Ultimo, Sydney 2021

5.3 RISK MANAGEMENT

Risk management for this project encompasses:

- Identification of risks and opportunities
- Nomination of risk owner and responsibility
- Implementation of risk mitigation strategies

In addition to the typical public safety risks (climbability, pinch points, head collision etc), this strategy considers additional risks including customer satisfaction, political risk, perceived value for money, and the potential for negative publicity.

Formal, documented risk assessment workshops will be held regularly to either eliminate risks entirely or to mitigate and manage them to levels acceptable to Goodman.

Risks are evaluated on a two directional matrix using a qualitative rating of the likelihood of the event occurring and the scale of the possible consequences. When risks have been identified, they are analysed by multiplying the consequences and likelihood to produce a level of risk.

LIKELIHOOD

LEVEL	DESCRIPTOR	DESCRIPTION
1	Rare	May occur only in exceptional circumstances
2	Unlikely	Could occur at some time
3	Moderate	Should occur at some time
4	Likely	Will probably occur in most circumstances
5	Almost certain	Almost certain to occur in most circumstance

Table 4: Risk management: Likelihood

CONSEQUENCE

LEVEL	DESCRIPTOR	DESCRIPTION
1	Insignificant	No injuries Low financial loss
2	Minor	First aid treatment Medium financial loss
3	Moderate	Medical treatment required High financial loss
4	Major	Extensive injuries Major financial loss Loss of production capability
5	Catastrophic	Death Huge financial loss

Table 5: Risk management: Consequence

CONSEQUENCE

LIKELIHOOD	1	2	3	4	5
1					
2					
3					
4					
5					

LEGEND:

- Low risk; manage by routine procedures
- Moderate risk; management responsibility must be specified
- Significant risk; senior management attention needed
- High risk; detailed research and management planning required at senior levels

5.4 QUALITY MANAGEMENT

Cultural Capital adopts a rigorous set of practices to ensure the highest quality deliverables for our clients. These include:

- Fortnightly management review of all aspects of the project
- Regular and formal risk management review
- Director review and sign-off of all documentation released to clients
- Clear documentation trail throughout project
- Benchmarking ourselves against comparable global firms
- Benchmarking relevant global best-practice projects
- Project debriefs with lessons applied
- Continuous improvement of all work practices

5.5 PROJECT MANAGEMENT

Project Management tasks during implementation will include:

- Coordinating with construction and design team
- Client representation
- Leading stakeholder negotiations
- Implementing appropriate risk management procedures
- Maintaining effective communication with project stakeholders
- Facilitating and monitoring RFI procedures to ensure consistency and compliance
- Program forecasting, tracking and reporting
- Observation of appropriate project hold points
- Maintaining project records and reporting to meet Goodman governance requirements
- Overarching quality control initiatives

Jill Anholt, *Sea Change*, Vancouver, 2020

APPENDIX 01

DECOMMISSIONING

INTRODUCTION

Public artworks are part of a city's built environment, heritage and legacy. They become an integral part of the fabric of the city and its meaning to citizens and visitors. Consequently, decommissioning should be carefully considered. For any new project that may necessitate removal of existing public art, it is ethically responsible to implement a formal procedure to be undertaken prior to decommissioning.

WHAT IS DECOMMISSIONING?

Decommissioning is defined as the formal process to remove public artwork from its active status, including (but not limited to) relocation, storage, sale, donation or disposal/destruction.[1]

GUIDELINES FOR DECOMMISSIONING

Each public artwork has a finite lifespan that depends on a number of factors. The following guidelines can be used to assess the artwork and determine the rationale for decommissioning.[2]

A. LIFESPAN

A work may be decommissioned when it has reached its intended lifespan as set out in the original commissioning agreement.

B. EVOLUTION OF THE SITE

A work may be considered for decommissioning when the site on which the artwork is located has been sold or is to be redeveloped.[3]

C. CONDITION OF THE WORK

A work may be considered for decommissioning when its condition has deteriorated or been damaged to such an extent that:

- It can no longer be considered to be the original work of art;
- It is beyond restoration, or the cost of restoration is excessive in relation to the original cost of the work or the current value of the work (in sound condition);
- The cost of ongoing maintenance is prohibitive.

D. LEGAL/RISK AND MORAL RIGHTS CONSIDERATIONS

A work may be considered for decommissioning on legal, risk and moral rights grounds when:

- The work has deteriorated to a point where it is unsafe or presents a danger to the public;
- The artist raises concerns regarding the work – its condition, presentation, location;
- Changes to the environment impact on the integrity of the work, affecting the artist's original intent and moral rights;
- The work of art has faults of design, material or workmanship.

E. ARTISTIC CONSIDERATIONS

A work may be considered for decommissioning when the:

- Artistic merit of the work falls below the general level to which the commissioner aspires;
- Work is no longer regarded as a significant example of the artist's work;
- Work lowers the level of quality in the commissioners collection.

F. CONTEXTUAL CONSIDERATIONS

A work may be considered for decommissioning when it no longer reflects a sense of place. [4] As narratives change and contexts are redefined or contested, community or cultural issues associated with the artwork, building, land and/or original commissioning process may need to be reconsidered. Other community or cultural considerations include the popularity and heritage value of the work.

DECOMMISSIONING PROCEDURE FOR EXISTING WORKS OF PUBLIC ART

1. ASSESSMENT

The decision to decommission the artwork must be assessed against the "Guidelines for decommissioning" set out earlier. Assessment must be impartial and include the contribution of a qualified arts advisor/curator with relevant expertise, technical and structural knowledge and legal expertise. Cultural Capital is suitably qualified to fulfill this role and has been engaged to provide a professional assessment on the adaptive reuse and decommissioning of the artwork.

The opinions and advice of relevant stakeholders including the artist, maintenance contractors, the Building Management Committee may also be included in the assessment.

2. THE COMMISSIONING AGREEMENT

The lifespan and decommissioning conditions of the artwork should be specified in the original commissioning agreement. The agreement should state that the work will remain in the proposed location for a specific period and its location will be reviewed, in conjunction with the artist, after that time. If it is deemed necessary to remove the work prior to the agreed decommissioning, the implications of the original

commission agreement need to be considered. Any decision to decommission the work at any time should involve the artist or a representative of the artist if possible.

3. MORAL RIGHTS

Legal obligations in relation to the artist's moral rights and to any contractual commissioning arrangements need to be understood and met. Moral rights for artists have been incorporated into the Copyright Act since 21 December 2000. They provide artists with the right of public acknowledgment as creator of a work and the right of integrity, which means that the work will not be materially altered or distorted, or treated in a way that is prejudicial to the artist's reputation. This creates an obligation on the commissioner to consult with the artist if there is a need to remove, relocate, destroy or demolish the artwork.[5]

In the event of destruction, removal, decommission or relocation of the artwork, a contract requires compliance with section 195AT of the Copyright Act 1968. This section requires the person who wishes to destroy, remove or relocate the artwork to give the author (the artist) a reasonable opportunity to remove the work from the place where it was situated, or a notice stating the person's intention to carry out the above acts and an opportunity for the author (the artist) to seek and have access to the artwork for the purpose of making a record of the work, or consulting with the person about the intended acts.[6]

If, after making reasonable enquiries, the artist cannot be located or contacted, then consideration needs to be given to who should be consulted on their behalf e.g. the estate and current copyright holder; and establishing who is empowered to make the final decision regarding the work.

4. OPTIONS FOR DECOMMISSIONING A WORK

After discussions between the Building Management Committee and the artist have occurred, the future state of the artwork can be determined. Future states may include:

- Removal during construction works, restoration and replaced in its original location
- Removal, restoration and incorporated into a new artwork in that same location (with the agreement of the artist for the new work)
- Removal, restoration and located in a new location
- Removal and stored for possible future use
- Removal and sold
- Removal and returned to the artist or loaned/gifted to an institution
- Removal and destroyed

The Building Management Committee must undertake a comprehensive record of the decommissioned work, including detailed information about the artwork, artist, year of commissioning, materials, dimensions, artwork location, commissioner and decommissioning process is properly recorded and stored.

ENDNOTES

1 Draft - NAVA Best Practices for Commissioning Art in Public Space

2 The "Guidelines for decommissioning" set out in this report are based on, and expand, the de-accessioning policy published by Government of South Australia (Arts South Australia) in their document Public art: making it happen. Commissioning guidelines for local councils

3 Draft - NAVA Best Practices for Commissioning Art in Public Space

4 Draft - NAVA Best Practices for Commissioning Art in Public Space

5 This paragraph is taken from the Arts Law Centre of Australia, Information sheet: Public Art Design and Commissioning

6 Draft - NAVA Best Practices for Commissioning Art in Public Space

CONTACT

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m: 0402 552 465

www.culturalcapital.city

Appendix D

Facade Lighting Concepts

August 2022

Lighting Art and Science

for Goodman Property Services (Aust) Pty Ltd
Date RevB 02.11.22
Project Ref. 2213A

1-3 Burrows Road

FAÇADE LIGHTING

AUGUST 2022

L173I•CONCEPT [B]

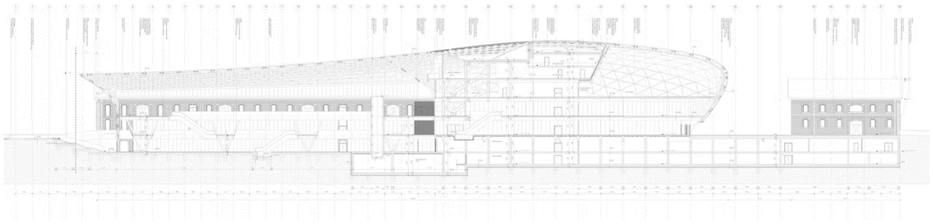
1-3 BURROWS ROAD - FAÇADE LIGHTING
Precedent – Balna Building in Budapest

INFORMATION RETRIEVED ABOUT THE BALNA RENOVATION

“The unique, special shape of Bálna during the day is a defining part of the Danube-bank; the building itself is a tourist attraction. However, after dark, nothing of this effect can be experienced due to the lack of adequate lighting in the building,” – states the call for tenders in connection with the decorative illumination.

According to the public procurement tender, “during the design and construction work, a unique decorative illumination concept must be implemented." A total of *1061 RGB LEDs* will be installed on the glass structure, 184 lamps on the old building, and 249 meters of LED feeds.

Retrieved from Pest Buda dated 9 March, 2021



project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Precedent – Balna Building

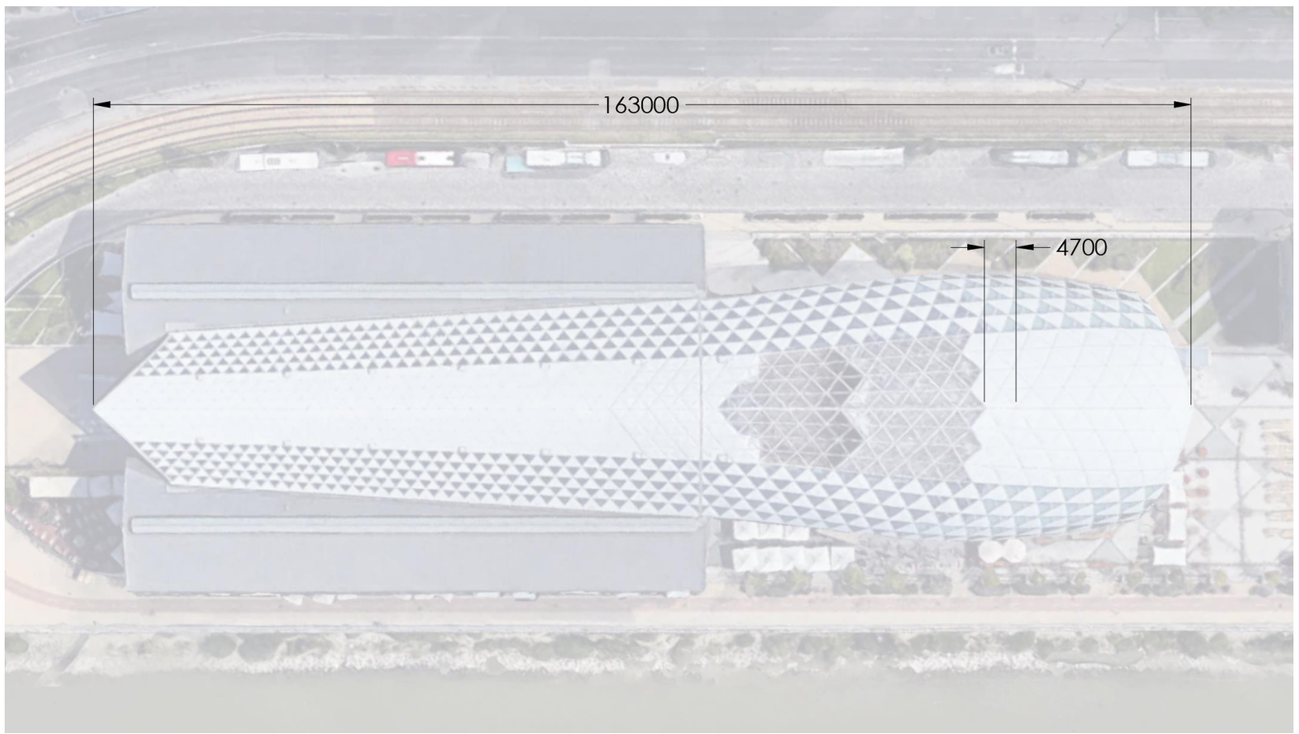
project numer:
L173I-CONCEPT-01

Rev:
B

Issue Date
31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING

Precedent – Balna Building in Budapest



INDICATIVE SPACING OF LED NODES CALCULATION METHOD

Google Maps Aerial photo scaled

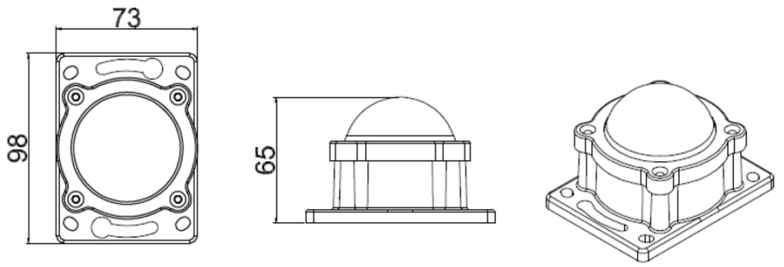
Approximate Length of the Building is 163.0 m

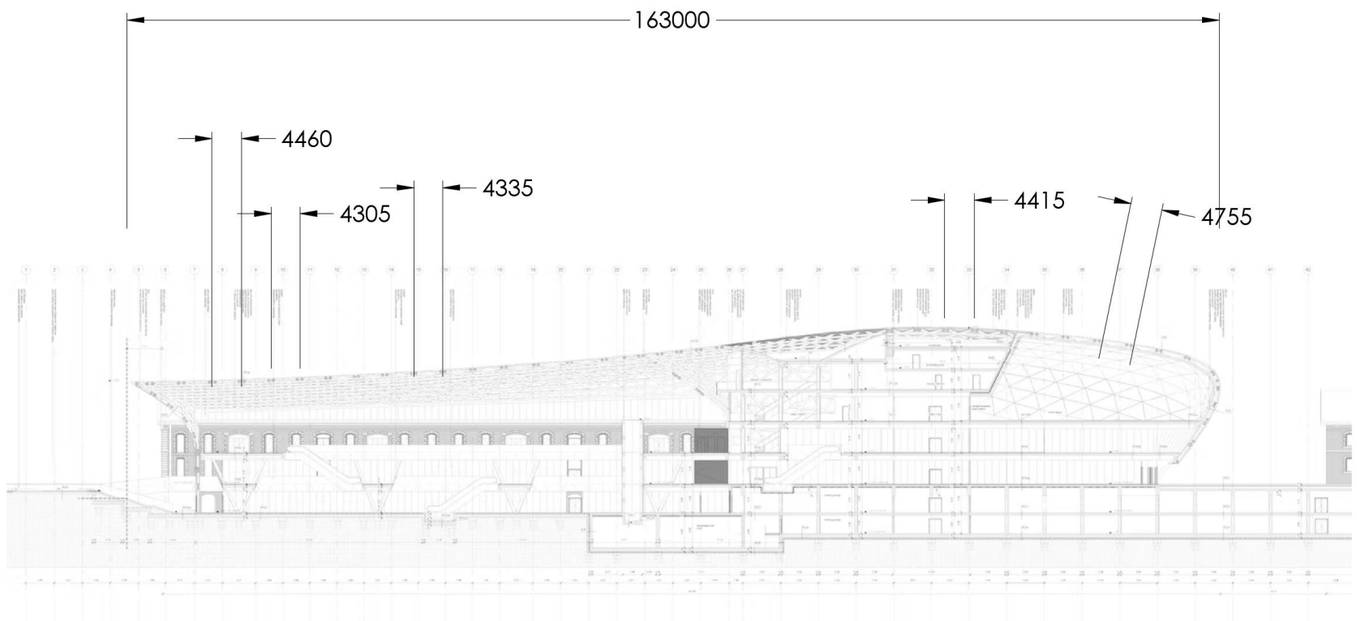
Approximate distance between light nodes 4.5 m

LUMINAIRE INFORMATION

Space Cannon Space Dot L

Luminaire Dimensions 98 (L) x 73 (W) x 65 (H) mm





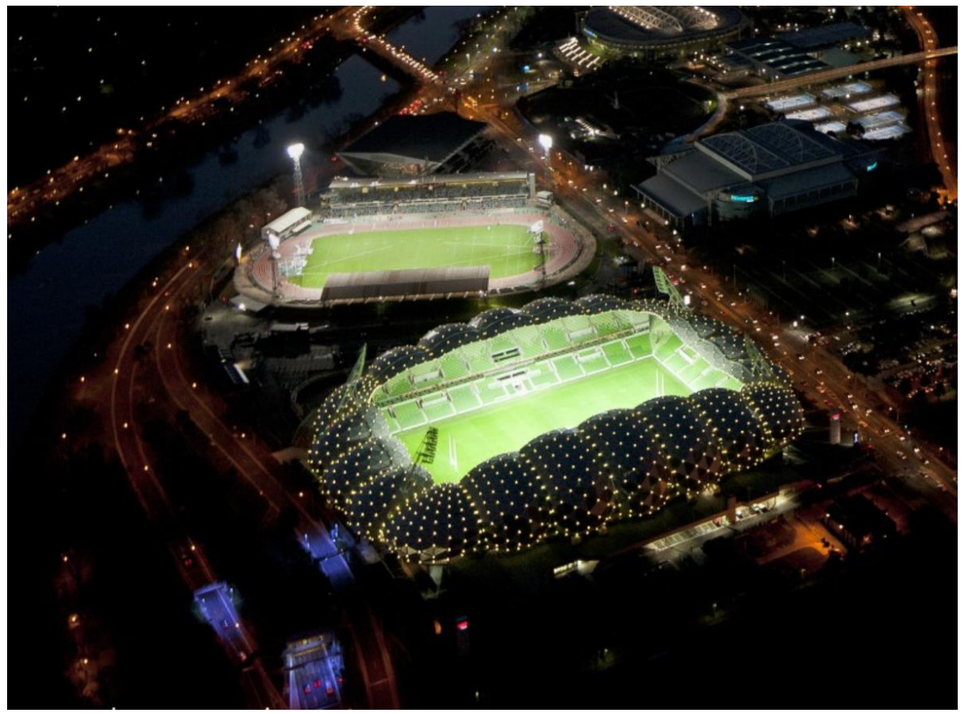
project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Precedent – Balna Building

project numer:
L173I-CONCEPT-02

Rev:
B

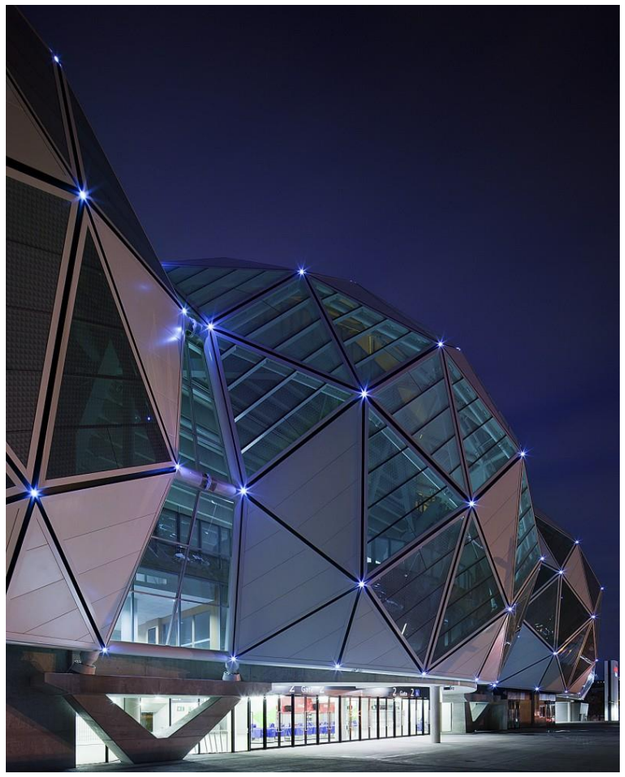
Issue Date
31/08/22



INFORMATION RETRIEVED ABOUT THE AAMI Park – Rectangular Stadium - Melbourne

The *1544 colour-changing and weatherproof LED fittings* act like a low resolution video screen and are controlled by video content that was especially commissioned by the artists. The long-life, energy-efficient fittings have been designed to withstand the harsh Australian climate and include built-in intelligence that reduce the light output on days of extreme heat in order to protect the fittings from irreparable damage.

Retrieved from Lightmoves Website



project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Precedent – AAMI Park

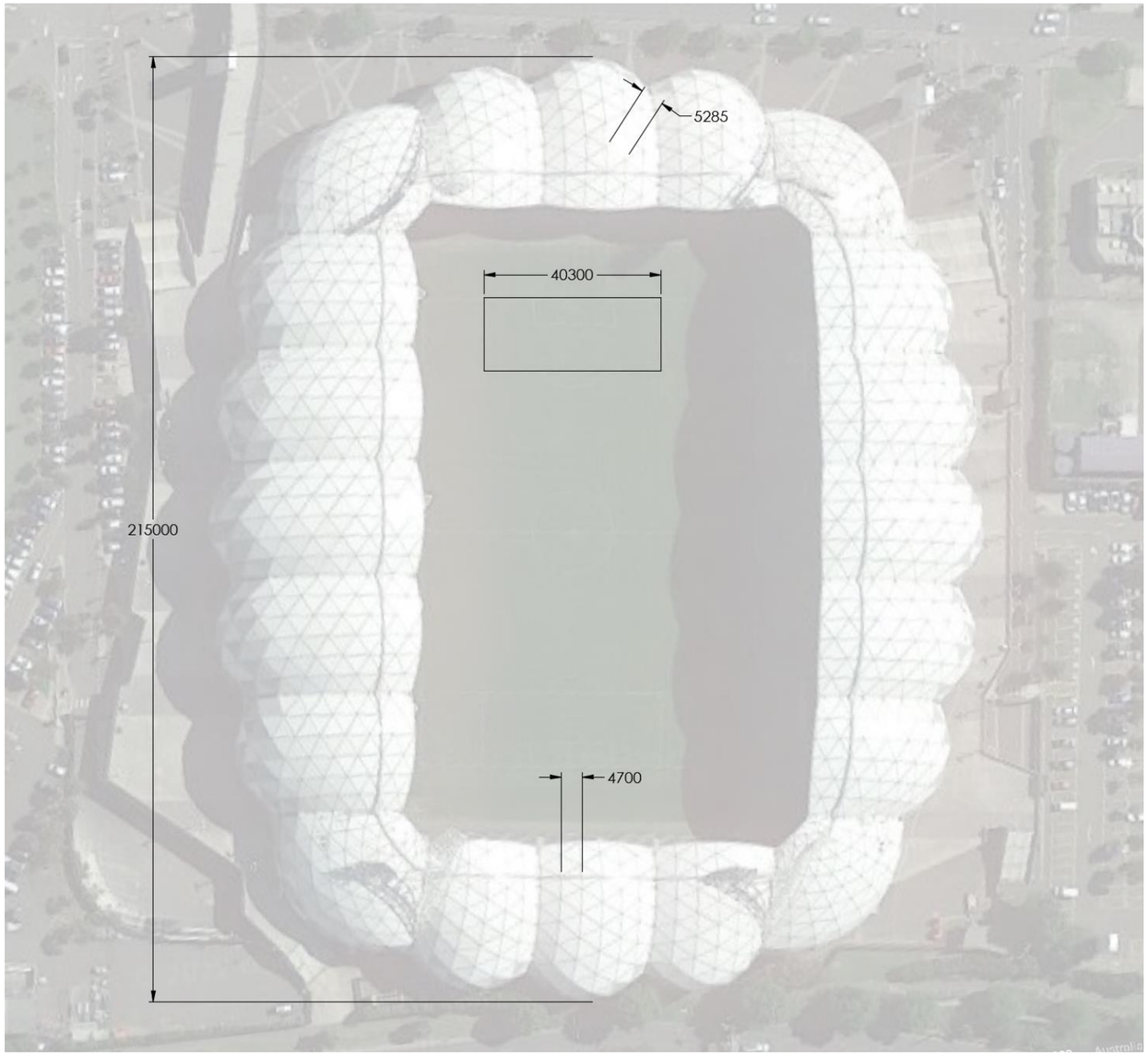
project numer:
L173I-CONCEPT-03

Rev:
B

Issue Date
31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING

Precedent – AAMI Park in Melbourne



INDICATIVE SPACING OF LED NODES CALCULATION METHOD

Google Maps Aerial photo scaled

Approximate Length of the Building is 215.0 m

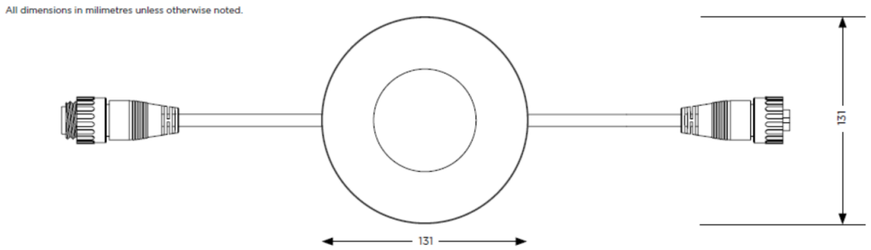
Approximate distance between light nodes 4.5 m

LUMINAIRE INFORMATION

Space Cannon Pixel 9 RGB (3 x RED, 3 x GREEN, 3 x BLUE)

Luminaire Diameter Ø131 mm

Maximum Luminaire Power 14W



project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Precedent – AAMI Park

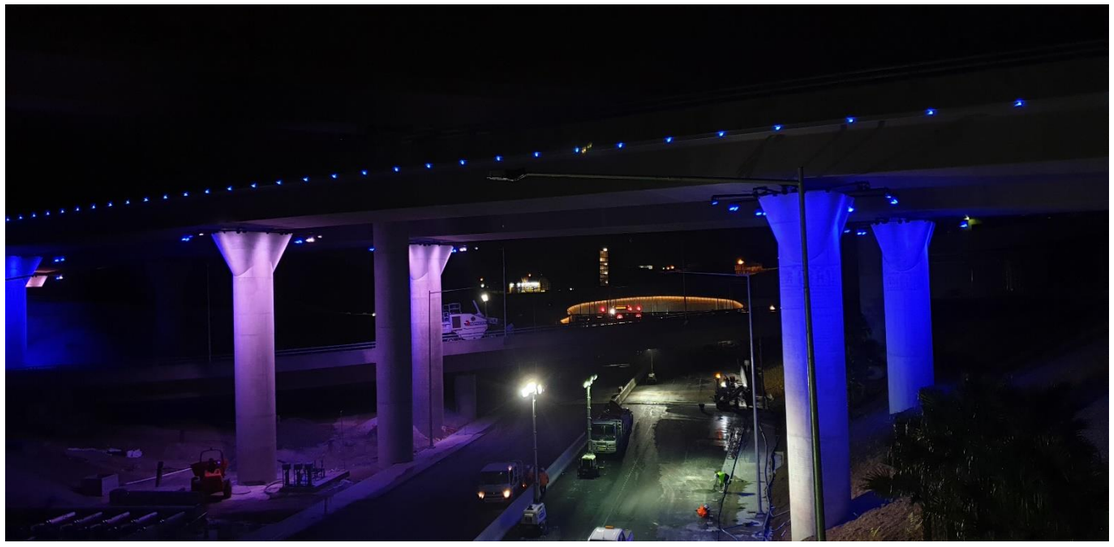
project numer:
L173I-CONCEPT-04

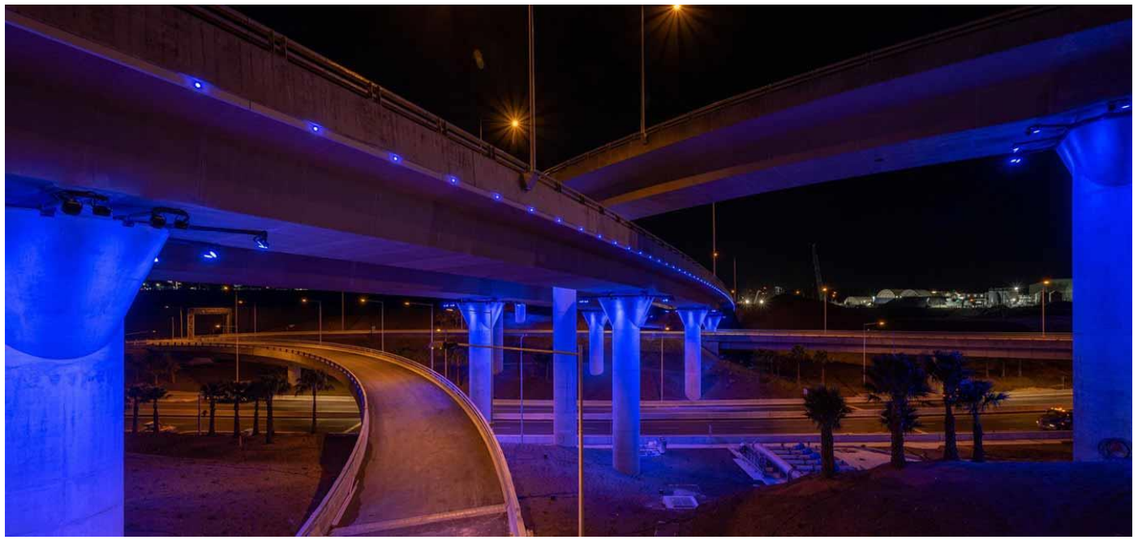
Rev:
B

Issue Date
31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING

Precedent – M8 St. Peters Interchange – Sydney





ABOUT THE M8 St. Peters Interchange

The bridges throughout the St Peters Interchange are adorned with Space Cannon's Pixel 8 RGBW direct-view fixtures. Each of these is mounted in a custom channel specifically designed for ease of installation and maintenance, as some of the luminaires are 25 metres above ground level.

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Precedent – M8 St Peters Interchange

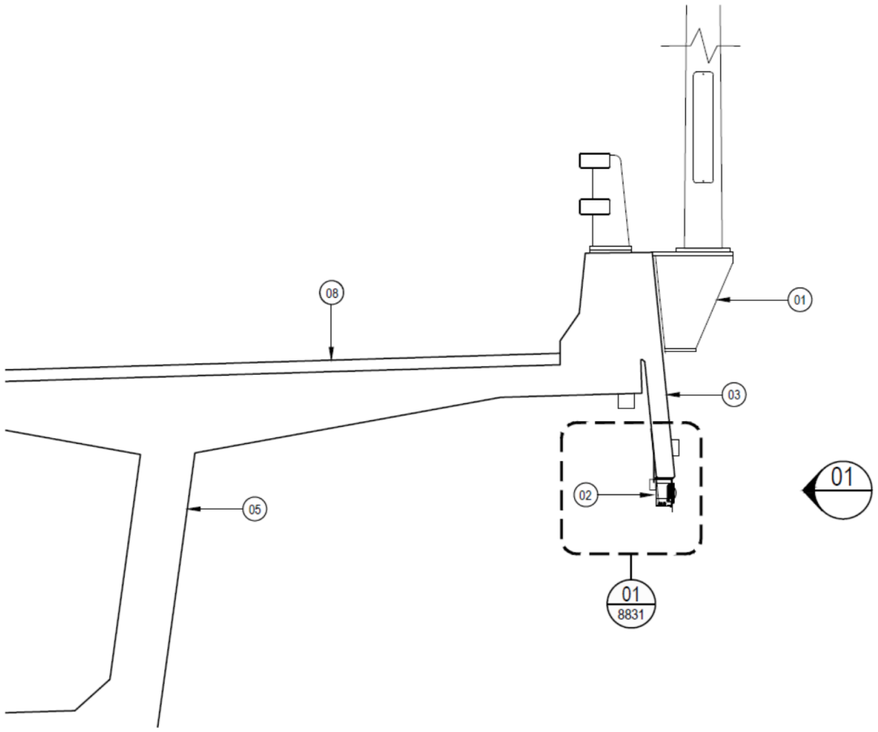
project numer:
L173I-CONCEPT-05

Rev: B

Issue Date 31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING

Precedent – M8 St. Peters Interchange – Sydney



05 TYPE 5 LIGHT MOUNTED ON PLATE ON THE FACE OF THE SKIRT. REFER TO DRAWINGS 8800 FOR SPACING OF LIGHTS

06 LV POWER CABLE. REFER DRAWING 8504

07 DMX CABLE. REFER DRAWING 8504

08 SWAGED NUTSERTS TO MATHC MOUNING HOLES OF EQUIPMENT

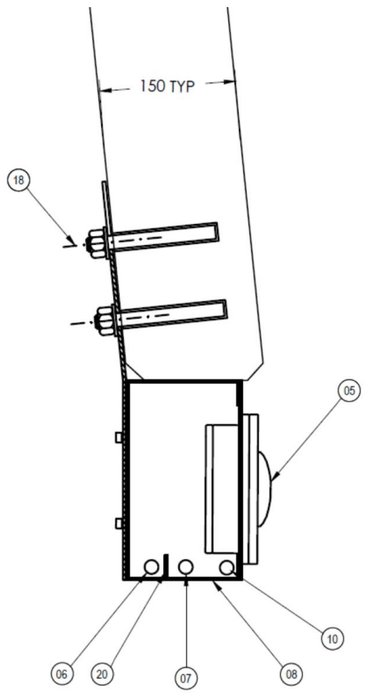
09 ELV POWER CABLE. REFER DRAWING 8504

10 COMBINATION ELV AND DMX CABLE REFER DRAWING 8504

18 2 X M12 CHEMICAL ANCHORS INTO BRIDGE SKIRT MAX 110mm EMBEDMENT

19 SCREW FIXINGS FOR MOUNTING PLATE. CAPTIVE M3 STAINLESS STEEL SCREW TO BE USED.

20 PHYSICAL BARRIER BETWEEN POWER AND DATA CABLE.



PROJECT INFORMATION

Appearance of a continuous horizontal line achieved through a series of LED ‘dots’ at regular spacing mounted onto the bottom of the outside concrete barrier skirt of each bridge.

The spacing between light nodes of 2.5 m

Each light fitting is RGBW and IP66 rated with all cabling, wiring and power supplies mounted onto a continuous channel on the bottom of the concrete skirt.

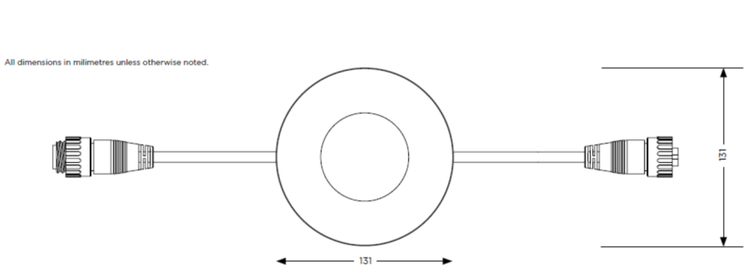
The marker lights are individually controlled.

LUMINAIRE INFORMATION

Space Cannon Pixel 8 RGBW (2 x RED, 2 x GREEN, 2 x BLUE, 2 x WHITE)

Luminaire Diameter Ø131 mm

Maximum Luminaire Power 12W



https://www.lightmoves.com.au/?portfolio=sydneys-new-westconnex-m8-motorway
SECOND 0:55

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Precedent – M8 St Peters Interchange

project numer:
L173I-CONCEPT-06

Rev:
B

Issue Date
31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING

Precedent – The Greek Precinct – Lonsdale Gateway – Melbourne

INFORMATION RETRIEVED ABOUT THE LONSDALE GATEWAY

So the solution became *144 SpaceCannon* 'Nike' 6 fittings, customised with red LED's removed and replaced with white LED's and using 432 channels of RDM DMX all controlled via a DMX Streamer.

Retrieved from Light Moves Website

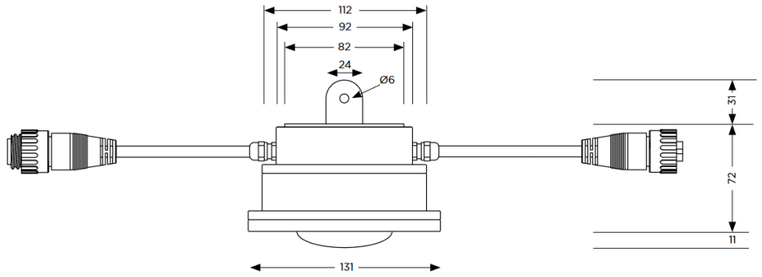
LUMINAIRE INFORMATION

Space Cannon Pixel 9 RGB (3 x RED, 3 x GREEN, 3 x BLUE) – Catenary Version

Luminaire Diameter Ø131 mm

Maximum Luminaire Power 14 W

Distance between light fittings 2.5 m



project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Precedent – Lonsdale Gateway

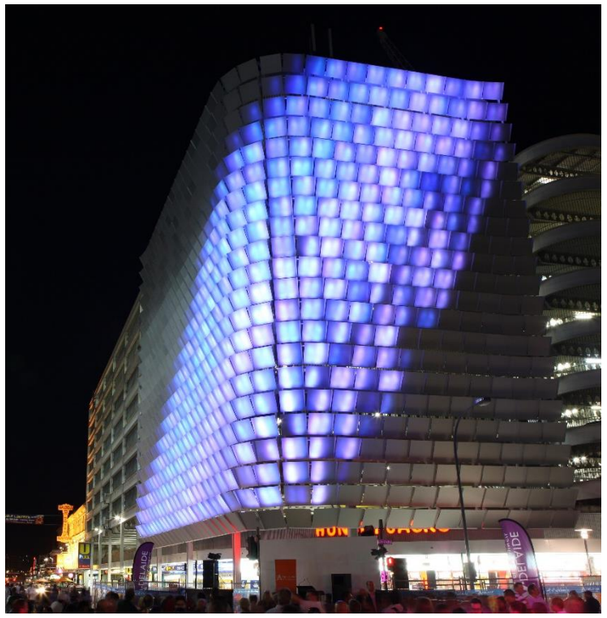
project numer:
L173I-CONCEPT-07

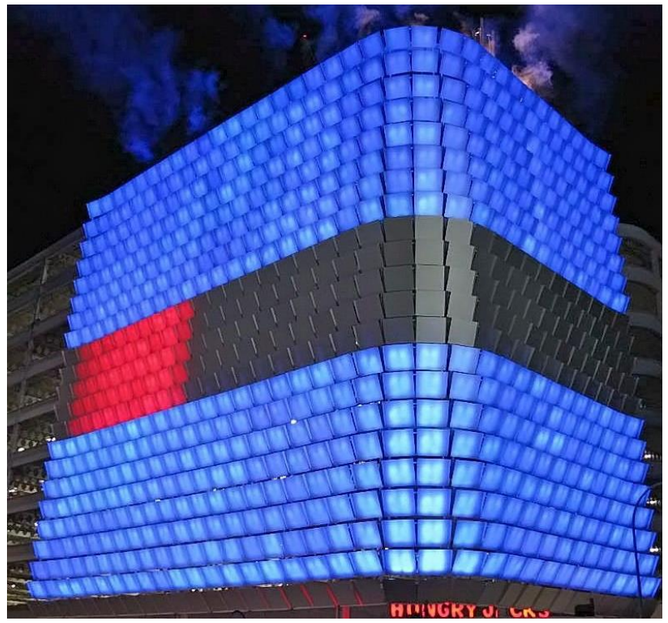
Rev:
B

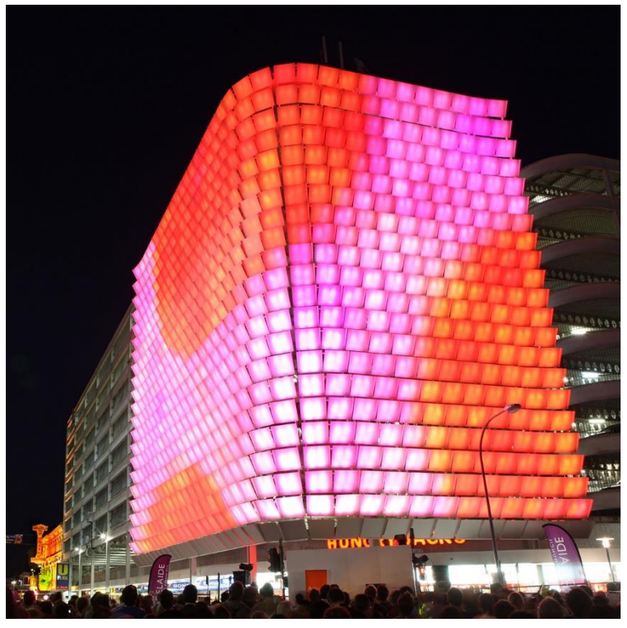
Issue Date
31/08/22

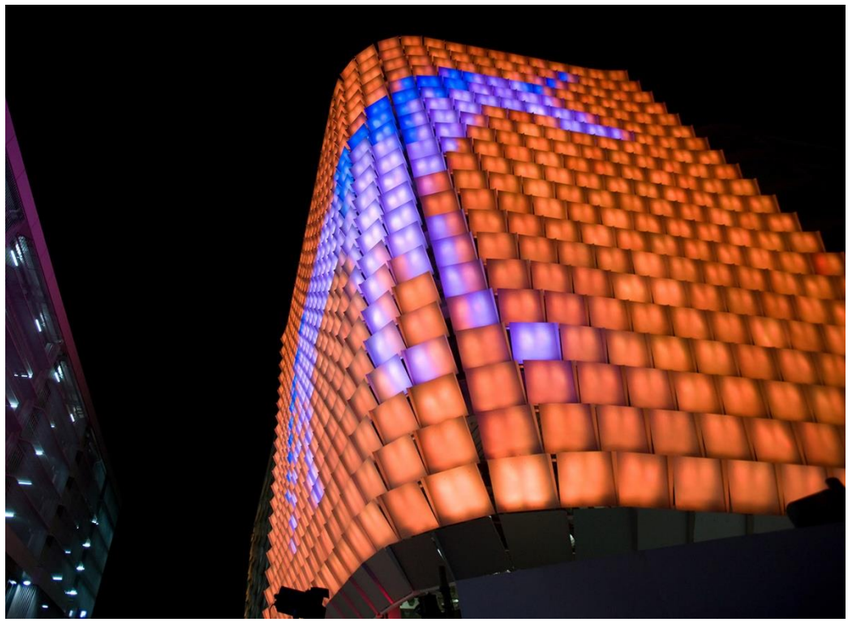
1-3 BURROWS ROAD - FAÇADE LIGHTING

Precedent – Rundle Mall, Adelaide SA









INSTALATTION DETAILS

1.0 x 1.0 m white panels

Each panel has 2 x 300 mm linear luminaires installed on the lower panel frame

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Precedent – Rundle Mall, Adelaide SA

project numer:
L173I-CONCEPT-08

Rev:
B

Issue Date
31/08/22

INSTALATTION DETAILS

1.0 x 1.0 m white panels

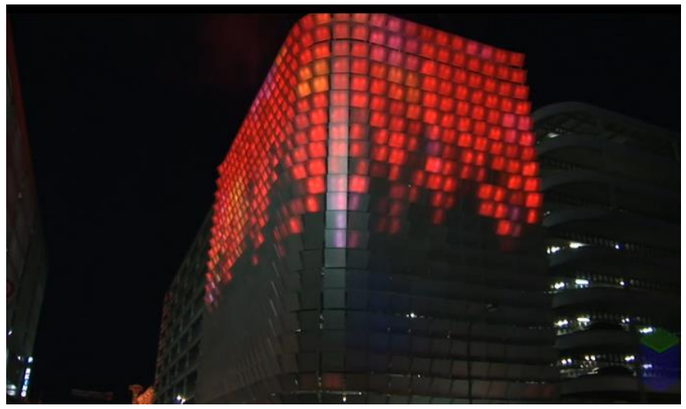
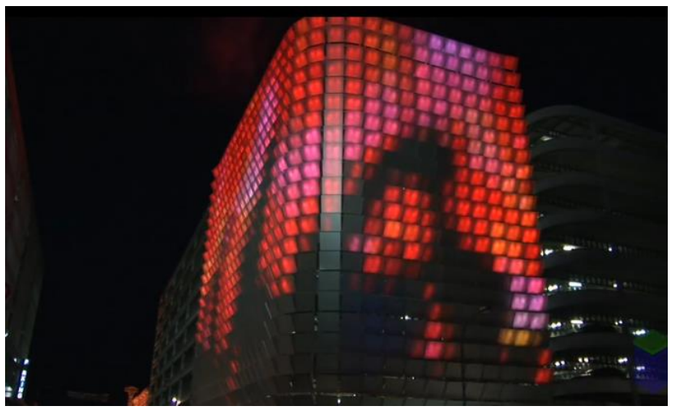
Each panel has 2 x 300 mm linear luminaires installed on the lower panel frame shining upwards

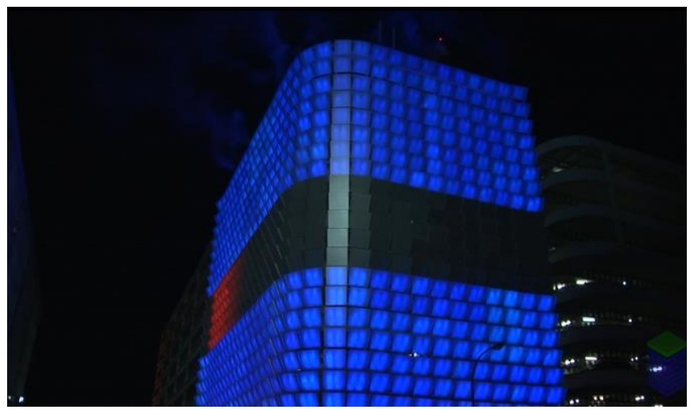
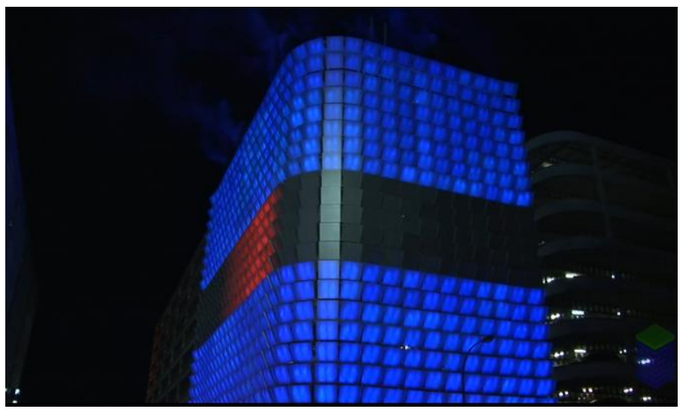
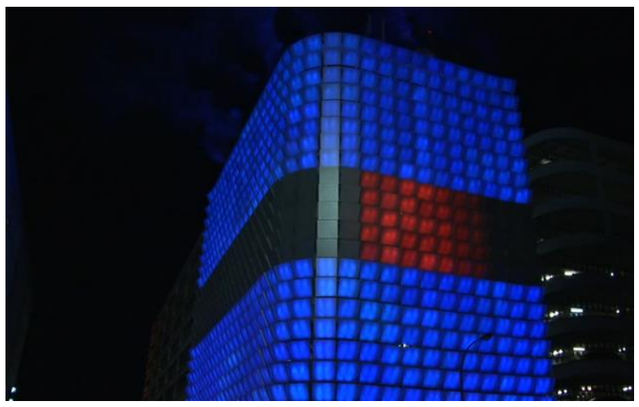
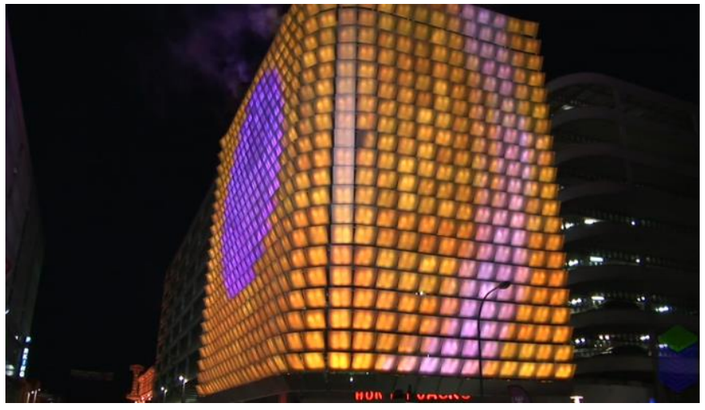
Lighting effect results from reflected light from panel above

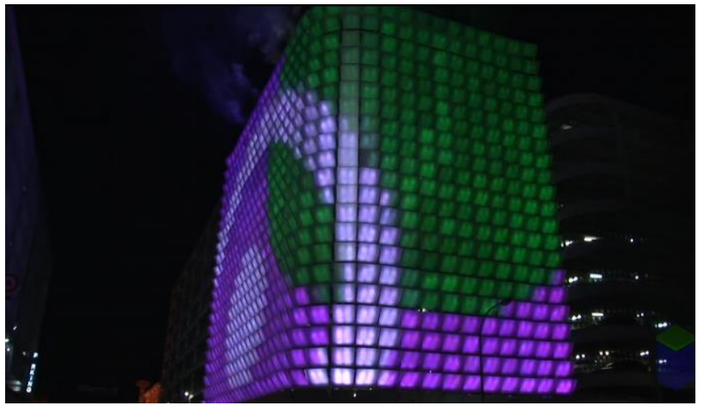
project:
1-3 Burrows Rd. – Façade Lighting
drawing:
Precedent – Rundle Mall, Adelaide SA
project numer:
L173I-CONCEPT-09
Rev:
B
Issue Date
31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING

Precedent – Rundle Mall, Adelaide SA

Snapshots from Rundle Mall Opening video

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Precedent – Rundle Mall, Adelaide SA

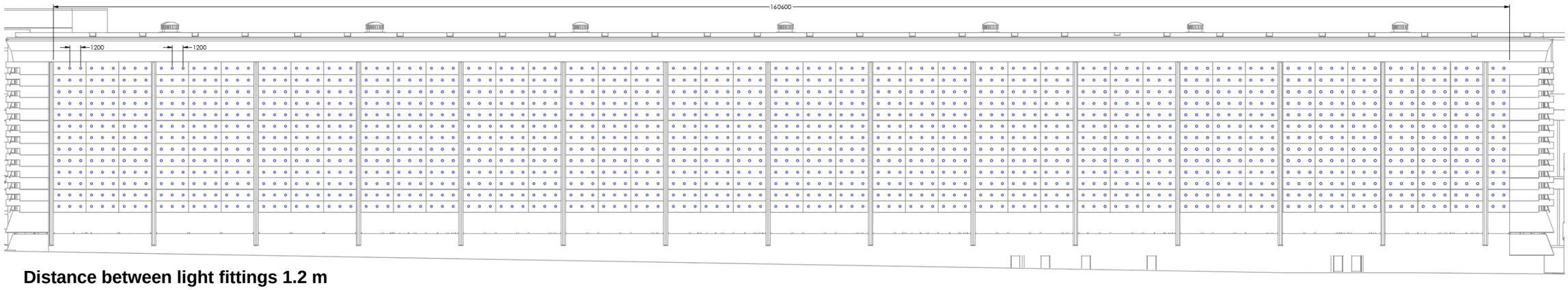
project numer:
L173I-CONCEPT-10

Rev:
B

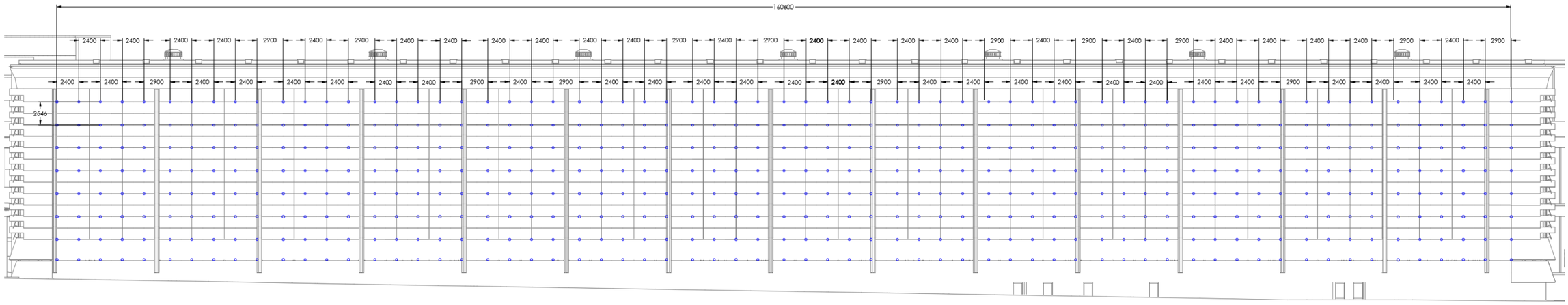
Issue Date
31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING

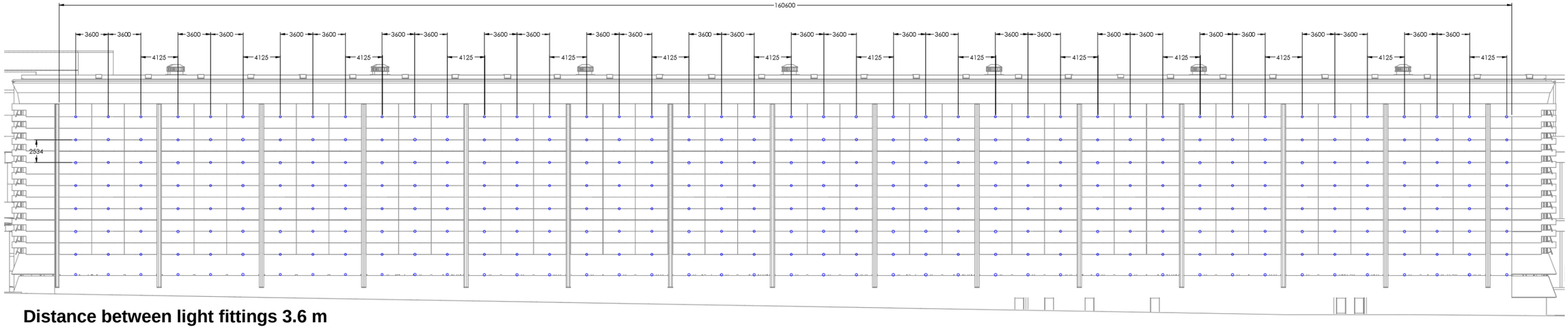
Design Options – Western Façade



Distance between light fittings 1.2 m



Distance between light fittings 2.4 m



Distance between light fittings 3.6 m

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Design Options – Western Façade

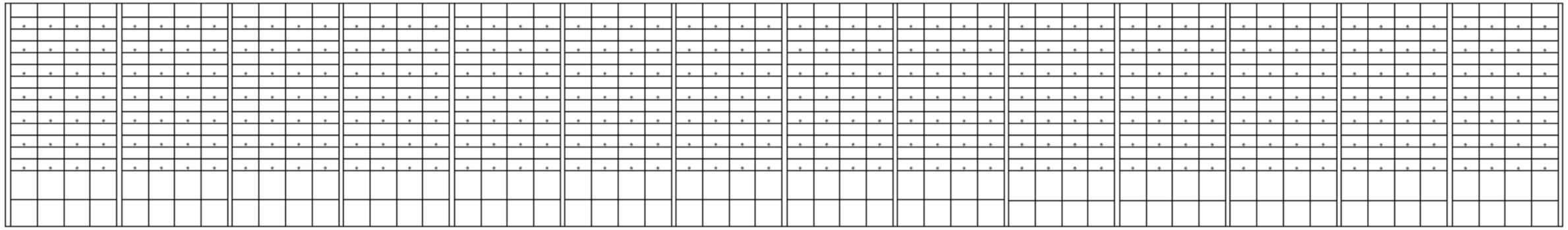
project numer:
L173I-CONCEPT-11

Rev:
B

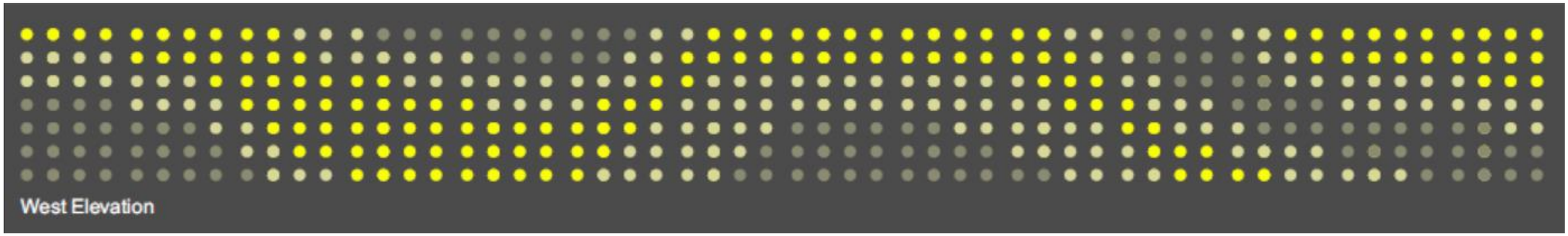
Issue Date
31/08/22

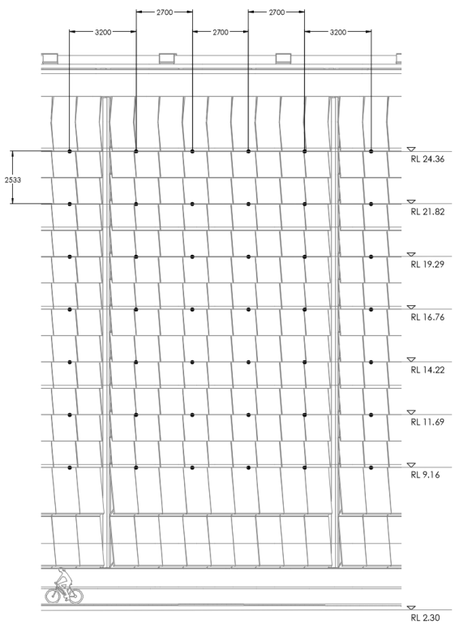
1-3 BURROWS ROAD - FAÇADE LIGHTING

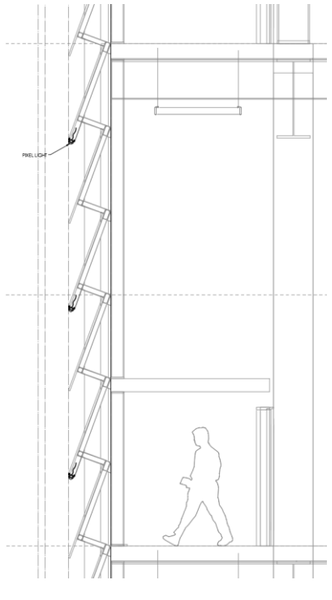
Design Options – Façade Development

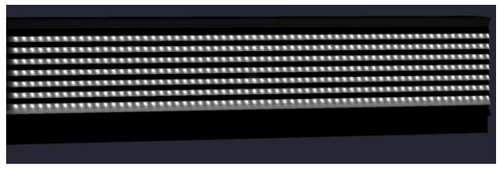


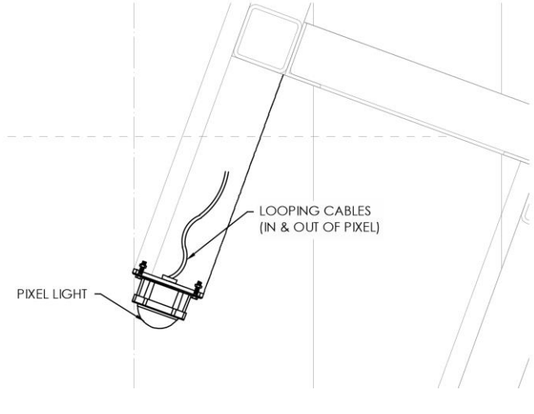
West Elevation **Distance between light fittings 2.7 m**











Installation Sketch

1-3 Burrows Road

Viewing Distance

Where the viewer is located plays an important role in determining how resolution is perceived. For example, lines of light may be very far apart, but when viewed from far away, they will be perceived as close. The surroundings will determine how close views can get. If the building is viewed from a far distance with unbroken sightlines, it is possible to achieve a video effect with luminaires placed further apart.

Content

Although it’s the most visible element to viewers content is often left until late in the process. Ultimately, content determines the right lighting solution and design, including the control system that will be used. Knowing the content lets you determine what system can display it best, and at what level of detail.

project:
1-3 Burrows Rd. – Façade Lighting

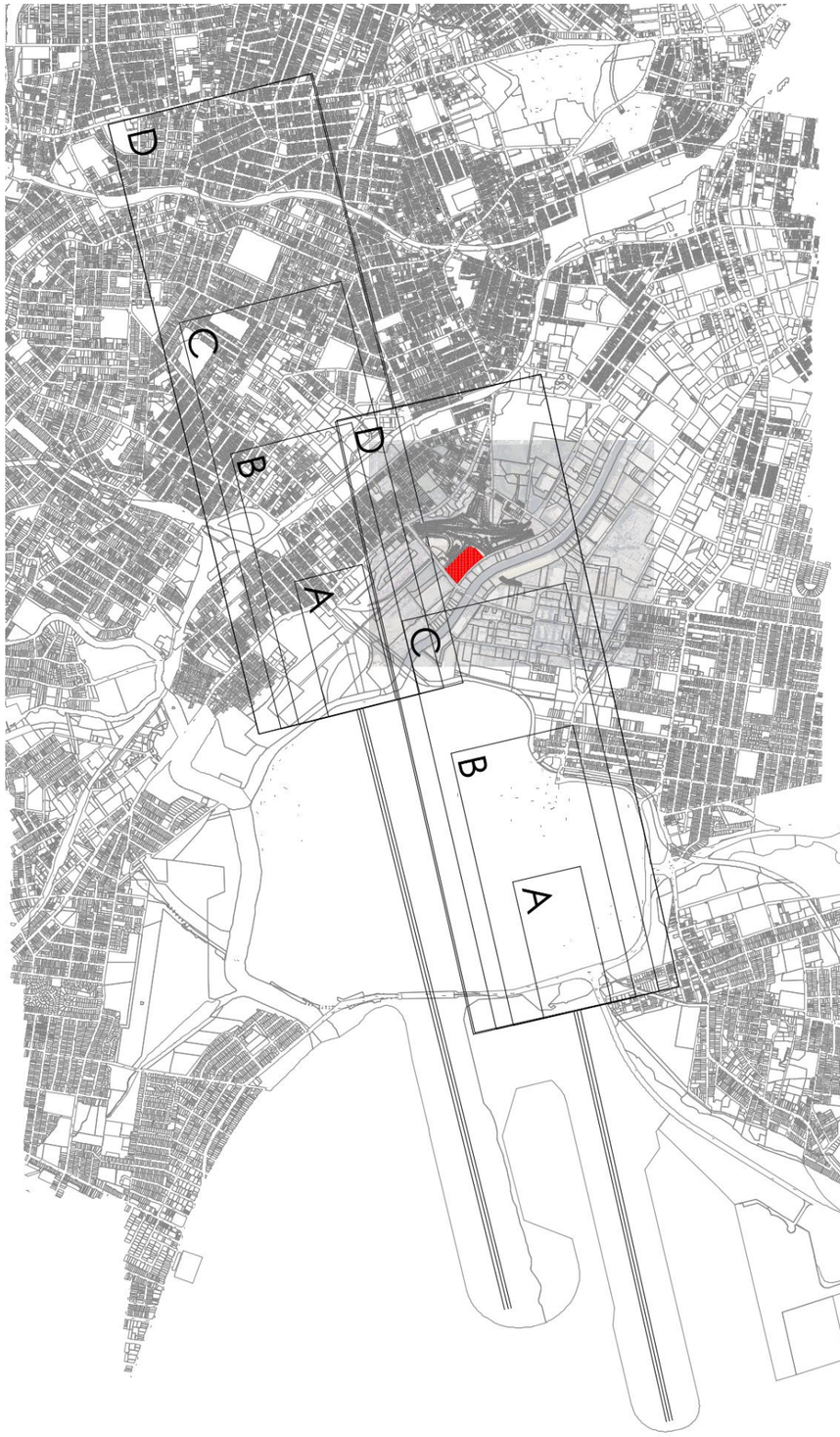
drawing:
Design Options – Façade Development

project numer:
L173I-CONCEPT-12

Rev:
B

Issue Date
31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING
CASA Requirements



Civil Aviation Safety Authority (CASA) Requirements

The Civil Aviation Safety Authority (CASA) has the power through regulation 94 of the Civil Aviation Regulations 1988 (CAR 1988), to require lights which may cause confusion, distraction or glare to pilots in the air, to be extinguished or modified. Ground lights may cause confusion or distraction by reason of their colour, position, pattern or intensity of light emission above the horizontal plane.

An existing or proposed non-aeronautical ground light in the vicinity of an aerodrome, which, by reason of its intensity, configuration or colour, might endanger the safety of aircraft, must be notified to the relevant CASA office for a safety assessment. In general, vicinity of the aerodrome can be taken as within a 6 km radius of the aerodrome.

1-3 Burrows Road

1-3 Burrows Road is within the CASA lighting control area for Sydney Airport. The CASA Manual of Standards MOS-139 Chapter 9 limits what lighting can be directed into the sky in this zone, or any lighting that might confuse the pilots reading of the landing guidance lights.

Figure to the left indicates the position of the building with relation to the CASA zones defined in Rule 9.21. Building 1-3 Burrows Road falls in Zone D.

In the location of the feature lighting with relation to the airport the following limits apply:

- There is a general limit on “ground lights that may cause confusion or distraction by reason to their colour, position, pattern or intensity of light emission above the horizontal plane.
- For Zone D the luminous intensity at 3 degrees above the horizontal must be less than 450 cd.
- Coloured lights, irrespective of their intensity are to be referred to the Authority

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
CASA Requirements

project numer:
L173I-CONCEPT-13

Rev:
B

Issue Date
31/08/22

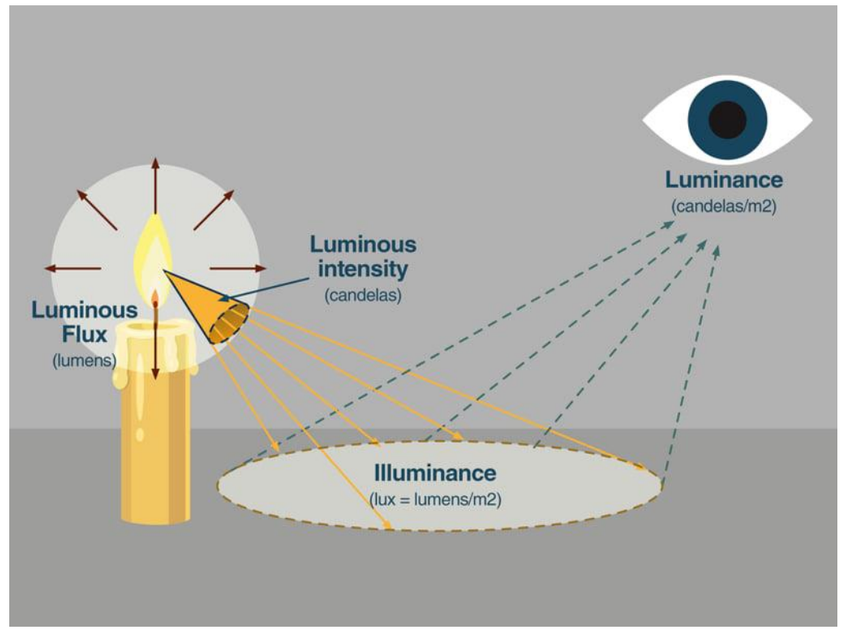
Luminous Intensity emitted by luminaires

The luminous intensity is a measure of the light that leaves in a specific direction and is a combination of the brightness of the light source, the light distributions and glare control of the light fitting and the viewing angle.

This affect does not reduce with distance; however, with a very small light source the perception will reduce as the image of the light on the eye becomes smaller than the size of the light receptors in the eye. In addition, if the distance is long enough there will be a reduction in the brightness due to the permeability of the air.

It is an indication of the level of distraction or discomfort the lighting might cause. The luminous intensity relates to a specific direction and will depend on the light distribution of the light fitting and the direction of view.

Luminous Intensity is the light leaving a source in a given direction and is measured in ***candelas***.



Obtrusive Light - Compliance Report
CASA ZONE D - 450 cd @ 3 deg
Filename: L173I facade dot - CASA
17/08/2022 9:47:28 AM

Luminous Intensity (Cd) Per Luminaire
Maximum Allowable Value: 450 Cd
Control Angle: 93 Degrees

Luminaire Locations Tested (24)
Test Results: **PASS**

All Luminaire Locations (24):

Lum.No.	Label	Cd	Tilt	Roll	Spin
1	Space Dot L - DM881804 RGBW-A	18	90	0	0
2	Space Dot L - DM881804 RGBW-A	18	90	0	0
3	Space Dot L - DM881804 RGBW-A	18	90	0	0
4	Space Dot L - DM881804 RGBW-A	18	90	0	0
5	Space Dot L - DM881804 RGBW-A	18	90	0	0
6	Space Dot L - DM881804 RGBW-A	18	90	0	0
7	Space Dot L - DM881804 RGBW-A	18	90	0	0
8	Space Dot L - DM881804 RGBW-A	18	90	0	0
9	Space Dot L - DM881804 RGBW-A	18	90	0	0
10	Space Dot L - DM881804 RGBW-A	18	90	0	0
11	Space Dot L - DM881804 RGBW-A	18	90	0	0
12	Space Dot L - DM881804 RGBW-A	18	90	0	0
13	Space Dot L - DM881804 RGBW-A	18	90	0	0
14	Space Dot L - DM881804 RGBW-A	18	90	0	0
15	Space Dot L - DM881804 RGBW-A	18	90	0	0
16	Space Dot L - DM881804 RGBW-A	18	90	0	0
17	Space Dot L - DM881804 RGBW-A	18	90	0	0
18	Space Dot L - DM881804 RGBW-A	18	90	0	0
19	Space Dot L - DM881804 RGBW-A	18	90	0	0
20	Space Dot L - DM881804 RGBW-A	18	90	0	0
21	Space Dot L - DM881804 RGBW-A	18	90	0	0
22	Space Dot L - DM881804 RGBW-A	18	90	0	0
23	Space Dot L - DM881804 RGBW-A	18	90	0	0
24	Space Dot L - DM881804 RGBW-A	18	90	0	0

Obtrusive Light - Compliance Report
CASA ZONE D - 450 cd @ 3 deg
Filename: L173I facade dot - CASA
17/08/2022 9:46:45 AM

Luminous Intensity (Cd) Per Luminaire
Maximum Allowable Value: 450 Cd
Control Angle: 93 Degrees

Luminaire Locations Tested (24)
Test Results: **PASS**

All Luminaire Locations (24):

Lum.No.	Label	Cd	Tilt	Roll	Spin
1	Space Dot L - DM881804 RGBW-W	14	90	0	0
2	Space Dot L - DM881804 RGBW-W	14	90	0	0
3	Space Dot L - DM881804 RGBW-W	14	90	0	0
4	Space Dot L - DM881804 RGBW-W	14	90	0	0
5	Space Dot L - DM881804 RGBW-W	14	90	0	0
6	Space Dot L - DM881804 RGBW-W	14	90	0	0
7	Space Dot L - DM881804 RGBW-W	14	90	0	0
8	Space Dot L - DM881804 RGBW-W	14	90	0	0
9	Space Dot L - DM881804 RGBW-W	14	90	0	0
10	Space Dot L - DM881804 RGBW-W	14	90	0	0
11	Space Dot L - DM881804 RGBW-W	14	90	0	0
12	Space Dot L - DM881804 RGBW-W	14	90	0	0
13	Space Dot L - DM881804 RGBW-W	14	90	0	0
14	Space Dot L - DM881804 RGBW-W	14	90	0	0
15	Space Dot L - DM881804 RGBW-W	14	90	0	0
16	Space Dot L - DM881804 RGBW-W	14	90	0	0
17	Space Dot L - DM881804 RGBW-W	14	90	0	0
18	Space Dot L - DM881804 RGBW-W	14	90	0	0
19	Space Dot L - DM881804 RGBW-W	14	90	0	0
20	Space Dot L - DM881804 RGBW-W	14	90	0	0
21	Space Dot L - DM881804 RGBW-W	14	90	0	0
22	Space Dot L - DM881804 RGBW-W	14	90	0	0
23	Space Dot L - DM881804 RGBW-W	14	90	0	0
24	Space Dot L - DM881804 RGBW-W	14	90	0	0

Obtrusive Light - Compliance Report
CASA ZONE D - 450 cd @ 3 deg
Filename: L173I facade dot - CASA
17/08/2022 9:48:07 AM

Luminous Intensity (Cd) Per Luminaire
Maximum Allowable Value: 450 Cd
Control Angle: 93 Degrees

Luminaire Locations Tested (24)
Test Results: **PASS**

All Luminaire Locations (24):

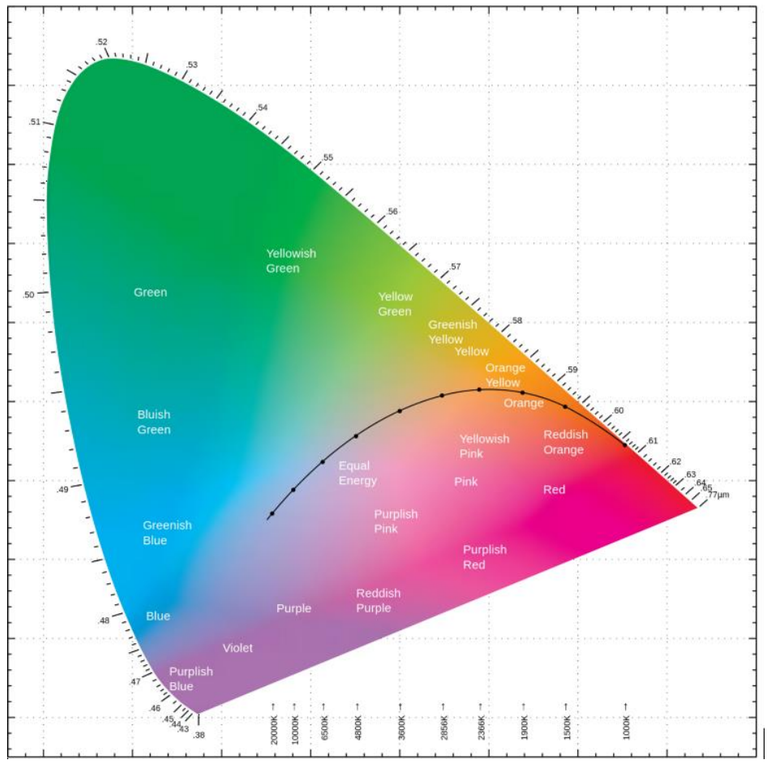
Lum.No.	Label	Cd	Tilt	Roll	Spin
1	Space Dot L - DM881804 RGBW-G	2	90	0	0
2	Space Dot L - DM881804 RGBW-G	2	90	0	0
3	Space Dot L - DM881804 RGBW-G	2	90	0	0
4	Space Dot L - DM881804 RGBW-G	2	90	0	0
5	Space Dot L - DM881804 RGBW-G	2	90	0	0
6	Space Dot L - DM881804 RGBW-G	2	90	0	0
7	Space Dot L - DM881804 RGBW-G	2	90	0	0
8	Space Dot L - DM881804 RGBW-G	2	90	0	0
9	Space Dot L - DM881804 RGBW-G	2	90	0	0
10	Space Dot L - DM881804 RGBW-G	2	90	0	0
11	Space Dot L - DM881804 RGBW-G	2	90	0	0
12	Space Dot L - DM881804 RGBW-G	2	90	0	0
13	Space Dot L - DM881804 RGBW-G	2	90	0	0
14	Space Dot L - DM881804 RGBW-G	2	90	0	0
15	Space Dot L - DM881804 RGBW-G	2	90	0	0
16	Space Dot L - DM881804 RGBW-G	2	90	0	0
17	Space Dot L - DM881804 RGBW-G	2	90	0	0
18	Space Dot L - DM881804 RGBW-G	2	90	0	0
19	Space Dot L - DM881804 RGBW-G	2	90	0	0
20	Space Dot L - DM881804 RGBW-G	2	90	0	0
21	Space Dot L - DM881804 RGBW-G	2	90	0	0
22	Space Dot L - DM881804 RGBW-G	2	90	0	0
23	Space Dot L - DM881804 RGBW-G	2	90	0	0
24	Space Dot L - DM881804 RGBW-G	2	90	0	0

1-3 Burrows Road

Coloured lights, irrespective of their intensity are to be referred to the Authority

Project to ensure the lighting must change colours on a very slow cycle and the colours have to be limited to specifically exclude any of the colours prohibited by CASA.

The intensity of the lights can be limited to less than 150cd. The lighting will require to be approved by CASA as the lighting is coloured.



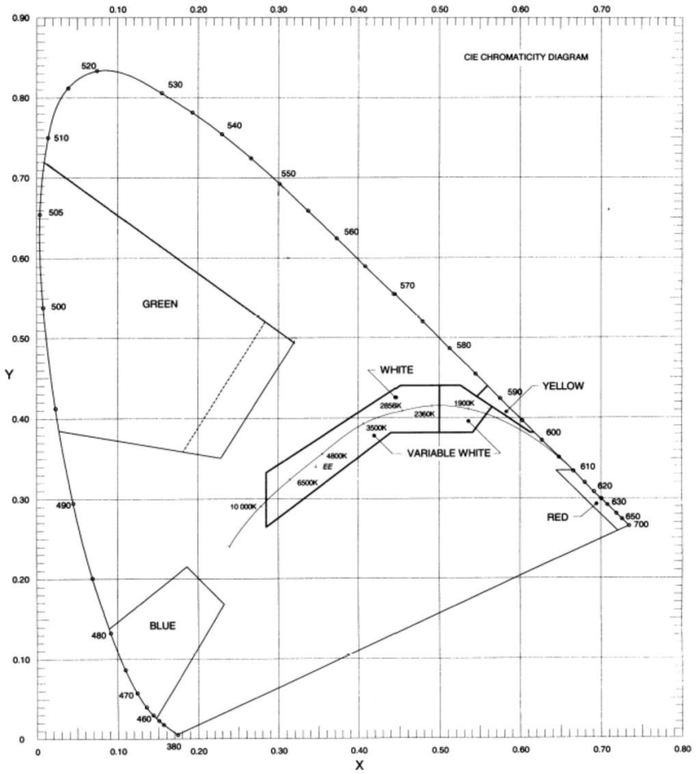


Figure 9.2-1: Colours for aeronautical ground lights

Colour Number	Description	CASA STATUS	Chromaticity Co-ordinates x	y	Approximate DMX levels per channel R	G	B
General Colours							
1	Deep Blue	**FAIL**	0.1418	0.0325	9	3	255
2	Light Blue	**FAIL**	0.1541	0.1816	0	255	255
3	Pastel Green	PASS	0.2751	0.3684	220	255	204
4	Green	PASS	0.2017	0.717	1	255	0
5	Lime Green	PASS	0.3592	0.5838	219	255	7
6	Yellow	PASS	0.465	0.4965	254	255	5
7	Orange	**FAIL**	0.516	0.4528	255	238	4
8	Red	PASS	0.6263	0.3027	255	148	122
9	Pink	PASS	0.6365	0.2801	255	9	129
10	Violet	PASS	0.3264	0.1241	255	1	239
11	Purple	PASS	0.2084	0.0657	220	3	254
12	Indigo	**FAIL**	0.1673	0.0453	181	5	254
13	Cool Blue	**FAIL**	0.1934	0.1905	209	255	255
14	Pastel Blue	PASS	0.2339	0.3276	206	255	216
15	Pastel Yellow	PASS	0.4157	0.4738	246	255	144
16	Peach	**FAIL**	0.4892	0.3743	255	228	158
17	Neon Pink	PASS	0.5112	0.2647	255	178	178
18	Neon Green	**FAIL**	0.2987	0.5379	176	255	142
19	Neon Blue	**FAIL**	0.1866	0.1118	154	197	255
20	Pale Blue	**FAIL**	0.2144	0.2093	209	255	255
21	Pastel Pink	PASS	0.3201	0.2308	255	235	238
22	Neon Red	PASS	0.6037	0.329	255	94	104
23	Neon Purple	PASS	0.2733	0.1297	246	164	255
24	Light Yellow	PASS	0.4175	0.4461	151	255	125
25	Light Orange	**FAIL**	0.4777	0.4031	255	167	87
26	White	**FAIL**	0.3484	0.33	208	255	252
27	Ocean Blue	**FAIL**	0.2035	0.2279	207	255	242
28	Turquoise	PASS	0.1671	0.3152	28	253	218
29	Neon Light Green	PASS	0.3529	0.5257	224	255	134
30	Light Purple	**FAIL**	0.2375	0.1789	240	244	254

Example from St Peters Interchange

Illustration of specific light colours that are prohibited by CASA

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
CASA Requirements

project numer:
L173I-CONCEPT-15

Rev:
B

Issue Date
31/08/22

1-3 Burrows Road

AS/NZS 4282:2019 – Control of the obtrusive effects of outdoor lighting

AS/NZS4282: *Control of obtrusive effects of outdoor lighting*, gives control for the levels of spill light that can be reasonably expected in an urban environment.

The standard sets different limits for different ambient lighting conditions and different times of day. The higher the ambient conditions, the higher the allowable obtrusive lighting limit.

Clause 3.3.5.4 – Signs, Facades and artwork with dynamic content

Where the graphical content or colours can change, the dwell time of the image shall be 10 seconds or more, and the average luminance shall change by less than 30% on the change of the image.

Clause 3.3.5.7 (c) – Upward Light Ratio

Upward light ratio limits the light emitted into the sky in order to limit the impact on sky glow.

It is defined in AS/NZS 4282 as “the proportion of the flux of a luminaire and/or installation that is emitted, at and above the horizontal, excluding reflected light, when the luminaire(s) is/are mounted in its installed position(s).”

Clause 3.3.5.7(c) of As/NZS 4282 states that the ULR for internally illuminated surfaces shall have an ULR of not greater than 50%.

Clause 3.3.5.7 (d) – Threshold Increment
This is a measure of the disability glare that results from the light sources and their impact on driver’s ability to read of signs, signals and see objects. The threshold increment is calculated from the driving position for cars driving on roads that are near the sign.

Threshold increment in the vicinity of transport corridors is to be applied to lighting that is visible to the vehicle operator.

TABLE 3.1

ENVIRONMENTAL ZONES

Zones	Description	Examples
A0	Intrinsically dark	UNESCO Starlight Reserve. IDA Dark Sky Parks. Major optical observatories No road lighting -unless specifically required by the road controlling authority
A1	Dark	Relatively uninhabited rural areas No road lighting - unless specifically required by the road controlling authority
A2	Low district brightness	Sparsely inhabited rural and semi-rural areas
A3	Medium district brightness	Suburban areas in towns and cities
A4	High district brightness	Town and city centres and other commercial areas Residential areas abutting commercial areas
TV	High district brightness	Vicinity of major sports stadium during TV broadcasts
V	Residences near traffic routes	Refer AS/NZS1158.1.1
R1	Residences near local roads with significant setback	Refer AS/NZS 1158.3.1
R2	Residences near local roads	Refer AS/NZS 1158.3.1
R3	Residences near a roundabout or local area traffic management device	Refer AS/NZS 1158.3.1
RX	Residences near a pedestrian crossing	Refer AS/NZS 1158.4

NOTE: Recreational areas are not considered commercial.

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
AS/NZS 4282 Requirements

project numer:
L173I-CONCEPT-16

Rev:
B

Issue Date
31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING
Evening Site Trial

Evening Site Trial

In order to better understand how the proposed light for the façade of 1-3 Burrows Road Building performs, an evening site trial was undertaken.

On the evening of 17th August 2022, 4 light samples were tested in a dark environment and seen from large distances and from angled views to mimic the viewing of the building if driving along SPI, Burrows Road or from across the Alexandra Canal.

The evening exercise promoted the following:
- Decision on location/orientation of the light fittings
- Decision on adequate spacing between light fittings
- Understanding effectiveness/brightness of small luminaires in dark environments

Façade Artwork Extent

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Evening Site Trial

project numer:
L173I-CONCEPT-17

Rev: B

Issue Date 31/08/22

1-3 BURROWS ROAD - FAÇADE LIGHTING
Evening Site Trial

Evening Site Trial Findings

As part of the Façade Design Development, different positions of the LED “Dots” were considered.

Positioning of Luminaires
Initially the lights were intended to be facing out on the façade. During nighttime, dots across the façade would be visible against a dark background.

However, during the night trial positioning of the luminaires close to horizontal was also tested. This option was trialed in conjunction with a sample of the proposed panels to be used on the façade. With this solution the light node is still visible from a distance with the advantage of simultaneously illuminating the façade panels.
The described solution will promote a glow on the panels, highlighting the architecture of the building.

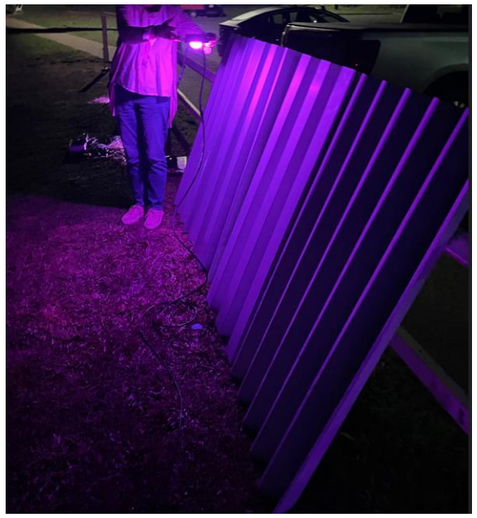
Spacing Between Luminaires
The luminaires are intended to be installed at regular intervals.

If too close together, at a distance, when seen from a distance, they will appear to form a continuous line.
At the evening site trail it was agreed that the spacing of 2.7 m between lights assists with the “dotted” appearance of the façade and facilitates installation since the façade bays are divided into 4 x 2.7 m wide units.

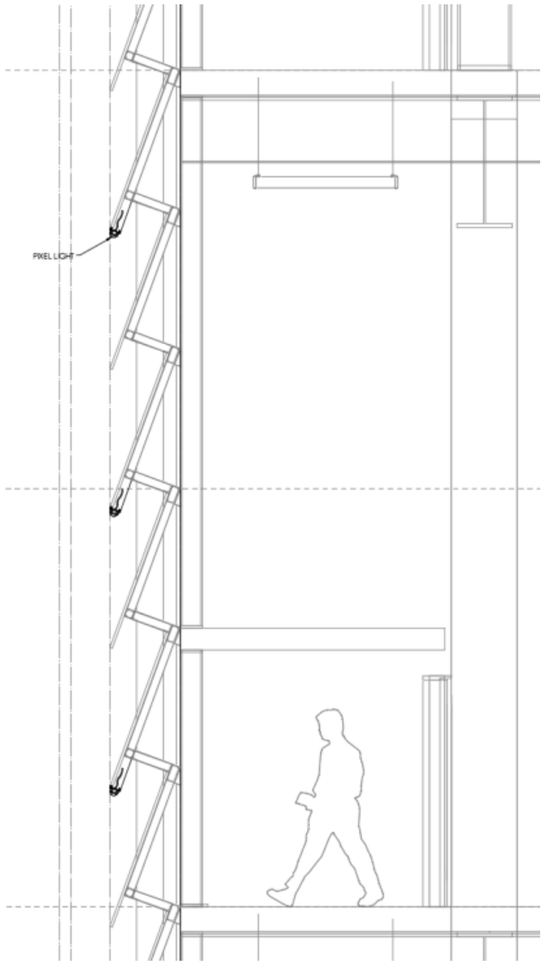
Conclusion

The location of LED dots at the bottom of the panels that form the façade will simultaneously highlight the architecture of the building and promote the direct view of the light fixtures. Since the panels will be installed at 20° from the vertical, the lights will also present a 20° tilt.
The proposed scheme will produce a combination of low luminance dots that are directly visible and a wash light on the façade resultant from the reflected light produced by the angled façade panels.

LED Dots facing Out



LED Dots close to horizontal – promotes illumination of panel and nodes are still visible



Proposed Luminaire Locations

project:
1-3 Burrows Rd. – Façade Lighting

drawing:
Evening Site Trial

project numer:
L173I-CONCEPT-18

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B

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