





/ Artist Impression of the Proposed Blackwattle Bay Renewal

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/ Cover page: Scenario 2 Bank Street Open Space Character
Image from March 2020 Community Consultation

Blackwattle Bay is being investigated for its urban renewal potential. Situated within the wider Bays Nominated State Significant Precinct, this area offers a key tourist attraction, the Sydney Fish Market, and an area of publicly and privately-owned lands with direct water frontage to Sydney Harbour, connections to major transport routes and proximity to the Sydney CBD.

Department of Planning and Environment, Study Requirements, 2017

Executive Summary

The Study Requirements for Blackwattle Bay were prepared in 2017 by the Department of Planning with the City of Sydney, in consultation with State agencies, and endorsed by the Project Review Panel for Bays Market District (now Blackwattle Bay).

The Blackwattle Bay Precinct Plan has been developed through comprehensive stakeholder and community consultation, analysis of context and site conditions, explorations of options and testing of environmental impacts.

The draft Precinct Plan incorporates the approved plans for the new Sydney Fish Market at the head of the bay and could deliver:

- A continuous waterfront promenade – the missing link in an otherwise 15km foreshore walk from Woolloomooloo to Rozelle
- New parks and green space with 30,000 m² of new open space
- Floor space for employment uses including knowledge based industries as part of the Innovation Corridor
- A mix of uses including cultural and entertainment attractions, community facilities, local services, retail and residential
- New active transport connections to bring the neighbourhood closer to the harbour through new and improved pedestrian and cycling links
- Improved public transport links and service options including:
 - Potential ferry wharf
 - Opportunity for new or re-routed bus routes to service through site link
 - Connections to the existing light rail
 - Access to a future Sydney Metro West Station in Pyrmont
- Enhanced access and facilities for water users of the bay
- Target Net Zero Carbon Precinct by 2050 and Green Star Communities rating

The Blackwattle Bay Precinct Plan integrates with the existing morphology and evolving urban form of the Pyrmont peninsula.

The Plan will deliver great public spaces connected with valued existing open spaces including the Glebe Foreshore and Wentworth Park. The public domain network of open spaces, streets and lanes is central to the plan and defines building envelopes.

Solar protection of existing open space and the amenity of the new public domain are primary considerations in the creation of the built form massing for Blackwattle Bay. Buildings within these envelopes are flexible and adaptable to a wide variety of land uses and building typologies.

The draft Precinct Plan envisions a sustainable and liveable quarter that connects with Country, prioritises active and public transport networks, supports biodiversity, marine ecology and local habitat, increases tree canopy cover and provides social infrastructure for the local community.

The draft Precinct Plan, and the responses to the Study Requirements consider and incorporate key NSW Government planning policies including:

- Greater Sydney Commission Eastern City District Plan
- Pyrmont Peninsula Place Strategy
- Better Placed
- Greener Places
- Connecting with Country
- Movement and Place

Volume 2 of the Blackwattle Bay Precinct Plan – Urban Design Statement outlines the specific responses to the **Urban Design** and **Public Domain: Public Open Space and Streets** study requirements and demonstrates alignment with the design principles for Blackwattle Bay.

* The Urban Design and Public Domain study requirements are listed in the following table with page references to the specific responses provided in this volume of the Urban Design Statement.

2. Urban Design

Study Requirement		Report Section
2.1	Prepare a detailed site and context analysis.	'Site & Context Analysis' P23-34
2.2	Prepare a review of relevant best practice case studies of areas of similar size, land use and approximate dwelling density to the proposal, outlining transferable principles.	'Case Study - Urban Renewal' P35-50
2.3	Prepare a review of relevant best practice case studies of food and/or fish markets, outlining transferable principles including logistics and operations, transport and access, and any other strategic aspects.	'Case Study - Fish Market' P51-52
2.4	Prepare comprehensive opportunities and constraints mapping overlays.	'Opportunities & Constraints' P23-34
2.5	Prepare a set of urban design principles that underpin the proposed development.	'Design Principles' P53-55
2.6	Prepare an options analysis that examines a variety of appropriate options for the distribution of land use and building bulk in relation to the layout of the public domain. Document the various options including an assessment of how the options respond to the identified constraints and opportunities, and state planning policies (e.g. SEPP 65 and the ADG) and have been used to inform the final proposal.	'Options Comparison' P57-66
2.7	Prepare a precinct plan that integrates: the public domain plan, infrastructure plan, community facilities plan, buildings types and massing for the site. Demonstrate how this fits within the overall Bays Precinct State Significant Precinct and surrounding context.	'Precinct Plan' P67-68
2.8	Provide a view corridor and visual assessment, with particular focus on significant views to, from and within the site. Use eye level views from public parks and street footpaths. Include views from public places in Pyrmont and Wentworth Park, and to and from the harbour, that bisect the precinct. Simulate a focal length of 55mm, to approximate the correct proportions of the elements of views as experienced by the human eye, compare to existing views and analyse the relative quantity of visible sky and harbour. Include analysis of any visual impacts on the surrounding areas, and mitigation measures. The number and angle of significant views are to be agreed with the City of Sydney and Department of Planning.	'View Corridor & Visual Assessment' P73-74
2.9	Provide a comprehensive sun access analysis for the site and its surroundings at the Winter Solstice between 9am and 3pm demonstrating the ability of the proposal to comply with standards as follows:	'Sun Access' P75-84
2.10	Provide an analysis and justification of proposed distribution of gross floor area, development yields, building typologies, building envelopes and heights. Demonstrate a fair and impartial distribution of development potential between land in government and private ownership, subject to individual site constraints.	'Distribution of GFA / Yields / Building Typologies / Envelopes / Heights' P85-102
2.11	Provide sufficient detail of the building types to demonstrate future compliance with amenity standards can be achieved, (e.g. the Apartment Design Guide); including careful siting and layout of buildings to minimise the impacts of noise and provide natural ventilation through open windows; and, to support any calculations that convert building envelopes to gross floor area and development yields.	'Amenity & Compliance' P103-114
2.12	Demonstrate how the urban design principles established in 2.5 have informed the allocation and location of proposed land uses.	'Land Uses' P95-96
2.13	Provide physical and 3D CAD models to fit the City of Sydney's respective models. Include animations and photomontages of key parts of the proposal from eye level positions in the public domain. Consult with the City of Sydney to confirm technical model requirements.	'Models / Animations / Photomontages' P119-120
2.14	Prepare a subdivision plan that reflects the precinct plan identified in 2.7 and integrates the proposed staging plan.	'Subdivision Plan' P121
2.15	Outline the proposed staging, including showing how the progressive delivery of the public domain (park and streets) is integrated with the progressive release of development lots and how the proposed staging will be integrated with the staging of the wider Bays Precinct. Within the staging plan, maximise opportunities for temporary activation and providing public access.	'Staging Plan' P122-123
2.16	Integrate the findings of other parts of this study and demonstrate how these have shaped the public domain plan and the building typologies to meet their requirements. In particular how the design of building types respond to ESD, wind, flooding, noise and pollution issues	'Other Impacts' P125-130

3. Public Domain: Public Open Space and Streets

Study Requirement	Report Section
<p>3.1 Consult closely with and obtain appropriate endorsement, to the extent that it relates to the approval of the planning framework, for all aspects of the Public Domain from the ultimate owner and manager. RMS will act as the owner and manager of the public domain on water and the City of Sydney will act as the owner and manager of the public domain on land unless and until alternative ultimate owners and managers are agreed by DPE and CoS</p>	<p>'Future Ownership and Management of Public Domain' P133-134</p>
<p>3.2 Provide a site analysis of existing physical features and conditions influencing the location and design of a continuous public domain setback from the foreshore on all sites on Bank Street. As envisaged in Volume 2 of the City's Open Space and Recreational Needs Study, this should take the form of a public domain setback from the foreshore to the building alignment allowing sufficient width of paths for pedestrians and cyclists; recreational open space; outdoor dining; community facilities, emergency access and the like. The analysis should include but not be limited to sea level rise, tides, flooding, noise and pollution, canopy and trees, heritage, character, function and use. Any proposed departure from the dimensions specified above must be fully explained and justified.</p>	<p>'Site Analysis' P135-140</p>
<p>3.3 Provide and compare options for the design of a continuous, unimpeded, publicly accessible, promenade and provision for cyclists located between the new fish market buildings and the head of Blackwattle Bay. Provide analysis of the future conditions and requirements of the fish market and how these will influence and interact with the promenade.</p>	<p>'Options of Promenade' P141-149</p>
<p>3.4 Provide an analysis of the physical connections between the northern part of Wentworth Park and the Bays Market District. Identify opportunities and options for improving connectivity for pedestrians and cyclists between the two across Bridge Road while ensuring the primary function of Wentworth Park for active recreation is not reduced and where possible enhanced.</p>	<p>'Connections to Wentworth Park' P151-152</p>
<p>3.5 Provide an analysis of the physical connections between Central Sydney, existing light rail stations and bus stops, and the precinct. Identify opportunities and options for improving pedestrian connectivity between them. Include any works required outside the precinct boundary.</p>	<p>'Pedestrian Connectivity' P153-156</p>
<p>3.6 Provide an open space plan for the Precinct, based on providing a 30 metre wide public domain promenade discussed in 3.2. Demonstrate how accessibility to the promenade is maximised by its surrounding street interfaces; how the flexibility and adaptability of use is maximised; how it is protected from noise and pollution; how it connects to the former Glebe Island Bridge as a possible future active transport connection to the other precincts within the Bays; how it connects to the existing foreshore walks in Glebe and Pyrmont; and how connections to it optimise its use for the surrounding community. Explore opportunities to locate within it suitable public and community uses which may include built structures and unenclosed areas for outdoor dining. The open space plan should also integrate outcomes of the Bays Precinct Social Infrastructure Assessment previously undertaken by the proponent to inform programming, type and size of sub-spaces to be provided within the precinct. Any proposed departure from the dimensions specified above must be fully explained and justified including how the requirements of 3.2 and 3.6 are appropriately met within the proposed dimensions.</p>	<p>'Open Space Plan' P157-168</p>
<p>3.7 Provide a layout plan of the public streets, lanes and walkways, identifying street hierarchy, typologies, movement patterns for all modes of travel, connectivity to the surrounding area and the development lots. Consider reopening former streets, reconnecting existing streets and street widening where beneficial. Provide and compare options for the street layout. Provide detailed sections and plans for typical conditions in each type of street, demonstrating innovative and best practice design for high density, highly connected, and active transport priority environments.</p>	<p>'Streets / Lanes / Movements' P169-177</p>
<p>3.8 Using data from the Traffic and Transport Study, identify key intersections where there are high numbers of pedestrians, cyclists and/or vehicles, and provide detail of how pedestrian and cyclists safety and comfort will be prioritised in these locations. Include any intersections that will be used by children to access schools as pedestrians and cyclists.</p>	<p>'Intersection Improvement for Pedestrian & Cyclist' P179-181</p>
<p>3.9 Provide a general arrangement plan for streets locating proposed kerb alignments, including intersection arrangements and mid-block crossing arrangements, overlaid with existing and future ownership boundaries.</p>	<p>'Streets Arrangement' P183-184</p>
<p>3.10 Provide a public domain plan incorporating the open space plan and street layout and demonstrate how it responds to the analysis and the urban design principles.</p>	<p>'Public Domain Plan' P185-186</p>
<p>3.11 Demonstrate how the public domain will be designed to be legible, connected and safe for pedestrians and cyclists at all times of the day and night, considering Crime Prevention through Environmental Design (CPTED) principles.</p>	<p>'Legible, Connected & Safe' P187-190</p>
<p>3.12 Demonstrate how the urban design principles established in 2.5 have informed the allocation and location of proposed land uses.</p>	<p>'WSUD Strategy' P191</p>
<p>3.13 Provide an indicative material and furniture palette for all areas of public open space and the various street types.</p>	<p>'Material & Furniture Palette' P193-194</p>
<p>3.14 In all of the above, demonstrate consideration and application of City of Sydney public domain codes where appropriate, including the Streets Code and Technical Specifications, Legible Sydney Wayfinding Strategy and Design Manual, and any other relevant City of Sydney draft Codes.</p>	<p>'Alignment with CoS Public Domain Codes' P195</p>

/ A Responsive Precinct Plan

The draft Precinct Plan for Blackwattle Bay is guided and informed by principles developed with the community and stakeholders and through feedback provided in community engagement workshops, surveys and submissions.

The three scenarios prepared for community feedback in mid 2020 were framed to explore alternative strategies across the range of urban design considerations. Community and stakeholder input and feedback was sought across a wide range of issues including access to the foreshore, public open space, indigenous and industrial heritage, transport, social infrastructure, economics and built form.

Community feedback received from survey and online panel participants was primarily focused in 5 key areas:

1. Height and Density

— Neighbourhood character & context

Built form elements such as heights immediately adjacent to the waters edge, podium heights, tower arrangements, locations and heights, as well as materials like timber, stone and brick, have been informed by the surrounding character and context. Refer to section 2.10.

— Impacts to public realm quality

Overshadowing, wind, noise, air quality, views have been assessed to ensure a wide variety of high quality public realm experiences. Refer to section 2.8 / 2.9 / 2.16.

— Supporting traffic & transport

Improved active transport connections, reconfigured pedestrian-prioritised intersections, and new public infrastructure support the redevelopment. Refer to section 3.5 / 3.7 / 3.8 / 3.9.

2. Traffic and Transport

— Impact to local roads & parking

Improved active and public transport that provides a number of different travel options, reduces the reliance on private vehicles and limits the impacts to the local roadway network and demand for basement car parking. Refer to TMAP.

— Improve mobility & active transport

New dedicated cycle paths, wide pedestrian footpaths, visitor intuitive wayfinding. Refer to section 3.3 / 3.4 / 3.5 / 3.6 / 3.7 / 3.8.

— Accessibility to public transport, legibility of transport locations & peninsula wayfinding

Collaborating and coordinating with local council and state agencies including TfNSW and GANSW (Movement and Place). Refer to section 3.5.

3. Open Space & Promenade

— Providing contiguous open space

3ha of new waterfront open space linked together through the waterfront promenade, continuous 15km walk from Rozelle to Woolloomooloo. Refer to section 2.5 / 2.7 / 3.3 / 3.6 / 3.10.

— Quality & programming

Variety of sizes and locations to provide for a high number of passive and active programmatic opportunities. Refer to section 2.5 / 2.7 / 3.2 / 3.6 / 3.10.



/ Community & Stakeholder Consultation of Design Principles, 2017



/ Brochure of the Community & Stakeholder Consultation of Three Scenarios, 2020

- **Width & public accessibility of waterfront promenade**
Minimum 10m wide waterfront promenade that is publicly accessible to all. Refer to section 3.3 / 3.6 / 3.10.

4. Harbour

- **Balancing working & recreation activities**
Logical and considered approach to appropriately locating different types of maritime infrastructure within the bay, minimising conflict between working and recreational vessels.

- **Improving water quality and environment**
Improvement to current situation, both land (bio-swales, ood) and marine (living seawalls, tidal pools).

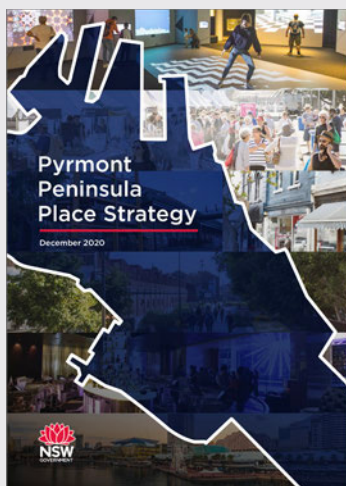
5. Community, Culture & Social Infrastructure

- **Provisioning for affordable & social housing**
Alignment with state and local programs.
- **Ensuring adequate supporting infrastructure including education & health**
- **First Nations culture**
Connecting with Country framework for Tjerruing Blackwattle Bay.

The community preference was weighted toward Scenario 2 (Balanced) and Scenario 3 (Jobs) with strong overall support for the idea of creating a mixed use precinct at Blackwattle Bay.

Stakeholder submissions were received from the three Private Land Owners, the City of Sydney, Australian Institute of Architects, University of Sydney and Goodman. Key feedback items included:

- Protecting public interest and delivering public benefit
- Clear and flexible block structure integrated with Pyrmont
- Alignment with the Pyrmont Peninsula Place Strategy
- Diverse and flexible work space arrangements to grow jobs in strategically important knowledge-based industries
- Solar performance of open spaces, promenade and Glebe Foreshore
- Preference for Scenario 3 mixed mode street layout
- Integration with Camperdown-Ultimo Collaboration Area



/ Pyrmont Peninsula Place Strategy

- | | |
|--|---|
| 1  Jobs and industries of the future | 6  Creativity, culture and heritage |
| 2  Development that complements or enhances the area | 7  Making it easier to move around |
| 3  Centres for residents, workers and visitors | 8  Building now for a sustainable future |
| 4  A unified planning framework | 9  Great homes that can suit the needs of more people |
| 5  A tapestry of greener public spaces and experiences | 10  A collaborative voice |

/ 10 Directions of Pyrmont Peninsula Place Strategy

The draft Precinct Plan for Blackwattle Bay is responsive to the community and stakeholder feedback from the three scenarios engagement. The draft Precinct Plan integrates the Pyrmont grid derived block structure of Scenario 3 with the organic influences and tracing of the original foreshore line of Scenario 2. The concept of songlines threading through the open spaces and waterfront promenade is brought together with a jobs focused use mix that will support the extension of the Innovation Corridor and connection with the Camperdown-Ultimo Collaboration Area to the south and Bays West to the north west.

Community facilities are incorporated in the draft Precinct Plan. 1-3 Bank Street is an arts and community opportunity. The Bank Street open space includes boat storage facilities, ball court, fitness and play spaces along with green open space and stepped edges down to the water of the bay.

A library and indigenous cultural centre book end the primary new open space and complement ground level retail uses for an active and engaging public domain.

The draft Precinct Plan embraces the announcement of a Sydney Metro station for Pyrmont and supports connectivity to existing light rail stations, a new ferry stop and capacity for bus routes through the new main street.

Engagement on the three scenarios preceded the release of the Draft Pyrmont Peninsula Place Strategy (PPPS) in July 2020 and the final PPPS in December 2020.

Blackwattle Bay Precinct Plan is fully aligned with the 10 directions and able to deliver on all five Big Moves for Pyrmont.

1. A world-class harbour foreshore walk
2. A vibrant 24-hour cultural and entertainment destination
3. Connect to Metro
4. Low carbon, high performance precinct
5. More, and better activated public space

Scenario 1: Homes



Scenario 2: Balanced



Scenario 3: Jobs





/ Artist Impression of Scenario 3

/ Government Architect New South Wales_ Integrated Design

"Good design is fundamental in creating better places, considering the needs of people and the community."

GANSW

GANSW is developing a suite of design policies, guides and frameworks under the banner of 'Good Design is Government Policy'. The suite covers Architecture, Urban Design and Landscape with the primary objective of promoting good design and amenity of the built environment.

Better Placed, Greener Places, Movement and Place, and the recent release of the draft Connecting with Country establish objectives and guidelines for good design.

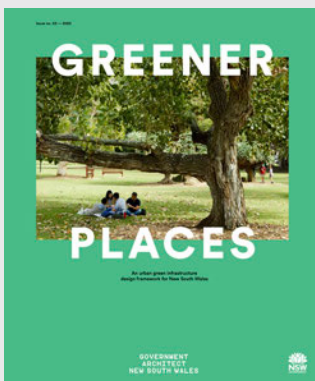
Blackwattle Bay Precinct Plan incorporates the Good Design objectives of the GANSW suite.



Seven Objectives:

1. Better Fit
2. Better Performance
3. Better for Community
4. Better for People
5. Better Working
6. Better Value
7. Better Look and Feel

The draft Precinct Plan pursues improved outcomes in the built environment through better fit, performance and community benefit.



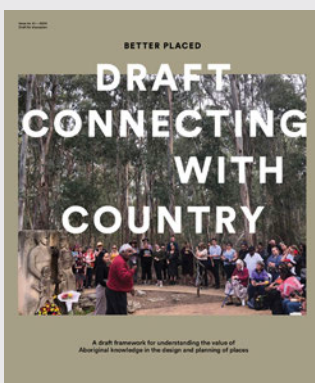
Four Principles:

1. Integration
2. Connectivity
3. Multifunctionality
4. Participation

Blackwattle Bay will be greener, with greatly improved tree canopy, and extensive open spaces and better connected. The draft Precinct Plan supports the development of the Green Grid, a network of green spaces for ecology, amenity and movement.



The diverse roles of streets with an emphasis on creating people places is embraced in the draft Precinct Plan.



The draft Precinct Plan acknowledges the traditional custodians of the land and waters of Blackwattle Bay and the value of Aboriginal knowledge in the design and planning of places.

/ Pyrmont Peninsula Place Strategy (PPPS)

"Throughout its history, the peninsula has had layers of complexity and ownership. But one thing is certain – it has always been a place where people live and work, and where they visit for entertainment and recreation."

The Hon. Rob Stokes, Minister for Planning and Public Spaces

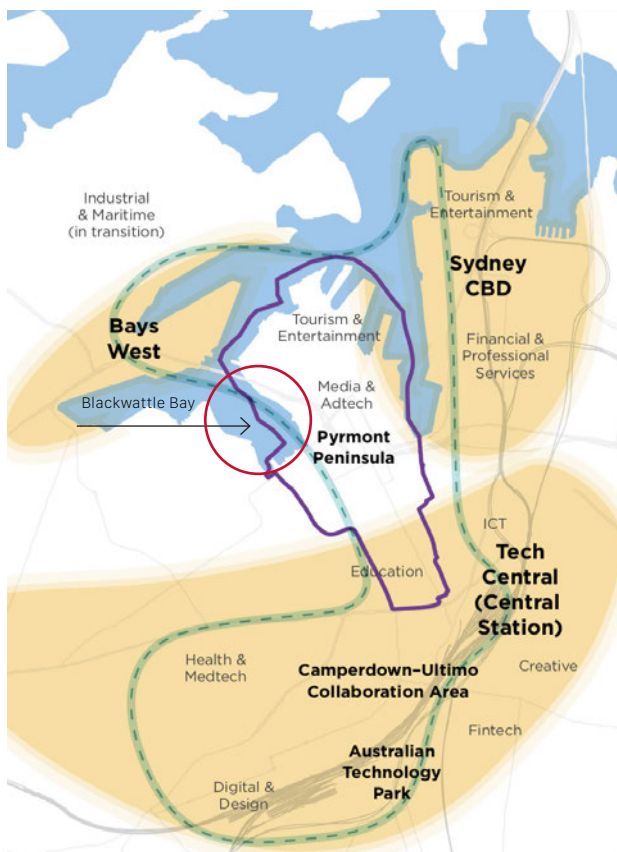
Pyrmont Peninsula Place Strategy, 2020.

The Pyrmont Peninsula Place Strategy is an important strategic review of the future planning directions for the Pyrmont peninsula. It explores the potential for Pyrmont as a global attractor and as a place for creative work and innovation as part of the Innovation Corridor. It considers the ways in which the essential characters of Pyrmont / Ultimo can remain legible and relevant whilst harnessing the opportunities created by the significant commitment to and investment in a Sydney Metro station in Pyrmont.

The strategy presents a Structure Plan within which 7 key sub-precincts are identified. Blackwattle Bay is defined as a sub-precinct and represents a physically large and strategically significant renewal opportunity for Pyrmont and for the state of New South Wales. The Blackwattle Bay sub-precinct includes the State Significant Precinct study area plus adjoining sites to Saunders Street and Bulwarra Road.

The PPPS identifies key infrastructure opportunities for the Blackwattle Bay sub-precinct including:

- Metro station and access
- Pyrmont Bridge Rd - active transport crossing
- Union St cycleway extension to Glebe Island Br - Miller St and Bank St
- Blackwattle Bay commuter cycleway
- Blackwattle Bay foreshore walk
- Underground active transport link from Sydney Fish Market to Light Rail stop
- New district park at Bank St, including inclusive play space
- 4x public multipurpose courts
- 1x outdoor fitness station - active transport loop
- Glebe Island Bridge link



/ Innovation Corridor (PPPS)



/ Structure Plan of Pyrmont Peninsula Place Strategy

- Expand Carmichael Park
- Public boating facilities near Bank Street, including launch points and storage
- Community floor space
- Library floor space
- Medical centre
- Work-based childcare
- New harbour pool
- Investigate new ferry wharf

The draft Precinct Plan for Blackwattle Bay is aligned with the PPPS. Key infrastructure opportunities have been investigated and significant open space, workplace accommodation, new homes and social infrastructure are able to be delivered in the site renewal.

Blackwattle Bay will transform from industrial and infrastructure to a place attracting businesses and employees, visitors and tourists along the connected waterfront linking the new Sydney Fish Market east to the Western Harbour, Walsh Bay and beyond. Country will be reflected in well-designed public space areas connecting community and history around a new contemporary character. A new Pyrmont Metro station will provide enhanced access to this new urban quarter and entertainment precinct.

Pyrmont Peninsula Place Strategy, 2020, P66



/ 7 Sub-precincts

At a Glance

By 2041

there could be:



2,055
more people



5,770
more jobs

Characteristics today

- An industrial working harbour with transport infrastructure, including the Western Distributor overpass, Anzac Bridge and the concrete batching plant.
- Sydney Fish Market, event boating and recreational boaters (dragon boats).
- A cluster of media businesses.
- Light Rail station.

/ Blackwattle Bay Sub-Precinct

Pyrmont Peninsula Place Strategy (PPPS)		Alignment Statement
Blackwattle Bay Place Priorities	1	<p>Redevelop Blackwattle Bay into a new urban quarter focused on knowledge-based jobs and supplemented with cultural and entertainment, visitor and tourism, retail and residential uses, connected to public transport, including the Pyrmont Metro station and anchored by the new Sydney Fish Market.</p> <p>The draft Precinct Plan provides a balance of employment and residential uses. Retail opportunities are situated on the ground floor connecting visitors and tourists within amenity and the public domain. Diverse modes of public transport connect cultural and entertainment facilities centred around public open space with the new Sydney Fish Market and Greater Sydney region. Future prospects of a Pyrmont Metro station extend the pedestrian focused network of Blackwattle Bay into the Pyrmont peninsula.</p>
	2	<p>Prioritise commercial floor space for knowledge-based jobs to support the Innovation Corridor.</p> <p>Commercial building heights and floor plates are optimised for knowledge-based jobs favouring a campus style typology popular with innovation and technology industries.</p>
	3	<p>Investigate the establishment of new entertainment, events and cultural space in the redevelopment of Blackwattle Bay to support a vibrant 24-hour entertainment and cultural precinct.</p> <p>Cultural spaces and events are woven into the narrative of the future Blackwattle Bay precinct with both permanent and flexible space. The scale and location of the centralised open space creates opportunity for a range of temporary events while the cultural centre (BLD 07) and supported amenities of the draft Precinct Plan, promote a vibrant entertainment and cultural precinct.</p>
	4	<p>Address potential impacts of 24-hour economy activities on amenity including noise, safety, traffic and transport, amongst others.</p> <p>The draft Precinct Plan has developed the importance of amenity. Residential zones are generally located from Level 8 and above minimising noise impact of traffic and activities in the public domain. Analysis has been undertaken on light disturbance from both cars and retail spaces on residential use and mitigated. Public transport and traffic networks allow for alternative routes in and around the Study Area. Safety of the public domain is enhanced by a more traversable ground plan, eliminating dead-ends and dark spots within the site. Diverse modes of public transport allow for more points of choice and can facilitate change of use relating to hours of operation.</p>
	5	<p>Providing residential development, including affordable housing without compromising commercial development and the attractiveness of Blackwattle Bay for a range of cultural, entertainment, arts and leisure activities supporting a diverse and vibrant 24-hour economy.</p> <p>The balanced use mix creates a dynamic precinct plan providing occupancy 24hrs a day. A ground plane predominantly focused on activation of public domain attracts both residents, visitors and workers.</p>
	6	<p>Establish controls to ensure development protects sunlight to existing and future open space including the harbour foreshore area consistent with the amenity constrained height strategy to be refined in subsequent sub-precinct master planning.</p> <p>DCP 2012 controls and more localised study requirements have lead to a full range of sun and overshadowing analysis for the site and surrounding residential, educational and recreational uses. Building envelopes and orientation have evolved to achieve minimum solar access on the 21st of June (winter solstice). Additional design controls have been set to minimise overshadowing and establish a best outcome street network and grid driven by solar access.</p>
	7	<p>Reprioritise street and traffic flows to promote pedestrian, cycling and public transport and provide improved active transport connections from Blackwattle Bay to other parts of the Peninsula.</p> <p>The responsive Precinct Plan includes shared and separated ways that promote an accessible site. Decision points allow pedestrians and cyclists to interact with the site in a more active or passive manner. Improved access, signalised intersections and additional proposed public transport stops improve the active connections to the transport network.</p>
	8	<p>Investigate a multi-utility hub for sustainable precinct-scale solutions such as integrated parking, electric vehicle charging, battery storage, recycled water and organic waste systems, or bike facilities.</p> <p>Large basement footprints allow for future detail design to incorporate electric vehicle charging, parking and battery storage. Bike storage and end of trip facilities will be incorporated within each development lot in accordance with the required ratio of floor area and occupancy. Recycled water and organic waste systems have capacity to be precinct wide solutions taking advantage of landscape design as well as integration and systems management.</p>
	9	<p>Create a continuous harbourside foreshore promenade connecting to Darling Harbour, Barangaroo and Walsh Bay arts and cultural precinct in the east and the new Sydney Fish Market and Glebe to the west, and beyond.</p> <p>The proposed continuous promenade, with a minimum width of 10m, connects the Glebe Foreshore with the Pyrmont peninsula completing the foreshore walkway linking Glebe and Woollahroo for pedestrians and cyclists.</p>
	10	<p>Investigate a new ferry wharf in Blackwattle Bay.</p> <p>Two points of investigation have identified possibilities for a ferry stop in Blackwattle Bay. Each could operate individually or together as a circuit. The new Sydney Fish Market is a logical stop to transport visitors to the new facility, Glebe Foreshore and Wentworth Park while a stop at the corporate charter marinas associated with the primary government site and proposed promenade would service a more residential / commercial mix use.</p>

Pymont Peninsula Place Strategy (PPPS)

Alignment Statement

Blackwattle Bay Place Priorities

11	Formalise public boating facilities, including launch points and storage for kayaks, canoes and dragon boats to enhance public access and use of the water for recreational activities.	Bank Street open space provides a formalised opportunity to retain the existing dragons boats by proposing an integration of boat storage and essential facilities with the public open space. With this, further use from kayaks and canoes can follow as the boat launch area is established as a recreational water zone with direct access to the designated rowing and paddling course.
12	Facilitate an active transport loop around the Peninsula.	Implementation of both the continuous promenade and dedicated cycle way connect Blackwattle Bay with the active transport network of the Pymont peninsula.
13	Create a new district park near Bank Street of approximately 1 hectare.	Achieved with Bank Street open space. A park with a mix of programmed and open spaces.
14	Showcase the area's Aboriginal and working harbour heritage in new public domain and upgrades.	The narrative of the proposed public domain is centred in the history and connection to country. The historic foreshore has been expressed in the formation of the ground plan and topography while existing landforms like the promontory are preserved and retained. Native species are reintegrated back into the Blackwattle Bay environment and both formal and informal areas of gathering are proposed.
15	Use Greener Places to guide the design of activated, safe and inclusive public areas.	Integration, connectivity, multifunctionality and participation are key principles of Greener Places that have been incorporated into the design and programming of all public spaces within the Study Area.
16	Encourage green building facades and rooftop gardens in new development.	Opportunities for green roofs and facades are extensive across all the proposed built forms. Single podium height office buildings provide large areas of possible accessible green roofs while the orientation of the residential towers provides favourable conditions for green facades.
17	Provide publicly-accessible, privately-owned space, such as multi-purpose courts on rooftops or in podiums, or viewing platforms that showcase Sydney Harbour.	Vertical distribution of uses allows for buffer zones or communal areas within privately owned buildings that can be used as roof gardens and viewing platforms. Multi purpose courts can be facilitated in the Bank Street open space.
18	Contribute towards the provision of new community and cultural facilities, including community and library floor space, communal rooms, work-based childcare services, production space for creative arts and medical services.	Lower podium height buildings surrounding the central open space provide opportunities for cultural, community and library facilities while the existing buildings at 1-3 Banks Street create opportunities for creative arts and production spaces.
19	Formalise the public boating facilities at Bank Street.	Programming of Bank Street open space allows for formalised boating and recreational facilities.
20	Investigate the feasibility of a harbour pool at Blackwattle Bay subject to water quality and working harbour considerations (eg. a temporary pool during summer) or a pool on the waters edge.	The scale and services of land based pool required within the space available does not lead to a high level of public benefit within Blackwattle Bay. Water quality under the current conditions is unsuitable for a water based harbour pool.



/ Artist Impression of the View from the New Sydney Fish Market Steps across to the Proposed Waterside Park





Barangaroo

Pyrmont Peninsula

Central Business District

Anzac Bridge
Western Distributor

Blackwattle Bay offers the greatest potential for change across the Peninsula. This opening of a large parcel of land for redevelopment, combined with neighbouring smaller privately-owned parcels to the north, could deliver a large proportion of the growth forecast across the Peninsula.

Pyrmont Peninsula Place Strategy, 2020, P66



Blackwattle Bay Study Area

Glebe

UTS / Central Park

Existing Sydney Fish Market

Wentworth Park

Blackwattle Bay

/ Blackwattle Bay Study Area

Located less than two kilometres from Sydney's Central Business District (CBD), the Blackwattle Bay Study Area comprises the waters of Blackwattle Bay, land along the west side of Bank Street, Pyrmont and the land and piers north of Bridge Road, Glebe. The investigation area is characterised by remnant industrial and working harbour uses and by the Sydney Fish Market. The new Sydney Fish Market at the head of the bay is approved and being prepared for construction.

Separated from Pyrmont and overshadowed by the Western Distributor viaduct and the approach to the Anzac Bridge, the site's connection to the east requires careful consideration to improve access and permeability to the waters edge. Blackwattle Bay is a critical link between the Bays Precinct and the City. The Bays Precinct is in a process of staged renewal and offers a wide range of opportunities to enhance Sydney's amenity and support future economic prosperity for New South Wales.

The renewal area of 10.4ha offers a range of opportunities to provide a mixed use precinct with significant additional open space and public access to the water and the waters edge. Blackwattle Bay is identified as the most significant renewal opportunity on the Pyrmont peninsula.

Access to, from and within the site is limited. Surrounding local roads and streets, with the exception of the Western Distributor, were not constructed to perform the arterial city road network functions that they now provide on a daily basis. Particular times of the year (Christmas, Easter and Chinese New Year) place the road network under additional pressure as the Sydney Fish Market becomes a major destination for seafood supply from the very early hours of the day.

Balancing general traffic with improved active transport links and connections to public transport, a challenge across the Sydney metropolitan area, is highlighted at Blackwattle Bay. Public transport is strained at times, and walking and cycling often feels unsafe, unhealthy and unpleasant.

Blackwattle Bay is a relatively noisy and windy place. Sheltering of public spaces from noise and wind where possible is an opportunity presented by the proposed renewal. The site's orientation to the south means careful consideration needs to be given to the scale and arrangement of built form to ensure good solar access is provided to the Glebe Foreshore, Wentworth Park and nearby residential properties.

Much of Blackwattle Bay Study Area is under-utilised. Land uses are disparate, conflicting and no longer reflect the needs and desires of the local community. The buildings and structures are degraded and block public access to the waters edge. Land ownership is shared across various State Government agencies, and three private landowners. The site area is largely hard paved with minimal vegetation and canopy coverage and exhibits some flooding issues.

Water based uses currently achieve a reasonably harmony between commercial and passive craft uses but facilities for kayakers and paddlers in particular require improvement.

Extensive analysis across more than 30 specialist consultant disciplines has been undertaken to investigate the site conditions and understand the opportunities and constraints for Blackwattle Bay. Iterative analysis has been undertaken in areas including wind, tree canopy, noise and air quality to test the potential massing of the draft Precinct Plan and to refine the proposed public domain, built form and use distribution.

"Blackwattle Creek was originally a tidal watercourse that flowed from swampy lands that are now within the grounds of the University of Sydney. The creek flowed from this swamp through a valley thick with wattle trees and then drained into Blackwattle swamp, at the head of Blackwattle Bay around Glebe. Prior to European settlement, the creek was a source of fresh water for Aboriginal people, and a place for fishing and other activities."

Blackwattle Creek, City of Sydney, Barani,
Paul Irish and Tamika Goward



GLEBE
ISLAND

PYRMONT

Blackwattle Bay
Study Area

GLEBE

ULTIMO

/ Site & Context Analysis / Opportunities & Constraints

2.1 Prepare a detailed site and context analysis.

2.4 Prepare comprehensive opportunities and constraints mapping overlays.

/ History & Archaeology

Heritage & Archaeology

The calm waters of Blackwattle Swamp and the creek which ran from Darlington to the bay were important fishing and gathering areas for the Wann and Gadi people. Middens were observed along the east coast of the bay where a spring, Tinkers Well, provided fresh water to Gadigal and European people until it was substantially altered by quarrymen. Evidence of a campsite at the head of Blackwattle Bay (now Broadway) has also been discovered. Blackwattle Bay remained reasonably unchanged until the mid 1800's, perhaps because of its swampy nature, allowing another generation of first people to use the waterway with little disturbance.

Noxious Industries & Quarries

The fresh water source of Blackwattle Creek became a focus of industry including abattoirs, brewing and tanning, resulting in a highly polluted swamp. Noxious industries were relocated to Homebush and by the 1870s the swamp was filled with the new land, Wentworth Park, dedicated to recreation.

A private toll bridge from Pyrmont to Glebe Island was completed in 1862 to gain access to Sydney's north shore. Since numerous quarries in Pyrmont provided material for the construction of many of Sydney's grand sandstone buildings, Paradise, Saunders and Pergatory quarries lay in close proximity to the Blackwattle Bay Study Area.

Waterfront Industry

During the mid to late 1800's, Blackwattle Bay's shoreline became densely occupied by shipbuilders, coal loading, metal working, timber mills and waste management. The calm waters were an ideal place for transporting material, and for slipways and jetties. Waterfront industry was connected to the city via the primary streets of Pyrmont (Gipps and Miller Streets). By the turn of the century, larger industry including the CSR refinery squeezed out many of the smaller shipwrights but coal loading and milling continued until relatively recently. Fishing fleets were also located within No.1 Bank Street.



/ Pyrmont Map Showing the Blackwattle Swap, 1836



/ Pyrmont Map Showing the Early Development and Reclamation, 1888



/ Aerial Photo of Pyrmont, 1943



/ Current Considerations

- Two locations have been identified as offering potential for indigenous archaeology (PAD01 and PAD02).
- City of Sydney LEP listed heritage items in the vicinity of Blackwattle Bay include the Pump Station on Wattle Street and the Glebe Island Bridge.
- Anzac Bridge is also a State-listed heritage item recognising its technical qualities; it is a world standard bridge in scale, aesthetics and design features. Its pylons are dominant features in the landscape which are distinctive to Blackwattle Bay.

/ Future Opportunities

- Celebrate the cultural importance of Blackwattle Bay to the Wangal and Gadigal people.
- Reinterpret historical character of Blackwattle Bay and Blackwattle Creek.
- Interpret the historical eastern shoreline of Blackwattle Bay.
- Interpret historic quarry, coal loading and timber industry through materiality interface with the bay.
- Interpret boat building and fishing fleet history within the bay including slipways.

/ Character

Heritage Pyrmont

Pyrmont peninsula is characterised by distinct neighbourhoods, streets and spaces reflecting the early patterns of settlement and the historical importance of access to the water for a range of industries. The Pyrmont Historic Conservation Area and Ultimo Historic Conservation Area recognise the valued sandstone and brick streetscapes along the ridge line. Union Square is a significant urban plaza at the confluence of the north-south and east-west spines of Pyrmont, providing great amenity in a elegant and scaled sandstone setting.

Former Working Harbour

Along the eastern edges of the peninsula, where former working harbour functions were located, progressive renewal has delivered places for entertainment and cultural uses including the International Convention Centre, Australian National Maritime Museum and The Star casino. Media, technology and creative industries are housed in adapted warehouse and wharf buildings.

Open Space

The precinct interfaces with Wentworth Park and the Glebe Foreshore, both highly valued open spaces serving communities west of the CBD. The north end of the Pyrmont peninsula is wrapped by the Waterfront Park, Pirrama park, with the continuous waterfront promenade connecting through Darling Harbour and Barangaroo to Circular Quay and Woolloomoolloo.

Western Distributor

The Western Distributor is an arterial road linking the Inner West and South West through to the CBD, North Sydney and northern suburbs. The viaduct structure has a significant impact on the amenity and character of Blackwattle Bay. Whilst the roadway is a barrier and constraint, it does provide regional connectivity to the Sydney Fish Market largely separated from the local street network.



/ Union Square



/ Harbourside Contemporary Office Building



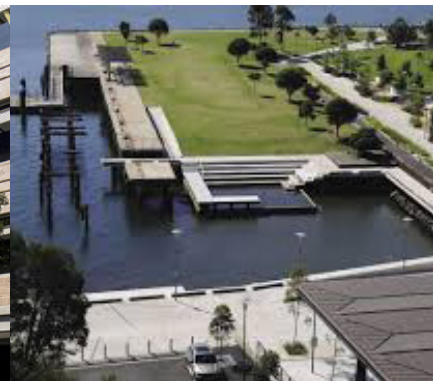
/ Glebe Foreshore



/ Historic building of Union Street



/ Harbourside Contemporary Office Building



/ Pirrama Park Waterfront



/ Existing Character Context of Blackwattle Bay Study Area

/ Current Considerations

- Western Distributor is a significant physical constraint.
- Shadow impact of Western Distributor, particularly to Private Land Owner sites.
- Disconnection of Pyrmont from the waters of Blackwattle Bay.
- Limited public access to the foreshore.
- Lack of diversity of existing uses.
- Limited tree canopy cover and biodiversity.
- Largely sealed ground surfaces and unmanaged water run-off into the bay.

/ Future Opportunities

- A contextual fit to existing Pyrmont urban structure and historical reference to original street alignments.
- Significant renewal opportunities to create a mixed use precinct housing a variety of uses for future employment growth and residents.
- Link to the existing promenade along the Glebe Foreshore to the Pyrmont waterfront completing a continuous waterfront walk from Rozelle Bay to Woollahroo.
- Public access to highly valued harbour shoreline.
- Reconnection of street network bifurcated by Western Distributor.
- Healing of the bay through re-establishment of land and marine ecologies.

/ Public Transport & Movement

Public Transport

Pymont peninsula is served by the light rail and bus. Three light rail stations, Fish Market, Wentworth Park and Glebe Station are within a 200m walking radius of the Study Area. Demand for these services varies but during peak hour is heavily used. Existing bus services are also within walking distance but do not traverse the Study Area.

Active Transport

The majority of the Study Area obstructs access from surrounding areas to the waters edge and access to the Study Area is eroded by the Western Distributor and Bridge Road. The Study Area currently blocks the waterfront promenade for pedestrian and cyclist from Glebe to Woolloomooloo. Heavy use of pedestrians and cyclists to the city via Anzac Bridge and Bridge Road has been identified and frequent cycle use is evident from Broadway to the Study Area.

There is great potential to complete the waterfront promenade and the pedestrian and cycle networks within the Study Area, connecting with surrounding areas and offering multiple entry points.

Vehicular Movement

The Blackwattle Bay precinct offers access to the regional roadway network via the Western Distributor/Anzac Bridge. Arterial links to the Western Distributor are provided via the Pymont Bridge Road / Bank Street intersection. The Study Area's connection to the local network is limited to a single point at the Miller Street / Bank Street intersection. Significant traffic loads at the intersections of Wattle Street and Pymont Bridge Road / Bank Street negatively impact the approaches to the Study Area.



/ Reference Image - Metro Services



/ Reference Image - Separated Cycleway



/ Reference Image - Shareway



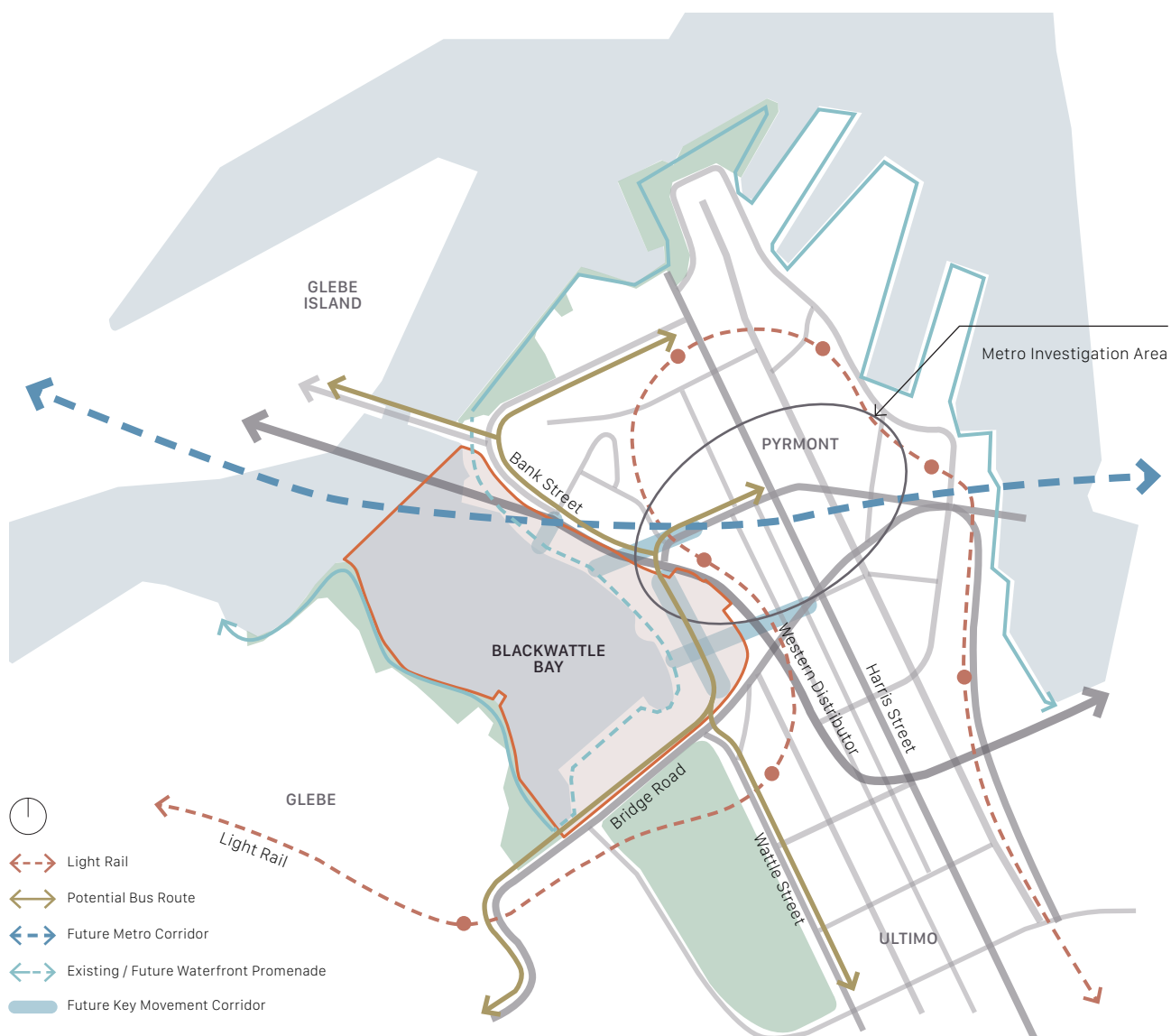
/ Reference Image - Bus Services



/ Reference Image - Pedestrian



/ Reference Image - Vehicular Movement



/ Existing & Future Opportunities of Transport & Movement

/ Current Considerations

- The waterfront promenade is interrupted between Glebe Foreshore and Pyrmont north.
- Access to public transport is impacted by busy roads, narrow paths and poor pedestrian crossing arrangements.
- Public transport is limited to light rail and bus services.
- Traffic volumes on Pyrmont Bridge Road and parts of Bank Street in addition to the Western Distributor structure and ramps are barriers to access to the Study Area.
- Cycle networks from the inner west to the city are discontinuous forcing riders onto the road network.
- North/south pedestrian movement from UTS and Central Park toward the Glebe Island Bridge is not well supported.
- Glebe Island Bridge is currently not operational or available as a pedestrian/cycle/transport link to Bays West.

/ Future Opportunities

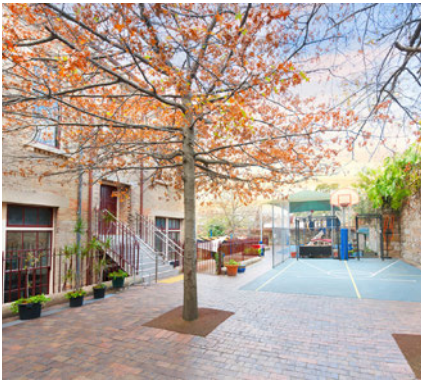
- Complete the Glebe to Woolloomooloo waterfront promenade.
- Promote walking, cycling, through the Study Area and around the Study area.
- Alternative public transport including new Metro, potential bus and ferry route and stops.
- Create greater movement permeability through the Study Area with a fine grain local street network and additional entries into the Study Area.
- Improve links to the existing light rail stations.
- Reactivation of the Glebe Island Bridge for new active transport connection.

/ Social & Community Facilities

Pymont provides a diverse range of social and community facilities for the existing Pymont and Ultimo communities. Existing facilities include community centres, libraries, daycare and pre-schools, health facilities, emergency facilities and education institutions.

Social and community facilities provided within the existing site are limited to the dragon boat ramp and storage accessed from Bank Street and the Sydney Seafood School that will move with the construction of the new Sydney Fish Market.

In addition to the social and community facilities identified in the Blackwattle Bay Social Sustainability Assessment, the Pymont Peninsula Place Strategy Social Sustainability Assessment has identified facilities which should be considered within the Study Area. It aims to respond to local identity and the growing needs of the current community and future residents, workers and visitors.



/ Pymont Community Centre



/ Pymont Library Link



/ NSW Fire Brigade Station, Pymont



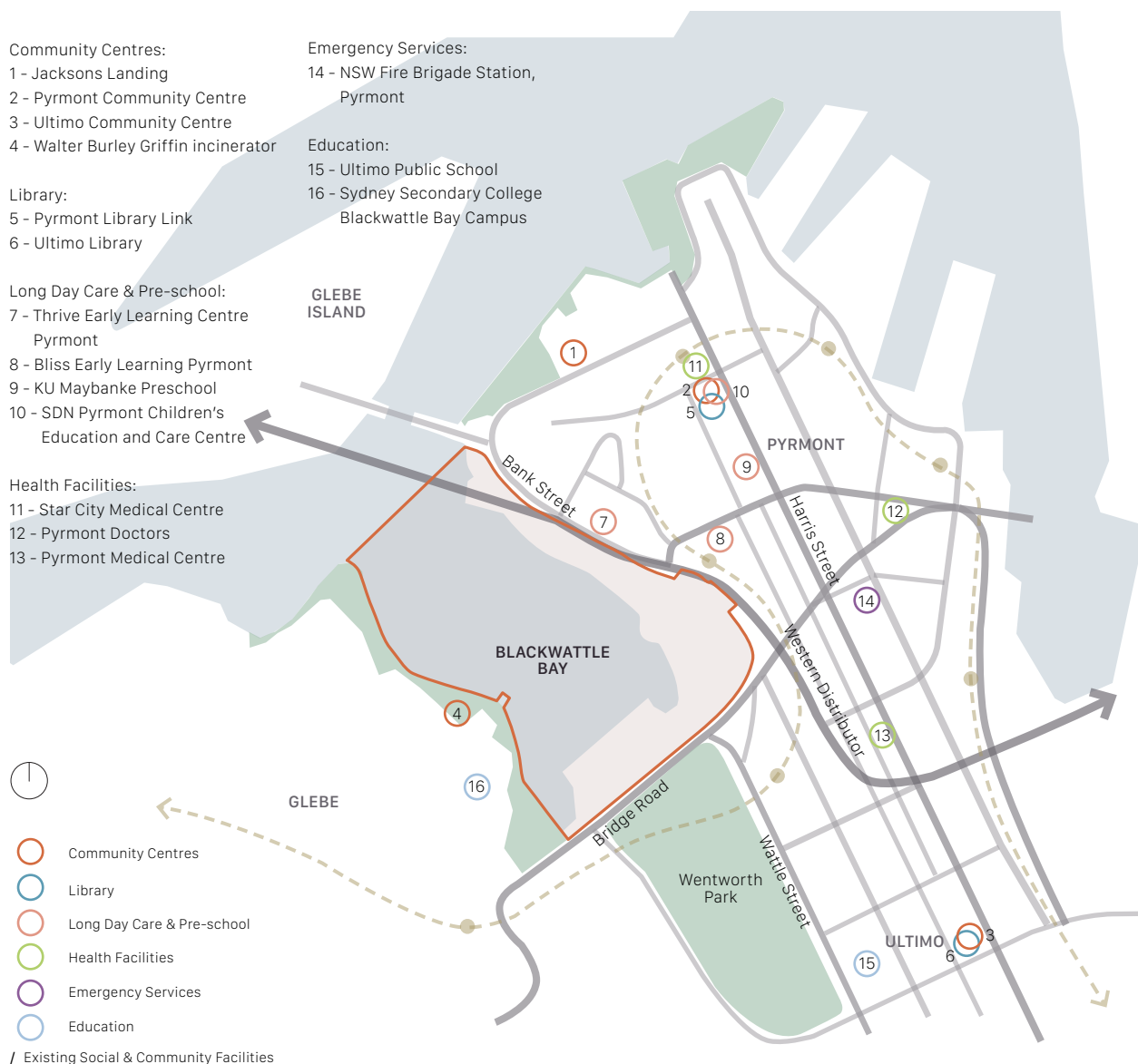
/ Walter Burley Griffin Incinerator



/ Thrive Early Learning Centre Pymont



/ Ultimo Public School



/ Current Considerations

- The existing land uses and ownerships
- The staging of future development of the Blackwattle Bay precinct
- Regional, national and international appeal of the Sydney Fish Market
- Facilities to benefit existing communities
- Health benefits of open space and access to the foreshore
- Need to better represent and engage First Nations knowledge and values
- Need for social diversity

/ Future Opportunities

- Create a new cultural and community centre integrated with the new open space.
- Potential to accommodate new cultural and community facilities at 1-3 Bank Street.
- Potential to provide other social and community facilities such as childcare and health clinic within the podium of the mixed use development.
- Possible provision of the affordable housing
- Provide additional recreation facilities including improved boat storage and amenities, multipurpose court, play and fitness

/ Urban Morphology

Pymont Profile

Pymont's transition from industrial to mixed use has resulted in a range of sites developed at a higher scale including the land previously owned by CSR which was transformed into Jacksons Landing as well as The Star complex. The Blackwattle Bay precinct offers the potential to benchmark the opportunity sites at the periphery of the CBD and within Pymont.

Ultimo Profile

Ultimo is a mixed use area, with industrial, institutional and increasing residential land uses. Connected to south Pymont and Chippendale, Ultimo is an enclave of higher learning and entrepreneurial startups. The density and vibrancy of Ultimo has evolved over recent years and it is developing as a successful mixed use education, innovation and residential community.

Height & Density

The morphology of the Pymont peninsula is diverse and its future form will continue to evolve as a mix of building heights including tower forms around the low scale heritage core of Harris Street.

Blackwattle Bay is identified as a taller building zone in the PPPS with potential building heights up to the Obstacle Limitation Surface.

New built form can include building heights and densities referenced from the existing typologies including warehouse and workplace buildings.

/ Urban Morphology and Context





/ Existing Building Typology and Density

/ Current Considerations

- Varied building heights and characters across the peninsula
- Innovation Corridor and accommodation for the future workplace including knowledge industries
- Westerly expansion of the Central Business District
- Future renewal of Bays West
- Protection of solar access to existing open spaces including Glebe Foreshore and Wentworth Park

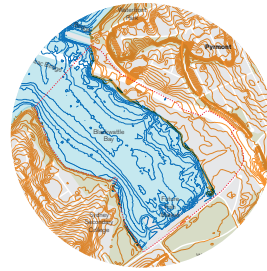
/ Future Opportunities

- Create a vibrant 24hr precinct anchored by the new Sydney Fish Market
- Potential for cultural anchor connecting with Country
- Capacity to contribute to jobs growth
- Potential accommodation for technology and innovation industries
- Future Sydney Metro station in Pyrmont connecting Blackwattle Bay to mass transit network
- Tall building clusters identified in the Pyrmont Peninsula Place Strategy
- Capacity to contribute to housing growth
- Benefits of large scale urban renewal and ability to deliver waterfront promenade, open spaces, public domain and community facilities.

/ Site Existing

The Blackwattle Bay precinct is bounded by Bank Street, Western Distributor, the western Glebe Foreshore and Bridge Road.

The layers of site analysis undertaken include land ownership, topography and natural systems, connectivity and activity within the current site. Site constraints have been identified and opportunities are considered in the draft Precinct Plan proposal.

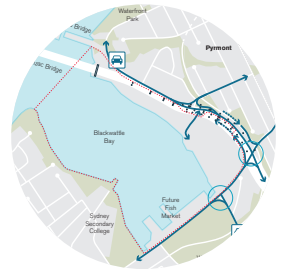
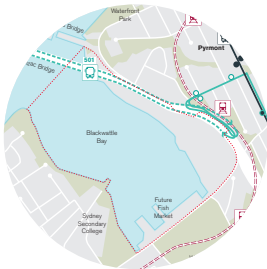


/ Terrain & Water Depth

- Landfilled and flat
- The original promontory is slightly evident
- Natural shoreline replaced with sea walls
- Shallow zones limit draft of vessels

/ Flooding

- Flooding zone along the primary streets
- Opportunities to improve overland flow and water treatment
- New levels will respond to flood levels and sea level rise



/ Public Transport

- No bus service through the Study Area
- Improve connection to light rail stations
- Provide connection to the Pymont Metro station
- Provide new ferry services

/ Pedestrian

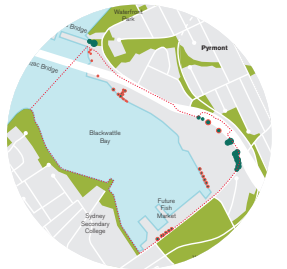
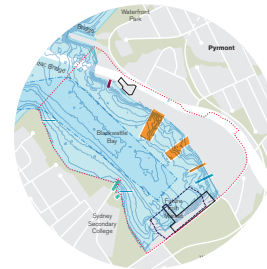
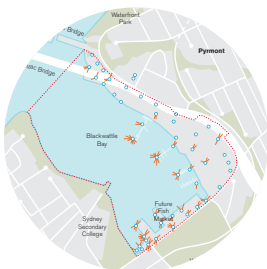
- Create access to the waterfront and the continuous waterfront promenade
- Improve pedestrian permeability through the Study Area
- Provide connections to public transport nodes and surroundings

/ Cycleway

- Strong cycle use exists along Bridge Road
- Create a cycleway network with diverse types and link to the local and city network

/ Vehicular Movement

- Congestion on current major streets and Western Distributor constrains access to Study Area
- Opportunity to create a pedestrian friendly precinct with balanced traffic movements and parking provision



/ Wind Condition

- Strong wind effects at the northwest point
- Mitigation approaches integrated with the public domain arrangement, building form and landscape design

/ Existing Land Ownership

- Three private landowners
- Major land owned by State Government agencies and the City of Sydney

/ Water Use

- Existing commercial berths
- Passive boating and other water uses
- Protect and create marine habitats along shoreline
- Provide improved access to the waters edge

/ Open Space & Habitat

- No significant green open space and very little vegetation
- Opportunity to link and extend vegetation / open space across the Study Area as an ecological corridor providing key habitats
- Offer sea wall and tidal estuary marine habitat



"Blackwattle Bay is defined by a rich and diverse history; it was a place of sustenance for Aboriginal people who fished in the bay, then became the source of the sandstone that characterises many of Sydney's early buildings. It was used for production and transportation in the 20th century, including offices, warehouses, a concrete batching plant, the Western Distributor, Anzac Bridge, the cycle connection to Rozelle and the base for a range of recreational watercraft.

The steep change in topography from Harris Street and Union Square to the waterfront, the areas under the Western Distributor and the supports for Anzac Bridge, as well as road and light rail infrastructure create barriers within the sub-precinct. Despite these challenges it is home to a significant cluster of media organisations, including Network Ten and NOVA Entertainment, as well as residential and industrial areas and working harbour activities, including the current Sydney Fish Market."

Pymont Peninsula Place Strategy, 2020, P65

/ Case Study - Urban Renewal

2.2 Prepare a review of relevant best practice case studies of areas of similar size, land use and approximate dwelling density to the proposal, outlining transferable principles.

Four Australian case studies and three international case studies relevant to the renewal of Blackwattle Bay have been selected, researched and transferable principles have been identified.

Three case studies are located in Sydney, one at the harbour's edge and two adjacent existing communities. Each has involved the renewal of former light or heavy industrial land. The fourth Australian case study, Elizabeth Quay in Perth, occupies land previously designated open space and seeks to connect the city centre to the river foreshore.

The three International case studies are located in the United States, United Kingdom and Germany. The site area of HafenCity in Hamburg is many times greater than the precinct area of Blackwattle Bay however, the neighbourhoods within the HafenCity development are of comparable size and the whole renewal area presents transferable principles relevant to the precinct study.

/ Case Studies

Australian Case Studies:

1. Central Park, Chippendale
2. Green Square Town Centre, Zetland
3. Barangaroo South, Sydney
4. Elizabeth Quay, Perth

International Case Studies:

1. Domino Sugar Factory Redevelopment, Brooklyn, USA
2. Battersea Power Station, London, UK
3. HafenCity, Hamburg, Germany

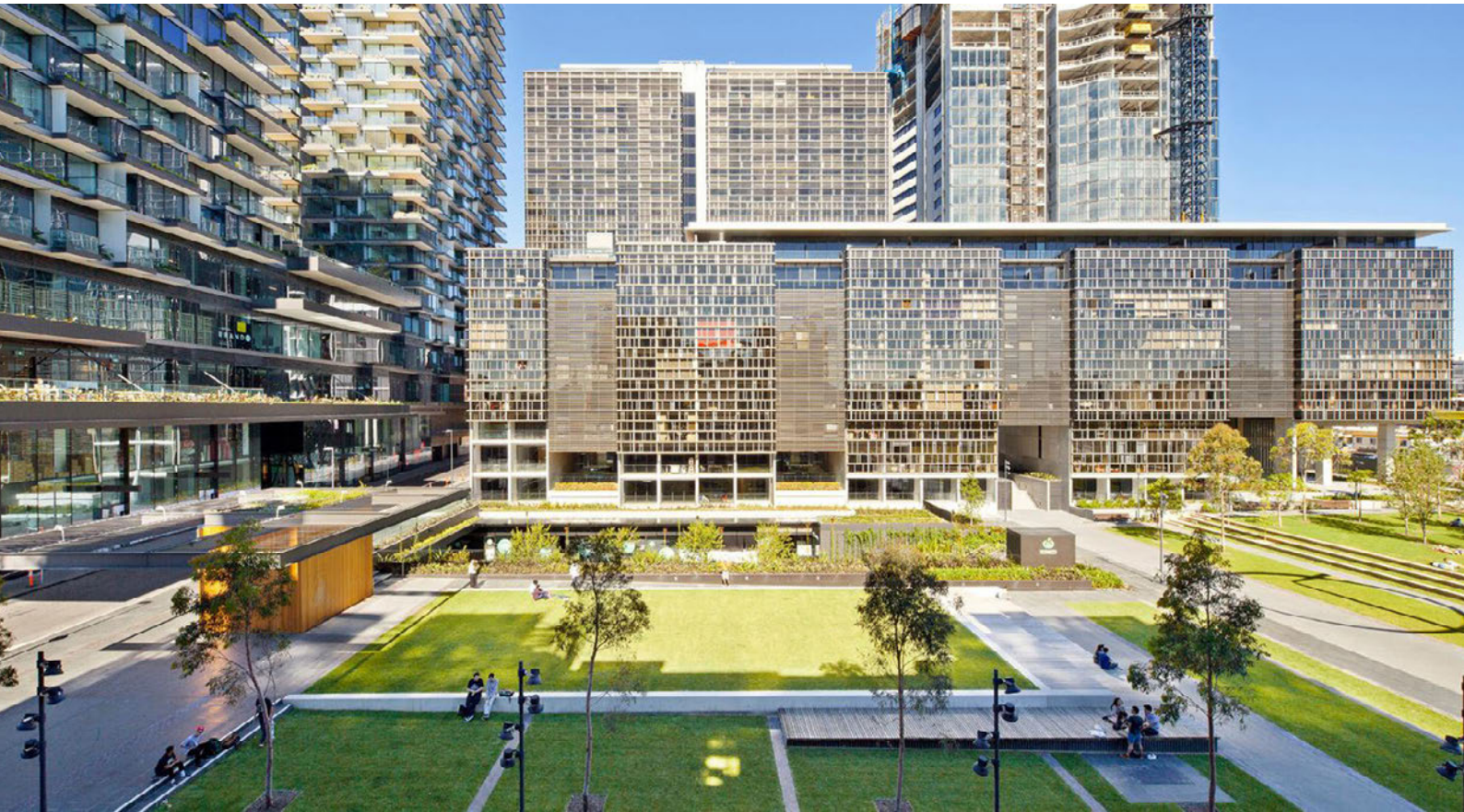




/ HafenCity, Hamburg, Germany

/ Australian Case Studies

1 Central Park, Chippendale



The former Carlton United Breweries site was a large light industrial parcel of land between the community of Chippendale and the transport hub of Central Station. It offered no public access and presented a significant barrier to free pedestrian movement through to the university campuses of UTS and the University of Sydney.

Central Park was a staged transformation of the site into a mixed use quarter that reconnects streets, introduces new open space and creates an inviting public domain in a renewed piece of the city.



Site Area (ha) 5.8	Units 2,200 apartments + 869 Student Units
Total GFA (m²) 255,200	Density 4.4:1
Uses Residential / Retail / Parkland	Open Space 11% (6,400m²)

Transferable Principles

Density Done Well

Central Park delivers a significant quantum of floor space, primarily residential and retail, with an overall site density of 4.4:1. It has buildings up to 30 storeys high and lies adjacent to an existing low scale community. The design approach has maximised the opportunities of density within its context and adjacency to Central Park.

Quality Public Domain and Open Space

Central Park, as its name suggests, places the public domain benefit as the centrepiece of the renewal. Chippendale Green is carefully positioned and named to be as relevant to the pre-existing Chippendale community as the new Central Park community. The quality and permeability of the ground plane is consistent with vehicles playing a minor role in the character of the streets and public spaces. Reflective and sympathetic to the surrounding international community, Spice Alley stands out as an innovative adaptation of existing terraces providing an intimate dining experience that is now established as a destination for the broader city.

Successful Mix of Uses

The use mix of Central Park achieves a highly successful integration with the UTS campus across Broadway. The retail mix, food court, services and cinemas address the needs of residents and students and is of sufficient scale to attract visitors from suburbs in the city and Inner West.

Vertical Landscape and Sustainability

Central Park visibly extends the green character of its public spaces vertically. One Central Park is the tallest building and embraces its role as the signature building of Central Park, presenting soft, living facades and a green image in the city. The building maintains a commitment to quality from the base to the top, avoiding an expensive podium / cheap tower approach.

Central Park has a strong sustainability agenda focused around local power generation and water reuse.



2 Green Square Town Centre, Zetland



Green Square Town Centre is the result of a long term vision for a civic centre with community facilities and public space in the former industrial heartland to the south of Sydney's CBD.

Green Square Station was opened in May 2000 on the Airport Line in time for the Sydney Olympics. The station established critical public transport infrastructure for the future centre.

The City of Sydney has pursued design excellence through competitive processes for the master planning of the precincts and the public buildings and spaces. The City has develop a specific Development Control Plan and has assumed responsibility for the delivery of the public domain elements.



Site Area (ha) 14	Units 4,000 apartments
Total GFA (m²) 406,000	Density 2.9:1
Uses Office / Residential / Retail / Hotel / Community Facilities	Open Space 10%

Transferable Principles

Early Delivery of Public Domain and Community Facilities

The streets and primary public spaces of Green Square are being delivered by the City of Sydney separate from the development parcels. The City opened the new Green Square plaza and library ahead of the majority of the residential and retail developments ensuring that new residents arrive to public amenity and infrastructure. The surrounding existing neighbouring communities benefit from the renewal.

The Joynton Avenue Creative Precinct and Gunyama Park Aquatic and Recreation Centre (directly adjacent the Green Square Town Centre) are significant elements of the new community facilities. The central Drying Green park is currently under construction ahead of the final development lots.

Quality Public Domain

Green Square is an exemplar of quality public domain and landscape design. It employs quality materials, and carefully selected street furniture and fittings.

There is an elegant simplicity to the design of the town square that will support flexible use and programming of the space into the future.

Shared Vehicle / Pedestrian Way integrated with Public Space

The new plaza and library incorporate a shared way along the northern edge. Granite paving continues from the plaza into the vehicle zone with bollards, street furniture and flush drainage subtly defining the transition and providing pedestrian protection to the pedestrian only areas.

Solar Access to Public Space

The Green Square Town Centre DCP defines maximum shadow extents over the plaza, constraining development, particularly to the north, but allowing for innovation in built form.



3 Barangaroo South, Sydney



Barangaroo is the renewal of an expansive former working harbour in three distinct phases, Barangaroo South, Barangaroo Central and the Barangaroo Headland Park.

The three phases are to be linked by a continuous waterfront promenade. Open spaces are focused toward the north and commercial development toward the south.

Barangaroo South interfaces with the north-west end of the CBD and accommodates the majority of the development floor space of the broader Barangaroo rental area. Barangaroo South delivers three large floor plate commercial towers, residential in low rise buildings and towers (under construction), two timber construction commercial buildings facing Hickson Road and a mix of retail including restaurants and bars opening to the new promenade.



Site Area (ha)
7.5

Total GFA (m²)
525,000

Uses
Office / Residential / Retail / Hotel

Units
1,750 apartments

Density
7.0:1

Open Space
**%

Transferable Principles

Waterfront Promenade

Barangaroo South fronts the bay of Darling Harbour and extends the waterfront promenade from Cockle Bay and King Street Wharf north toward Barangaroo Central and Barangaroo Headland Park. The promenade is connector and public space in one. A clear and robust landscape strategy provides shade, street furniture, walking zones and dining zones.

Network of Streets and Lanes

Barangaroo South prioritises pedestrian movement with people streets and lanes connecting from Wynyard Walk (the underground walkway to Wynyard Station) through to the waterfront promenade. Vehicle movements are accommodated but managed to avoid significant traffic flows. The location of entry / exit points to the common basement limits through movement on the street network.

Podium and Tower

Unlike Central Park, the tower forms of Barangaroo Central are generally held above the ground plane with podium forms and street wall buildings framing the public domain and presenting a lower scale at the street level interface.

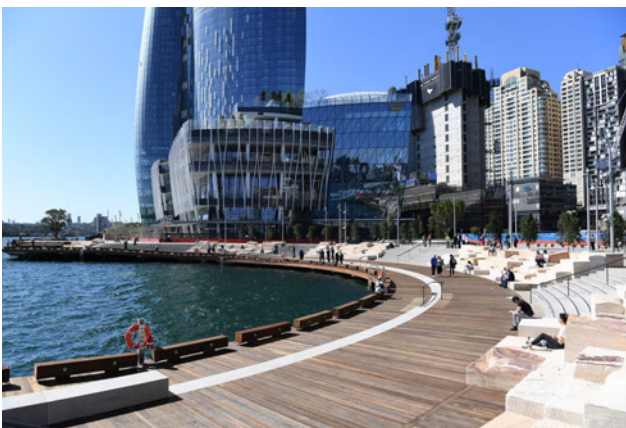
To the waterfront promenade and Hickson Road, 7 to 9 storey residential and commercial buildings address the key frontages and effectively create larger setbacks to the tower forms set one block back.

Inclusion of Small Buildings

Smaller buildings including Barangaroo House, 400 Barangaroo Avenue and the separated expression of The Cloud create scale counterpoints to the large commercial towers and allow changes in form and material that enhance the architectural rhythm of the streetscape.

Public Transport - Ferry Terminal

Barangaroo South has introduced a new Ferry Terminal, diversifying the ferry service arrivals to the CBD and providing workers, residents and visitors an alternative public transport means to access the precinct.



4 Elizabeth Quay, Perth



Unlike many urban renewal projects close or related to a city centre, Elizabeth Quay is not a redevelopment of former industrial land but rather a decisive move to connect the city with the waters edge of the Swan River.

The masterplan by ARM Architecture frames a new inlet with a continuous foreshore promenade linking to an island and bridge connection. The street and block structure integrates with the city grid and commercial, residential, retail and cultural functions are accommodated in the new development parcels.

The delivery of Elizabeth Quay is managed by the Metropolitan Redevelopment Authority.



Site Area (ha) 10	Units 800 apartments
Total GFA (m²) 312,000	Density 3.1:1
Uses Office / Residential / Retail / Hotel / Waterfront Parkland	
Open Space / Public Domain approx. 60% (including 2.7ha inlet, 1.5ha promenade & an island)	

Transferable Principles

Extension of the City Grid

Elizabeth Quay lies between William Street and Barack Street, key north-south streets in the Perth CBD. The alignments of secondary streets, Howard Street and Sherwood Circuit, are extended in to the new precinct area forming related block sizes and achieving ground level permeability.

The new waterside open space is positioned between the two secondary street alignments and between the new Geoffrey Bolton Avenue and the waters edge of the inlet. The integration of city grid, public space and foreshore promenade ensures a legible urban structure that is flexible and resilient.

Early Delivery of Public Domain

Similar to Green Square, the Metropolitan Delivery Authority has delivered the new streets and public domain including the foreshore promenade and public space ahead of the individual development lots. The approach protects the public domain from development pressure and has allowed the community to engage with and embrace the new interface with the Swan River.

Linear Water Side Public Space

A central public space initiative of Elizabeth Quay is the creation of a water side plaza at the head of the inlet. The Landing, measuring approximately 120m x 50m, incorporates Geoffrey Bolton Avenue as a shared way and extends the public domain language established for the promenade areas around the inlet.

The public space uses level changes to form public seating opportunities, incorporates public art, soft landscaping and potential event space. The stepping down of the space to the waters edge places users in closer relationship to the inlet of the Swan River.

Built Form Innovation through Competitive Processes

The individual development lots of Elizabeth Quay have been subject to competitive processes allowing the built form of the master plan to be tested and evolve into an arguably richer ensemble.



/ International Case Studies

1 Domino Sugar Factory Redevelopment, Brooklyn, USA



Referred to as one of the recent 'megaprojects' in New York City and its surrounds. The redevelopment, like many other waterside developments, is the transformation of an industrial precinct into a mixed use hub with a centrepiece of the development being a city landmark restoration / conservation project.

Following a residential rezoning process in 2010 the site was broken up into 5 different building plots, a public square and continuous waterfront esplanade. As is more commonly the practice with redevelopments of this scale, the building plots are to be delivered in stages and designed by different architects. One key component of the masterplan is to create a skyline that could compete with the silhouette of Manhattan.

WSP developed the masterplan, one of the largest planned developments in New York City, which was approved in 2014.



Site Area (ha)
4.5

Commercial GFA (m²)
74,000

Uses
Office / Residential / Retail / Park /
Services

Units
2,800 apartments

Transferable Principles

Community Park

The project has been hailed as a benchmark in the engagement process for designing and delivering a public open space with locals playing a strong role in the success and ongoing benefit of the public space both for locals and broader context. The site has been reborn by reconnecting the urban activity of Williamsburg and its community to the river. The masterplan placed great emphasis on public use and community amenities.

Campus Office

Whilst there is an emphasis on the tower forms delivering a wide mix of residential typologies, the lower scale commercial building housed within the restored refinery is geared towards campus style office use along with ground floor retail. This provides a diversity of use as well as height that is generated as from context and exiting height datums.

Water Front Access

Over 50% of the site area is comprised of a 6 acre public space known as Domino Park. The public park or esplanade was the first stage of the redevelopment to be delivered.

An emphasis was placed on community engagement and how the park should function and be programmed. The city scale tends to create parks linked to developments that feel more privatised or like backyards to the buildings they are associated with. By successfully extending River Street the length of the site a transition from the buildings to the public open space is created through full public access to the whole stretch of the waterfront.

Street Grid

With the extension of River Street along the waterfront, the existing urban street network of Williamsburg has been continued down to the new public open space. This creates an immediate connection with the surrounding area through both visual links and accessibility. The strength of the street grid promotes the character of each block and gives meaning to arrival points along the waterfront park while framing the heritage building and its associated public space. The street grid becomes visible as a representation of context through an established grid in the city sky line.



2 Battersea Power Station, London, UK



After decades of neglect the Old Battersea Power Station and its surrounding site is being redeveloped as a new destination in London, United Kingdom. The redevelopment of the iconic power station includes rebuilding a community with a vibrant mix of homes, shops, cafes, offices, cultural and leisure venues all delivered with 19 acres of public open space.

The project masterplan approved in 2010 breaks down the 17 hectare site into eight phases. Each phase is being designed by selected architects, each with a strong emphasis on place which aims to create a self serving and vibrant new community as an anchor point for the surrounding boroughs. The primary goal of the masterplan is to reinforce the presence of the iconic power station by setting it in a formal space with substantial setbacks from the new structures. The masterplan carried out by Rafael Vinoly Architects is set to be one of the largest low-carbon developments in Europe.



Site Area (ha)

17

UsesResidential / Commercial / Retail
/ Leisure / Cultural

Units4,239 apartments

Transferable Principles

Solar Driven Form

The masterplan was adjusted to derive building massing from solar studies to ensure that the design benefits from both views and solar gain across the development. Passive means of enclosure have been developed within the design guidelines of the facade to support cooling and user controllable environments.

Phased Development

The phasing of development aligns with the design guidelines of the masterplan that prescribe specific design and detail to each area of the site. The highest level of detail design is the architecture and the setting of the heritage powerhouse, the layout and form of public spaces and waterfront promenade.

The planned phasing plays importance on the site's connection to the waterfront and public transport, while creating a certain level of pedestrian permeability that will evolve through the multiple phases.

Pedestrian Site Links and Promenade

Key routes through the masterplan create pedestrian streets that will link the power station to the new Northern Line Underground extension while activating the new large public open space and promenade. By emphasising the heritage structure as the anchor point of the site, both programmed and non-programmed space can be delivered with a sense of place. Pedestrian activation is prioritised by promoting a diverse public transport network that feeds into the city and its local context.

Informed History

As a site entrenched in both industry and pop culture that had become an urban waste land, there is an emphasis on the revitalisation of the space including a nod to the industrial past through the promotion of cultural venues and artefacts. The heritage of the power station is celebrated through a range of highly flexible programmable spaces supporting cultural and interpretive adaptation and offering space to workers of the plant, local community and visitors.

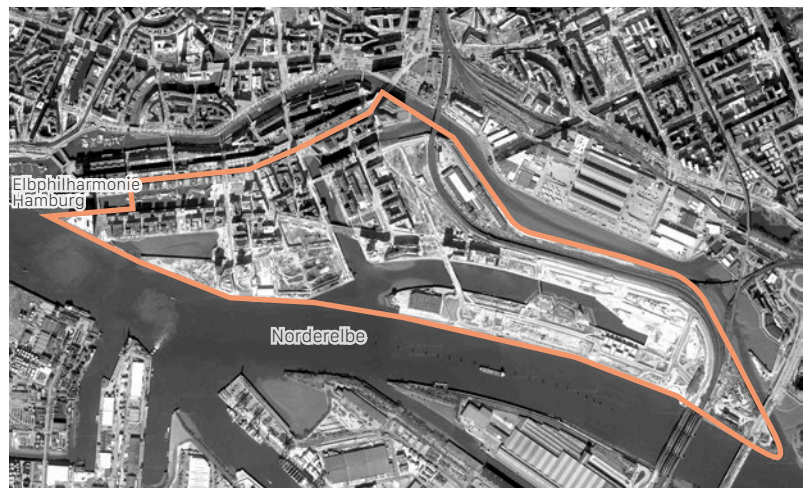


3 HafenCity, Hamburg, Germany



HafenCity is the redevelopment of a 157 hectare former port and industrial area directly adjacent the city centre of Hamburg, Germany. The opportunity to renew the redundant port area was explored through the 1990s, after the fall of the Wall. The Hamburgplan by Kees Christiaanse / ASTOC was selected as the winning masterplan from an international competition in late 1999 and endorsed in early 2000.

The masterplan established principles around flood protection, foreshore access, urban structure, open space, mixed use and fine grain. Notwithstanding the large difference in site area between HafenCity and Blackwattle Bay, there are relevant observations and transferable principles that can be drawn.



Site Area (ha)
157 (land area 127)

Total GFA (m²)
2,000,000

Uses
Residential / Retail / Office & Services
/ Cultural Institutions / Education

Units
7,500 apartments

Transferable Principles

Incremental Delivery

The size of the renewal area in HafenCity has few parallels. The masterplan is divided into three zones, West HafenCity, Central HafenCity and East HafenCity, each of which is then broken down into two or three neighbourhoods. Blackwattle Bay is equivalent in size to a single HafenCity neighbourhood. Delivery of public domain and open space, public transport, and cultural and education facilities has overlapped the construction of apartments and offices. In 2005 the first residents moved in. The final stages of HafenCity are expected to be completed by 2030.

Open Space Network

The HafenCity masterplan features extensive waterside promenades, plazas and parks. Four key green open spaces, Sandtorpark, Grasbrookpark, Lohsepark and Baakenpark are distributed through the district and work as local amenity and Hamburg destinations. Complementing the green spaces and waterfront promenades, a series of urban spaces are framed between buildings and, in the case of Marco Polo Terrace and Magellan Terrace, step down toward the water providing platforms for gathering and relaxation. The grassed levels and timber decks of Marco Polo are inviting and popular in the summer months.

Scale

HafenCity provides a fine grain resolution to a large renewal area. The block structure allows for a permeable ground

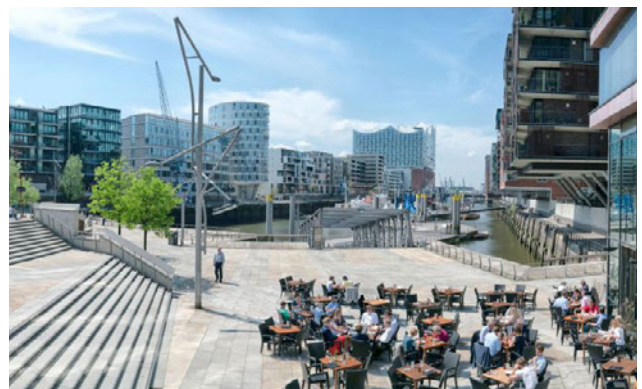
plane and a diverse street wall. Development lots are of moderate size and avoid mega lot agglomerations. A relatively consistent street wall height of 6-8 storeys is punctuated by taller building elements, rising to around 20 storeys with taller building forms in Elbphilharmonie and proposed toward the east in Elbbruecken.

Diverse Architectural Realisation of Urban Concept

The renewal of the former port and industrial area is controlled by HafenCity Hamburg, the state authority established to manage the delivery of the public domain and open space, the release of the land parcels and to ensure quality in the built environment. Individual development lots are required to undertake a competitive design process prior to finalisation of the land transaction. The approach to release and development of the lots has created an architectural diversity within a strong urban form, with consistent material references to the existing brick port buildings.

Living / Working / Art and Culture / Entertainment and Tourism

HafenCity is overtly mixed use. Residential and workplace uses are interspersed through the block structure. Cultural and education facilities ensure that the renewal area is a comprehensive extension of the city providing a broad range of urban amenities and services. The Elbphilharmonie is the cultural icon of HafenCity and is itself a highly mixed use building comprising concert hall, recital hall, restaurants, hotel and apartments.



/ Case Study - Fish Market

2.3 Prepare a review of relevant best practice case studies of food and/or fish markets, outlining transferable principles including logistics and operations, transport and access, and any other strategic aspects.



/ New Sydney Fish Market

Designed by 3XN, BVN and Aspect Studios, the new Sydney Fish Market State Significant Development Application was approved by the NSW Government in June 2020. The early works commenced in late August with major construction expected to start in early 2021. The new market will be opened in 2024 providing 700 jobs and more than 4,700sqm of new public open space and waterfront access. It aims to create a world-class cultural icon while retaining its authenticity to attract locals and tourists. The new market targets a 6 Star Green Star rating.





The new Sydney Fish Market is inspired and informed by some of the most iconic markets around the world such as the Public Market in Seattle USA, the Tsukiji Fish Market in Tokyo Japan, and the Borough Market in London UK. The transferable principles and strategies have been identified and applied in the new market design with local considerations.

The facility is designed to be a social hub and showcase with large open spaces, a distinctive wave-shaped roof and visual connections between the public areas, wholesale market and wharf operations providing an authentic fish market experience.



/ Design Principles

2.5 Prepare a set of urban design principles that underpin the proposed development.

The urban design principles, developed through community consultation in 2017 and refined with community representatives and stakeholders, have informed and structured the creation of the Blackwattle Bay Precinct Plan.

The specific responses to the 16 Design Principles are as follows:



PRINCIPLE ONE

Improve access to Blackwattle Bay, the foreshore and water activities for all users. (Landscape & Environment)

The Plan provides the missing link in the waterfront promenade and opens up to 50% of the Study Area to public access. The new Sydney Fish Market replaces former industrial activities with a world class market facility including auction hall, education facilities and food and beverage functions at the head of the bay. Extending existing street alignments to the bay, improving intersections and supporting new direct connection to public transport, the Plan improves access to Blackwattle Bay and the foreshore. Passive craft and commercial vessels and associated facilities are integral in the plan and will continue and enhance the existing on-water amenity for all users.



PRINCIPLE TWO

Minimise additional shadowing to Wentworth Park and Glebe Foreshore (in mid-winter) and create new places with comfortable conditions for people to enjoy. (Landscape & Environment)

All built form in the Plan is contained within a solar envelope that minimises additional shadowing to Wentworth Park and Glebe Foreshore in mid-winter. New public spaces are created and analysed for solar amenity and wind performance to deliver comfortable conditions for people to enjoy, taking into consideration the orientation constraints of the Study Area and inherent exposure of the water side precinct.



PRINCIPLE THREE

Pursue leading edge sustainability outcomes including climate change resilience, improved water quality and restoration of natural ecosystems. (Landscape & Environment)

The Plan sets a net zero carbon target for Blackwattle Bay. The public domain, landscape and built form is climate change resilient through establishment of suitable levels to avoid inundation, incorporation of flow paths for extreme rainfall, provision of shade to address extreme heat events and wind modeling to mitigate safety risks at the ground plane. Water Sustainable Urban Design principles are incorporated along primary overland flow paths to improve water quality entering the bay. Restoration of natural marine and land ecosystems is captured in the Plan.



PRINCIPLE FOUR

Prioritise movement by walking, cycling and public transport. (Access & Movement)

Good quality active and public transport networks are key to sustainable urban renewal. The urban structure of the Plan prioritises walking and cycling by creating pedestrian focused spaces and introducing new separated cycle ways that connect into the regional network. Pedestrian comfort and safety is enhanced through improved signalised intersections at important movement nodes. A ferry stop in Blackwattle Bay is considered in the plan. The internal streets can support new bus routes and the new Pyrmont Metro will bring workers and visitors to contemporary workplaces and new Sydney Fish Market. The Plan is ready for a connection to Glebe Island, linking pedestrian and cycle paths across to Glebe Island and White Bay Power Station & Metro.



PRINCIPLE FIVE

Balance diverse traffic movement and parking needs for all users.

(Access & Movement)

The Plan accommodates a broad range of movement types consistent with the NSW Government Movement and Place policy. Integrated with the pedestrian, cycle and public transport infrastructure, general transport is supported through a new main street, linking Wattle and Miller Streets. Consolidated signalised intersections at either end of Park Street will balance pedestrian and vehicular needs and connect Blackwattle Bay to Pyrmont and Wentworth Park. Parking and loading are accommodated under buildings with access from lanes and from Bank Street for the Private Land Owner sites.



PRINCIPLE SIX

Link the Blackwattle Bay precinct to the City, Glebe Island and White Bay and other surrounding communities and attractors.

(Access & Movement)

Pyrmont Bridge, Union Street, Union Square and Miller Street form a clear movement corridor that is evolving into quality pedestrian and cycle space linking the CBD to Blackwattle Bay. The Plan embraces this linkage with separated cycle paths, clear and safer pedestrian crossings focused around the intersection of Miller Street and Bank Street. The Plan foresees a comfortable and elegant east-west promenade connecting the CBD and Darling Harbour across the Pyrmont peninsula to the waterfront promenade and the new Sydney Fish Market of Blackwattle Bay. Providing pedestrian and cycle connection to Glebe Island and White Bay is integral with the Plan.



PRINCIPLE SEVEN

Mandate Design Excellence in the public and private domain. (Land Uses & Built Form)

The detailed design of landscape in the public domain and buildings in the draft Precinct Plan will be subject to Design Excellence processes including establishment of Design Review Panels and Design Competitions as appropriate for separate design components. The applicable Design Excellence policy will be agreed with the Department of Planning Industry and Environment, Government Architect NSW and City of Sydney.



PRINCIPLE EIGHT

Integrate housing, employment and mixed uses to create a vibrant, walkable, mixed use precinct on the city's edge.

(Land Uses & Built Form)

Blackwattle Bay is positioned along the arc of the Innovation Corridor from Australian Technology Park to the future Glebe Island Innovation Hub. The NSW Government announcement of a Metro station for Pyrmont is pivotal to supporting the delivery of the Innovation Corridor and attracting knowledge-based industries, digital innovation, startups, media organisations, research and education institutions to the Pyrmont peninsula and Blackwattle Bay. The Plan incorporates a wide range of potential workplace typologies including large campus style floor plates and opportunities for smaller bespoke, collaborative workspaces. The Plan can accommodate a range of housing typologies in the use mix. The primary uses are complemented by community facilities, retail and local services framed around the public domain to create a vibrant and walkable mixed use precinct.



PRINCIPLE NINE

Maintain and enhance water uses and activities. (Land Uses & Built Form)

The importance of the recreational and commercial water uses in the bay is acknowledged and embraced in the Plan. The Bank Street open space can incorporate a new boat storage facility for dragon boats with amenities to be shared by a range of passive craft user groups. Commercial marina zones are located between the shallow tidal water zone along the shore line and the rowing course in the middle of the bay. The water vista from Miller Street through the Miller Street open space is maintained. Safe harbour zones are available for rowers and paddlers in front of the Bank Street open space, the Waterside Park and the Sydney Secondary College grounds. A public pier at the north end of the Waterside Park can provide access to a future ferry service to Blackwattle Bay.



PRINCIPLE TEN

Allow for co-existence and evolution of land uses over time. (Land Uses & Built Form)

The Plan allows for the staging of the renewal and accommodates the possibility that some Private Land Owners will wish to delay renewal of their sites to suit their business operations. The on-land and on-water elements are arranged such that a temporary floating or fixed boardwalk can be constructed past sites yet to be renewed to ensure that the continuous waterfront promenade is delivered with the creation of new open spaces and the new renewal of the government owned sites. The proposed separated cycleway along Bank Street can be delivered in the street corridor with the City of Sydney.



PRINCIPLE ELEVEN

A place for everyone that is inviting, unique in character, socially inclusive and affordable. (Social, Economic & Community)

The draft Precinct Plan for Blackwattle Bay has been developed with the community and is to be an inviting and inclusive place for everyone. The new Sydney Fish Market is a destination for locals and the broader Sydney community. The new facility will offer a greatly enhanced and expanded experience with new relationship to the waters of Blackwattle Bay. Creating Blackwattle Bay as a daily place of work, recreation, living, social interaction, dining and events will ensure that it is an integral part of the Pyrmont peninsula and offers something for all. The inclusion of affordable housing, community facilities and local services will ensure Blackwattle Bay is relevant across the social and economic spectrum.



PRINCIPLE THIRTEEN

Plan for the future community's education, health, social and cultural needs. (Social, Economic & Community)

A Blackwattle Bay Social Sustainability Assessment has been developed to bring together the community input, City of Sydney needs analysis and policy, and the findings and recommendations of the Pyrmont Peninsula Place Strategy. From the needs analysis, the Social Sustainability Assessment provides recommendations that will benefit and support the future community in areas of education, health, social and culture.



PRINCIPLE FIFTEEN

Embed and interpret the morphology, heritage and culture of the site to create an authentic and site responsive place. (New)

The three scenarios developed and shared with the community explored the morphological, cultural and material influences of Blackwattle Bay and considered how these might be expressed in a precinct plan. The final Plan synthesises these influences and the feedback of community participants and stakeholders to form an urban structure and public domain network that is connected to the history and place of Pyrmont.



PRINCIPLE TWELVE

Expand the range of recreational, community and cultural facilities. (Social, Economic & Community)

The Plan significantly expands the range of recreational, community and cultural facilities for Blackwattle Bay and the Pyrmont peninsula. The Plan is consistent with the recommendations of the Pyrmont Peninsula Place Strategy and provides boating facilities, community space, library and cultural space. 1-3 Bank Street can form a community and creativity hub with potential community room, gallery and artists studios. A public library and indigenous cultural centre can open to the Waterside Park. Recreational facilities including a skate park under the Western Distributor, a full size court and play spaces for a range of age groups are provided in the Plan at Bank Street and at the North Entry Plaza.



PRINCIPLE FOURTEEN

Deliver development that is economically, socially, culturally and environmentally viable. (New)

The Plan offers a balanced outcome that brings together jobs, homes, public space and social infrastructure. Blackwattle Bay is a great place to work with multiple transport options including access to the new Sydney Metro and Light Rail networks, and active transport links. The employment space can accommodate jobs for NSW's knowledge sector and can contribute to the state's economic future. Providing homes including affordable housing will enhance social diversity and complement the workplace, visitor and community functions in the precinct.



PRINCIPLE SIXTEEN

Foster social and cultural understanding and respect to heal and grow relationships. (New)

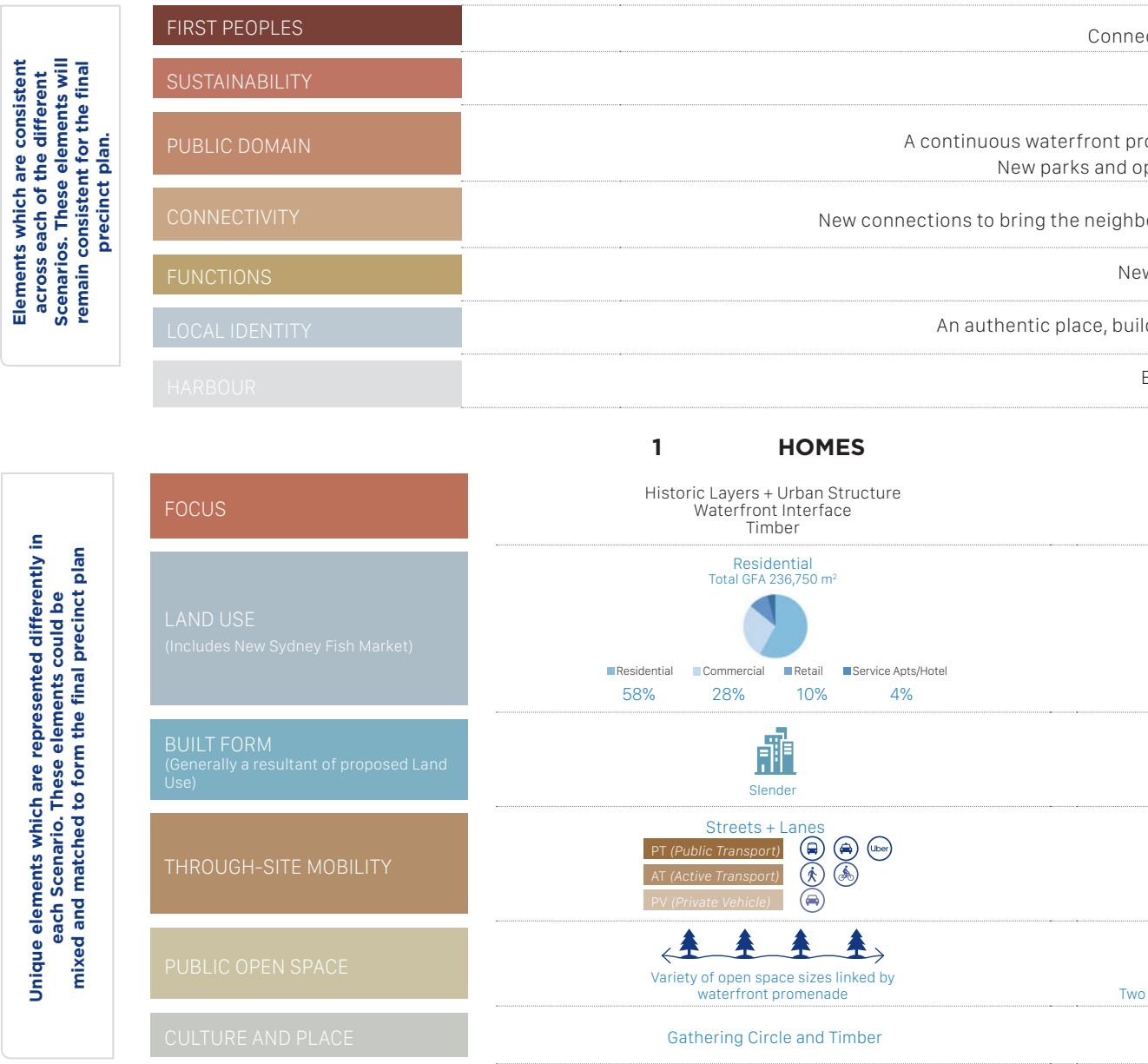
The Plan acknowledges country and seeks to present opportunities for cultural understanding, cultural practice and sharing of cultural knowledge. The waterfront promenade of Blackwattle Bay will allow for the future extension of the Eora Harbour Walk, and could culminate in an indigenous cultural centre or cultural knowledge library at Blackwattle Bay. The Plan outlines a public domain rich in cultural meaning, revealing songlines through the landscape,



/ Artist Impression of the Gathering Circle
for Indigenous Event in Blackwattle Bay

/ Options Comparison

2.6 Prepare an options analysis that examines a variety of appropriate options for the distribution of land use and building bulk in relation to the layout of the public domain. Document the various options including an assessment of how the options respond to the identified constraints and opportunities, and state planning policies (e.g. SEPP 65 and the ADG) and have been used to inform the final proposal.



/ Three Scenarios

Aligned with the Design Principles, three scenarios were developed in early 2020 for review with the community. The scenarios provided an engaging way to explore the potential alternative outcomes for Blackwattle Bay and allowed for valuable community input and feedback.

Three different conceptual approaches were taken, emphasising different aspects of the site history, topography and morphology and creating alternative public domain networks and built form arrangements.

The scenarios explored ways in which Blackwattle Bay might be revitalised, with different land use mixes, open space

arrangements and waterfront promenade designs, and street and building layouts. The scenarios also highlight different First Nations perspectives which could be included in the future detailed planning of public spaces and buildings. These detailed elements represent important connections to country and contribute to a strong sense of place and identity.

A Metro station for Pymont was not confirmed at this time but was assumed to be a real possibility. This allowed the mix of uses to be tested from a homes focus and jobs focus on the basis that the necessary public transport infrastructure would be in place.

The three scenarios shared common attributes and explored unique propositions as outlined in the following matrix:

ected to Country, Blackwattle Bay is a place for everyone

Targeting net zero carbon emissions

omenade – the missing link in the 15km walk from Woolloomooloo to Rozelle.
open space with new public domain and 30,000m² new open space

ourhood closer to the harbour through new and improved pedestrian and cycling links

w homes, office space and services close to the CBD

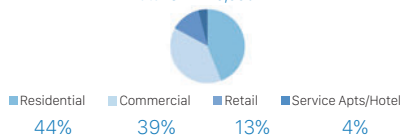
ding on indigenous and industrial stories and celebrating local character

equitable mix of recreational and working harbour

2 BALANCED

Green + Blue Grid
Natural Systems
Sandstone

Mixed Use
Total GFA 215,550 m²



Mixed

Pedestrian Focus

AT (Active Transport)



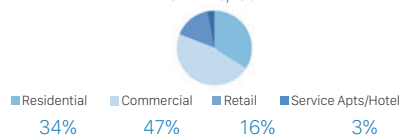
larger naturalised open space destinations linked by waterfront promenade

Songlines and Sandstone

3 JOBS

City + Bay Intersection
Innovation Corridor
Brick

Tech/Media/Education/Creatives/Commercial
Total GFA 248,450 m²



Urban Warehouse

Mixed Mode

PT (Public Transport)
AT (Active Transport)



Series of more formalised open space areas
linked by waterfront promenade

Innovation and Masonry

/ Scenario 1: Homes



/ 3D Model of the Indicative Built Form

Scenario 1 focuses on using the existing urban landscape to reconnect the lands of Blackwattle Bay with the vibrant mixed-use neighbourhood of Pyrmont. Historical layers such as the original foreshore inform the placement of buildings and open spaces.



Jobs
4,000

Homes
1,700

Open Space (sqm)
30,000

Exploring the historic natural and built layers of Blackwattle Bay, scenario 1 has a timber theme. From the Blackwattle and Casuarina trees that characterised the indigenous landscape, through the timber merchant operations in the Bay, and the use of timber in the Coal Loader and wharfs, this natural material has provided shelter, resource and structure.

By extending key streets to the bay and intersecting with the tracing of the original foreshore line, Scenario 1 creates a sequence of waterside public spaces, connected by the continuous waterfront promenade.

A jutting section of land evident in the mapping of the early shoreline is rediscovered as a promontory, a key moment along the foreshore experience.

On the promontory, a gathering circle is imagined. A place for small yarning circles and larger indigenous and cultural performances. Open to land, water and sky, the gathering circle will be community space, welcoming all to Blackwattle Bay.

The promontory is complemented by a new defined public space, that opens to the waterfront. With a north facing dining precinct, the public space will be sunlit and active. The pedestrian focussed waterfront promenade expands at the public spaces and meets a new street that ties in with the surrounding street networks of Pyrmont / Ultimo and Glebe.

The urban structure of Scenario 1 establishes connections and vistas from beyond the Study Area to the water, the new Sydney Fish Market and to Wentworth Park.

The homes focus of Scenario 1 is explored through the potential building forms. Apartments have smaller floorplates than office buildings and require more building separation so the Scenario 1 massing is comprised of more slender and separated buildings when compared to Scenarios 1 and 2.

The community facilities of Scenario 1 are locally focussed, providing recreation opportunities to existing and new residents and visitors. The passive water craft activities of the Bay are supported and coordinated with commercial, fishing and transport vessels.



/ Conceptual Structure, Precinct Plan & Artist Impressions of Scenario 1

/ Scenario 2: Balanced



/ 3D Model of the Indicative Built Form



Scenario 2 focuses on the natural layers of Blackwattle Bay; like the meandering historical foreshore, the natural spring of Tinkers Well and the sandstone escarpments that were quarried to supply materials for Sydney's early colonial Buildings. These natural elements are reflected in both the flowing forms and arrangement of buildings and public spaces.



Jobs
5,000

Homes
1,160

Open Space (sqm)
30,000

The natural and organic layers of Blackwattle Bay and its surrounds give the Scenario 2 masterplan concept its form. The orthogonal patterns of streets and buildings are subverted and the fluid geometries of the original foreshore line, the sandstone cuttings, the light rail viaduct and even the Western Distributor are the lines that shape the concept.

Sandstone is the material theme of Scenario 2. Sandstone and water are central to the image of the Sydney landscape and both have lead roles in the Blackwattle Bay story.

Escarpments, outcrops and the natural spring of Tinkers Well are present in Blackwattle Bay as are the traces of the sandstone quarries that supplied great quantities of quality stone to the early buildings and constructions of Sydney.

The building forms of the Scenario 2 masterplan concept are morphed around the organic lines of the original foreshore line, creating a sinuous and broad public space extension to the waterfront promenade. The new public space terraces down to the waters edge, enhancing connection and experience of the bay.

The importance of connecting with Country is embraced. The landscape as is seen as a series of songlines, telling the stories of indigenous culture through the length of the Precinct Plan and beyond.

Where Scenario 1 integrates a traditional street in the concept, Scenario 2 imagines a pedestrian focussed, car free sequence of urban spaces with service vehicles, taxis, ubers and private vehicles interfacing at the edges of the masterplan area.

The lower levels of the buildings in Scenario 2 will deliver contemporary workplace accommodation bringing jobs and extending the innovation corridor through Pyrmont / Ultimo toward the future innovation hub of Glebe Island.

Above the employment uses, apartments will balance the day/night activation and vibrancy of Blackwattle Bay. The homes and jobs mix is compatible with the existing working and living character of Pyrmont / Ultimo.



/ Conceptual Structure, Precinct Plan & Artist Impressions of Scenario 2

/ Scenario 3: Jobs



/ 3D Model of the Indicative Built Form

Scenario 3 embodies the intersection between the City and the Bay; the foundation of iconic global Sydney. This Scenario is an innovation-oriented, mixed-use precinct which references the surrounding brick warehouse buildings.



Jobs
7,000

Homes
1,045

Open Space (sqm)
30,000

New employment accommodation along the Greater Sydney Commission's Innovation Corridor is the focus of Scenario 3. It seeks to expand and enhance the education, collaboration and innovation workplaces that are establishing themselves on the Pyrmont / Ultimo peninsula.

Embracing a westerly expansion of the CBD, Scenario 3 is optimised for flexible commercial buildings arranged around a clearly structured public domain.

Many of the world's great cities are founded on a defined and rigorous orthogonal pattern of streets, blocks and open spaces. Scenario 3 celebrates the grid of streets and lanes that are central to the Pyrmont / Ultimo urban character.

The primary open space is arranged parallel to the waters edge, integrating with the waterfront promenade to the new fish market and around to the Bank Street open space.

The Casuarina tree is a unique species, indigenous to Blackwattle Bay, and very important to the local aboriginal story. The Casuarinas formed a bed of needles in the understory that is both soft and protective.

A Casuarina Grove in Scenario 3 unites the indigenous significance of the Casuarina with the grid structure of Pyrmont. A setdown sand bed is imagined to capture the needles and form a canvas for gatherings, artworks, lighting and events.

The substantial brick warehouse buildings evident along the Pyrmont peninsula inform the material theme for Scenario 3.

Movement through Scenario 3 is shared. Pedestrians, bicycles and vehicles will mix along the main shared street from Bridge Road to Bank Street. Supporting lanes and arcades follow the grid pattern, defining the office buildings above ground level retail.

There is a lower percentage of apartments in the mix of uses in this scenario. A hotel would be a logical companion to the new Sydney Fish Market and is suggested above the office space, enjoying visibility and views down the bay.

The employment focus of Scenario 3 explored the possibility of a Sydney Metro station for Pyrmont. The NSW Government announced in December 2020 that a Pyrmont Metro station will be delivered.



/ Conceptual Structure, Precinct Plan & Artist Impressions of Scenario 3

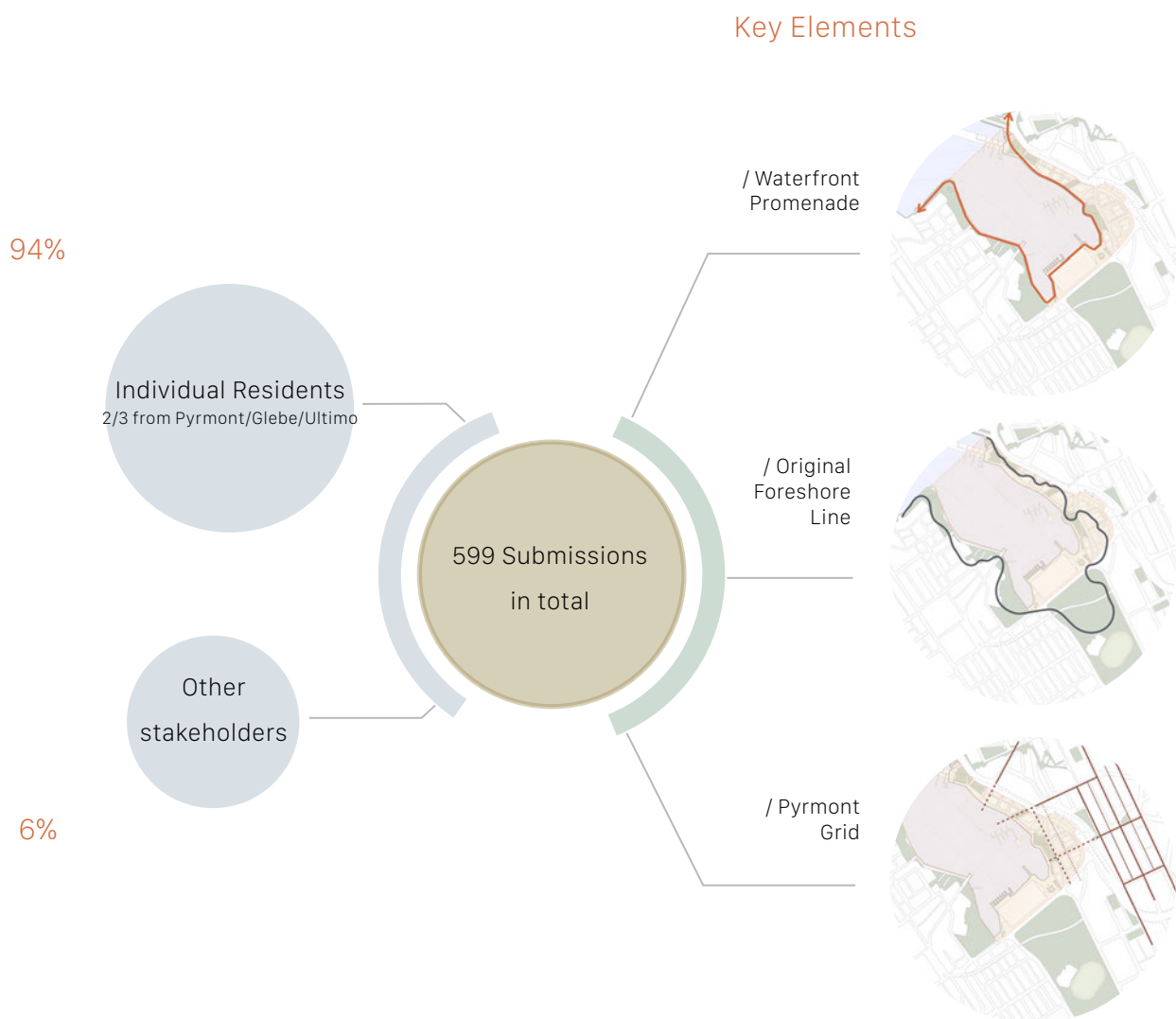
/ Overview of Community Submissions & the draft Precinct Plan

The collected submissions from the public exhibition of the three scenarios represent the voice and opinions of the community and stakeholders for the future of Blackwattle Bay.

The feedback favoured a balance of uses and an appreciation of the more fluid geometries and influences of the peninsula. Careful consideration of active transport opportunities,

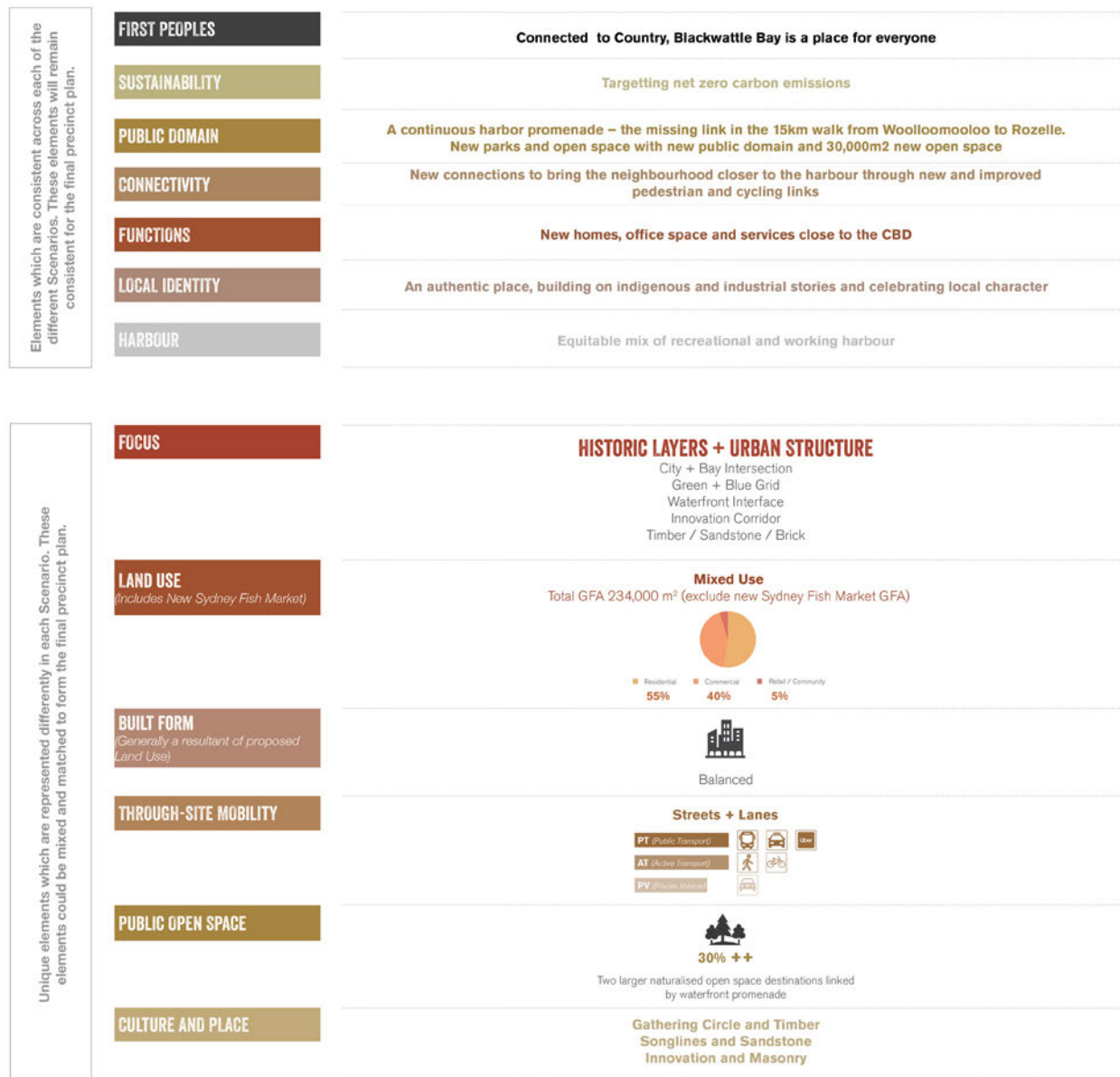
connections to public transport and integration with existing movement networks was sought and an emphasis placed on quality green and public spaces.

The urban design and public domain strengths of the three scenarios has been distilled into a draft Precinct Plan that balances residential and commercial uses, integrates with the grid structure of Pyrmont, reflects the organic geometries of the original foreshore line and sandstone cuttings, and creates a unique sequence of open spaces connected by the waterfront promenade.



Three Scenarios Engagement

Draft Precinct Plan Elements



Draft Precinct Plan

/ Precinct Plan

2.7 Prepare a precinct plan that integrates: the public domain plan, infrastructure plan, community facilities plan, buildings types and massing for the site. Demonstrate how this fits within the overall Bays Precinct State Significant Precinct and surrounding context.

The Blackwattle Bay Precinct Plan is connected to Country and to the special place qualities of the Pyrmont peninsula and Blackwattle Bay. It unites the natural forms of the harbour landscape with the grid structures of the streets and buildings.

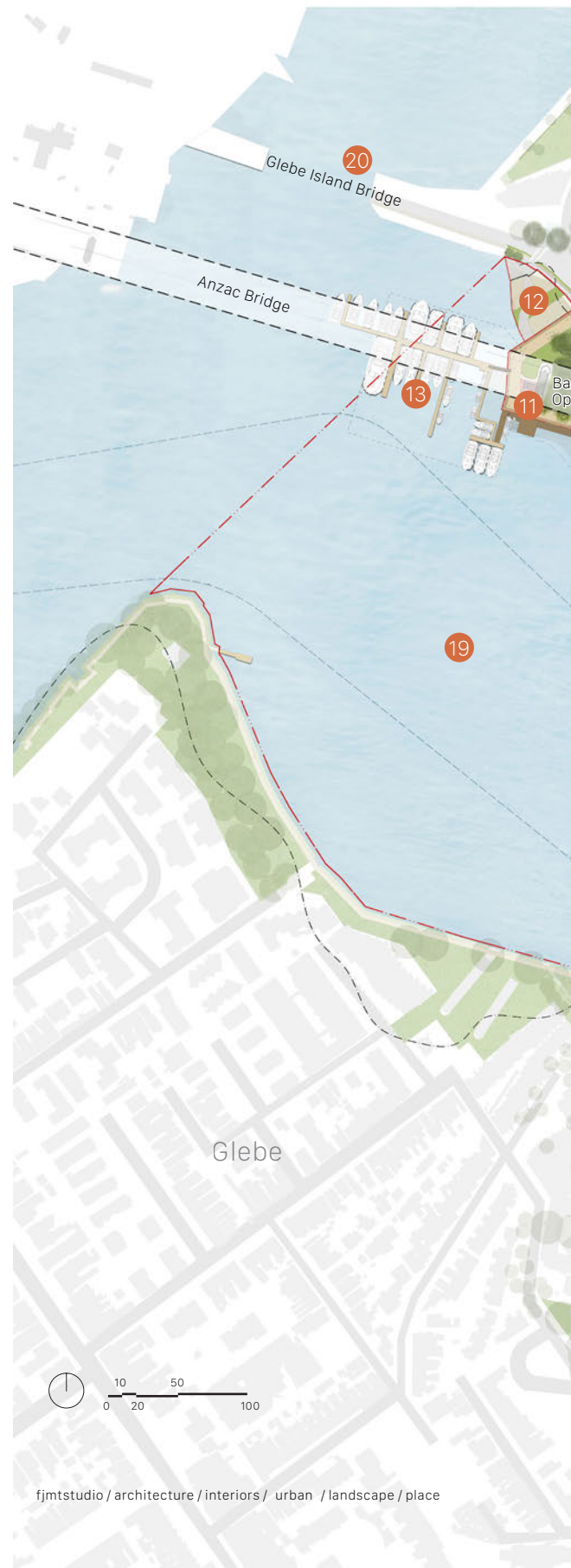
The open space network celebrates being at the waters edge and integrates community facilities in green spaces and community buildings. The promontory is marked as a key meeting place and frames a gathering circle for cultural performances and events.

The draft Precinct Plan prioritises pedestrian and cycle movement, and enhances connections to existing and new public transport infrastructure.

Blackwattle Bay is a workplace and a living space. It provides flexible workplace accommodation in a vibrant public domain network and positions new homes above green podiums to enjoy great amenity and outlook.

The Blackwattle Bay Precinct Plan has the potential to deliver:

- **234,000** square metres of Gross Floor Area (exclude the new Sydney Fish Market GFA)
- **45%** employment and non-residential uses
- **55%** residential uses
- **10 metre minimum** width Waterfront Promenade
- **Bank Street open space, Miller Street Reserve and Waterside Park**
- **1 x multipurpose court**, active play, fitness and skate area
- **Creative arts** and amenities in 1-3 Bank Street
- 5 x 4 storey podium blocks in Area 2
- **7m wide colonnade** along promenade in Area 2
- **3 Arcade links** to Bank Street
- 4 x towers in Area 2 (14-20 storeys above 4 storey podium)
- Non residential uses below 9th storey in Area 2
- 5 x 8 storey street wall buildings in Area 3
- **Park Street, Gipps Street, Gipps Lane and Banks Lane**
- 3 x towers in Area 3 (21-34 storeys above 8 storey street wall)
- Non residential uses below 9th storey in Area 3 (except Building 02)
- 2 x 4 storey buildings to north and south of Waterside Park (Buildings 01 and 07)
- Retail uses to **active frontages** on Ground Level
- **Community and Cultural facilities** in Buildings 01 and 07
- **Local services**
- **Separated cycleway** linking Bridge Road to Miller Street





Area 1 / 1-3 Bank Street
& Bank Street Open Space

Area 2 / Private Land Owners Land
& Miller Street Reserve

Area 3 / Government Owned Land
& Waterside Park

Area 4 / New Sydney Fish Market
& Urban Park

Area 5 / Working & Recreational Harbour



- 1 New Sydney Fish Market
- 2 Contemporary Workplace & Retail
- 3 Contemporary Workplace & Home
- 4 Retail / Community / Cultural
- 5 Community / Retail / Workplace
- 6 Retail / Workplace
- 7 Mixed Use / PLO-03-2
- 8 Mixed Use / PLO-03-1
- 9 Mixed Use / PLO-02
- 10 Mixed Use / PLO-01
- 11 Dragon Boat Storage & Launch
- 12 Community / Creative / Retail
- 13 Day Charter Marina
- 14 Corporate Charter Marina
- 15 Fishing Fleet Wharf
- 16 Potential Future Marina
- 17 Exploration Zone
- 18 Gathering Circle
- 19 Rowing and Paddling Course
- 20 Future Connection to Glebe Island
- L Light Rail Station
- F Potential Ferry Stop



/ Artist Impression of Park Street and the View Corridor to Blackwattle Bay & New Sydney Fish Market



Tjerruing

Wedayec

Tjerruing
Festival



/ Artist Impression of Bank Street Open Space



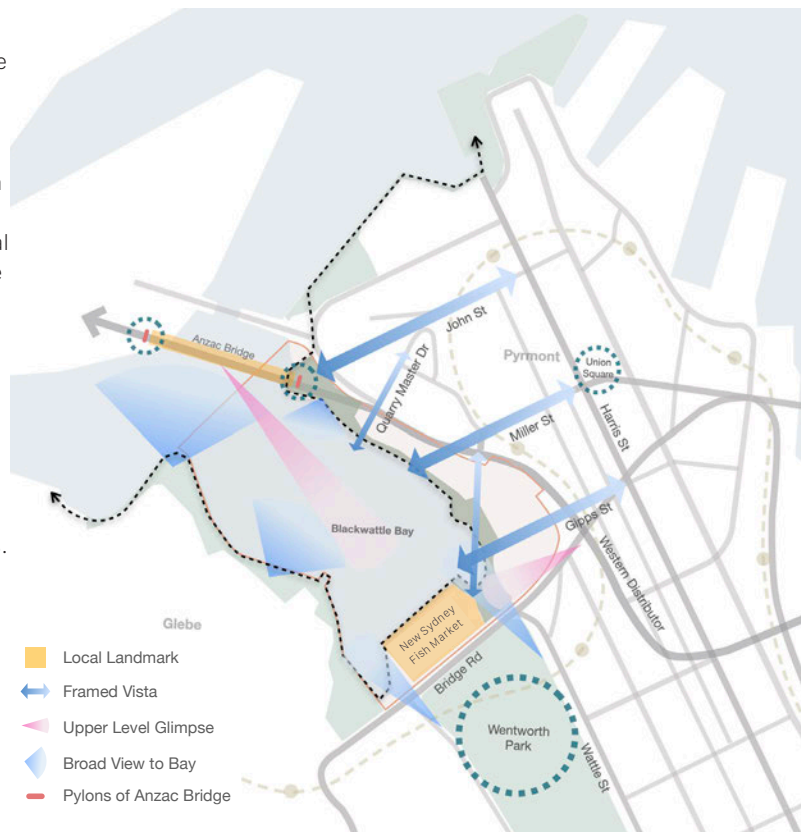
/ View Corridor & Visual Assessment

2.8 Provide a view corridor and visual assessment, with particular focus on significant views to, from and within the site. Use eye level views from public parks and street footpaths. Include views from public places in Pyrmont and Wentworth Park, and to and from the harbour, that bisect the precinct. Simulate a focal length of 55mm, to approximate the correct proportions of the elements of views as experienced by the human eye, compare to existing views and analyse the relative quantity of visible sky and harbour. Include analysis of any visual impacts on the surrounding areas, and mitigation measures. The number and angle of significant views are to be agreed with the City of Sydney and Department of Planning.

A Visual Impact Assessment has been carried out to ensure that all possible effects of change can be assessed not just from the Study Area itself but the surrounding city. A hierarchy of views were established in the design phase of the draft Precinct Plan that informed the way in which view corridors and precinct views were structured. This takes into account a contextual analysis of the existing site and the importance of specific vistas.

The scale of the view was broken down into Local Landmark Views, Framed Vistas, Upper Level Glimpses and Broad Views to the Bay. These views do not take into account views out from proposed structures but rather the effect the proposed massing will have on the views from a user of the Study Area and its surrounds.

For the assessment criteria, 20 views were selected to cover a wide range of visual instances across Blackwattle Bay and the surrounding foreshores and suburbs. The existing urban and landscape character is taken into account while also referencing the future Sydney Fish Market when selecting the view points. An estimated viewshed based on the topography is documented to demonstrate the extent of area that has been considered in the selection of views. The final output is an accurate render view based on the focal length of the human eye with a massing view superimposed on an existing photo.



/ Key View Corridors Map



1



4



6





12



16



18



/ Sun Access

2.9 Provide a comprehensive sun access analysis for the site and its surroundings at the Winter Solstice between 9am and 3pm demonstrating the ability of the proposal to comply with standards as follows:

- For the existing public open space, Sydney Secondary College, Blackwattle Bay Campus, and walkways along the Glebe Foreshore and Wentworth Park, no additional overshadowing at the Winter Solstice 9am to 3pm must be demonstrated.
- For the new 30 metre foreshore promenade (refer to section 3), against standards in Sydney DCP 2012 for public open spaces. Recognising that compliance with this standard may be difficult due to the orientation of this area, particularly in the morning, a sun access plane which maximises sunlight access to the promenade may be proposed.
- For the new area of foreshore promenade in front of the new fish market (refer to section 3), an appropriate standard should be proposed, recognising that solar access to the area is limited, particularly in the morning.
- For new and existing apartments and private open spaces subject to the Apartment Design Guide, against the standards in that guide.
- For all other new and existing dwellings, and private and public open spaces, against the standards in Sydney DCP 2012.

/ Solar Access to Existing Public Open Space and Campus

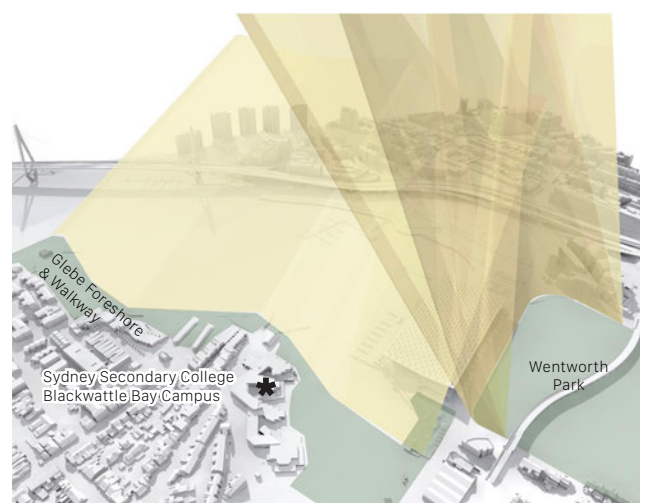
A key principle for the renewal of Blackwattle Bay is minimising any overshadowing of the existing public domain and open space. This includes the Glebe Foreshore and walkway, Sydney Secondary College Blackwattle Bay Campus and Wentworth Park between the hours of 9am - 3pm on the 21st of June (Winter Solstice). From this a simple site envelope can be formed for which any proposed massing must stay within.

Existing Public Open Space & Campus

The public open space identified in the Study Requirements refers to existing open spaces that would be overshadowed if portions of the Study Area were to reach the maximum height allowable for the precinct. These open space requirements are not unique to the Study Area and would be required of any development.

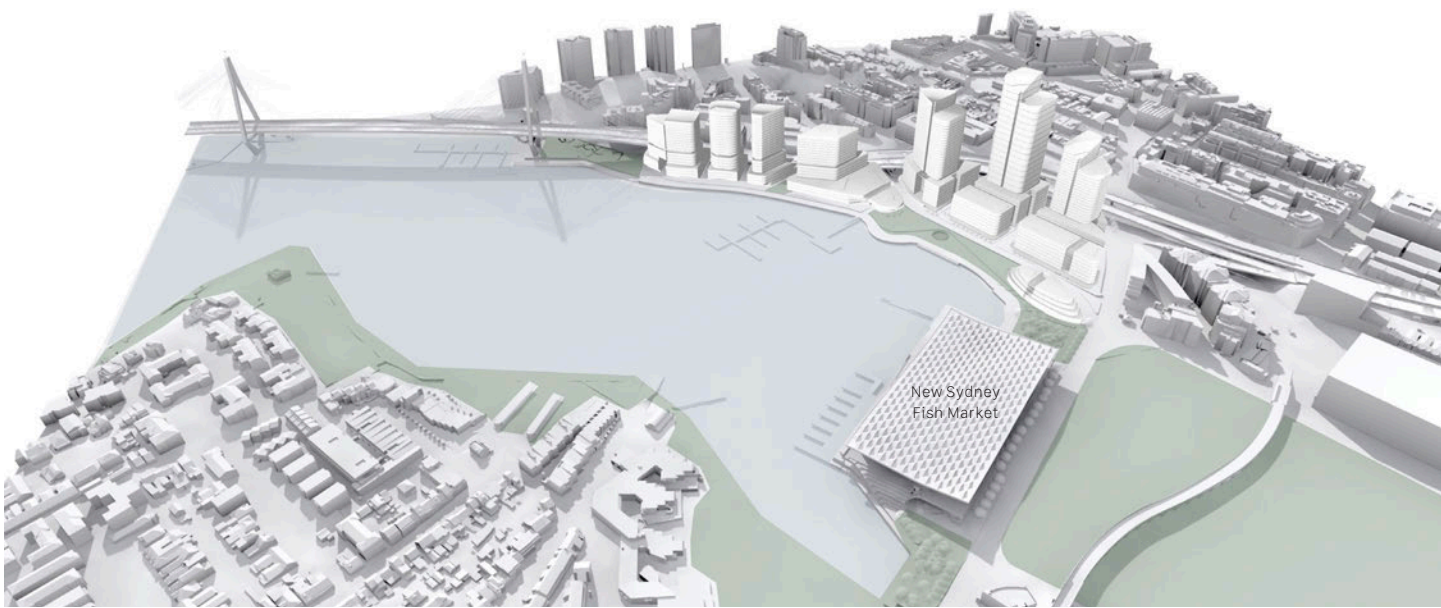
Sun Planes

To prevent additional overshadowing of the identified public open spaces, solar planes have been drawn along the boundaries of the protected zones that reflect the projected sun angles on the winter solstice between 9am and 3pm. The potential development should be restricted within the sun planes to achieve the solar access requirement.



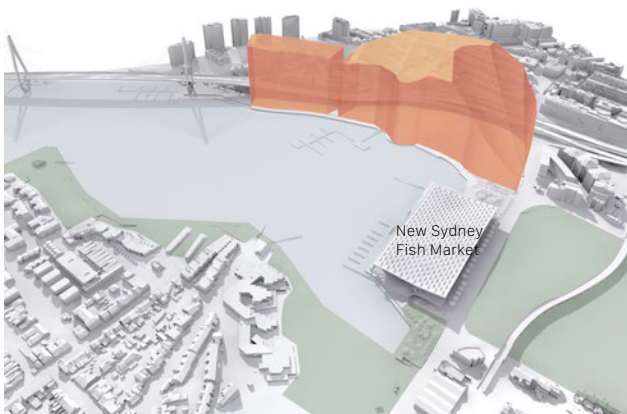
Indicative Built Form

The result of the maximum solar envelope and urban design principles create a dynamic mix of built form, connectivity and public domain. While not maximising heights across the Study Area, further contextual alignments have allowed potential height variation to promote amenity, orientation and yield.



Solar Envelope

An extruded volume of the whole site that is then trimmed by the solar planes of the existing open spaces and capped by the Obstacle Limitation Survey (OLS) RL156 height limit creates an overall precinct maximum height envelope to the boundary edge.



Indicative Built Form within Solar Envelope

As the built form evolves, it must be tested within the maximum solar envelope. Regardless of the architectural form, articulation or other design factors, the indicative massing must remain within the envelope. An initial analysis will reveal that the areas with the most potential for height are towards the North Eastern edge of the Study Area, the furthest point from the waters edge.

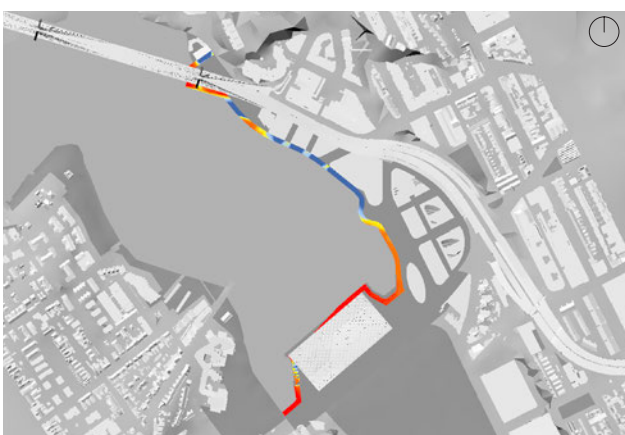
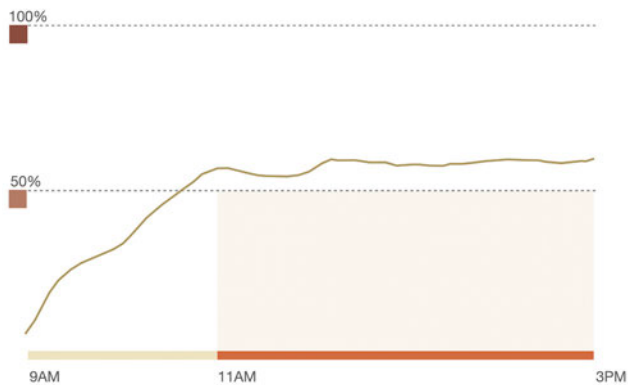


/ Solar Access to Waterfront Promenade & Proposed Open Space

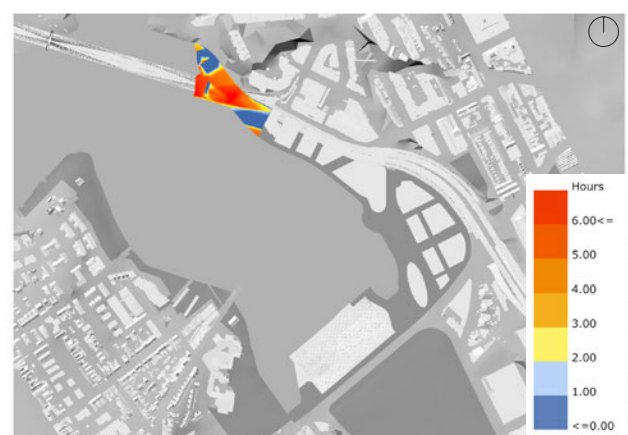
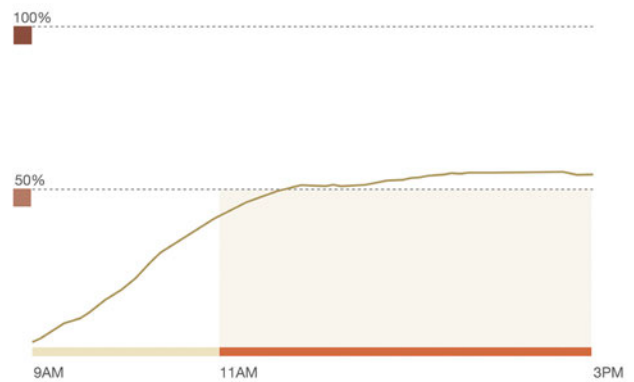
The open space solar zones can be broken into 4 areas for individual analysis.

1. The promenade, a minimum 10m wide continuous open space that connects the Study Area from the Glebe Foreshore and New Sydney Fish Market to the Pyrmont peninsula.
2. Bank Street open space, the northern most open space situated under the Anzac Bridge.
3. The Miller Street Reserve which includes a portion of the promenade in front of the Private Land Owner sites.
4. The Waterside Park and Urban Park which are the principal open spaces that join the government site with the new Sydney Fish Market.

Given the orientation challenges of the Study Area, some individual zones perform very well, easily achieving 50% solar access for a period of four or more hours on the 21st of June, whereas some zones are more solar constrained as is the case with the Miller Street Reserve. More emphasis has been given to the importance of individual places achieving the minimum solar access such as the Waterside Park and Urban Park given that they are a large more archetypal open spaces / parks.



① / Heat Map of Proposed Waterfront Promenade



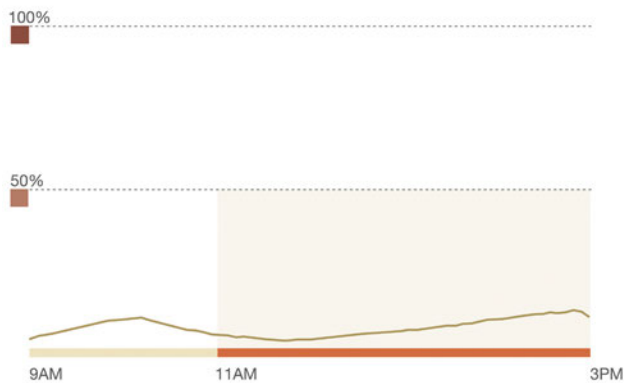
② / Heat Map of Bank Street Open Space

Public open space solar access controls for parks are aimed at preserving solar access at a minimum of four hours for 50% of the area between 9am and 3pm on the winter solstice (21st of June). Additional controls restrict the intensity of solar access on the summer solstice (21st of December) for public open space classified for passive recreation use to provide respite from summer sun. Localised or indirect shading protection is required for a minimum 20% of the area during the peak of summer.

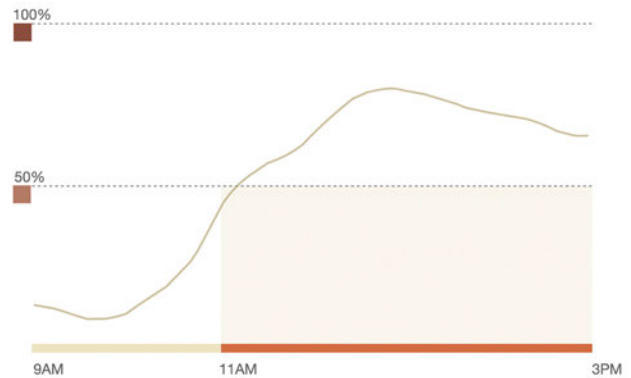
"In relation to parks (i.e. non-linear public open space):

- (a) 50% of the total area is to receive sunlight for 4 hours from 9am to 3pm on 21 June;
- (b) protection from direct sun is to be available on 21 December for a minimum of 20% of the area used for passive recreation; and
- (c) protection from strong winds is to be provided, where practicable."

Sydney DCP 2012 Section 3.1.4 Public Open Space



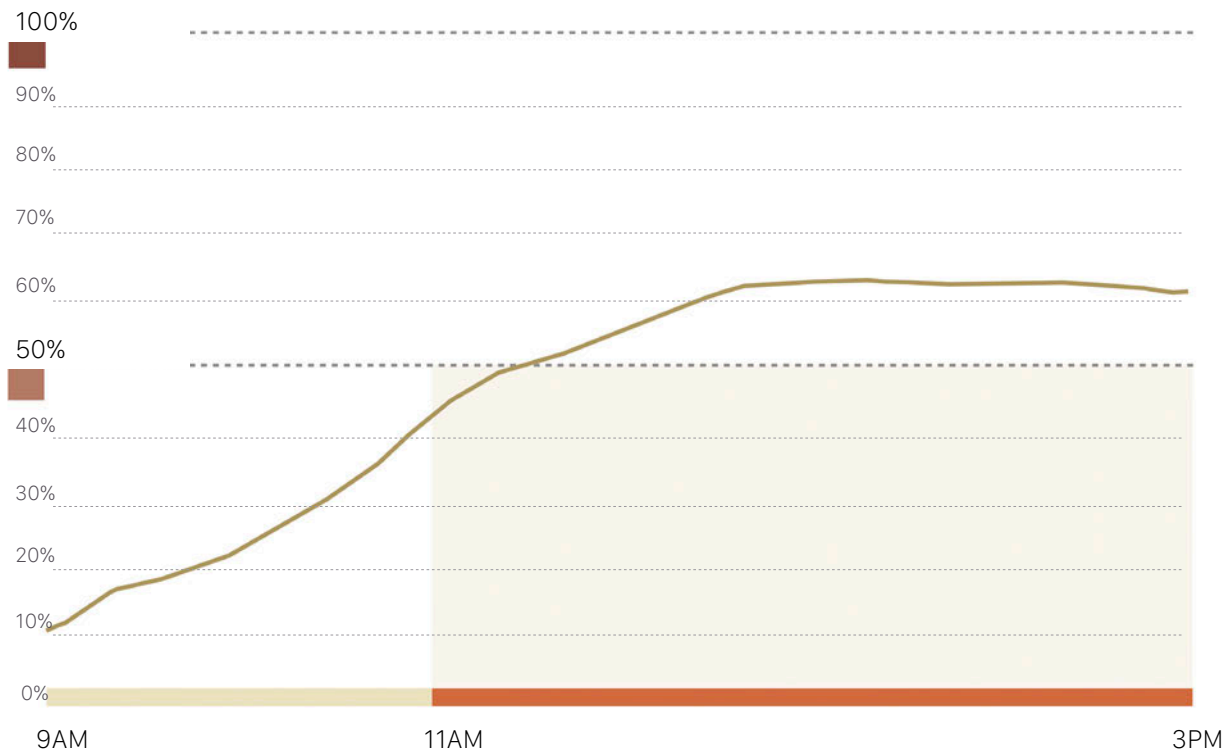
③ / Heat Map of Proposed Promenade & Miller Street Reserve



④ / Heat Map of Proposed Promenade, Waterside Park & Urban Park

/ Solar Access to Promenade & Proposed Open Space

Viewing the open space across the fish market and Study Area as one continuous zone connected by an accessible promenade demonstrates a high overall solar performance of the proposed public domain for Blackwattle Bay. Given the orientation of the site, the principal open space has been prioritised in the draft Precinct Plan to achieve a level of solar performance to offset the constraints of built form and promenade access around the Miller Street Reserve to achieve a beneficial outcome for Blackwattle Bay.



/ Heat Map of Overall Proposed Promenade & Public Open Space



/ Heat Map of Overall Proposed Promenade & Public Open Space

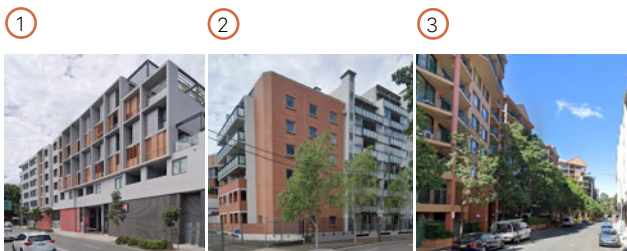
/ Solar Access to Existing Neighbouring Residential

In addition to the protection of solar access to existing open spaces and analysis of solar amenity to new public spaces, further analysis has been undertaken in relation to the impacts of potential massing on existing residential areas surrounding the site. Three developments situated on the corner of Wattle Street and Bridge Road and along Wattle Crescent are within the shadow path of the Blackwattle Bay massing and have been assessed.

Sites 1 and 2 are able to maintain a minimum 2 hours of solar access on 21 June between 9am and 3pm to facades currently receiving solar.

The north west facade of Site 1 currently benefits from the two storey scale of the existing fish market. The proposed street wall along Pyrmont Bridge Road is set back 10m from the site boundary and extends to 8 storeys with floor to floor heights allowing for workplace accommodation. A minimum 2 hours, and up to 4 hours, is maintained along this facade.

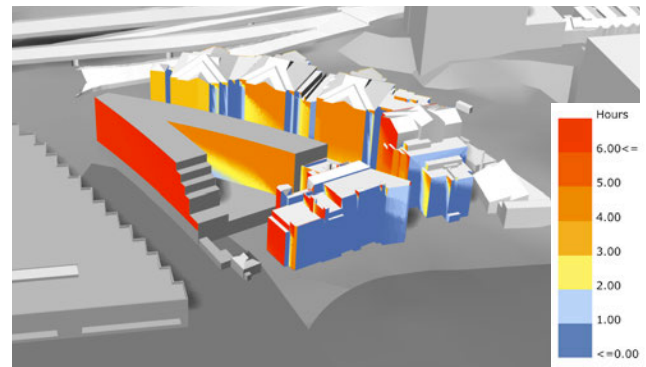
The courtyard facing facade exhibits some reduction in area meeting a minimum 2 hours solar however the impact is consistent with the Design Guidance under 3B-2 of the Apartment Design Guideline with the solar area reduction being not greater than 20%.



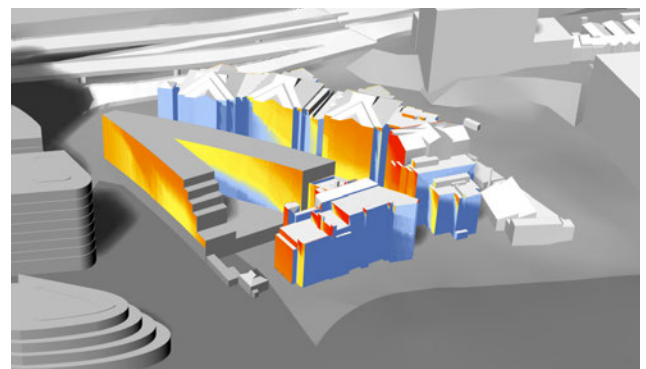
/ Existing Neighbouring Residential



/ Aerial Map of the Neighbouring Residential (existing)



/ Heat Map of the Neighbouring Residential (existing)
21 June, 9am - 3pm



/ Heat Map of the Neighbouring Residential (proposed)
21 June, 9am - 3pm

Analysis of Site 3 on Wattle Crescent indicates that there is a greater impact of the potential Blackwattle Bay massing on this site. There are a number of factors to consider including:

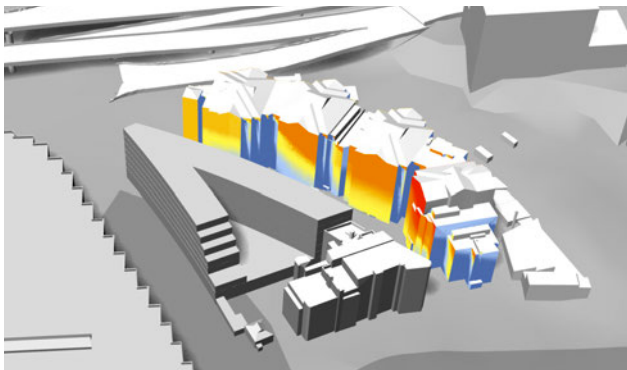
- The development precedes the establishment of SEPP 65 and the Apartment Design Guide (and Residential Flat Design Code that went before it)
- The site geometry leads to facades receiving close to the minimum solar without the proposed renewal of Blackwattle Bay
- The existing buildings feature extensive balconies which in turn overshadow living spaces
- It is likely that living spaces currently receive less than 2 hours minimum solar on 21 June between the nominated hours

Notwithstanding the above, analysis shows that if the solar window on 21 June is shifted by one hour (10am to 4pm), greater than 80% of the north-west facades of Site 3 receives a minimum of 2 hours solar. The analysis also shows that solar access to the south-east facades is unaffected by the potential renewal massing.

Blackwattle Bay is identified as an Area Capable of Change (also referred to as Places for Economic Innovation) in the Pyrmont Peninsula Place Strategy Structure Plan. The renewal area is also noted as a Taller Building Cluster in Figure 2.1.6 of the PPPS Strategic Framework.

In the Central Sydney Planning Strategy, tower cluster opportunity sites are identified and under 28 - Apartment amenity in Central Sydney, specific allowance is made to balance opportunities for growth with amenity of existing residential uses.

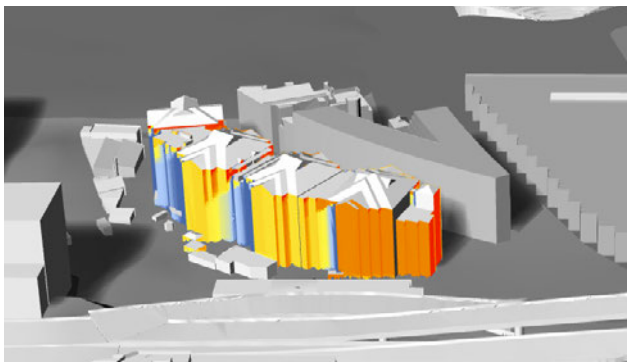
The analysis indicates that neighbouring residential properties can maintain good solar amenity without unduly constraining the opportunity for an employment hub and mixed use quarter in Blackwattle Bay.



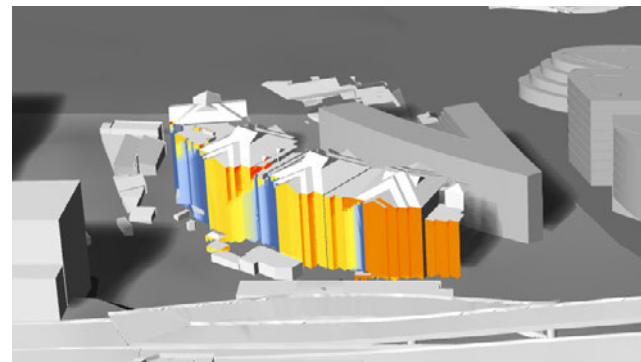
/ Heat Map of the Neighbouring Residential (existing) North-west Facades
21 June, 10am - 4pm



/ Aerial Map of Site 3



/ Heat Map of the Neighbouring Residential (existing) South-east Facades
21 June, 10am - 4pm

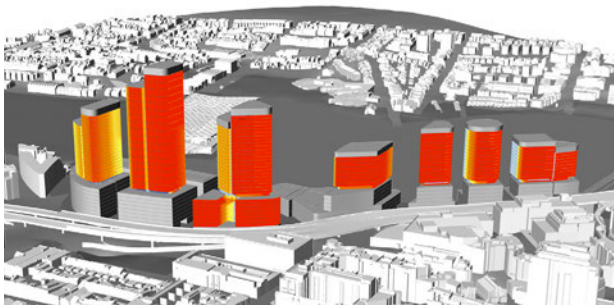


/ Heat Map of the Neighbouring Residential (proposed) South-east Facades,
21 June, 10am - 4pm

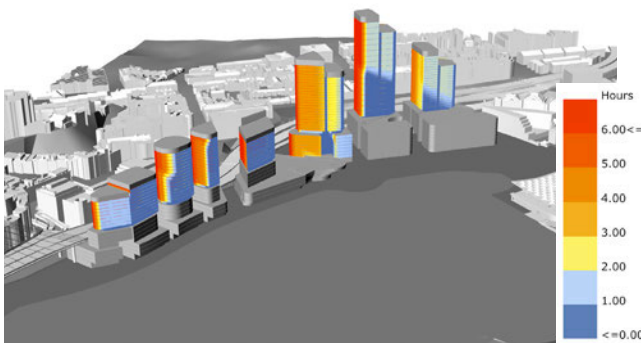
/ Proposed Residential Solar Access

Tower orientations have been proposed to minimise over shadowing and maximise solar access for the residential floor plates. The north south aspect has been favoured in the instance of BLD 02 so that the podium levels of the tower can be prescribed as residential. Each residential building is required to achieve a minimum solar performance where it can be demonstrated that 70% of the building is receiving 2hrs or more of solar access on the winter solstice.

Minimum building separation and overall massing form help to achieve solar access while still maximising the yield as shown in the proposed building envelopes. While easier in the larger slightly less constrained government site, there is a challenge with the Private Land Owner sites given that setback and orientations of the building can easily produce a less than desirable average floor plate size. However, given that a large percentage of the massing can achieve a northern aspect a relatively high level of solar compliance can be achieved.



/ Heat Maps of the Indicative Built Form (Eastern Facade)



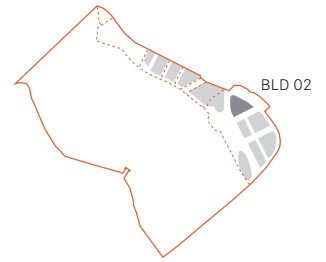
/ Heat Maps of the Indicative Built Form (Western Facade)

/ Indicative Built Form Shadow Study

A precinct wide shadow study can trace the movement of overshadowing at hourly intervals between 9am and 3pm on the winter Solstice. When hours are layered, it is possible to visibly see the performance of the derived maximum solar envelope. With taller towers primarily sited towards the back of the site, a large percentage of the overshadowing occurs late in the day and falls over roads, the western distributor and on the site itself while avoiding the identified surrounding open spaces and largely the waterbody of the harbour itself. While 9am is a more challenging time for solar access, the quality of solar access drastically improves after 11am.

- "1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas
- 3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter"

Apartment Design Guide, Objective 4A-1, P79



/ Shadow Overlay (9am / 12pm / 3pm on 21 Jun)



A shadow analysis was carried out beyond the standard criteria to assess the extent of morning shadowing at 8:30am on the 21st of June for people visiting the Glebe Foreshore. Minimal shadowing occurs to the foreshore in front of Sydney Secondary College while the primary Glebe Foreshore open spaces are still free from overshadowing. The quality of sunlight before 8:30am on the winter solstice across Blackwattle Bay starts to become very low impact.



/ Shadow Analysis at 8:30am on 21 Jun

2.10 Provide an analysis and justification of proposed distribution of gross floor area, development yields, building typologies, building envelopes and heights. Demonstrate a fair and impartial distribution of development potential between land in government and private ownership, subject to individual site constraints.

2.12 Demonstrate how the urban design principles established in 2.5 have informed the allocation and location of proposed land uses.

/ Planning Envelopes

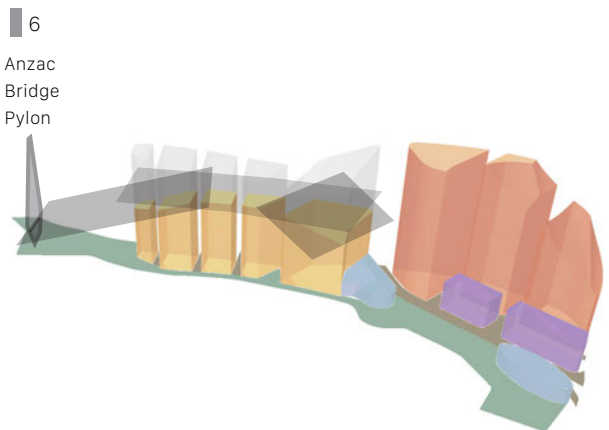
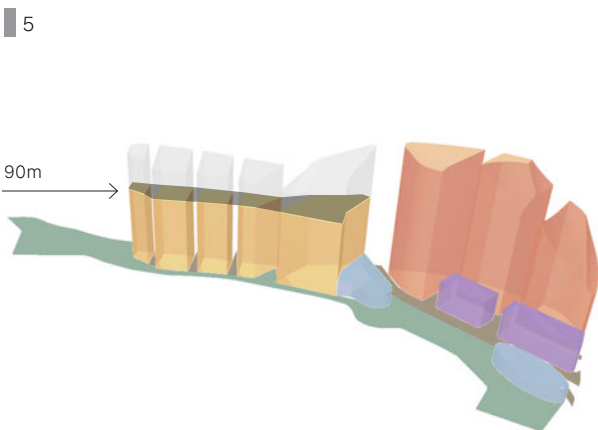
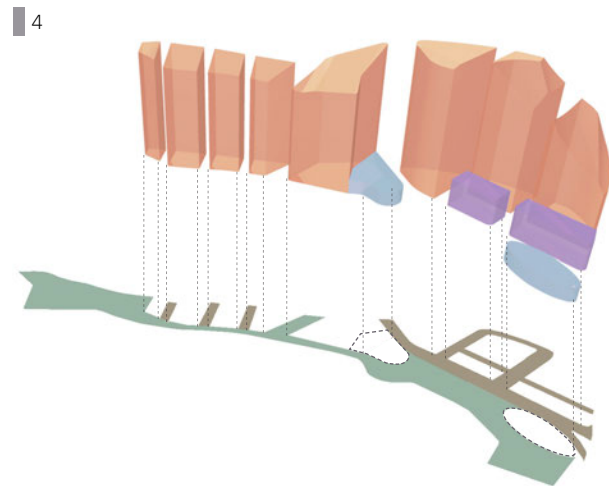
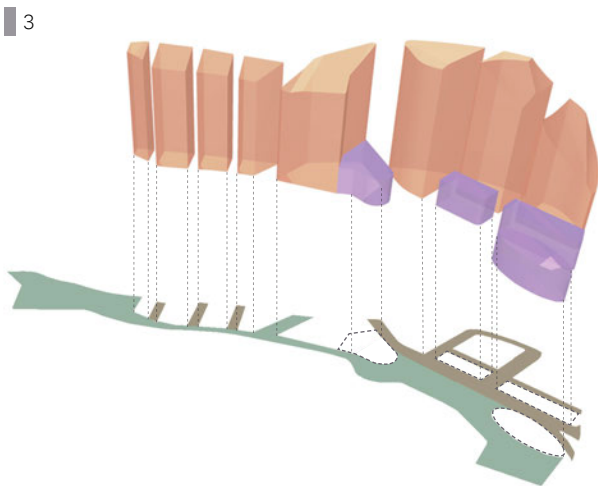
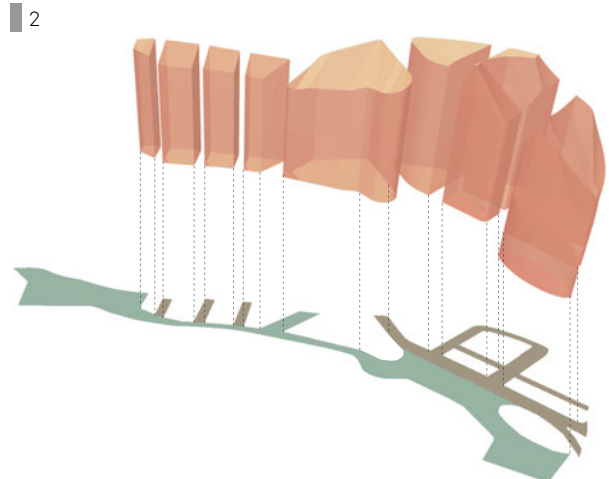
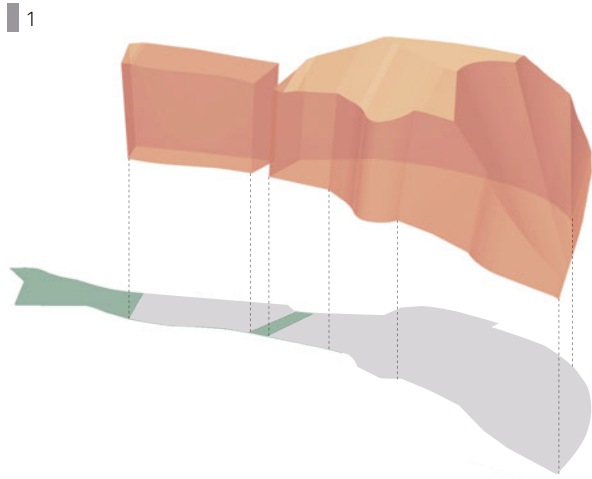
The planning envelopes of the draft Precinct Plan are derived through a deductive process that begins with the protection of existing key open spaces from overshadowing and then removes envelope from open spaces, the waterfront promenade and new streets. Establishing relationships to the existing and evolving morphology of the context further modifies the envelopes. Local solar access and scale relationships are applied to create the controls of final urban form envelope.

"Special considerations for master planning

Sun access plane not breached, diversity of building heights with upper ranges limited to RL120 – RL 156 (Obstacle Limitation Survey).
Prioritisation of the delivery of employment floorspace."

PPPS, Framework for Key Sites, P80

1. As outlined in the response to Study Requirement 2.9 Sun Access, a solar envelope has been developed for Blackwattle Bay by projecting sun planes at the relevant times on June 21st to protect the Glebe Foreshore, Sydney Secondary College and Wentworth Park from overshadowing from the new built form.
2. The open space and public domain network is deducted from the solar envelope. No built form is proposed to these zones which equate to 50% of the total site area.
3. The scale of potential built form around the primary new open space (Waterside Park) is reduced and related to existing warehouse buildings along Wattle Street.
4. Building envelopes book-ending Waterside Park are further reduced to a maximum 4 storey height to reference the height of the new Sydney Fish Market and existing buildings along Miller Street and Bridge Road. These building envelopes are positioned and scaled to accommodate community and cultural facilities along with commercial space focused on delivering local services.
5. The maximum height of buildings in the Private Land Owner sites (Area 2) is limited to 90m to align with existing towers in Distillery Hill, maintain the prominence of the Anzac Bridge Pylons and minimise overshadowing of the Glebe Foreshore before 9am on June 21st.
6. Profiling of the Area 2 envelope steps the built form down to the Bank Street open space and to Waterside Park. The latter adjustment is critical to the mid-winter solar performance of Waterside Park as per the analysis in the response to Study Requirement 2.9 Sun Access.



/ Building Height and Density

Density is an essential ingredient in successful urban environments. Greater density can support higher quality public domain and open spaces, more vibrant streets and retail and better community facilities. Limits to density are the environmental impacts on surrounding neighbourhoods and the amenity characteristics of the buildings being provided.

Within the planning envelopes established above, building envelopes have been developed to modulate the built form in relation to context and to create appropriately scaled street wall and tower elements.

Two street wall scales are evident in the context. The lower 2 to 4 storey scale of the heritage precinct along the Harris Street spine and to portions of Miller and Union streets, and the 8 storey scale of brick warehouse buildings along Wattle Street and contemporary workplace buildings on the Pyrmont peninsula.

The two street wall scales are integrated into the draft Precinct Plan massing to appropriately frame the public domain and open spaces, while providing capacity for new workplace accommodation accessible from the streets and lanes.

Existing mid scale built form is most clearly represented in the towers of Distillery Hill. This scale informs the building heights for Area 2 which is the most narrow and constrained section of the renewal area.

The Sofitel hotel and future towers at Harbourside, The Star, above the future Pyrmont Metro station and on other sites defined in the Pyrmont Peninsula Place Strategy, provide an evolving context in which taller tower elements of Blackwattle Bay will be read. Taller buildings are located in the deeper sections of the Study Area with greater setback and transition to the waters edge.

The built form profile is varied and supports view opportunities from existing street networks and vantage points.



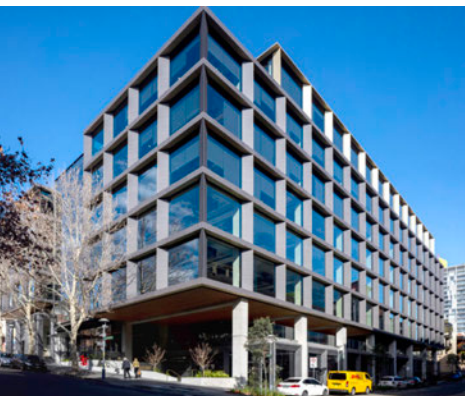
/ Streetscape, Miller Street



/ Streetscape, Union Street



/ Warehouse Buildings, Wattle Street



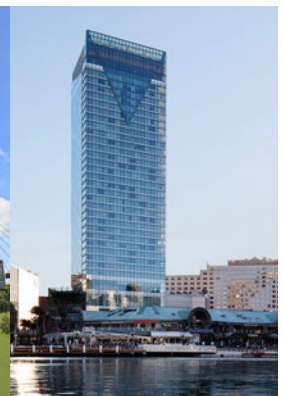
/ 'Workplace' Building, Harris Street



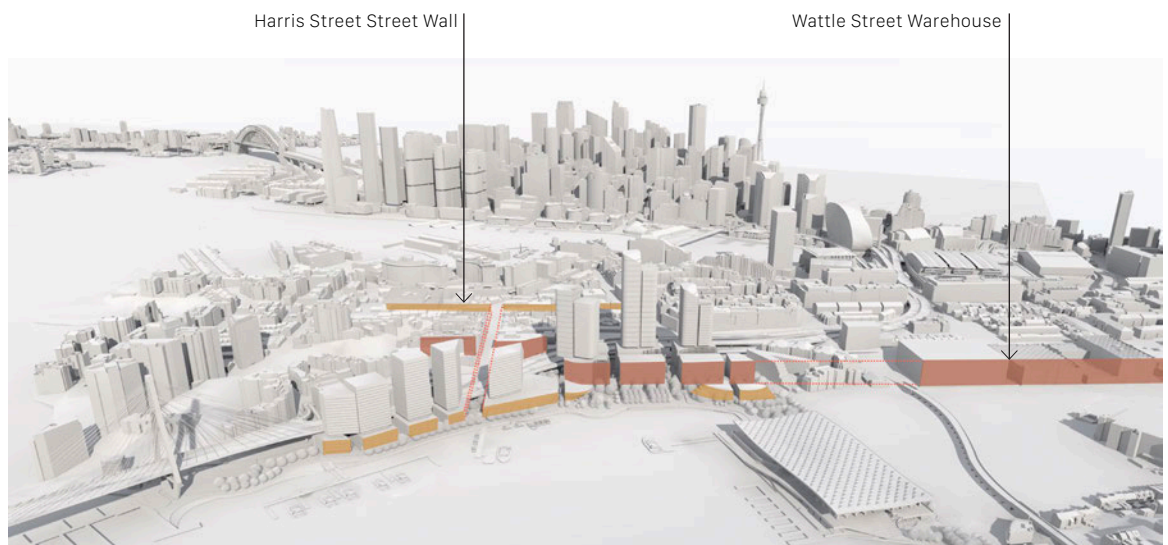
/ Contemporary Office Building, 50 Miller Street



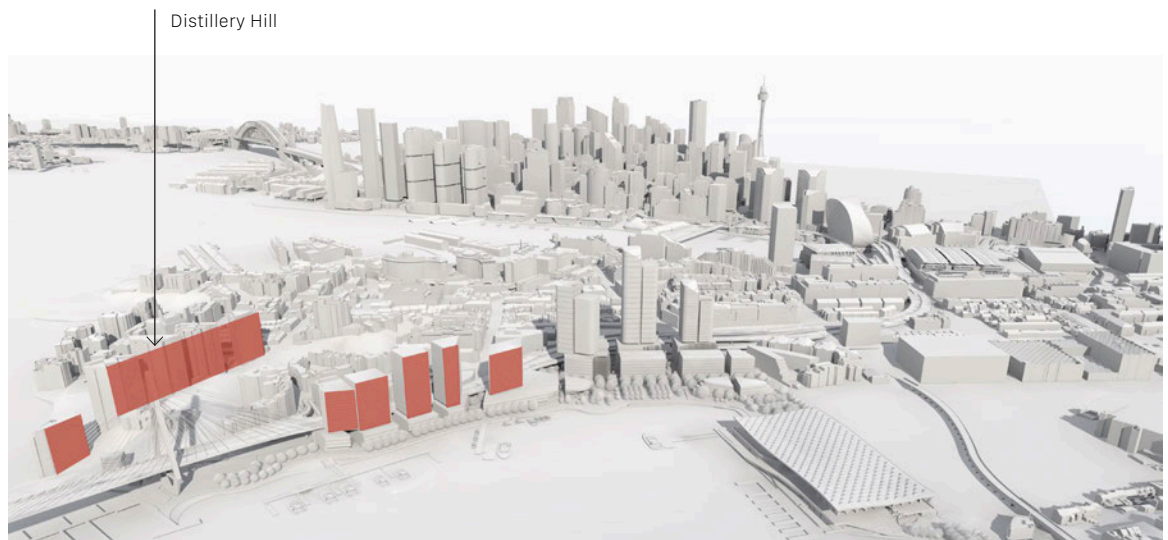
/ Sugar Dock, Distillery Hill



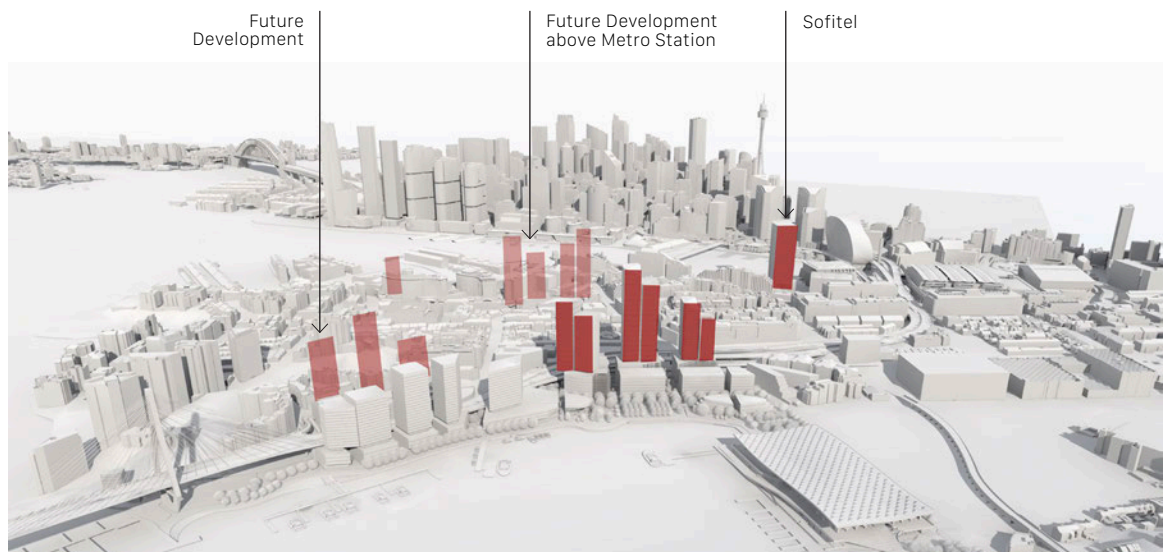
/ Sofitel, Darling Harbour



/ Street Wall



/ Mid Scale



/ Setback Tower Form

The Benchmarks:

- 21m: Desired human-scale height immediately adjacent to harbour's edge, as well as framing primary streets and future open spaces. Referred to as Podium Scale it is approx. 6 storeys.
- 55m: Height of existing buildings just back from harbour's edge such as Evolve in Jackson Landing. Referred to as Waterfront Scale it is approx. 18 storeys.
- 90m: Height of existing buildings on the ridgeline of Jacksons Landing such as the Sugar Dock building. Referred to as Top of Distillery Hill it is approx. 30 storeys.
- 120m: Height of the Anzac Bridge pylons and the height of buildings at UTS and Central Park. It is approx. 40 storeys.
- 156m: Obstacle Limitation Survey (OLS) height for aircraft movement. Height above the OLS are subject to federal authority approval. Referred to as the OLS it is approx. 45 storeys.



/ Indicative Building Height Benchmarks

OREYS



Image Lend Lease
Photo Dallas Kilponen

45 STOREYS

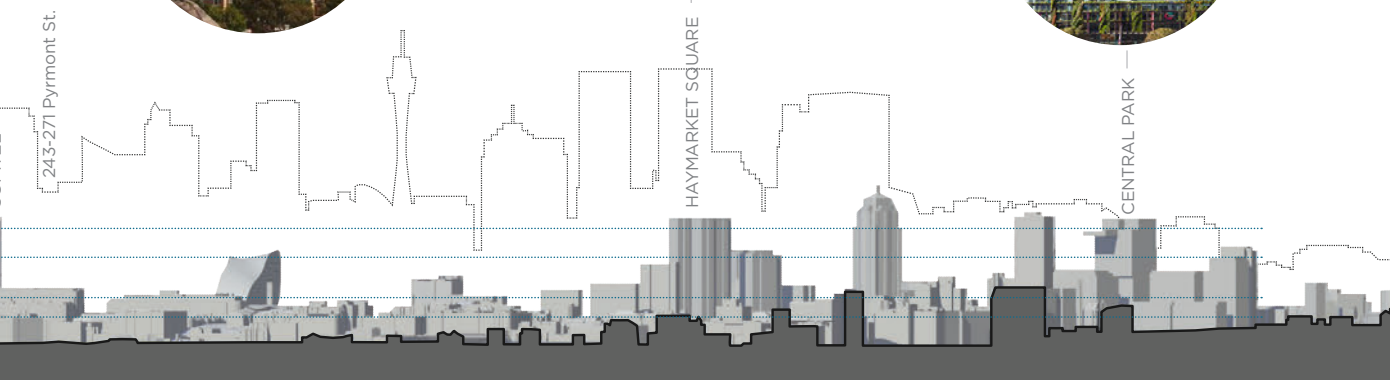


243-271 Pyrmont St
Image: www.onthefhouse.com.au

30 STOREYS



image Frasers Property Photo
Murray Fredericks



/ Street Alignment

The block pattern of the draft Precinct Plan is derived from four key streets in Pyrmont. The alignments of Wattle Street, Gipps Street, Miller Street and Quarry Master Drive are extended into the site area and create clear connections to the foreshore and vistas to the waters of Blackwattle Bay.

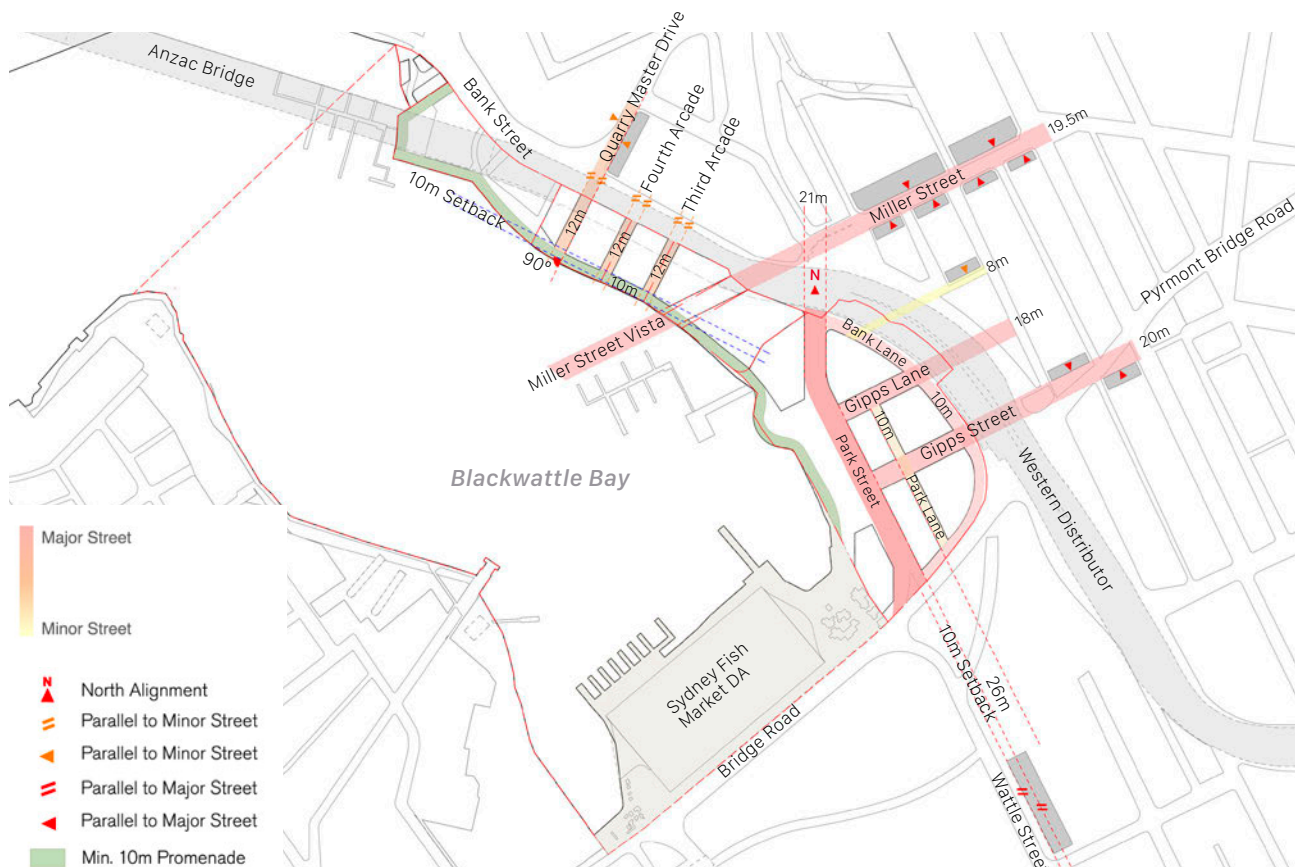
New street and lane alignments are arranged between the key streets and within the primary grid structure.

A ground level setback of 10m is provided from the Pyrmont Bridge Road / Bank Street site boundary to allow for the introduction of a separated cycle route and a new landscape curtilage to the primary road frontage.

Park Street connects from the signalised intersection at Bridge Road and Wattle Street through to the consolidated intersection at Bank Street and Wattle Street. The 21 metre width of the street between building boundaries accommodates potential bus routes and aligns with the City of Sydney Sydney Streets Code, 2013.

Laneways and secondary streets are scaled relative to the street wall height, hierarchy of the network and amenity for public domain and building uses.

The minimum 10m waterfront promenade setback applied to Area 2 sites is complemented by a 7m wide colonnade to provide shelter to activated edges along the promenade.



/ Indicative Street Alignment Plan

/ Setbacks

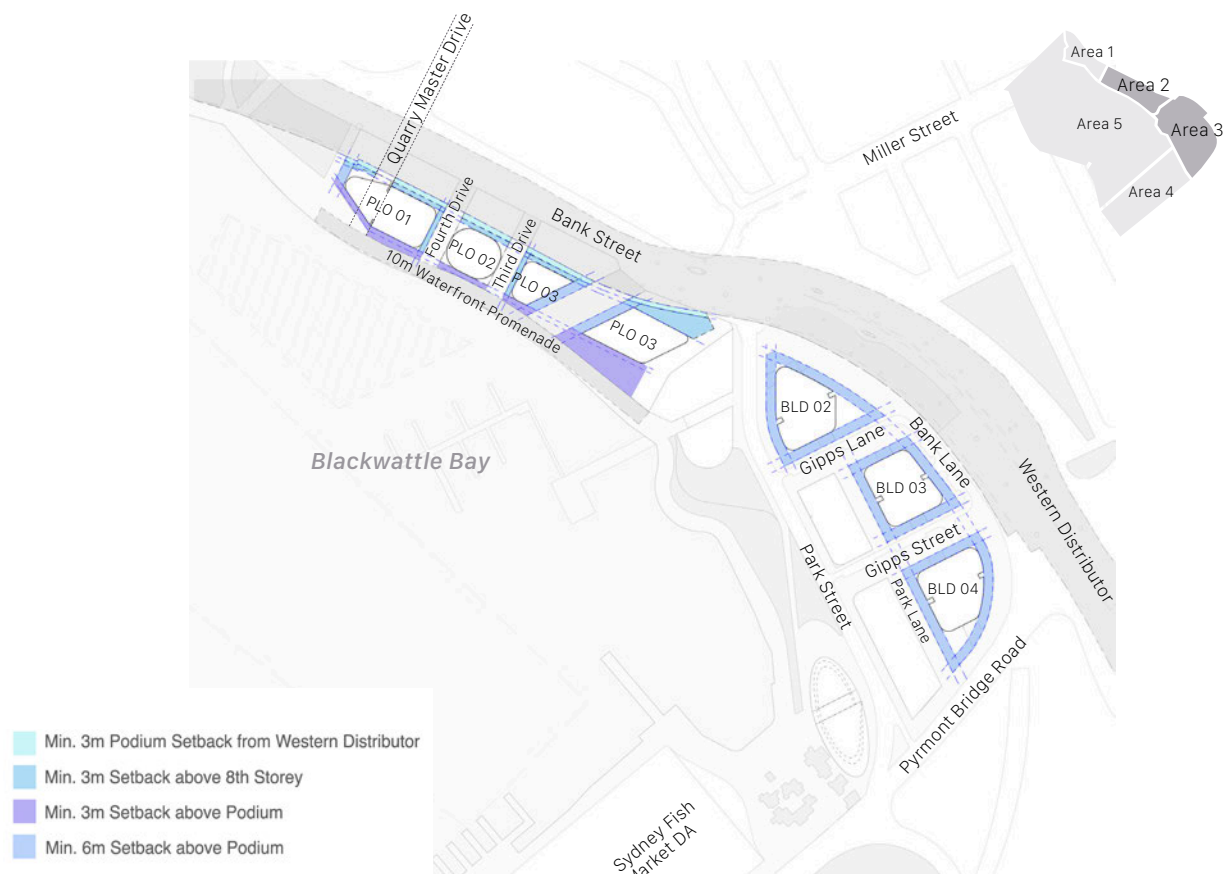
Setbacks above the street wall, that defines the streets and lanes of the draft Precinct Plan, provide articulation of the tower forms, increase building separations, create more slender tower forms and mitigate down draft wind effects.

In Area 3 a minimum setback of 6m above the 8 storey street wall is consistently applied.

Area 2 has a unique set of constraints. The Western Distributor limits the available developable portion of the Private Land Owner sites.

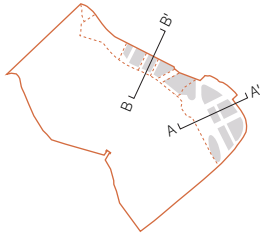
To accommodate a 2m service access easement to the Western Distributor, a minimum 3m setback is defined between the viaduct structure and the non-residential uses. Above 8 storeys a further 3m setback is applied giving a minimum plan setback of 6m between the Western Distributor and residential use.

On the water side of the Area 2 sites, a minimum 3m setback beyond the 10m promenade setback to the non-residential podium is set in PLO 02 and projected as a straight line setback across PLO 01 and PLO 03, perpendicular to the Quarry Master Drive grid.



/ Indicative Building Setbacks





/ Building Envelopes

The street alignments and tower setbacks are applied within the Planning Envelopes, ensuring that the amenity and contextual principles of the precinct massing are maintained.

The buildings fronting Park Street (BLD 05 and 06) in Area 3 are limited to 8 storeys in height (37.5m AHD including lift overrun and plant) to provide an appropriate street wall scale to the open space and to create a generous setback to the tower forms of BLD 03 and 04.

BLD 05 and 06 have an envelope width of 26m, providing an effective commercial floor plate for medium to large tenant organisations. Buildings of similar scale and floor plate size to International House and Daramu House along Hickson Road in Barangaroo could be delivered within the defined building envelopes. Green roofs are proposed for visual amenity, reduced heat reflection and for greater biodiversity across the draft Precinct Plan.

The building envelopes in Area 2 are constrained by easements around the Western Distributor. Non-residential uses can be accommodated in the envelope below the Western Distributor up to the site boundary along Bank Street. The clearance below the viaduct increases for PLO 01 as the roadway structure rises toward the Anzac Bridge pylon.

+ 156.00 AHD Obstacle Limitation Survey (OLS)

Site Boundary

+ 37.50 AHD

+ 9.80 AHD

+ 4.00 AHD

6m

Tower
Setback

6m

Tower
Setback

Podium

Ground
Floor
14m

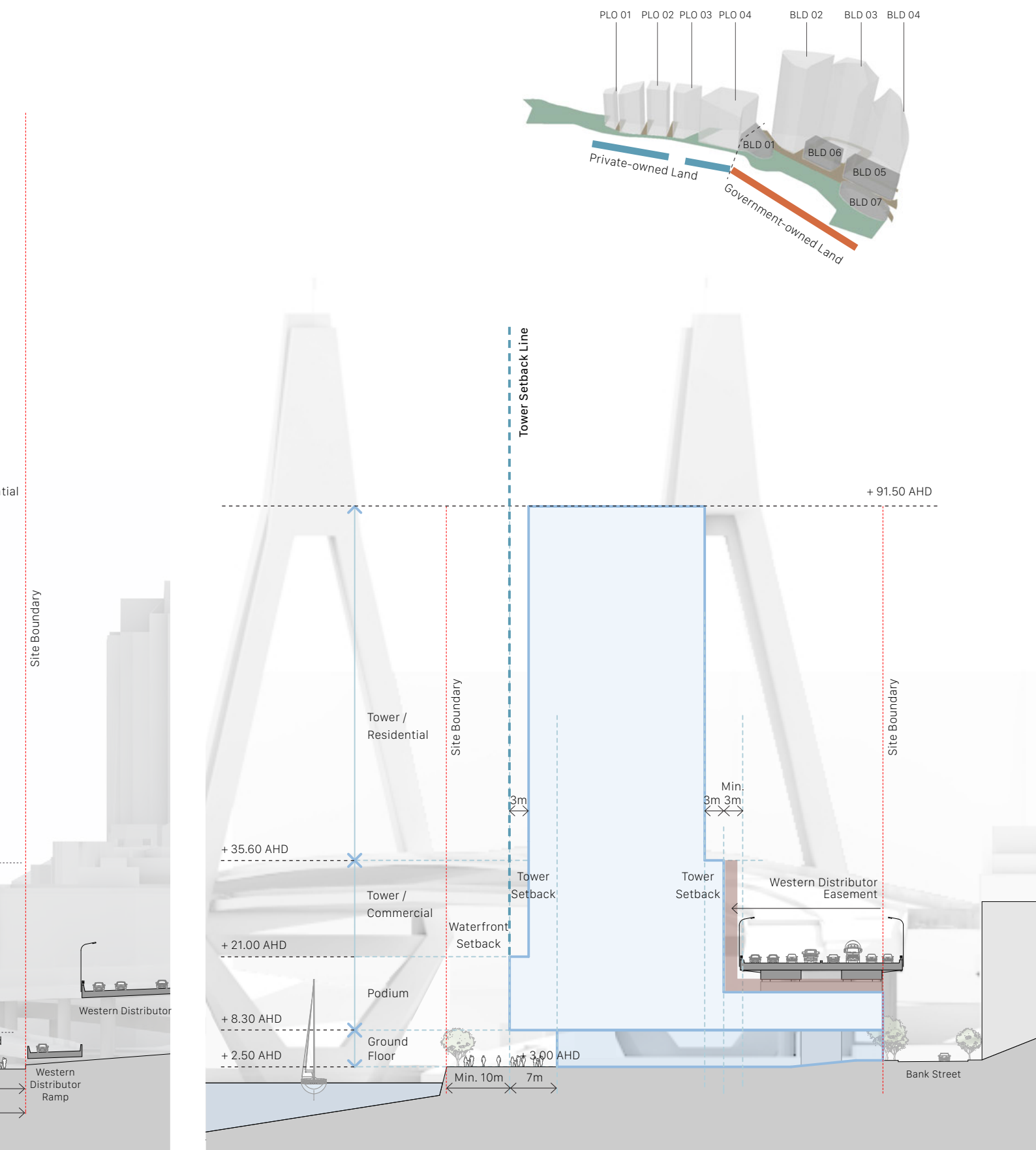
26m

10m

16m

20m

/ Indicative Section A-A' of BLD 03/06 Building Envelope (Area 3)



/ Indicative Section B-B' of PLO 02 Building Envelope (Area 2)

/ Multi-Layered Structure and Mixed Use Precinct

The Pyrmont Peninsula Place Strategy describes the future Blackwattle Bay as "... a place attracting businesses and employees, visitors and tourists along the connected waterfront linking the new Sydney Fish Market east to the Western Harbour, Walsh Bay and beyond."

The PPPS identifies opportunities and challenges for the future including:

- Revitalisation can address the barrier of private land ownership to bring better connections to the foreshore, a new urban quarter for jobs and some homes.
- A better public domain could include a new district-scale park, working with local Aboriginal knowledge holders to make better connections with Country and better connections to other parts of the Peninsula.
- The cluster of media businesses can be strengthened with new employment floor space in the sub-precinct.
- Residential development can be planned for in a way that does not compromise the objective of providing new space for jobs.
- New social infrastructure (recreation, community, library, gallery or events) can support growth through innovative approaches (integrated delivery).
- Access to the Pyrmont Metro Station.

The draft Precinct Plan is multi-layered and mixed use, capturing the opportunities of the site and creating a vibrant quarter that is safe, sustainable and amenable.

The layered structure builds from the existing site and water body to introduce the continuous waterfront promenade and open space system, connecting with existing green networks. The grid of streets and lanes links Bank Street through to the water and develops a vehicular movement network within Area 3.

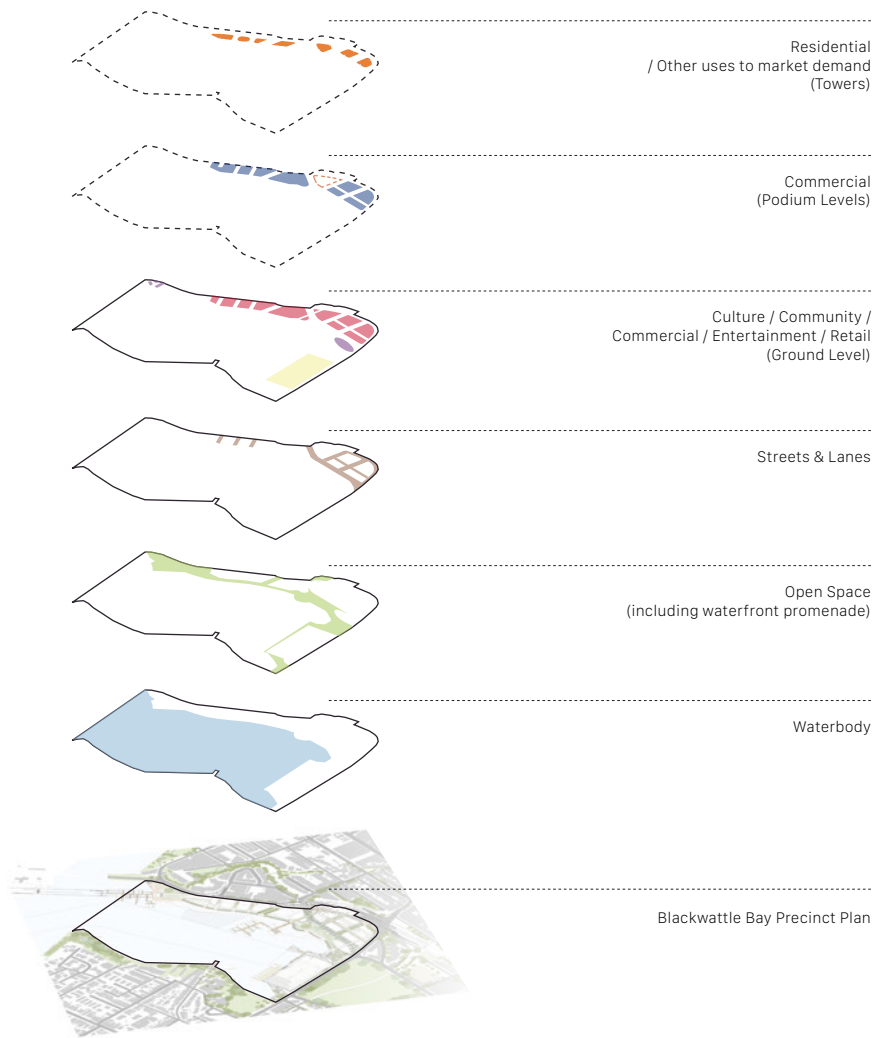
Ground level functions address the public domain and include the anchor use of the new Sydney Fish Market, retail tenancies for food & beverage and local services, cultural and community facilities, and foyers for workplace and residential uses over.

The use distribution is stratified, in most buildings, to best respond to the constraints imposed particularly by the Western Distributor and the traffic volumes that it carries, and harness the opportunities for outlook and amenity in the upper portions of the built form.

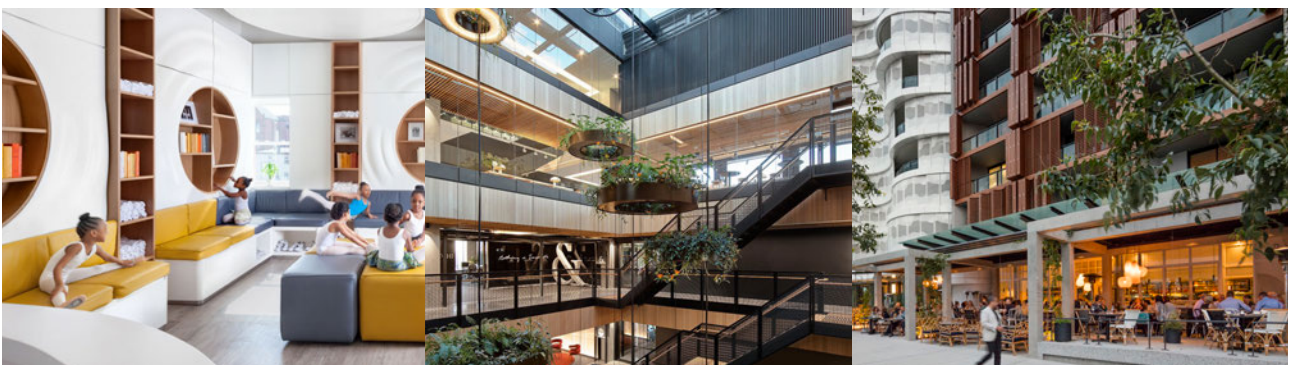
Employment uses in Blackwattle Bay help realise the Innovation Corridor, meet growth demand for jobs, and support the expansion of knowledge based industries around the Central Business District. Inclusion of residential creates a 24 hour community in Blackwattle Bay, provides surveillance and contributes to meeting projected housing demand in the Eastern City.

The use mix is balanced between non-residential and residential uses across the Study Area. The block structure however, retains flexibility for increased commercial use should the introduction of the Pyrmont Metro and market forces support higher levels of workplace accommodation. Tower forms tested for residential could be delivered as commercial use or other uses such as hotel, serviced apartments or student housing.





/ Layered Precinct Plan Structure



/ Potential Social Infrastructure, Community Facilities and Cultural Uses

The new Sydney Fish Market at the head of Blackwattle Bay is the community and cultural anchor of the precinct renewal. It will continue its role as a destination for visitors and as a source of seafood for Sydneysiders. Its attractiveness for locals will be greatly increased with more diverse dining options and greater exposure to the wholesale fish market process. The expanded role and improved facilities of the Sydney Seafood School will see the fish market appeal to a broader section of the community.

The draft Precinct Plan proposes a complement of facilities ranging from cultural offers with national reach through to sports & recreation functions serving the local community.

Acknowledging Country, respecting the practice of culture and embracing opportunities for experiencing indigenous knowledge are interwoven into the draft Precinct Plan.

The possibilities include:

- Tracing of songlines through the landscape
- A gathering circle in Waterside Park
- Indigenous plantings connecting with the landscape origins of the site
- Education programs including fishing practices
- Naming of places and/or streets
- Integrating language
- Local Indigenous artworks
- Places which are welcoming and inviting to all First Nations people

An Indigenous Culture Centre fronting Waterside Park would be a highly visible, accessible and nationally significant recognition of Gadigal and First Nations culture on Gadigal land. A place for events, education and programming, the centre would sit with complementary functions in a building folded into the landscape.

At the north end of Waterside Park, addressing the promontory, community space could include a library, childcare and/or theatre.

The use concept may be expanded to form a Knowledge Cluster bringing together indigenous knowledge, contemporary library functions and educational programs in a managed and coordinated cultural place on the edge of Blackwattle Bay.

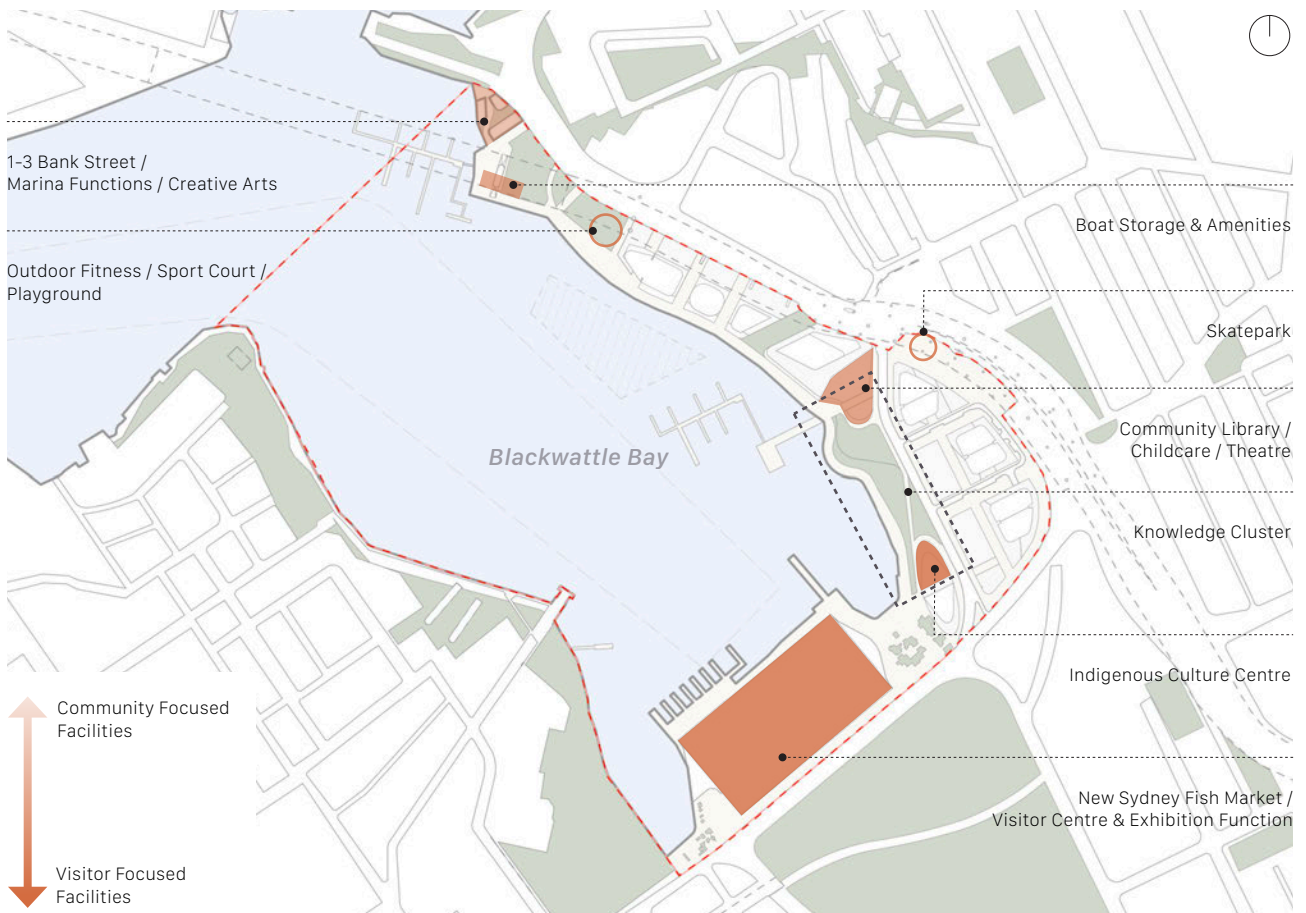
Under the Western Distributor, within the North Entry Plaza, a skate park invites youth into the precinct and uses lighting and colour forming a connection with the Aspire light sculpture to the south-east of the Study Area.

Bank Street open space accommodates boat storage and amenities under a folded landscape opening to a lower portion of the promenade and a launch ramp for passive craft including dragon boats and kayaks. An expansive green park space takes advantage of the surprising solar amenity beneath the elevated Anzac Bridge approach.

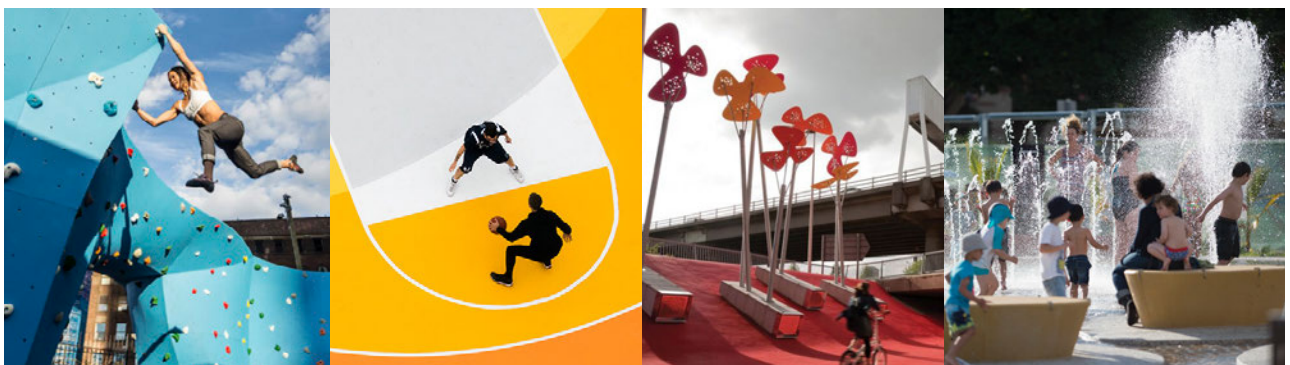
A multi-purpose court, outdoor fitness and play facilities are proposed sports and recreation facilities at the east end of Bank Street open space.

1-3 Bank Street can integrate land side marina functions, to free up space for the Bank Street park, with public amenities and creative arts space potentially including gallery space and artist's studios, recalling the function of the former Blackwattle Studios across the bay.





/ Proposed Social & Community Infrastructure



/ Building Typology

The Greater Sydney Commission has outlined a vision for the Innovation Corridor in which well located and highly walkable urban regeneration projects can attract digital and creative industries and connect with academic institutions and allied industries. A mix of uses and building typologies is key to creating a diverse and vibrant quarter for creative exchange and innovation.

The Blackwattle Bay Precinct Plan is able to deliver a range of workplace accommodation building types including large floor plate, low rise campus commercial, mid size street wall commercial blocks and smaller scale buildings for boutique organisations and startups.

The distribution of workplace types is responsive to the constraints and opportunities of Blackwattle Bay. The block structure allows the large campus floor plates to be configured to frame the public domain whilst mitigating the negative impacts of the Western Distributor. On the Private Land Owner sites, commercial levels slide in under the Western Distributor providing address to Bank Street and allowing residential uses to be accommodated clear of the elevated road structure.

The building envelopes provide flexibility to adjust the use mix and building typologies. A suggested residential tower could be realised as a commercial tower or hotel subject to market demand.

Waterfront Residential



Community / Creative Arts



Innovation Hub



Waterfront Commercial Podium



Community / Commercial



/ Indicative Use Types

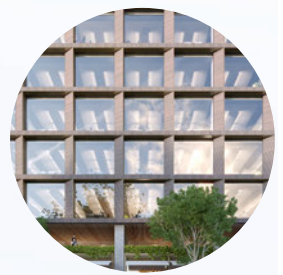
Residential with Vertical Green



Landmark Residential



Campus Workplace



Linear Commercial



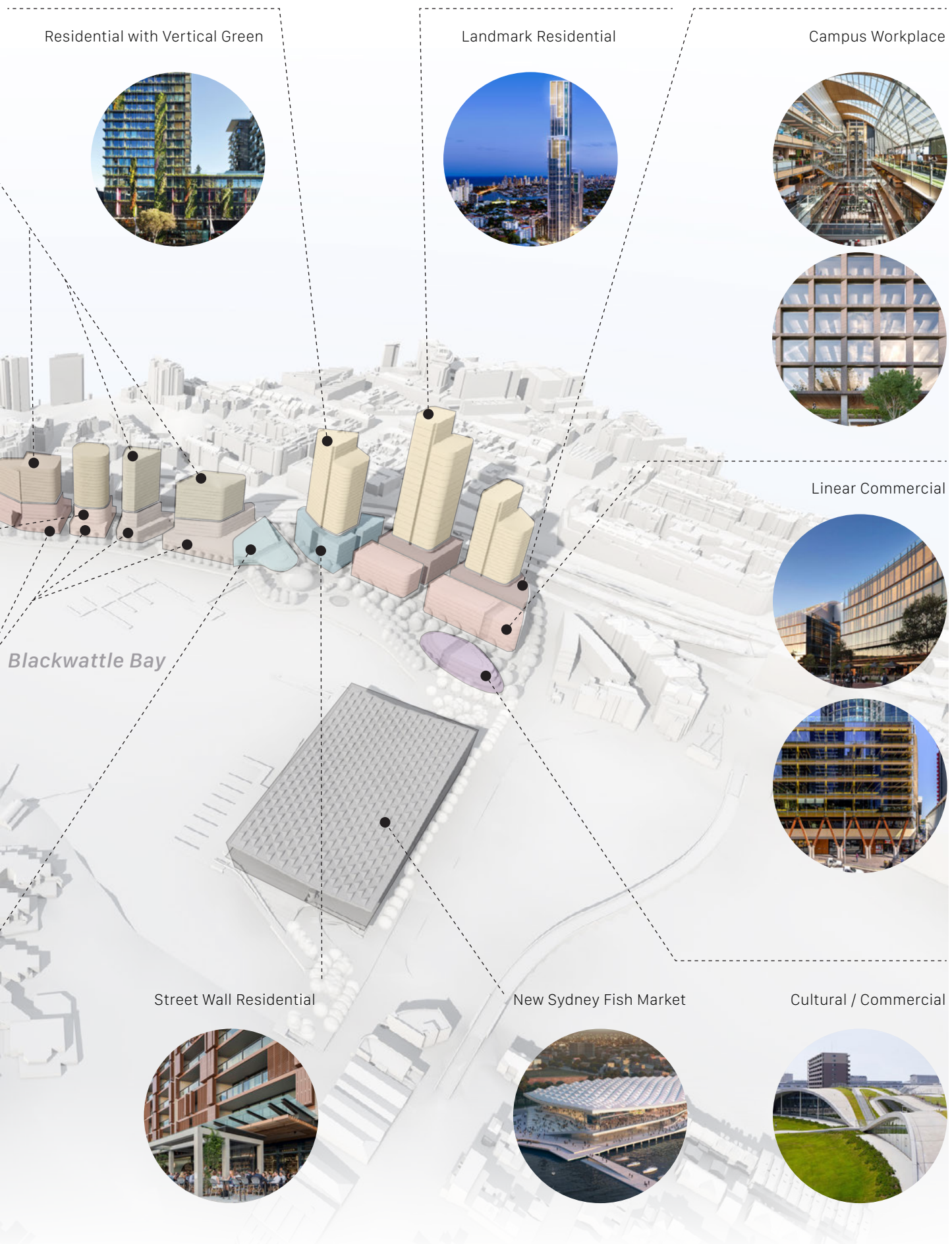
Street Wall Residential



New Sydney Fish Market



Cultural / Commercial



/ Gross Floor Area (GFA)

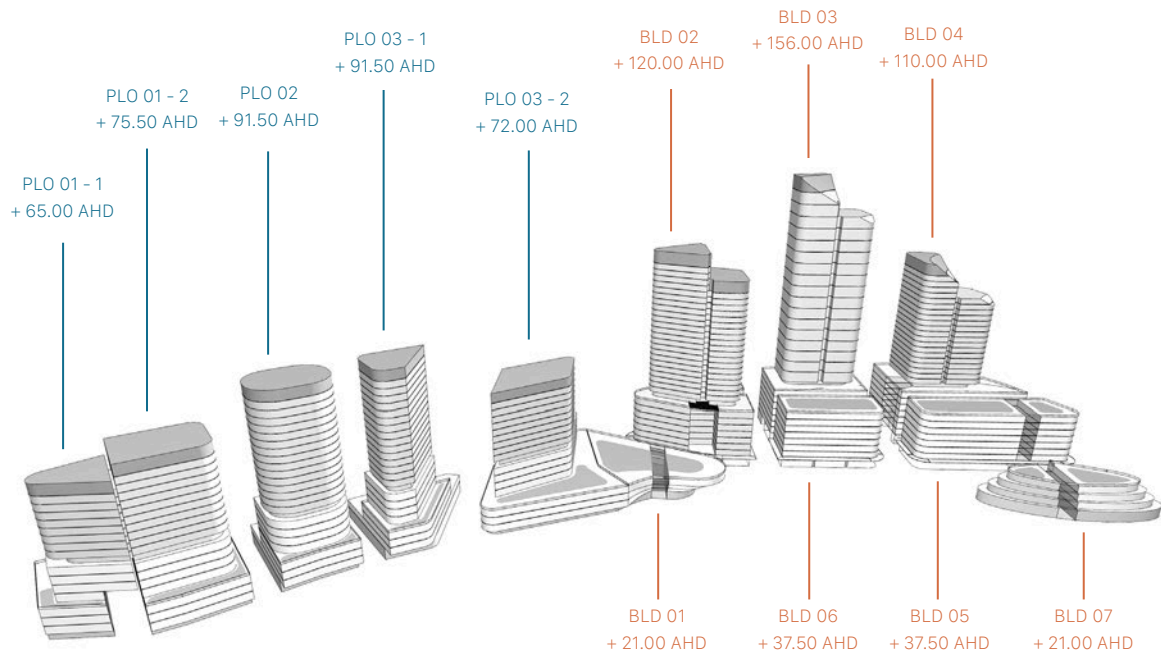
The Gross Floor Areas (GFAs) developed in the draft Precinct Plan are calculated from the indicative design envelopes that apply the building setbacks within the broader planning envelopes, and are optimised for solar amenity to the public and private domains.

Efficiency assumptions by use and location (e.g. ground floor uses have a lower efficiency applied to allow for building services, vehicle entries and the like) are applied to the building envelopes to generate the estimated yields per building as outlined in the following table.

Area	Building No.	GFA (sqm)
Area 2	PLO 01	23,250
	PLO 02	16,250
	PLO 03 - 1	13,300
	PLO 03 - 2	19,150
Area 3	BLD 01	7,200
	BLD 02	38,200

The total GFA across the renewal area (excluding the new fish market) is approximately 234,000m² of GFA with a commercial (and non-residential uses) to residential split of 45% to 55%.

Area	Building No.	GFA (sqm)
Area 3	BLD 03	51,400
	BLD 04	39,100
	BLD 05	12,950
	BLD 06	8,600
Area 3	BLD 07	4,700
Total		234,100



/ Indicative Built Form

/ Distribution between Land in Government & Private Ownership

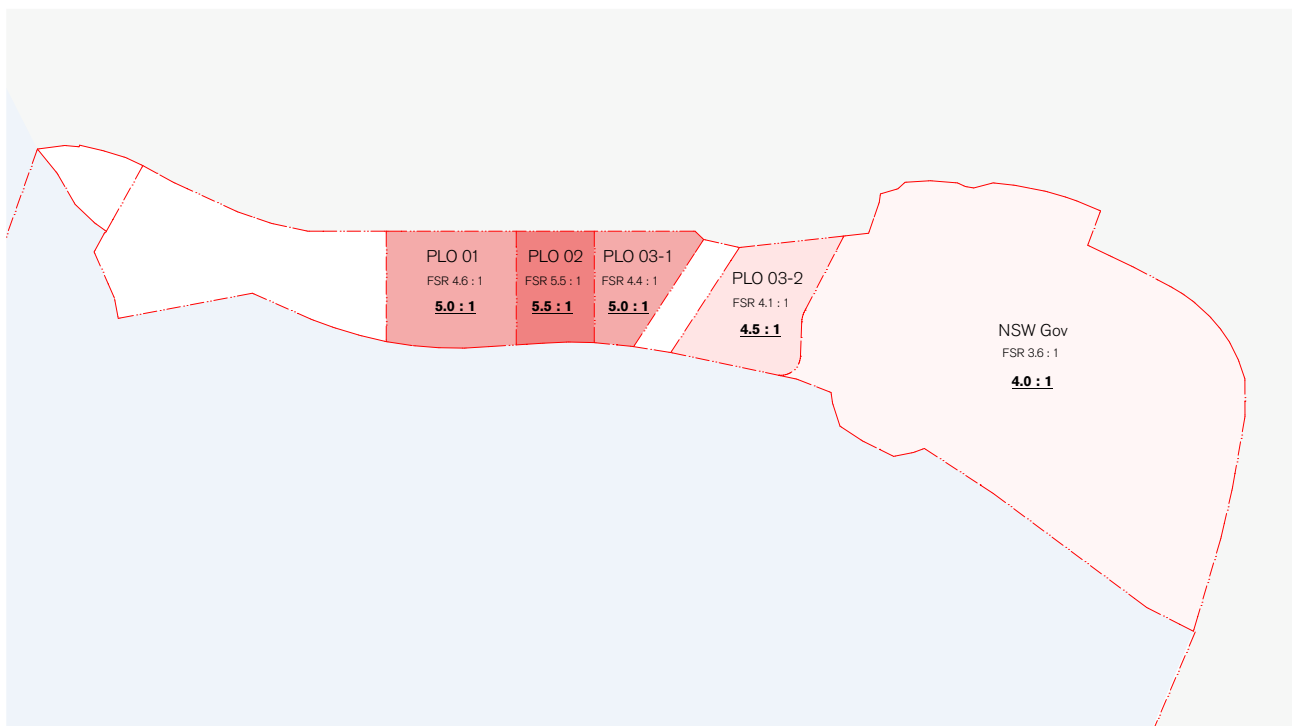
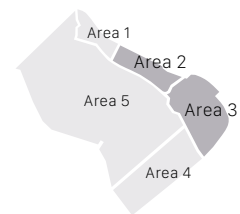
The spatial attributes, constraints and opportunities of the Area 2 and Area 3 land areas are distinctly different. Area 2 is relatively narrow strip of land, predominantly in private ownership. The land is constrained by the Western Distributor with easements applicable.

Area 3 is a significant deeper site and is in NSW Government and City of Sydney ownership. The Area 3 land provides greater flexibility in the shaping of the built form but is also

required to provide more in terms of open space, public domain and movement networks.

It is proposed that maximum GFAs are determined for each land parcel. As a representation of the relative area distribution across the individual sites, the follow diagram shows the indicative floor space ratios developed in the draft Precinct Plan.

Land Ownership	GFA (sqm)
Government-owned Land	162,150
Private-owned Land	71,950



/ Indicative Distribution of Future Development between Land in Government & Private Ownership



/ Amenity & Compliance

2.11 Provide sufficient detail of the building types to demonstrate future compliance with amenity standards can be achieved, (e.g. the Apartment Design Guide); including careful siting and layout of buildings to minimise the impacts of noise and provide natural ventilation through open windows; and, to support any calculations that convert building envelopes to gross floor area and development yields.

Amenity and compliance are key considerations in the creation of viable envelopes and appropriate urban form across the NSW Government and Private Land Owner sites of Blackwattle Bay.

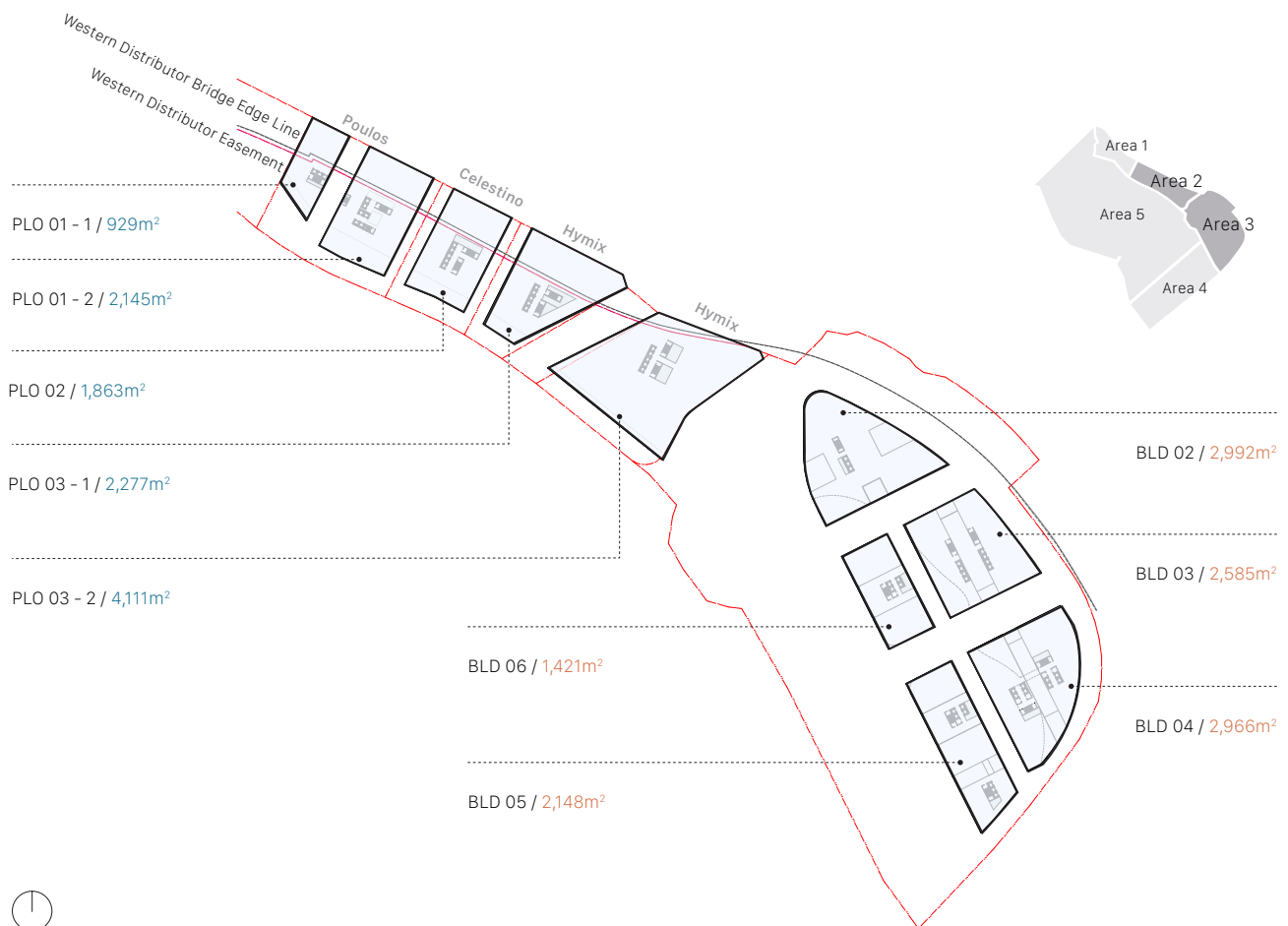
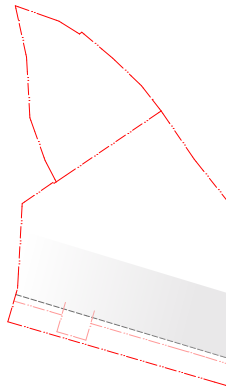
The block layout of the draft Precinct Plan has been carefully arranged to support a mix of uses and minimise exposure of sensitive uses to negative environmental impacts such as noise and poor air quality.

Commercial uses including contemporary workplace accommodation are able to be positioned in more challenged environments including adjacent and under the Western Distributor. Sealed facade systems that facilitate efficient and comfortable internal conditions mitigate exposure to noise and poor air quality sources.

More sensitive uses including residential, community facilities and childcare are able to be vertically and horizontally distanced from environmental constraints.

The establishment of street walls (podiums) for good urban form and setbacks to tower elements above the street wall reduces risk of downdraft wind conditions and creates a natural vertical delineation between sensitive and non-sensitive uses.

Building separation and natural ventilation to residential uses generally favours accommodation in tower forms above the street wall however, street wall buildings with good solar access and buffering from the Western Distributor in particular could support a residential use, achieving greater diversity in product and variety in the streetscape.



/ Commercial Functionality and Amenity

Increased employment space in proximity to public transport, tertiary institutions and the CBD is a significant opportunity presented by the renewal of Blackwattle Bay.

Commercial uses in the street wall components of the built form:

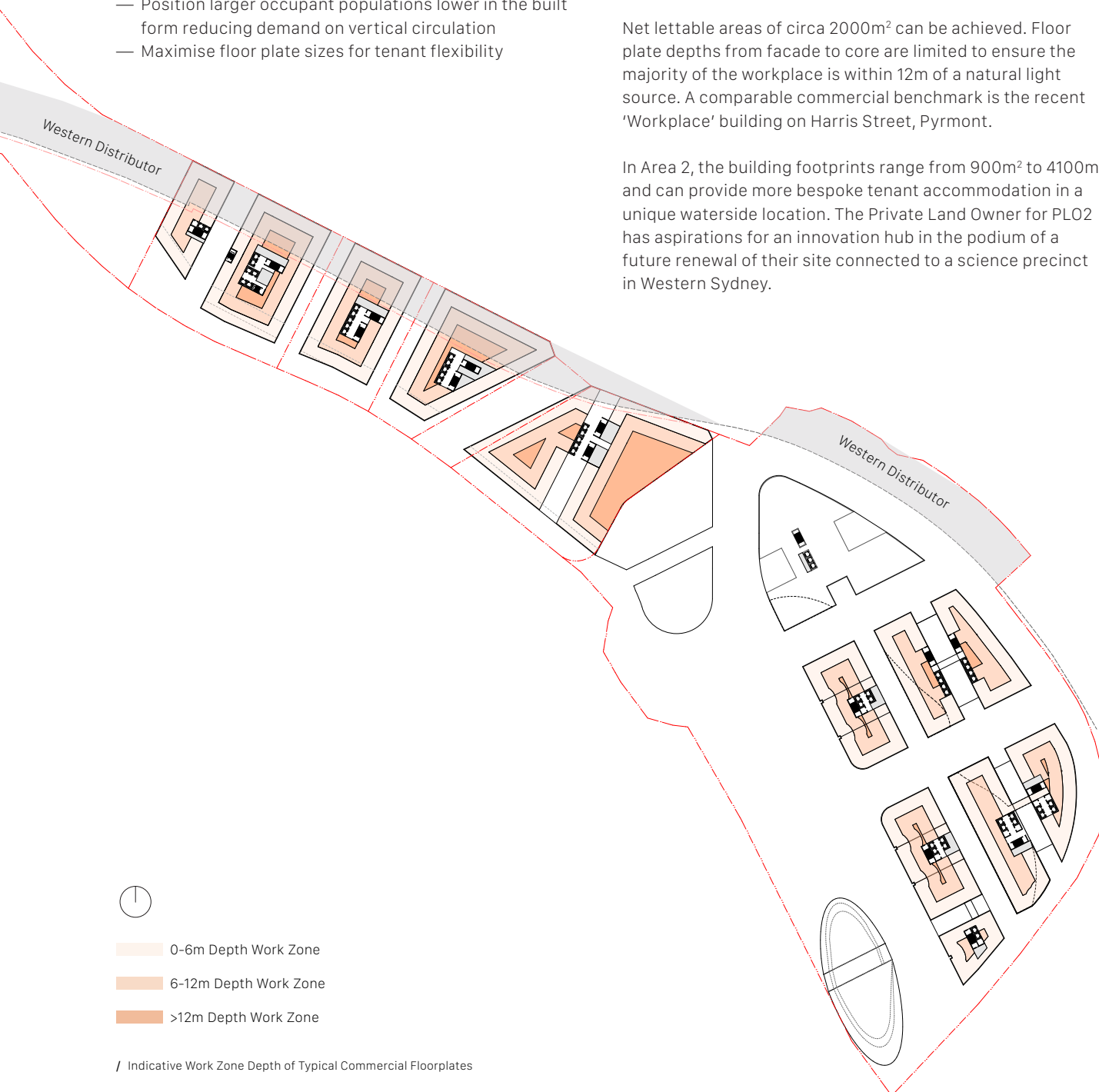
- Mitigate the impact of environmental constraints
- Frame the public domain and open spaces with predominantly non-private uses
- Position larger occupant populations lower in the built form reducing demand on vertical circulation
- Maximise floor plate sizes for tenant flexibility

The commercial uses typically extend to the first 8 storeys of each block in the draft Precinct Plan.

In Area 3 of the Plan, the block structure provides for building footprints ranging from 1400m² to 2800m². Low rise campus style floor plates with central atrium spaces, opportunities for open interconnecting stairs and collaboration spaces will attract a range of medium to large tenants including media and technology organisations. The low rise configuration of the commercial uses allows vertical movement to be encouraged via stairs benefiting health and wellbeing for occupants.

Net lettable areas of circa 2000m² can be achieved. Floor plate depths from facade to core are limited to ensure the majority of the workplace is within 12m of a natural light source. A comparable commercial benchmark is the recent 'Workplace' building on Harris Street, Pyrmont.

In Area 2, the building footprints range from 900m² to 4100m² and can provide more bespoke tenant accommodation in a unique waterside location. The Private Land Owner for PLO2 has aspirations for an innovation hub in the podium of a future renewal of their site connected to a science precinct in Western Sydney.



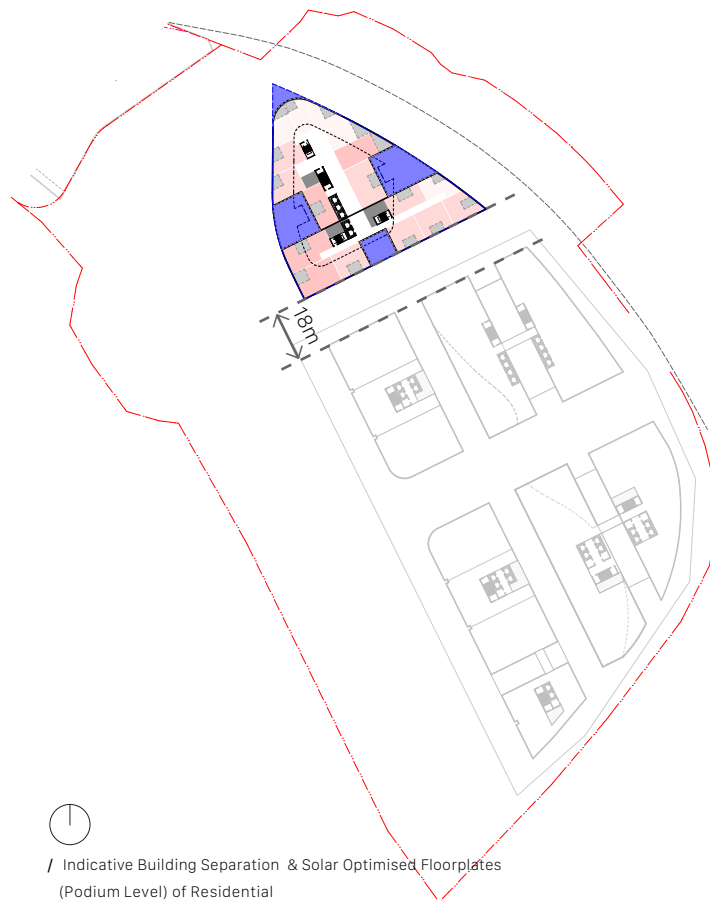
/ Building Separation

The draft Precinct Plan balances the amenity of the public domain, neighbouring sites and open space and new private accommodation. Slender tower forms allow sun access through to public spaces, provide for building separation in relation to the Apartment Design Guide, assist view sharing and support a more open and permeable built form.

Building separations between residential towers exceeds ADG in most instances across the draft Precinct Plan including all tower separations in Area 3.

In Area 2, the site dimensions of the Private Land Owner sites are limited and tower footprints are constrained by the Western Distributor. Minimum building separations for a residential tower are applied with 18m between a habitable room and a non habitable room from the residential levels of the tower in accordance with ADG requirements.

A minimum building envelope separation between PLO 02 and its neighbours of 15m has been tested and applied. The separation assumes careful positioning of solid walls and glazed facade components to meet the guidelines of the ADG. The minimum setback allows an effective floor plate size and modulated form to be developed on the constrained site.



/ Indicative Building Separation & Solar Optimised Floorplates
(Podium Level) of Residential

Manipulations of the building envelope within the planning envelope can developed to achieve a desirable urban design outcome and optimised solar performance. This is allowed for within the yield efficiencies when calculating gross floor area.

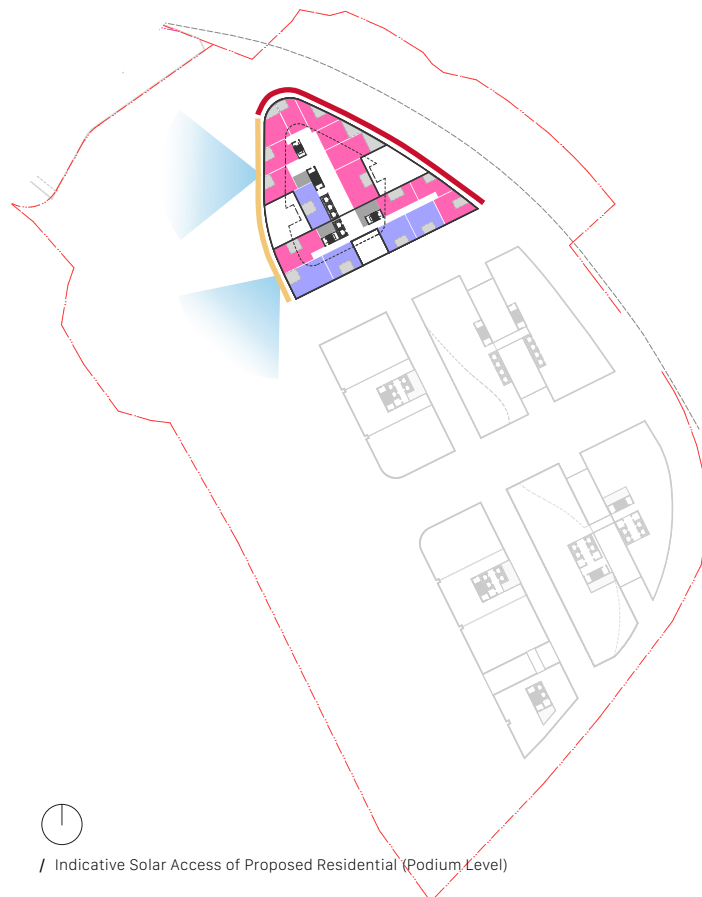


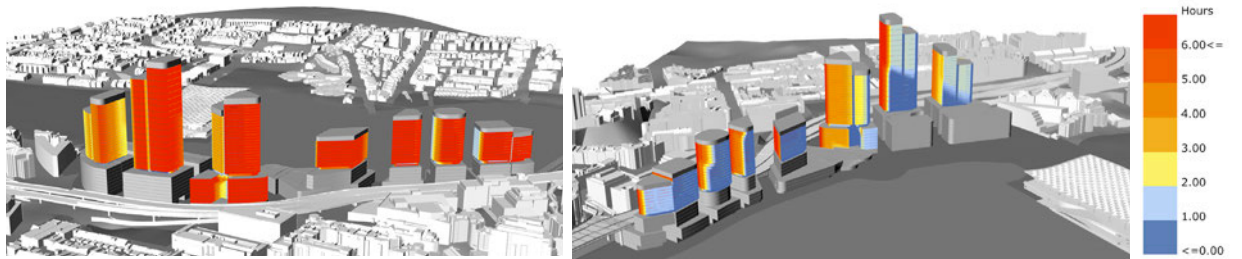
/ Solar Access

The land parcels of the Blackwattle Bay Study Area have a south-west orientation to the bay and the waterfront promenade. The Western Distributor borders the site to the north-east. Alignment with the solar guidelines of the ADG requires optimisation of apartment distribution on floor plates to receive sun over the Western Distributor whilst recognising the amenity of outlook over Blackwattle Bay.

In the upper portions of the built form, solar access to apartments is able to be paired with views over the Pymont peninsula toward the city and harbour.


Indicative apartment floor plates have been developed and tested for the residential building components in Area 2 and Area 3. Setbacks, building separation, orientation and floor plate layouts across both sites ensure that each residential tower is able to achieve a minimum of 2hrs of sunlight on the 21st of June (winter solstice) to 70% or more of the buildings apartments in line with the guidelines of the ADG.





/ Heat Maps of Proposed Residential





"1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed
2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line"

Apartment Design Guide, Objective 4B-3, P85

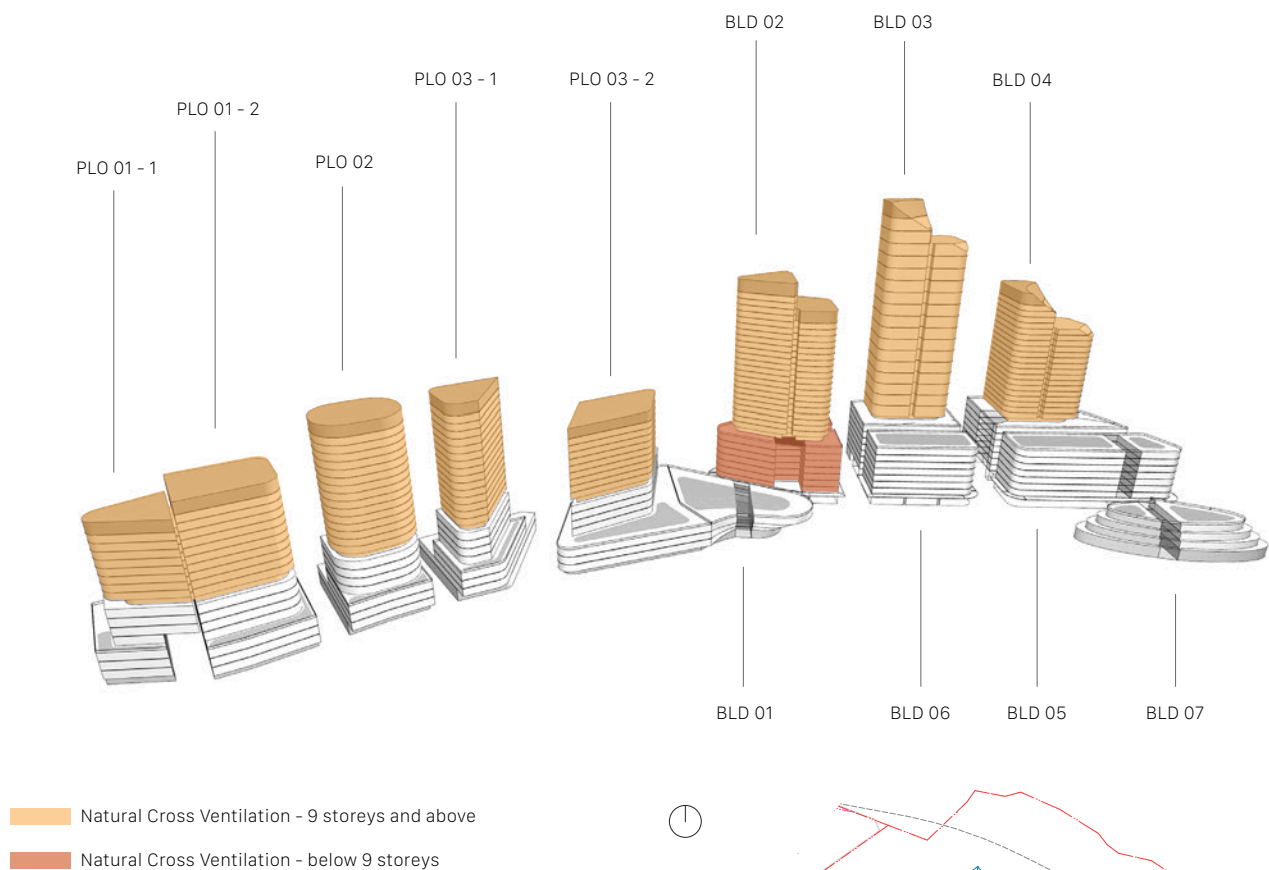
/ Natural Ventilation Compliance

The use distribution of the Blackwattle Bay Precinct Plan positions residential uses above an 8 storey street wall of commercial, retail, services and community uses. The first floor of residential towers is available for communal facilities opening to landscaped podium roofs.

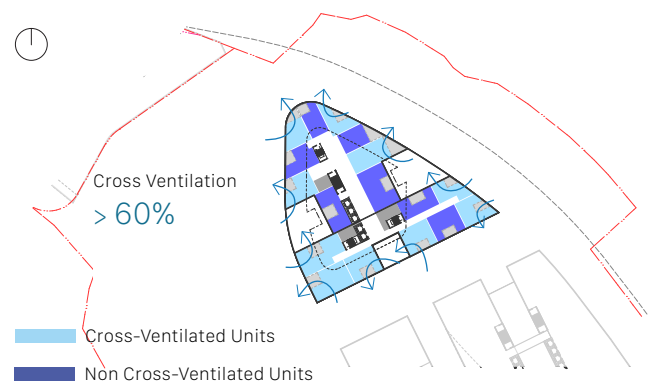
The Apartment Design Guide recommends cross ventilation be achieved to 60% of apartments in the first 9 storeys of a residential or mixed use building. From the 10th storey and above apartments are considered to be cross ventilated if balconies are not fully enclosed.

BLD 02 in Area 3 has been tested for residential use below 9 storeys due to its favourable solar orientation and increased separation from the Western Distributor relative to other blocks.

The indicative floor plate arrangement for BLD 02 demonstrates that the ADG cross ventilation target of 60% is achievable.



/ Indicative Natural Ventilation of Proposed Residential



/ Indicative Natural Ventilation of Typical Podium Floorplate of BLD 02 (below 9 storeys)

/ Noise

Vehicular traffic along the Western Distributor is a key noise source constraint to be considered in the renewal of Blackwattle Bay. The positioning of sensitive uses and setbacks and separations of the built form are urban design initiatives that can mitigate the noise impacts.

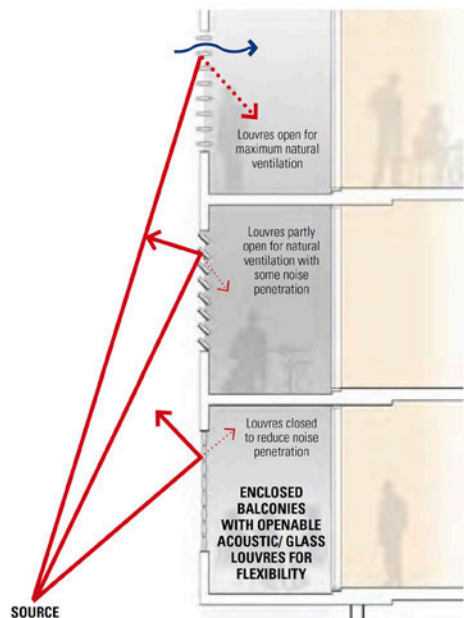


Figure 4J.2 Enclosing balconies to function as wintergardens is an effective means of reducing road and rail noise (Source: Development Near Rail Corridors And Busy Roads – Interim Guideline, NSW)

Vertical separation between the residential uses in Area 2 & 3 and the noise source of the Western Distributor is a consistently applied principle in the draft Precinct Plan. Residential zones are introduced on the 9th storey across the site mitigating the impact of the Western Distributor primarily through distance. BLD 02 is an exception as its location is more horizontally separated from the main traffic lanes than other buildings.

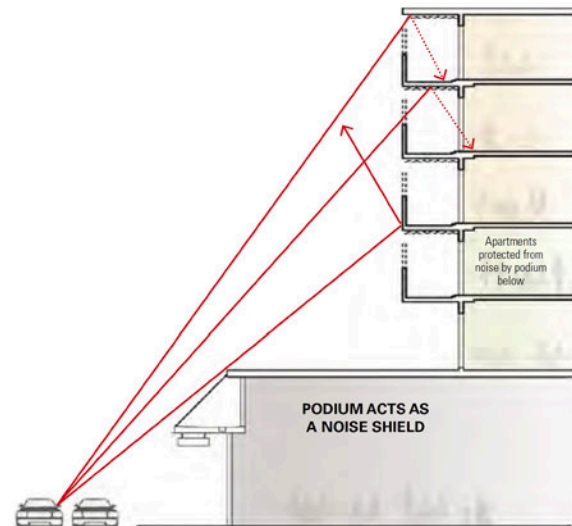


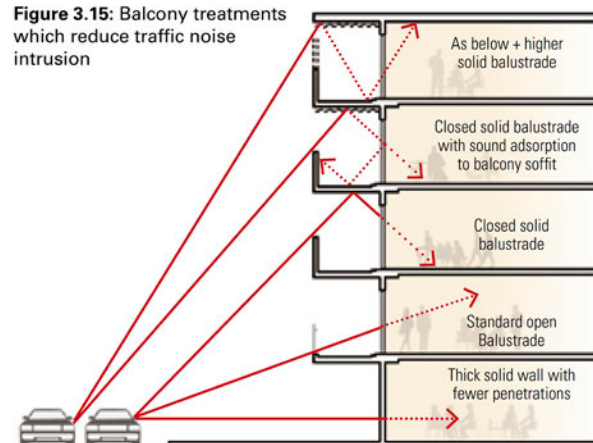
Figure 4J.3 Setting back the residential component above a podium helps shield apartments from major noise. Balcony soffits can be treated with sound absorption to assist to mitigate noise (Source: Development Near Rail Corridors And Busy Roads – Interim Guideline, NSW)

"Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas:

- solar and daylight access
- private open space and balconies
- natural cross ventilation"

Apartment Design Guide, Objective 4J-1, P105

Figure 3.15: Balcony treatments which reduce traffic noise intrusion



Source: Development Near Rail Corridor and Busy Roads - Interim Guideline, NSW

In Area 3 residential uses are setback 6m from the 8 storey street wall below. In Area 2, where sites are more constrained by the Western Distributor structure, a minimum setback to residential uses of 6m from the Western Distributor is prescribed with non-residential uses below setback 3m from the Western Distributor forming a noise shield to dwellings in the tower.

The Apartment Design Guide anticipates noise constrained sites near major roads, rail lines and beneath flight paths in Section 4J Noise and Pollution. Reference is made to the NSW Government's Development near Rail Corridors and Busy Roads - Interim Guideline.

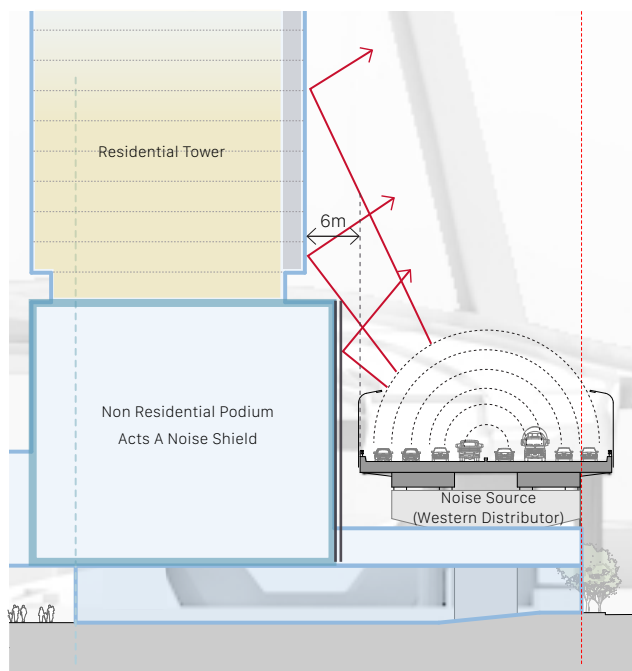
Objective 4J-1 of the ADG provides design guidance in relation to noise impacts. The Objective also notes that achieving the design criteria of the ADG may not be possible in some situations due to noise (and pollution). Notwithstanding this acknowledgement, the residential

components of the draft Precinct Plan are expected to achieve high levels of amenity with application of effective strategies in detailed design.

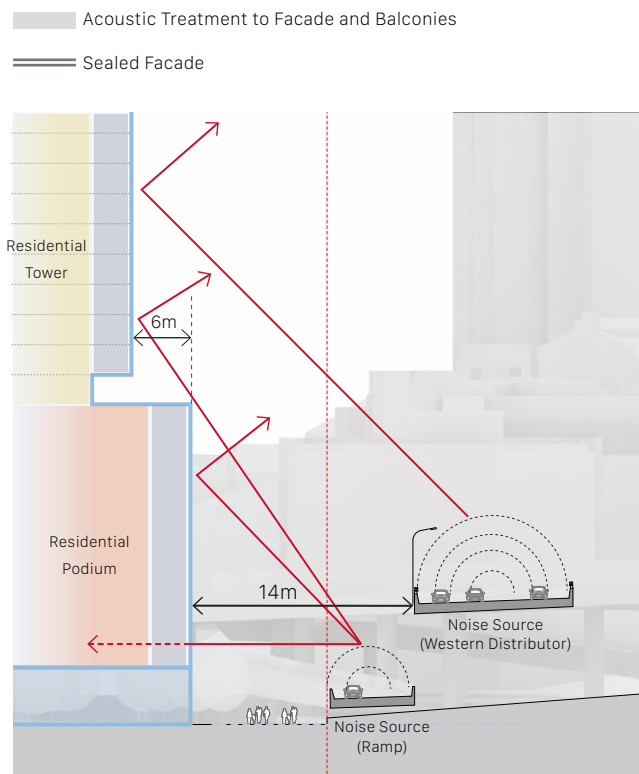
Detailed design opportunities identified in the Interim Guideline and the ADG include:

- limiting the number and size of openings facing noise sources
- providing seals to prevent noise transfer through gaps
- using double or acoustic glazing, acoustic louvres or enclosed balconies (winter gardens)
- using materials with mass and/or sound insulation or absorption properties eg. Solid balcony balustrades, external screens and soffits

Testing of residential floor plate planning for Area 2 in particular indicates that apartments can be configured to position balconies and primary openings to living spaces perpendicular to the Western Distributor whilst satisfying the solar amenity guidelines of the ADG.



/ Mitigation of Noise Impact of Buildings in Area 2



/ Mitigation of Noise Impact of BLD 02 in Area 3

/ Air Quality

The principles developed to mitigate the impacts of noise on sensitive uses also assist in relation to the zone of poor air quality around the Western Distributor during periods of heavy traffic flow.

The Development near Rail Corridors and Busy Roads – Interim Guideline outlines the reductions in pollutant concentrations to be expected in the first 10m and 20m from the kerbside of a traffic corridor.

[reference recommendations of SLR Air Quality report]

Natural ventilation to apartments is able to be provided throughout the residential portions of the use mix. In detailed design, the lowest residential floors will require specific solutions to provide alternative fresh air paths with possible mechanical assistance to ensure that residents have the option to open windows and doors for natural ventilation or close windows and doors but maintain access to fresh air.

"When air quality should be a design consideration:

- Within 20 metres of a freeway or main road (with more than 2500 vehicles per hour, moderate congestions levels of less than 5% idle time and average speeds of greater than 40 km/hr)
- Within 60 metres of an area significantly impacted by existing sources of air pollution (road tunnel portals, major intersection / roundabouts, overpasses or adjacent major industrial sources)"

Development Near Rail Corridor and Busy Roads – Interim Guideline, NSW, P35

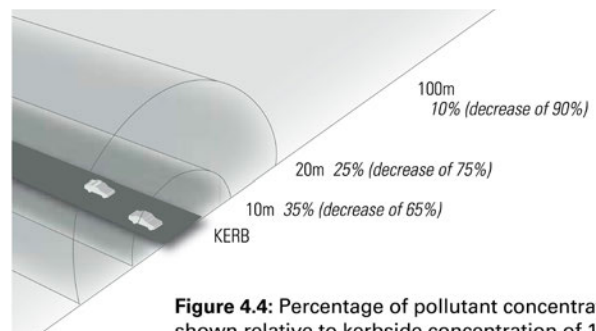


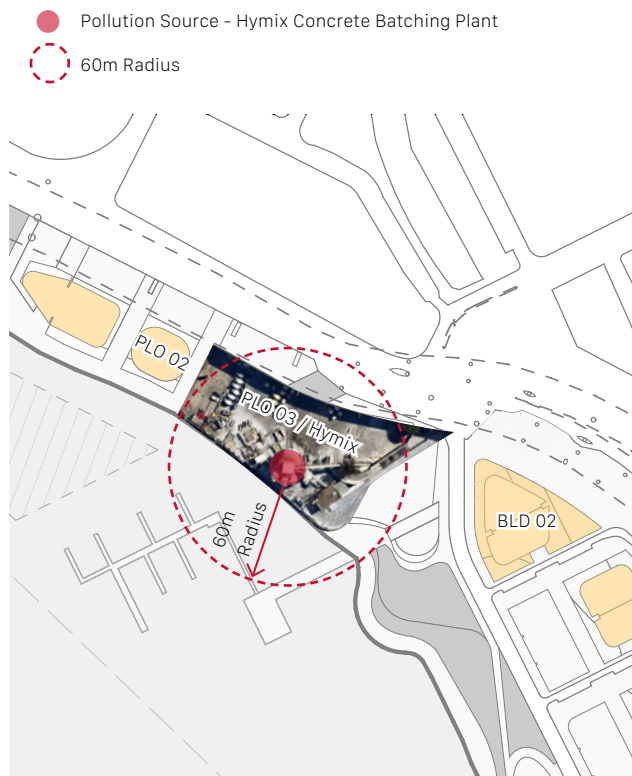
Figure 4.4: Percentage of pollutant concentration shown relative to kerbside concentration of 100%

Source: Development Near Rail Corridor and Busy Roads – Interim Guideline, NSW

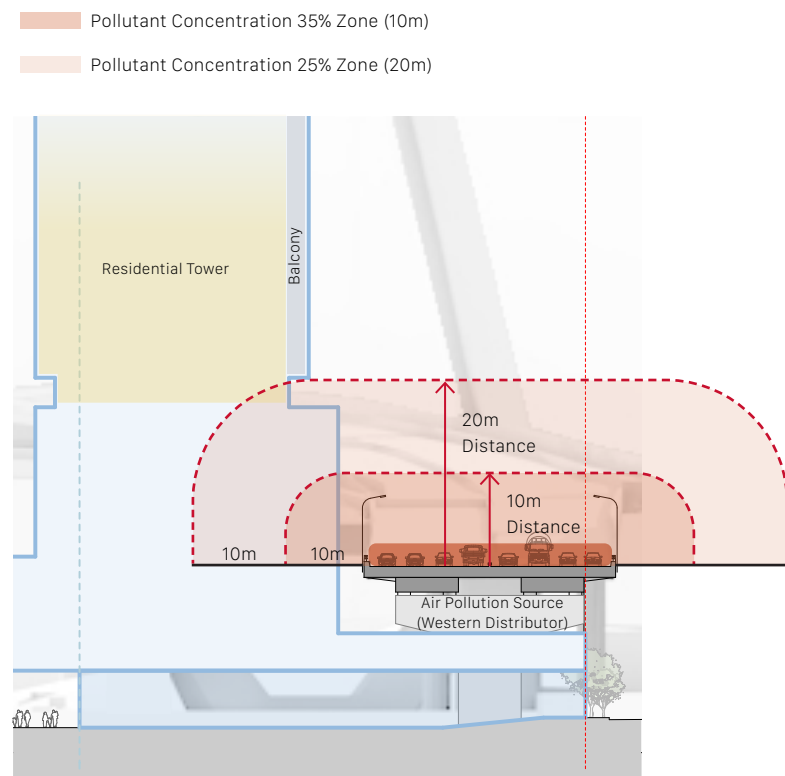
The Interim Guidelines note that air quality should be considered 'within 60 metres of an area significantly impacted by existing sources of air pollution [such as] ... adjacent major industrial sources ...'. The Hymix concrete batching plant is an existing industrial facility that impacts air quality and is likely to remain in operation concurrent with renewal of early stages of Blackwattle Bay.

The draft Precinct Plan places residential uses outside a 60m radius of the primary plant zone of the Hymix concrete batching facility. A zero lot commercial building in Area 3 along the south boundary of the Hymix site will buffer the pedestrian movements and activity in Park Street. Other sensitive uses such as childcare can be located outside the 60m radius. Renewal of the central Area 2 site (PLO 02) is not precluded under the current Hymix plant configuration.

Renewal of the Hymix site (PLO 03) is assumed to include residential and commercial with an integrated batching plant that contains any noise and air quality sources or a mixed use development that replaces the existing concrete batching plant.



/ Air Pollution Impact from Existing Hymix Site



/ Air Pollution Impact from Western Distributor

/ Water Uses

Blackwattle Bay is a place for passive craft and commercial vessels to share access to, and enjoyment of, the water and harbour. Existing uses combined with opportunity for expanded public transport, better dragon boating and passive craft facilities and welcoming of day trippers to the new Sydney Fish Market can add to the vibrancy and water access of the bay. Careful consideration of craft and vessel movement and berthing for safe operations of power and non-powered boats in the bay is important for all users.

Area 5 of the draft Precinct Plan is the water body of Blackwattle Bay itself. The bay currently accommodates commercial and recreational functions with powered and non-powered craft sharing the access to the water and shoreline facilities.

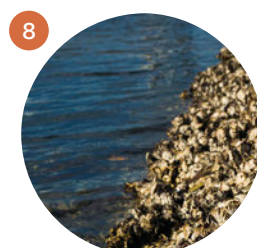
The planning of functions within the bay including testing of options for the precinct study has included consultation with:

- NSW Port Authority
- Transport for NSW
- Dragon Boats NSW
- Glebe Rowing Club
- Sydney University
- Rainbow Warrior
- Commercial marina operators

Blackwattle Bay currently accommodates approximately 69 commercial vessels in the existing Sydney Fish Market wharf, Blackwattle Bay Marine Operatives wharf and recently constructed Bank Street marina.

Specialist marine engineering consultants provided advice in relation to the seabed profile of the bay, draught depths and vessel size and berth assumptions. A shallow water zone along the eastern shore was identified as a potential

1. Commercial berths
2. Rowing training course
3. Small vessel launching
4. Dragon boats
5. SFM Fleet
6. Recreational vessel pontoons
7. Marine habitat
8. Shoreline habitat
9. Potential ferry services



ecological zone for marine habitat, being unsuitable for berthing of motorised vessels.

Commercial berth capacity in bays around Sydney Harbour is limited and demand is high. Studies indicate that Blackwattle Bay can maintain the current commercial vessel capacity whilst accommodating the new fish market and renewal of the lands in the Study Area along the eastern edge of the bay.

Passive craft activities in the bay include:

- Dragon Boating Training
- Kayaking and Canoeing
- Rowing Training
- Visiting Sail Craft

An open vista at the end of Miller Street, free of berthed vessels, is an urban design initiative of the draft Precinct Plan. The identification of potential short term and long term commercial berth locations:

- recognises the Miller Street vista,
- is outside the proposed ecological zone,

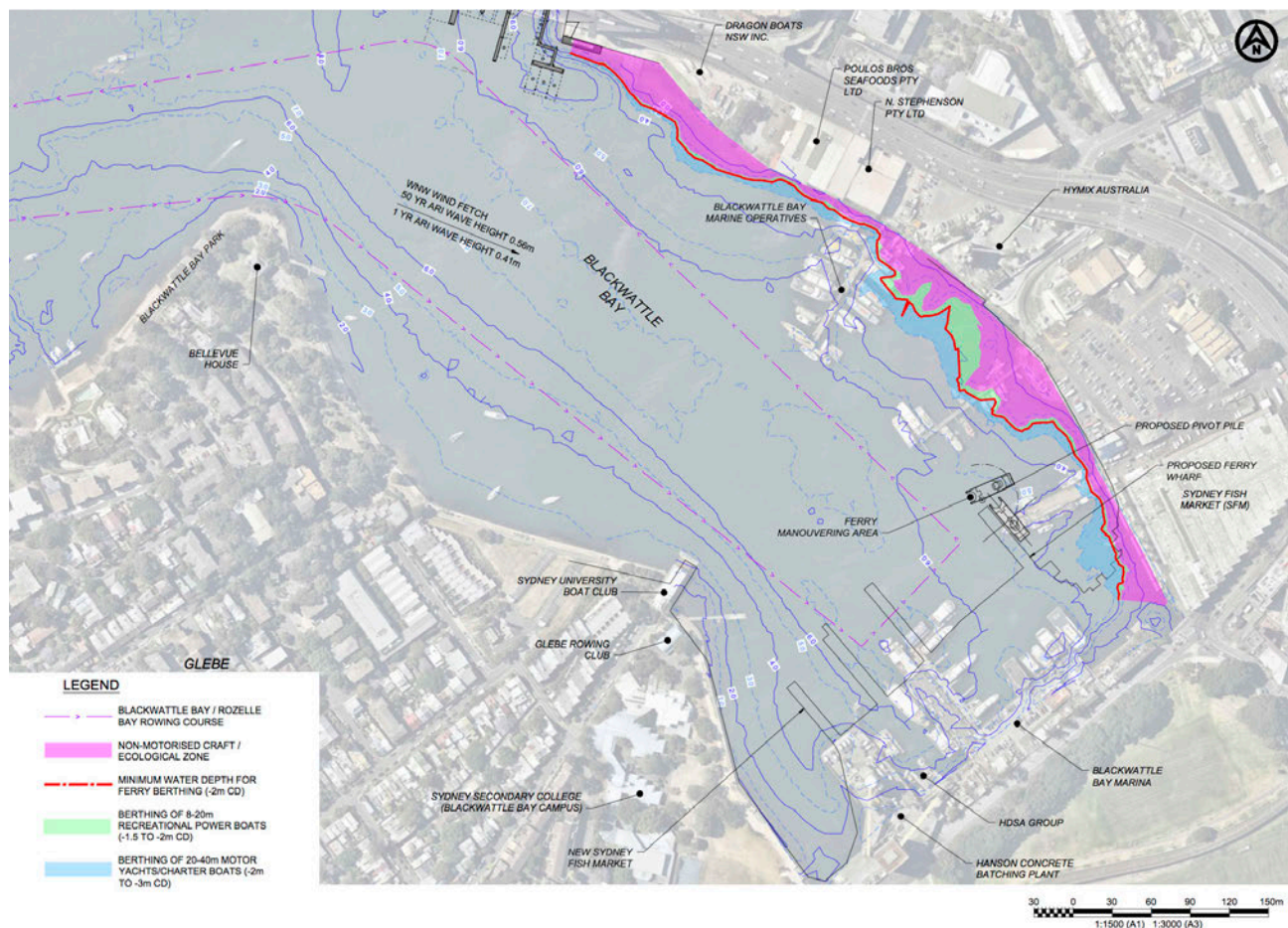
— is kept 25m clear of the rowing course through the centre of the bay.

The Bank Street marina is best suited to Day Charter functions with more frequent vessel movements able to be accommodated with minimal cross over with the passive craft movements in the rowing course. The new marina accommodates 22 vessels in the current configuration.

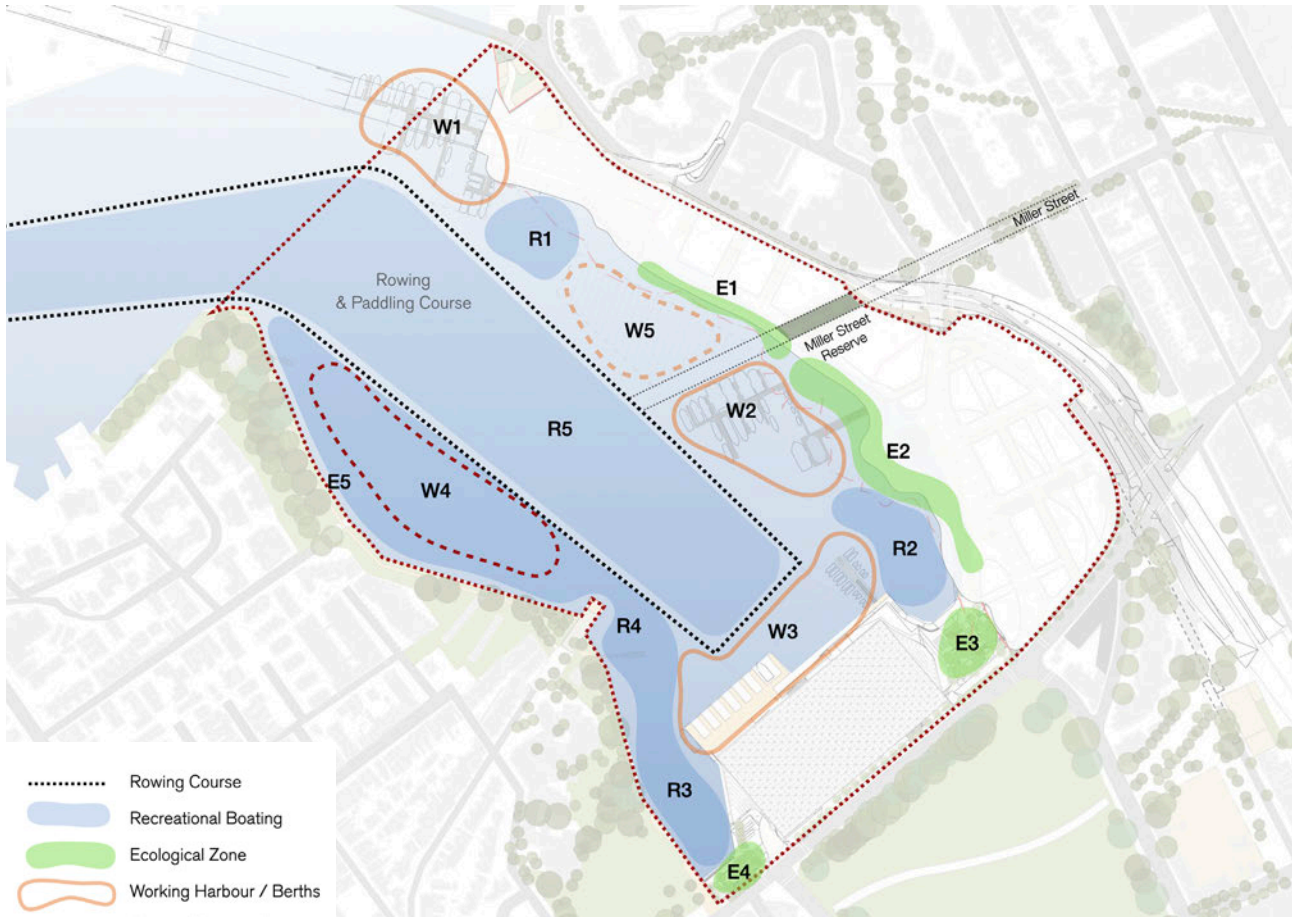
A Corporate Charter Marina and Potential Ferry Stop is proposed south of the Miller Street vista with a wharf connecting near the promontory.

The new Sydney Fish Market incorporates accommodation for fishing fleet and visiting vessels.

A Potential Future Marina is indicated in the draft Precinct Plan to show how future growth in commercial berths may be accommodated in Blackwattle Bay consistent with the urban design principles.



/ Blackwattle Bay Precinct Maritime Constraints Plan (Eastern Shoreline)
Source: Royal HaskoningDHV, 2018



/ Indicative Future Water Uses



Working Harbour

- W1 - Proposed day charter marina
- W2 - Proposed corporate charter marina
- W3 - Fish market and day visitor marina as proposed through new Sydney Fish Market DA
- W4 - Existing overnight moorings to remain
- W5 - Potential Future Marina

Recreational Harbour

- R1 - Existing Dragon-boat launch to remain
- R2 - Proposed Paddle craft access
- R3 - Existing Paddle craft launch to remain
- R4 - Existing Rowing craft launch to remain
- R5 - Rowing & paddling course (*Minor modification proposed through new Sydney Fish Market DA*)

Ecological Harbour

- E1 - Potential future living seawall
- E2 - Potential future living seawall & tidal pools
- E3 - Stormwater detention as proposed through new Sydney Fish Market DA
- E4 - Stormwater biofiltration as proposed through new Sydney Fish Market DA
- E5 - Potential future living seawall & tidal pools



/ Artist Impression of the Waters Edge and Water Activities of Blackwattle Bay

/ Models / Animations / Photomontages

2.13 Provide physical and 3D CAD models to fit the City of Sydney's respective models. Include animations and photomontages of key parts of the proposal from eye level positions in the public domain. Consult with the City of Sydney to confirm technical model requirements.

A 3D model has been developed through all stages of the draft Precinct Plan and represents an indicative design based on all the analysis carried out. The 3D model has been distributed to consultants over the duration of the design process and has been included in modelling for wind analysis, flooding and visual impact assessments.

3D modelling has also been critical to analysing sun access to all public open space as well as existing and proposed residential uses. Indicative renders have been produced within the city context during the different scenario stages as well as a current render to reflect the proposed draft Precinct Plan.



/ View from Harris Street / Pyrmont Bridge Road Intersection



/ View from Glebe Foreshore to Blackwattle Bay Study Area



/ View from Ferry Road



/ View from Miller Street

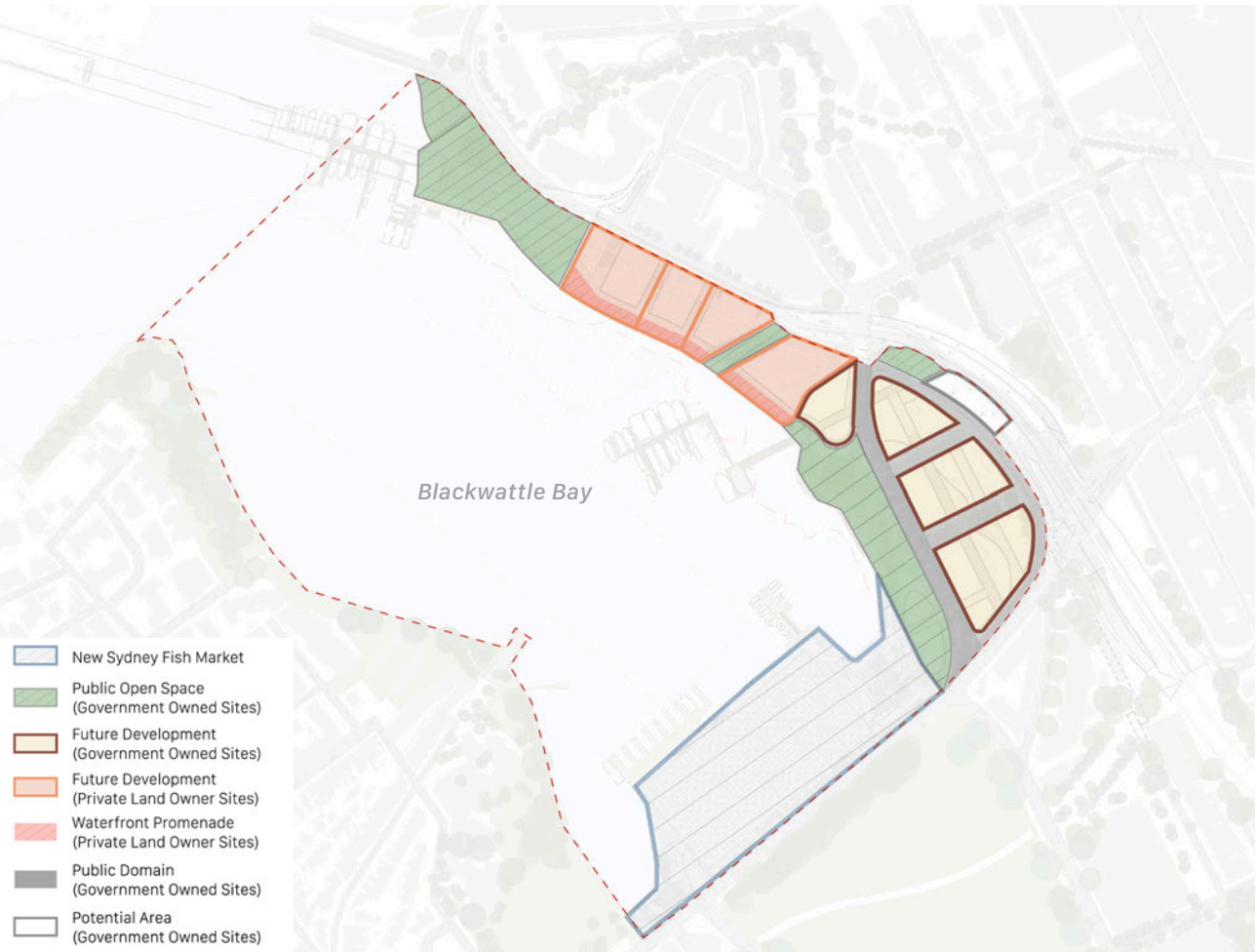
/ Subdivision Plan

2.14 Prepare a subdivision plan that reflects the precinct plan identified in 2.7 and integrates the proposed staging plan.

As this is a large site comprising both private and government land, a subdivision plan enables portions of the land to be released as single lots while keeping a continuous open space and public domain at the forefront of the development.

The subdivision is generally comprises of the New Sydney Fish Market, open space, Government sites, Private Land Owner sites and additional public domain.

A well structured subdivision plan will retain the integrity of the draft Precinct Plan maintaining a clear distinction between private sites and the public domain. This ensures that the public domain is primary and not open to reduction or dilution. While the private land is essentially already formulated as lots within the draft Precinct Plan, the 4 major lots on government land are derived through development of the Plan and will allow 4 key sites to be developed by different designers achieving a diversity of architectural expression.



/ Indicative Subdivision Plan



/ Staging Plan

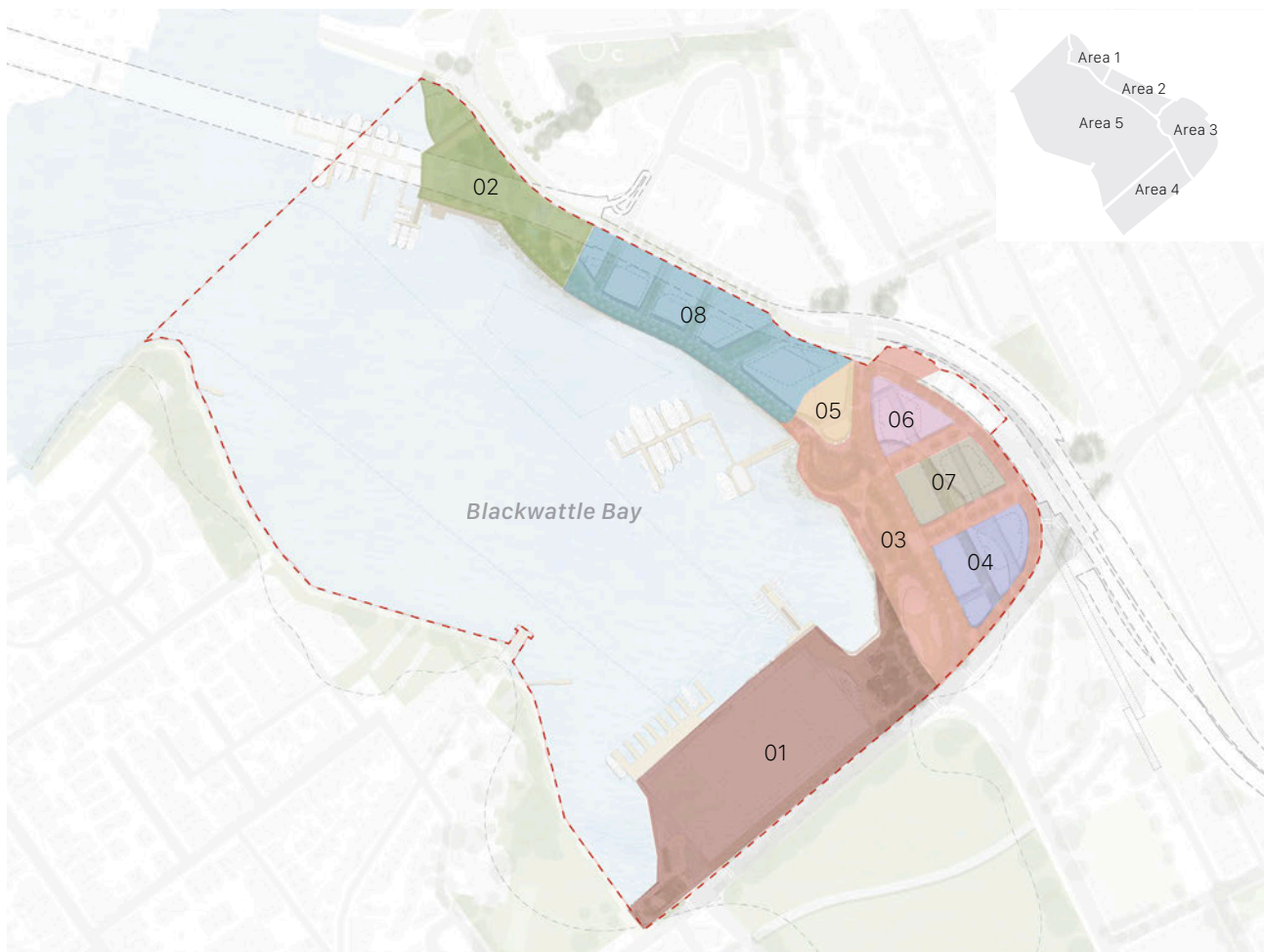
2.15 Outline the proposed staging, including showing how the progressive delivery of the public domain (park and streets) is integrated with the progressive release of development lots and how the proposed staging will be integrated with the staging of the wider Bays Precinct. Within the staging plan, maximise opportunities for temporary activation and providing public access.

Many factors associated with the design of the master plan and its realisation contribute to the formulation of a staging plan. Primarily the drivers are the early demolition of the existing fish market, the construction of the new fish market and the opportunity associated with the Bank Street open space. Early works for the New Sydney Fish Market are underway and construction is to commence shortly to deliver the key catalyst for regeneration at Blackwattle Bay.

The staging plan sees opportunity for the community driven Bank Street open space and the buildings of 1 - 3 Bank Street to be the first component of the draft Precinct Plan to be delivered. This signifies an important shift in the rezoning of Blackwattle Bay and its benefit for the current and future local community.

With the existing fish market demolished, it becomes logical to begin construction of stage 3 in its place. This gives opportunity for a major structure to be delivered at an early point and kick start the public domain and local road network that is to be delivered progressively for stages 4-7.

Stage 3 allows for some flexibility of programming, as adjacent elements are important components of successfully delivering the large lots of stage 06 and 07. What is not flexible in stage 3 is the delivery of Waterside Park. The successful delivery of this is essential in reconnecting Blackwattle Bay with its surrounding community and future visitors to the fish market.



/ Indicative Staging Plan



Stage 5 is a relatively low rise feature building however its place in the draft Precinct Plan is important as it provides a buffer to the public domain and remaining lots from the current Hymix Site where concrete is batched.

Stage 6 and 7 will follow creating landmark buildings and complete the draft Precinct Plan for the government site. Stage 8 encompasses all of the Private Land Owner sites and will most likely be phased through negotiation and design. Until Stage 8 is completed as a whole, a temporary floating boardwalk will be delivered during a phase of Stage 4 that links Bank Street open space with the new Waterside Park and the Sydney Fish Market.

Stage	Proposed Development Focus	Area	Land Ownership
01	New Sydney Fish Market & Southern Part of Waterfront Promenade	Area 4	Government
02	1-3 Bank Street & Bank Street open space	Area 1	Government
03	Waterfront Promenade / Waterside Park / Park Street / Indigenous Culture Centre / Retail	Area 3	Government
	Gipps Street / Gipps Lane / Bank Lane		Government
	North Entry Plaza / Skatepark / Separated Cycleway & Public Domain		Government
04	Commercial & Mixed Use Development	Area 3	Government
05	Social & Community Facilities		Government
06	Mixed Use Development		Government
07	Commercial & Mixed Use Development		Government
08	Mixed Use Development / Miller Street Reserve	Area 2	Private Land Owners / Government

/ Other Impacts

2.16 Integrate the findings of other parts of this study and demonstrate how these have shaped the public domain plan and the building typologies to meet their requirements. In particular how the design of building types respond to ESD, wind, flooding, noise and pollution issues.

A comprehensive team of specialist consultants has contributed to the analysis of the existing site conditions and context, needs, risks and opportunities. Recommendations have been put forward by each of the specialist consultants and considered, evaluated and, as appropriate, integrated into the urban design and public domain structure of the draft Precinct Plan.

A balanced outcome with high amenity public and private spaces is sought, mitigating the site constraints and embracing the opportunities of the key waterside location close to the CBD.

/ ESD

An Ecologically Sustainable Development report has been prepared by Aecom.

The report outlines the sustainability context, identifies trends and drivers, and establishes sustainability targets for the renewal of Blackwattle Bay.

Blackwattle Bay presents a clear opportunity to implement a Green Star Communities governance framework to support the achievement of coordinated and transparent approaches to sustainability outcomes. The report recommends piloting the Future Focus tool being developed by the Green Building Council of Australia (GBCA).

The report assesses sustainability benefits and provides recommendations across initiatives including:

- Passive Design
- Energy Efficiency
- Building Electrification
- On-site Renewal Energy - Solar Photovoltaics (PV)
- Microgrids (Embedded Network)
- Power Purchase Agreements (PPAs)
- Green Infrastructure
- Cool Materials
- EV Charging Infrastructure
- Active Transport
- Water Efficiency Measures and Fixtures
- Water Sensitive Urban Design
- Rainwater Harvesting
- Onsite Water Recycling Systems
- Construction and Demolition Waste Reduction
- Operational Waste Minimisation and Improved Recycling



The report provides the following sustainability target recommendations to be adopted in planning controls:

- Achieve a 5 Star Green Star – Communities rating (based on version 1.1 submission guidelines or equivalent rating in the updated Green Star – Communities Future Focus tool).
- Achieve a 5 Star Green Star – Buildings rating for selected buildings (based on version 1 submission guidelines).
- Achieve a minimum BASIX Energy target of 25 and minimum BASIX Water target of 40.
- Explore opportunities to deliver beyond compliance targets for BASIX Energy and BASIX Water.
- Achieve a NABERS Energy rating of 6 Stars and NABERS Water rating of 5 Stars.
- Maximise opportunities for the installation of solar PV systems, where other renewable energy procurement alternatives are not implemented.
- At least 60 per cent to streets, 30 per cent to parks and 30 per cent to private property of the Precinct streets, parks and private property must be covered by tree canopy when the trees reach maturity.
- Incorporate water sensitive urban design measures to enable effective stormwater flow and quality management. Stormwater to be treated to achieve good practice pollutant load reduction targets.
- Minimise paved areas and maximise stormwater infiltration.
- Maximise apartment access to external clothes drying facilities.
- Explore opportunities to improve precinct waste management.

Blackwattle Bay Precinct Plan is the renewal of a predominantly brownfield site in a highly valued and strategic location and can deliver a sustainable and resilient environment for the future community.

/ Flooding

A Water, Riparian Land, Flooding and Stormwater assessment has been carried out for the Study Area and its surrounds by Cardno.

The assessment has included both the existing site conditions and potential future climate change conditions. Stormwater Management and Water Quality assessments are modelled and show that water quality targets for Blackwattle Bay can be met while minimal, if any, impacts are expected in relation to groundwater.

The assessment demonstrates that the Study Area is subject to overland flows during large storm events and that these can be appropriately managed through the Study Area.

Climate change and rise in sea levels of 0.4m and 0.9m are addressed with a higher sea wall and minimum site level along the promenade of 2.5m AHD and minimum internal ground floor level of 3.0m AHD. The levels provide protection from inundation against 2050 and 2100 climatic conditions as referenced in the NSW Sea Level Rise Policy Statement (NSW Government, 2009).

Localised areas below 2.5m AHD are proposed in the draft Precinct Plan to allow for launching of passive craft and to permit users of the waterfront promenade and open spaces to be in closer relationship with the water level.



/ Noise

A Noise and Vibration Assessment has been undertaken for the study by specialist consultant SLR.

The assessment identifies the Western Distributor, Pyrmont Bridge Road and Bridge Road as the most significant sources of noise impacting the Study Area. The protection of public domain areas internal to the Study Area from line of sight to noise sources is to be achieved where possible.

The draft Precinct Plan frames built form around the waterfront promenade and key open spaces providing a buffer to the noise generators, providing more acoustically sheltered public spaces. Some line of sight exposure will be experienced where view corridors and access points are cut through the built form.

The distribution of building uses in the draft Precinct Plan is important in relation to noise sources, particularly traffic moving along the Western Distributor. Office buildings are largely sealed buildings to maximise efficiency of internal conditioned environments. The sealed building envelope allows a high level of acoustic separation from noise sources.

Buildings in the CBD and Darling Harbour such as Darling Quarter (Commonwealth Bank) and Westpac tower that flank the Western Distributor and Harbour Bridge approach are examples of contemporary workplace buildings directly adjacent noise sources.



Office functions are generally located closest to the Western Distributor in the draft Precinct Plan with sensitive uses including residential provided with vertical or horizontal separation from noise sources.

Where residential is located closest to the Western Distributor, investigations into acoustic treatments to facades, balconies and winter gardens will be required in detailed design to ensure that internal living environments are appropriate and comfortable. Existing residential buildings adjacent the Western Distributor include Harbour Mill Apartments on Jones Street and the Darlington on Bulwarra Road.

The Western Distributor is a noise source but also a buffer between Blackwattle Bay and Pyrmont. The majority of buildings on the Pyrmont side of the Western Distributor are office buildings which are naturally well protected from noise impacts.

Over time, technological change and infrastructure improvements are likely to lessen the noise impacts of the key sources around the Study Area. Potential reductions in noise may come from:

- Reduction in noise producing industries and associated truck movements
- Reduced regional vehicular movements past site with completion of WestConnex and Second Harbour Crossing
- Introduction of Sydney Metro station in Pyrmont
- Transition of NSW bus fleet to electric
- Transition of private vehicles to electric
- Increased pedestrian and cycle movement
- Advancements in tyre and road surface technologies

[Refer also to 2.11 - Noise]

/ Air Quality

An Air Quality Assessment has been undertaken for the study by specialist consultant SLR.

Similar to the noise assessment, the arterial road network is a key source of pollutants impacting the Study Area. The existing concrete plant is also a pollutant source. Air quality issues are most acute within 30m of the pollution source for roadways and 60m for industrial production facilities.

The draft Precinct Plan proposes a distribution of uses taking into account the proximity to pollutant sources. Sensitive uses including residential and childcare are located 30m or greater from roadways and 60m from the existing concrete batching plant assuming this continues to operate in parallel with the staged precinct renewal.

Natural ventilation of apartments is important to occupant amenity. Investigations in detailed design for specific building locations and configurations will be required to ensure that natural ventilation can be provided whilst mitigating the impact of poor air quality.

Over time, technological change and infrastructure improvements are likely to lessen the air quality impacts of the key sources around the Study Area. Potential reductions in pollutants may come from:

- Reduction in pollutant producing industries and associated truck movements
- Reduced regional vehicular movements past site with completion of WestConnex and Second Harbour Crossing
- Introduction of Sydney Metro station in Pyrmont
- Transition of NSW bus fleet to electric
- Transition of private vehicles to electric
- Increased pedestrian and cycle movement



/ Wind

Safety and comfort in relation to wind effects are an important measure of public domain amenity. Blackwattle Bay Precinct Plan employs urban design strategies to mitigate undesirable wind effects in the public domain and foreshore.

The specialist wind consultant has noted in relation to the existing wind conditions for Blackwattle Bay:

"... due to the open water front and relatively low-rise and scattered nature of the existing buildings within and around Blackwattle Bay Investigation Area, the wind conditions from the wind tunnel test generally indicate the exposed nature of the site to the predominant wind directions for the Sydney region, with some localised wind effects detected." Windtech Consultants

The existing site is characterised by light to medium industrial activity, existing fish market and on grade car parking. Landscape mitigation of existing wind exposure is minimal.

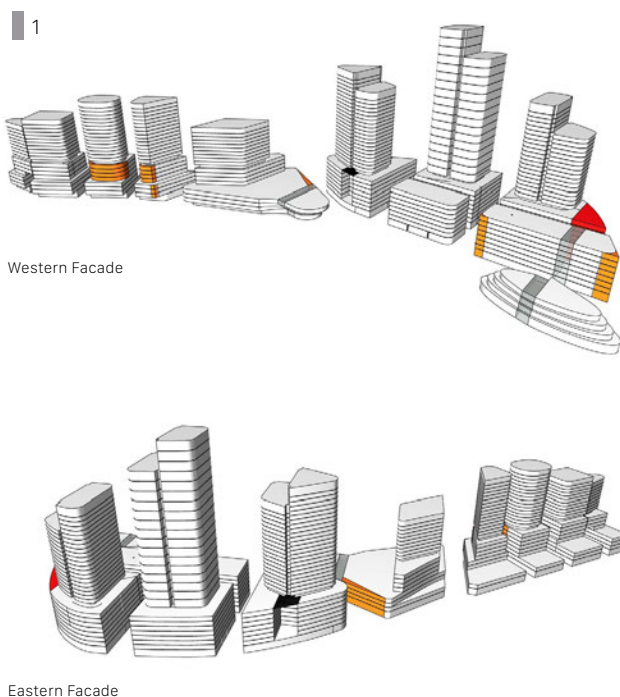
Good design practice initiatives have been incorporated into the built form strategies in consultation with the specialist wind consultants. Initiatives include:

- Profiling of the built form to ensure winds interface with lower built form first
- Incorporating setbacks between street wall and tower elements of the built form to mitigate down drafts
- Limiting tower floor plate sizes
- Providing effective tower separations
- Incorporating colonnades and awnings
- Planning for extensive tree canopy to open spaces and streets

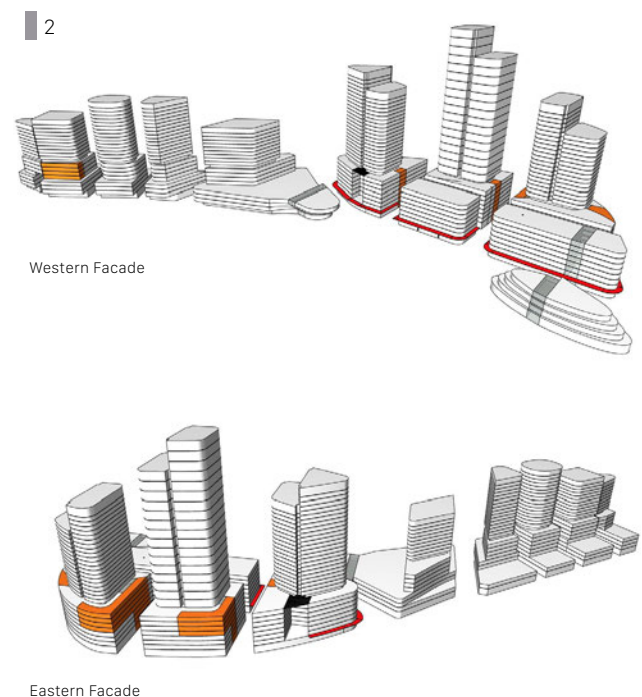
The indicative building envelopes developed within the planning envelopes have undergone an interactive wind tunnel testing and analysis process with the specialist wind consultants as detailed in the separate wind report.

The first pass of wind tunnel testing identified 12 test points that exceeded safety limits. Progressive modifications and further testing through four subsequent wind tunnel tests addressed 10 test points plus one additional point added through the process.

- Subtraction to the Indicative Built Form
- Addition to the Indicative Built Form



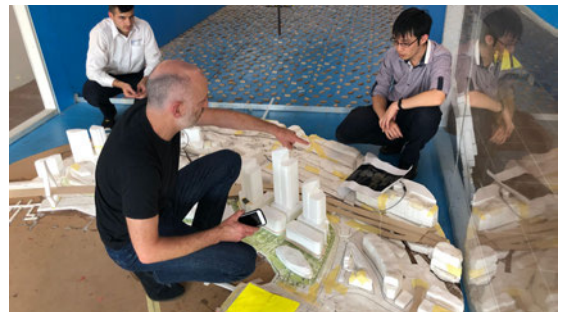
/ Iterative Refinement of Built Form Massing through Wind Tunnel Testing



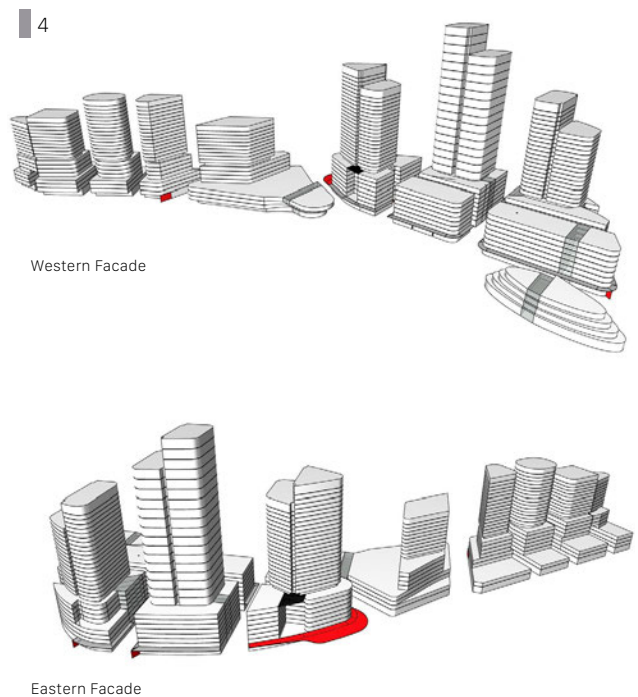
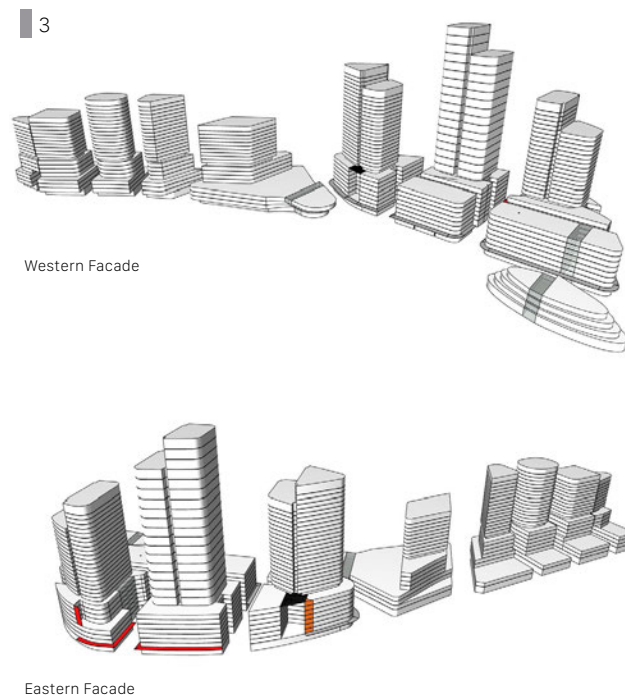
The tested modifications to the building envelopes are all able to be implemented in detailed design. With indicative modifications in place, the total of 11 points were brought to within safety limits. Two remaining reports recorded wind performance equal to existing wind conditions. One point is within Area 5 on a potential marina structure.

Tree canopy coverage and landscape mitigation of ground level wind effects will be a clear benefit of the Blackwattle Bay renewal. The existing carpark of the current fish market for example has little prospect to provide improved wind conditions without renewal. In addition to the built form possibilities explored in the wind tunnel, landscape will provide significant improvements to safety and comfort in the public domain. The two aforementioned points noted are expected to improve with the benefit of landscape amelioration.

Specific comfort solutions for seating areas including public seating, cafes, restaurants and bars are able to be developed and tested in subsequent detailed design of each land parcel. Open balconies are best suited to low rise apartment buildings on naturally sheltered sites. Apartments in taller buildings and/or on more exposed (harbour front) sites often use wind mitigation devices or wintergarden enclosures to achieve better comfort conditions in private open spaces.



/ Collaboration with Windtech Consultants



Study Requirements - Public Domain / Public Open Space & Streets

/ Future Ownership and Management of Public Domain

3.1 Consult closely with and obtain appropriate endorsement, to the extent that it relates to the approval of the planning framework, for all aspects of the Public Domain from the ultimate owner and manager. RMS will act as the owner and manager of the public domain on water and the City of Sydney will act as the owner and manager of the public domain on land unless and until alternative ultimate owners and managers are agreed by DPE and CoS.





/ Site Analysis

3.2 Provide a site analysis of existing physical features and conditions influencing the location and design of a continuous public domain setback from the foreshore on all sites on Bank Street. As envisaged in Volume 2 of the City's Open Space and Recreational Needs Study, this should take the form of a public domain setback from the foreshore to the building alignment allowing sufficient width of paths for pedestrians and cyclists; recreational open space; outdoor dining; community facilities, emergency access and the like. The analysis should include but not be limited to sea level rise, tides, flooding, noise and pollution, canopy and trees, heritage, character, function and use. Any proposed departure from the dimensions specified above must be fully explained and justified.

The promenade and open space have been developed to create a seamless pedestrian thoroughfare and a compelling destination. The community can enjoy a range of diverse precincts, each with a unique character and experience creating a strong sense of place and amenity.

Both vibrant and tranquil settings are offered, active and passive, reinforced by their connection to the bay.

Open spaces and street networks are enhanced by their diversity in scale and activation through a range of temporary and permanent outdoor uses and programs, cultural and social infrastructure, and retail use.

As a complement to the urban design site analysis and detailed investigations by special consultants into areas including climate change resilience, flooding, tree canopy coverage, noise and air quality, the landscape site analysis provides an understanding of the particular landform and vegetation characteristics of the site and its context.

/ Landform / Sandstone

- Landform characterised by sandstone bluffs to the north.
- Erosion by coastal streams, swamps, marshland, has created a landscape of deep cliffs and remnant plateaus
- The topography was characterised by harbour edges and platforms
- Headland landform wraps around from the north to south east.
- Behind Wentworth Park slope gradients became more gentle, leading down to the estuarine mouth where reclaimed land exists.
- Opportunity to create areas of open space sheltered by landform.
- Site offers access to water
- Elements of moulded sandstone are utilised to create landform to further structure and subdivide the development and its individual programs.



/ Existing Land Form and Sandstone



/ Existing Sandstone Wall along Bank Street

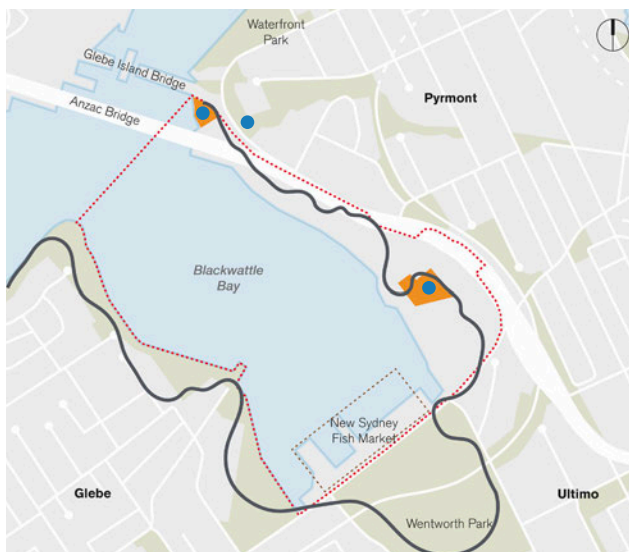
/ Water

- Blackwattle Bay remained reasonably unchanged until the mid 1800's. Early hand drawn maps of the original eastern shoreline of Blackwattle Bay trace the original foreshore line. The reinterpretation of the foreshore is important to link the history of the site through public domain materials, public domain and landscape forms.
- Estuarine incursions usually comprised low-lying sandy marshes and swamps.
- Opportunity for bespoke connections to the water from the promenade responding to the heights of promenade from water line.
- Opportunity for the seawall to increase marine habitat and have natural filtration impacts on the Bay.
- Opportunity for promenade edge to have WSUD that acts as filtration to stormwater runoff from paved areas.

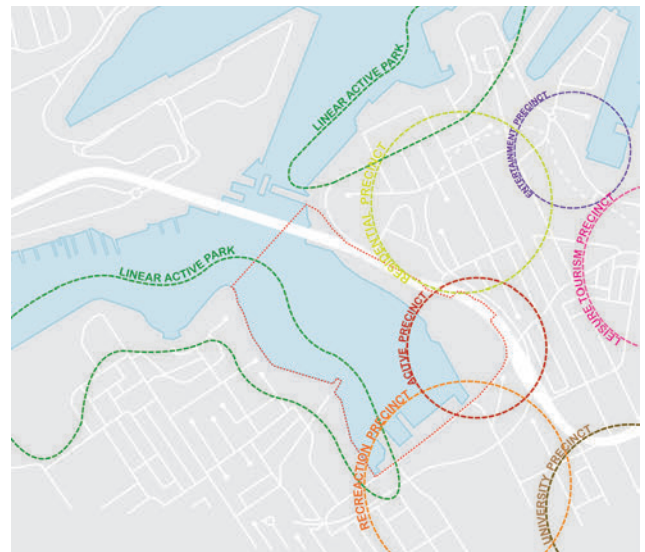
/ Existing Programmatic Precinct

The promenade and open space developed as a seamless pedestrian thoroughfare and destination where the community can enjoy a range of programmatic precincts as shown below, each with a unique character and set of experiences.

● Potential Archaeological Deposit



/ Historical Foreshore Line



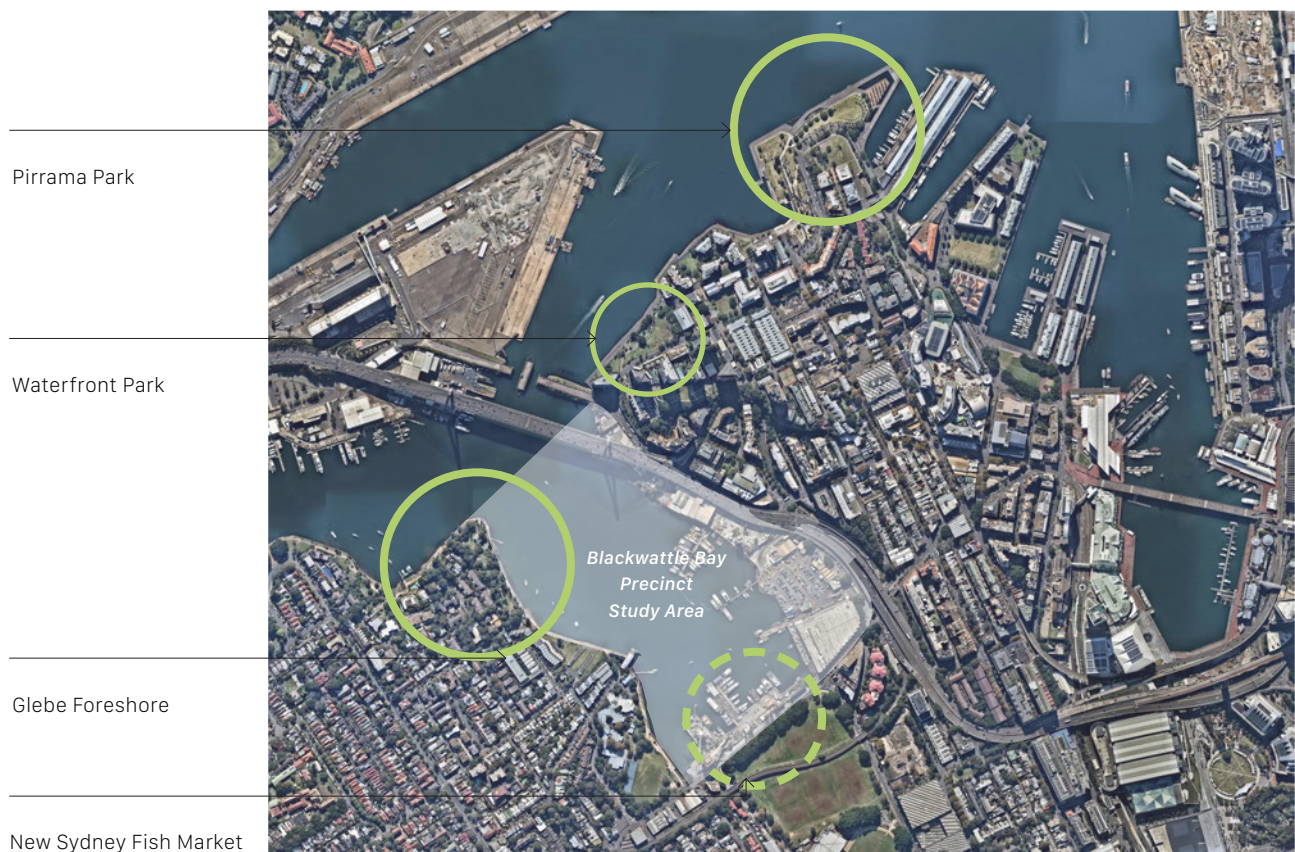
/ Programmatic Precincts

/ Existing Open Space

The existing open spaces in Pyrmont and Glebe are often found along the foreshore connected by the existing promenade. Pirrama Park, Waterfront Park, Wentworth Park, open space along the Glebe Foreshore around the former Glebe Incinerator, and Bicentennial Park provide waterside places for community recreation, exercise and relaxation.

Blackwattle Bay can become an extension of this open space and promenade sequence, offering new open spaces with individual facilities and character.

Transferable principles drawn from observations of the existing open spaces can inform the configuration and qualities of new open space for Blackwattle Bay.



/ Existing Open Spaces

/ Pirrama Park Water Edge Elements

- Timber boardwalks
- Stepped water access
- Grass area Fig trees
- Pontoon
- Sea wall
- Platform steps
- Step water access



Transferable Principle

- Varied close proximity to water
- Good connection to open space

/ Waterfront Park Water Edge Elements

- Continuous water edge walkway
- Planted terraces between
- Grassed upper terrace



Transferable Principle

- Good successful planter terrace
- Soften edge to promenade

/ Glebe Foreshore Water Edge Elements

- Qualities of sandstone concrete forms
- Grass area Double Row of Fig trees
- Mangrove and habitat
- Eucalyptus groves
- Heritage plantings
- Stairs and platforms
- Beach
- Tiered seating



Transferable Principle

- Varied spaces at water edge
- High quality materials

/ New Sydney Fish Market (DA Approved)

- Pushed out promenade with water breaks either end
- Staircase as a continuation of there landscapes and as activating public space for food at an elevated position
- Bridge Promenade
- Western Plaza
- Wharf



Transferable Principle

- Continuous promenade material connected to building
- Integrated water treatment planting

/ Vegetation

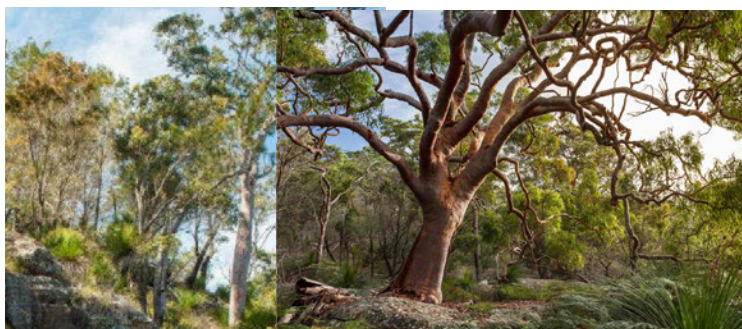
The area of Blackwattle Bay is either reclaimed land or has been stripped of existing vegetation, however it is important to piece together the landscape quality and layering of vegetation that once occupied the site.

The vegetation communities that would have been there, based on geological and early depictions, include:



/ Blackwattle Swamp and Creek, 1854

Elevated Sandstone Plateau and Ridge
 Sydney Peppermint, Smooth-barked Apple,
 Scribbly Gum, Red Bloodwood.



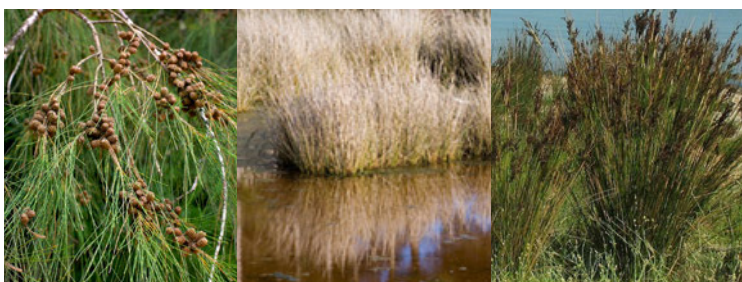
Sheltered Gullies
 Coachwood and Water Gum, Lillypilly.



Head of Blackwattle Swamp
 Pittosporum, Blackwattle, Cyathea australis and
 Dicksonia antarctica, with occasional Cabbage
 Tree Palms (Livistona australis).



Salt Marsh and Swamps
 Casuarina, Juncus, Knobby Club Rush, Sea Rush.



/ Options of Promenade

3.3 Provide and compare options for the design of a continuous, unimpeded, publicly accessible, promenade and provision for cyclists located between the new fish market buildings and the head of Blackwattle Bay. Provide analysis of the future conditions and requirements of the fish market and how these will influence and interact with the promenade.

/ Waterfront Promenade

The delivery of a continuous waterfront promenade, connecting the north end of the Pyrmont peninsula and the Glebe Island Bridge to the new Sydney Fish Market, Wentworth Park and the Glebe Foreshore, is a key driver for the renewal of Blackwattle Bay. The missing link in the promenade from Rozelle Bay to Woolloomooloo will transform the waterside experience of the bay and provide important new active transport links.

The continuation of the waterfront promenade will allow for the future inclusion of Blackwattle Bay in the Eora Journey Harbour Walk.

The approved new Sydney Fish Market design includes two public promenade connections from the Glebe Foreshore to the new Urban Park, one parallel with Bridge Road and the other along the waterfront connecting up and over the working interface of the new Sydney Fish Market with the harbour.

The draft Precinct Plan establishes the connections from the new Sydney Fish Market around to Bank Street open space. The plan is integrated with cycle networks and caters for recreational cycle movement along the waterfront promenade. Pedestrian movement along the promenade includes relaxed walking, fitness walking and jogging, with places to sit and gather along the way.

The configuration of the waterfront promenade comes from:

- Analysis of the site constraints
- Benchmarking of local and international precedents

Unique site constraints include:

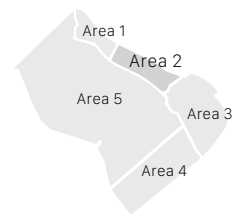
- South-west orientation of the waterfront
- Constrained width of Area 2 (private land owner) sites
- Overlap of western distributor with Area 2 sites limiting renewal potential

The existing RE1 zoning of the Bank Street open space and Miller Street reserve, combined with the greater depth of the Area 3 site, present opportunities for the arrangement of the promenade and connection to open space.

Stories, public art projects and key sightlines will guide the journey that invites participants to experience Country - including the creation of "opportunities for physical and emotional connection to water".

Eora Journey Harbour Walk, Blackwattle Bay
Arts and Culture Strategy





/ Promenade Options

Options have been tested and reviewed with key stakeholders. The options include a continuous 30m wide waterfront promenade as suggested by the Study Requirements, a 20m waterfront promenade and a variable width promenade with a minimum width of 10m.

30m Width

A 30m wide waterfront promenade would provide a consistent linear movement and recreation space along the eastern edge of Blackwattle Bay.

In Area 2, a 30m wide promenade would reduce the developable depth of Private Land Owner sites to as little as 14m with the easements around the Western Distribution taking into consideration. A wide land dedication and minimal available building footprint renders renewal of the sites unfeasible.

A 30m wide promenade apportions more of the open space allocation of the draft Precinct Plan to the more solar constrained section of the site reducing amenity and public benefit.

20m Width

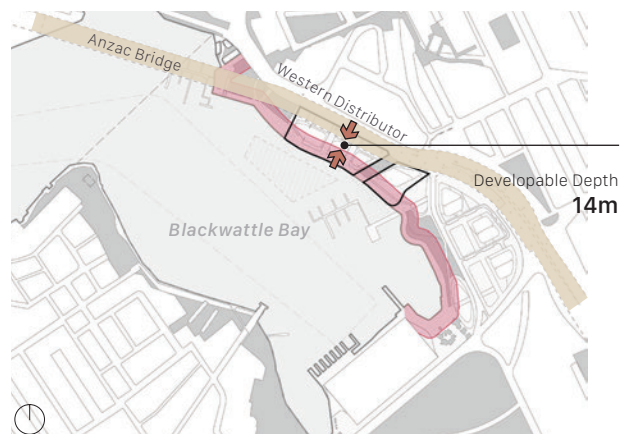
A 20m wide waterfront promenade increases the minimum width of the Area 2 sites to 24m. However, effective floor plates could only be achieved on these sites with zero lot or minimal side setbacks, effectively creating a wall of built form with little opportunity for sun access through to the public domain.

The limited dimension between the vertical easement to the Western Distributor and a 20m wide waterfront promenade would be a significant constraint and disincentive to site renewal. The developable portion of the shallowest sites, above the height of the Western Distributor, would be less than 30% of the total site depth.

Variable, Min. 10m Width

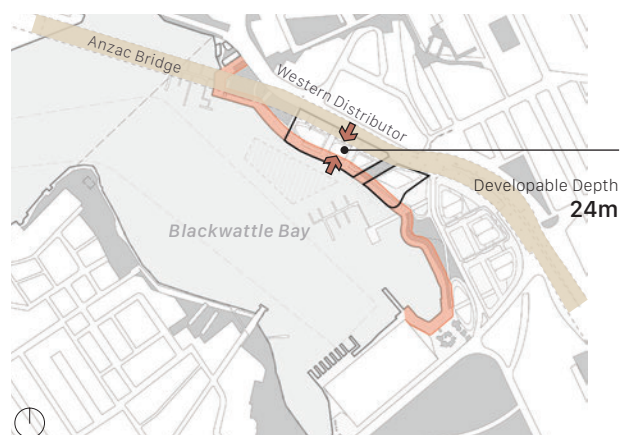
A responsive and optimised approach for the waterfront promenade that embraces the site constraints and maximises the public benefit and opportunity for renewal is preferred and is integrated into the draft Precinct Plan.

A minimum 10m width promenade is defined in Area 2 with laneway connections through to Bank Street providing potential for pocket plazas. The minimum width promenade is zoned for slow and medium pace movement including recreational cycling. The promenade expands in width and integrates with open space at Bank Street open space, Miller Street reserve, Waterside Park and the Urban Park.



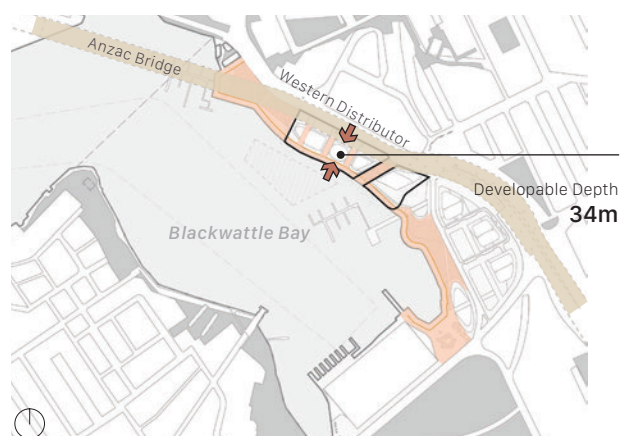
/ Waterfront Promenade Option - 30m Width

□ PLO'S Land Parcels



/ Waterfront Promenade Option - 20m Width

□ PLO'S Land Parcels



/ Waterfront Promenade Option - min.10m Width

□ PLO'S Land Parcels

/ Area 2 Waterfront Promenade Section

The waterfront promenade has a minimum width of 10m. The width is comprised of three movement zones and a zone for tree planting, seating, lighting and other street furniture.

The 3.5m width directly adjacent the sea wall is a slow movement space for pedestrians to enjoy the outlook across the bay. This zone may include standing, walking with prams, young children and the elderly. Bicycles are not actively encouraged in this zone.

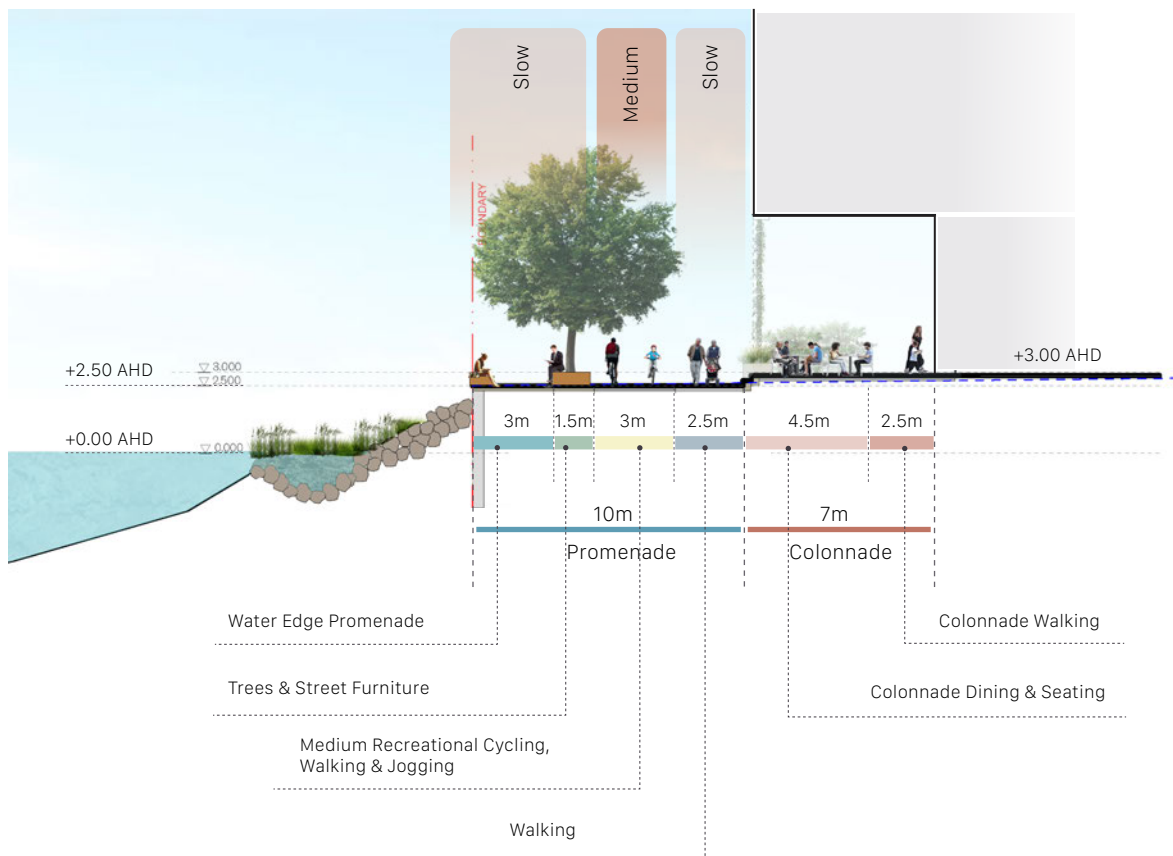
A 1.5m wide planting and street furniture zone provides shade, amenity and places to sit and rest. This space buffers the slow movement zone from the central medium movement zone.

The central 3m wide movement zone accommodates fitness walkers, joggers and low speed recreational cyclists.

Cyclists will include tourists and families enjoying a casual ride around the harbour's edge. Faster bike riders are able to choose the proposed separated cycle paths along Bank Street.

A third movement zone is pedestrian focused with potential variation to the pavement surface to discourage use by cyclists. This zone allows pedestrians to stop to consider places to dine in the colonnade of potential Area 2 development.

The colonnade is a 7m required width in the Area 2 building envelopes to allow sheltered outdoor spaces for restaurants, cafes and bars to be accommodated outside of the 10m minimum waterfront promenade width. The colonnade is raised 500mm or 3 steps above the promenade to aid definition of the dining zone, improve outlook to the bay, and minimise the sea wall height along the promenade taking account of projected sea level rise.



/ Typical Area 2 10m Promenade Section



/ Variable Width Promenade Proposal Analysis

The variable width approach to the promenade places open space and public domain where they can provide greatest public benefit. The minimum promenade width of 10m applies to only 17% of the promenade length and is complemented by the 7m colonnade and laneways. The promenade expands into open spaces that can provide a range of recreational, community facilities and social infrastructure.



/ Draft Precinct Masterplan Promenade Proposal (min. width 10m)

/ Percentage of Total Length of Waterfront Promenade

/ Temporary Floating Promenade Link

The timing of sequence of renewal of sites in Area 2 will depend on the individual interest of private land owners. Delivery of the continuous waterfront promenade may require an interim solution to allow connection to be established between the Bank Street open space and Waterside Park. A floating promenade could be established past one or all of the Area 2 sites.



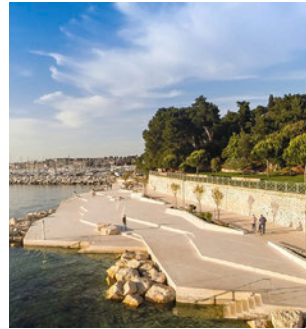
/ Temporary Floating Promenade Link

□ PLO'S Land Parcels

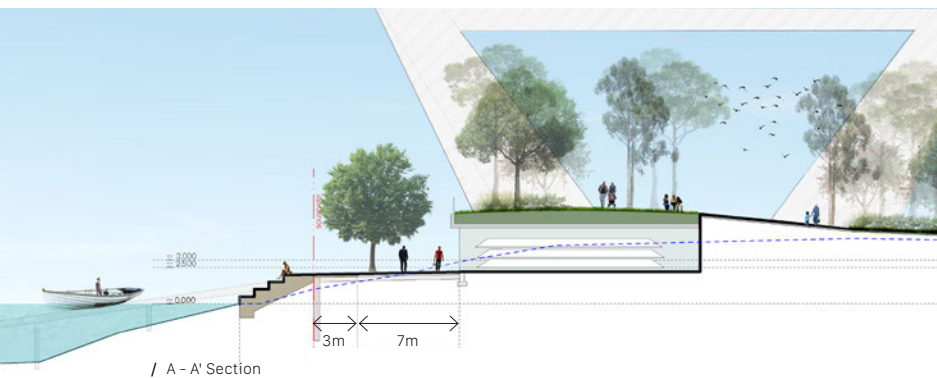
Promenade Character A



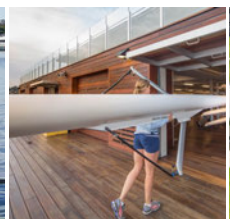
The north end of the promenade steps down to the water level, and is integral with the Bank Street open space, expanding to a width of 63m. The area provides access to boat storage and ramp, and other marine facilities. The landscape character embraces the interface to water, aquatic activities and the marine environment. Access to the water will be celebrated and maximised through the spatial design, including ramps, steps and terracing. These qualities will be reflected in paved and timber that interpret shoreline geometries. Timber seating and platforms will allow for a diversity of uses and activities, surfaces, fixtures with marine grade finishes.



/ Entry Connections to Water



/ A - A' Section

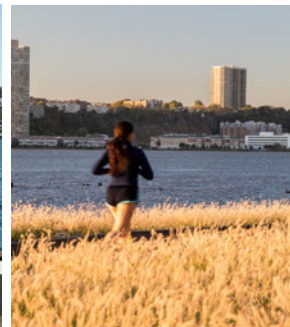
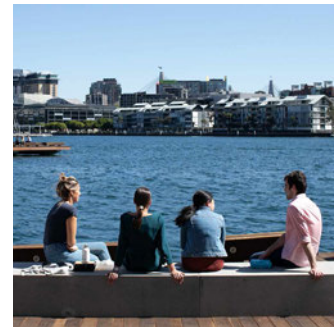


/ Boat Storage and Green Roof

Promenade Character B



The broad promenade rises up from the boat ramp and steps to the climate change resilient level of 2.5m AHD. An ecological zone is introduced in the shallow water zone adjacent the sea wall to promote habitat for marine life. The promenade links with the recreation, fitness and play functions in Bank Street open space.



/ Elevated Setting



/ B - B' Section



/ Bank Street Open Space Character

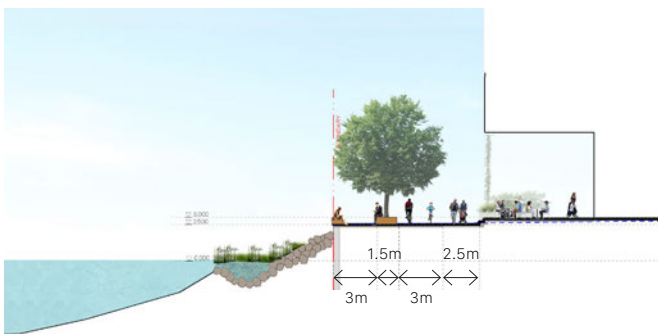
Promenade Character C



A minimum width of 10m is set for this promenade section. The promenade incorporates walking, jogging and slow cycle movement as well as trees for shade and street furniture for user amenity. A series of access points to the water will be provided from Bank Street through arcades and lanes between built form aligned to the Pyrmont grid. The area is activated by waterfront dining creating a lively area both day and night. Timber seating and platforms allow for a diversity of uses and activities.



/ Retail Promenade



/ C - C' Section

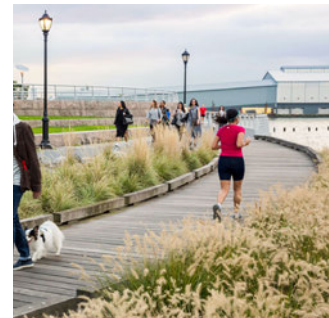


/ Colonnade Shop Front facing Promenade

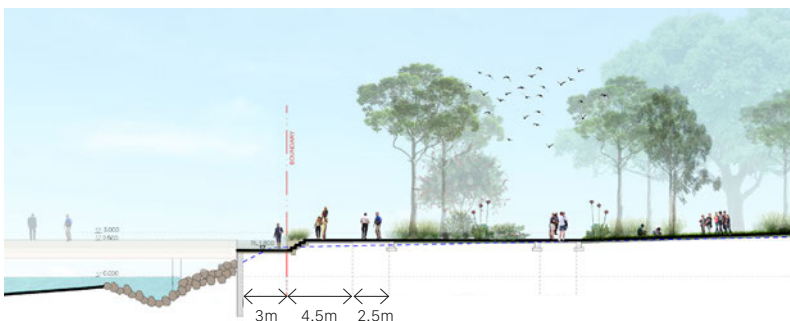
Promenade Character D



The Promontory interprets the natural jutting section of land evident in the early mapping and traced by the original foreshore line. The promenade is diverted from the long gentle curve of Promenade Character Zone C and expands into multiple paths and soft landscape places as it wraps around the promontory, leading to Waterside Park. The promontory is a natural vantage point for observing the activities across the bay.



/ Park Setting



/ D - D' Section

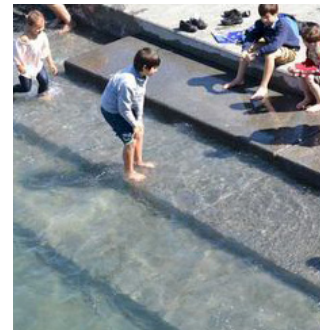


/ Character of Promontory Section

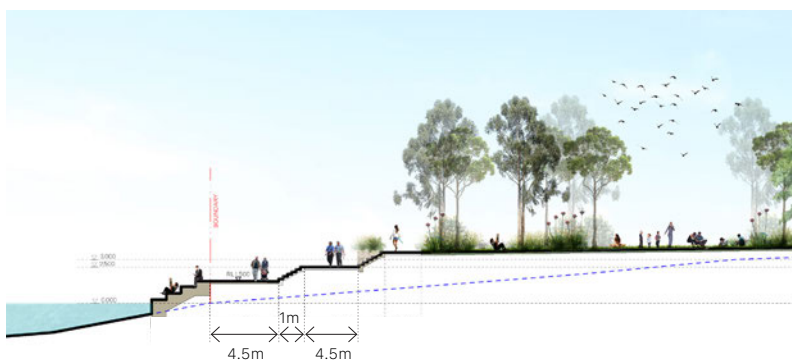
Promenade Character E



The promenade and Waterside Park are an integrated landscape and water experience at Promenade Character Zone E. The landscape terraces down toward the bay, linking with the levels of the promenade and Urban Park then stepping further to the water level. The opportunity to directly interface with the water here is an important reconnection of local communities with the blue grid of the harbour and bays. Generous paths continuing the waterfront promenade around toward the new Sydney Fish Market.



/ Terraced Park Edge

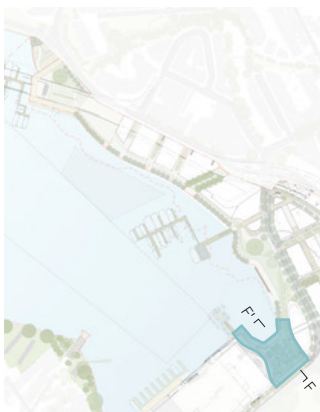


/ E - E' Section



/ Waterside Park Character

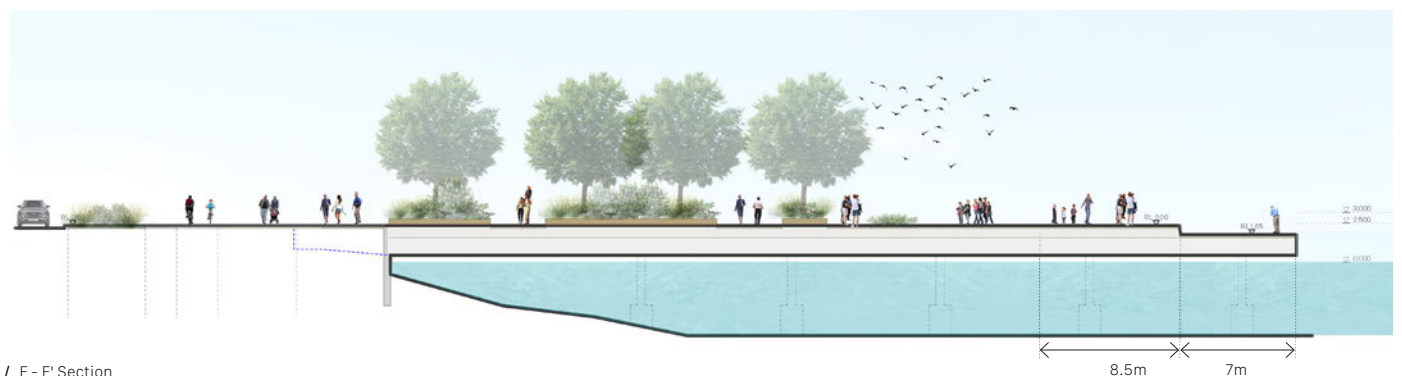
Promenade Character F



The waterfront promenade arrives at the Urban Park, the active plaza and forecourt to the new Sydney Fish Market. The movement paths separate through the Urban Park with slow cyclists heading toward the Bridge Street separated cycleway and pedestrians able to choose to progress via the north or south of the fish market. The promenade projects out over the water in Character Zone F, adding to the water / land experiences offered along the length of the waterfront promenade at Blackwattle Bay.



/ DA Approved nSFM Urban Park and Waterfront Promenade



/ F - F' Section



/ Connections to Wentworth Park

3.4 Provide an analysis of the physical connections between the northern part of Wentworth Park and the Bays Market District. Identify opportunities and options for improving connectivity for pedestrians and cyclists between the two across Bridge Road while ensuring the primary function of Wentworth Park for active recreation is not reduced and where possible enhanced.

Green space is a critical component of the Blackwattle Bay Area. These zones are largely within areas of reclaimed land, as evident in the analysis of the historical shoreline. Integral to the development of the new Sydney Fish Market, Wentworth Park becomes an open space link between the Study Area and the Glebe Foreshore.

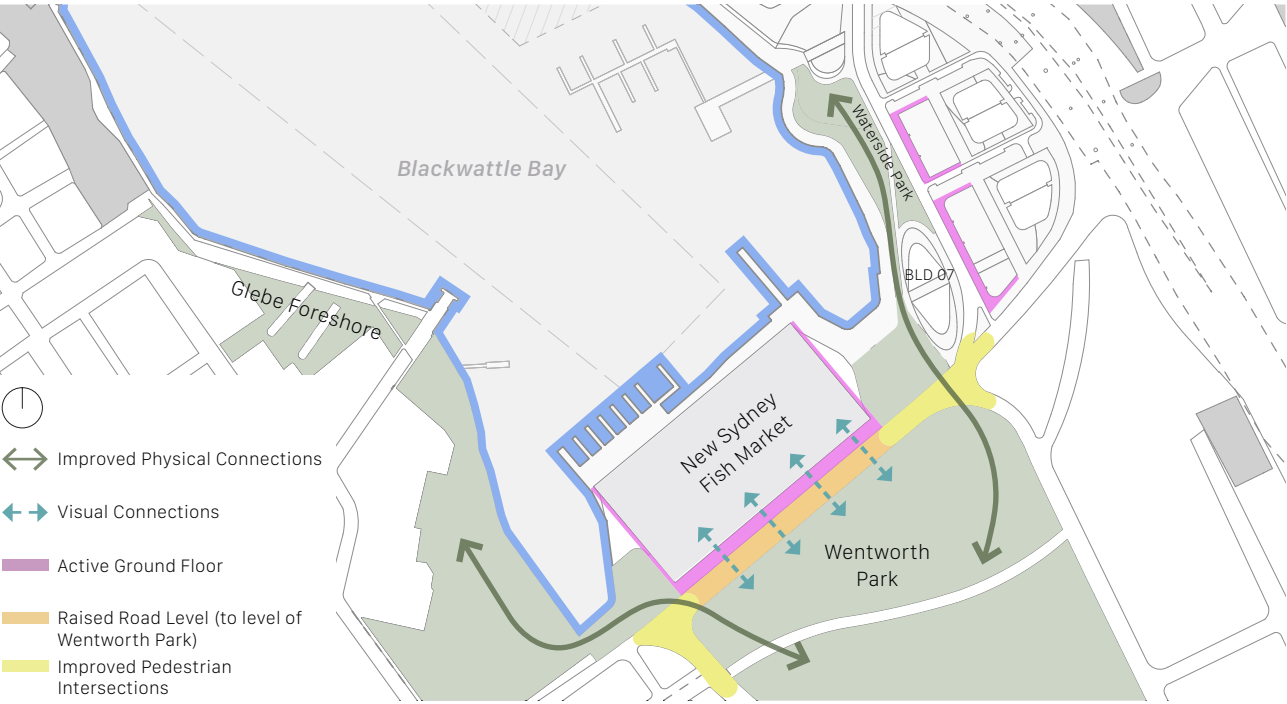
As identified by the study requirement, the northern corner of Wentworth Park becomes an important connection between the Sydney Fish Market (Area 4), Government Site (Area 3), promenade and open space. With the removal of the left turn slip lane from Wattle Street to Bridge Road, pedestrian and cyclist access to Blackwattle Bay is simplified by creating a singular road crossing.

A distinguishable point of access to the Study Area is established via the proposed community building (BLD.07) that evolves as an extension of the green space ground plane, while also delineating an immediate separation between cars and the movement of pedestrian and cyclist through the Study Area.

The draft Precinct Plan facilitates an improved dialogue with Wentworth Park in the establishment of the principal open space (Waterside Park) along the southern waters edge of Area 3. The large green space of the Waterside Park acts not only as a continuation of the green space of Wentworth Park but as a visual connection between the predominately sports and recreational use of Wentworth Park and the amenities and passive recreational use of Blackwattle Bay.



Establishing the new Sydney Fish Market at the head of Blackwattle Bay greatly improves the public domain along Bridge Road, previously northern edge of Wentworth Park was meant by impermeable industrial and warehouse space. With the proposed raising of Bridge Road to the same height as Wentworth Park and signalised intersection with Wentworth Park Road, access and pedestrian movement is greatly enhanced ultimately increasing recreational use of Wentworth Park for locals and visitors alike.



/ Improved Connections to Wentworth Park

/ Pedestrian Connectivity

3.5 Provide an analysis of the physical connections between Central Sydney, existing light rail stations and bus stops, and the precinct. Identify opportunities and options for improving pedestrian connectivity between them. Include any works required outside the precinct boundary.

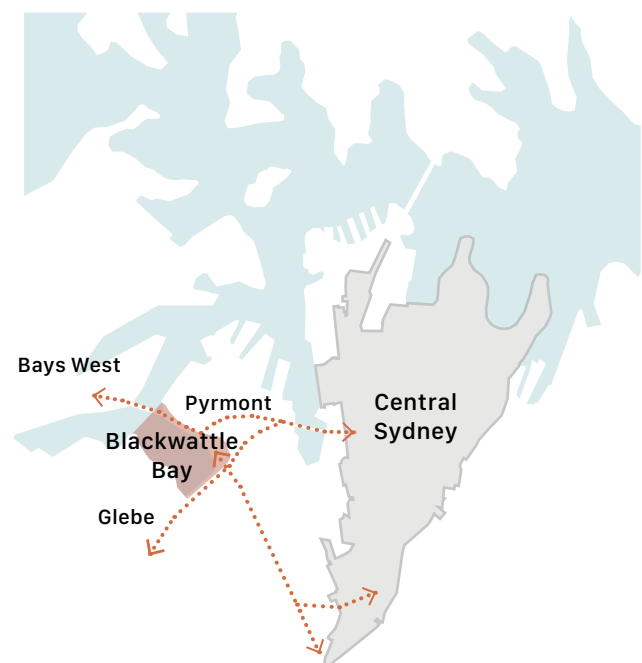
/ Pedestrian Connections to Central Sydney

Existing pedestrian connections around Blackwattle Bay link Glebe to the Sydney Fish Market via Bridge Road. This route extends to Balmain and Rozelle via the Anzac Bridge or across the Pyrmont Bridge to Central Sydney. The most favourable route for pedestrian movement is currently Miller Street passing through Union Square. The more direct route for some users, though less comfortable or safe, is via Pyrmont Bridge Road. This route is constrained by its width, the number of intersections and volume of traffic.

Future developments within the city and the proposed Precinct Plan will ultimately change and reconfigure access and pedestrian movement across the precinct. Upgrades to Darling Harbour could result in more pedestrians walking from Chinatown, Darling Square, the ICC and Darling Quarter to the new Sydney Fish Market via the Gipps Street. Coinciding with site renewals, particularly Harbourside in

Darling Harbour and the new Pyrmont Metro station, an upgrade to Gipps Street would increase the significance of this alignment as a pedestrian focused link between Blackwattle Bay and Darling Harbour.

The proposed Precinct Plan and relocation of the Sydney Fish Market to the head of Blackwattle Bay increases the points of access to Blackwattle Bay via key connections to Central Sydney. The southern zone of Central Sydney includes Central Station and beginnings of Tech Central, a future precinct anchored by the new Atlassian headquarters. The Innovation Corridor conceptually connects this precinct with Blackwattle Bay. The potential for a north / south pedestrian link via UTS and Jones Street to Blackwattle Bay has been considered. The proposed pedestrian and cycle link extension to Jones Street, as identified in 3.8, offers a safer arrival point and integration into Blackwattle Bay, the new Sydney Fish Market and further transit connections.



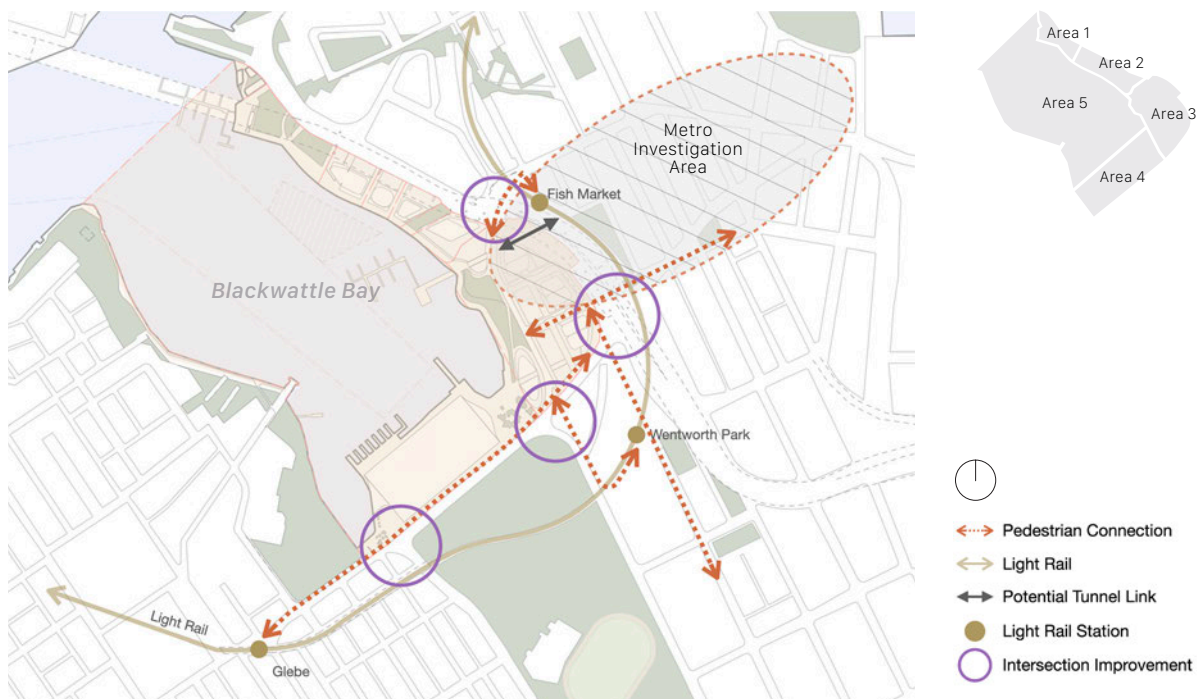
/ Connections to Central Sydney

/ Pedestrian Links to Existing Light Rail

Existing site conditions present a series of barriers between Blackwattle Bay and the Light Rail Network. The existing stops that service the Study Area are Fish Market, Wentworth Park and Glebe. The effectiveness of Wentworth Park stop is limited due to its location and requirement to cross streets and busy signalised intersections before accessing the Precinct. The proposed Jones Street link would facilitate pedestrian movement as an alternative, however, pedestrians would need to use the existing stairs or lift to reach the level of Jones Street before joining the link.

The Fish Market Light Rail stop is a central point of access for the Precinct although, under current conditions pedestrians are still required to change level and cross the busy intersection of Miller St / Bank St. The draft Precinct Plan places an emphasis on this arrival point through the North Entry Plaza for pedestrians. Upgrades to Miller St / Bank St intersection will reconfigure this access for pedestrians by improving the safety and legibility of the crossing as a primary public transport node.

Once the new Sydney Fish Market is completed at the head of Blackwattle Bay, Glebe Light Rail Stop will become a key arrival point for pedestrian visitors from the west. The pedestrian route to the new fish market in Area 4 is largely a straight route along Bridge Road with a single local street signalised crossing. Arrivals at the southern corner of Blackwattle Bay will benefit from the full access to the start of the precinct's continuous promenade and enhanced pedestrian links.



/ Connections to Light Rail Stations

/ Pedestrian Links to Existing Bus Stops

Existing bus routes and stops tend to favour Harris Street and Miller Street. Pedestrians using the bus network would generally board and alight at stops adjacent the Miller St / Bank St intersection requiring multiple crossing points for access to the Study Area. A large portion of the Study Area is served by the 501 bus requiring longer pedestrian routes from isolated sections of the Study Area or further travel beyond the Study Area to reach alternative buses.

The draft Precinct Plan creates a new route that connects possible future extensions of the broader bus network with additional stops accommodated on the new Park Street to service Area 3. Additional stops along Bank Street would facilitate Areas 1 and 2 while linking Blackwattle Bay to White Bay via a potential transit link over Glebe Island Bridge. Proposed stops along Bridge Road in turn will connect visitors to the new Sydney Fish Market and Area 4. The three new proposed bus transit points diversify pedestrian movement based on convenience and safety of use across the Study Area. Additional pedestrian links and safer signalised intersections provide an incentive for more pedestrian based activity facilitated by an accessible public transport network.



/ Connections to Bus stops & Indicative Potential Bus Route and Bus Stops

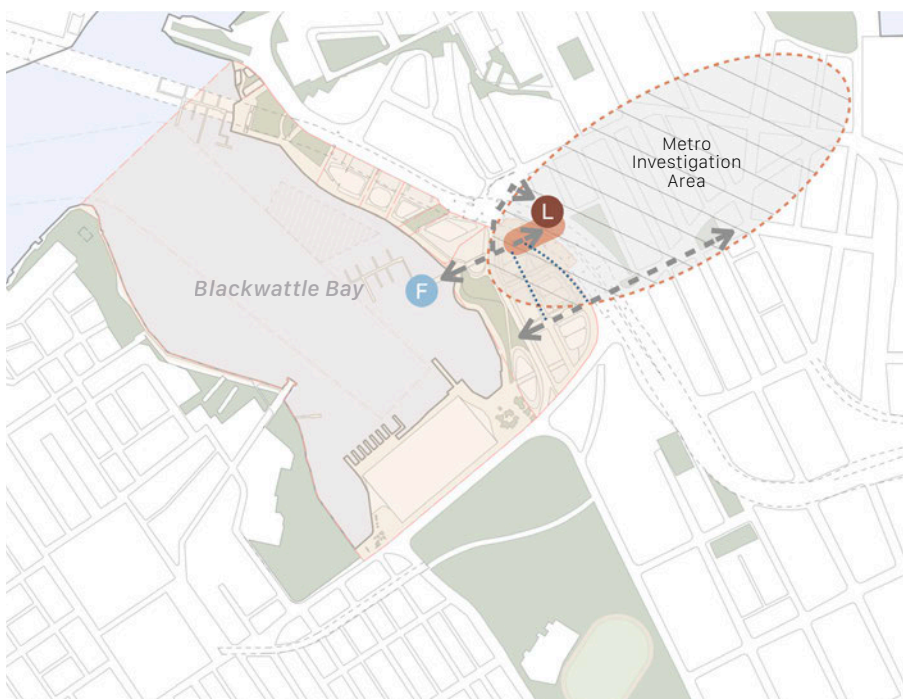
/ Pedestrian links to Ferry

The draft Precinct Plan supports a multi-layered public transport and active transport network. A ferry route to Blackwattle Bay, bringing visitors to the precinct and the Fish Market from other harbour stops including Barangaroo or Circular Quay, would add to the available transport options and celebrate the water experience of the bay. A potential ferry stop is shown toward the centre of the draft Precinct Plan. This would provide access to the Fish Market via the waterfront promenade, Waterside Park and Urban Park. Movement from the ferry stop through Area 2 to the Bank Street open space is also possible. The central location promotes mode share with the light rail, bus and future Metro networks.

/ Future Metro Connection

A Metro Investigation Area has been identified for a Pyrmont Metro station. This is a critical piece of public transport infrastructure that will support knowledge industry employment at Blackwattle Bay. The Pyrmont Metro station will influence future pedestrian desire lines and pedestrian numbers. The draft Precinct Plan anticipates a likely increase in pedestrian movement along Pyrmont Bridge Road offering the broad Gipps Street alignment and 10m setback from Pyrmont Bridge Road along the south-eastern Study Area boundary. The Metro will be a driver for change towards a more pedestrian focused environment around the Study Area and will likely influence the future of the pedestrian challenged Bank St / Pyrmont Bridge Road intersection.

Increased pedestrian flow to a future Sydney Metro station and links to the existing Light Rail network are addressed in the draft Precinct Plan with the proposal for a pedestrian focused arrival point of the North Entry Plaza. The importance of the Miller St / Bank St intersection upgrade within the extended pedestrian network and the draw of a Sydney Metro station strengthens the Miller St / Union St connection to Darling Harbour and the CBD beyond.



/ Connections between the Light Rail, Future Metro Station and Potential Ferry Stop

/ Open Space Plan

3.6 Provide an open space plan for the Precinct, based on providing a 30 metre wide public domain promenade discussed in 3.2.

Demonstrate:

- how accessibility to the promenade is maximised by its surrounding street interfaces;
- how the flexibility and adaptability of use is maximised;
- how it is protected from noise and pollution;
- how it connects to the former Glebe Island Bridge as a possible future active transport connection to the other precincts within the Bays;
- how it connects to the existing foreshore walks in Glebe and Pyrmont;
- and how connections to it optimise its use for the surrounding community.

Explore opportunities to locate within it suitable public and community uses which may include built structures and unenclosed areas for outdoor dining.

The open space plan should also integrate outcomes of the Bays Precinct Social Infrastructure Assessment previously undertaken by the proponent to inform programming, type and size of sub-spaces to be provided within the precinct.

Any proposed departure from the dimensions specified above must be fully explained and justified including how the requirements of 3.2 and 3.6 are appropriately met within the proposed dimensions.

The draft Precinct Plan proposes a sequence of open spaces integrated with the continuous waterfront promenade outlined in 3.2. The open spaces are more visitor focused around the new Sydney Fish Market, becoming more community focused toward the north of the bay culminating in the Bank Street open space.

The open spaces are linked by the tracing of the original foreshore, the First Nations perspectives, inclusion of social infrastructure, art and culture opportunities and place connected landscape.

/ Social Infrastructure

The Blackwattle Bay Social Sustainability Assessment by Elton Consulting identifies the following local open space opportunities and benchmarks:

- local district open space equal to 9-15% of site area
- 400m walking distance for local residents
- 0.3-2ha for local open space
- supporting pedestrian linkages

The open spaces of the draft Precinct Plan equate to approximately 30% of the site area including the area of the new Sydney Fish Market and associated open spaces. Three (3) hectares of new parks and plazas is proposed within the Study Area. Waterside Park is approximately 0.85 hectares, comfortably exceeding the minimum size of 3,000m² for a local park as identified by the City of Sydney. The size of Waterside Park recognises the role of the draft Precinct Plan to both enhance the visitor experience to the new Sydney Fish Market and provide green space for existing and new communities.

Waterside Park and the Urban Plaza will operate as one connected 1.5 hectare open space with different zones of activity, interfaces to the water and opportunities for programming and events. The draft Precinct Plan integrates with the approved DA plans for the Sydney Fish Market, Urban Park and Local Park.

The combined space can support programmed events including performances on the steps of the Sydney Fish Market, open air markets and practice of First Nations culture.

Bank Street open space can accommodate key community facilities including boat storage and amenities, multi-purpose court and play spaces. Importantly it can also deliver green space for recreation and relaxation on the shore of Blackwattle Bay.

/ Open Space Plan

The following specific responses are provided to detailed items of this study requirement:

— how accessibility to the promenade is maximised by its surrounding street interfaces;

The structure of the draft Precinct Plan extends the alignment of existing streets, that are broadly perpendicular to the foreshore, into the Study Area to connect with the waterfront promenade. The street alignments provide visual connection to the bay and support pedestrian legibility and accessibility. The key street alignments are Wattle Street, Gipps Street, Miller Street and Quarry Master Drive. The existing street alignments are complemented by new through site links from Bank Street to the waterfront promenade.



— **how the flexibility and adaptability of use is maximised;**

Flexibility and adaptability are maximised in the open space plan through the proportions, geometry and positions of the individual spaces in the network. Each open space is largely regular in plan with the Bank Street open space and Waterside Park arranged with a long side facing the water and integrated with the waterfront promenade. Both open spaces also have a broad frontage to a local street (Bank Street and Park Street respectively). Miller Street Reserve reflects the established land ownership and brings the Miller Street alignment to waterfront.

— **how it is protected from noise and pollution;**

The configuration of the open spaces and built form in the draft Precinct Plan buffer the public gathering and recreation areas from the local noise and pollution sources, particularly the Western Distributor and Pyrmont Bridge Road.

— **how it connects to the former Glebe Island Bridge as a possible future active transport connection to the other precincts within the Bays;**

Pedestrian and recreational cycle movement along the waterfront promenade intersects with the proposed separated cycle path along Bank Street near 1-3 Bank Street. This confluence provides for the potential future reactivation of Glebe Island Bridge as an active transport link to Glebe Island and Bays West as well as integrate with the continuous promenade around the north end of the Pyrmont peninsula. The broad road reserve alongside 1-3 Bank Street and leading to the Glebe Island Bridge abutment may be used in the future to create a generous active transport space between the bridge and Bank Street open space.

— **how it connects to the existing foreshore walks in Glebe and Pyrmont;**

Connection to the existing foreshore walks and open spaces is a key objective of the open space plan. The draft Precinct Plan provides a continuous waterfront pathway from the north of the Pyrmont peninsula through to Urban Park. The pedestrian and cycle connections from Urban Park on the land and water side of the new Sydney Fish Market reflect the DA approved configuration.

— **how connections to it optimise its use for the surrounding community.**

Bank Street open space and Miller Street Reserve directly front Bank Street and allow access to the open space network from the community of Pyrmont. Waterside Park is supported by clear vistas and linkages to Miller Street via Park Street, Gipps Street and Pyrmont Bridge Road, also via Park Street. The North Entry Plaza presents a plaza space and possible skate park under the Western Distributor as an activity node for community and visitors arriving in the precinct. The open space network is connected to the community of Glebe via the Sydney Fish Market promenades and across the district open space of Wentworth Park.

/ Arts and Culture

The Blackwattle Bay Arts and Culture Strategy highlights the importance of arts and culture programming to the place identity of the precinct and outlines the following vision:

Arts and culture draw the distinct identity of Blackwattle Bay to the surface. At every moment, they heighten our understanding of this place's communities, its physical character, its histories and its futures. It's what sets this place apart.

The open space plan is a flexible framework that will have physical, interpretive, arts and culture program overlays that can bring to life the potential of the precinct to reflect the aspirations of the community and contribute to the cultural diversity that Sydney offers.

Open Space Characters and Public & Community Uses

The open space plan presents opportunities for a range of landscape characters and for different public and community uses that could be accommodated in the individual open space areas. The primary open spaces in the draft Precinct Plan are:

- Bank Street open space (incorporating 1-3 Bank Street)
- Waterfront Promenade
- Miller Street Reserve
- North Entry Plaza
- Promontory
- Waterside Park

The characters and potential uses of these spaces are described in the following pages.



/ Bank Street Open Space

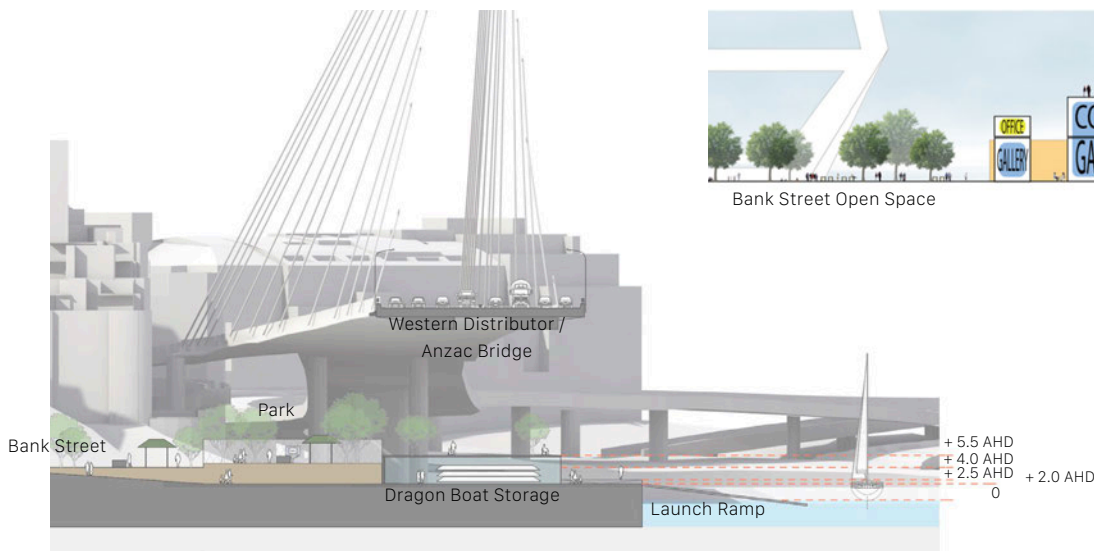
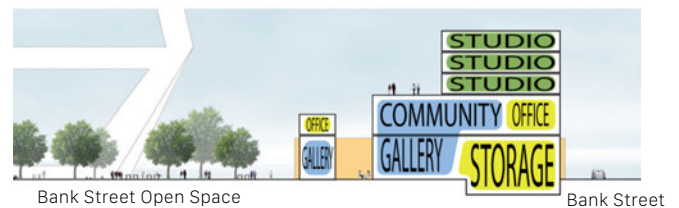
Bank Street open space provides a high quality, vibrant setting that encourages social interaction, community and recreation. The proposal seeks to enhance existing uses with additional sporting facilities opening the area to the wider community and recreational user.

Generous connections to the water will support rowing and dry boat storage areas as well as casual waters edge recreation. There is an opportunity for programmed events that optimise the harbour location and offer improved facilities for existing recreational organisations.

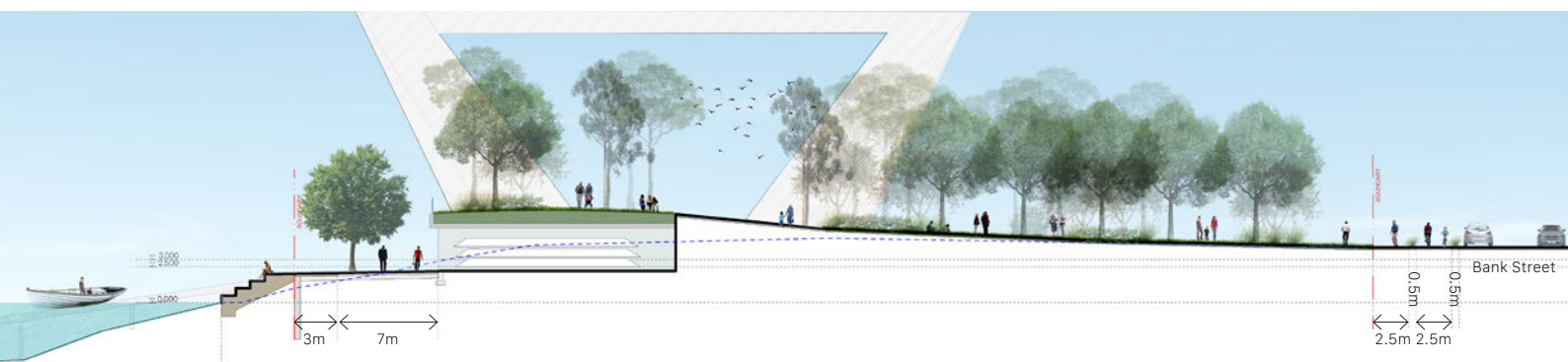
Bank Street open space also responds to local community needs, providing all ages play spaces including basketball, climbing walls, play equipment and skate park.

1-3 Bank Street is an important extension to the Bank Street open space. The existing masonry fabric has potential to be retained and new building forms introduced. The landside components of the existing marina (storage, waste and office space) could be relocated here freeing up the open space. A creative arts hub with a ground level cafe can provide an active node at corner of the open space. Public amenities and facilities could also be incorporated here.

/ Indicative Potential Functions of 1-3 Bank Street



/ Indicative A-A' Section of Bank Street Open Space



/ Indicative B-B' Section of Bank Street Open Space



- 1 Waterfront Promenade
- 2 1-3 Bank Street Community & Creative Arts
- 3 Canoe and Kayak Storage
- 4 Dragon Boat Launch
- 5 Park / Shelter & BBQ
- 6 Outdoor Fitness
- 7 Multi-Purpose Court
- 8 Playground (wet)
- 9 Playground (dry)
- 10 Youth / Park
- 11 Green Roof over Dragon Boat Storage & Amenities

Character

All age friendly, active, sheltered and inviting landscape space. Clear line of site and connection to the water for recreation. Provision of support facilities for watercraft.

Modes

- Public exercise equipment/ gym
- Games including equipment suitable for use by all ages persons
- Off leash dog park
- Adolescent play equipment / skate ramp and equipment to allow scooters and skateboards
- Multi-purpose court
- Suitable seating for users and supervisors
- Informal space suitable for 'bring in' play event

Microclimate

South West facing, shaded by Anzac Bridge

Planting Strategy

Shade tolerant indigenous rainforest and fern species.
Provision of shade through advanced trees, shade structures.
Landscape planting embellishment, lawn areas, advanced shade trees and mass planting beds.

Hardscape Strategy

- Ramps, handrails, tactile and balustrades for disabled access
- High quality, durable hard landscape finishes to walls, paving suitable for intensive public use
- Hard paved plaza suitable for large gatherings
- Street furniture – Bench seats, bins, bike racks, drinking fountain
- Universal access table setting, tap, bin
- Lighting for safety and security to relevant Australian Standards
- Accessible pedestrian paths to relevant Australian Standards
- Streetscape treatments to extent of public roads including street trees, furniture, paving and landscaping.

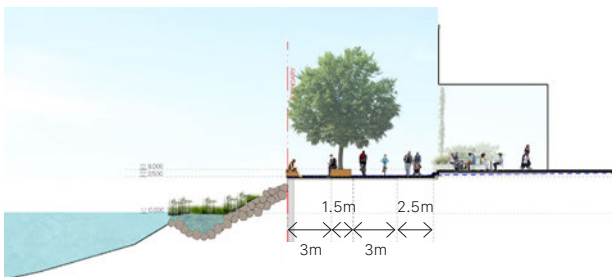
Infrastructure / Furniture

Feature lighting / Public Art / Service provision as required to all facilities / Picnic shelter with electric BBQ / Publicly accessible toilets / Structured bicycle parking

/ Waterfront Promenade

A minimum of 10m width is stipulated for this promenade section. This area offers access to the water through a series of arcades and lanes between building forms. The area is activated by waterfront dining, creating a lively atmosphere both day and night. Rows of trees along the promenade provide human scale and shade.

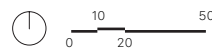
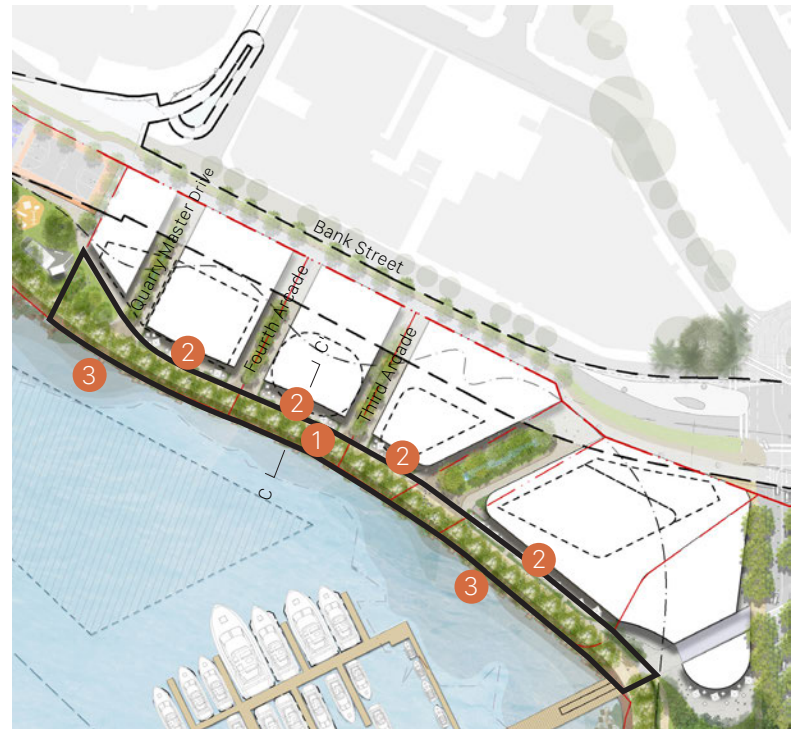
- 1 Waterfront Promenade
- 2 Colonnade Retail Frontage
- 3 Ecological Zone to Water Edge



/ Indicative C-C' Section of Waterfront Promenade



/ Character of the Waterfront Promenade (Area 2)



Character

Structured, legible, linear promenade

Modes

- Public seating
- Licensed seating
- Walking, jogging

Microclimate

Open expansive

Planting Strategy

Celtis Australis row of trees

Infrastructure / Furniture

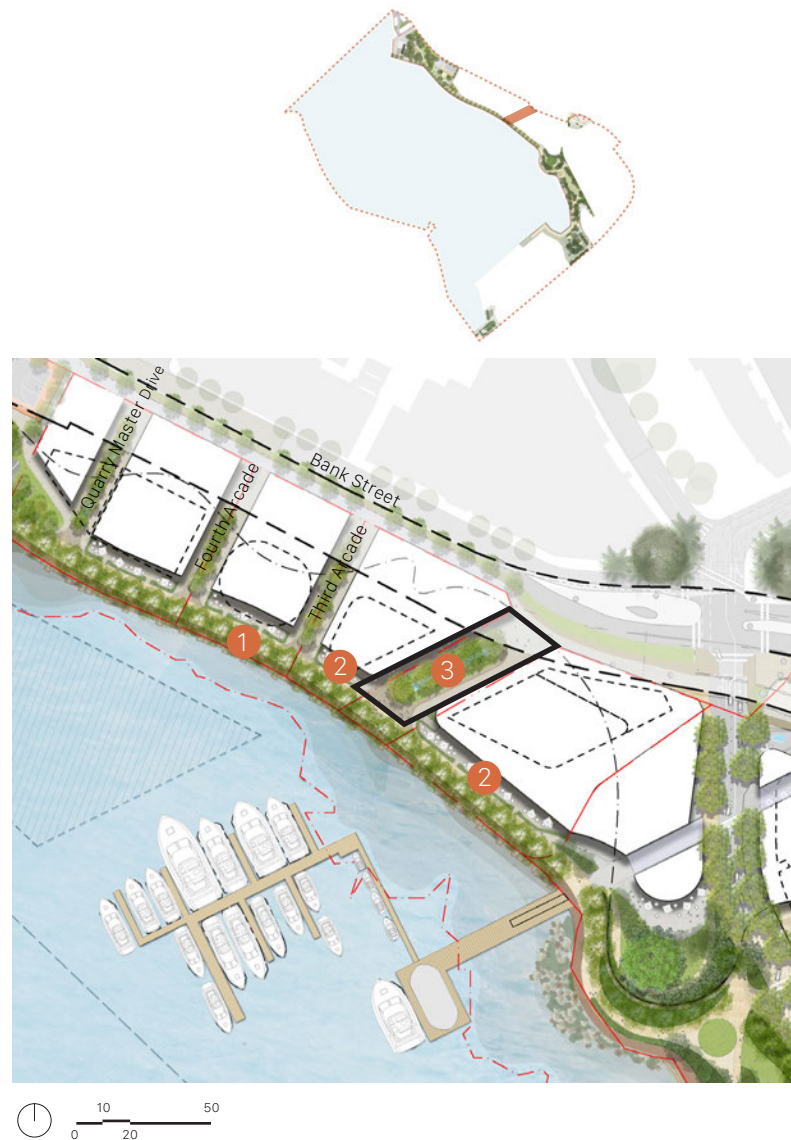
Integrated planterboxes, wind screen / trellis infrastructure for outdoor dining

/ Miller Street Reserve

At the termination of Miller Street along the Waterfront Promenade, a wide setback is offered between buildings that reinforces the existing street width. This continuation of urban form to the waters edge reinforces historical connections to wharves and piers as well as existing vistas. The design offers opportunity for innovative stormwater collection and treatment through bio-retention systems.

Active edges around the space can connect the life of Pyrmont's streets to the new promenade through shared workplaces, neighbourhood retail, cafes and restaurants.

- 1 Waterfront Promenade
- 2 Colonnade Retail Frontage
- 3 Central WSUD and Tree Planting Zone



/ Character of Miller Street Reserve

Character

Permeable space showcasing WSUD principles, sheltered, shaded, links between Miller Street to the water.

Modes

- Seating for all abilities, users and supervisors
- Lunchtime activity

Microclimate

Open to water and city framed by urban forms. Shaded, presence of water as part of WSUD system.

Planting Strategy

WSUD planting including littoral plants and native grasses such as *Iomandra spec*, *Isolepis*.

Infrastructure / Furniture

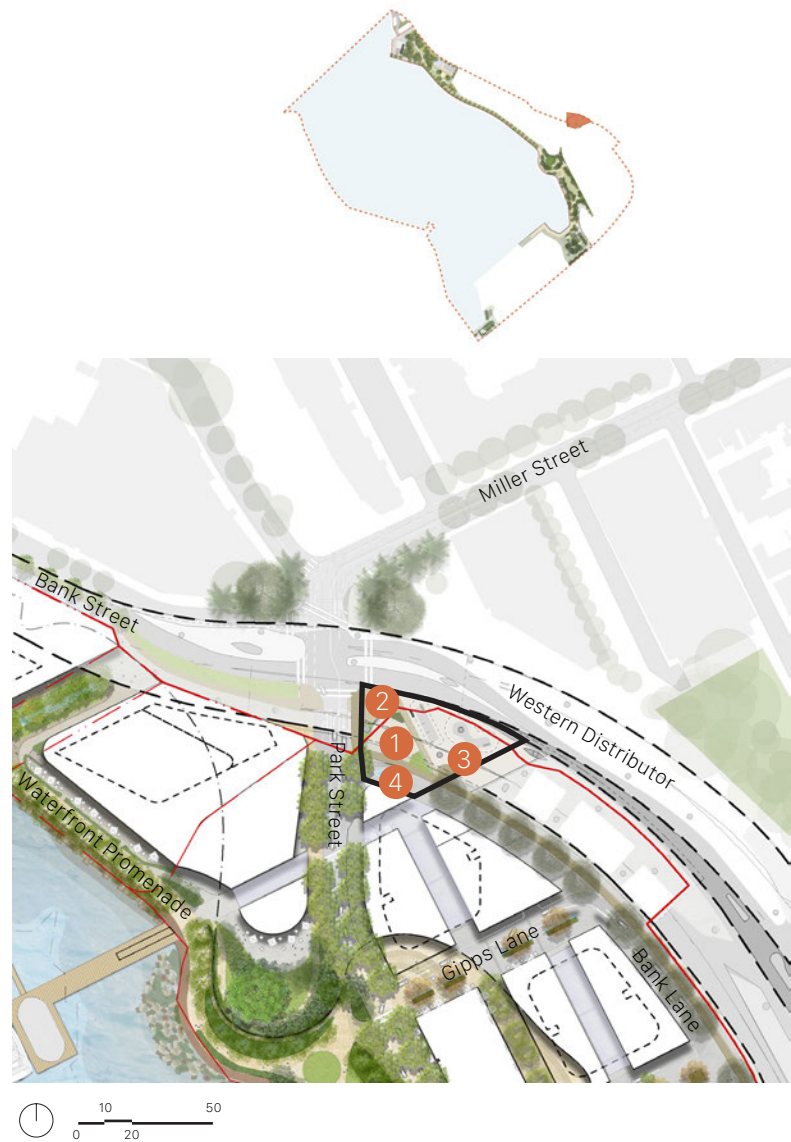
WSUD stormwater devices, lighting.

/ North Entry Plaza

Miller Street has long been an important gateway to Blackwattle Bay due to its role as a spine connecting the city to working harbour. A welcoming public plaza is offered at this restored urban gateway, connecting Park Street, Bank Lane and Miller Street. Turning towards the south, the vistas through the central portion of the site to the bay and new Sydney Fish Market beyond.

The future reconfiguration of the Miller St / Bank St intersection will improve pedestrian safety and legibility between the Study Area, Miller Street and existing light rail station. A primary pedestrian focused route along Miller St / Union St emerges strengthening a link from the plaza to Darling Harbour and the CBD.

- 1 Open Hard Paved Area
- 2 Public Art Gateway Opportunity
- 3 Skate Park Opportunity
- 4 Street Frontage Connection and Buffer Landscape Elements



/ Character of North Entry Plaza

Character Well connected, permeable space.	Planting Strategy Green walls, moss walls vertical gardens
Modes <ul style="list-style-type: none"> — Public Art — Skate park — Gathering areas — Events — Marquee — Seating 	Infrastructure / furniture Lighting, public art Marquee infrastructure
Microclimate North Facing, heavily shaded by Western distributor.	

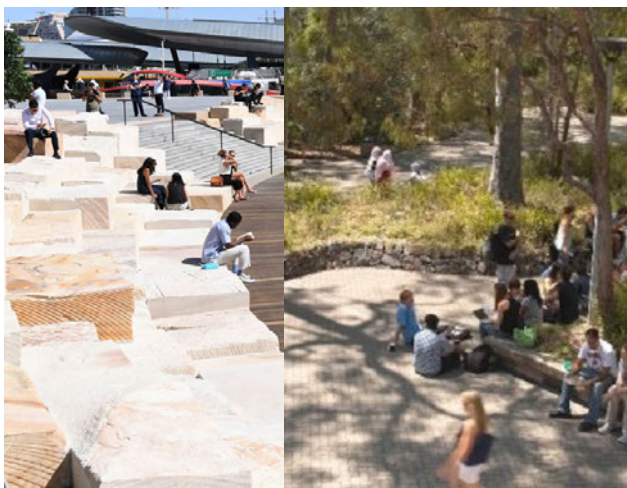
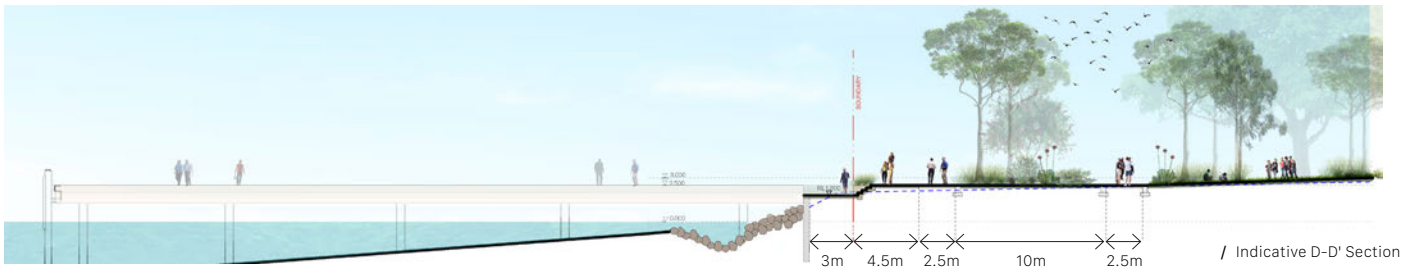
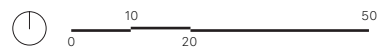
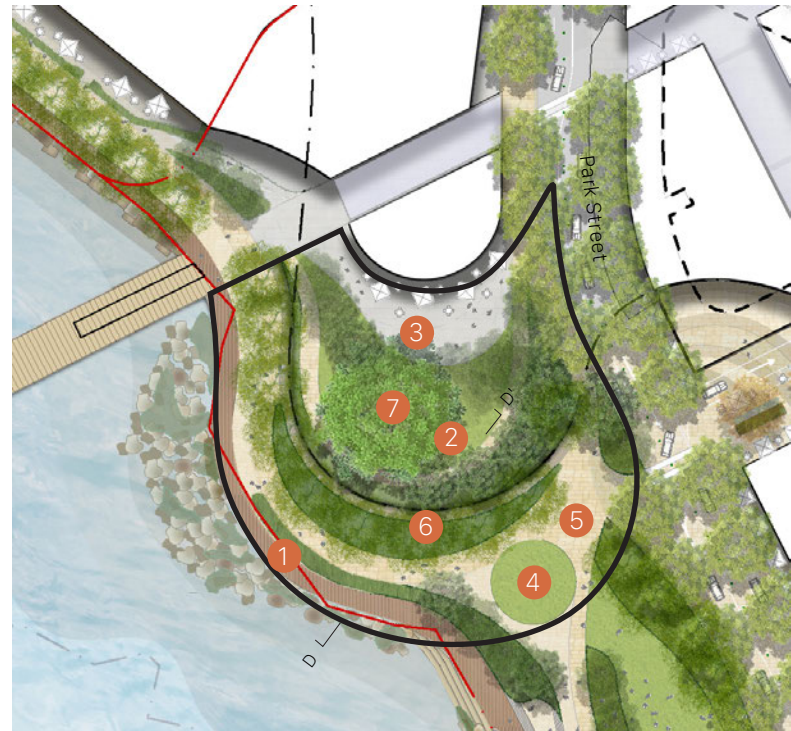


/ Promontory

The Waterside Park is framed by built form, slightly elevated from the promenade. The landscape radiates in a fluid geometry through Waterside Park, linking buildings via landscaped terrace gardens and providing a diversity of spaces. These spaces will reveal Country, defining a gathering circle between the Promontory, park and bay.

Boundaries of landscape and building are blurred through multi-layered and tiered green elements that are specific to the building connection and natural topography of the site. A key landscape character is formed through viewing platforms and gathering spaces.

- | | |
|------------------------|--|
| 1 Waterfront Promenade | 5 Pedestrian Linked Pathways |
| 2 Crescent Garden | 6 Stands of Eucalyptus and Angophora Trees |
| 3 Viewing platforms | 7 Specimen Fig Tree |
| 4 Gathering Circle | |



/ Character of Crescent Podium Garden

Character

Sinuous, stepped terrace landscape. Rich local materiality and enhanced Sydney Sandstone character. Sheltered areas for gathering.

Modes

- Gathering and yarning
- Outdoor terrace connected to podium building
- Informal space suitable for lunchtime activity
- Table and chairs grass area

Microclimate

South / West facing, elevated from water

Planting Strategy

Shade tolerant indigenous rainforest and fern species. Large feature fig tree and indigenous gardens.

Infrastructure / Furniture

Lighting and audiovisual / audio system, general waste, seating

/ Waterside Park

The waterfront is considered one of Sydney's most valued public spaces for the community. The design of Waterside Park places particular emphasis on extending and broadening the promenade and waters edge experience to deliver an attractive, accessible harbour foreshore that completes the Woolloomooloo to Rozelle promenade.

The ground plane is an expression of a pre-European landscape for Blackwattle Bay transitioning to the sandstone plateau of the Sydney Harbour. The sculpted land form gradually becomes more urban and formal in its expression towards Pyrmont. Park Street borders the park and provides a gradation for Area 3 between a more programmed block structure and free formed green space made evident through representation of the historic shoreline.

Uses include:

- A wonderful broad set of platform stairs forming both an expansive gathering space and connection to the water
- Gathering circle and indigenous flora
- All abilities circulation
- Built form carefully woven within an enlarged public park.
- Open grassed area
- Terrace edges form an eroded landscape wrapping and warping around the buildings as it folds down to connect with the waters edge
- Protected coves and gathering areas
- Viewing platforms
- High quality amenities including toilets and drinking fountains
- Opportunity for small play areas



/ Indicative E-E' Section



/ Character of Waterside Park



Character

Connection to water, all ages friendly, inviting, diverse and universally accessible space with clear line of the site. Connection to the water and the new Sydney Fish Market.

Modes

- Large format media screen
- Amphitheatre / performance area
- Open grass area
- Suitable seating for users and supervisors
- Informal space suitable for 'bring in' play event
- Shade trees

Microclimate

South West facing well connected to Pymont grid. Broad connection to the water.

Planting Strategy

Large fig trees. Native Eucalyptus and Anaphora. Provision of shade through advanced trees and shade structures. Lawn areas, advanced shade trees and mass planting beds.

Hardscape strategy

- High quality, durable hard landscape finishes to walls, paving suitable for intensive public use
- Furniture – bench seats, bins, bike racks, drinking fountain
- Universal access table settings, tap, bin
- Lighting for safety and security to relevant Australian Standards
- Accessible pedestrian paths to relevant Australian Standards
- Streetscape treatments to extent of public roads including street trees, furniture, paving and landscaping.

Infrastructure / furniture

Wayfinding / feature lighting / public art / service provision as required to all facilities / picnic shelter with electric BBQ / publicly accessible toilets, shade structures.

/ Streets / Lanes / Movements

3.7 Provide a layout plan of the public streets, lanes and walkways, identifying street hierarchy, typologies, movement patterns for all modes of travel, connectivity to the surrounding area and the development lots. Consider reopening former streets, reconnecting existing streets and street widening where beneficial. Provide and compare options for the street layout. Provide detailed sections and plans for typical conditions in each type of street, demonstrating innovative and best practice design for high density, highly connected, and active transport priority environments.

The draft Precinct Plan creates a clear and permeable urban structure that prioritises connectivity and access to the foreshore consistent with the Design Principles outlined in 2. Principles 1, 4, 5 and 6 developed with the community are relevant and important as follows:

- PRINCIPLE ONE _ Improve access to Blackwattle Bay, the foreshore and water activities for all users.
- PRINCIPLE FOUR _ Prioritise movement by walking, cycling and public transport.
- PRINCIPLE FIVE _ Balance diverse traffic movement and parking needs for all users.
- PRINCIPLE SIX _ Link the Blackwattle Bay precinct to the City, Glebe Island and White Bay and other surrounding communities and attractors.

/ Three Scenarios

In March 2020, three scenarios were presented to the community and feedback and submissions were received. Each scenario explored a different structure and arrangement of streets, lanes and movement paths.

The movement characteristics of the three scenarios can be summarised as follows:

- Scenario 1 _ Traditional street and lane model with separate pedestrian zones
- Scenario 2 _ Pedestrian focus with limited vehicular movement within study area
- Scenario 3 _ Shared street environment with low vehicle speeds, paved streets and pedestrian priority.

Each scenario sought to connect with existing street networks and to maximise vistas and physical connection to the waterfront, but each took a different approach to geometry, open space and built form.

The urban structure and street network characteristics of the draft Precinct Plan are most closely aligned to Scenario 3 overlaid with the original foreshore line and organic influences of Scenario 2.



- ↔ Street (All Vehicles)
- ↔ Waterfront Pedestrians
- ↔ Pedestrians
- Shared Zone (Pedestrians + Cars)
- ↔ Cycleway + Pedestrians
- Decision Point
- ↔ Light Rail

/ Scenario 1



- ▲ Site Access
- ↔ Waterfront Pedestrians
- ↔ Pedestrians
- ↔ Cycleway + Pedestrians
- Decision Point
- ↔ Light Rail

/ Scenario 2



- ↔ Waterfront Pedestrians
- ↔ Pedestrians
- Shared Zone (Pedestrians + Cars)
- ↔ Cycleway + Pedestrians
- Decision Point
- ↔ Light Rail

/ Scenario 3

/ Urban Structure

The draft Precinct Plan incorporates a number of initiatives in relation to streets, lanes and movement paths.

The first is to extend existing street alignments into the study area. Preserving the Miller Street Reserve as open space ensures that the Miller Street vista can extend to the bay.

Gipps Street historically extended into the study area and to the foreshore. The draft Precinct Plan reopens this former street and assigns it importance as a primary pedestrian movement path from the Pyrmont Bridge Road / Bank Street entry to the study area through to Waterside Park and the waterfront promenade.

Park Street is introduced as an extension to Wattle Street and positioned as the main street of the draft Precinct Plan. It is perpendicular to Gipps Street, consistent with the grid structure of the Pyrmont peninsula.

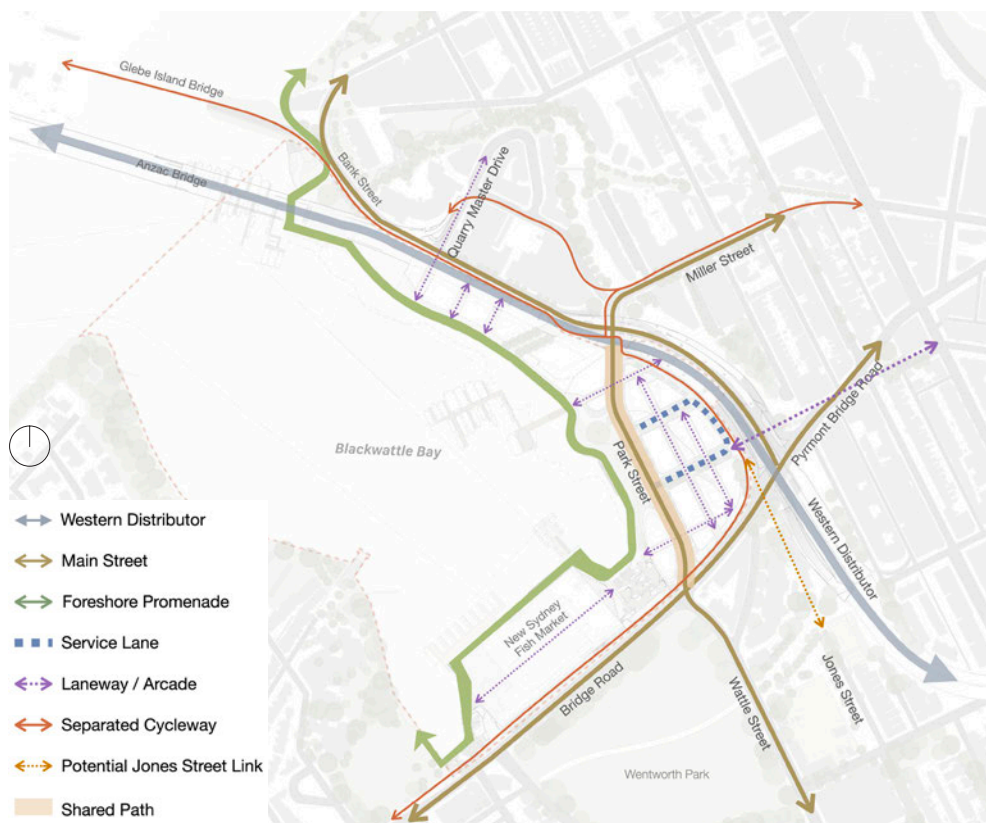
The new main street links between signalised intersections at the boundaries of the study area, promoting safe pedestrian movement to Wattle and Miller streets.

A finer grain grid of secondary streets and lanes extends the Pyrmont Grid and gives access to individual development parcels.

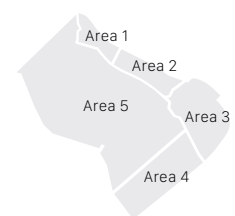
A second planning grid in Area 2 is related to the street alignment of Quarry Master Drive with through site links or arcades arranged perpendicular to the waterfront promenade connecting through to Bank Street.

Broadly parallel to the waterfront pedestrian and recreational cycle movement along the promenade, a separated cycleway is proposed inside the southern and eastern study area boundary. The separated cycle path provides a safe cycle route connected into, and closing a significant gap in, the existing network.

The urban structure is clear and flexible. The individual attributes of the streets, lanes and movement paths is outlined in the following pages.

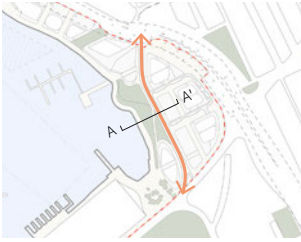


/ Proposed Street Hierarchy of Blackwattle Bay Precinct Plan



/ Parish Map of Petersham Showing Reclaimed Land along Eastern Shoreline (Source: City Plan 2020)



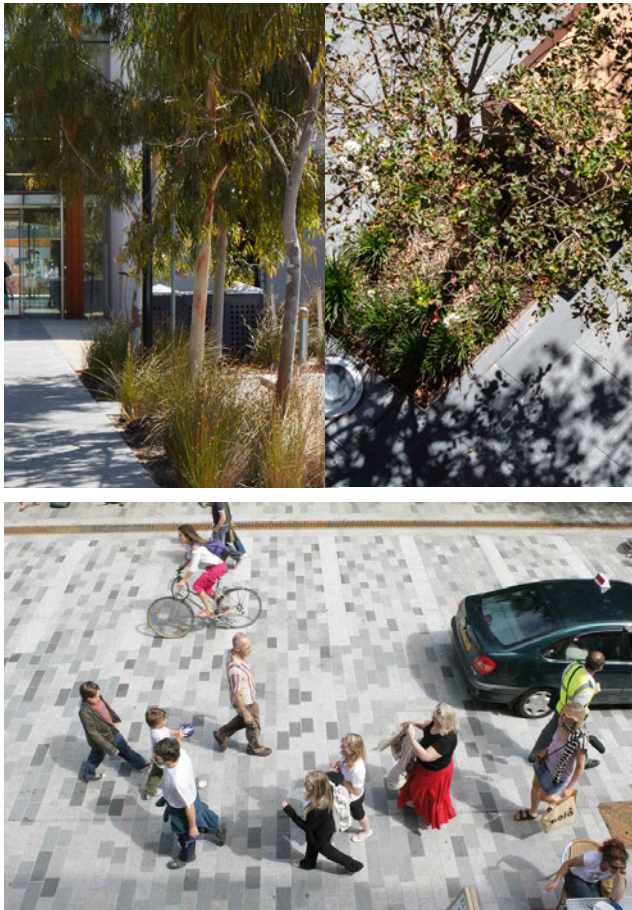
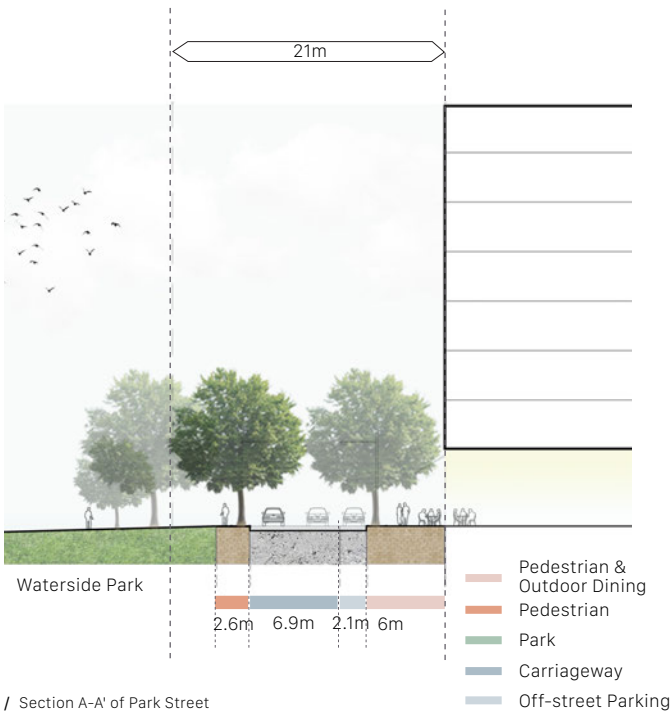


/ Park Street

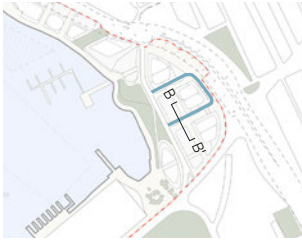
Park Street is a shared street with a character that combines elements of George Street in the CBD, Harris Street as a Pyrmont main street and Campbell Parade, Bondi. The reference to Campbell Parade relates to the role of Park Street in separating the private domain of built form from the public open space of Waterside Park.

General traffic and bus movements are proposed to be supported along Park Street. The street width has been developed to accommodate broad pedestrian movement paths, street furniture zones, bus turning radii and bus stop locations. The two way configuration between signalised intersections gives diversity to the movement of local traffic and avoids a dead end or cul-de-sac street arrangement.

Park Street is proposed to be tree lined with indigenous tree species and street furniture consistent with City of Sydney selections.



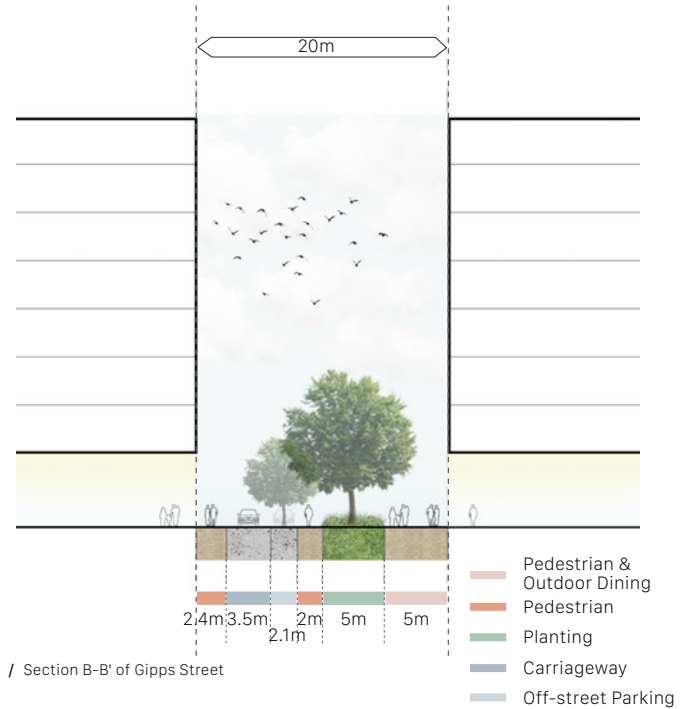
Key Element	Description
Overall Width	21M
Orientation	North / South
Carriageway Width	2 x 3.45m
Carriageway Traffic Direction	1 Lane either direction
Bicycle Lane Width	-
Bike Lane Separation	Planting
On-street Parking	2.1m parallel
RTA Classification	Main Street (Shareway)
Bus Service	Yes
Footpath Width	2.6m
Furniture Zone	2m
Footpath Pavement Treatment	Granite paving
Carriageway Pavement	Paving
Street Trees Location	Both Sides
Street Tree Species	Native Trees (Sydney Red Gum)
Understory Planting	WSUD plants
Retail Connection / Width	6m
WSUD Drainage Collection	Statacell / raingardens
Wind Mitigation	Planting / Awning
Interface with Buildings and Edges	Retail and Park
Precedent	George street



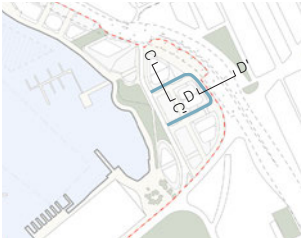
/ Gipps Street

The extension of the Gipps Street alignment into the study area allows the creation a strong pedestrian spine through the built form in Area 3. Similar to the Day Street pedestrian connection through Darling Quarter to Tumbalong Park, Gipps Street links a clear entry point to the precinct through to a primary open space.

Gipps Street incorporates a one way vehicle loop that is shared with Gipps Lane and Bank Lane. The one way configuration gives primacy to the pedestrian movement whilst addressing the need for surveillance, access and address to the building parcels.

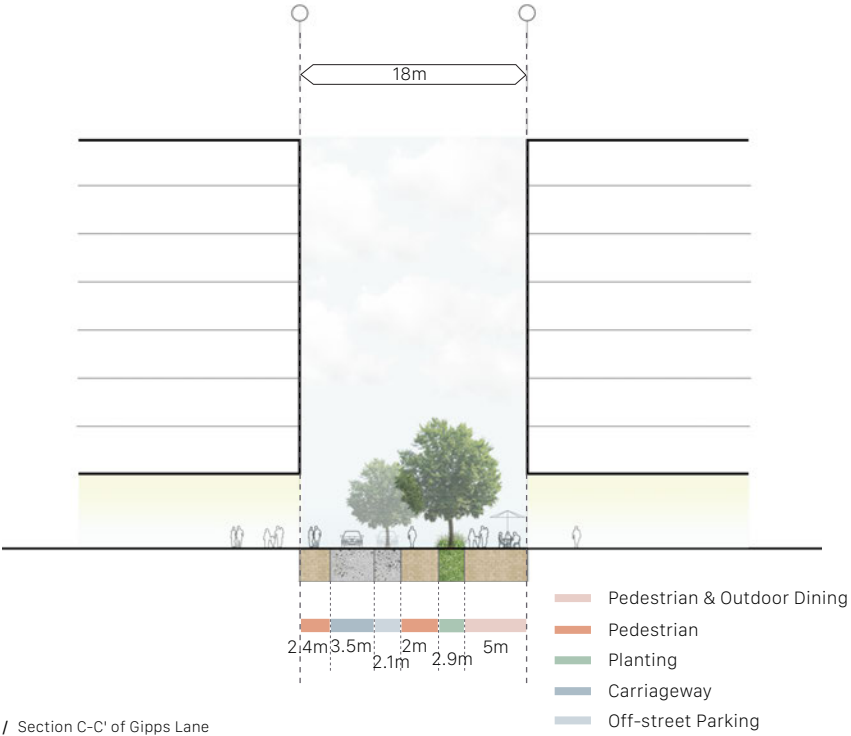


Key Element	Description
Overall Width	20m
Orientation	South / West
Carriageway Width	3.5m
Carriageway Traffic Direction	1 Lane One direction
Bicycle Lane Width	-
Bike Lane Separation	-
On-street Parking	2.1m parallel
RTA Classification	Local
Bus Service	No
Footpath Width	2.4m, 2m
Furniture Zone	-
Footpath Pavement Treatment	Granite paving
Carriageway Pavement	Paving
Street Trees Location	5m Centrally located
Street Tree Species	Golden Rain tree
Understory Planting	WSUD plants
Retail Connection / Width	5m
WSUD Drainage Collection	Statacell / raingardens
Wind Mitigation	Planting / Awning
Interface with Buildings and Edges	Retail and Building
Precedent	



/ Gipps Lane

Gipps Lane runs parallel to Gipps Street but narrower and more local. The lane allows one way vehicle access through to Bank Lane. Extensive tree canopy, 8 storey street walls and active edges and corners give Gipps Lane a green urban quality.



/ Section C-C' of Gipps Lane



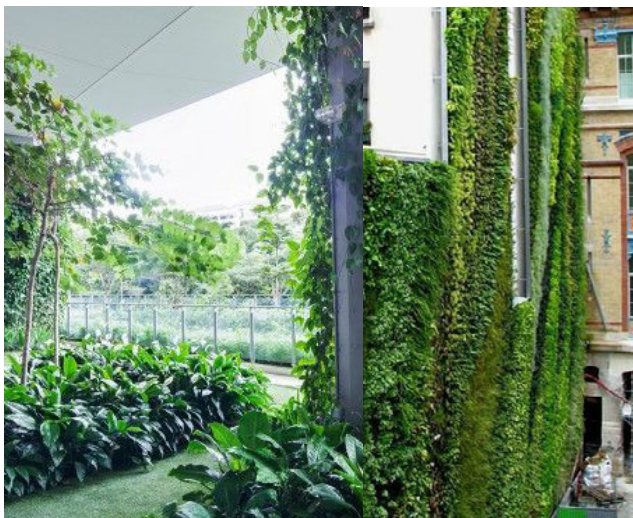
Key Element	Description
Overall Width	18M
Orientation	North / south
Carriageway Width	3.5m
Carriageway Traffic Direction	1 Lane one direction
Bicycle Lane Width	-
Bike Lane Separation	-
On-street Parking	2.1m parallel
RTA Classification	Local
Bus Service	No
Footpath Width	2.4m
Furniture Zone	2m
Footpath Pavement Treatment	Granite paving
Carriageway Pavement	Paving
Street Trees Location	Central and South Side
Street Tree Species	Rainforest Species / Water Gum
Understory Planting	WSUD plants
Retail Connection / Width	5m
WSUD Drainage Collection	Statacell / raingardens
Wind Mitigation	Planting / Awning
Interface with Buildings and Edges	Retail and building
Precedent	Kensington Lane



/ Bank Lane

Bank Lane is a crescent street that is arranged parallel to Bank Street and the Western Distributor. It incorporates the separated cycle route around the study area periphery and forms a landscape and streetscape buffer the on-ramp to the Western Distributor.

Vehicle access to basement parking and loading in Building 03 is proposed to be provided from Bank Lane.



Key Element

Description

Overall Width	13.5M
Orientation	North / West
Carriageway Width	3.5m
Carriageway Traffic Direction	1 Lane one direction
Bicycle Lane Width	3m
Bike Lane Separation	0.5m planting
On-street Parking	2.1m parallel
RTA Classification	Local
Bus Service	No
Footpath Width	2.5m
Furniture Zone	-
Footpath Pavement Treatment	Granite paving
Carriageway Pavement	Paving
Street Trees Location	South Side
Street Tree Species	Fig Trees / Palms
Understory Planting	WSUD plants
Retail Connection / Width	-
WSUD Drainage Collection	Statacell / raingardens
Wind Mitigation	Planting / Awning
Interface with Buildings and Edges	Green walls, trellis to screen Western Distributor

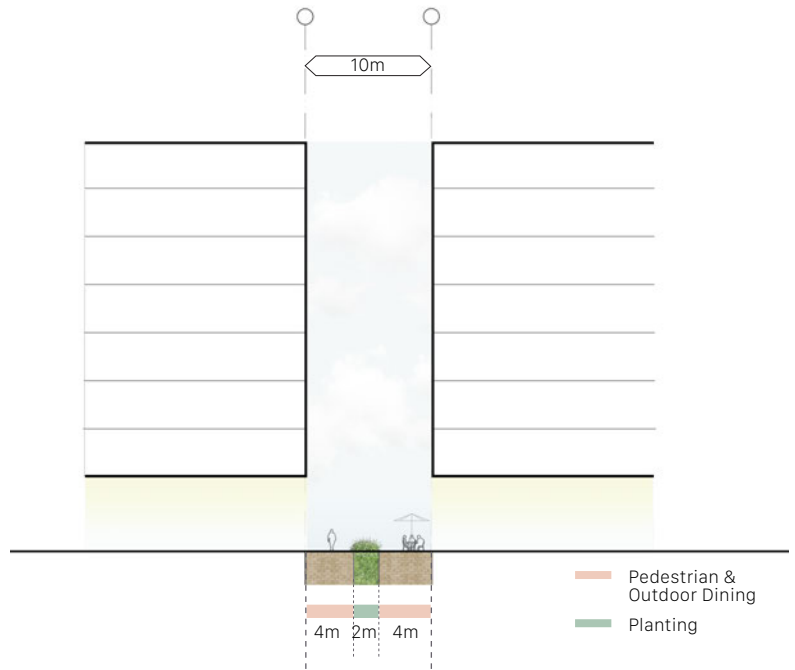


/ Through Site Links / Arcades / Park Lane

Extending Quarry Master Drive as a pedestrian link and forming additional pedestrian open air arcades through Area 2 offers a diversity of pedestrian movement between the waterfront promenade and Bank Street. The pedestrian links could be extended through to future renewal of the land parcels between Bank Street and Saunders Street.

Park Lane is parallel to Park Street and provides an active pedestrian lane between Pymont Bridge Road, Gipps Street, Gipps Lane, and North Entry Plaza. The last block connection is proposed to be an arcade connection through the street wall of BLD 02.

The lane could be similar in scale and activation to Scotch Row in Barangaroo.



/ Section E-E' of Park Lane



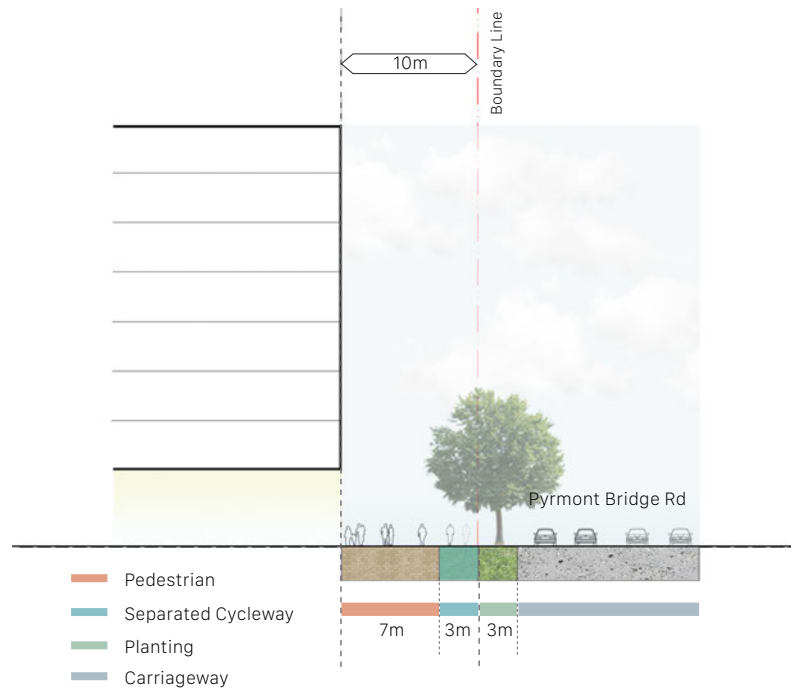
Key Element	Description
Overall Width	10m
Orientation	South / West
Footpath Width	4m
Furniture Zone	2m
Footpath Pavement Treatment	Brick, granite fine grain
Green Infrastructure	Green wall, trellis screens
Street Trees Location	Central
Street Tree Species	Rainforest Species
Understory Planting	WSUD plants
Retail Connection / Width	Each side min 2m
WSUD Drainage Collection	Statacell / raingardens
Wind Mitigation	Planting / Awning Building
Interface with Buildings and Edges	Retail and building
Precedent	Steam Mill Lane



/ Separated Cycleway

The separated cycleway is positioned in a 10m setback from the boundary line along Pyrmont Bridge Road and from the Western Distributor on-ramp. This important buffer considers the high vehicle load on Pyrmont Bridge Road and the expected increase in pedestrian movement along the Bridge Road corridor to the new Sydney Fish Market.

The route of the separated cycleway and the configuration of the streets and lanes within the study area minimises the cross-over points of the cycle path with vehicle routes. The path does not cross any streets between the Pyrmont Bridge Road / Miller Street intersection and the Miller Street / Park Street / Bank Street intersection.



/ Section F-F' of the Separated Cycleway along Pyrmont Bridge Road



Key Element	Description
Overall width	10m (varies)
Orientation	North / West
Bicycle Lane Width	3m
Bike Lane Separation	Planting and trees
Footpath Width	Varies - 7m max
Footpath Pavement Treatment	Concrete
Street Trees Location	Single side (outside)
Street Tree Species	Native Trees
Understory Planting	WSUD between bike & path
WSUD Drainage Collection	Statacell / raingardens
Wind Mitigation	Tree planting
Precedent	Union Street



/ Proposed Streets & Lanes & Arcades of Blackwattle Bay Precinct Plan



/ Artist Impression of Park Lane

/ Intersection Improvement for Pedestrian & Cyclist

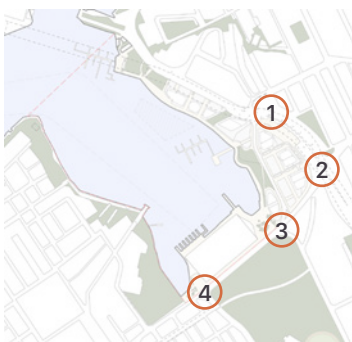
3.8 Using data from the Traffic and Transport Study, identify key intersections where there are high numbers of pedestrians, cyclists and/or vehicles, and provide detail of how pedestrian and cyclists safety and comfort will be prioritised in these locations. Include any intersections that will be used by children to access schools as pedestrians and cyclists.

Intersections and Pedestrians

Already part of a busy transport network, Blackwattle Bay and the Study Area interface with complex and highly trafficked intersections. As an existing site, Area 3 provides no thoroughfare and limited pedestrian movement while interfacing with the existing transport network at limited points. Four major intersections have been identified as key interactions points between pedestrians, cyclists and automotive transport. Three of these intersections interface with Area 3 and contribute significantly to how Blackwattle Bay will be accessed.

The proposed Precinct Plan introduces a through-site link that connects the Miller St / Bank St intersection (Intersection 01) and the Wattle St / Pyrmont Bridge Road intersection (Intersection 03) providing an alternative and more passive bypass of the Pyrmont Bridge Rd / Bank St Intersection (Intersection 02) and its associated access to the Western Distributor.

By adding an additional point to intersection 01 and 03 these existing intersections can be reconfigured not only provide safer pedestrian crossing but also as an extra point of choice for separating modes of travel. There are clear routes established for the pedestrian, cyclist and vehicle as well as the option of a shared way, ultimately providing a safer and more comfortable way of visiting or transiting through Blackwattle Bay.



Each of intersection 01, 02 and 03 are currently signalised however the route can be convoluted and confusing. Intersection 01 is an offset intersection beneath the Western Distributor that requires indirect movement of pedestrians and combined movement of cyclists and motorists. The proposed intersection improvements provide 4 points of crossing for pedestrians and access to a dedicated cycle path along the spine of Area 3.

An additional signalised intersection was explored as a logical continuation of Miller St to the Miller Street Reserve and on to the new promenade. Although logical on plan it has been deemed hazardous due to the configuration of columns and blindspots from the Western Distributor as well as proximity to the signalised intersection 01 ahead. Pedestrians are encouraged to cross at intersection 01 and either continue down Park St to the primary Open Space or continue behind PLO.03 and access the Miller St Reserve.

Intersection 02 remains largely unchanged other than the prospect of removing the left turn slip road from Pyrmont Bridge Rd to Bank St to provide more space for pedestrian and cycle movement along the spine of Area 3. Intersection 03 is upgraded to a fully signalised intersection allowing crossings at all four points. Additionally the left turn slip road from Wattle St to Bridge Rd is removed giving pedestrians a single road crossing and eliminates the traffic island. The additional crossing point is added facilitate the proposed Park St and promotes a safer and comfortable point of access to Blackwattle Bay and the new Sydney Fish Market from Ultimo and Wentworth Park.

	Existing		Proposed	
	Signalised	No. of Sides for Safe Pedestrian Crossing	Signalised	No. of Sides for Safe Pedestrian Crossing
1. Miller Street / Bank Street	Y	3 of 4	Y	4 of 4
2. Pyrmont Bridge Road / Bank Street	Y	4 of 4	Y	4 of 4
3. Wattle Street / Bridge Road	Y	2 of 3	Y	4 of 4
4. Bridge Road / Wentworth Park Road	N	0 of 3	Y	4 of 4

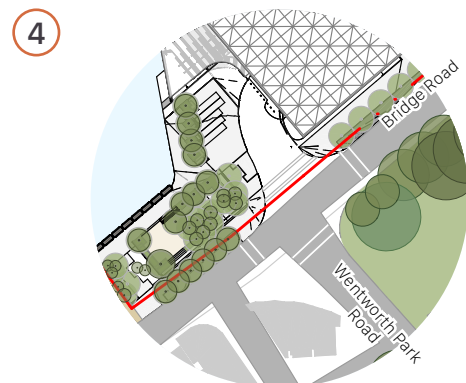
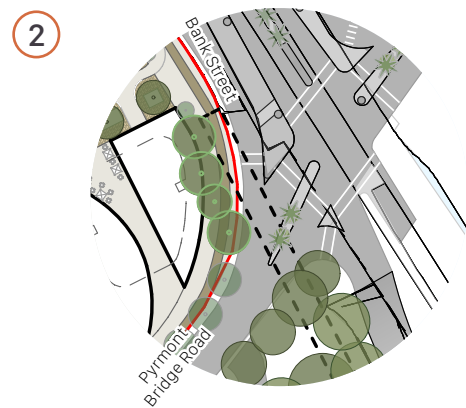
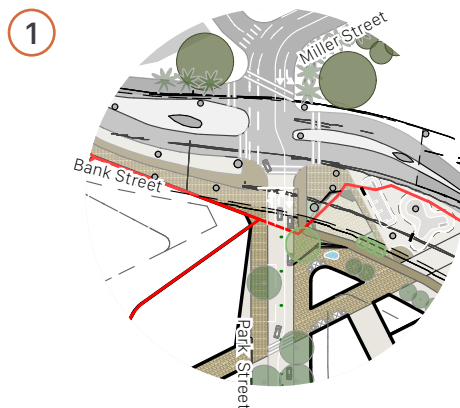
The upgrade of Intersection 04 completely changes the movement and access possibilities for a pedestrian visiting the Study Area from Glebe. It also provides a new and improved link between the Glebe Foreshore, Wentworth Park and Area 3.

With parking and loading access for the new Sydney Fish Market being the only additional interface at intersection 04, the intersection gains four signalised pedestrian crossing points, a significant increase from zero. Pedestrians are encouraged to interact in a more fluid manner with Wentworth Park and the new Sydney Fish Market through additional improvements to Bridge Road that include raising the finished level of the road to match that of Wentworth Park and the new fish market ground level.

Sydney Secondary College on the Glebe Foreshore benefits from the upgrade of intersection 04 as an increase in pedestrian safety and point of choice to and from Ultimo

and Glebe. With the addition of the proposed continuous promenade, pedestrian school traffic to and from Pyrmont benefit from a safe, comfortable and engaging separated walkway activating Blackwattle Bay during hours not commonly as busy with commercial or recreational use.

Pedestrian routes linking Ultimo Public School with Blackwattle Bay and Pyrmont residents are given alternative crossing points while also providing a safer and more comfortable route via the proposed public domain of the draft Precinct Plan. Intersection 03 becomes a key route for Wattle Street access of Ultimo Public School while also creating a more desirable route that includes the benefits of Wentworth Park and its traversable open space. A pedestrian flyover from Wentworth Park has been incorporated in the layout of the new Ultimo Public School and signifies this as a safe, primary access for children and staff.



Cyclists

An extensive existing cycle network requires the proposed Precinct Plan to respond to various usage typologies and user origins. Currently the predominant use for cyclists in the area is commuter transit from west of the city via Glebe or north-west of the city via Anzac Bridge and Rozelle.

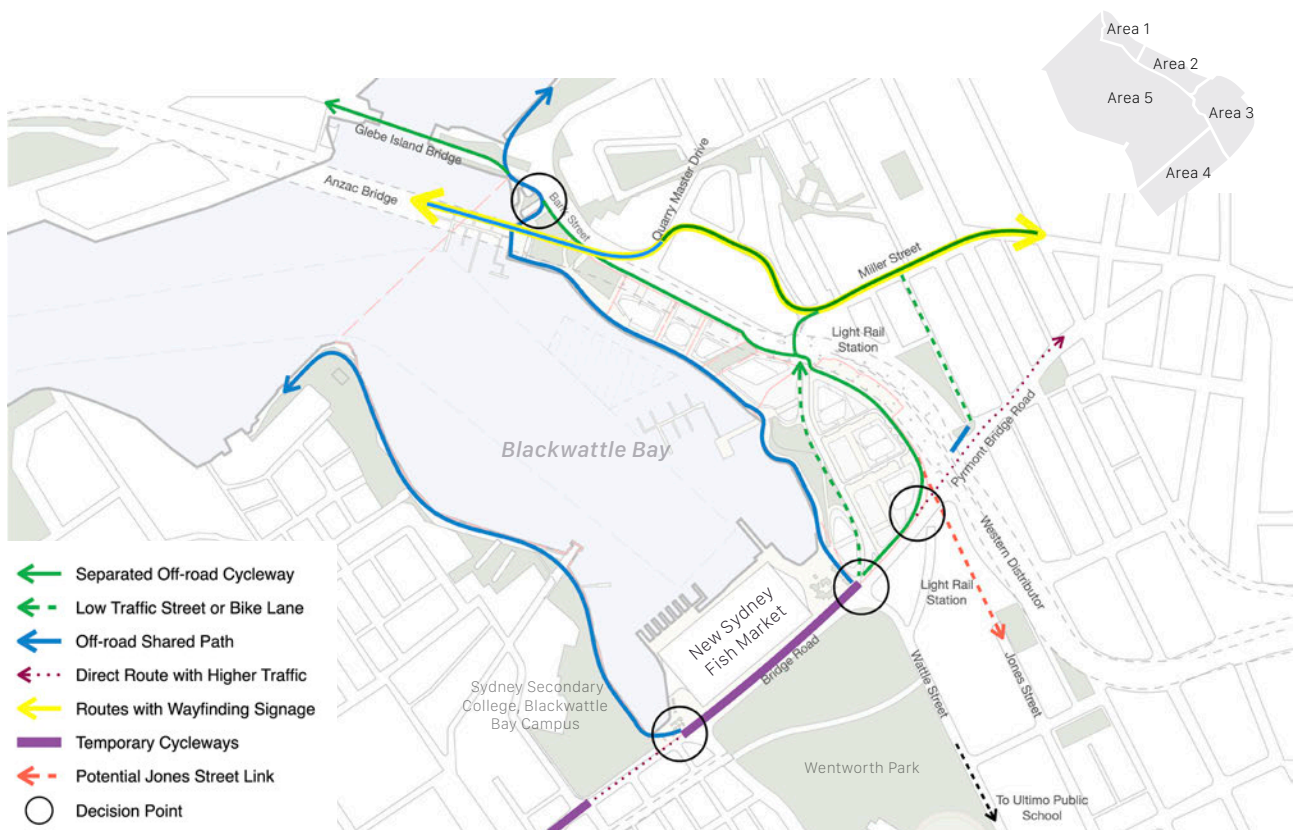
There are 4 major decision points when arriving on the boundary of the Study Area and will be the primary point of choice for how a user will interact with the site. High speed commuter cycle traffic from a broader context will remain unchanged other than the introduction of more signalised intersections and the option to join the dedicated cycleway running along the spine of Area 3 towards Miller St as an alternative to continuing along the major, highly trafficked route of Pyrmont Bridge Rd.

Passive usage is elevated through the proposed Precinct Plan at each of the decisions points. Users seeking a safer, less frantic route are able to choose from a mixture of shared ways and cycle links when moving through the Study Area.

The proposed Park St shared way will link cyclists in a safer environment between Bridge Rd and Miller St while the proposed cycleway along the spine of Areas 1-3 provides a separate off-road link between the Pyrmont peninsula, Anzac Bridge and the future reinstatement of Glebe Island Bridge with transit routes from Glebe and Ultimo.

Additionally an above ground cycle link has been earmarked (as referenced in the PPPS) as an extensions of Jones Street that will transport cyclists from the higher levels of Jones Street to Blackwattle Bay without interfacing with Wattle Street and Intersection 02. The arrival point of the cycle link would coincide with the dedicated cycleway along the spine of Area 03. This above ground link and the decision points at intersection 02 and 03 contribute to a safer cycle route when accessing Ultimo Public School from the Blackwattle Bay, Pyrmont and for commuters over the Anzac Bridge.

Wentworth Park offers respite from busy vehicle routes and has potential of extending a passive network of transport between Ultimo and Pyrmont while also providing more recreational movement between the Study Area and Glebe Foreshore for both cyclists and pedestrians.



/ Proposed Cycle Network



/ Separated Cycleway of Union Street, Pyrmont

/ Streets Arrangement

3.9 Provide a general arrangement plan for streets locating proposed kerb alignments, including intersection arrangements and mid-block crossing arrangements, overlaid with existing and future ownership boundaries.

The proposed vehicular streets and lanes in the draft Precinct Plan are contained within the Area 3 site boundary and directly interface with existing road reserves without crossing other site boundaries. Vehicular access to Private Land Owner properties is direct from Bank Street.

The street arrangement in Area 3 is integrated with the design principles including:

- Improving access to the foreshore
- Providing better active transport links
- Connecting to public transport
- And creating safe and amenable public domain spaces.

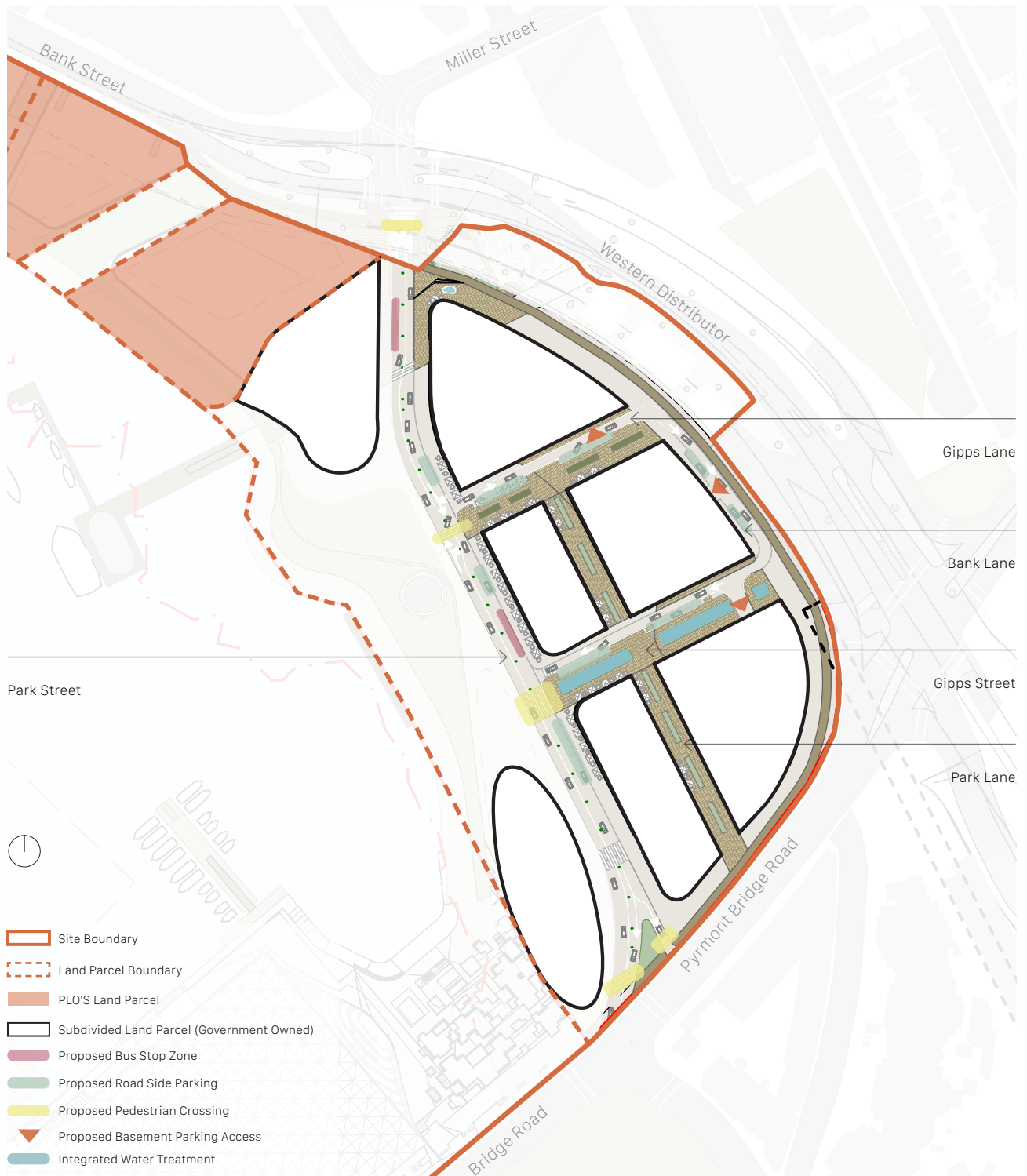
The draft Precinct Plan proposes significant improvements to the intersections at Bank Street / Miller Street and also Bridge Road / Wattle Street (refer Study Requirement 3.8) to significantly improve safe and comfortable pedestrian crossing conditions and to incorporate a separated cycleway parallel to Bridge Road and Bank Street.

Park Street links the two improved and signalised intersections. The new local main street width and geometry will allow new bus routes to be scheduled through the Study Area. Kerb side parking and setdown is included to aid the serviceability of the street and assist passive surveillance of the street and Waterside Park. Vehicular driveways along Park Street are minimised.

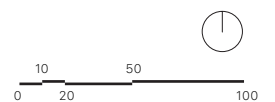
A one way clockwise vehicular loop through Gipps Lane, Bank Lane and Gipps Street provides vehicular address to individual building lots, caters for emergency vehicle access, and allows carpark and loading access to basement facilities. Kerb side parking is incorporated in between street trees and furniture.

The streets are proposed to allow low vehicle speeds only with a shared street approach in the central area of Area 3 transitioning to a traditional kerbed street arrangement adjacent the signalised intersections to the surrounding network.

Concentrated pedestrian crossing points are proposed to be identified through varied pavements, pedestrian crossing road markings or similar treatments.



/ Proposed Road Arrangement and the Existing / Future Land Ownerships



/ Public Domain Plan

3.10 Provide a public domain plan incorporating the open space plan and street layout and demonstrate how it responds to the analysis and the urban design principles.

The public domain plan integrates streets and lanes network with the open space and parks of the draft Precinct Plan. It responds to the site analysis and context, and the possibilities associated with future renewal. Many of the urban design principles are formulated around aspirations for the public domain. These principles provide a framework

for both the physical attributes and social responsibilities associated with the design of the public domain. A selection of key principles associated with the public domain plan and the draft Precinct Plan response are explored below.

Urban Design Principle	Study Area Response	Targets
Principle 1 – Improve access to Blackwattle Bay, the foreshore and water activities for all users.	The open space and promenade strategies link the network of streets and laneways to expand the various functions of the Study Area. Open spaces can connect the community facilities with community groups.	Improved foreshore access and boating facilities.
Principle 2 – Minimise additional shadowing to Wentworth Park and Glebe Foreshore (in mid-winter) and create new places with comfortable conditions for people to enjoy.	The Landscape approach has considered microclimate, orientation, solar access and increased canopy cover. Important considerations with regards to solar access.	Canopy cover strategy.
Principle 3 – Pursue leading edge sustainability outcomes including climate change resilience, improved water quality and restoration of natural ecosystems.	Sustainability and climate change resilience will be achieved through the open space approach. The groundplane design considers the use of vegetation and tree canopy to reduce the urban heat island effects by shading built surfaces thus reflecting radiation and releasing moisture into the atmosphere, creating comfortable microclimate control.	Public domain ground plane material section, reduce heat island effect. Set new levels to mitigate impact of sea level rise.
Principle 4 – Prioritise movement by walking, cycling and public transport.	Upgrades to the active transport network are enhanced through a more diverse and connected ground plane assisted by multiple decision points and clear movement modes.	Integration of active transport within the existing network.
Principle 7 – Mandate Design Excellence in the public and private domain.	The detailed design of landscape in the public domain and buildings in the draft Precinct Plan will be subject to Design Excellence processes including establishment of Design Review Panels and Design Competitions as appropriate for separate design components. The applicable Design Excellence policy will be agreed with the Department of Planning Industry and Environment, Government Architect NSW and City of Sydney.	Benchmarking local and international best practise.
Principle 9 – Maintain and enhance water uses and activities.	The waterfront is Sydney's most valued public space for all, the various open space and landscape strategies presented within this report maximises the opportunity to engage with the water freely.	Continuous promenade and active waters edge.
Principle 11 – A place for everyone that is inviting, unique in character, socially inclusive and affordable.	The public domain and open space layout promotes an accessible and continuous Waterfront Promenade connecting active and passive spaces that can be designed with flexibility to cater for all types of user groups.	Highly connected and traversable ground plane.
Principle 12 – Expand the range of recreational, community and cultural facilities.	Renewal of Blackwattle Bay emphasises connection to water in the rehabilitation of the bay. Recreational use is a significant driver in the push for change both on the water and along its edge. The public domain plan can accommodate new facilities for recreational users of the bay. Cultural and community facilities require both internal and external space for the programming of events. The proposed public domain can support a diversity of outdoor activities, events and exhibitions.	All ages and abilities, culturally inclusive spaces.
Principle 15 – Embed and interpret the morphology, heritage and culture of the site to create an authentic and site responsive place.	The public domain and open space draws inspiration from the existing landscape and pre-colonial origins.	Sandstone, water and harbour qualities.
Principle 16 – Foster social and cultural understanding and respect to heal and grow relationships.	The Landscape design provides opportunity to collaborate with First Nations in both programmed and flexible spaces	Playground design, species selections and consultation



/ Legible, Connected & Safe

3.11 Demonstrate how the public domain will be designed to be legible, connected and safe for pedestrians and cyclists at all times of the day and night, considering Crime Prevention through Environmental Design (CPTED) principles.

The draft Precinct Plan is structured to promote legibility in the public domain, provide connected and safe spaces and clearly define public and private interfaces. Pedestrian and cyclist movement paths are designed to open and visible supporting passive surveillance. The mix of uses proposed in the draft Precinct Plan ensures that there is a level of background activity day and night that assists the sense of comfort and security of users, and minimises opportunity and attractiveness for potential inappropriate behaviour or activities.

The draft Precinct Plan considers the Crime Prevention through Environmental Design (CPTED) principles as outlined in the Crime Prevention and the Assessment of Development Applications (Guidelines under Section 79C of the Environmental Planning and Assessment Act 1979)

referenced by the Safer By Design portal of the NSW Police. The four CPTED Principles are:

- Surveillance
- Access control
- Territorial reinforcement
- Space management

The draft Precinct Plan response to the four CPTED principles is as follows:

/ Surveillance

- Clear sightlines between public and private places
- Effective lighting of public spaces
- Landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims

The continuation of the street grid of Pyrmont into the Study Area allows site lines to extend outside the site boundaries. The integration of the open space system with the continuous waterfront promenade avoids isolated and disconnected spaces.

The Western Distributor, particularly the on-ramp along the north-eastern boundary of Area 3, is a constraint and creates some barriers to the openness of the public domain system. The integration of a separated cycleway adjacent the Western Distributor, incorporation of residential use in the street wall portion of Building 02, and the positioning of centralised services under the lowest portion of the on-ramp work together to promote surveillance and minimise concealed spaces.

Along Bank Street, new active frontages in Area 2 development under the Western Distributor will enhance surveillance and a separated cycleway along Bank Street linking to the Glebe Island Bridge and waterfront promenade will introduce new activity to the street.

Public spaces will be well lit and landscaping can provide transparency at the ground plane whilst delivering canopy cover and character to the open spaces.

/ Access Control

- Landscapes and physical locations that channel and group pedestrians into target areas
- Public spaces which attract, rather than discourage people from gathering
- Restricted access to internal areas or high-risk areas (like carparks or other rarely visited areas). This is often achieved through the use of physical barriers.

The draft Precinct Plan focuses activity around a series of key public spaces that are open to the bay and connected to the waterfront promenade and network of streets and lanes. Vistas through new streets lead in most instances to the primary open spaces or the waterfront promenade allowing users to see their destination and move to it comfortably.

The consolidated intersection of Miller Street, Bank Street and the new Park Street supports an important orientation vista through to Waterside Park and the new Sydney Fish Market.



/ George Street Precedent



/ Proposed Gipps Street

Carparks and loading areas are consolidated in basements with physical barriers and access controls at the ground level entry points.

/ Territorial Reinforcement

- Design that encourages people to gather in public space and to feel some responsibility for its use and condition
- Design with clear transitions and boundaries between public and private space
- Clear design cues on who is to use space and what it is to be used for. Care is needed to ensure that territorial reinforcement is not achieved by making public spaces private spaces, through gates and enclosures.

Park Street is a shared street positioned between the primary development parcels in Area 3 and Waterside Park. The street position aids the clear definition of public and private zones and increases passive surveillance of the public space.

The colonnade in Area 2 that runs parallel with the waterfront promenade is intended to be publicly accessible private land with leased seating areas overlooking the promenade. The definition of this zone is achieved by a level change to the dedicated public space of the promenade.

Street furniture along the waterfront promenade and in the open spaces and streets will encourage users to spend time in the spaces and engage with them.

Pedestrian protection from vehicular movement paths can be achieved using street trees, street furniture and selective placement of bollards similar to the treatments along George Street in the Sydney CBD.

/ Space Management

Popular public space is often attractive, well maintained and well used space. Linked to the principle of territorial reinforcement, space management ensures that space is appropriately utilised and well cared for.

The management of streets and open spaces is an important aspect of the quality and safety of the public domain. The City of Sydney is the assumed owner and manager of the public domain (as per Study Requirement 3.1) unless and until alternative owners and managers are agreed. The City has a comprehensive portfolio of managed public spaces incorporating CPTED principles.



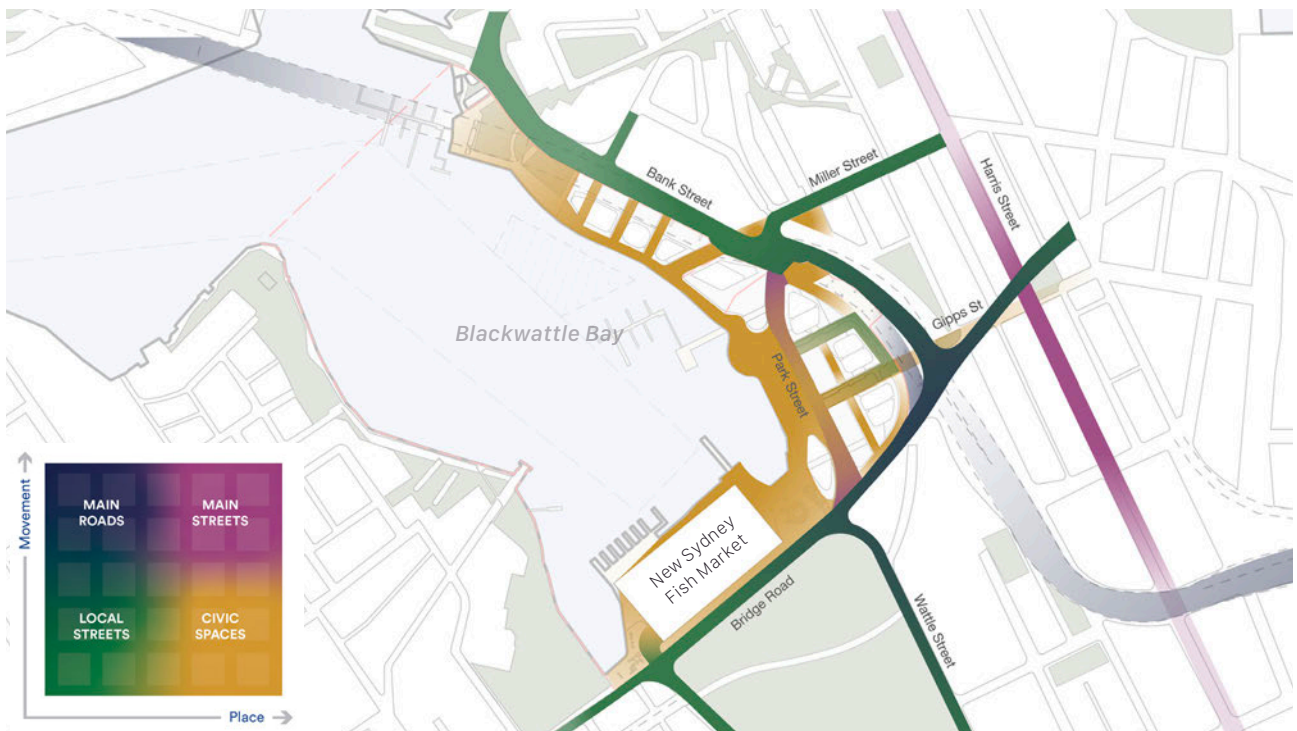
/ Artist Impression of Proposed Park Street

/ Movement and Place

The Blackwattle Bay Precinct Plan embraces the NSW Government Architect's Movement and Place policy. The draft Precinct Plan establishes a clear public domain and street network that supports the three modes of movement (public transport, active transport and general transport), and also creates places for gathering and enjoyment.

/ Civic Space, Streets and Roads

The NSW Government Architect's Movement and Place Practitioners Guide outlines the roles of movement spaces and their contributions to place. The four space types of Local Streets, Main Roads, Main Streets and Civic Spaces are represented in the urban design structure for Blackwattle Bay.



/ Indicative Movement and Place Plan in Blackwattle Bay Study Area



/ WSUD Strategy

3.12 Provide a (Water Sensitive Urban Design) WSUD strategy that integrates with the flood study the public domain and private open spaces, show any measures on plans and detail street sections.

The WSUD Strategy for Blackwattle Bay Study Area has been prepared with reference to the "Water, Riparian, Flooding and Stormwater Study" (Cardno 2021). The Cardo Study acknowledges the site specific DCP requirements for stormwater quality and assesses existing flooding conditions and potential impacts for the proposal.

The public domain and private open space landscape character has been developed to deliver the Best Practice quality / quantity targets as outlined in the Cardno Report. Specifically, a total area of 3,100m² for bioretention was identified by the report to achieve Best Quality targets.

The WSUD Strategy of the draft Precinct Plan proposes a suite of water quality treatment opportunities to meet this biofiltration area requirement (understanding that this area could be reduced/ substituted / offset during detailed design where additional measure such as green roofs and stormwater harvesting could be located).



/ Indicative Water Sensitive Urban Design Strategy





/ Artist Impression of the Rain Garden along Gripps Street

/ Material & Furniture Palette

3.13 Provide an indicative material and furniture palette for all areas of public open space and the various street types.

The draft Precinct Plan balances a place specific response and a connection with the existing streetscapes of Pyrmont including Harris Street and Union Square. The creation of a distinct local character is envisioned through interpretation of the original foreshore line and inclusion of materials from the timber, sandstone and brick influences in the Study Area.

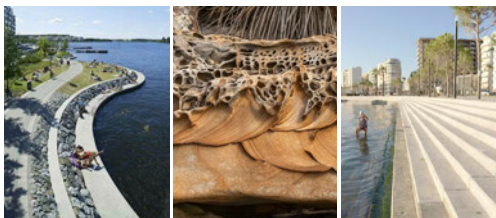
Careful selection of materials, finishes and furniture is required to provide continuity and legibility to the existing adjoining established characters.

The material selection is to consider the City of Sydney Street codes Part C character areas and palettes.

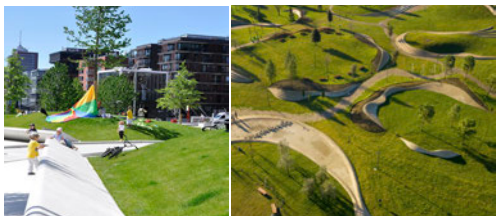
/ Paving and Materials

The material selection will provide a balance between hard paved surfaces and soft landscape areas suitable for uses of the public domain and open spaces. Whilst hard paved surfaces are necessary and appropriate for an urban space.

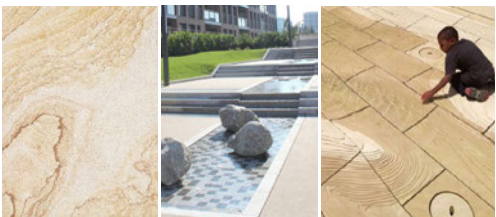
The sinuous ground plane reinforces the design principles, aiming to enhance the permeability, movement and flows between the various typologies. Paving and elements will be used to reinforce the legibility, hierarchy and character of the streets, lanes and general open space pathways.



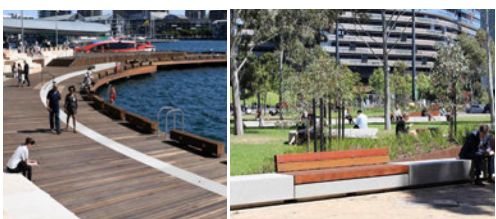
1 Waterfront Promenade



2 Bank Street Open Space



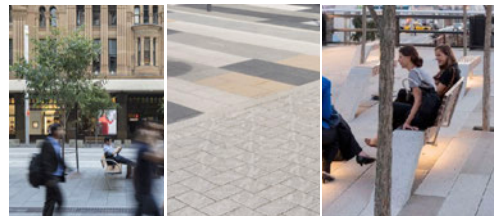
3 Miller Street Reserve



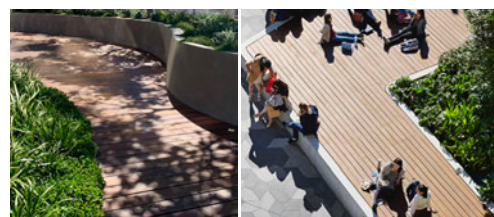
4 Waterside Park



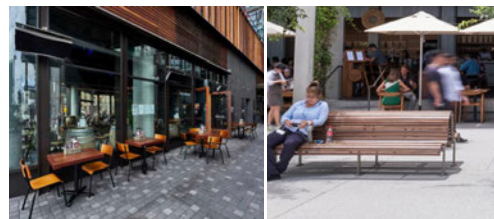
5 North Entry Plaza



6 Park Street / Shareway



7 Laneway



8 Through Site Arcade

Street trees will soften the urban character and provide a human scale to the pedestrian paths. The intent is to create a scale to mediate between buildings and pedestrians, provide a buffer from the traffic and a green corridor linking the greater community.

The ground plane expression is informed by the sandstone geology and as a reflection of the naturally occurring system that once occurred at the base of Blackwattle Bay, the intertidal zone of exposed layers of sediment, vegetation of swamp and wetland to connect with place.

Indicative Palettes

Gateways interface with surrounding established character zones, the intent is to maximise green open space and planting zones. Austral Granite, brick use of smaller setts with a variety of finishes.

Primary palette

Lighter sandstone coloured granites, Sandstone, Sandstone coloured concrete with exposed aggregates.

Laneways

Lighter colour granite setts, Brick.

Shared zones

Sandstone coloured concrete with exposed aggregates, lighter colour granite, use of smaller setts with a variety of finishes.

Retail frontages and Commercial frontages

Lighter sandstone coloured granites, Sandstone.

Parking bays

Granite setts and permeable paving such as hydro-pavers.

Kerbs

Austral granite, bluestone or Sandstone.

Furniture

The use of City Standard public domain furniture and wayfinding elements is important for continuity with special elements such as shade structures and integrated seating.



/ Alignment with CoS Public Domain Codes


3.14 In all of the above, demonstrate consideration and application of City of Sydney public domain codes where appropriate, including the Streets Code and Technical Specifications, Legible Sydney Wayfinding Strategy and Design Manual, and any other relevant City of Sydney draft Codes.

The proposed street network in the draft Precinct Plan has been developed with input from the City of Sydney and in line with the Streets Code 2013. The street widths incorporate pedestrian and public domain furniture zones appropriate to the hierarchy in the network.

Park Street provides vehicle lane widths to support potential bus services through the Study Area. Turning radius and bus stop zones are considered, and limited street side parking is provided where the additional space is not required for buses.

The one way laneway vehicular loop through Gipps Street and Gipps Lane allows for increased pedestrian zones and integrates parking with street tree plantings.

The pedestrianised Park Lane provides permeability of the ground plane and offers potential for a different scale of retail offering and public domain experience.



STREET TYPES		PUBLIC DOMAIN FURNITURE ZONE (m)		PEDESTRIAN THROUGH ZONE (m)	
		Preferred	Minimum	Preferred	Minimum ^
General Streets	City Streets	2.0	1.0	4.0	3.0
	Village Centres and Activity Strips	1.5	1.0	3.5	2.5
	Local Streets (mid-high activity streets)	1.5	1.0	3.5	2.0*
	Local Streets (low-mid activity streets)	1.5	0.6	2.0	1.5*
Laneways		Shared Zone		Shared Zone 1.2**	
Shared Zones		2.0-3.0	—	3.2	2.8
Slow Streets		1.5+	1.0	3.5	2.0

Table 5.4 Footpath Widths

Preferred Maximum Vehicle Widths

RTA Classification	Primary traffic Lane	Additional Traffic Lanes	Parking
Sub-Arterial Roads including bus/heavy vehicle routes (assumes multiple lanes of traffic in each direction)	3.2m	2.8-2.9m	2.3m ^
Local Roads			
Two lanes of traffic in either direction	2.9m	2.9m	2.2m
One lane of traffic in either direction	2.75m	None	2.1m
Single lane, bi-directional streets and lanes (passing bays required in parking zone)	3.2m	None	2.1m
Single lane, one-way streets and lanes (or adjacent to median)	3.0m	None	2.1m
Shared Zones	2.8m (min)	None	Varies

Preferred Minimum Cycleway Widths

	Minimum lane width	Minimum kerb width
Separated Bi-directional Cycleway	2.4m	0.4m
Separated One-way Cycleway	2.0	0.4m
On-street painted cycle lane	*	None
Shared Path (cycle and pedestrian)	2m (min. 1.2 at pinch points)	None



/ Barangaroo Avenue, Sydney

/ Planting and Proposed Tree Species

The overarching strategy for the planting design approach is to draw from the unique local native plants that have been created to adapt to the Australian climate as part of functional landscapes that store water, and urban adaptations to reduce heat during the day and bloom periods when temperature is low. Also these species are more resistant to diseases and support biodiversity of the local region.

/ Tree Strategy

The planting strategy creates a cohesive design through the use of carefully selected species palette that connects to the concept of place and reference the Sydney vegetation community that once occupied the area. This supports the urban forest initiatives and ecological sustainable design.

The preference is for endemic plants to the Sydney area however the selection will also address the following:

- Suitable for the existing micro climatic conditions (wind, access to sunlight);
- Low water use plant species;
- Maintenance requirements (such as watering regime, fertilising and pruning replacement);
- Wind breaks to mitigate microclimate conditions;
- Crime prevention through design;
- Privacy and screening

The underlying requirements to achieve this strategy is the soil specification including type, depth, volume and drainage. These factors are important for the success and longevity of the landscape.

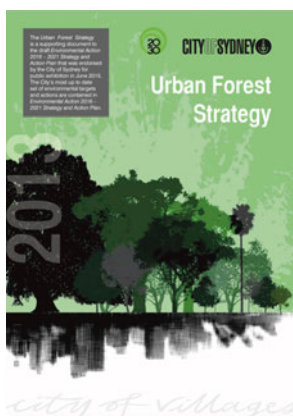
The City of Sydney has prepared a street tree masterplan for Pyrmont. The draft Precinct Plan references the masterplan and seeks to extend street tree plantings into the Study Area along primary vistas.



Precinct 15 Pyrmont



/ Street Tree Masterplan - Pyrmont Precinct



SPECIES LEGEND

Evergreen

Ac	Angophora costata (Smooth-barked Apple)
Bi	Banksia integrifolia (Coast Banksia)
Cm	Corymbia maculata (Spotted Gum)
Ee	Elaeocarpus eumundi (Eumundi Quondong)
Er	Elaeocarpus reticulatus (Blueberry Ash)
Fm	Ficus microcarpa var. hillii (Hill's Weeping Fig)
Gf	Glochidion ferdinandi (Cheese Tree)
Lc	Lophostemon confertus (Brush Box)
Mq	Melaleuca quinquervia (Broad-Leaf Paperbark)
Ti	Tristanopsis laurina (Water Gum)

Deciduous

Ca	Celtis australis (Southern Hackberry)
Jm	Jacaranda mimosifolia (Jacaranda)
Kp	Koelreuteria paniculata (Golden Rain Tree)
Pa	Platanus acerifolia (London Plane)
Ps	Populus simonii (Simons Poplar)
Pc	Pyrus calleryana 'Chanticleer' (Callery Pear)
Rf	Robinia pseudoacacia 'Frisia' (Golden Robinia)
Sb	Sapium sebiferum (Chinese Tallow Tree)
Zs	Zelkova serrata 'Green Vase' (Japanese Zelkova)
La	Livistona australis / Washingtonia robusta (Cabbage Tree Palm / Mexican Fan Palm)

A significant increase in tree canopy coverage for Blackwattle Bay is key benefit of renewal. The shading, wind and micro climate benefits of the tree canopy will transform the comfort and amenity of the land in the Study Area.

An urban forest strategy has been developed that delivers on the minimum 60% tree canopy coverage to streets and 30% to open spaces.

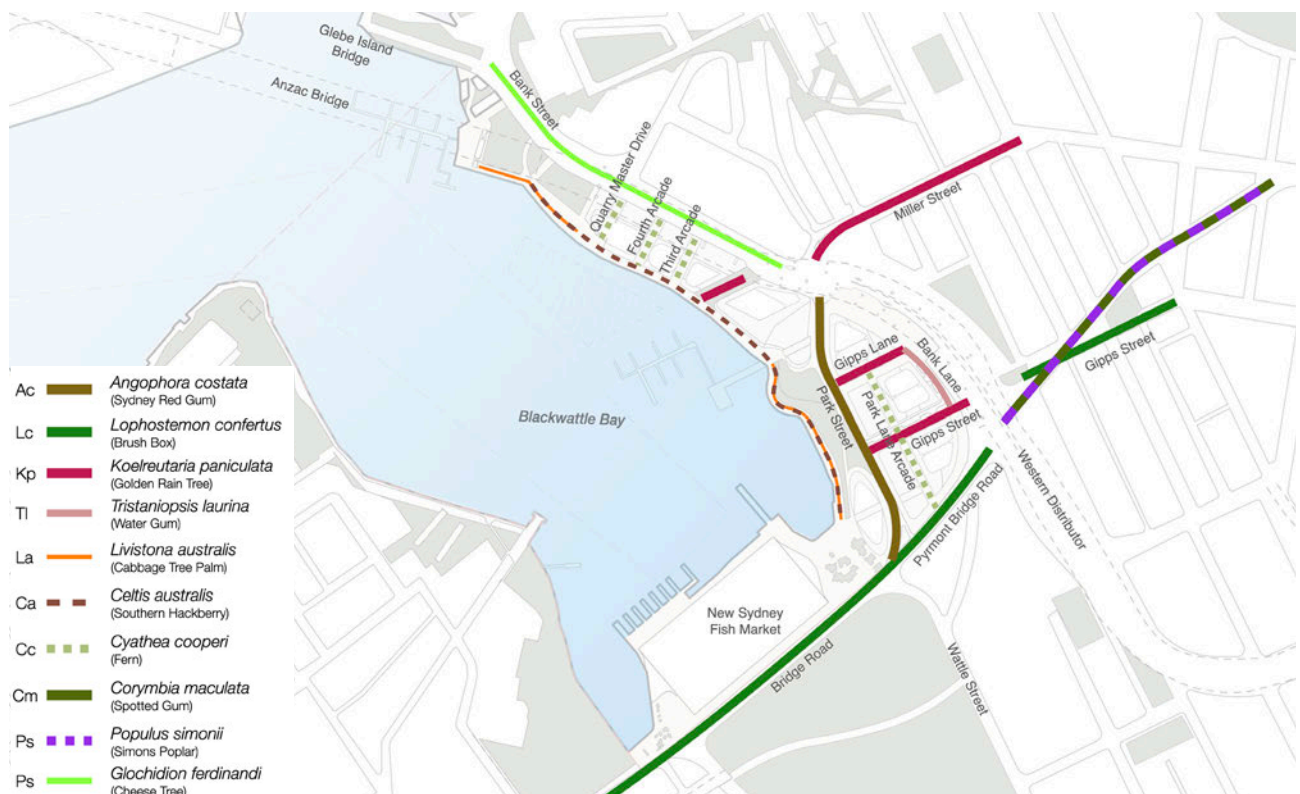
The urban forest strategy, an indigenous planting preference and integration with the City of Sydney Street Tree masterplan is brought together in the draft Precinct Plan and expressed in the following table of suggested open space planting selections and an indicative street tree plan for Blackwattle Bay.

Area	Botanical Name	Common Name	Character	Height at Maturity (5-10 Years) (m)	Width at Maturity (5-10 Years) (m)
Waterside Park	<i>Angophora costata</i>	Smooth Barked Apple	Sydney Sandstone Woodland	12-18	9-12
	<i>Angophora floribunda</i>	Rough Barked Apple		15-20	9-12
	<i>Eucalyptus piperita</i>	Sydney Peppermint		18-20	9
	<i>Eucalyptus saligna</i>	Sydney Bluegum		18-20	9-12
	<i>Corymbia citriodora</i>	Lemon Scented Gums	Sandstone Banksia Scrub		
	<i>Banksia integrifolia</i>	Coast Banksia		18-20	
	<i>Livistona australia</i>	Cabbage Tree Palm	Rainforest	15-20	
	<i>Syzigium leuhmannii</i>	Lilly Pilly		8-10	5-6
Bank Street Open Space	<i>Tristanopsis laurina</i>	Water Gum	Rainforest and Rainforest Fringes	7-9	5-6
	<i>Backhousia citridora</i>	Lemon Scented Myrtle			
	<i>Elaeocarpus reticulatus</i>	Blueberry Ash		7-9	3-4
	<i>Glochidion ferdinandi</i>	Cheese Tree		8-12	6-8
	<i>Waterhousea floribunda</i>	Weeping Lilly Pilly		12-15	8-10
	<i>Syzigium leuhmannii</i>	Lilly Pilly		8-10	5-6
Waterfront Promenade	<i>Celtis australis</i>	Southern Hackberry	Continuation of Barrangaroo	8-10	
Indigenous Planting Overlay	<i>Casuarina glauca</i>	She-Oak (Dahl'wah)	River Edges of Blackwattle Bay	8-10	
	<i>Callicoma serratifolia</i>	Blackwattle (Tjerruing)		8-10	
Ecological Zone	<i>Avicennia marina</i>	Grey Mangroves	Mangrove		
	<i>Juncus spec</i>	Sea Rush	Wetland		
	<i>Isolepis nodoosa</i>	Knobby Club Rush			
Feature Specimen Tree	<i>Ficus rubiginosa</i>	Port Jackson Fig	Sydney Headland cultural planting	15-20	12-15
	<i>Magnolia grandiflora</i>	Southern Magnolia			
	<i>Jacaranda mimosifolia</i>	Jacaranda		10-15	8-10

/ Table: Proposed Open Space Plantings of Blackwattle Bay Study Area



/ Urban Forest Strategy



/ Indicative Street Tree Plan

"the Dahl'wah tree, that marks the transition between aquatic and dry terrestrial environments..... .. she serves to protect us from the damaging impacts of urbanisation, filtering smog and drowning out the dust and noises of traffic and construction."

Description of the Casuarina (*Casuarina equisetifolia*),
Connecting with Country Framework for Tjerruung Blackwattle Bay



1 Waterfront Promenade



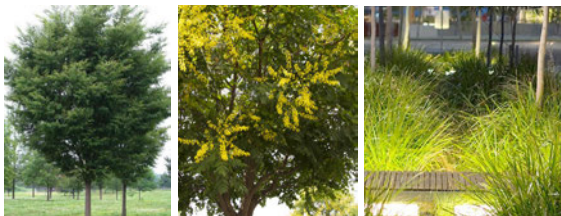
6 Park Street / Shareway



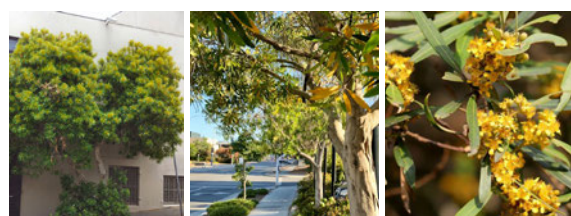
2 Bank Street Open Space



7 Gipps Street / Gipps Lane



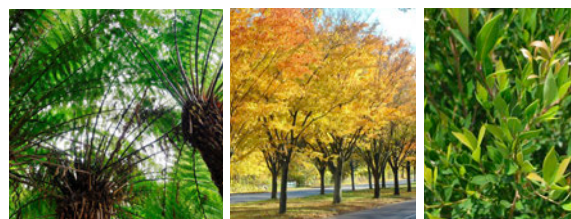
3 Miller Street Reserve



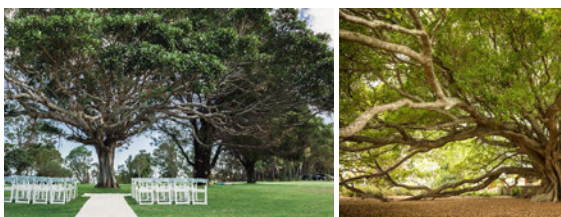
8 Bank Lane



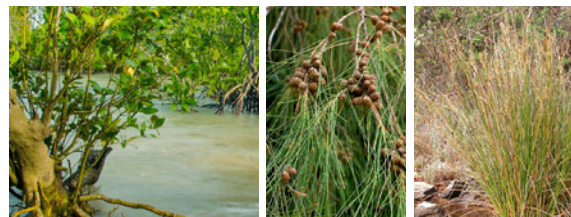
4 Waterside Park



9 Through Site Arcades



5 Feature Specimen Tree



10 Plantings of Ecological Zone

"Tjerruing grows on the banks of freshwater streams and its root system is integral in maintaining the structure and integrity of muddy banks. The roots of Tjerruing prevent erosion during seasonal flash flooding and storms, thereby protecting the integrity of the local terrestrial environment from the aquatic environment."

Description of the Blackwattle (*Callicoma serratifolia*),

Connecting with Country Framework for Tjerruing
Blackwattle Bay



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