Arup

Cockle Bay Park Redevelopment

Cyclist Movement

State Significant Development,

Development Application (SSD DA)

Prepared for DPT Operator Pty Ltd and DPPT Operator Pty Ltd

11 October 2021

V1

Structure of this report

This assessment has been completed in two stages. Arup completed an initial assessment of the project in September 2020, considering a situational analysis of the site from a transport perspective. This identified some suggested design principles to be considered. Subsequently, Arup has carried out a review and assessment of the developed design proposal for the Stage 2 SSD DA planning submission, in parallel with consultation with Transport for New South Wales and the City of Sydney Council.

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Introduction

Introduction

This report has been prepared to accompany a detailed State Significant Development (SSD) Development Application (DA) (Stage 2) for a commercial mixed use development, Cockle Bay Park, which is submitted to the Minister for Planning and Public Spaces pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The development is being conducted in stages comprising the following planning applications:

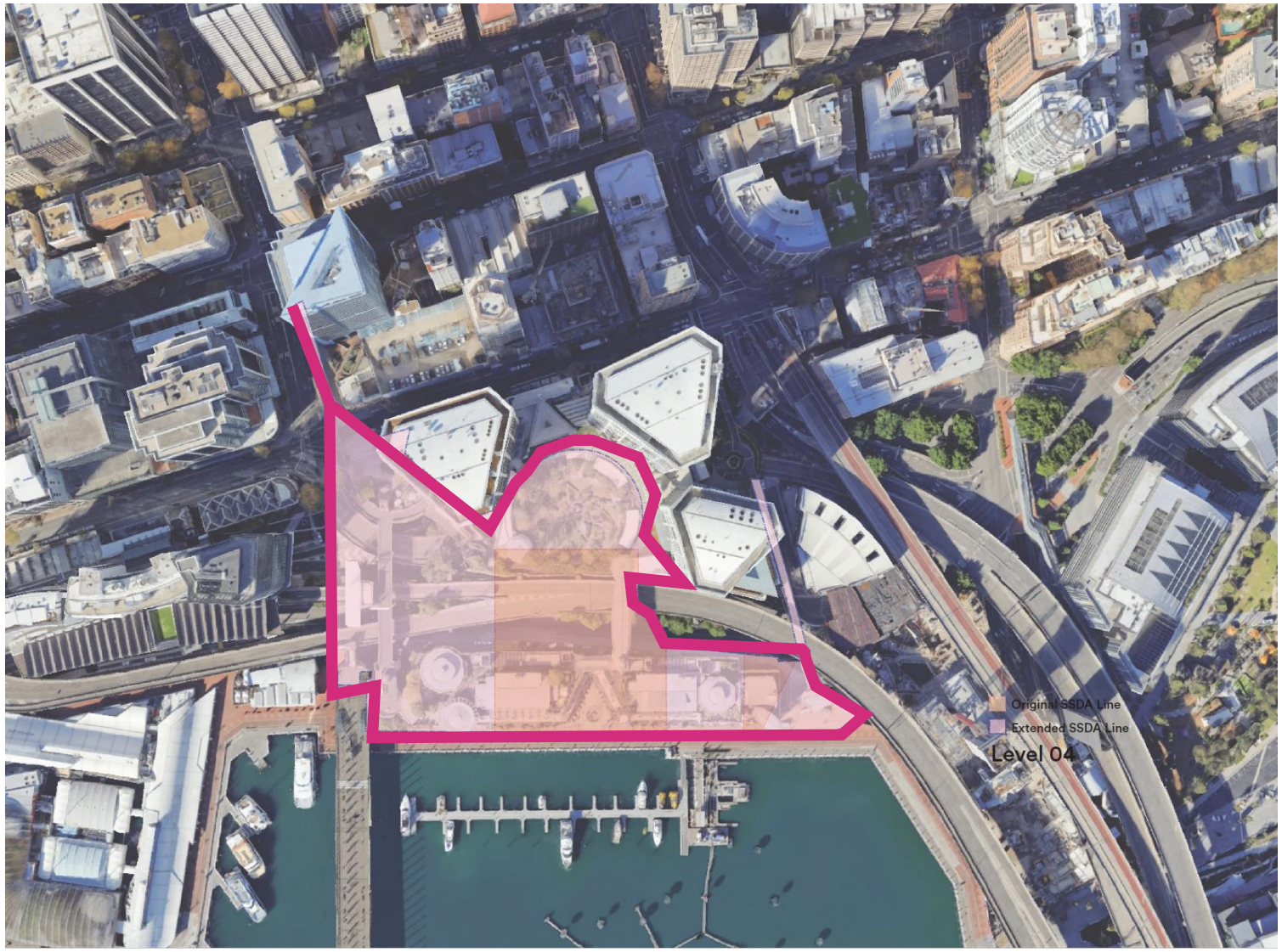
- Stage 1 – Concept Proposal setting the overall 'vision' for the redevelopment of the site including the building envelope and land uses, as well as development consent for the carrying out of early works including demolition of the existing buildings and structures. This stage was determined on 13 May 2019, and is proposed to be modified to align with the Stage 2 SSD DA.

- Stage 2 – detailed design, construction, and operation of Cockle Bay Park pursuant to the Concept Proposal.

The Site

The site is located at 241-249 Wheat Road, Sydney to the immediate south of Pyrmont Bridge, within the Sydney CBD, on the eastern side of the Darling Harbour precinct. The site encompasses the Cockle Bay Wharf development, parts of the Eastern Distributor and Wheat Road, Darling Park and Pyrmont Bridge.

The Darling Harbour Precinct is undergoing significant redevelopment as part of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP) including Darling Square and the IMAX/W Hotel renewal (The Ribbon) projects. More broadly, the western edge of the Sydney CBD has been subject to significant change following the development of the Barangaroo precinct.



Purpose of this Report

The Cockle Bay Park (CBP) project plans to reconnect Sydney's Central Business District to Darling Harbour through the creation of new public spaces which facilitate pedestrian and cyclist movements.

This report has been prepared to assess the cycling environment (for people who ride bicycles, or choose micromobility modes) and to summarise the design proposal for the purpose of the Stage 2 SSD DA planning submission. It considers:

- Existing site context and relevant local transport policy background.
- Potential desire lines for access to/from and around the site.
- End of Trip (EoT) provision requirements and high level design principles for location and access of these facilities.
- An assessment of design proposal.

This report provides supporting documentation in response to the relevant planning conditions as outlined in Page 7.

Planning Conditions

This report has been prepared in response to the Secretary's Environmental Assessment Requirements (SEARS) dated 12 November 2020 for SSD-9978934. Specifically, this report has been prepared to respond to those SEARS summarised in Table 1.

Table 1 - SEARs requirements

Item	Description of Requirement	Section Reference (this report)
9	Details of proposed bicycle, motorbike and car parking provision and end of trip facilities, including compliance with relevant standards guidelines and sustainable transport objectives	Pages 19-22

This report has also been prepared in response to the following Stage 1 (SSD 7684) conditions of consent summarised in Table 2.

Table 2 - Concept approval of Conditions of Consent

Item	Description of Requirement	Section Reference (this report)
C21	*Bicycle parking and facilities* Future Development Application(s) shall include bicycle parking for employees I visitors and end of trip facilities (toilets, change/locker rooms and showers) in accordance with the Sydney Development Control Plan 2012 bicycle parking rates and end of trip facilities design requirements.	Pages 19 - 22
C22	*Bicycle parking and facilities* Future Development Application(s) shall, in consultation with TfNSW Sydney Coordination Office and Council, investigate the provision of cycleway connections via the development between: a) existing pedestrian/cycle infrastructure on the Western Distributor and the King Street and Kent/Liverpool Street cycleways b) Market Street / Kent Street c) King Street / Kent Street providing for a right turn into Kent Street when travelling from Pyrmont Bridge.	Page 28

| Site Context |

This section summarises a review of the current conditions for cyclist access to/from and around the Cockle Bay Park precinct.

Existing cycle network

Key corridors currently used by riders to access CBP site:

Western approach:

- Pyrmont Bridge.
- Darling Dr, Tumbalong Park and Harbour foreshore

Northern approach:

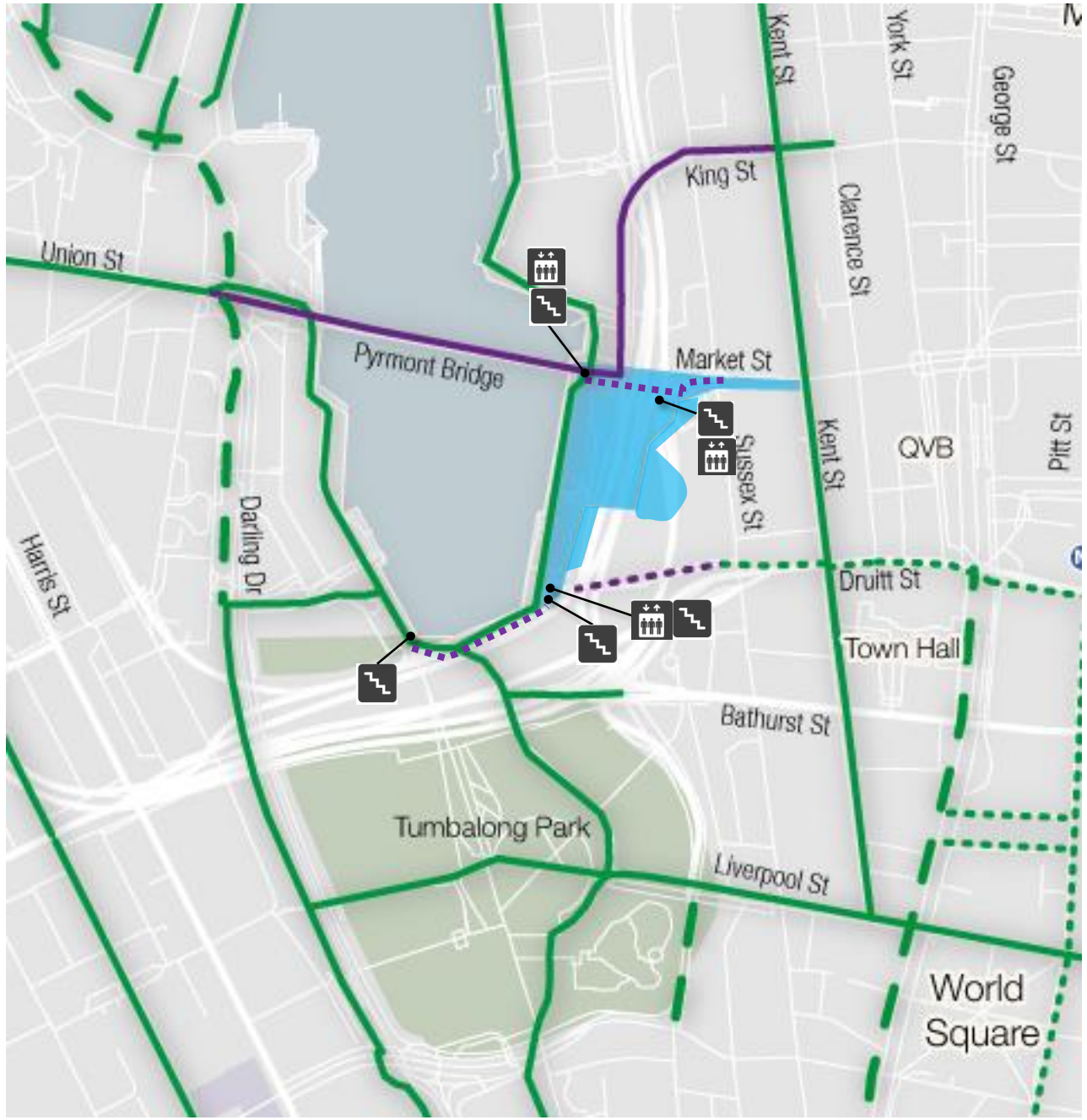
- Kent St and Market St
- King St to Pyrmont Bridge (requires vertical transport)

Eastern approach:

- Liverpool St, Tumbalong Park and Harbour foreshore
- Druitt St and Druitt St pedestrian bridge

Southern approach:

- Tumbalong Park and Harbour foreshore



Note: Informal routes include use of footpaths as well as *'direct high traffic routes'* as nominated in City of Sydney cycling map.

Key issues & constraints

1 Pyrmont Bridge experiences high volumes of both pedestrians and cyclists throughout the day from employees, visitors/tourists and recreational users. Due to high volumes and the mix of users, there are often conflicts. Marshalls are used at each end heeding cyclists to slow to 10km/hr.

2 A relatively narrow bi-directional shared path along the Western distributor King St exit. A primary east-west connection to the city becomes congested during peak times limiting amenity for cyclists. This is the only step free cycling connection to the west of the central city.

3 4 5 Market St bridge is the most direct route to/ from the city centre to Darling Harbour however there is no step/ elevator free access to the wharf or Pyrmont Bridge level. There is poor and limited wayfinding for the King St shared path leading to bike riders using this route.

6 7 8 Druitt St bridge is a narrow pedestrian path and the road rules would require cyclists to dismount, however is understood to accommodate some informal use regardless. Amenity for cyclists is poor given limited widths for passing, reduced height clearances at overpasses, and low user perceptions of safety at night. Legibility is poor for unfamiliar users and there is limited wayfinding identifying the connection to/from Darling Harbour. Two flights of stairs or an elevator is required to access the wharf level from the Druitt St bridge.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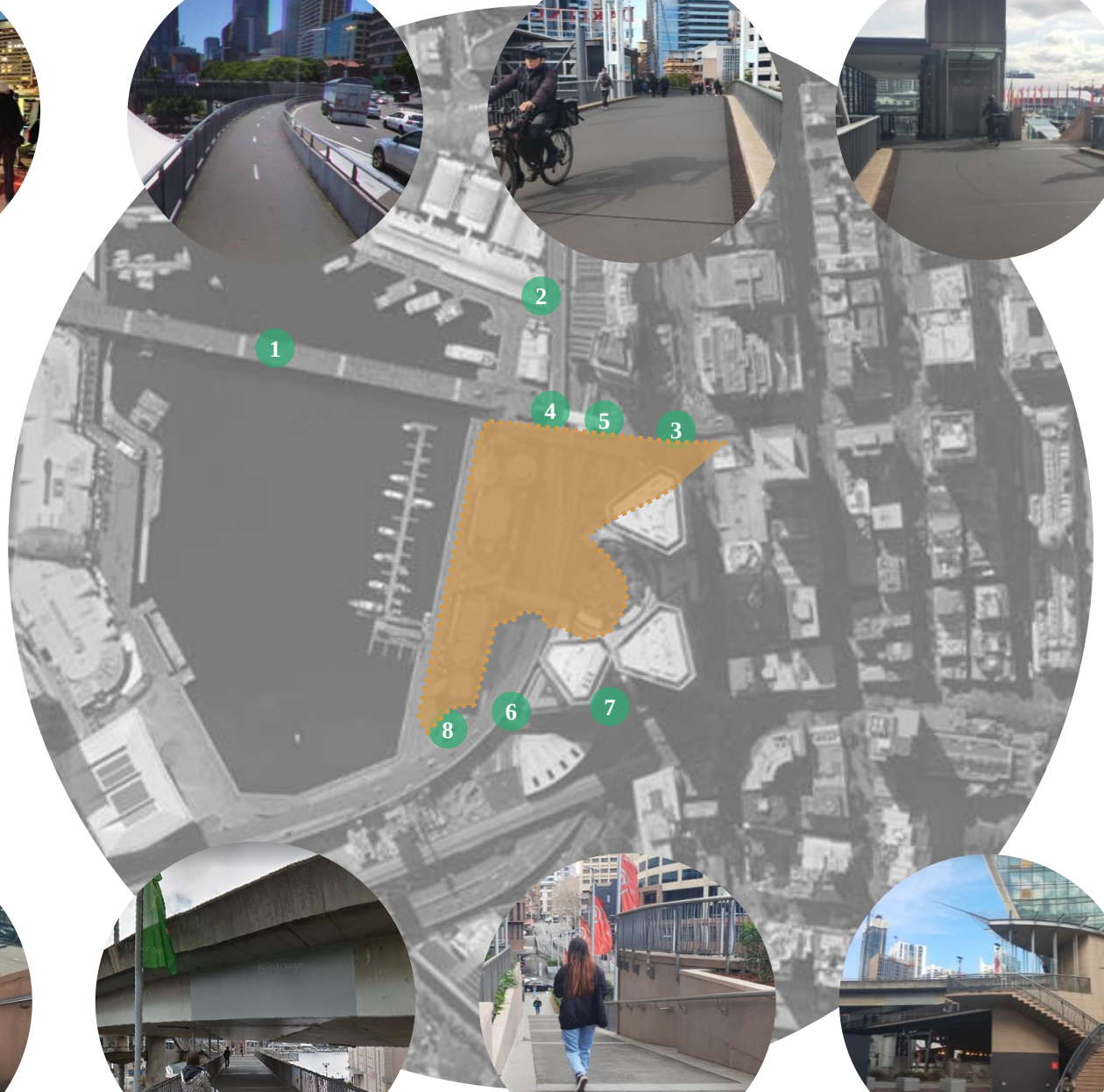


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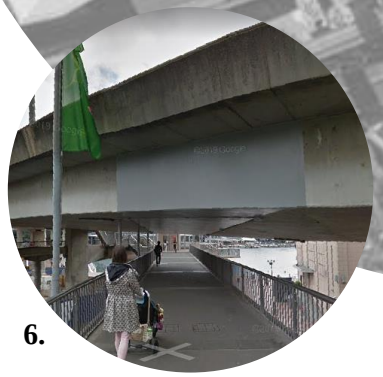
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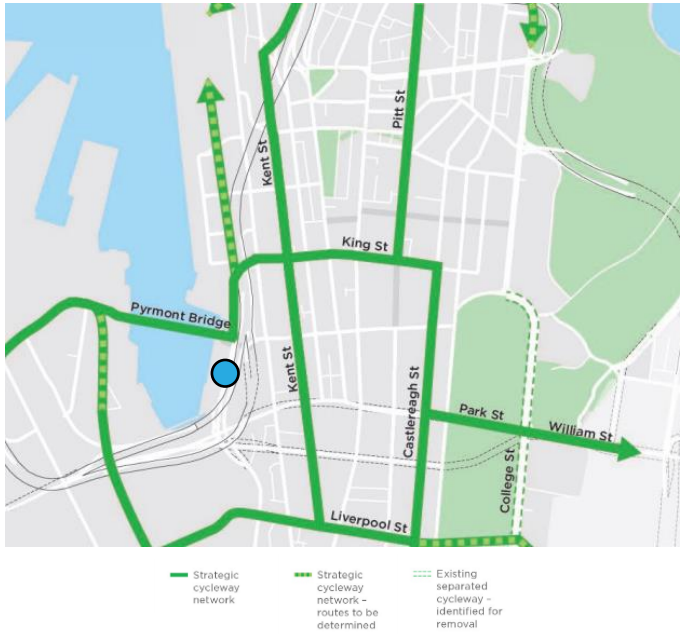
Strategy and policy context

Sydney City Centre Access Strategy TfNSW, 2013

The City Centre Access Strategy sets out Transport for New South Wales (TfNSW) 2031 vision for the transport network including a pathway for a completed ‘strategic cycleways network’ (refer inset below). This network reinforces the ongoing significance of Pyrmont Bridge, and links to King St for east-west connectivity. A potential link extends north of the site, suggesting future links toward Barangaroo, however Kent St via King St remains the primary corridor for north-south cyclist travel serving the broader precinct.



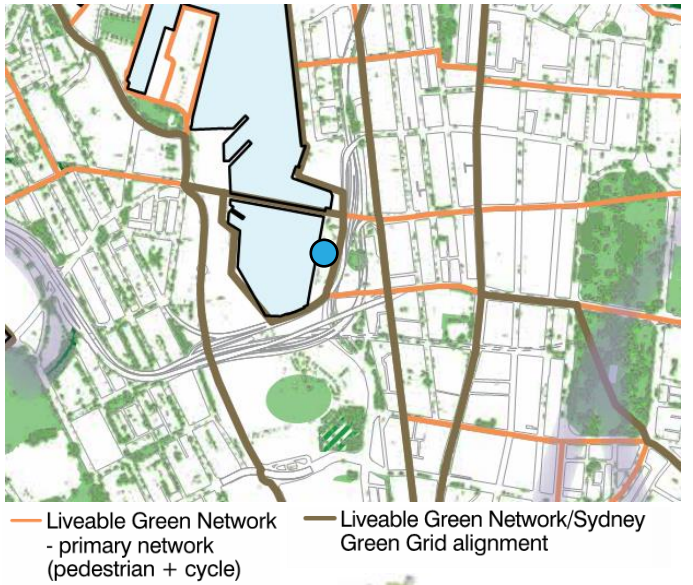
City Plan 2036 & Liveable Green Network Strategy, City of Sydney

The Liveable Green Network (LGN) is a key concept in the City Plan 2036 which ‘aims to create a pedestrian and cycling network that connects people with the city and village centres as well as major transport and entertainment hubs, cultural precincts, parks and open spaces’.

The City Plan 2036 envisages a LGN route along the approximate alignment of the Western Distributor, on the eastern edge of the site (refer inset right). There is no existing path at this location.

The LGN Strategy and Masterplan report offers description of this link being part of a ‘Harbour Foreshore’ walk which "will be one of the great waterfront promenades in the world, a venue for events, recreation, to visit cultural institutions, access employment as well as a scenic way to traverse the northern part of the City." The strategy acknowledges that Pyrmont Bridge provides a more direct link across Darling Harbour to link City Centre with Pyrmont which negates the need to traverse around the Darling Harbour foreshore.

The avoidance of the foreshore in favour of an elevated active transport link could imply a longer-term aspiration to further pedestrianise the foreshore to minimise conflict with cyclists, recognising the importance of place and pedestrian comfort. It is noted that promoting and strengthening the walking route along the foreshore has previously formed part of a ‘Cultural Ribbon Strategy’ proposed in 2016.



Left: Strategic Cycleway Network, TfNSW
Top: City Plan 2036, City of Sydney
Bottom: Liveable Green Network Strategy and Masterplan report, City of Sydney

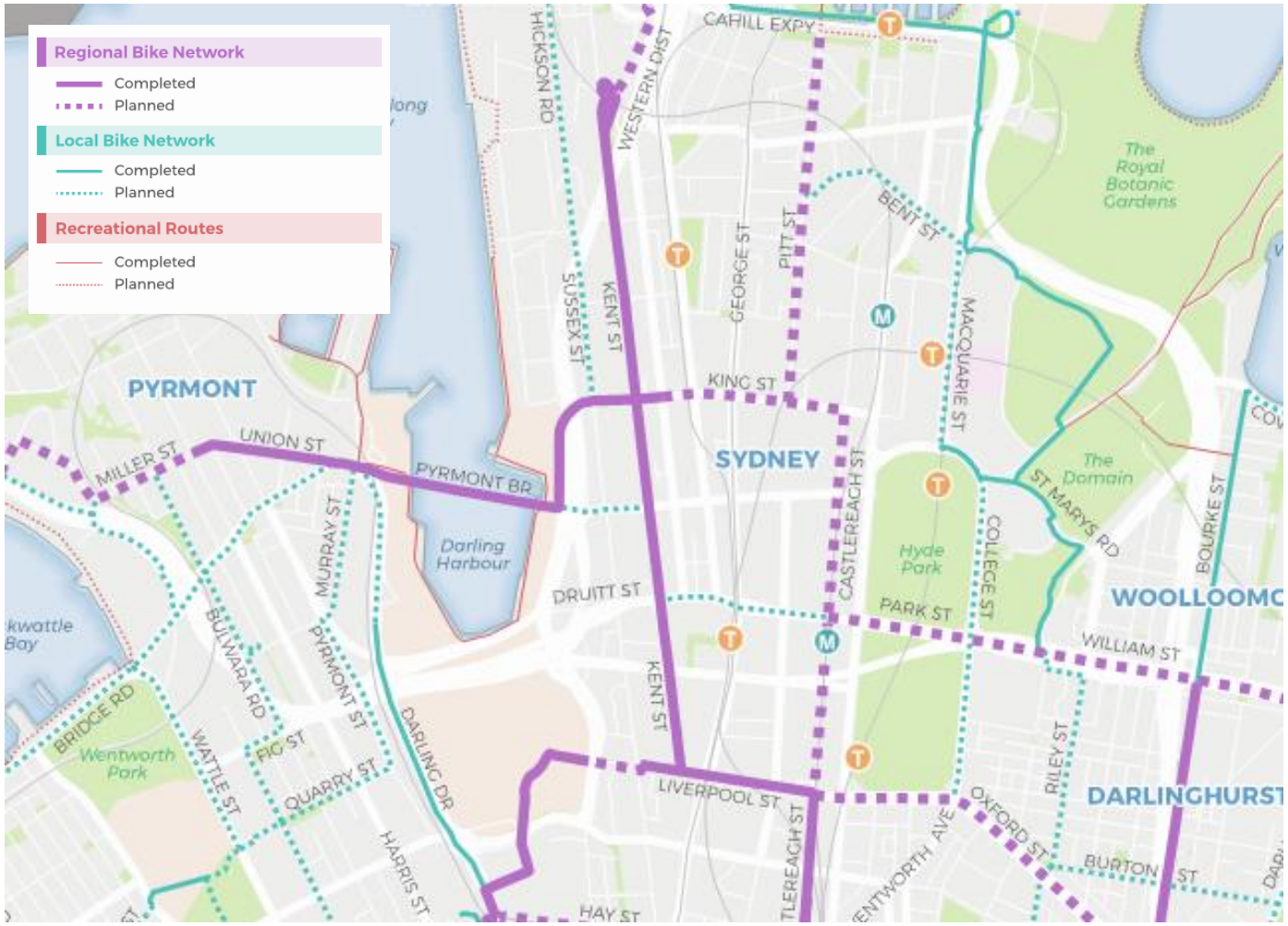
Strategy and policy context

Cycling Action Plan 2018-2030
City of Sydney, 2018

The City of Sydney Council Cycling action plan sets out four key priorities aimed at increasing the share of trips undertaken by bicycle to 10% by 2030. As part of Priority 1: Connecting the network is a planned ‘local bike network’ link extending east of Pyrmont Bridge along Market Street to Kent Street.

The strategy expresses a desire to work with State Government agencies to improve links where a lack of capacity is impacting safety. A planned local route on Market Street (Pyrmont Bridge to King Street) has a direct relevance to the Cockle Bay Park development, emphasising the importance of access on the northern end of the precinct. Wider local connectivity enhancements also include a link on Druitt Street east from Kent Street to Park Street, and north of King St along Sussex Street.

Source: City of Sydney



Site Context Summary

A summary of existing network and aspirational strategy/policy guidance to influence design development and integration of End of Trip facilities with the surrounding bicycle network.

Harbour Foreshore

The link provides an important precinct access route from the south through Tumbalong Park, and opportunities to link recreational cycling trips with the retail environment. There is an opportunity for visitor parking at key nodes to allow retail visitors to park for onward journeys.

Cycle connectivity between the foreshore and the land bridge however is challenging, given prevailing level differences. As a result of the major barriers to connectivity to Pyrmont Bridge and north/eastward to the central city, the Harbour Foreshore is unlikely to be an appropriate primary access point to the site, if used in isolation.

Pyrmont Bridge

Pyrmont Bridge is a key desire line and provides direct, legible and coherent cycling connectivity, and is intended to be further enhanced by City of Sydney Council planned links along Market Street. Despite the acknowledged operational issues during peak times, Pyrmont Bridge presents an opportunity to leverage a high-amenity, prominent front-door entry for cyclists to the development.

Careful attention has been paid in the design to complement and work within the existing conditions and constraints. This requires a holistic view given the relationship with land beyond the project site, and should consider longer term network solutions.

Western Distributor (LGN)

The general alignment of the Western Distributor is promoted as a future active transport LGN connection for both pedestrians and cyclists. There is a lack of clarity as to why cyclists would preference an elevated alignment over the Harbour Foreshore path, particularly given the considerable barriers to access south of the site (i.e. existing stair at ‘Druitt Landing’) as well as the reliance on stair access above Murray St to the west in order to access such a route.

Site Context Summary

Druitt Street

While a cycling connection to Druitt St may be beneficial to support access to/from the southwest, there are challenges in providing a route where cyclists wouldn't need to dismount. Druitt Street also only caters to confident cyclists, with no physical infrastructure or future plans for accommodating everyday cyclists on this route. Adjacent to the site, the elevated pedestrian bridge to Druitt St isn't a legal right of way for adult cyclists (i.e. not a formal shared path) and Druitt Landing is at a low point relative to the land bridge, so there would be significant barriers to connecting with the site. In summary, cycle access via the Druitt St bridge is currently not appropriate and is not supported as a future option.

Wheat Road

Wheat Road is an unlikely access route for cycling to the precinct. The interfaces with loading and taxi functions would create conflicts with cyclist traffic. As such, without significant changes to its existing form, Wheat Road is likely to be an undesirable for facilitating cyclist travel to and from the site.

Market Street

Market Street is considered by City of Sydney Council as a possible local cycling route and would further enhance the connectivity on the northern edge of the site. However the grade changes from Market Street to the Harbour Foreshore mean that a continuation of the connectivity through the site is not possible.

King Street Bridge

The existing King Street shared path is a key connection and the only step free route between Pyrmont Bridge and the city centre.

Conclusion

Overall, network legibility is challenging as a result of unclear legal status of routes for cyclists, complexity of levels and use of vertical transport to navigate the motorway network, as well as some edges having significant barriers to access. The design response should focuses on direct, clear, connected, coherent links to/from the development so it is easily accessible for future employees and visitors.

| Cycling Movements |

Outlines the anticipated movement patterns of cyclists that have been considered in the design response.

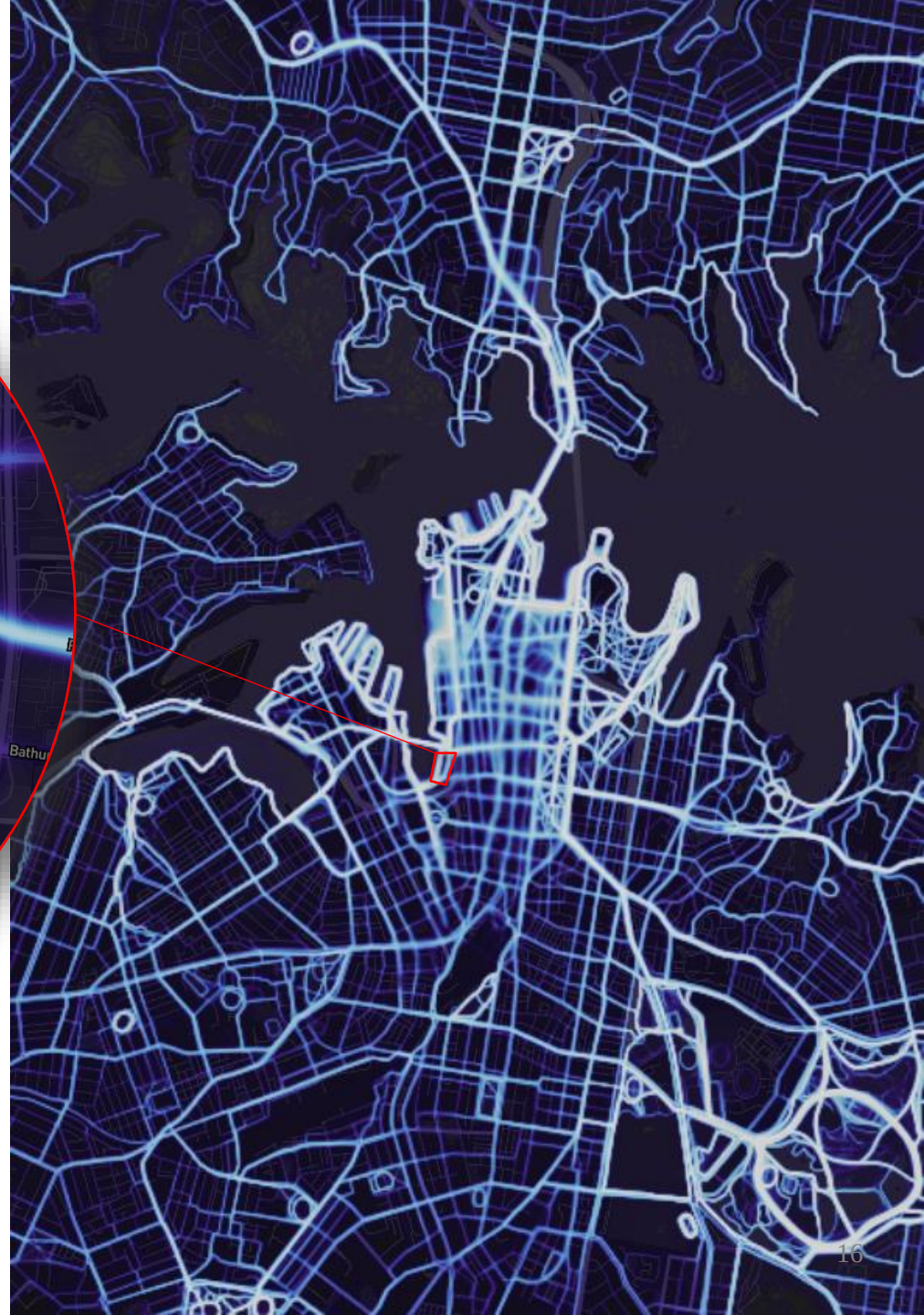
Existing desire lines and demand

Data from Strava and the City of Sydney bike counters can be used to understand the existing precinct cyclist movements.

A 5km catchment (~20 mins) is shown as it represents an achievable distance for majority of the population. Strava heatmap indicates the key cycling routes to access the precinct as being:

- Anzac Bridge > Pyrmont Bridge
- Pyrmont Bridge Road > Pyrmont Bridge
- Cockle Bay Wharf
- Harbour Bridge > Kent Street, King St
- Oxford Street> Liverpool St > Kent Street, King St

It also identifies cyclists are using Market Street to the east of the site which currently has no cycling infrastructure however has step free access to the site from the east via the pedestrian ramp.

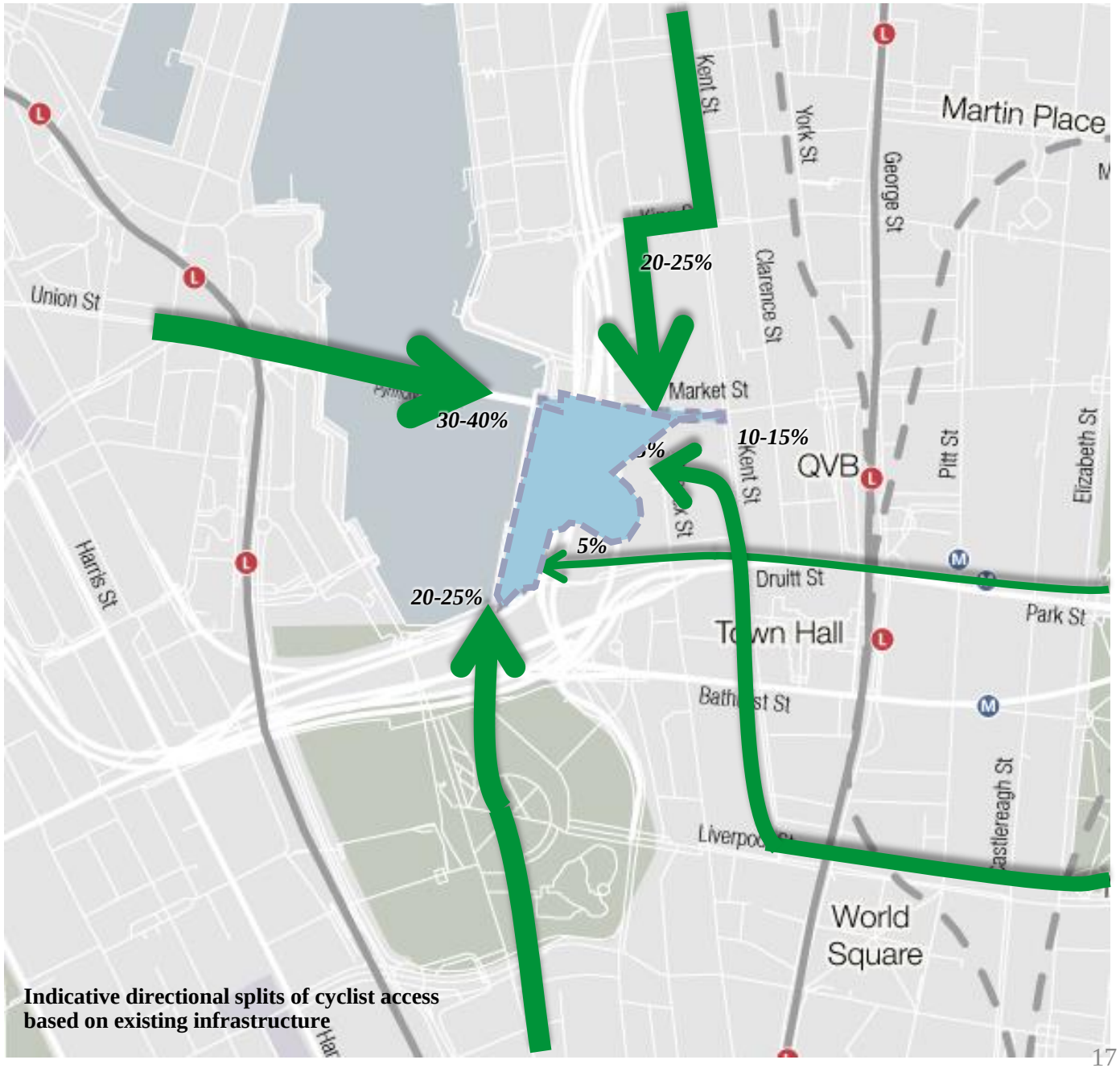


Note: Strava captures a user group that generally represents a more confident cyclist and may not be representative of an 'average' cyclist. However, it provides a useful reference to understand current cyclist movements.

Future desire lines to/from the site

A high-level review of City of Sydney Council cyclist data and the existing network has been used to develop a preliminary estimate directional proportions of cyclists to CBP, irrespective of the design. Proposed site connections, external cycling infrastructure safety/connectivity, and wayfinding will influence route choice relative to this assessment.

Approach	Preliminary Proportion	Assumed site access interfaces
Northern	20-25%	• King St shared path and Pyrmont Bridge (L2) • Market St (Podium)
Southern	20-25%	• Harbour foreshore (GF) • Druitt Landing (via stair) • Pyrmont Bridge (via Harbour Foreshore and stair)
Western	30-40%	• Pyrmont Bridge
Eastern	15-20%	• Harbour Foreshore via Tumbalong Park (GF) • Market St (Podium) via Kent St • King St (L2) via Kent St



Indicative directional splits of cyclist access based on existing infrastructure

| End of Trip Facilities |

This section outlines the requirements for the number of bicycle parking spaces and associated facilities.

Bicycle parking requirements – Introduction and Approach

Introduction

Arup and the Co-owners have consulted with a specialist EoT provider (Five at Heart) to develop an EoTF strategy in relation to bicycles, lockers and shower provisions.

The intent of the strategy is to right size the provisions, avoid adding to the existing redundant spaces in the precinct unnecessarily, and identification of space for growth over time if required.

The assessment has been based on:

- research of the existing facility
- empirical studies of existing assets in the CBD (Five at Heart) that consistently demonstrate increased demand from users focused on active uses other than cycling.
- growth forecasts based on very conservative assumptions, and
- Green Star provisions at the 5 point level

The resultant outcomes vary from the DCP guidelines in the following ways;

- Lockers - up to 120% increase
- Showers - Compliant (relative to bike spaces)
- Tenant bicycle spaces - 15 % decrease

Visitor Parking

With respect to Visitor Bike Parking spaces, the team has located suitable locations for 53 visitor spaces. The spaces have been located as follows;

- 30 spaces on the CBD side of the development to cater for commercial trips,
- 8 on the land bridge to cater for weekend cyclists who can park at the site before enjoying the facilities, in addition to providing for weekday commercial trips, and
- 15 at the southern side of the podium.

With the intention to ensure that the public park amenity and pedestrian experience is maximised, additional provisions in the public domain are recommended to be avoided. Further, it is noted that the broader precinct contains numerous spaces that precinct visitors can utilise at a range of locations including Barangaroo, Darling Quarter, King Street Wharf, Pyrmont, and more.

The 53 spaces provided exceed the 49 spaces recommended by Green Star benchmarks.

Empirical and Observational Data

The approach to assessing the appropriate number of tenant provisions developed by Five and Heart and reviewed by Arup is based on analysis of empirical data as well as observational data. Data is collected from a range of sources including:

- Towel service usage data, which provides an accurate picture of the actual usage at a range of different buildings
- Regular discussions with building managers regarding the usage of EoT facilities
- Collation of actual provision of facilities across a range of projects including new builds and retrofits
- Existing travel mode share in Sydney from a range of sources[1]
- Patterns of growth of cycle mode share in Sydney and around the world

[1] Sources of data include:
- Deloitte City Mobility Index for Sydney
- NSW government Future Transport Strategy 2056
- Journal of Transport Geography
- Charting Transport Statistics
- Australian Bureau of Statistics

Bicycle parking requirements – Benchmarking Study

Key Findings

The details of the FaH benchmarking study are shown in the table to the right. This table shows the bike parking, shower and lockers provided relative to the GFA. As a basis for comparison the DCP rates are:

- 0.67% bike spaces per GFA (excluding visitor)
- 0.1 shower per bike space
- 1 locker per bike space

The benchmarking study shows:

- The provision of bike spaces ranges from 0.17%-0.74% of GFA. Therefore there is generally an under provision compared to the DCP rates.
- In most cases the number of showers provided aligns to the DCP rate of 1 in 10, with only small deviations from this rate.
- In general more lockers are provided than the DCP rate, up to 2.5 lockers per bike.

These provisions are predominantly from facilities that have undergone recent retrofits. In the case of retrofits, the provision more closely aligns to the demand and forecast uplift due to an improvement in facilities, and yet are still a fair margin less than the guideline rates proposed by the DCP.

Building	GFA (m^2)	Bike (% of GFA)	Showers (per bike)	Lockers (per bike)	Notes
20 Bond St	35,000	60 (0.17%)	12 (0.20)	202 (3.4)	Retrofit, based on demand
Barangaroo (combined)	267,000	1,127 (0.42%)	110 (0.10)	1127 (1.0)	New build
10 Wynyard St	75,000	449 (0.60%)	49 (0.11)	728 (1.6)	New build
420 George St	37,750	92 (0.24%)	17 (0.18)	224 (2.4)	Retrofit, based on demand
388 George St	35,000	260 (0.74%)	22 (0.08)	370 (1.4)	Retrofit, based on demand
255 George St	40,000	185 (0.46%)	24 (0.13)	464 (2.5)	Retrofit, based on demand
Liberty Place	57,300	265 (0.46%)	32 (0.12)	366 (1.4)	Retrofit, based on demand
50 Bridge St	90,000	632 (0.70%)	60 (0.09)	800 (1.3)	New build
Darling Park 1	51,750	206 (0.40%)	24 (0.12)	399 (1.9)	Retrofit, based on demand
Darling Park 2	51,850	250 (0.48%)	25 (0.10)	532 (2.1)	Retrofit, based on demand
Darling Park 3	29,800	203 (0.68%)	23 (0.11)	320 (1.6)	Retrofit, based on demand

Bicycle parking requirements – Key Findings

Bike Mode Share

Analysis of the benchmarking data shows the following:

- The average provision of bike spaces is 0.49% of GFA.
- Assuming a population density of 1:10sqm of NLA and an NLA to GFA ratio of 88% (as per this development), the average bike parking provision is equivalent to a bike mode share of 5.5%, compared to the DCP mode share of 7.6%
- The existing bike mode share for Sydney CBD has been found to be around 2.5%
- Growth in bike mode share has been fairly constant at +0.05% per decade
- Reflecting the intent of the cities' strategy to accelerate the growth of bike mode share a growth rate of 4% has been assumed for the design of this development, bringing the total mode share to 6.5% bikes.
- Applying this mode share to the Cockle Bay Park GFA of 75,000m^2 and 6,600 population results in a target demand of 423 commercial tenant bike space (0.58% spaces per sqm GFA).
- This factor is in line with the benchmarking data, is 20% bigger than the average, and is within the top third of examples.

Other Findings

Other findings from the FaH review of the various source data is summarised below:

- Building managers[1] across the Sydney CBD have reported that often they find their bike racks underused, but have huge demand for lockers
- Retrofits are regularly undertaking to reduce the number of bike parking spaces and increase the user amenity and locker numbers
- Walk/run mode share has been found to be approximately 4%. These users require access to showers and lockers.
- Current DCP requirements dictate numbers that are too high, resulting in substandard outcomes for both the user and the project as large numbers of bike spaces are squeezed into undersized spaces. It is a much better outcome if fewer bike spaces are provided (that meet the forecast demand) in that same area thus increasing the amenity for all users. This allows the opportunity to provide more ground level spaces compared to double stacked spaces.

[1] Source (one of many examples): Darling Park Towers General Manger, Keith Burnes. Anecdotal usage:
- Tower 1: 60/231 bike spaces (26% utilised)
- Tower 2: 40/257 bike spaces (16% utilised)
- Tower 3: 50/210 bike spaces (24% utilised)

Bicycle parking requirements – Visitor Spaces

The visitor bicycle parking provision (as a total % of visitors to the site) is similar to that of future major urban renewal precincts in the Sydney CBD – including Darling Harbour Live and Barangaroo. The 50 Bridge Street development project, recently approved under D/2015/929, will provide for 60 bicycle parking spaces for an approximately 100,000m^2 commercial building. This equates to a rate of 1 space per 1,670m^2 commercial floor space.

Commercial buildings in the Sydney CBD typically experience a peak visitation rate of approximately 1 visitor / 100m^2 GFA. For the Cockle Bay Park development site, this would equate to a maximum of approximately 750 visitors on site at any one time. Providing visitor bicycle parking for 2% of these visitors would require a total of 15 spaces, or 50 spaces at 6.6% visitor parking provision.

Applying the adopted rate for the 50 Bridge Street development of 1 space per 1,670m^2 commercial floor space, 45 bicycle parking spaces would be required Cockle Bay Park.

Based on the expected mode share and visitor numbers to the site, a minimum of 45 visitor bicycle spaces are to be provided in the public domain to service the commercial tenancies – lower than council's DCP target of 188 spaces.

This is considered appropriate for the scale of development proposed, and is a significant increase on the existing provision on site. The operator of the public domain area would monitor the demand for bicycle parking in the precinct. The current design does not preclude the future provision of additional visitor bicycle parking spaces.

Bicycle parking requirements – Summary and Rates

Summary

The following summarises the outcomes from the study and application to the proposed development:

- The proposed design bike parking rate (commercial and retail) is based on 6.6% bike mode share, resulting in 0.58% bike spaces per GFA
- The requirement for showers aligns to the DCP requirement of 1 shower per 10 bike spaces
- There are more lockers provided (compared to DCP) to cater for the bike mode share (6.6%), plus walking mode share (4%) and causal lunchtime users (i.e. GYM). 2.2 lockers per bike space are proposed, which equates to a locker for 14% of the commercial building population.
- The number of visitor spaces is proposed to align to the Green Star requirement, and similar urban renewal projects in Sydney.

Summary of Analysis – extract from Five At Heart study

Commercial (75,000m^2 GFA)

NB Visitor #s in brackets

Facilities	GreenStar	DCP	Proposed Rates
Bikes	469 (41)	500 (188)	423 (45)
Showers	54	50	42
Lockers	563	500	940

Retail (14,000m^2 GFA)

NB Visitor #s in brackets

Facilities	GreenStar	DCP	Proposed Rates
Bikes	88 (8)	70 (47)	79 (8)
Showers	13	7	8
Lockers	106	70	118

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| Design Proposal |

Summary assessment of Architectural Drawings

End of Trip Facilities

Consolidated tenant EoT Facilities

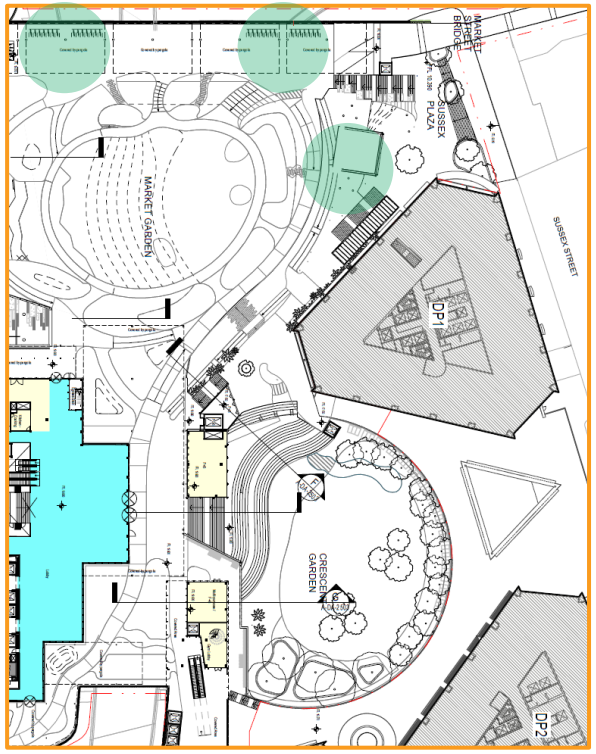
Arrangements have been made for bicycle parking to be located on the Darling Park side of the Western Distributor, directly beneath the Crescent Garden and EoT amenities. The project will utilise an existing car parking area within the basement of the Darling Park development to be converted into a bicycle parking compound.

After parking their bicycle, users can access the end of trip facilities (shower and change, lockers, drying facilities etc.) via a lift that goes to Level 1, directly above the bicycle parking area. After showering, lobby access is gained from Level 3 via either the adjacent internal stairs, escalator or lift.

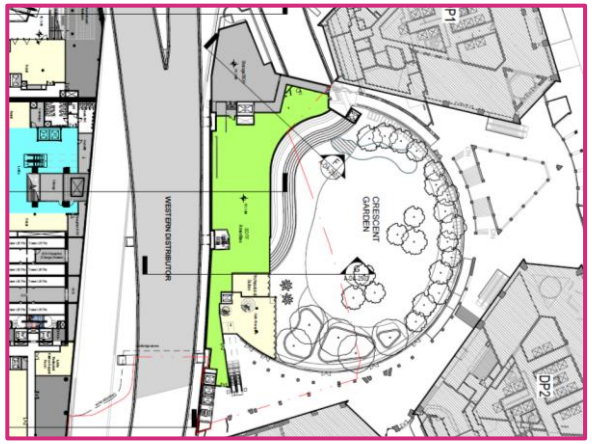
Dispersed Visitor Facilities

Visitor bicycle parking is located in five strategic locations around the site as shown to the right, and provides reasonable proximity to destinations while maintaining clear pedestrian paths. This includes bicycle parking both at Harbour Foreshore Level and Sussex Street (Level 0), as well as on the Public Park Level (Level 3).

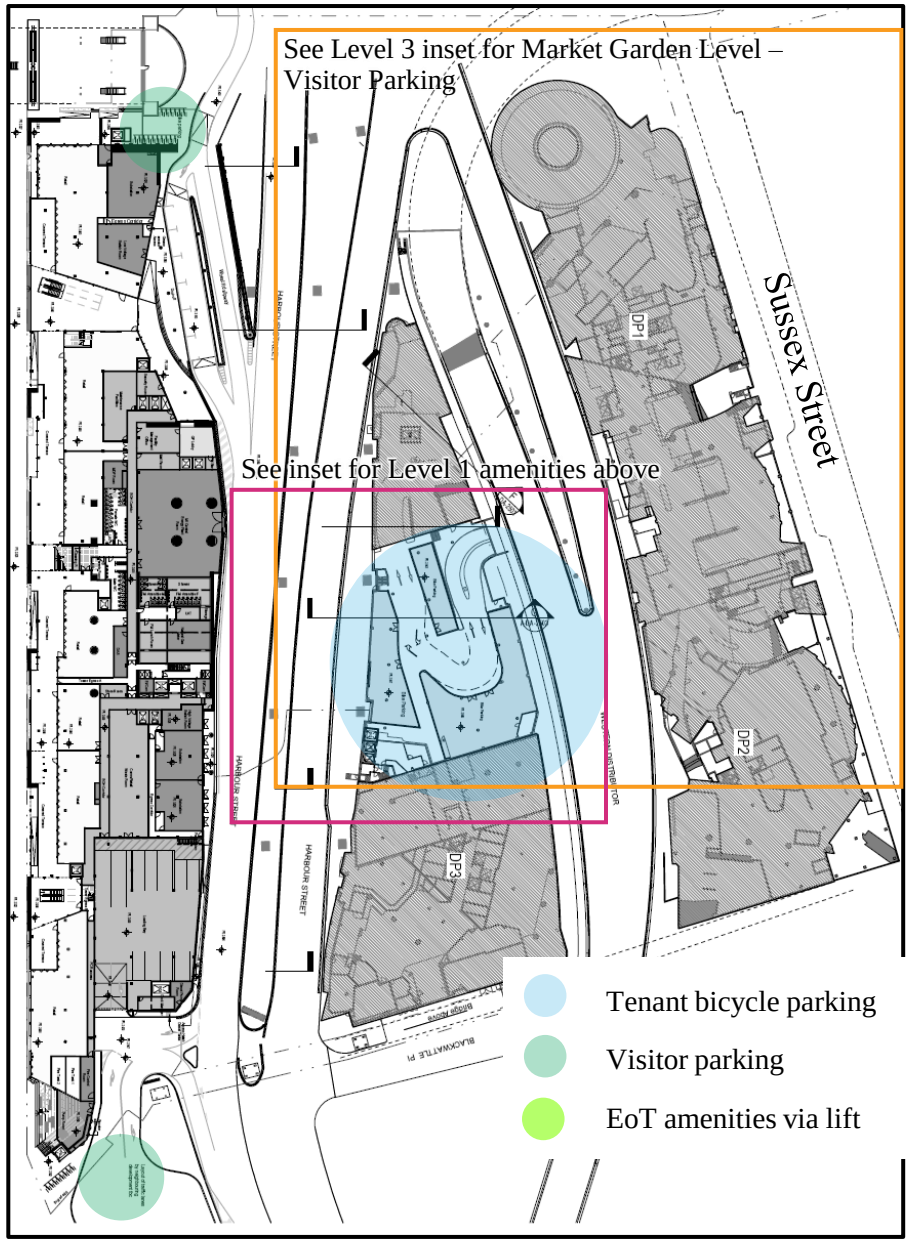
Level 3 – Public Park level



Level 1 – EoT Amenities



Overall Plan at Level 0 – Harbour Foreshore and Basement



End of Trip Access

Primary Tenant Access

The primary tenant bicycle parking entrance would be via Sussex Street using an existing car and cycle parking ramp system, as per the access to the existing DP1 EOT facilities.

Given Sussex Street is a one-way road in the southbound direction, cyclists would undertake a right-in/right out manoeuvre. Alternatively, cyclists walk their bike north to the Sussex Street / Market Street intersection to head north. Users coming to/from Pyrmont Bridge are considered more likely to exit via the Public Park using the secondary access points.

Primary Access (On bike)

Broader Connectivity (Condition C22)

Through-site links

Condition C22 a) requires consideration for completion of the missing link along the Western Distributor adjacent to the development site, connecting King Street and Liverpool Street (refer Page 7). Connectivity from existing shared path at the end of the Pyrmont Bridge to the south of the site is the aim here. The proposed development does not preclude the extension of the path along the Western Distributor as the site boundary is clear of the edge of the Western Distributor.

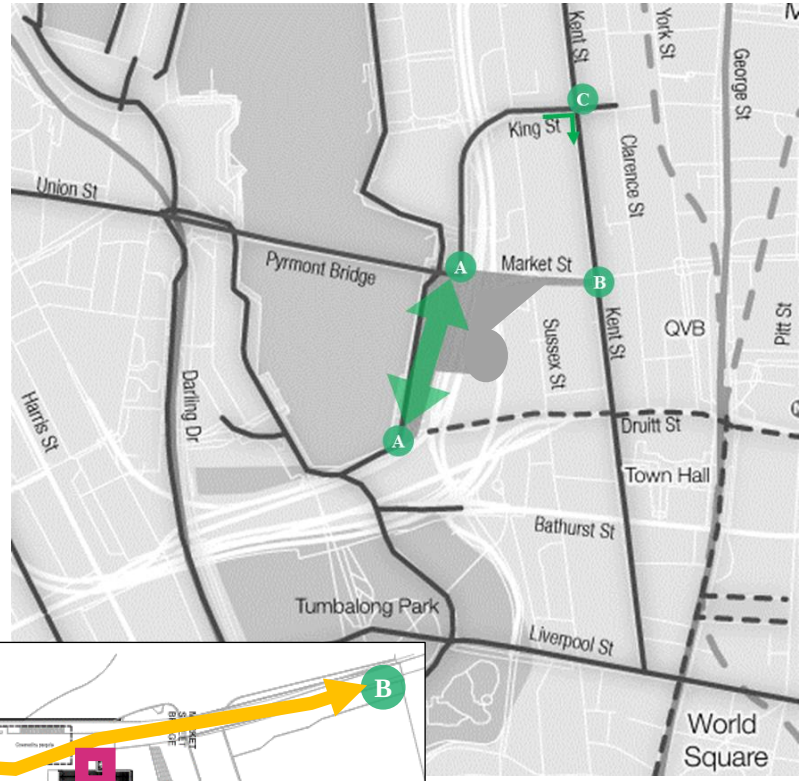
Connections across the Public Park and to Market Bridge

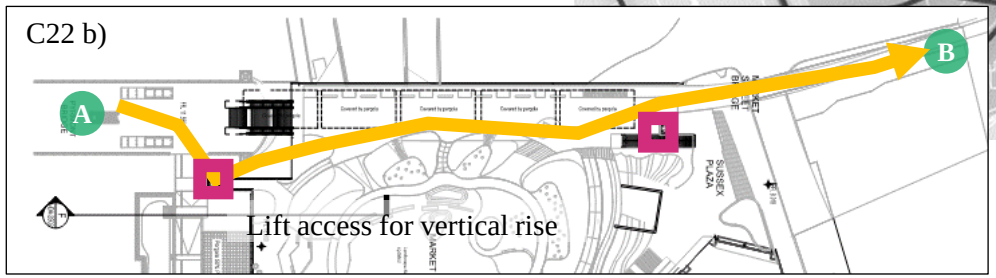
Condition C22 b) requires consideration of cycling links between the site and Market St / Kent St (refer Page 7).

The considerable level changes between Pyrmont Bridge and Kent Street in order to clear the Western Distributor preclude any cycle friendly connection that wouldn't require use of stairs or lift. The design proposal instead seeks to create a pedestrianised environment through the Public Park and to retain Market Street bridge as a pedestrian only connection. This seeks to limit potential pedestrian and cycling conflicts and create a place-based atmosphere.

Connections at Pyrmont Bridge to Kent Street

Condition C22 c) requires consideration for cycling links between the site and King St / Kent St. The key consideration here is the connectivity at Pyrmont Bridge, where users can join the existing shared path along Western Distributor. The design proposal has been developed to ensure that access to this connection remains functional for its current pattern of use.





| Conclusion |

Conclusions

Based on the current development proposal:

- Given the complexity of the site and surrounding connections, primary access to/from the site will occur via Sussex Street, with secondary connections through the Public Park via lift and/or stair with riders dismounting once arriving at the site perimeter. It is understood that the cyclist access to/from Sussex Street will be consistent with existing operations for those that currently use the Darling Park End of Trip Facilities.
- Connections via the development between key external cycling network locations have been investigated including initial consultation with relevant authorities (held on 6/9/21 with TfNSW and 3/9/21 with Council), as per Condition C22. Based on the development proposal, the following findings are made:

  a | Along Western Distributor between King Street and Liverpool Street: It is understood that previous architectural investigations have been carried out with regards to a future 'Liveable Green Network' along the Western Distributor. These findings were presented to TfNSW, who noted that a large range of options for bicycle access are currently being reviewed.

  b| between the Pyrmont Bridge and Market St / Kent St: The considerable level changes between Pyrmont Bridge and Kent Street in order to clear the Western Distributor preclude any cycle friendly connection that wouldn't require use of stairs or lift. The design proposal instead seeks to create a pedestrianised environment through the Public Park and to retain Market Street bridge as a pedestrian only connection. Informal dismount use is expected to continue.

  c| Pyrmont Bridge, King St to right turn on Kent St: The right turn is initially accessed via the shared path at the end of the Pyrmont Bridge. This area has been redesigned to improve separation between the end of the shared path and the vertical transport up to the Public Park.

- The recommended number of End of Trip Facilities, including bicycle parking, showers and lockers have been provided in this report. This has been based on a detailed analysis of existing usage and forecast growth in excess of the current growth rates. Consideration has been given to the low utilisation within the existing and neighbouring asset, patterns of use across the CBD and the spaces already available in the precinct. The proposed solution includes
  - A reduction in bike spaces compared to the DCP in the order of 15%, in line with the benchmarking data from other sites and a stretch cycle mode share of 6.6%
  - The provision of showers is in line with the DCP (relative to bike spaces)
  - An uplift in locker numbers compared to the DCP in the order of up to +120% recognizing the demand from walk/run mode share as well as their potential use during the lunchtime period.
  - Provision of public realm visitor spaces in line with the Green Star requirements and other recently approved developments.
  - The potential to increase the number of spaces in the future if the demand increases by more than 4% mode share (three fold of existing conditions)

| Appendix A|

Meeting minutes from consultation with TfNSW and City of Sydney

Minutes

ARUP

Project title	Cockle Bay Park Redevelopment	Job number	238566
Meeting name and number	Condition C22 Consultation with CoS 1/21	File reference	Click here to enter text.
Location	Virtual	Time and date	1:00PM 3 September 2021
Purpose of meeting	To discuss condition C22 and how the proposed design can respond to the condition.		
Present	Michael Rumbold (Arup) Rory Rathborne (Arup) Jano Yousseph (TSA) Silvia Cupik (Architectus) Dan Solomon (Architectus) Beth Robrahn (CoS - City access and transport team) Van Le (CoS Traffic Manager - Parking and traffic) Stephen Briant (CoS - City Access)		
Apologies	Click here to enter text.		
Circulation	Those present Click here to enter text.		

Action

1.1 Introductions

1.2 Introduction of Condition C22

- Review of the text within the condition
- CoS identified that this condition was written by them
- Cos outlined the intent of the condition, that it is about precinct connectivity from the Pyrmont Bridge to the north, east and south

1.3 Project Overview

- Arup provided an overview of the stacking and massing of the development, and the land uses within the development
- Arup provided a preview of the GA plans of the podium at key levels including Pyrmont Bridge level and the Park level. Explained the complexities associated with getting

Prepared by	Michael Rumbold
Date of circulation	10/9/21
Date of next meeting	TBC

Action

everything to connect perfectly due to the different levels both surrounding the site and through the project.

1.4 General discussion on the C22 objectives and design response

- Arup took the team through the proposed cycleways on the project and explained the complexities associated with getting everything to connect perfectly due to the different levels both surrounding the site and through the project.
- Stephen commented that they haven't looked at this project for some time, and that we (ie design team) are clearly more in-tune with the levels and have more information on what is and isn't possible. Stephen suggested that we need to treat this as "best practice" – to the site and through the site.
- We talked about the "arrows" and turning directions of cyclists as they approach the site. It was acknowledged that there are lots of existing conditions which are far from ideal but we should look at opportunities to improve some of these junctions if possible. They are all difficult and don't provide a good level of service.
- CoS suggested that we can provide them with a list of questions and drawings for them to digest and provide some feedback. JY highlighted that the DA is due to be submitted late September / Early October – is possible we will send through drawings beforehand otherwise feedback can be provided later.
- CoS advised that it is likely that during the DA review stage, they will request additional meetings to review and discuss alternate scenarios.

1.5 Next actions

- CoS to provide formal review and response to the SSDA submission which is expected early October

Minutes

ARUP

Project title	Cockle Bay Park Redevelopment	Job number	238566
Meeting name and number	Condition C22 Consultation with TfNSW 1/21	File reference	Click here to enter text.
Location	Virtual	Time and date	1:30PM 6 September 2021
Purpose of meeting	To discuss condition C22 and how the proposed design can respond to the condition.		
Present	Michael Rumbold (Arup) Rory Rathborne (Arup) Jano Yousseph (TSA) Amanda Fisher (TSA) Silvia Cupik (Architectus) Dan Solomon (Architectus) Katherine McCray (TfNSW) Benny Horn (TfNSW) Brett Morrison (TfNSW) Kaye Russell (TfNSW)		
Apologies	Click here to enter text.		
Circulation	Those present Click here to enter text.		

Action

1.1 Introductions

1.2 Project Overview

- Arup provided an overview of the stacking and massing of the development, and the land uses within the development
- Arup provided a p review of the GA plans of the podium at key levels including Pyrmont Bridge level and the Park level. Explained the complexities associated with getting everything to connect perfectly due to the different levels both surrounding the site and through the project.

1.3 Introduction of Condition C22

- Review of the text within the condition

Prepared by	Michael Rumbold
Date of circulation	10/9/21
Date of next meeting	TBC

Action

- Discussion on the intent of the condition, that it is about precinct connectivity from the Pyrmont Bridge to the north, east and south

1.4 General discussion on the C22 objectives and design response

- Arup explained the complexities associated with getting everything to connect perfectly due to the different levels both surrounding the site and through the project.
- The current solution includes lift connections between the Pyrmont Bridge and Park levels, and that ramps would need to be in the order of 100m long to connect the two levels – which is not practical within the site constraints.
- TfNSW advised that they are doing some works to the surrounding streets to assist with accommodate the growing cycle pathways from Pyrmont and surrounding areas into the city. The approach may be to submit the DA and then during the design review period, hold some workshops to see what is being proposed by TfNSW and see how this links into our project.
- TfNSW highlighted that they believe the cycle access to the EoT bike parking facilities in darling park is poor, and should be connected more directly to the northern interface with Pyrmont Bridge – is there anything we can do to improve this? Action is to wait for formal comments on SSDA submission and work through then.

1.5 Next actions

- TfNSW Completely understand the challenges and we will work through all the issues during the design development phase.

For further information, please contact:
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