Cockle Bay Park Redevelopment

Appendix FF – Development Application Traffic Impact Assessment

Prepared for DPT Operator Pty Ltd and DPPT Operator Pty Ltd

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Document prepared by:

Aurecon Australasia Pty Ltd
ABN 54 005 139 873
Level 5, 116 Military Road
Neutral Bay NSW 2089
PO Box 538
Neutral Bay NSW 2089
Australia

T +61 2 9465 5599
F +61 2 9465 5598
E sydney@aurecongroup.com
W aurecongroup.com

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Author signature		Approver signature	
Name	C. Buil	Name	D. Moore
Title	Senior Consultant, Integrated Transport & Mobility	Title	Principal, Bridges & Civil Structures

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1 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

This TIA assesses the traffic generated by the proposed development and its impact on the surrounding road network, accessibility to and from the site, pedestrian and bicycle circulation and the adequacy of the proposed parking provision and delivery requirements of the facility.

1.1 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 renewal (W Hotel) projects. More broadly, the western edge of the Sydney CBD has been subject to significant change following the development of the Barangaroo precinct.

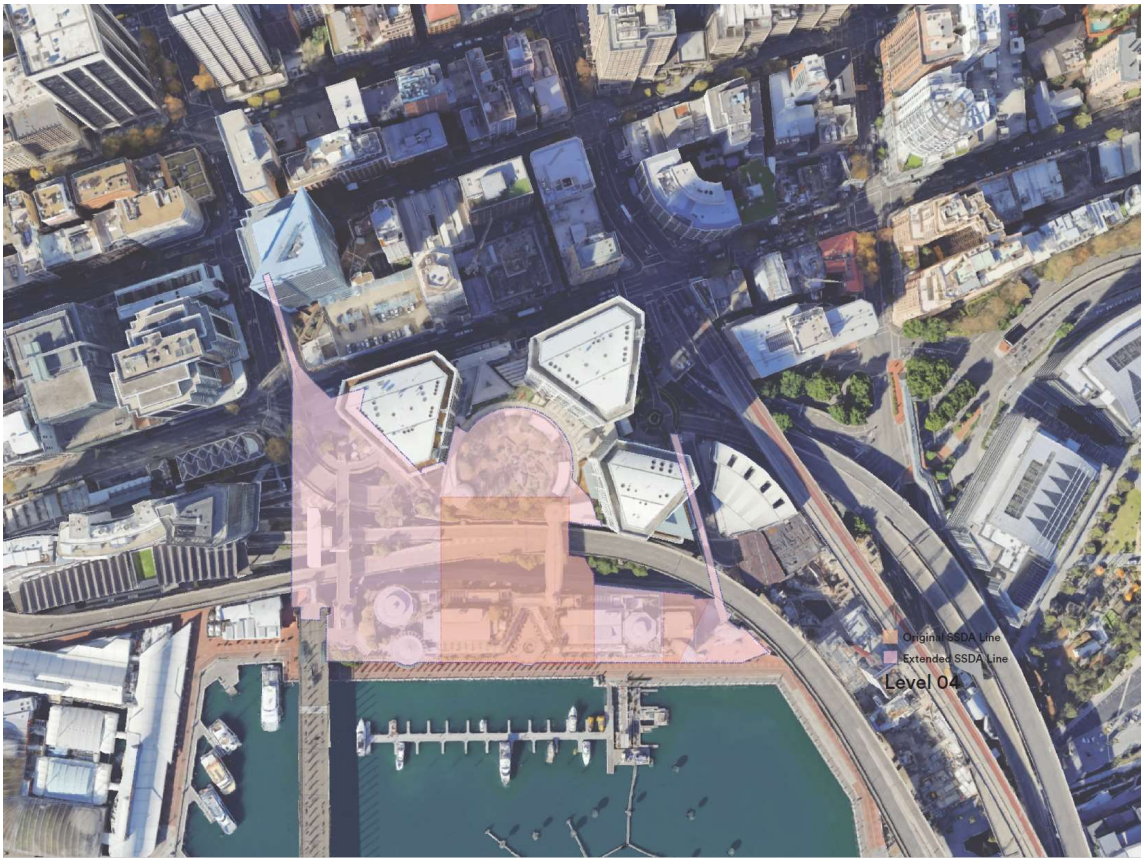


Figure 1 Location plan

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
9	Transport, traffic, parking and access (operation and construction) The EIS must include a Traffic Impact Assessment, providing:	
	• details of the predicted daily and peak hour vehicle, public transport, pedestrian and bicycle movements generated by the proposed development (including predicted cumulative movements from other nearby approved / proposed planning proposals and developments)	• Section 4.1
	• an assessment of the impacts of the proposal on the performance of the road network including consideration of cumulative traffic impacts, at key intersections using SIDRA or similar traffic model as required by Transport for NSW (TfNSW)	• Section 3.2
	• an assessment of road safety associated with the proposed development	• Appendix C and Appendix E
	• details of any road or intersection upgrades required to achieve acceptable levels of service and/or road safety	• NA
	• measures to encourage and facilitate sustainable travel choices for employees, residents and visitors, such as minimising car parking provision, providing for car share, promoting public transport, encouraging cycling and walking, implementing a green travel plan and providing end of trip facilities	• Section 5
	• details of proposed bicycle, motorbike and car parking provision and end of trip facilities, including compliance with relevant standards guidelines and sustainable transport objectives	• Section 3.3 and Section 4.3
	• details of proposed coach and point to point transport arrangements	• Section 4.5
	• details of service vehicle movements and site access arrangements, including vehicle types and likely arrival and departure times of service vehicles, loading dock provision	• Section 4.4 and Appendix C
	• measures to reduce potential conflicts with pedestrians and cyclists	• Section 3.2

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
C18	Future Development Application(s) shall be accompanied by a Traffic Impact Assessment (TIA) that assesses the traffic and transport impacts on the road network and nearby intersection capacity. The TIA also address:	
	a) the design capacity, operation and safety impacts of the redesign / realignment / part closure of Wheat Road	a) Section 0
	b) the operation and safety of the new vehicular accesses between Wheat Road and Harbour Street	b) Section 4.4
	c) vehicle and pedestrian safety within the porte cochere	c) Section 4.5
	d) loading / unloading, servicing (including allowance for trucks up to 12 m in length to service the site), taxi and coach arrangements	d) Section 4.4, Section 4.5 and Appendix C

	e) the relationship and compatibility with the approved access arrangements of the IMAX redevelopment to the south, including: i. road safety audit undertaken by an independent TfNSW accredited road safety auditor ii. assessment of traffic movements (particularly northbound traffic) from vehicles associated with the operation of the IMAX redevelopment.	e) See below i. Appendix E ii. Section 4.4 and Appendix C
C19	Future Development Application(s) shall include green travel plans, identifying opportunities to maximise the use of sustainable transport choices, such as incentives and provision of cycle parking and end of trip facilities in the detailed design.	Section 5
C20	Future Development Application(s) shall investigate improvements to the Druitt Street Bridge entry access point from the Darling Harbour waterfront and the remainder of the route between the development site and Sussex Street, including increased pedestrian capacity to accommodate workers and visitors in the Darling Harbour precinct, including during events, in consultation with TfNSW Sydney Coordination Office.	Section 3.4

1.2 Stakeholder consultation

The following consultation meetings have been completed with Transport for NSW:

- Friday 14 May from 9:45am to 10:30am

  During this meeting Aurecon presented the Traffic Impact Assessment, outlining the existing conditions on the site.

- Friday 17 September from 9:45am to 10:30am

  Revised layout for the loading dock and porte cochere were referenced in that meeting.

1.3 Assumptions and limitations

This assessment is based on the following assumptions and limitations:

- Sydney Development Control Plan 2012 (DCP 2012) and Sydney Local Environment Plan 2012 (LEP 2012) – loading dock, car and bicycle parking capacity
- The land uses are consistent with the detail provided in the DA application
- The assessment is limited by the data obtained and identified in this report
- The journey to work data sourced from the Australia Bureau Statistics 2016 is representative for the current transport mode trends
- The pedestrian and cyclist data detailed in this report is based on the study undertaken by Arup (Appendix GG – Cockle Bay Park Redevelopment Cyclist Movement, V9, 5 October 2021 & Appendix A – Cockle Bay Park Redevelopment Pedestrian Movements Memo, V1, 8 October 2021).
- It is noted that this traffic study has been undertaken without a site inspection, and via desktop analysis only, as a result of Covid-19 impacts.

2 Existing situation

2.1 Introduction

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 site is bounded by Pyrmont Bridge to the north, the Western Distributor to the east, Druitt Street to the south and the promenade by the Harbour to the west.

Vehicular access to the site is available from Harbour Street northbound via Wheat Road. Both streets located adjacent to the eastern boundary of the site. Pedestrian access to the site is available via localised pedestrian bridges to the north and south, adjoining Market Street and Druitt Street respectively. A pedestrian bridge accessible from within the Darling Park complex is also located to provide access to the rear of the building from the east.

Cockle Bay Wharf occupies a strategic site located at the intersection of the Sydney CBD business district and Darling Harbour entertainment precinct. Significant landmarks and infrastructure surrounding the site include Darling Park Towers 1,2 and 3 directly to the rear (east), the heritage listed Pyrmont bridge to the north, the Western Distributor running above Harbour Street to the east and the currently under-construction W Hotel building to the south.The site is located within the City of Sydney local government area (LGA) in the Darling Harbour precinct, which is identified as a State Significant site in Schedule 2 of the *State Environmental Planning Policy (State and Regional Development) 2011*.

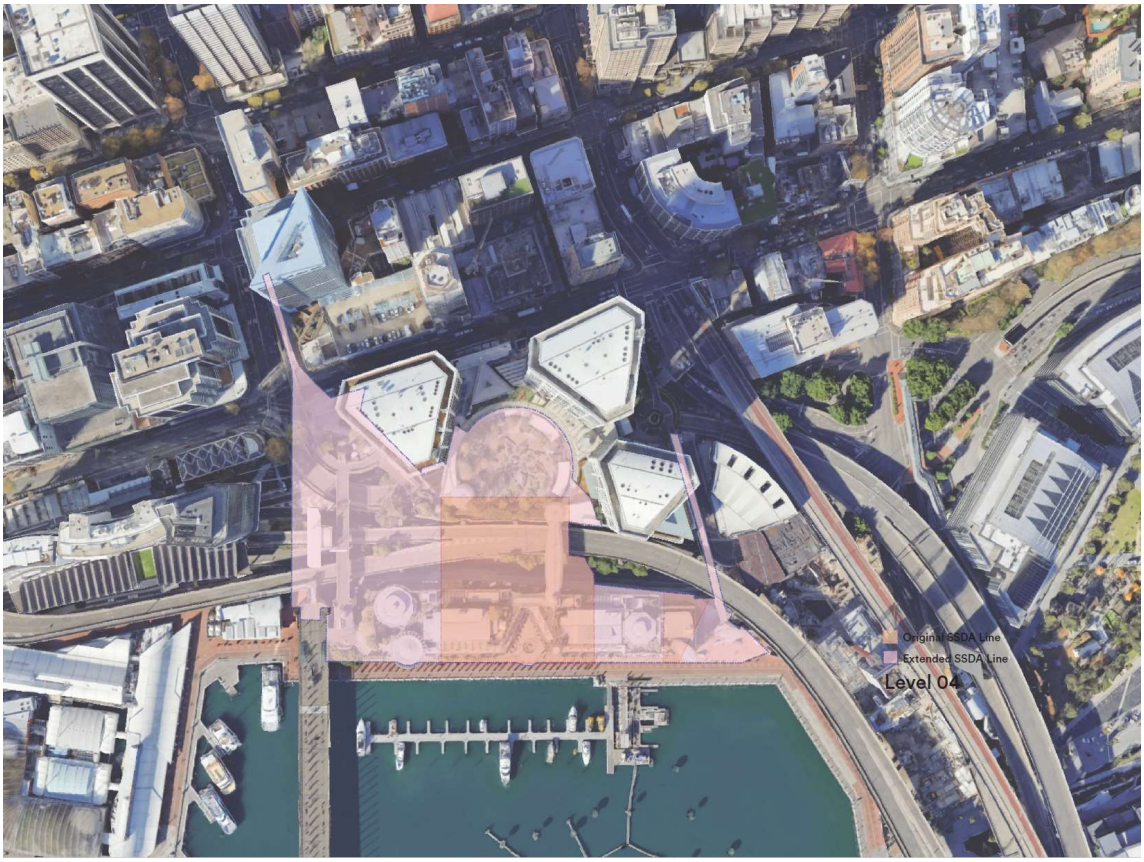


Figure 1 Site location

2.2 Surrounding road network

2.2.1 Western Distributor

The Western Distributor is a state road managed by Transport for New South Wales (TfNSW), with the form of an elevated freeway running over Wheat Road and Harbour Street on the eastern end of the site. Passing through Darling Harbour, the Western distributor connects the Inner West and Western Sydney suburbs with North Sydney via the Sydney CBD and Harbour Bridge. The environment is known to discourage connection between the city and Darling Harbour.

Currently, the freeway can be crossed by pedestrians using two bridge links, Market Street and Druitt Street footbridges. There is also a separated pedestrian and bicycle pathway linked to Pyrmont bridge that runs adjacent to the Western Distributor King Street off-ramp.

2.2.2 Wheat Road

Wheat Road is classified as a local road located on the eastern side of Cockle Bay Wharf. It is a one-way northbound road configured with one-lane, giving access to the site via Harbour Street and other retail and commercial services and tourist properties along Darling Harbour, including the Sydney Sea Life Aquarium and Wildlife Sydney Zoo to the north and W Hotel building to the south.

Wheat Road exits onto Shelley Street north of the site, connecting vehicles to Erskine Street and the CBD road network.

Kerbside Parking is available for coaches, taxis, loading purposes and permitted vehicles in the vicinity of the site. A limited amount of restricted metred parking is also available north of the site.

2.2.3 Harbour Street

Harbour Street is a state road aligned in a north-south direction adjacent to the eastern boundary of the site. It is a two-way divided road configured with two to three lanes in each direction. Harbour Street provides vehicular access to Wheat Road via three different off-ramps to IMAX (future W Hotel), south of Cockle Bay and north of Cockle Bay. Harbour Street also links Haymarket and Ultimo suburbs with Cockle Bay Wharf, King Street Wharf and Barangaroo before merging with the Western Distributor north of the site and the Sydney Harbour Bridge.

Kerbside parking is not permitted at any time along Harbour Street in the vicinity of the site.

2.2.4 Shelley Street

Shelley Street is the northern extension of Wheat Road, providing vehicle exit for vehicles departing Cockle Bay Wharf. It is a two-way traffic street that passes through King Street Wharf area before merging into Erskine Street and CBD road network.

2.3 Traffic volumes

Covid-19 has affected the ability to collect traffic count data during the development of this traffic impact assessment. For this reason, the traffic volumes considered for this study are the weekday AM and PM peak traffic counts surveyed on the streets surrounding the site in 2016 (Traffic report for proposed redevelopment of Cockle Bay Wharf, Darling Harbour, Colston Budd Rodgers & Kafes PTY LTD, October 2016). It is noted that no significant changes to the road network or land use have taken place since the survey data was collected, therefore peak hours volumes are considered to be still applicable.

W Hotel building, adjacent to Cockle Bay and also accessible via Harbour Street and Wheat Road, is currently under construction with an estimated competition in 2022[1]. Due to a shared (road), a proportion of

[1] https://www.dpie.nsw.gov.au/housing-and-property/divisions/property-and-development-nsw/advisory-and-transactions/the-ribbon-hotelimax,-darling-harbour

W Hotel traffic may impact the traffic volume access the proposed development via Wheat Road. Based on W Hotel traffic impact assessment (The Ribbon Mixed Use Development, 31 Wheat Road, Sydney - Transport Impact Assessment, GTA Consultants, December 2015), W Hotel is expected to attract an additional 70 and 113 vehicles to the area during the AM and PM peaks respectively. These additional vehicles will exit Wheat Road via the same on-ramp as the vehicles egressing the Cockle Bay Park redevelopment loading dock area. Since W Hotel expects its major peak during the evening (with 113 vehicles) and freight deliveries usually avoid peak hour times, the additional traffic generated by W Hotel does not expect to have a severe impact on the operation of the Cockle Bay Park loading dock area.

Table 3 and Figure 2 show the peak hours traffic on the streets surrounding the street during 2016 studies as outlined in report[2].

Table 3 2016 AM and PM peak traffic volumes

Street	AM Peak	PM Peak
Harbour Street		
• North of King Street Wharf access	1,790	2,350
• North of Cockle Bay Wharf access	2,520	2,575
• North of IMAX access	2,575	2,645
Wheat Road		
• North of King Street Wharf access	790	340
• North of Cockle Bay Wharf access	65	130
• North of IMAX access	10	60
Blackwattle Place		
• East of Harbour Street	15	15

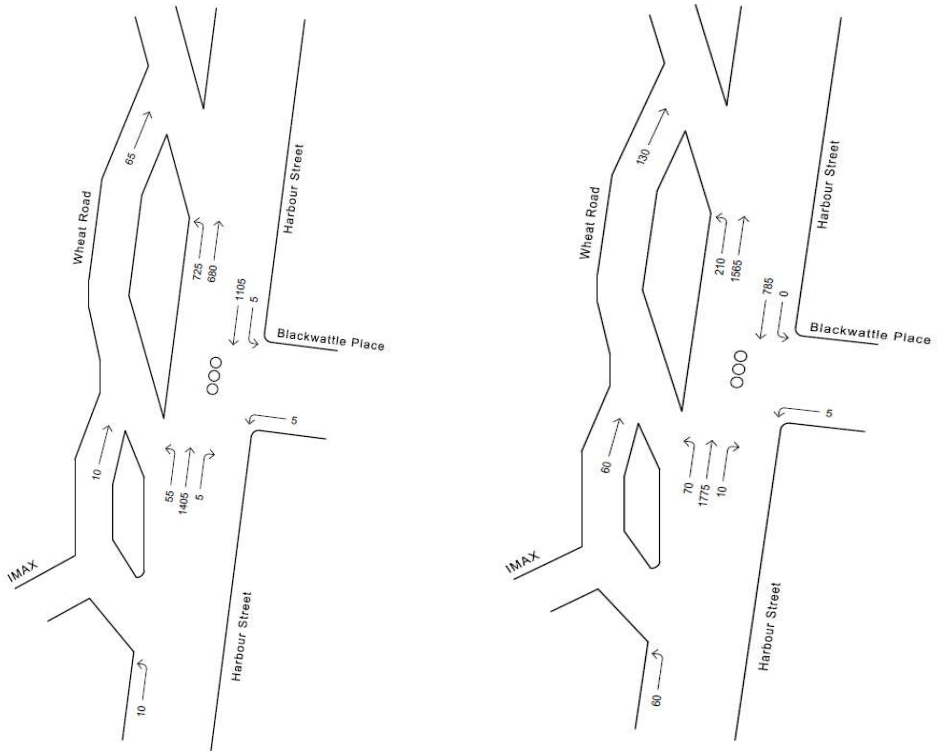


Figure 2 Existing weekday AM and PM peak hour traffic flows (Source: Colston Budd Rogers & Kafes Pty Ltd, October 2016)

[2] Traffic report for proposed redevelopment of Cockle Bay Wharf, Darling Harbour, Colston Budd Rodgers & Kafes PTY LTD, October 2016

2.4 Vehicle parking

Kerbside parking is currently permitted along the western side Wheat Road, generally for coaches, taxis and universal access parking. Table 4 describes available parking along Wheat Road.

Table 4 Wheat Road vehicle parking

Type of parking	Location	Number of bays
Coach drop off area (time limited)	North of the site	4 bays
Taxi/vehicle drop off area	On site	2 bays
Disabled parking area (public parking)	North of the site	5 bays
Authorised vehicles excepted parking	Along Wheat Road	14 bays approx.
4P parking	North of the site and parallel to the coach drop off area	12 bays
Illegal parking	Between disabled parking and Sea Life	7 bays approx.

Wheat Road also provides service vehicle access to the north and south loading dock areas of the existing development fronting Cockle Bay Wharf.

In addition to on-street parking, there are currently a number of public parking buildings located within 400m radius of the proposed development, as shown in Figure 3 and tabulated in Table 5.

The total number of available off-street public parking is 5,862 bays at variable parking fees and hours. The nearest off-street public parking is in Darling Park building. Additionally, metered, limited duration on-street parking spaces are available near to the site as shown in Figure 4.

Table 5 Public parking spaces within 400m of site

Parking Building	Address	Operating Hours	Spaces
Wilson, Darling Park	201 Sussex Street	6:00am – 12:00am	834
Wilson, Citipark	431 Kent Street	24-hours	643
Wilson, St Martins Tower	31 Market Street	7:00am – 10:00pm	163
Wilson, St Andrews House	464 Kent Street	6:00am – 12:00am	243
Wilson, Darling Quarter	1/11 Harbour Street	24-hours	588
Wilson, 383 Kent Street	383 Kent Street	24-hours	56
Secure, Allianz Centre	186 Sussex Street	24-hours	288
Motorbike Parking Free	262 Sussex Street	24-hours	Unknown
Wilson, Harbourside	100 Murray Street, Pyrmont	24-hours	1,430
Wilson, Market Street	44 Market Street	7:00am – 7:00pm	20
Secure, The Bowlers Club	168 Clarence Street	7:00am – 11:00pm	70
Wilson, QVB	111 York St	6:00am – 1:00am	634
Cinema Centre, Kent Street	521 Kent Street	24-hours	893
		Total	**5,862**

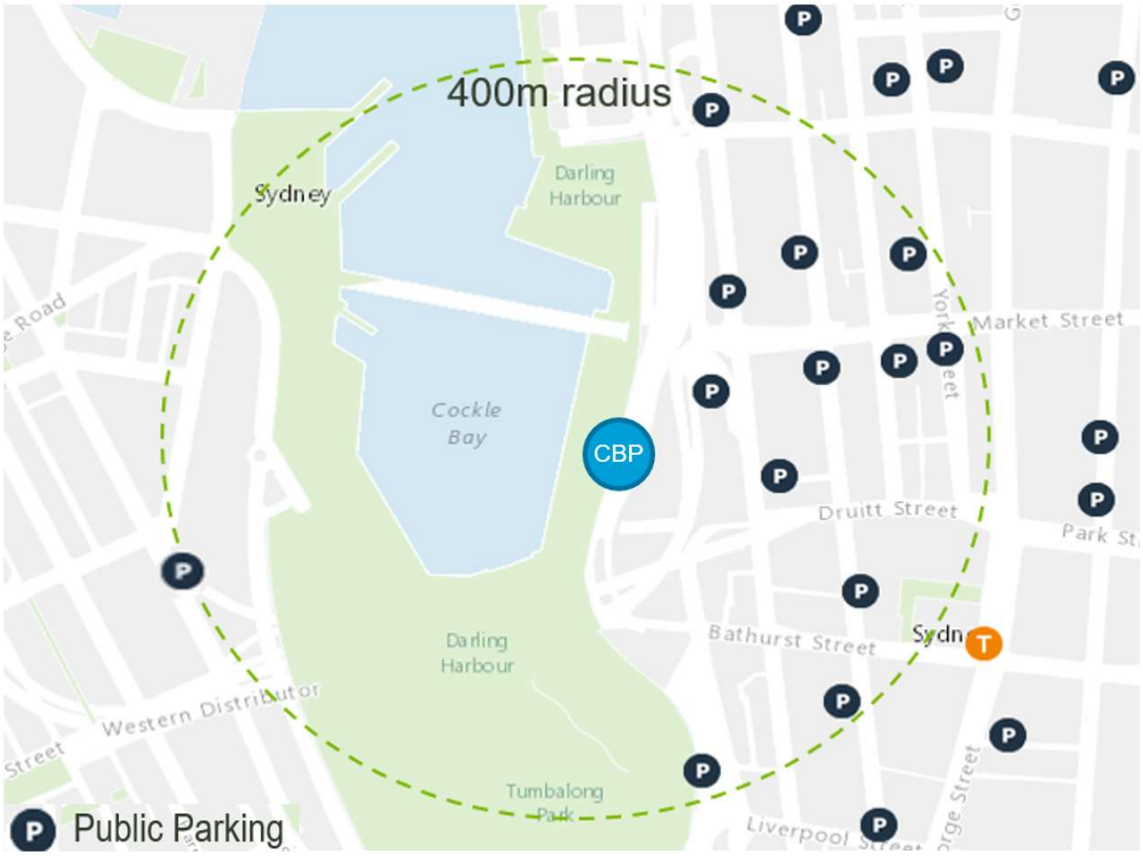


Figure 3 Off-street parking in vicinity of site (Source: City of Sydney Accessibility Map)

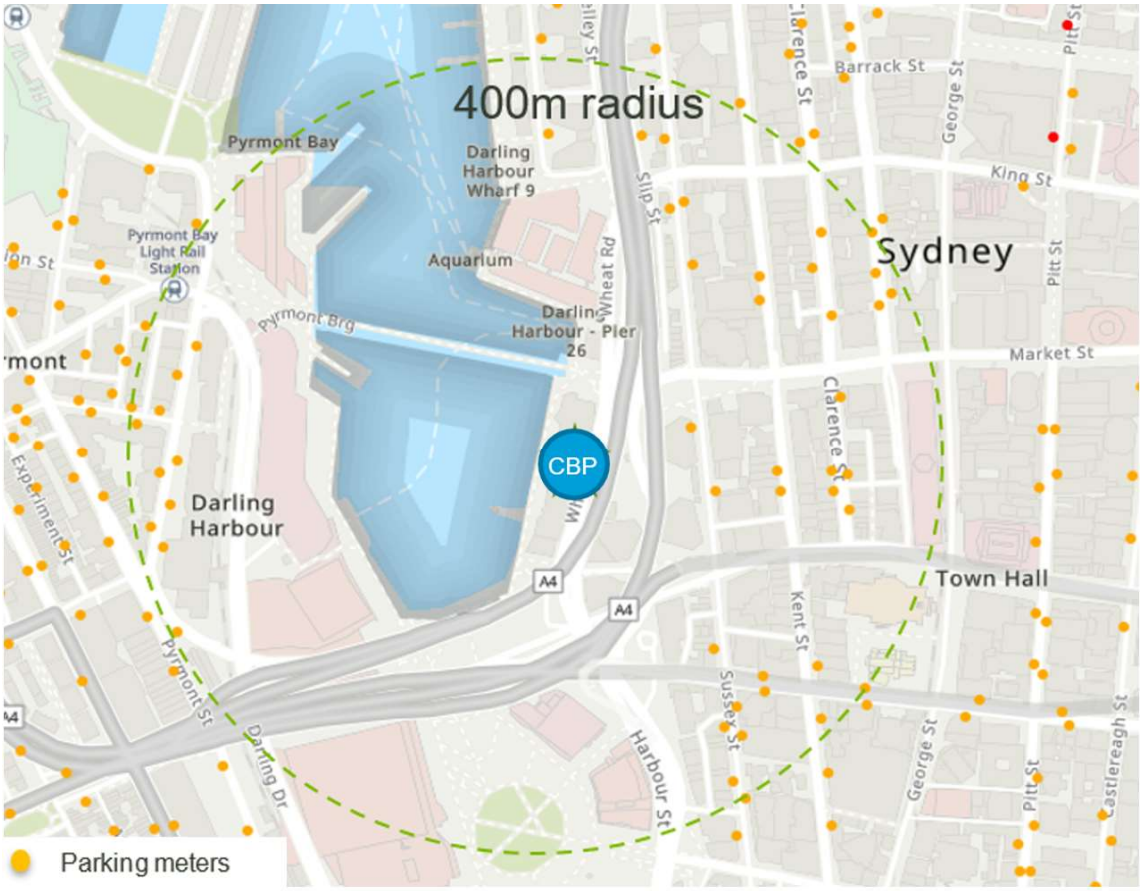


Figure 4 On-street parking in vicinity of site (Source: City of Sydney map of parking meters)

2.5 Taxi ranks

Taxis can use the drop off area on site, which has space for two vehicles. Additionally, there are several taxi zones located within 400m radius of the site as shown in Figure 5. The nearest taxi zone is located approximately 150m east of the site along Sussex Street with capacity for three taxis to be simultaneously parked and waiting for passengers.

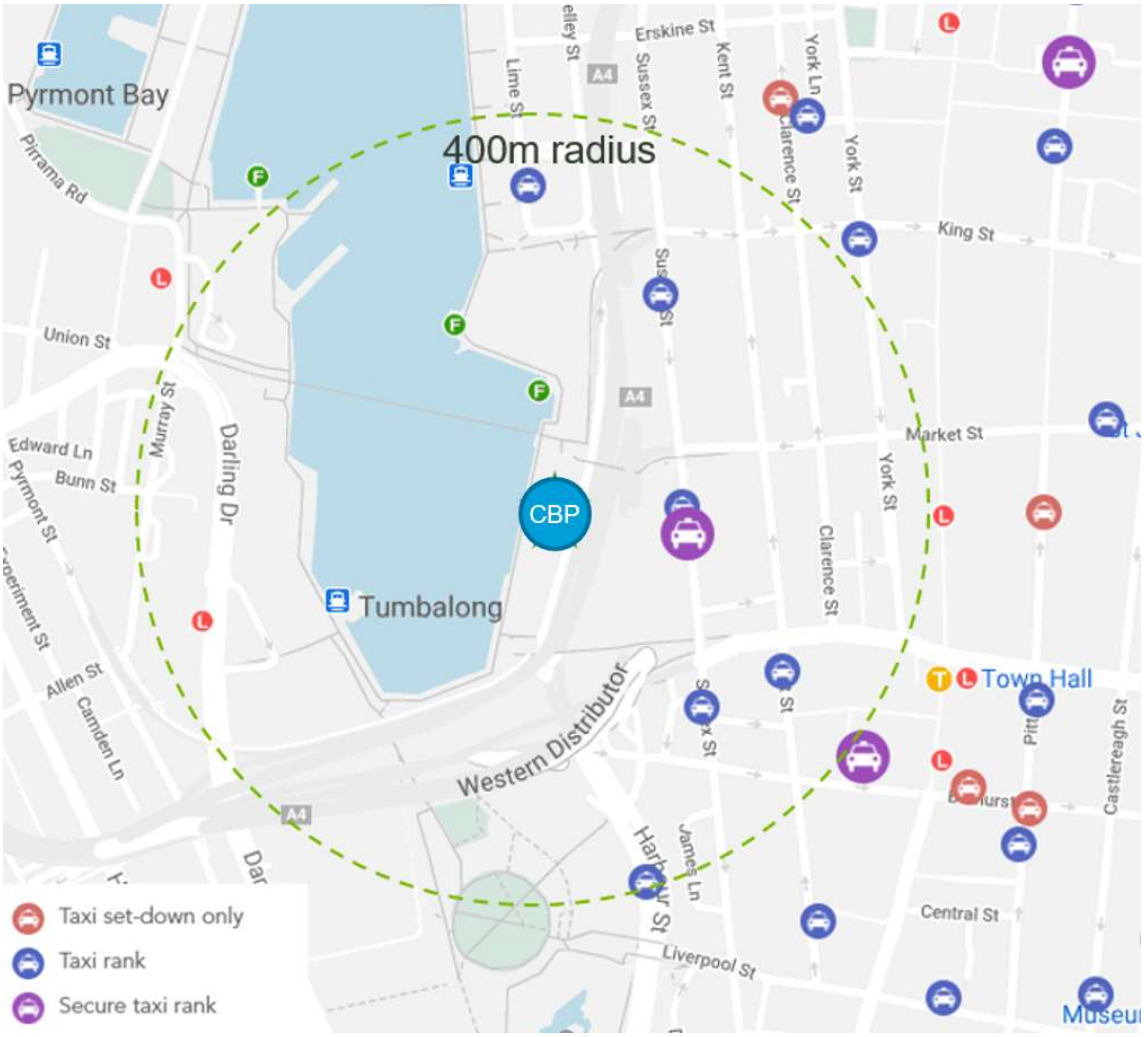


Figure 5 Taxi rank locations in the vicinity of the site (Source: TfNSW Tomorrow's Sydney Interactive Map)

2.6 Pedestrian connectivity

The site is located in an area which experiences high levels of pedestrian activity due its land use and proximity to commercial and retail places, significant landmarks and tourist destinations. As a result, in the area surrounding the site, there are several well-established pedestrian connections and facilities, connecting the Sydney CBD to Darling Harbour and Pyrmont as detailed below.

Figure 6 shows the walking catchment surrounding the site:

- **Druitt Street Pedestrian Overpass:** This bridge is located south of the site, connecting Druitt Street to the waterfront, and provides the most direct route for pedestrians walking from Town Hall train station
- **Market Street Pedestrian Overpass:** This bridge is located north of the site, connecting Market Street to Darling Harbour and Pyrmont Bridge
- **King Street off-ramp/Pyrmont Bridge:** Connecting King Street to Pyrmont Bridge via pedestrian walkway that passes over Western Distributor and runs adjacent to Western Distributor King Street exist (north bound). Provides the most direct connection to Wynyard Station
- **Pyrmont Bridge:** Heritage listed bridge, 15m wide and located north of the site, linking Pyrmont with Darling Harbour and the Sydney CBD. The Eastern edge of Pyrmont bridge contains stairs which lead to Cockle Bay and the waterfront as well as connected bridge structures that lead to Market Street and King Street respectively
- **Harbour Promenade/Waterfront:** Pedestrian only area surrounding Harbour, providing circulation and connection to key landmarks and areas, including, Darling Harbour, Pyrmont, Pyrmont Bridge, IMAX (new Ribbon) and Darling Quarter

Figure 6 Walking catchments – 5, 10 and 15 min (Source: Cockle Bay Park Redevelopment Pedestrian Movements Memo, Arup – Appendix A)

2.7 Cycle connectivity

The site is located within the vicinity of a number of on and off-road cycling routes as shown in Figure 7.

Access to the front of the site is available via the off-road shared cycleway path, travelling north-south along the Darling Harbour waterfront. The shared path along Darling Harbour connects to the broader cycling network through Pyrmont Bridge, King Street and Market Street to the north and Darling Drive and Liverpool Street to the south via Tumbalong Park. A major separated off-road cycleway exists on Kent Street, traversing in a north-south direction across the CBD east of the site, linking with the Liverpool Street cycleway and King Street off-ramp/ Pyrmont Bridge cycle way.

Figure 8, over page, shows the location of bicycle parking rails and racks in vicinity of the site. A U-rail on Wheat Road is the closest bicycle parking location to the site.

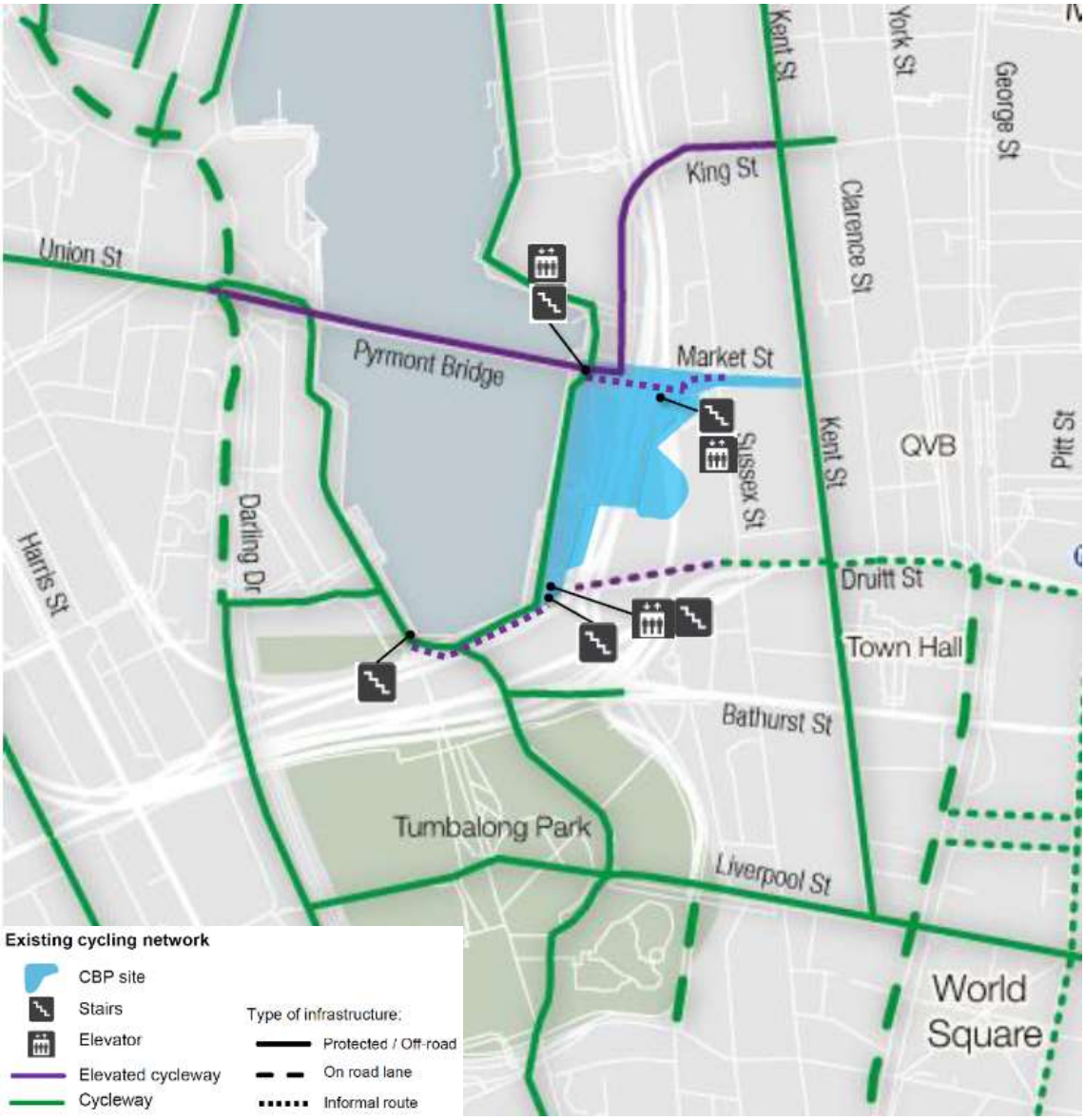


Figure 7 Cycle paths near site (Source: Cockle Bay Park Redevelopment Cyclist Movement, Arup)

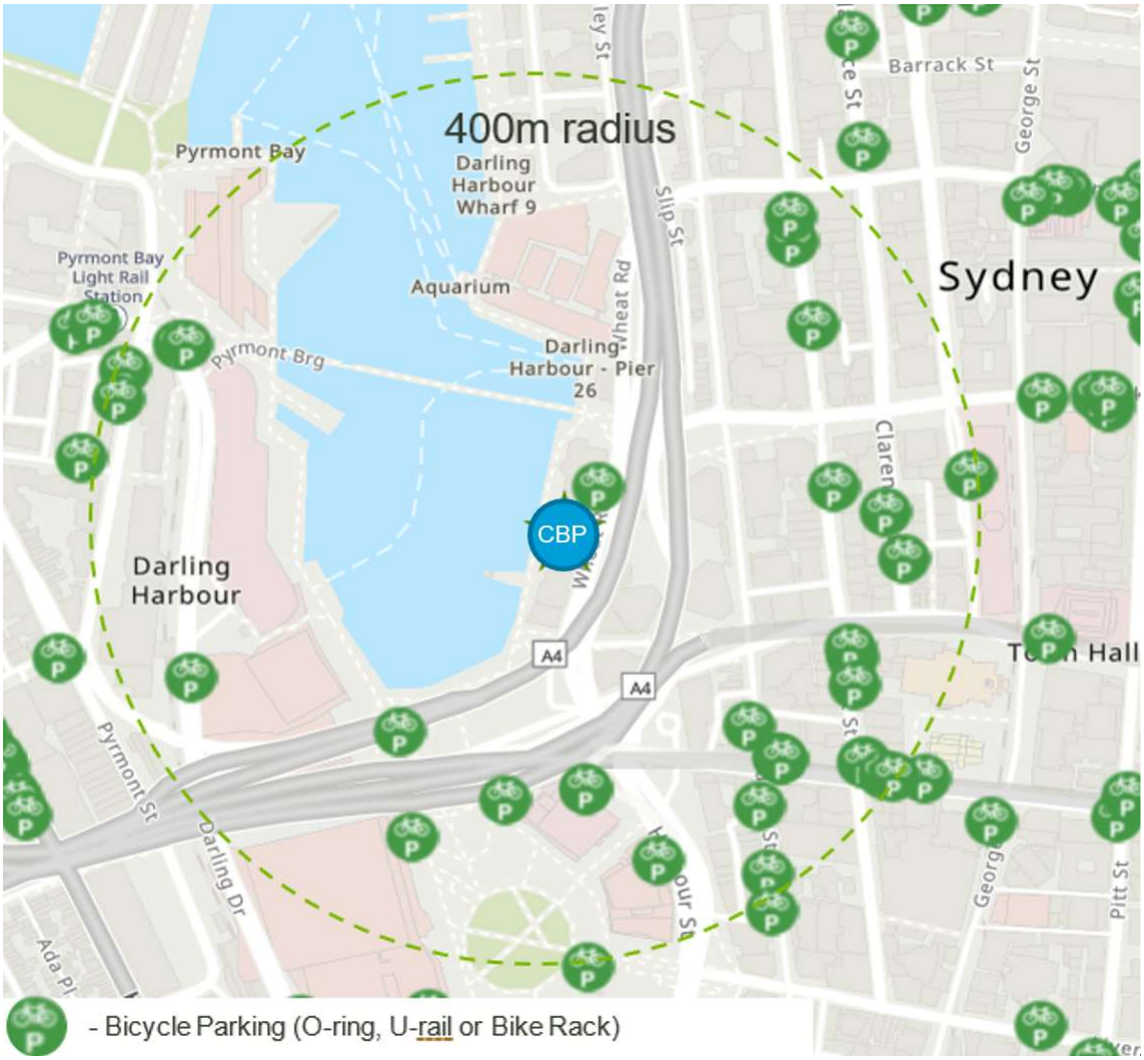


Figure 8 City of Sydney bicycle parking map (Source: City of Sydney)

2.8 Public transport connectivity

Given the site's location along the edge of Darling Harbour and the CBD, the area is well serviced by public transport. Data from the Australian Bureau Statistics 2016 Census of Population and Housing (ABS 2016 Census) shows that approximately 82% of commuters who reside within the CBD (SA2 region, Sydney-Haymarket-The Rocks) took public or active transport to work, refer to Figure 9. Covid-19 and its ongoing restrictions may impact on the public transport patronage; however, there is no clear data or study detailing the change therefore a pre Covid-19 information are used in this report.

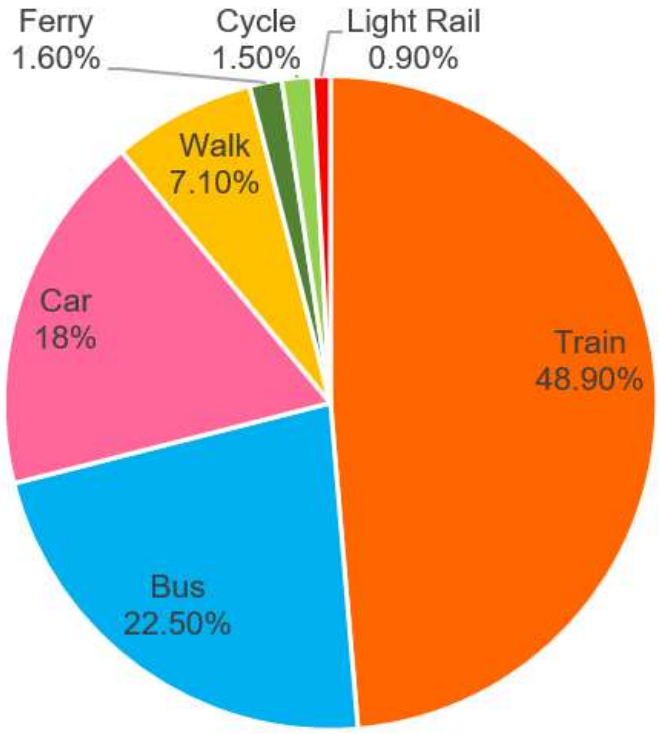


Figure 9 Mode of transport to work for people working in SA2 Sydney-Haymarket-The Rocks (Source: ABS 2016 Census)

A list of public transport options available in the vicinity of the site are detailed below in Table 6 and Figure 10, over page.

Table 6 Public transport services in vicinity of the site

Service	Route	Route Description	Stop Location	Distance
Bus	620X	Dural to City Wynyard via Cherrybrook	Kent Street	500m
	642X	Round Corner Dural to City Wynyard via Lane Cove Tunnel		
	652X	West Pennant Hills to City Wynyard		
	437	Five Dock to City QVB	Sussex Street	450m
	441	Birchgrove to City Art Gallery		
	442	Balmain East Wharf to QVB		
	500X	West Ryde to City Hyde Park		
	502	Cabarita Wharf to City Town Hall	Druitt Street	400m
	504/504X	Chiswick to City Domain/Town Hall		
	505	Woolwich to City Town Hall		
	506	Macquarie University to City Town Hall		
	507	Meadowbank to City Hyde Park		
Light Rail	L1	Dulwich Hill to Central	Pyrmont Bay, Convention	650 - 700m
	L2, L3	Randwick/Kingsford to Circular Quay	Town Hall	600m
Trains	Multiple	Multiple Sydney Trains Lines	Town Hall Station	600m
Metro	Multiple	Sydney Metro Northwest, City & Southwest	Pitt Street	800m
			Martin Place	1,200m
			Barangaroo	1,500m
			Central	1,600m

Figure 10 Public Transport Network Surrounding (Source: TfNSW website)

Future public transport services will be improved with the addition of the Sydney Metro Northwest, City & Southwest, which will connect the Sydney CBD with suburban areas of Sydney not currently serviced by heavy rail.

Metro is expected to open in 2024. There are four publicly identified Sydney Metro stations in the vicinity of the CBP site: Barangaroo, Martin Place, Pitt Street and Central. A fifth station is planned in Hunter Street and another one in Pyrmont as part of the Sydney Metro West line.

Figure 11, over page, shows the location of the future Metro stations.

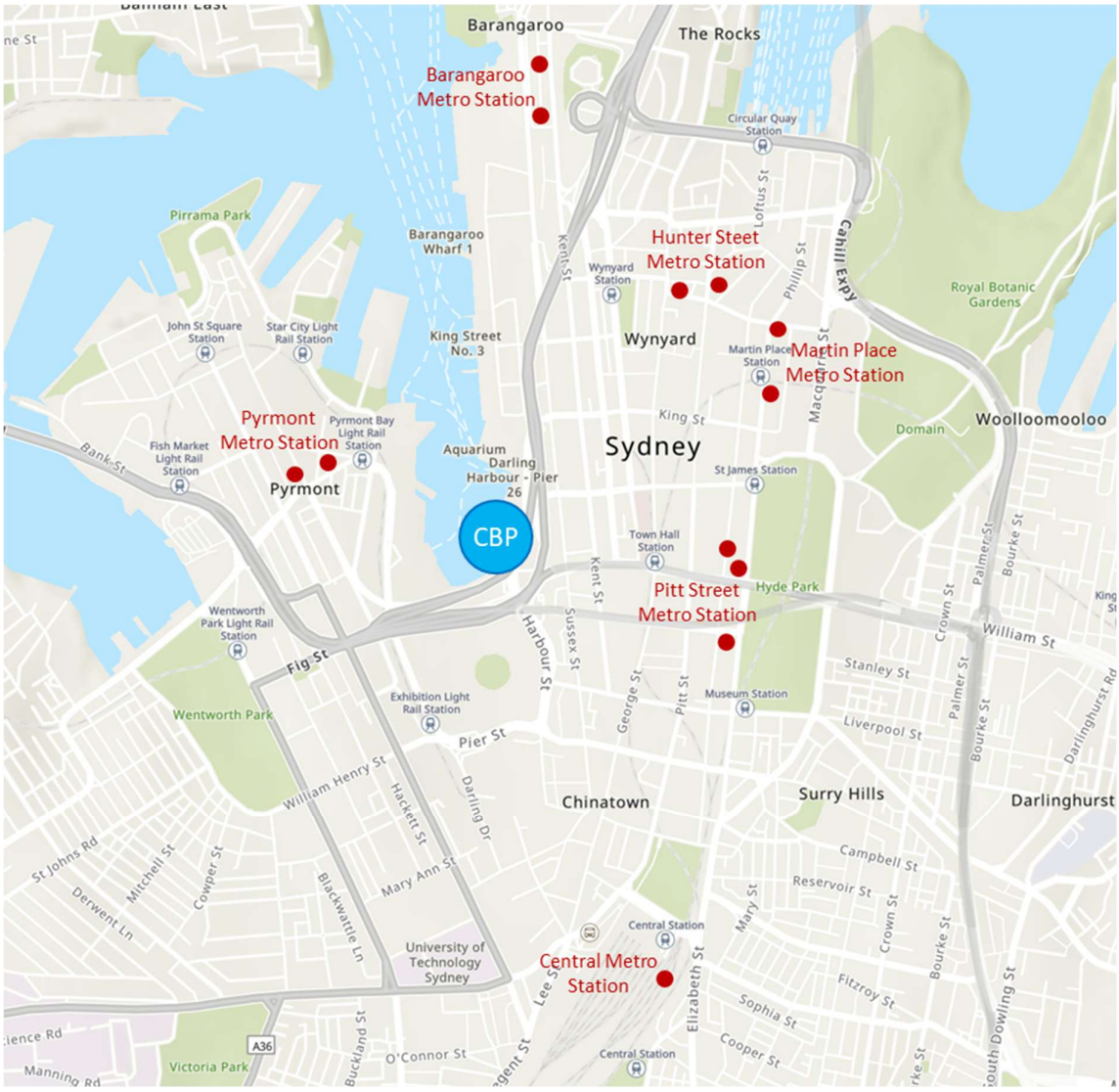


Figure 11 Future Metro stations (Source: Aurecon)

3 Development proposal

3.1 Overview

The Cockle Bay Park redevelopment consists of 43 floor levels of predominantly commercial use, including a retail podium. The development will consist of the following:

- Commercial (office) – 75,000m^2 GFA maximum allowable
- Retail (Level 00 – Level 04) – 14,000m^2 GFA maximum allowable
- No tenant parking is proposed in the development. However, Darling Park parking will be available for the tenants use
- Vehicular access from Harbour Street via Wheat Road:
  - South: Priority control left-in, left-out for service vehicles to access and egress the loading dock
  - North: Connection for passenger vehicles to the drop-off area and Wheat Road
- End of trip facilities (EOTF) – Capacity for 502 bike parking, up to 1,058 lockers and 50 showers between commercial and retail services. An additional 53 bicycle parking spaces are provided for the public
- Loading dock – Capacity for nine service vehicles with the option of a supplementary bay depending on the size of the vehicles on site

3.2 Vehicle access

Vehicular access to the proposed site will be provided from Wheat Road, as shown in Figure 12, below. An enlarged plan is available in Appendix B – Wheat Road proposal plans.

At the southern end of the site a connection between Wheat Road and Harbour Street will be modified to provide a priority control left-in, left-out only for service vehicles to access and egress the loading dock. The modification can also facilitate egress from the adjacent Ribbon development located south of the site. At the northern end of the site another connection between Wheat Road and Harbour Street will be modified to provide passenger vehicles access to a drop-off area and Wheat Road.

Based on this left-in and left-out movement design, there is no opposing movement to cause vehicles to be delayed or queued significantly. Drivers will seek a lag between traffic to exit onto Wheat Road. As a result of this vehicle movement design, there is no further need to assess the intersection using SIDRA. We have undertaken an assessment of the queuing capacity, based on measuring the length of the left-out lane. Six vehicles are able to be stored at the loading dock entry and seven at the porte cochere, if there are issues with vehicles exiting onto Wheat Road. A detailed queue assessment is provided in Appendix C – Swept path and queue assessment.

It should be noted that vehicular access to the site will not interact with public pedestrian and cycling infrastructure, so no conflict is assumed between these transport modes.

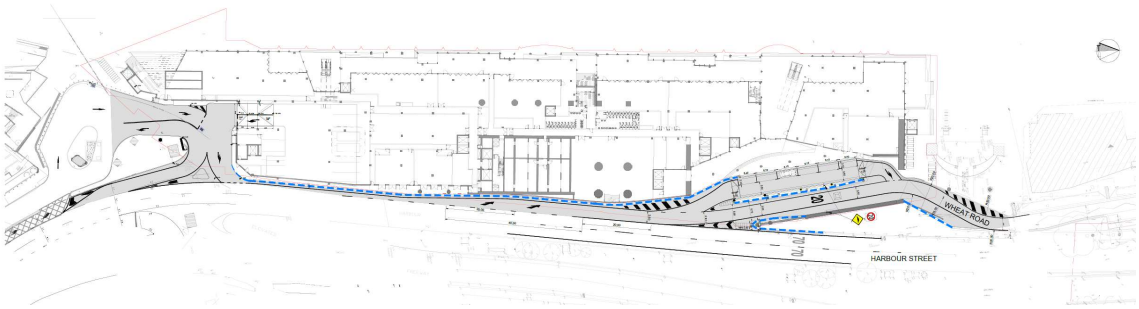


Figure 12 Cockle Bay Park access locations (Source: Enstruct, CBP-SK-ENS-CIV-DRW-20-1011-01, 31/08/2021)

3.3 Vehicle parking

The car parking rates set in the LEP 2012 have been used as an appropriate benchmark to determine the maximum number of on-site parking rates.

The maximum car parking provision for the uses proposed as part as Cockle Bay Park redevelopment as per the Sydney LEP 2012 Section 7.6, is summarised in Table 7 for each land use.

Table 7 LEP 2012 maximum parking provision allowed

Land use	Maximum parking rates	Gross Floor Area (GFA)	Max parking provision
Commercial	$\frac{Gross\ Floor\ Area\ Office\ \times Site\ Area}{50\ \times Total\ Gross\ Floor\ Area}$ [3]	75,000m^2	170 spaces
Retail	Not applicable for buildings of more than 2,000m^2	-	-

Although the proposed development could provide a maximum of 170 on-site parking spaces based on LEP 2012, no on-site parking spaces will be provided in order to encourage sustainable travel to the proposed site. The Cockle Bay Park tenants will be able to access off-street parking at Darling Park, where up to 150 parking spaces will be available, as part of a publicly accessible paid parking station.

Additionally, the site is surrounded by numerous multi-modal transport options as shown in sections 2.5 to 2.8. and the development seeks via the Green Travel Plan to promote employees and visitors to utilise sustainable travel options (public and active transport).

The Cockle Bay Park redevelopment building line will extend over Wheat Road, as a result approximately 19 existing car parking bay facilities along Wheat Road will be removed. These are:

- Disabled parking area (public parking) – 5 bays, north end of the site
- Authorised vehicles (service vehicles) – 14 bays approx., along Wheat Road

It should be noted that the proposal includes loading dock facilities and a porte cochere to cater for vehicles accessing Cockle Bay Park redevelopment and the wharf. The suitability of these facilities are discussed in Section 4.4 and Section 4.5 respectively.

3.4 Pedestrian access

Based on the precinct pedestrian movement study completed by Arup (Cockle Bay Park Redevelopment Pedestrian Movements Memo, V1, 8 October 2021), there are four pedestrian routes connecting the site with the CBD and a fifth route connecting the site with Pyrmont as shown in Figure 13, over page.

Pedestrians accessing the tower lobby on Level 3 are likely to use Druitt Street (Route 4) being the most direct access from Town Hall Station and the future Pitt Street Metro Station. Additionally, the retail Levels 0-3 are serviced by multiple access points from the Pyrmont Bridge entry, the Market Street entry, the Public Parkland and the Waterfront Promenade.

[3] Site area approximately 10,000m^2

Figure 13 Exiting Cockle Bay Wharf pedestrian access points (Source: Cockle Bay Park Redevelopment Pedestrian Movements Memo, Arup – Appendix A)

It should be noted that the development expects to improve the Druitt Street and the Market Street pedestrian bridge connections by. Figure 14 and Figure 15 show the proposed design for both respectively.

- Improving the visual connection to Cockle Bay Wharf on the eastern end
- Including better wayfinding between Darling Harbour and the CBD
- Improving customer safety due to open nature of arrival point
- Providing overall enhanced customer experience

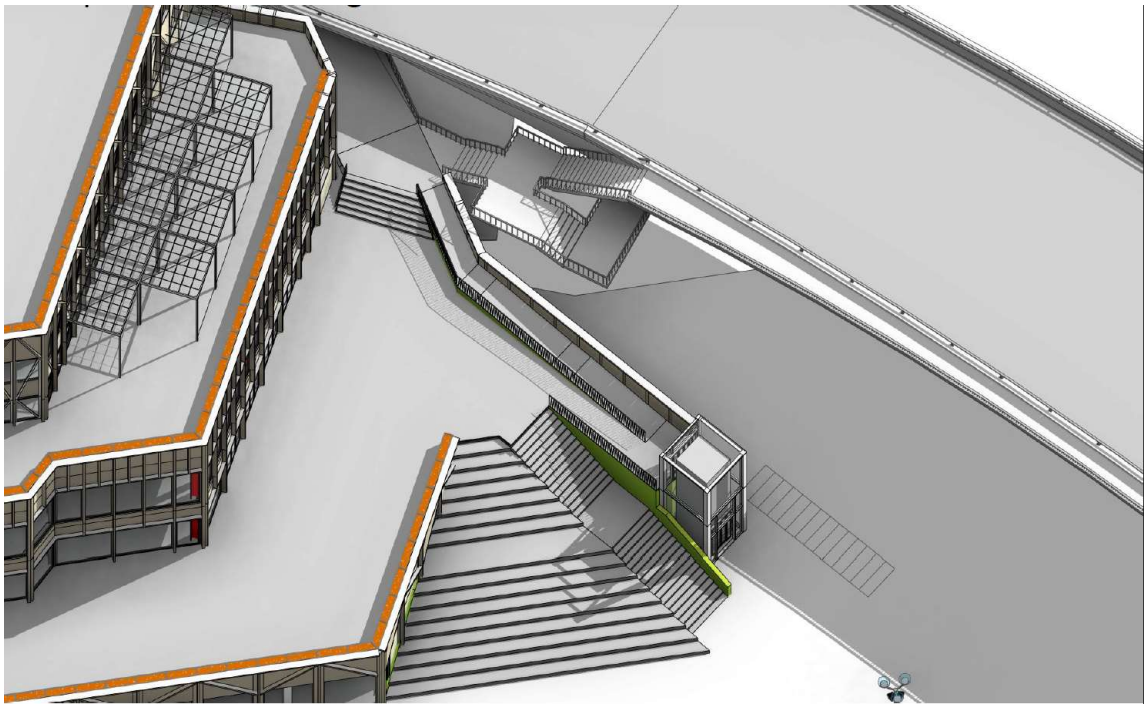


Figure 14 Druitt Street pedestrian connection proposed design (Source: Druitt Bridge Connection, Architectus, 3 September 2021)

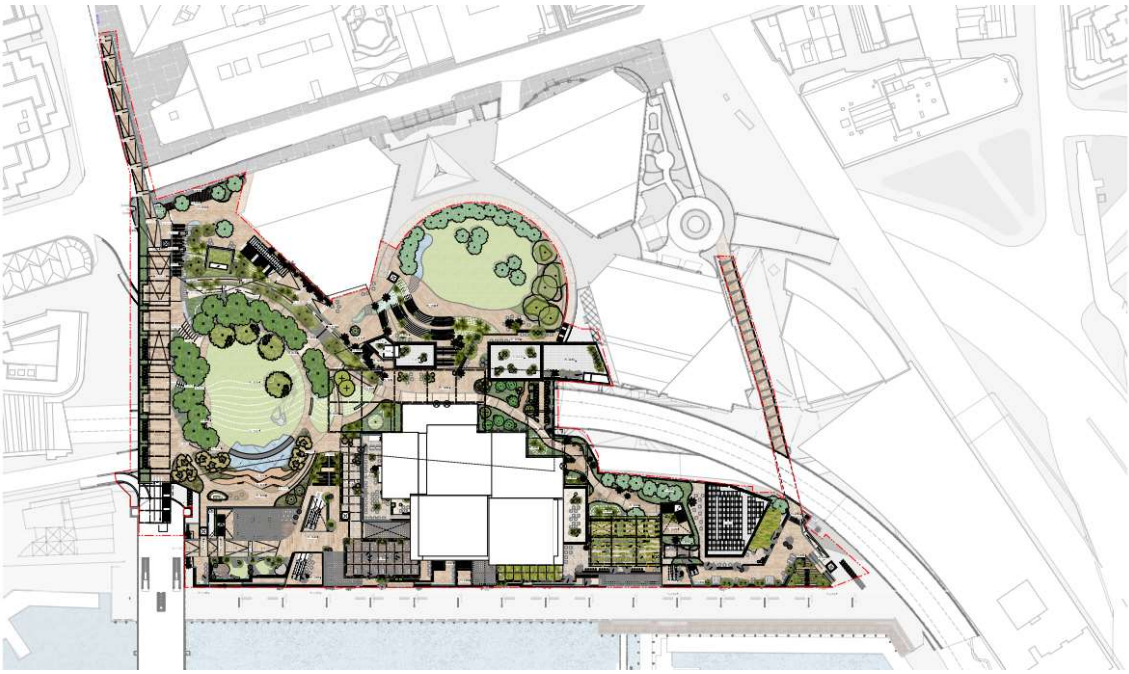


Figure 15 Market Street pedestrian connection proposed design (Source: CBP-MGC-DRW-L-10-04-Northern Park & Market Civic Link, Rev 4, McGregor Coxall, 1 October 2021)

3.5 Bicycle facilities

Condition of consent C21 of the Concept Stage 1 (SSD 7684) requires future development application(s) to include bicycle parking for employees/ visitors and end of trip facilities (toilets, change/ locker rooms and showers) informed by the DCP 2012 bicycle parking rates and end of trip facilities design requirements.

The development plans show a bicycle parking for employees on the neighbouring DP1 site, directly beneath the Crescent Garden and EoT amenities. In addition, six other smaller facilities at strategic locations locations around the site plan to offer bicycle parking to visitors.

The primary staff bicycle parking entrance would be via Sussex Street. The secondary access connections will all require the use of vertical transport (either lift or stair) to negotiate the level difference and arrive at the new Tower Lobby.

The suitability of the bicycle provisions is discussed in Section 4.3 of this report.

3.6 Loading facilities

A dedicated loading area with capacity for nine service vehicles, with the option of a supplementary bay depending on the size of the vehicles, is proposed within the ground level and has been designed to provide for the day-to-day servicing needs of the retail and commercial areas.

The loading facilities are proposed as follows:

- One loading bay for 12.5m long rigid vehicles
- One loading bays for 8.8m medium rigid vehicles
- Two loading bays for 6.4m small rigid vehicles
- Five bays for cars, vans, couriers etc.
- Two bays dedicated for two permanent compactors

It should be noted that the loading bay dedicated to a medium rigid vehicle could be designated to two smaller vehicles (cars, vans or couriers) with appropriate on-site management.

The suitability of the proposed loading arrangements is discussed in Section 4.4 of this report.

4 Transport assessment

4.1 Mode share

The target mode share for the site is likely to have similar mode splits as the current trend detailed in the existing mode share data. However, it is estimated to fluctuate in association with the development infrastructure (i.e. bicycle parking provision) and future changes (i.e. public transport accessibility and frequency). While it is noted that the active and public transport facilities within the City of Sydney have been well developed, these are constantly improving to match the growth in demand and to maintain high usage and reliability.

With the existing parking provisions and restrictions within Darling Harbour, people are encouraged to travel in and around Sydney via sustainable transport modes of travel, as evidenced by the ABS 2016 Census data, where a considerably high proportion of commuters (82%) who live within Sydney are using sustainable transport to travel to work, which includes bus (22.5%), train (48.9%), light rail (0.9%), ferry (1.6%), walk (7.1%) and bicycle (1.5%). While the remaining 18% of commuters travel to work via private vehicle or taxi.

The site is surrounded by and accessible to numerous public transport facilities and sustainable transport options. It is noted that currently some of the facilities that have been identified are outside the comfortable walking distance of 400m, these can still be accessed via other intermediate public transport services such as trains, buses or light rail to reduce the walking distance as detailed in Section 2.8 of this document.

Although tenants will be able to use the existing parking at Darling Park[4], a reduction in the private car mode share is expected with the implementation of the new Sydney Metro line. This reduction is likely to cause a mode shift towards public transport and active transport, given the high accessibility available at the site and its location.

Similarly, the primary transport mode for visitors and customers is likely to be via active or public transport, with a similar mode share as work trips. The existing mode share and an assumption of the targeted mode share for the development are listed in Table 8, below.

Table 8 Existing and targeted mode share (Source: Arup)

Mode	Existing mode share	Targeted mode share
Train	48.9%	42.8%
Metro	0%	26.1%
Light rail	0.9%	0.9%
Bus	22.5%	11%
Ferry	1.6%	1.6%
Private car	17.6%, including 2.5% using private vehicle as a passenger	8.8%, including 2.5% using private vehicle as a passenger
Bicycle	1.5%	1.5%
Walked only	7.1%	7.1%
Total	**100%**	**100%**

[4] It is expected that there will up to 150 parking spaces available for Cockle Bay Park tenants.

4.1.1 Predicted movements generated by the proposed development

Based on Arup's Pedestrian Movements Memo (refer to Appendix A) the total users of the building coming from/ going to home via various transport modes is outlined in Table 9.

Table 9 Total users of the building (Source: Arup)

Peak Period	Total
AM Peak 1 hour	3,480
Midday Peak 1 hour	4,800
PM Peak 1 hour	3,070
Daily	18,000

Arup's Pedestrian Movements Memo also expected that once Sydney Metro is operational, 71% of workers could access Cockle Bay Park via the Druitt Street entrance, 21% using the Market Street entrance, 3% coming from the north and 2% accessing the site from the south and Pyrmont Bridge. The report findings indicate a dominance to the south east for commuters approaching the site, indicating that the main entrance for commuters should potentially be places at the southeast of the site, towards the Sussex/ Druitt Street intersection.

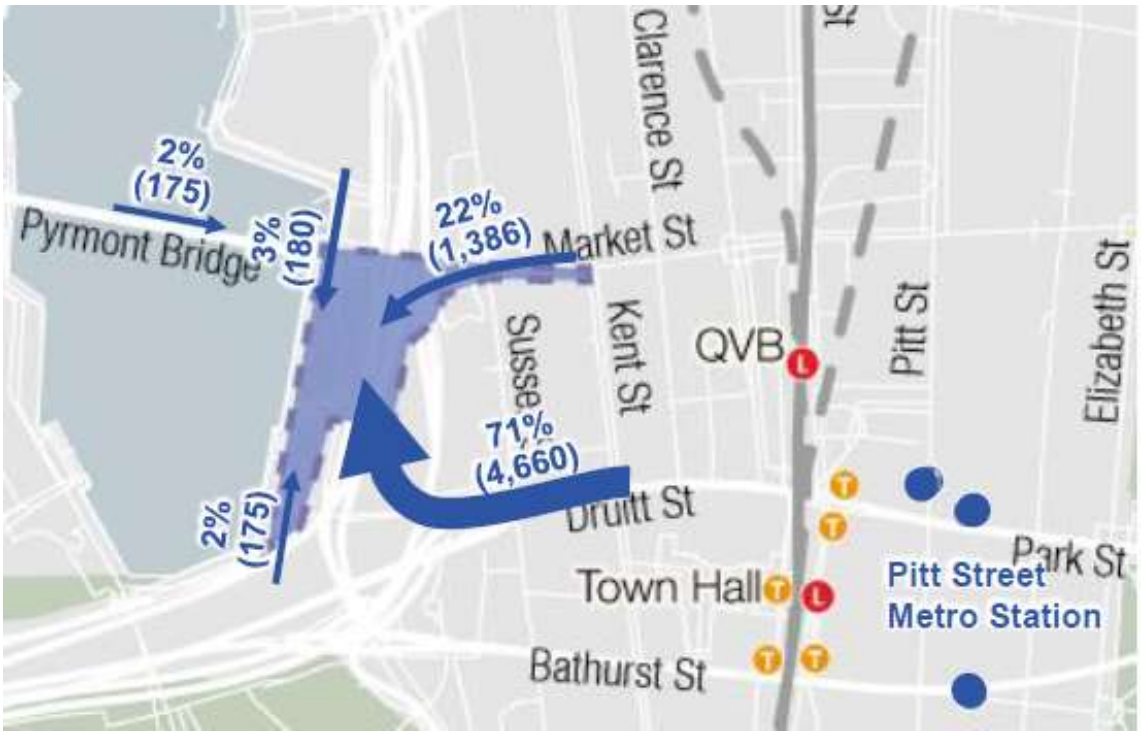


Figure 16 Overall entry proportions for commercial workers (Source: Cockle Bay Park Redevelopment Pedestrian Movements Memo, Arup – Appendix A)

Figure 17 provides an estimate directional proportions of cyclist to the site based on Arup's Cyclist Movement Report. Approximately a 40% from the west, a 25% will come from the north and south and a 20% from the east.

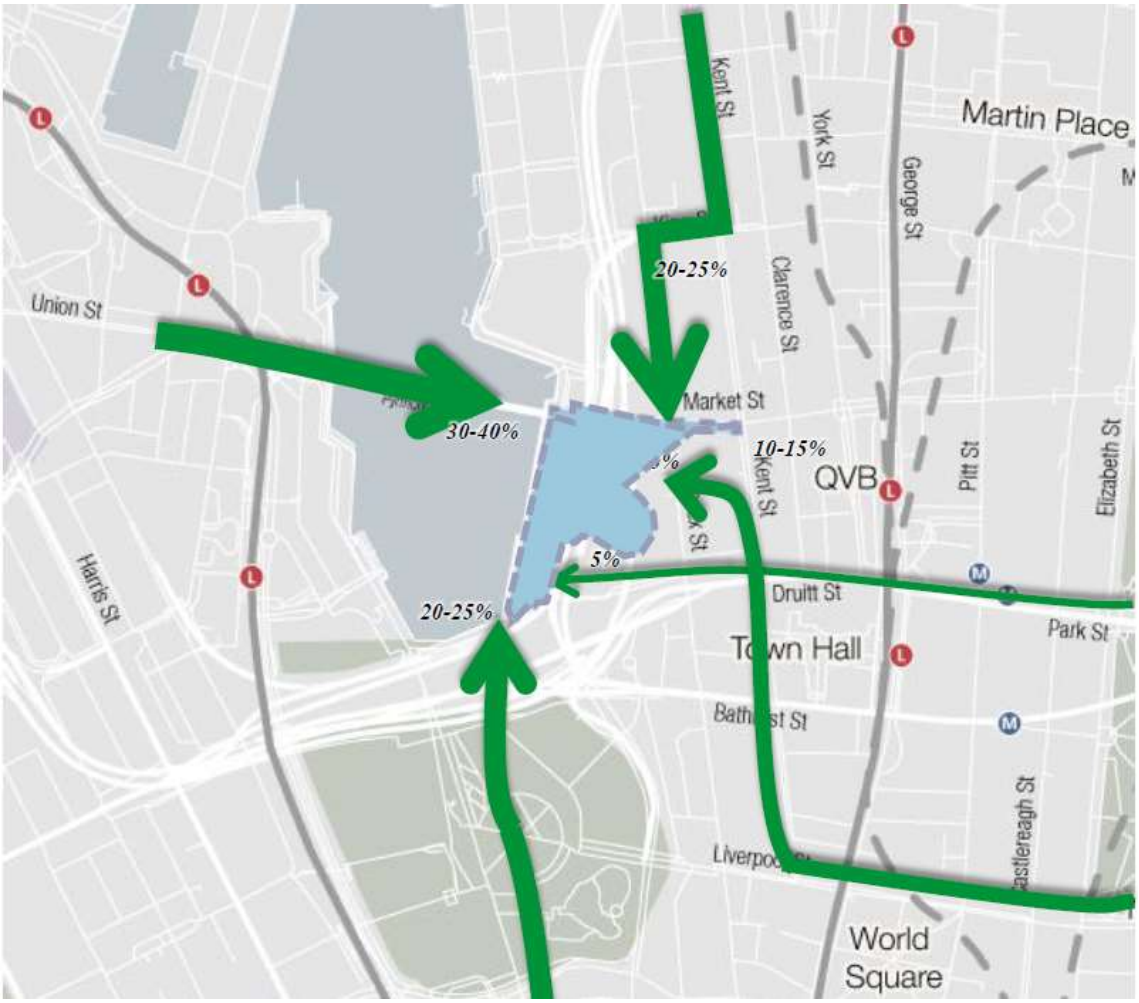
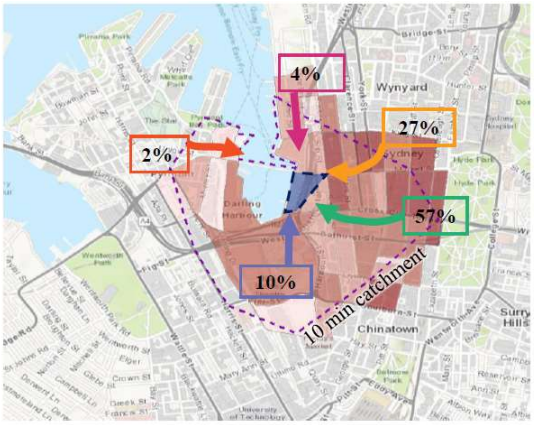


Figure 17 Indicative directional splits of cyclist access based on existing infrastructure (Source: Cockle Bay Park Redevelopment Cyclist Movement, Arup)

Figure 18, Figure 19 and Figure 20 show the employment and residential growth within 10 and 15 minute catchment for 2016 and 2056 and the proportion of people for each of the site access points.

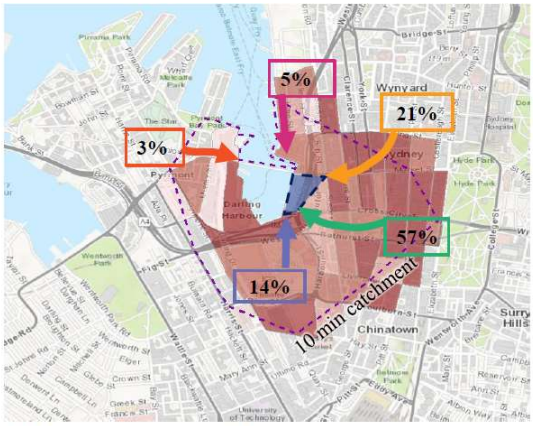
All three figures show a higher proportion of people accessing the site from the CBD via Druitt and Market Streets.



2016 Employment – 65,854 jobs

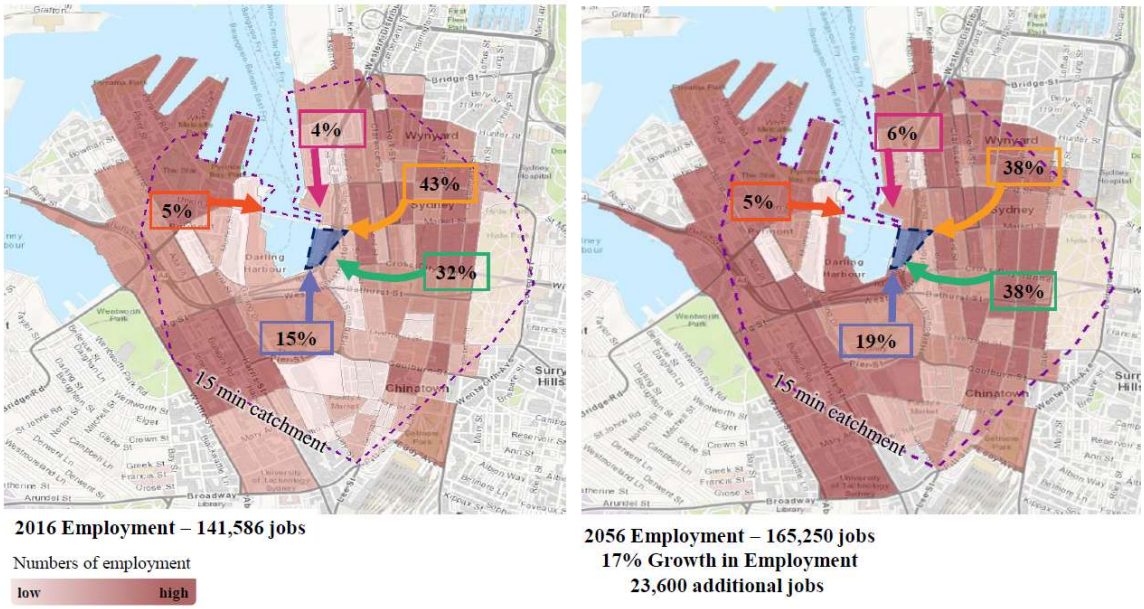
Numbers of employment

low high



2056 Employment – 78,881 jobs
20% Growth in Employment
13,027 additional jobs

Figure 18 Employment 10 minutes walking catchment (Source: Cockle Bay Park Redevelopment Pedestrian Movements Memo, Arup – Appendix A)



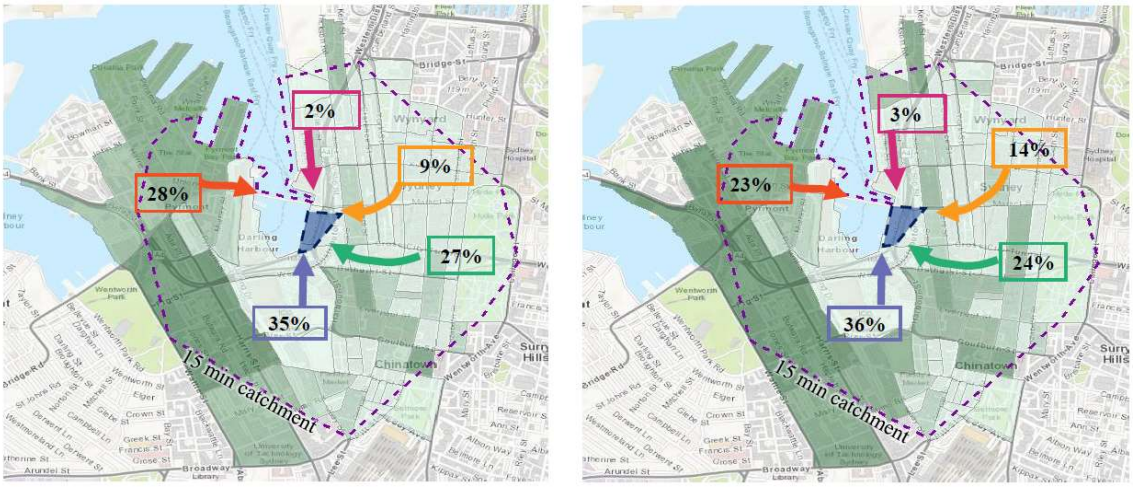
2016 Employment – 141,586 jobs

Numbers of employment

low high

2056 Employment – 165,250 jobs
17% Growth in Employment
23,600 additional jobs

Figure 19 Employment 15 minutes walking catchment (Source: Cockle Bay Park Redevelopment Pedestrian Movements Memo, Arup – Appendix A)



2016 Residential Population 39,875

Numbers of residents

low high

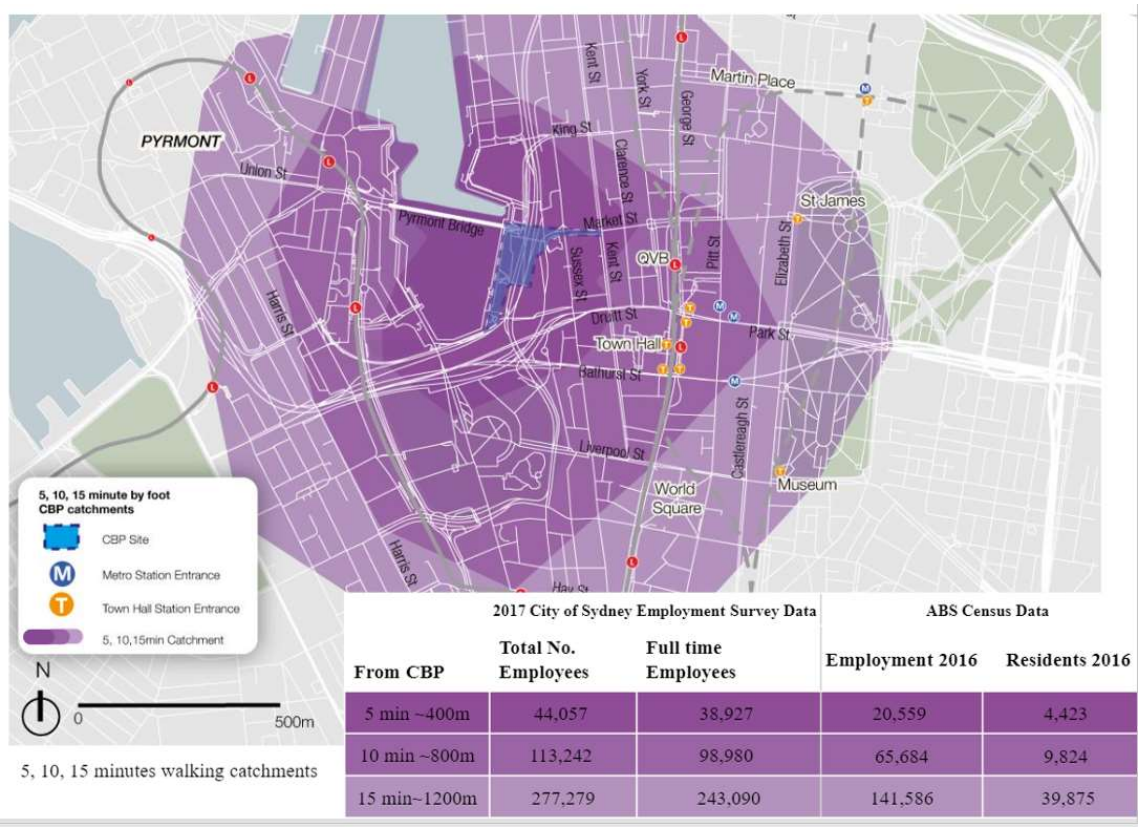
2056 Residential Population 74,581
87% Growth in Residents
34,705 additional residents

Figure 20 Residential 15 minutes walking catchment (Source: Cockle Bay Park Redevelopment Pedestrian Movements Memo, Arup – Appendix A)

4.2 Pedestrian network

Most of the generated movement to and from the site is estimated to travel via walking or other transport modes that require walking from/ to the site (see Section 4.1), the pedestrian demand is estimated to be the main mode of travel occurring directly to/from the development.

Figure 21 shows the 5, 10 and 15 minutes walking catchment surrounding the site and majority of the public transport hubs are within the walking catchment. The population and employment numbers based on 2016 Australian Bureau of Statistics censes data are also shown.



	2017 City of Sydney Employment Survey Data		ABS Census Data	
From CBP	Total No. Employees	Full time Employees	Employment 2016	Residents 2016
5 min ~400m	44,057	38,927	20,559	4,423
10 min ~800m	113,242	98,980	65,684	9,824
15 min~1200m	277,279	243,090	141,586	39,875

Figure 21 Walking catchments – 5, 10 and 15 min (Source: Cockle Bay Park Redevelopment Pedestrian Movements Memo, Arup – Appendix A)

4.3 Bicycle parking provision

This section provides a summary of the bicycle parking provision required, as outlined in the cycling movement assessment developed by Arup (Cyclist Movement).

Condition of Consent C21 of the Concept Stage 1 (SSD 7684) consent requires that Future Development Application(s) shall include bicycle parking for employees/visitors and end of trip facilities (toilets, change/locker rooms and showers) in accordance with the DCP 2012 bicycle parking rates and end of trip facilities design requirements.

Arup and Five At Heart, a specialist that addresses EoT Facilities and associated offerings, have carried out a detailed analysis of the proposed EoT and bike facilities. They have undertaken a benchmarking review of other comparable commercial and retail projects and compared this to the DCP and GreenStar requirements.

Table 10 provides an outline of the relevant rates under the DCP 2012, GreenStar and benchmarking review.

Table 10 Parking rates in accordance with DCP 2012, GreenStar and Benchmarking (Source: Cockle Bay Park Redevelopment Cyclist Movement, Arup)

Bicycle parking rate	DCP 2012		Green Star		Benchmarking	
	Employees	*Visitors*	*Employees*	*Visitors*	*Employees*	*Visitors*
***Commercial** 75,000m2*						
Bikes	500	188	469	41	423	45
Lockers	500		563		940	
Showers	50		54		42	
***Retail** 14,000m²*						
Bikes	70	47	88	8	79	8
Lockers	70		106		118	
Showers	7		13		8	

4.3.1 Employees EoT

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, as shown in Figure 22, over page. 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, almost directly above the bicycle parking area. After showering, lobby access is gained from Level 3 via either the adjacent internal stairs, escalator or lift.

4.3.2 Visitor EoT

Visitor bicycle parking is located in five strategic locations around the site as shown in Figure 22; and provides reasonable proximity to destination while maintaining clear pedestrian paths. This includes bicycle parking both at Harbour Foreshore and Sussex Street (Level 0), as well as on the Public Park Level (Level 3).

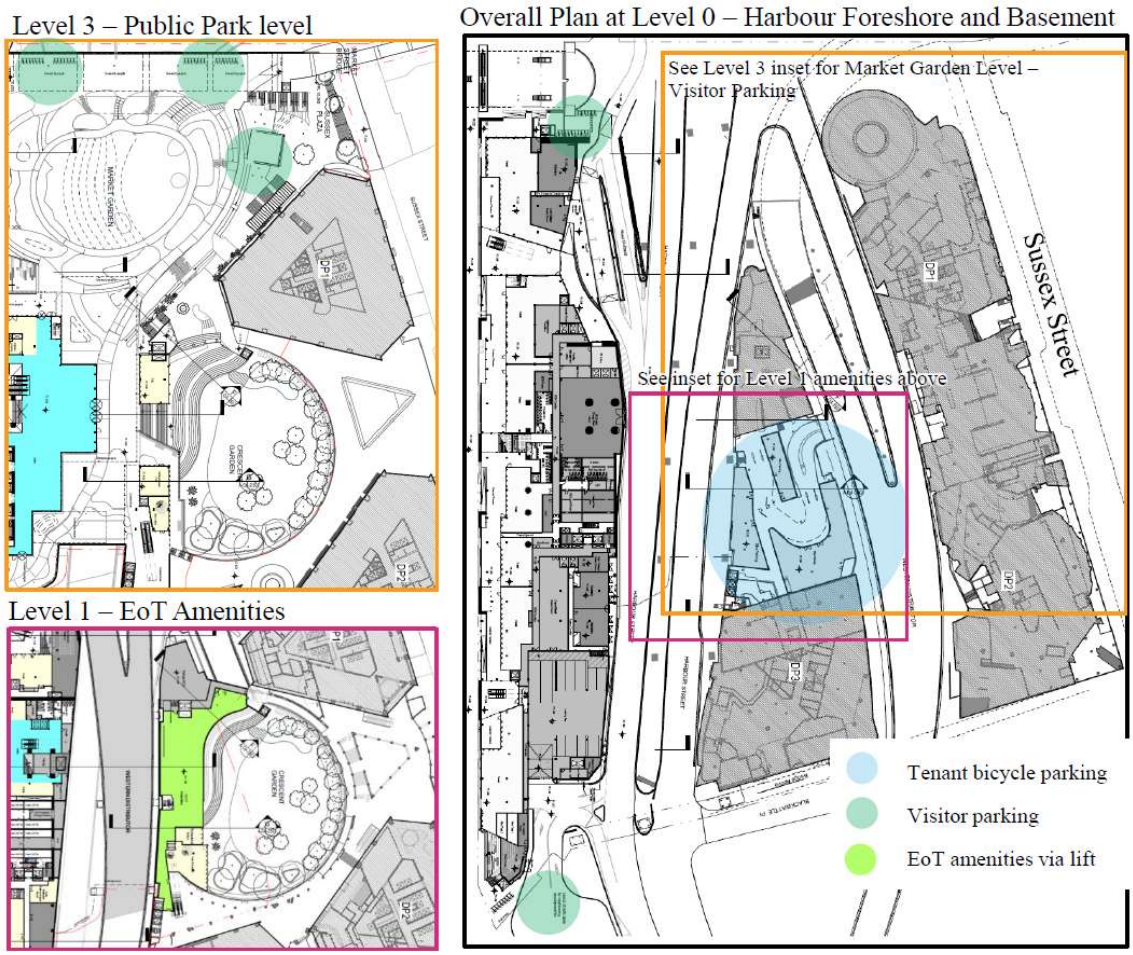


Figure 22 EoT location (Source: Cockle Bay Park Redevelopment Cyclist Movement, Arup)

4.3.3 EoT access

The primary staff 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.

Figure 23 EoT access (Source: Cockle Bay Park Redevelopment Cyclist Movement, Arup)

4.4 Loading facilities

4.4.1 Loading dock requirements

The City of Sydney DCP 2012 requirements for service vehicle parking for new developments have been used as guidelines for this project. The DCP 2012 sets out rates for loading facilities for different development types. A review of these rates and the floor area schedule results in a minimum of 40 parking spaces requirement, summarised in Table 11.

Table 11 Loading dock requirements according to DCP 2012

Use	GFA	Loading rate	Loading requirement
Commercial	75,000m^2	1 space per 3,300m2 for the first 50,000m2 1 space per 6,600m2 for additional floor area	19
Retail	14,000m^2	1 space per 350m2 up to 2,000m2 1 space per 8m2 for additional floor area	21
Total			**40**

This level of service vehicle parking provision would require significant land and is likely to be impractical for many inner-city developments that typically are space constrained. The number of bays required as per the DCP 2012 do not consider best practice traffic management practices and were considered oversized when compared to other developments in Sydney CBD. A benchmarking exercise of ten recent developments in the Sydney CBD with similar functions determined that the number of parking bays could be reduced (refer to Appendix D – Loading dock benchmarks).

The estimated number of daily trips to Cockle Bay Park redevelopment was calculated using an alternative method, which is based on observed generation rates seen in Sydney for similar developments and is able to consider daily delivery trips for a wider range of services. This trip generation tool applies a delivery rate for each of the proposed area uses which is proportional to the GFA for that service. In addition, this method allows to calculate daily number of delivery trips, which can be broken down into and hourly rate based on a number of factors including loading dock management, building operating hours and scheduling. For the purpose of this assessment, daily trips generated were broken down into a flat-hourly profile which assumes that the dock is managed and service vehicle deliveries are optimised (i.e. no peaks).

Used rates derived from survey data from office, retail, and other facilities in Sydney, as well as relevant guidelines and local authority regulations are as follows:

- 0.18 vehicles/100m2/day for Office/commercial deliveries
- 0.06 vehicles/100m2/day for Office/courier deliveries
- 2.20 vehicles/100m2/day for Restaurant/Café deliveries
- 0.53 vehicles/100m2/day for Retail deliveries

Table 12 outlines the maximum number of trips for each of the proposed services. Note that the retail areas will be subject to separate and future fit-out, but will likely be entirely dedicated to food and beverages.

Table 12 Loading dock daily deliveries

Use	GFA	Maximum daily trips
Commercial	75,000m^2	180
Retail	14,000m^2	308
Total	**89,000m^2**	**488**

Note that bicycle, motorcycle couriers and long-dwell time vehicles (trades and maintenance people) are excluded from trip calculations.

Considering loading dock operation time of 14h and a 20 minutes turnaround for service vehicles and 12.5 minutes for cars, vans and courier vehicles to enter, load/un-load and exit the dock, the loading dock would need between twelve and nine bays.

Industry guidelines suggest that the typical length of stay for service vehicles is between 15 to 18 minutes. However, many cars, vans and courier vehicles are likely to have a much shorter turnaround, between 10 minutes and 15 minutes. In addition, it is noted that many buildings have signs within the loading dock indicating a maximum 20-minute length of stay. This suggests that one parking space in the loading dock can theoretically accommodate up to three service vehicles and five cars, vans or courier vehicles in a single hour.

4.4.2 Proposed loading arrangements

It is proposed to provide a total of nine bays, with the option of a supplementary bay depending on the size of the vehicles, within the ground level comprising of the following. Figure 24, over page, shows the loading dock design.

- One loading bay for 12.5m long rigid vehicles
- One loading bays for 8.8m medium rigid vehicles
- Two loading bays for 6.4m small rigid vehicles
- Five bays for cars, vans, couriers etc.
- Two bays dedicated for two permanent compactors

It should be noted that Bay 1, dedicated to medium rigid vehicles, could be designated to two smaller vehicles (cars, vans or couriers) with appropriate on-site management.

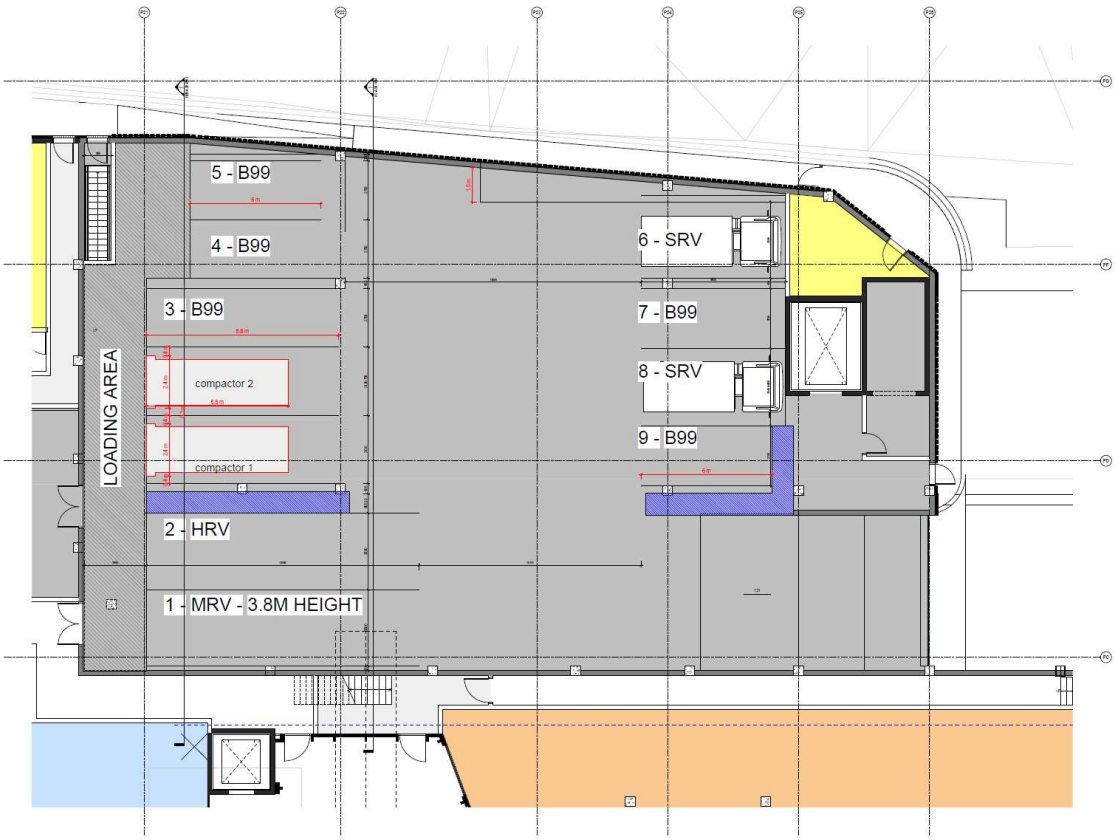


Figure 24 Loading dock design (Source: Architectus, AS-A-SK-1005 Loading Dock)

4.4.3 Loading dock management

It is expected that the loading dock will be managed by the Dock Manager, who will be on-site during the hours of operation to coordinate the safe movement of goods, vehicles and personnel within the loading dock area. Also note that the dock manager office is proposed immediately adjacent the northern bays with direct sightline of the loading dock, allowing for continued control of the area.

Additionally, a concierge service is expected to operate with personnel tasked with the onward movement of goods from loading dock areas to interim storage or target users.

The following assumptions have been considered to assess the operation on the designed loading dock:

- It is expected that the loading for the development will be operational during for 14 hours a day (from 6am to 8pm) and that will largely be utilised by service vehicles during off-peak times.
- Waste collection will be undertaken outside of operational hours internally from the waste dock. An operational waste management plan (Waste Audit and Consultancy Services, 30 August 2021) has been prepared to provide further details on the waste collection for the proposed development.
- Long rigid vehicles (LRV), medium rigid vehicles (MRV) and short rigid vehicles (SRV) will have a maximum turnaround time of 20 minutes[5]

[5] Industry guidelines suggest that the typical length of stay for service vehicles is between 15 to 18 minutes. However, many cars, vans and courier vehicles are likely to have a much shorter turnaround, between 10 minutes and 15 minutes. In addition, it is noted that many buildings have signs within the loading dock indicating a maximum 20-minute length of stay. This suggests that one parking space in the loading dock can theoretically accommodate up to three service vehicles and five cars, vans or courier vehicles in a single hour.

- Cars, vans and courier vehicles will have a shorter turnaround of 12.5 minutes[6] in average.
- Daily volumes have been considered constant during the loading dock operation time, with no peaks
- A dock manager will be on site during operational hours to increase the efficiency of the space
- A booking system will be implemented in order to optimise delivery arrival times
- Ensuring trade and maintenance workers are expected to be directed to surrounding parking stations when possible

As outlined in Section 4.4.1, the total maximum daily number of trips for the proposed development will be 488 vehicles. Table 13 shows the number of trips the designed loading dock can accommodate on a daily basis. Note that the second layout with a total of 10 bays corresponds to Bay 1, where two small vehicles could be fit instead of a MRV. Both options slightly exceed the calculated demand of 488 trips per day providing a limited level of resilience and operational flexibility.

Table 13 Number of trips that proposed loading dock can accommodate on a daily basis

Vehicle	Turnaround time	Number of bays	Number of trips	Number of bays + additional	Number of trips
Car, vans, courier	12.5 minutes	5	336	7	470
SRV, MRV, LRV	20 minutes	4	168	3	210
Total		**9**	**504**	**10**	**680**

With a detailed dock management system, the proposed loading arrangements are expected to be capable of supporting the servicing requirements of the site. Further dock management details will be developed as part of detailed design and once an anchor tenant (and other tenants) are confirmed (subject to approvals).

A Loading Dock Management Plan will be developed for the site prior to its occupation and will outline a framework of what it will cover.

4.4.4 Loading dock access

The loading dock will be accessible at the southern end of the site via a connection between Wheat Road and Harbour Street. Designed intersection will provide a priority control left-in, left-out only for service vehicles to access and egress the loading dock. The modification can also facilitate egress from the adjacent Ribbon development located south of the site.

An additional ramp from Harbour Street to Wheat Road will provide access to buses and long rigid vehicles accessing W Hotel drop off area.

The loading dock area has been designed to comply with the relevant Australian Standards.

Detailed swept paths are provided on Appendix C – Swept path and queue assessment.

[6] See footnote 5.

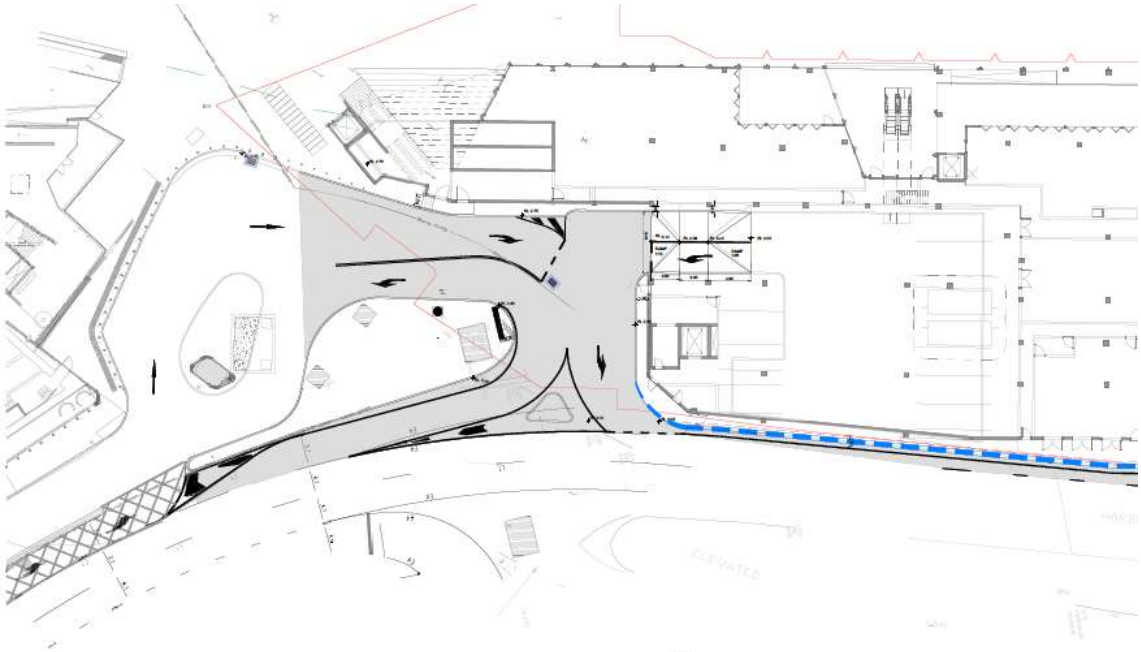


Figure 25 Cockle Bay Park loading dock (Source: Enstruct, CBP-SK-ENS-CIV-DRW-20-1011-01, 31/08/2021)

4.5 Porte cochere

General vehicular access to the proposed Cockle Bay Park redevelopment will be provided from Wheat Road at the northern end of the site through a connection between Wheat Road and Harbour Street.

The drop-off area will have capacity for six passenger vehicles (B99 class) as shown in Figure 26. It should be noted that the porte cochere will not have provision for coach parking, but will provide access to the existing coach and light vehicle parking spaces at the Sea Life Sydney Aquarium level.

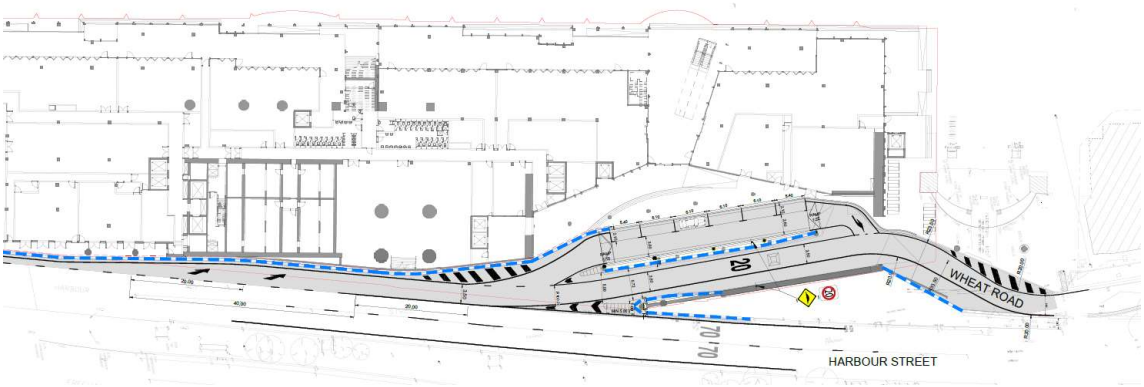


Figure 26 Cockle Bay Park porte cochere (Source: Enstruct, CBP-SK-ENS-CIV-DRW-20-1011-01, 31/08/2021)

Appropriate barriers will be installed to improve visibility and provide a safe access for vehicles and pedestrians into and within the drop off area.

Detailed swept paths are provided on Appendix C – Swept path and queue assessment.

4.6 Traffic generation

4.6.1 Estimated trip generation for private vehicles

The development proposes no new on-site parking; therefore, no additional trips are expected to arrive at the site. Some off-street parking for tenants will be available in the existing Darling Park Development carpark. Since this is an existing building and its parking capacity is not going to increase with the proposal, it is expected that no additional traffic will be generated in the area. Additionally, tenants travelling by private car and parking at Darling Park, will be accessing the Cockle Bay Park building most likely by foot.

As mentioned in Section 4.5, the drop-off area will have capacity for six passenger vehicles (B99 class). It is assumed that the vehicle traffic generated by the proposal will be the one accessing the drop off area.

The following assumptions have been considered to determine the number of vehicle trips specifically accessing the Cockle Bay Park redevelopment porte cochere during peak hours:

- No change in mode share demand for car users as a passenger since 2016 Census – 2.5%[7] of commuters in the Sydney SA3 area accessing the site will use taxi or rideshare via the drop-off area
- People travelling to Cockle Bay Park by car will most likely have a destination to the commercial services (office) part of the building
- Utilisation rate of 1 person per 10m^2
- Building occupancy of 70%
- Universal peak hour and peak-of-peak profiles

Based on a commercial Net Lettable Area (NLA) surface of circa 66,000m^2, there will be 6,600 people accessing the building[8]. It was determined that during the busiest 15 minute period in the AM peak, approximately 17 vehicles will utilise the porte cochere. This could grow to 21 vehicles, assuming a future taxi/ rideshare mode-share of 3%, instead of 2.5%.

To ensure the drop off area is operating efficiently during peak hours, vehicles must not exceed 5 minutes of parking time. This maximum parking time would allow for 18 vehicles every 15 minutes, exceeding the calculated demand. It is suggested to include signs indicating the parking time limit.

Table 14 AM peak drop off demand

Parameters	Value	Unit
Available spaces	6	
NLA	circa 66,000	m^2
Utilisation Rate	0.1	person/m^2
Building Occupancy	70%	
Peak-of-peak (15min)	30%	
Taxi/Rideshare (ABS 2016)	2.50%	
Drop-off Demand	17	vehicles
Drop off time	5	minutes

The Cockle Bay Park redevelopment porte cochere is expected to be the primary drop off/ pick up point for vehicles accessing the site. An alternative drop off/ pick up will be available at Sussex Street, accessible via a short walk.

[7] Based on a decrease on the car usage to 8.8%, car users as a passenger in the area would decrease to 1.25%. However, we have assumed a maintenance of the car usage to reflect the potential increase due to the nature and location of the building.
[8] It should be noted that Arup estimated 3,480, 4,800, 3,070 and 18,000 total number of people using the tower during the AM, mid-day, PM peaks and across the day respectively. These include various transport modes. This exercise aims to prove the operation of the drop-off area following a conservative approach.

5 Green travel plan

The objective of this Green Travel Plan (GTP) is to put forward strategies and recommendations that are relevant, feasible and likely to be effective in encouraging safe, healthy and sustainable travel choices for the proposed development's new tenants. This means providing facilities, information and support to encourage walking, cycling, public transport and car-sharing whenever practicable, while discouraging private car use. More specifically, the objectives of this GTP can be grouped into the following areas:

- Creating awareness (information emanation)
- Improving safety and confidence (infrastructure and training)
- Provision of measures (recommendations and actions)
- Provision of mechanisms to review and update the GTP

Encouraging such travel mode behaviour changes will set in motion many related environmental and personal benefits (see Figure 27).

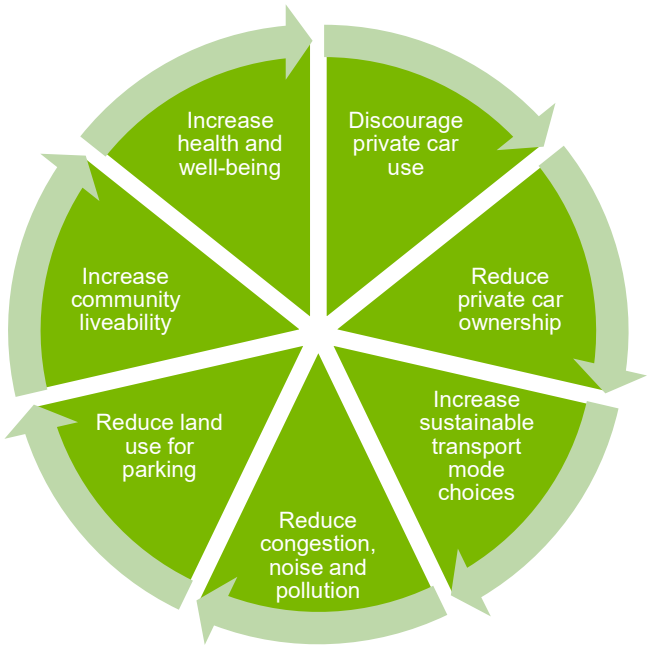


Figure 27 Environmental and personal benefits of travel mode behaviour change

5.1 Obstacles to using sustainable transport methods

The physical, mental and practical obstacles to using alternative transport methods to private car are many. Some of these barriers include:

- Lack of awareness of available alternative transport method
- Transportation of large/ heavy goods
- Lack of end of trip facilities
- Lack of storage place for personal items
- Reduced off-peak/ weekend public transport
- Temporary illness
- Physical disability
- Exposure to weather
- Breakdown of alternative transport method

- Safety concerns
- Lack of confidence of using alternative transport method
- Fashion awareness/ vanity
- Affordability

Nevertheless, these obstacles also provide opportunities to apply measures to encourage behaviour change, such as the strategies listed in the following section.

5.2 Strategies

The strategies and recommendations listed in this section should aid in achieving the objectives and helping to overcome the obstacles listed above. This is shown in Figure 28.

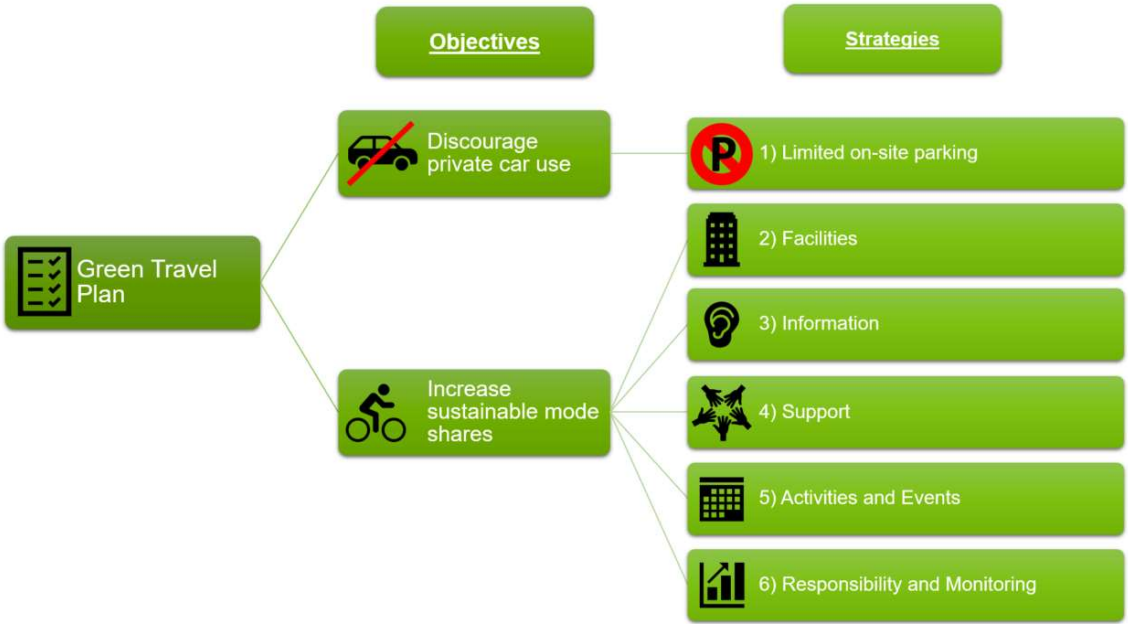


Figure 28 Overview of objectives and strategies

This section outlines the potential opportunities and measures that can be adopted by the development to meet the objectives and target mode share indicated in Section 4.1.

It should be noted that some of the recommendations noted below have already been implemented as part of the ongoing design development. This is the case of Objective 1, as the Cockle Bay Park redevelopment does not include parking facilities, encouraging employees and visitors to travel to the site via sustainable transport modes.

Table 15 Green travel plan strategies to increase sustainable mode share

Strategy 2 – Provision of facilities		
No	**Recommendation**	**Outcome/ Benefit**
2.1	Provide safe access and clear wayfinding signage within the building and public domain for cyclists to navigate to the bike parking areas.	Clear wayfinding enables tenants to use the provided infrastructure safely and confidently.
2.2	Implement security systems at the bike parking area, e.g. CCTV	Ensures the feeling of safety for facility users, minimises theft of belongings and discourages vandalism.
2.3	Provide adequate signage for the proposed bike lane to the EOT facilities.	Direct access to the EOT facility with minimised detours reduces conflict between pedestrians and cyclists and maximises quality of use for cyclists.

2.4	Provide EOT facilities, including showers, dry room, hairdryer, iron, lockers etc.	Allows for commercial and retail staff to use facilities after commuting to and from work (and moreover encourage active lifestyle, e.g. recreational activity during lunch breaks).
2.5	Install facilities to provide umbrella plastic bags.	Keeps the water contained to minimize risk of slip hazards.

Strategy 3 – Provision of information		
No	**Recommendation**	**Outcome/ Benefit**
3.1	Install a digital display board (iPad) in a public area such as the lobby, the lifts or within the lift waiting area, providing transport related information such as: ▪ Weather forecast ▪ Events calendar ▪ Road closures and their impacts or traffic delays ▪ Active transport options and updates to new or upgraded infrastructure and facilities ▪ Public transport facilities, options and disruptions in particular Town Hall Train Station	Provide tenants with the ability to make informed decisions regarding sustainable transport options, and adjust travel plans according to real time information.
3.2	Provide a welcome package for commercial and retail tenants comprising information about public and active transport facilities within the development and the surrounding area. This could include brochures or other advertising material, including maps, to inform tenants of: ▪ the high walkability to public transport and key points of interest. ▪ the available cycling infrastructure (i.e. location of cycling routes and bike parking, shared paths and others), including safe cycling routes to major points of interest. ▪ the nearby available public transport options. This should include details on timetables and routes. ▪ car and ride share providers and directions to the nearest pick-up locations.	New tenants will be aware of the active and public transport options and facilities surrounding the development. This information can then be forwarded to staff as part of the onboarding process as noted in Recommendation 3.3.
3.3	During negotiations for new tenants, or the lease renewal of current tenants, strategies should be discussed to provide information packs to new employees, containing information material similar to Recommendation 3.2.	Ongoing promotion to new starters increases awareness, and therefore likelihood of utilization, of available sustainable transport modes and facilities, particularly for retail tenants with high staff turnover.
3.4	Provide periodic electronic letters to retail and commercial tenants outlining and promoting travel related information, such as: ▪ Sustainable transport events run by Building Management and City of Sydney ▪ Major news impacting sustainable transport options i.e. road closures, long term public transport disruptions and cycle path upgrades ▪ Information regarding bicycle end of trip facilities within the building (e.g. how to access them, how to rent lockers etc.) ▪ Key information regarding access to the site, e.g. the times of the last public	Provides tenants with regular information updates regarding sustainable transport and reminders.

	transport services from the site in the evening ■ Health benefits of sustainable transport options	
3.5	Promote the use of operators' websites/mobile applications, such as the Commuter NSW application.	Informing tenants of all the available public transport options in the vicinity.

Strategy 4 – Provision of support		
No	**Recommendation**	**Outcome/ Benefit**
4.1	Employ a sustainable travel coordinator or equivalent role (e. g. on site concierge) as part of the building's management activities.	This role will execute and monitor the GTP recommendations and acts as a contact person to help with travel planning, including: – Answer any questions related to the GTP – Encourage active transport for the tenants – Liaise with City of Sydney Active Transport business contact person as required
4.2	Provide communal bicycle repair toolkits within the building, located within the bike parking area to be used by both retail and office employees.	This removes a common barrier for people to cycle (i.e. a broken bicycle and building confidence in handling break down situations).
4.3	Consider a partnership with a nearby bicycle repair shop to provide discounts to tenants of the building for bicycle accessories/repairs. Undertake promotional initiatives, e.g. invite bicycle shop owner to hold a free 'bicycle check-up' or bike-repair sessions in the building.	This removes a common barrier for people to cycle (i.e. "my bike doesn't work", "I don't have … so I can't cycle). Increased awareness and confidence will help to promote cycling.
4.4	Consider partnerships with car share or ride share operators (membership options, discounts).	Provides further incentive to discourage private car ownership as alternative to active and public transport.
4.5	Establish a building committee to coordinate different aspirations and concerns of tenants. Discuss to include their sustainable transport aspirations.	Supports understanding and coordination of efforts with respect to potential solutions and removal of barriers regarding sustainable transport.

Strategy 5 – Promotion of social activities and events		
No	**Recommendation**	**Outcome/ Benefit**
5.1	Promote participation in public walking and cycling events, such as - Walking challenges; - Cycling challenges; - Charity bike rides; - Cultural walking tours; - Lunchtime walking groups; - Overall health and wellbeing initiatives; and - Events available on City of Sydney's website. Consider providing discounted entry prices to further promote participation.	Cultivates the habit of walking and cycling and promotes a healthy lifestyle, supports socialising with like-minded people and the exchange of knowledge of the area and experiences using active transport modes.
5.2	Employ an event coordinator to organise internal promotional events, such as "Cycle to Work" day or a walking challenge "Walk 10,000 steps each day for one week" and provide a free meal to the participants.	Encourages walking and cycling as a transport mode to work, supports socialising with like-minded people and the exchange of knowledge and experiences.

Strategy 6 – Responsibility and monitoring		
No	**Recommendation**	**Outcome/ Benefit**
6.1	Employ a sustainable travel coordinator or equivalent (e. g. on site concierge) role as part of the building's management activities.	This role will execute and monitor the GTP recommendations and acts as a contact person to help with travel planning and to answer any questions related to the GTP.
6.2	Actively monitor the travel mode share by retail and commercial tenants by undertaking periodic surveys (see Section 5.3)	Monitor the effectiveness of the GTP, update GTP targets and actively implement changes.

5.3 Monitoring, Review and Maintenance

5.3.1 Usage monitoring

Monitoring the use of bicycle parking and the sustainable travel mode share for the proposed development will be crucial in understanding the effectiveness of the adopted GTP.

Travel surveys

A travel survey involves participation of the development's employees and visitors and can be undertaken using questionnaires. The travel survey is recommended to be undertaken bi-annually, preferably on a Tuesday in March and October. This allows the building management team to compare evolving trends against the baseline or precedent travel mode shares in alignment with the seasonal transport trends. The survey results will be used to understand the travel mode shifts and evaluate the success of the initiatives implemented.

During a Census year, a travel mode survey is recommended to be undertaken on the same day as Census date.

Monitoring of bike parking utilisation

Monitoring of the bike parking utilisation, i.e. physically counting the number of parked bicycles, may be undertaken during the time of the travel survey on a Tuesday in March and October and at a time of day when the utilisation is the highest. This highest utilisation may be estimated from swipe card data to understand when most cyclists have arrived. Counting of the parked bikes is to be undertaken once the number of arriving bikes to the facility has slowed down. The bike parking utilisation survey is to be undertaken by the building management on a monthly basis for the first year after opening of the development and quarterly thereafter. Users of the facilities should also be surveyed to understand barriers and areas to improve to encourage increased uptake.

The facility is considered "full" at a utilisation of 85%, i.e. the facility is deemed at capacity once 472 bicycles are parked. This is based on the current facility design upon opening, which includes a total of 555 bays.

From the first instance the facility reaches its capacity, meaning 408 bicycles or more are parked within the facility, the utilisation survey, i.e. physical counting, will need to be undertaken daily on weekdays for the following fortnight. This serves to determine if the facility reaches its capacity on a regular basis or only under exceptional circumstances. Exceptional circumstances can then be determined and noted within the GTP to avoid any misleadingly high counts in the future. However, if the facility is deemed to reach capacity on a regular basis, e.g. at least once per week, the building developer/ manager/ operator will need to be informed that potential expansion may be required in the near future and the planning process to expand the facility, as per the initial plans outlined in Appendix F – GTP draft Action plan, is to be initialised.

An understanding of how many users store their bike overnight is also important and should be investigated regularly. This process is summarised in Figure 29.

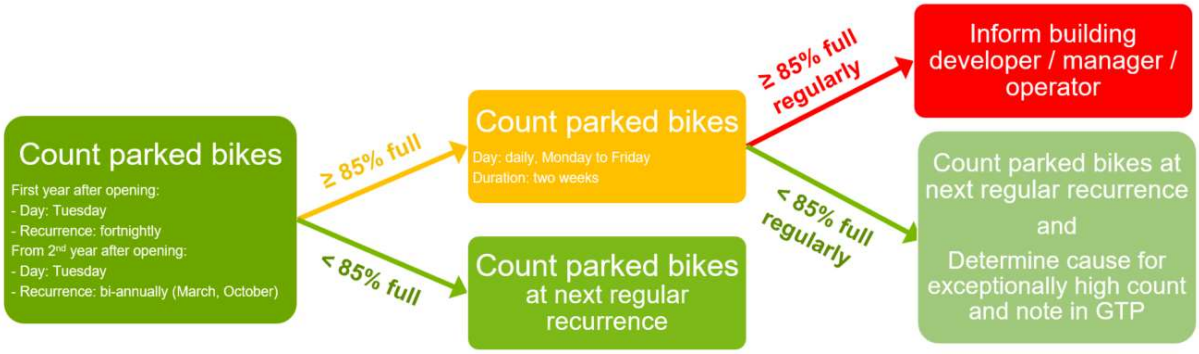


Figure 29 Bike parking utilisation survey process overview

5.3.2 Action Plan

A draft action plan is provided in Appendix F – GTP draft Action plan. The plan lists actions and incentives that will be initiated and adopted to support the implementation of the GTP aiming to encourage the use of sustainable transport modes.

5.3.3 Maintenance

The bicycle parking facilities should be well maintained by the building management with regular inspection. A security system is suggested to be implemented at the parking area to have on-going monitoring on the facilities.

5.3.4 Procedure and responsibility

The GTP implementation will predominantly be managed by the building management team, who will be responsible for ensuring that the aspects that require ongoing operation and activities are carried out as recommended in the GTP. This includes the collection of available information/data, review of this information to understand trends over time, evaluation against desired outcomes, and the establishment of any actions if required. The building management team will also require managing the day-to-day updates as part of the GTP recommendations to continually promote sustainable travel.

6 Conclusions and recommendations

The aim of this study is to assess the transport related impacts of the redevelopment of Cockle Bay Park. The development comprises 43 floors, 75,000m2 of commercial space and 14,000m2 of retail area of maximum allowance.

The following key transport impacts of the development are summarised:

- **Public Transport:** The site is situated within the centre of Sydney CBD and is accessible (within 400m radius) to high frequency public transport services including buses, trains and the future metro
- **Pedestrians:** Pedestrian demand is estimated to be the main mode of travel occurring directly to/ from the development. Main access points are Druitt Street, Market Street, Pyrmont Bridge, Harbour Promenade (north and south)
- **Cycling:** The site is adjacent to an off-road share path which connects the site with Sydney's wider cycling network. This is estimated to encourage the use of bicycles by tenants of the development for shorter trips within the City of Sydney
- **Bicycle Facilities:** To include 555 bikes parking for employees and visitors. Provide security systems with security camera surveillance on entry and exit points. EOF to be developed close to the bike parking area, including up to 1,058 lockers and 50 showers for employees and visitors split between female and male change rooms.
- **Private Vehicle Parking:** It is found that existing parking at Darling Park is adequate to cater for vehicles accessing Darling Park and Cockle Bay Park
- **Porte Cochere:** Six bays are provided to service rideshare and taxi pick-up and drop-off. The drop off area also gives access to Wheat Road and other services further north.
- **Loading Dock:** A dedicated loading area with capacity for nine service vehicles, with the option of a supplementary bay depending on the size of the vehicles, is proposed within the ground level and has been designed to provide for the day-to-day servicing needs of the retail and commercial areas. The proposed loading arrangements are expected to be capable of supporting the servicing requirements of the site. Loading dock management should be provided.

Appendix A – Cockle Bay Park Redevelopment Pedestrian Movements Memo

Technical Note

ARUP

Sky Park
One Melbourne Quarter
699 Collins Street
Docklands Vic 3008
Australia
www.arup.com

t +61 3 9668 5500
d +61 3 9668 5786

Project title	Cockle Bay Park Redevelopment	Job number	238566
cc		File reference	
Prepared by	Michael Rumbold	Date	8 October 2021
Subject	CBP Pedestrian Assumptions		

This technical note provides a summary of the key pedestrian movement assumptions developed by Arup's pedestrian planning team. These assumptions have been developed as part of our investigations and research to assist with the traffic management protocols for the Cockle Bay Redevelopment project.

The anticipated pedestrian movements associated with the commercial tenancies are based on the estimate population and historical data collected from other Sydney CBD buildings. Key assumptions include:

- Commercial building population is 6,600 (1:10m^2 of NLA)
- Am Peak 1 hour movement: 53% of the population
- Midday Peak 1 hour movement: 73% of the population
- PM Peak 1 hour movement: 47% of the population
- Daily movement: 2.72 x population

These assumptions result in peak and total daily movements for the commercial building as outlined in Table 1

Table 1: Commercial building movements

Period	Total in/out movement
AM Peak 1 hour	3,480
Midday Peak 1 hour	4,800
PM Peak 1 hour	3,070
Daily	18,000

The likely arrival routes to the site have been assessed to help understand the direction commuters to the commercial tenancies are likely to approach the site from during the AM and PM commuter peaks.

Technical Note

238566 8 October 2021

The analysis of estimated mode share has been informed by ABS census Journey to Work data at an adjacent DZN, as well as the number of services and availability of surrounding public transport connections to the site. Transport nodes close to the development site were identified and combined with the mode share data to estimate the building users who would use each node. This analysis considers an estimation of the future impact of the New Sydney Metro station in the CBD. The estimated mode share is outlined in Figure 1

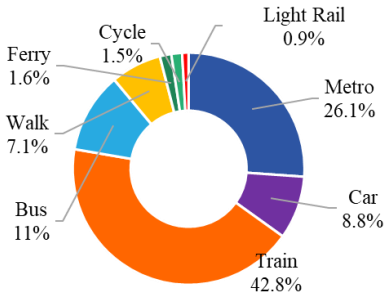


Figure 1 - Estimated future mode share

The users are then assigned to a route on the pedestrian network to understand the proportion of users accessing the site from each direction. The route choice is generally assumed to be the shortest distance, however where the city grid provides multiple equivalent alternatives, the assignment is distributed to the various routes. Figure 2 summarises the resulting arrival routes to the commercial tenancy in the AM Peak. It is assumed that the PM peak is the reverse of these routes.

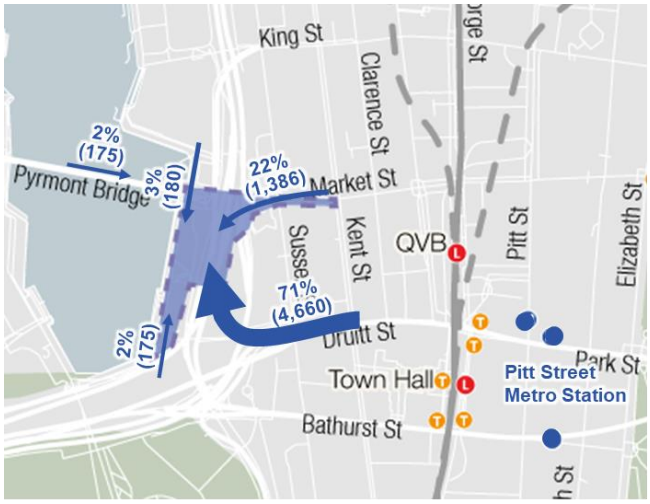


Figure 2 – Arrival routes (AM Peak)

DOCUMENT CHECKING (not mandatory for File Note)

	Prepared by	Checked by	Approved by
Name	Michael Rumbold	Eric Rivers	Eric Rivers
Signature			

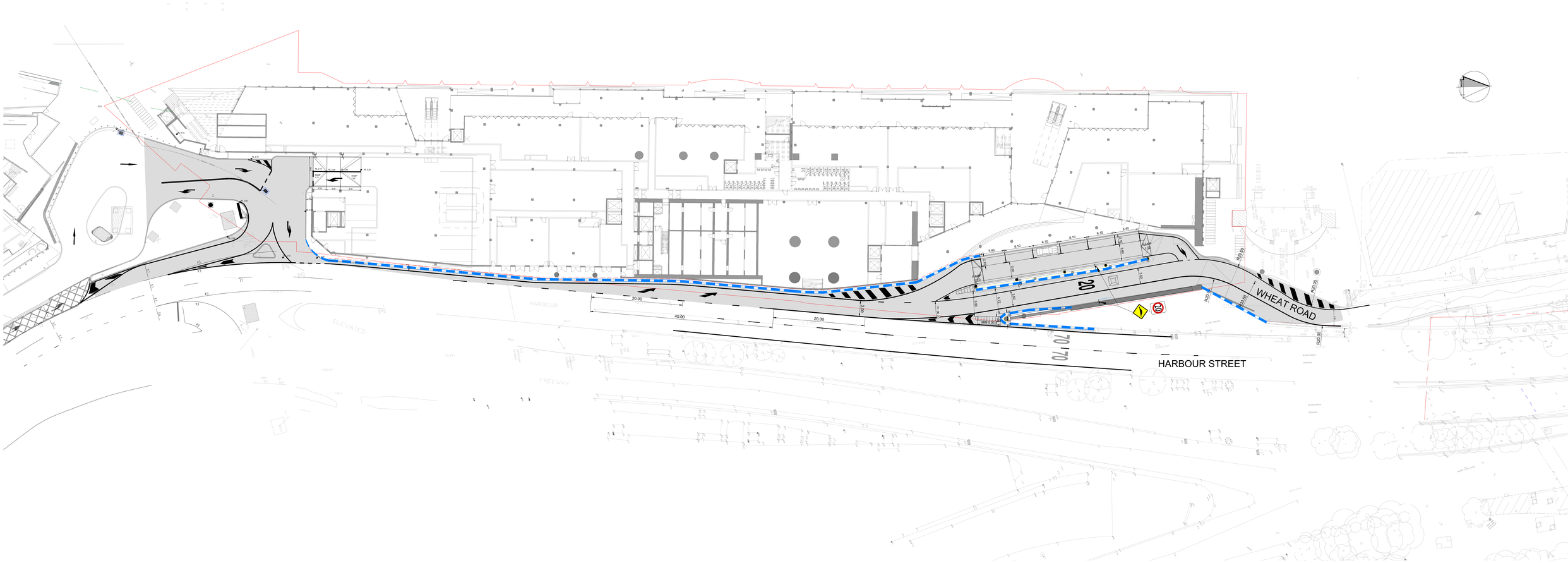
Appendix B – Wheat Road proposal plans

A0

LEGEND

- BOUNDARY AS SHOWN IN DRAWING" CBP-ARC-POD-M3D-A-0001 - Sheet - A-DA1000"
- 750 FROM KERB'S OPPOSITE FACE PROPOSED JERSEY KERB
- ARCHITECT BACKGROUND OVERLAY FROM CAD FILE: "20210820_GROUND FLOOR.dwg" RECEIVED ON 20/08/2021
- SURVEY BACKGROUND OVERLAY FROM 'RYGATE', SHOWN CLIPPED. CAD FILE: "77510_b.dwg" DATED MAY 2016
- EXTENTS OF PROPOSED PAVEMENT WORKS. SHOWN INDICATIVELY

NOTE
1. DESIGN DISPLAYED IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE AS DESIGN PROGRESSES.
2. ASSUMED INTERPOLATED SURFACES AT INTERSECTION WITH HARBOUR STREET. AREA SUBJECT TO CHANGE ONCE SURVEY BECOME AVAILABLE.



SITE WORKS OVERALL PLAN
SCALE 1:300

CIVIL
enstruct
enstruct group pty ltd
Level 4, 2 Glen Street, Milsons Point NSW 2061
Telephone (02) 8904 1444
http: //www.enstruct.com.au

CLIENT
The GPT Group
AMP CAPITAL

Rev.	Date	Description
01	31.08.21	PRELIMINARY

PROJECT NAME
COCKLE BAY PARK
PROJECT NUMBER: 6054

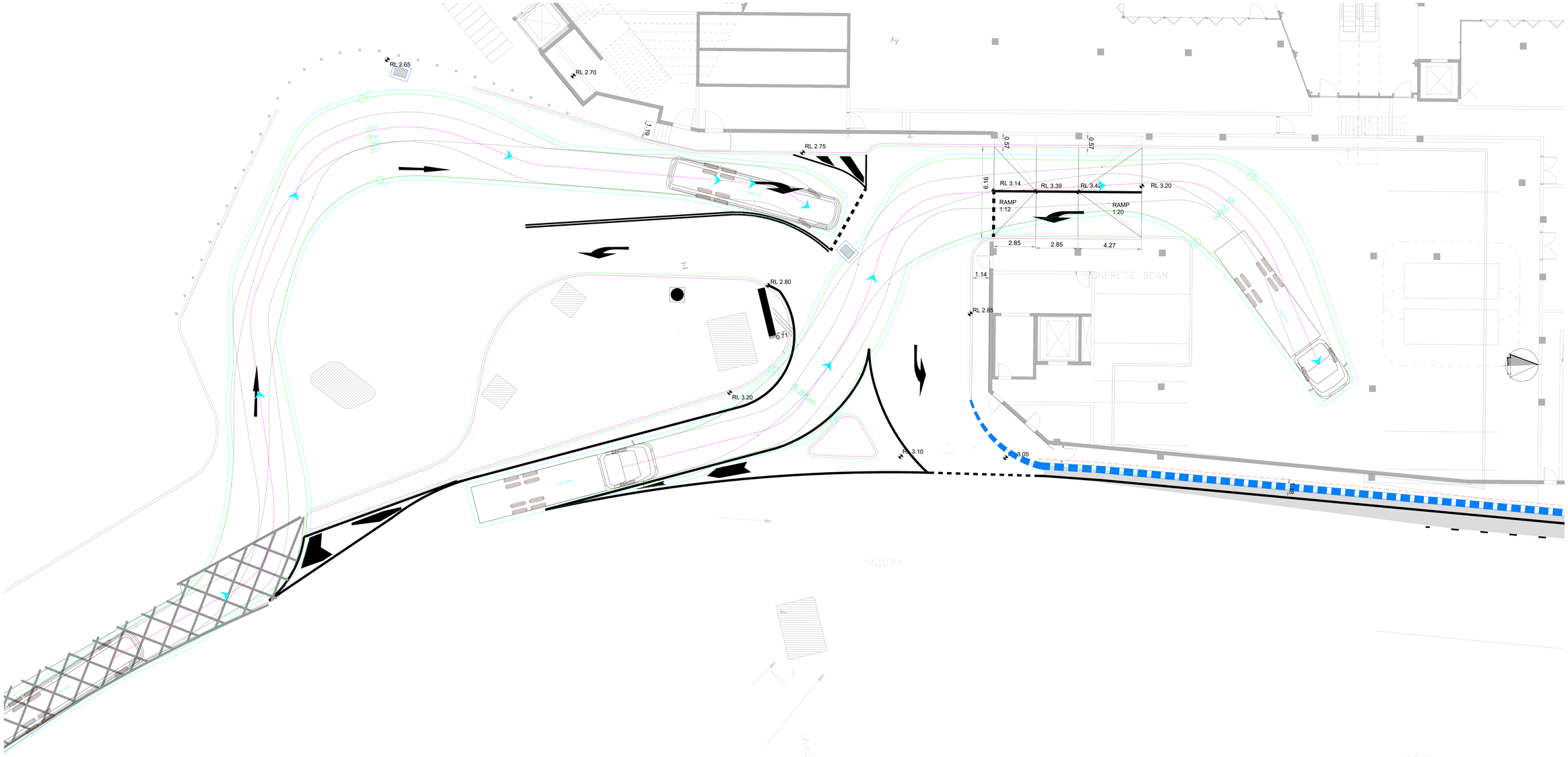
DRAWING TITLE
WHEAT ROAD - SITE WORKS OVERALL PLAN
SCALE AT A1: 1 :300 | DRAWN BY: JAF | CHECKED BY: PAL

DRAWING STATUS
FOR INFORMATION

DRAWING NUMBER
CBP-SK-ENS-CIV-DRW-20-1011

REV.
01

Appendix C – Swept path and queue assessment



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COCKLE BAY PARK
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Wheat Road / Harbour Street

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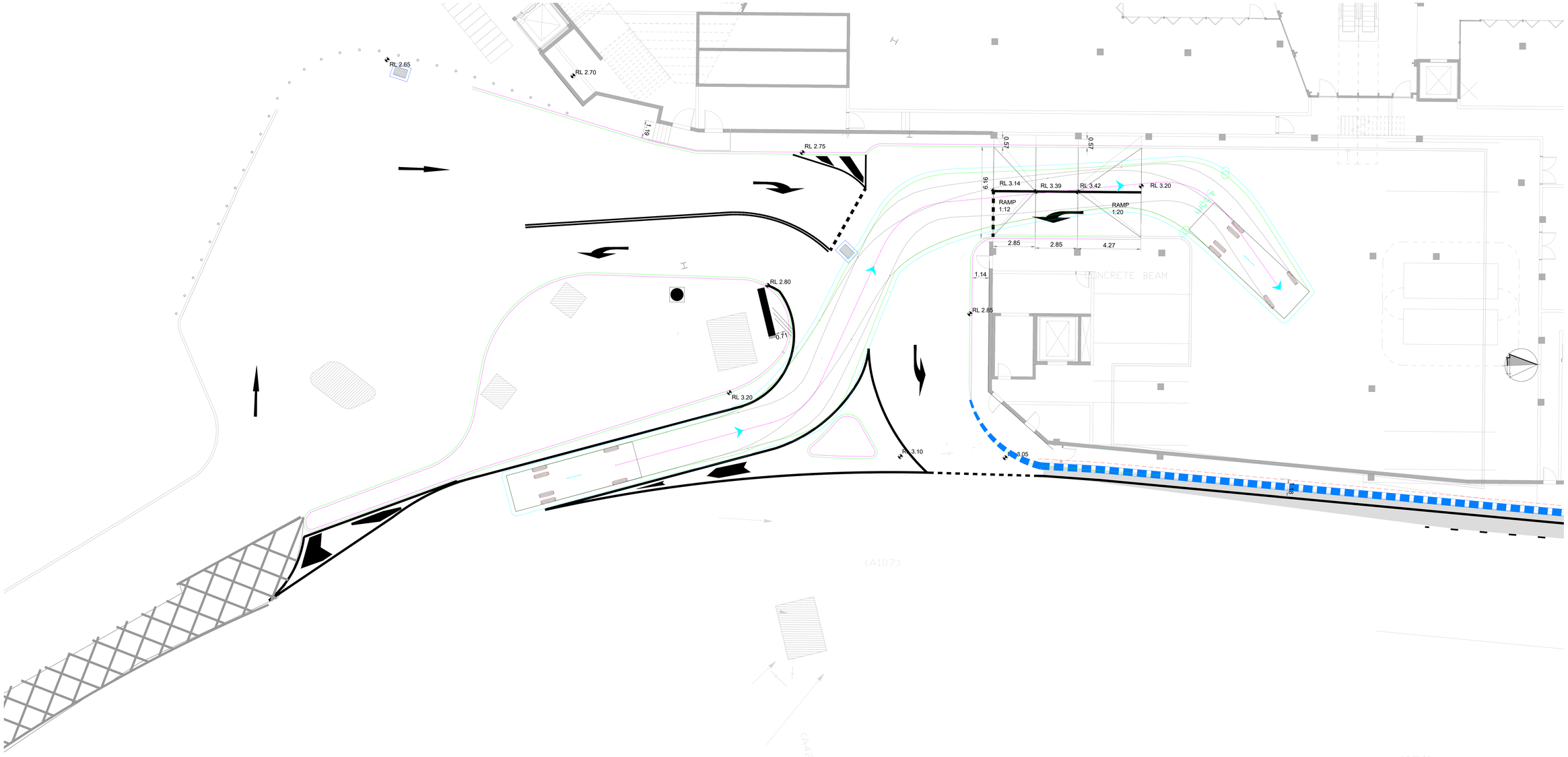

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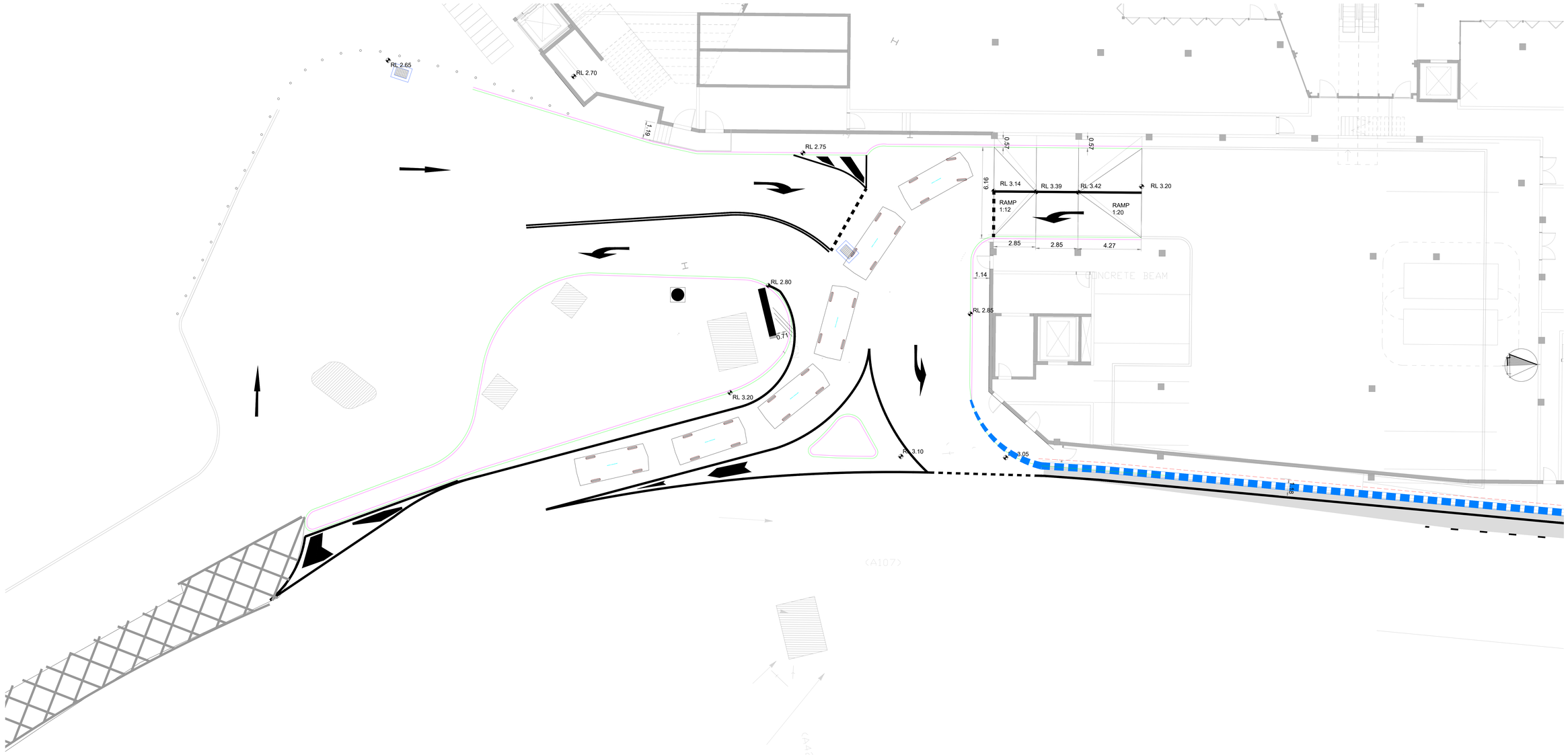

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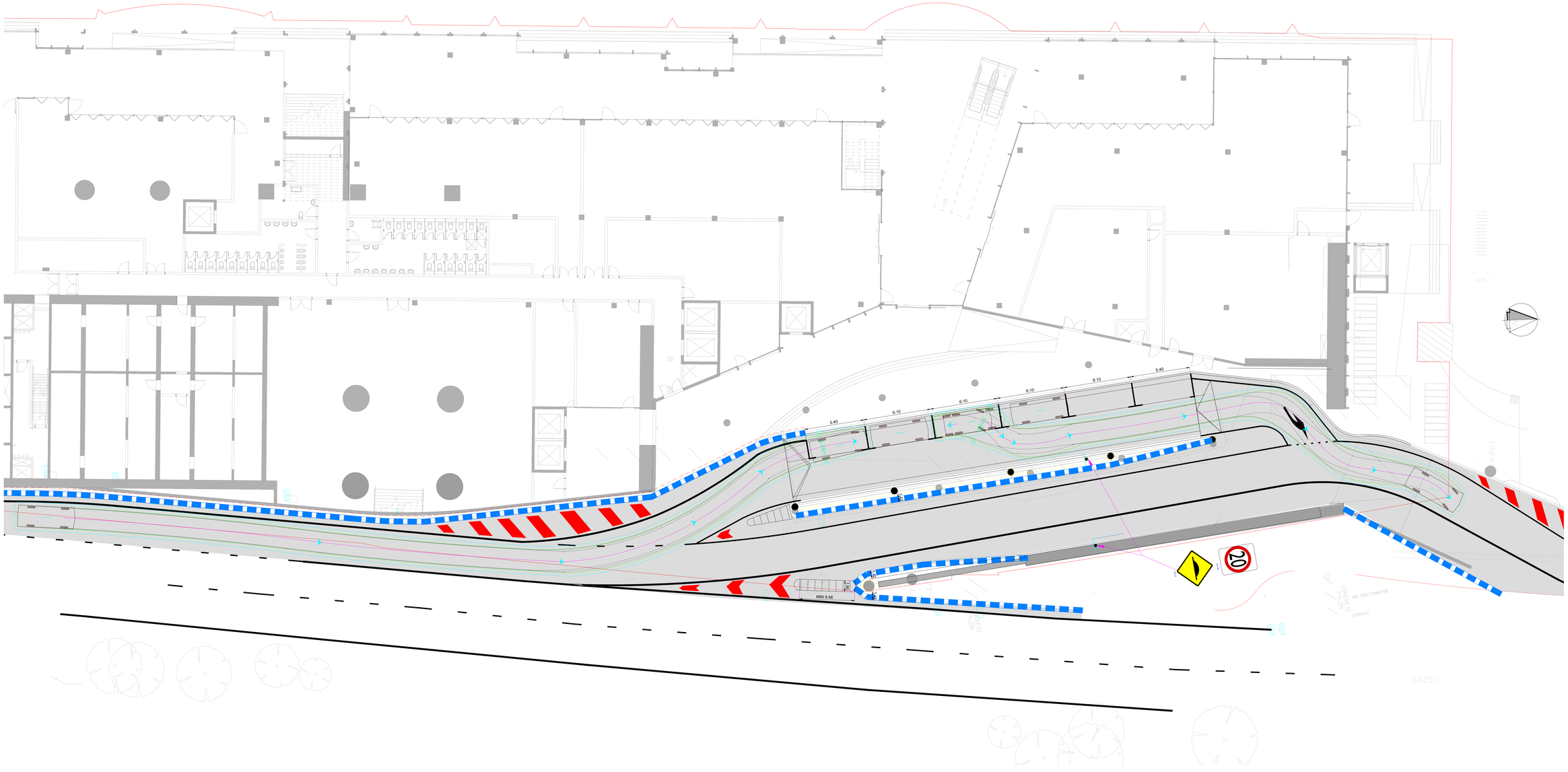

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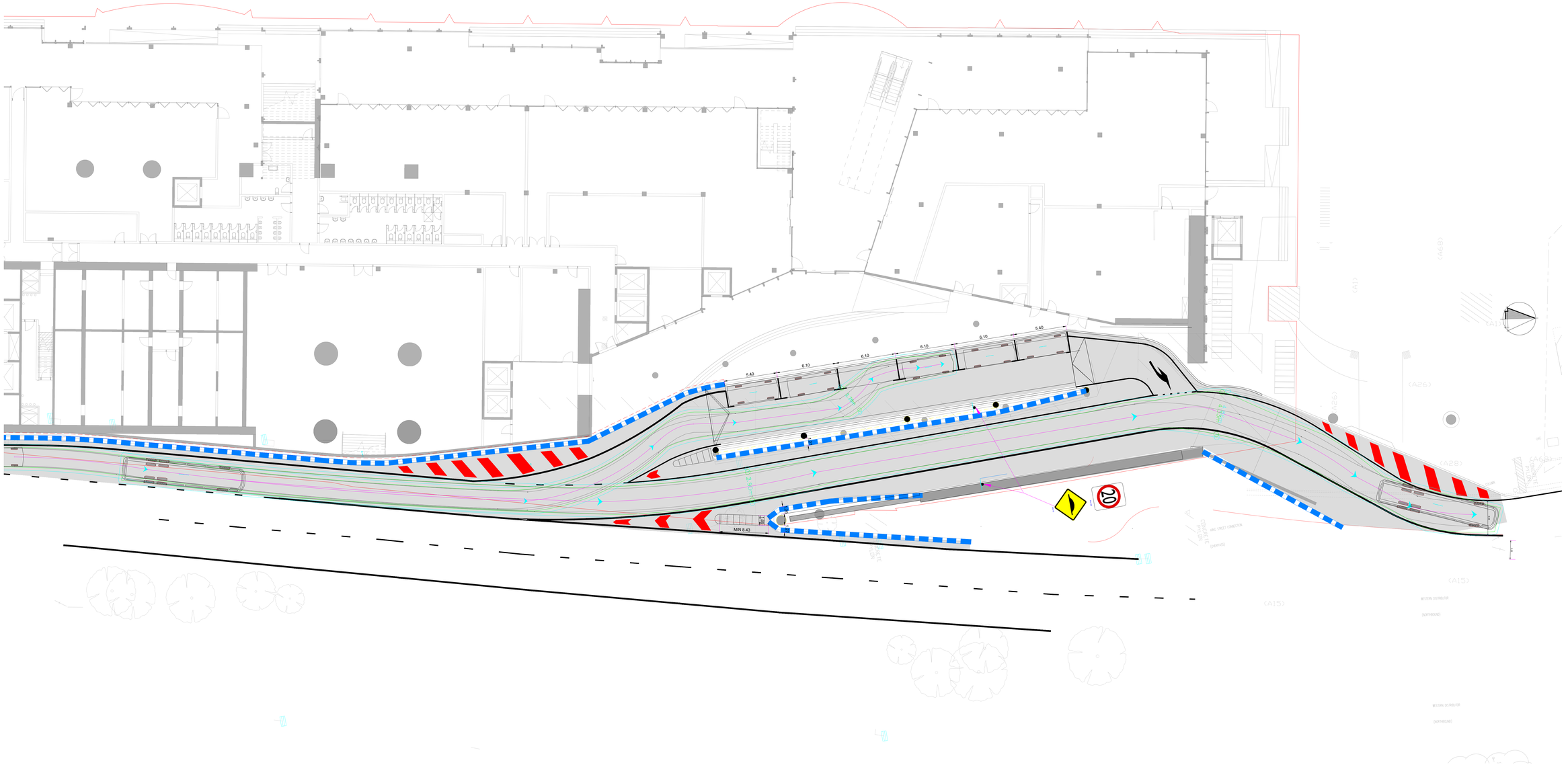

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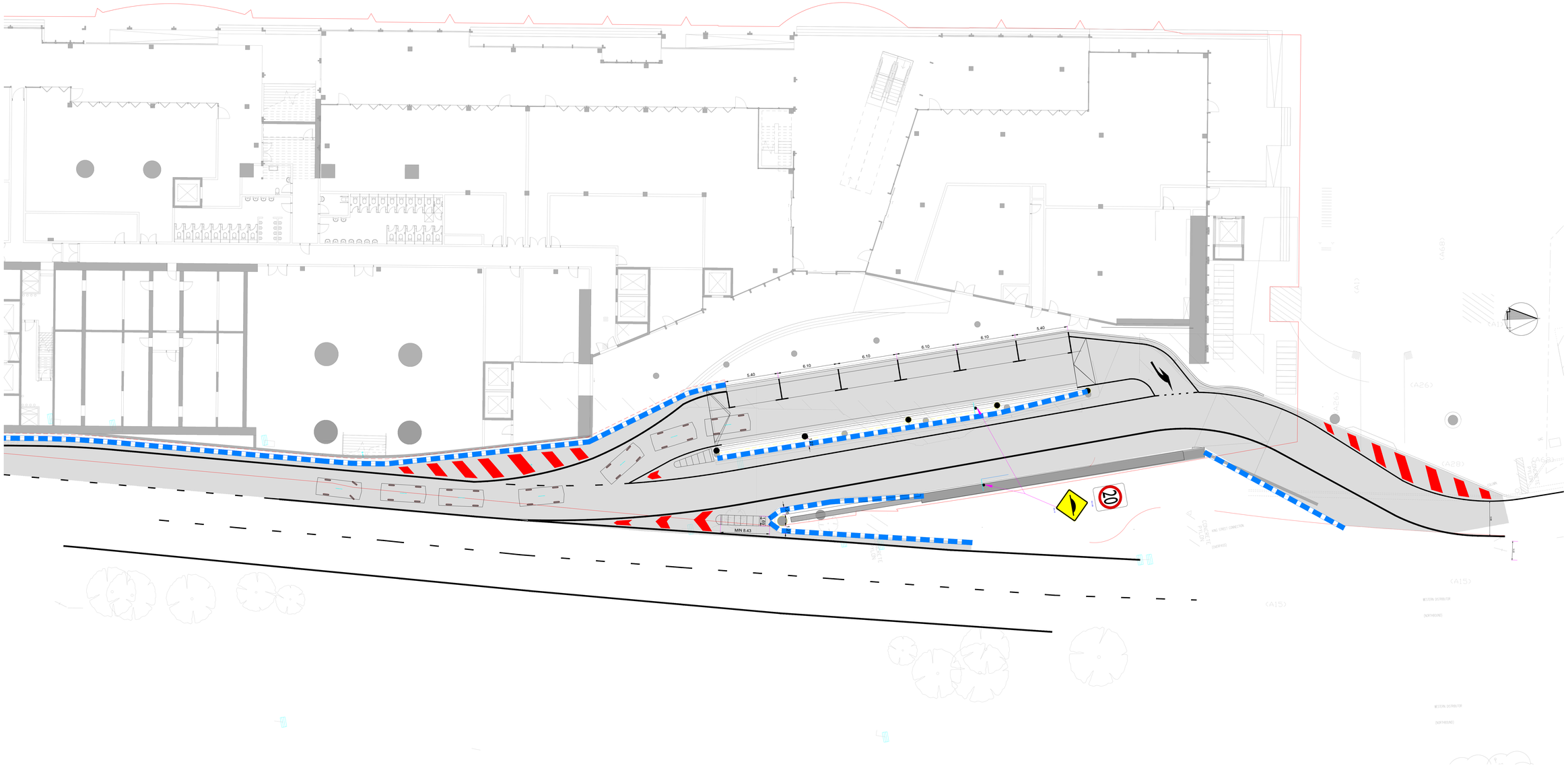

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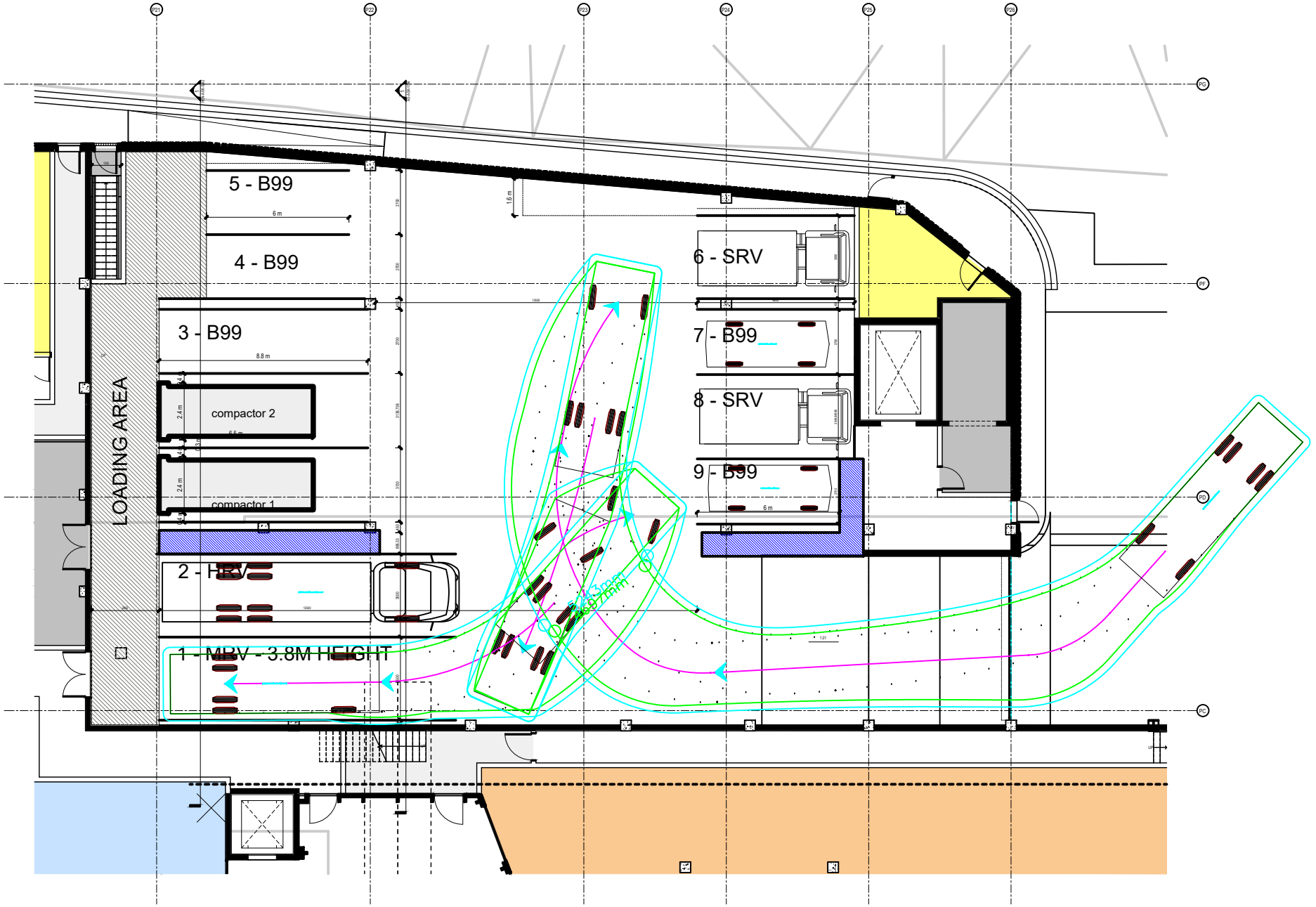

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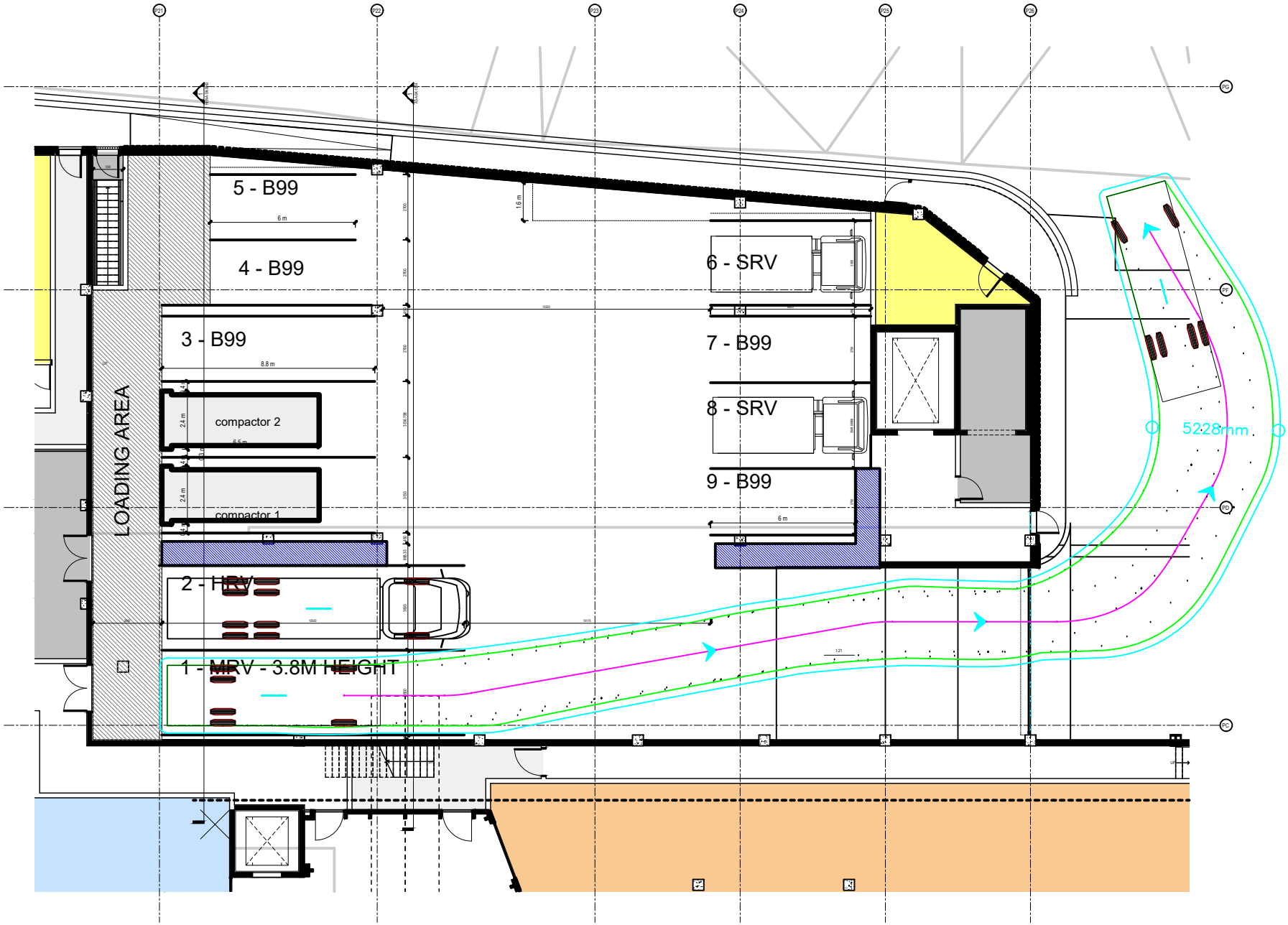

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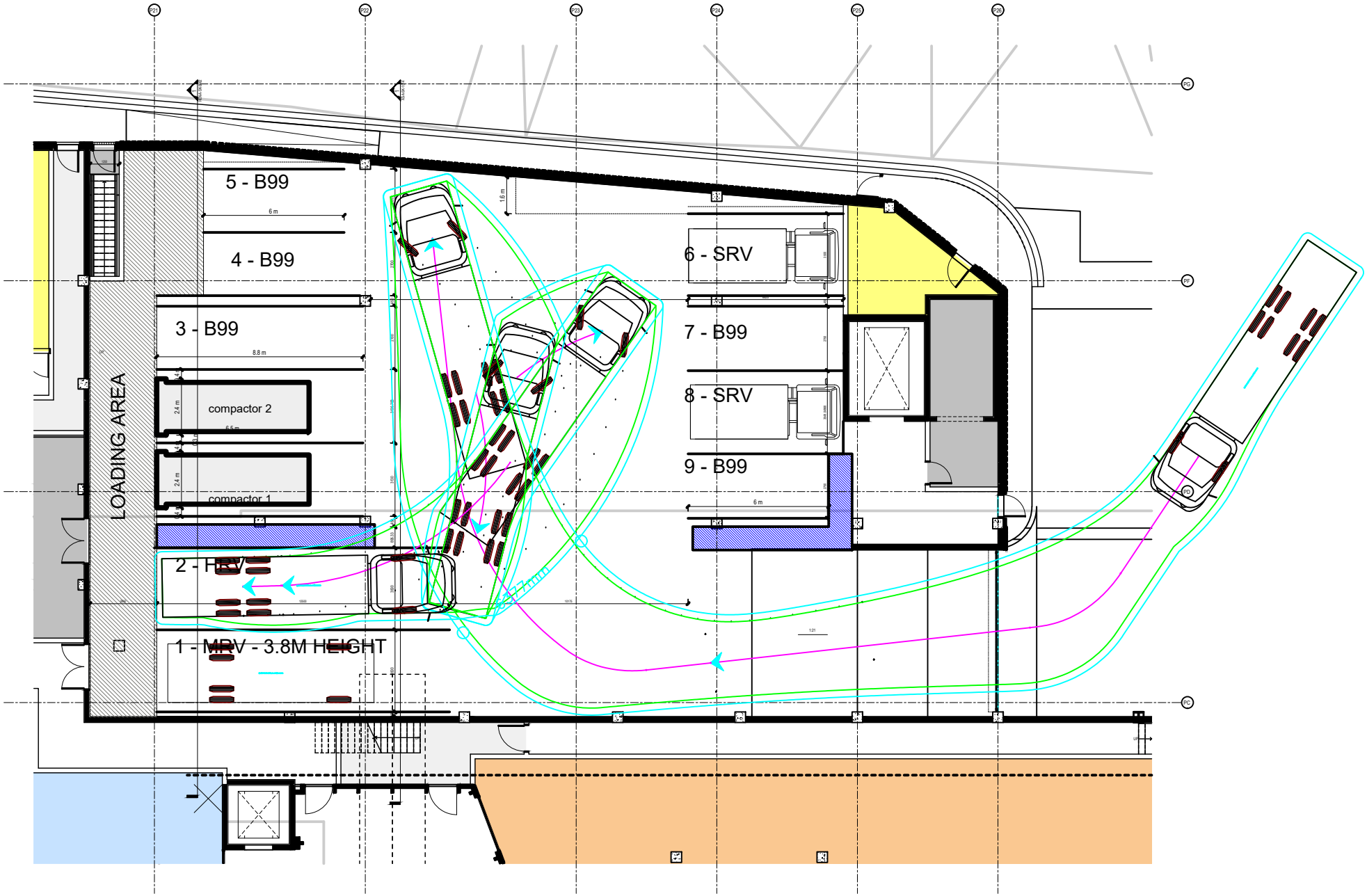

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FILE No. 20210929_GROUND FLOOR_For_Information_LOADING_DOCK_PATHS
SHEET: 02 OF 23
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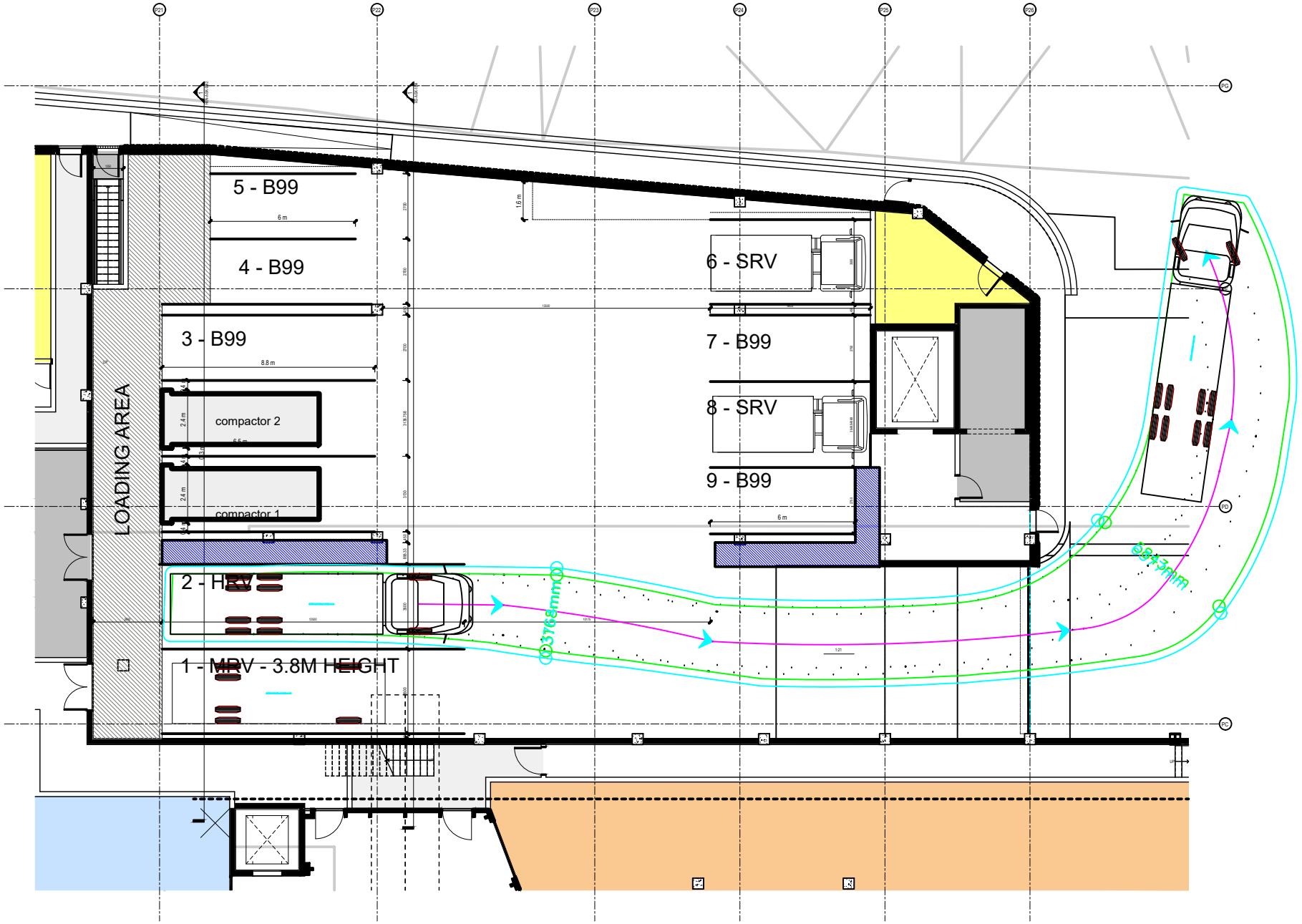

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FILE No. 20210929_GROUND FLOOR_For_Information_LOADING_DOCK_PATHS

SHEET: 04 OF 23

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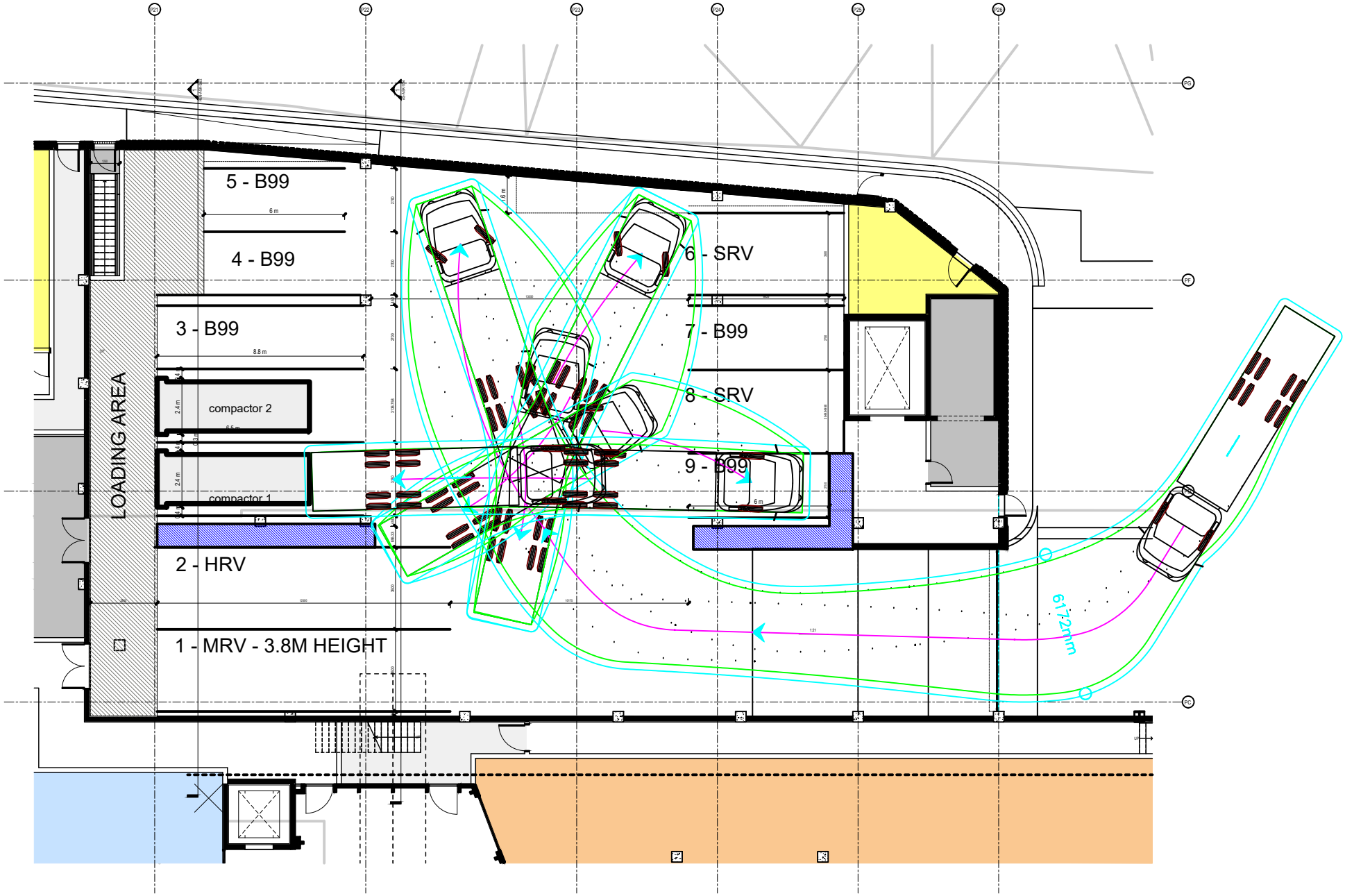

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FILE No. 20210929_GROUND FLOOR_For_Information_LOADING_DOCK_PATHS

SHEET: 20 OF 23

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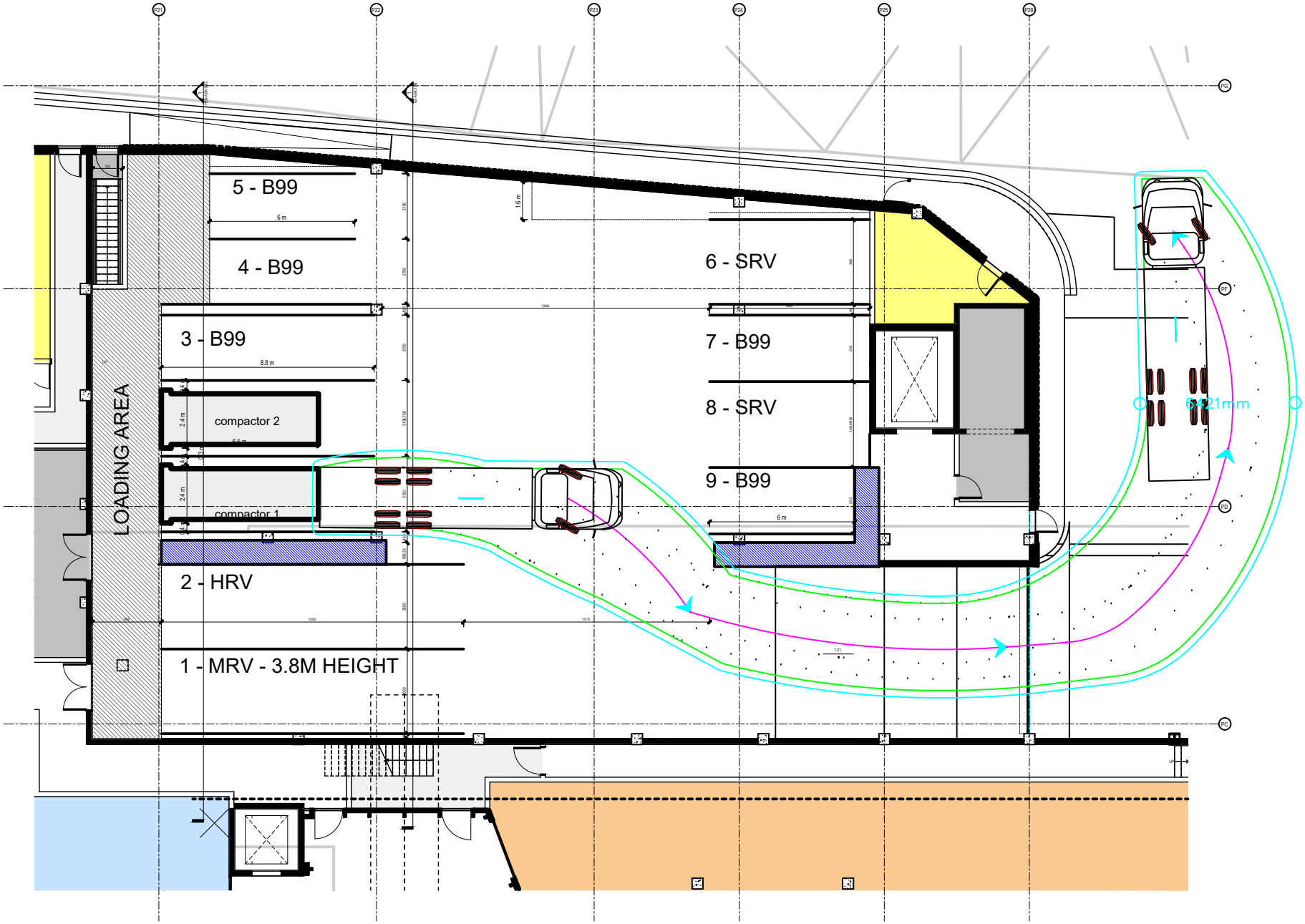

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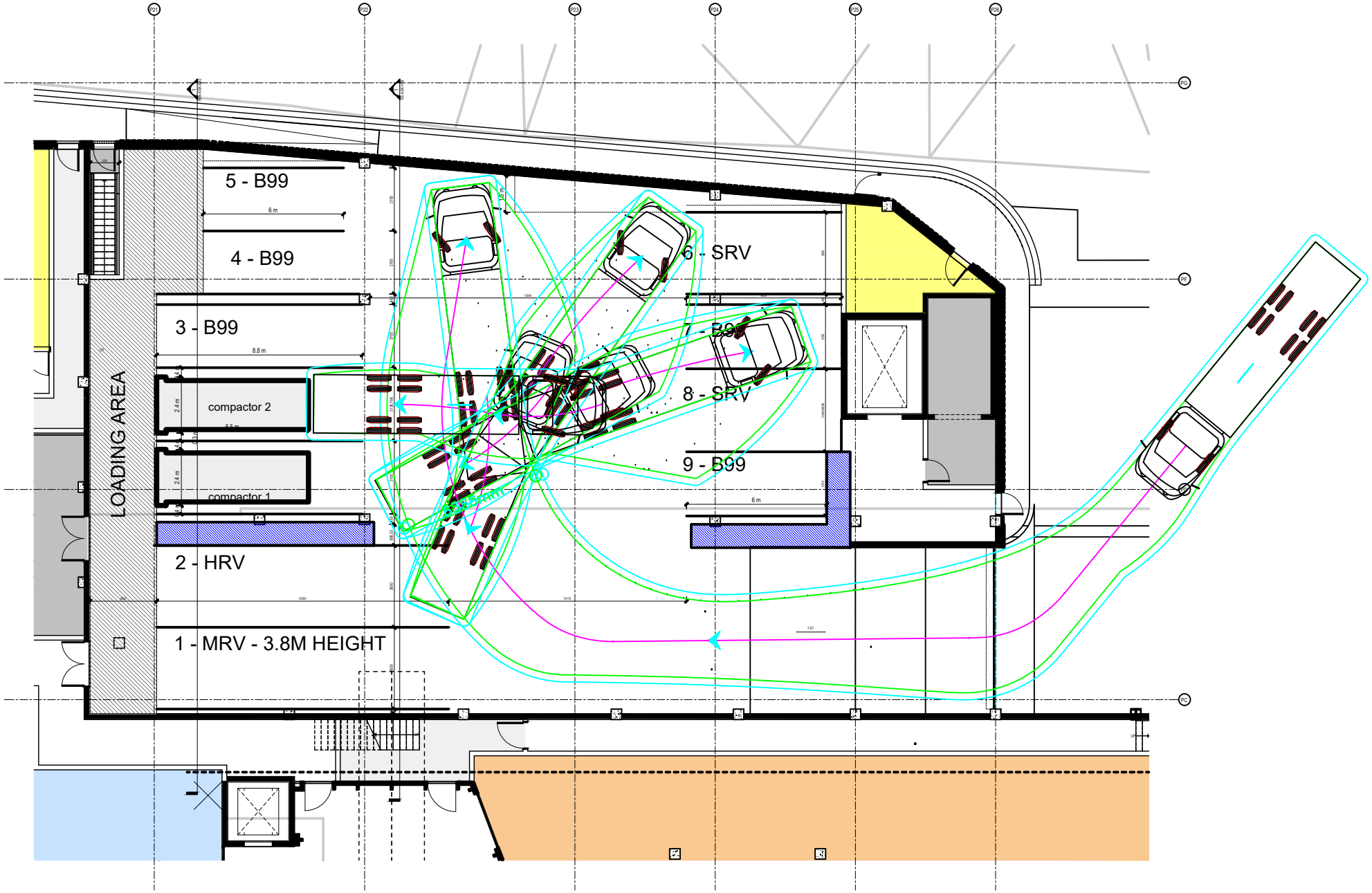

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FILE No. 20210929_GROUND FLOOR_For_Information_LOADING_DOCK_PATHS

SHEET: 22 OF 23

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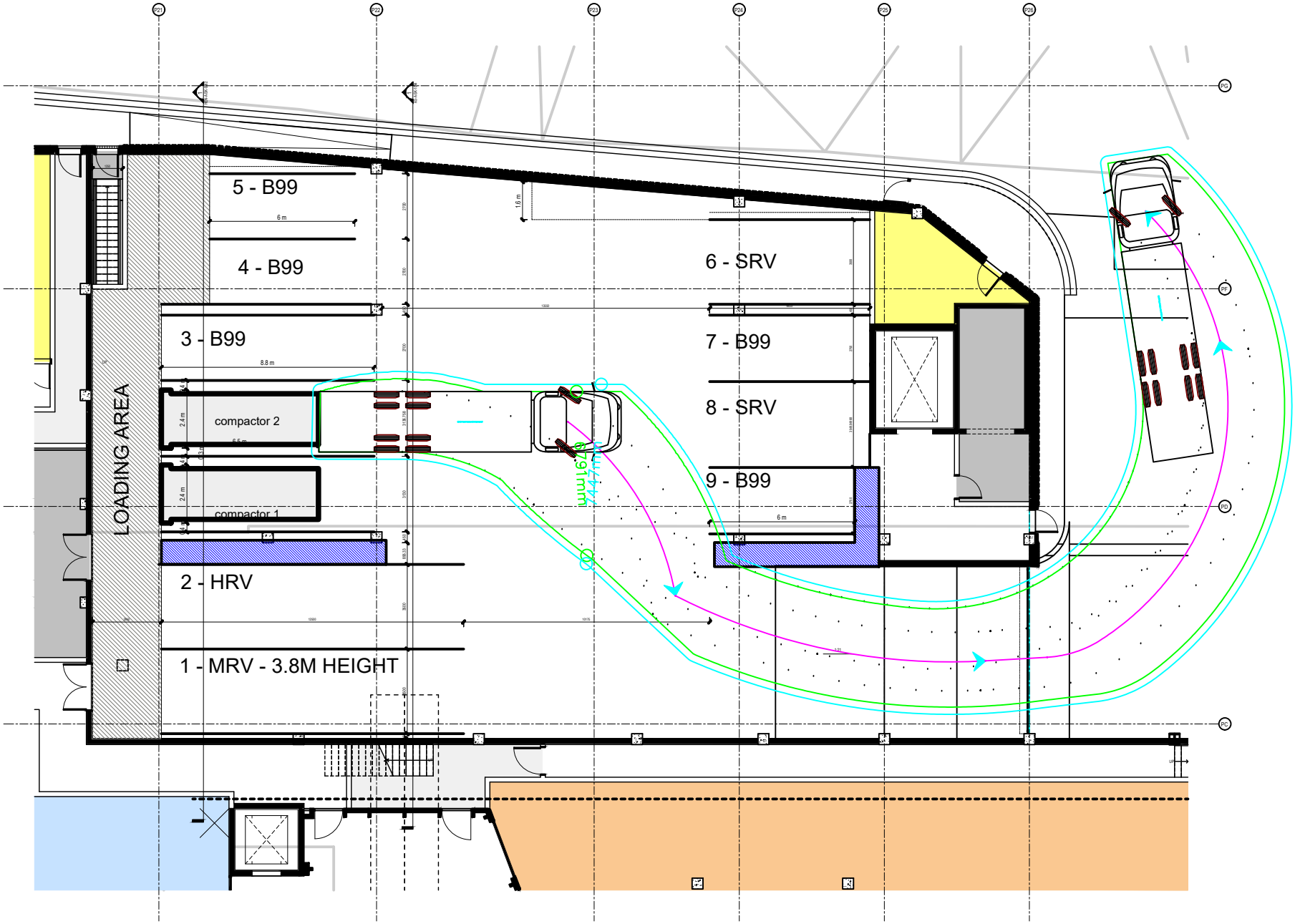

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SHEET: 23 OF 23

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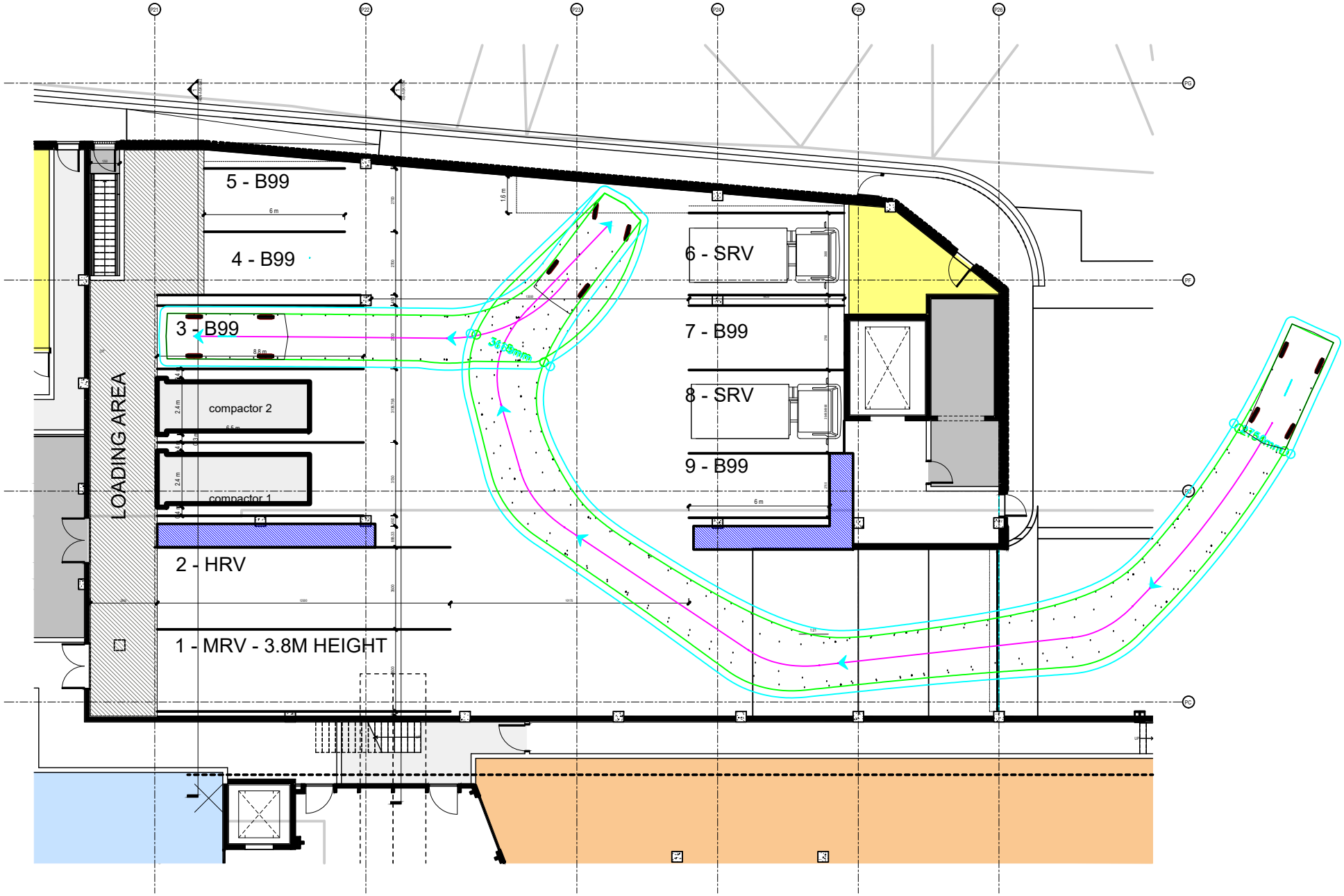

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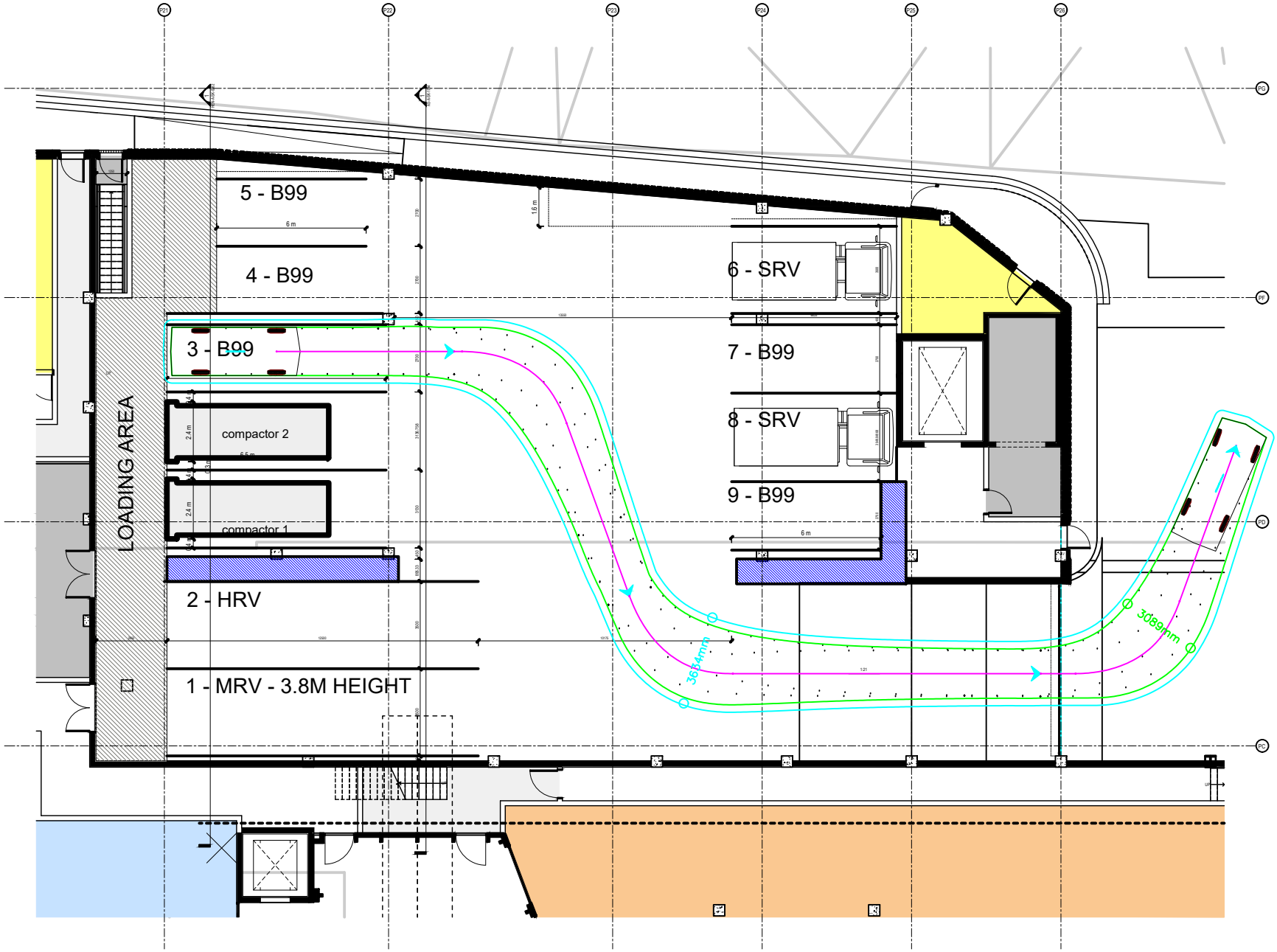

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SHEET: 06 OF 23

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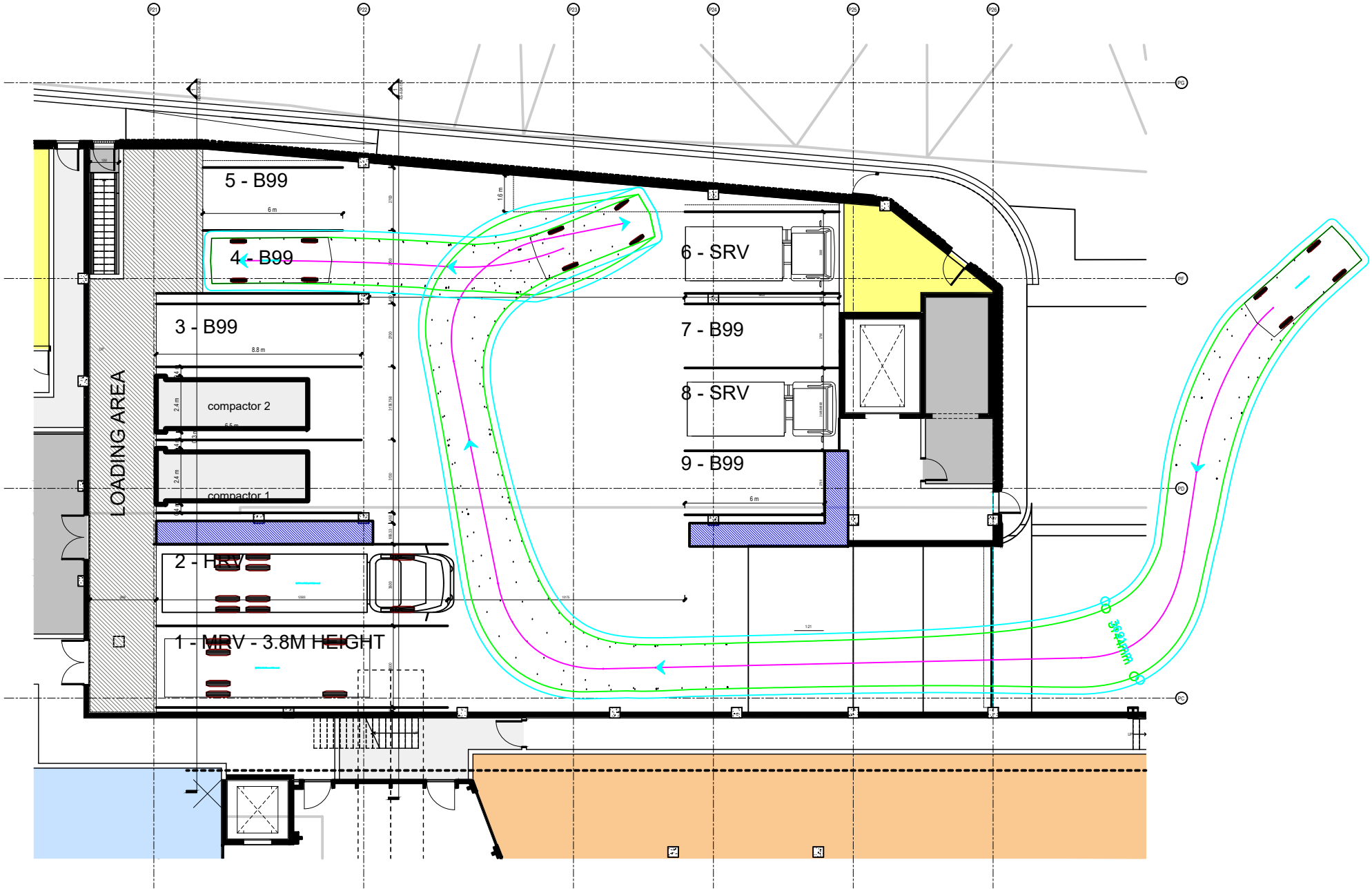

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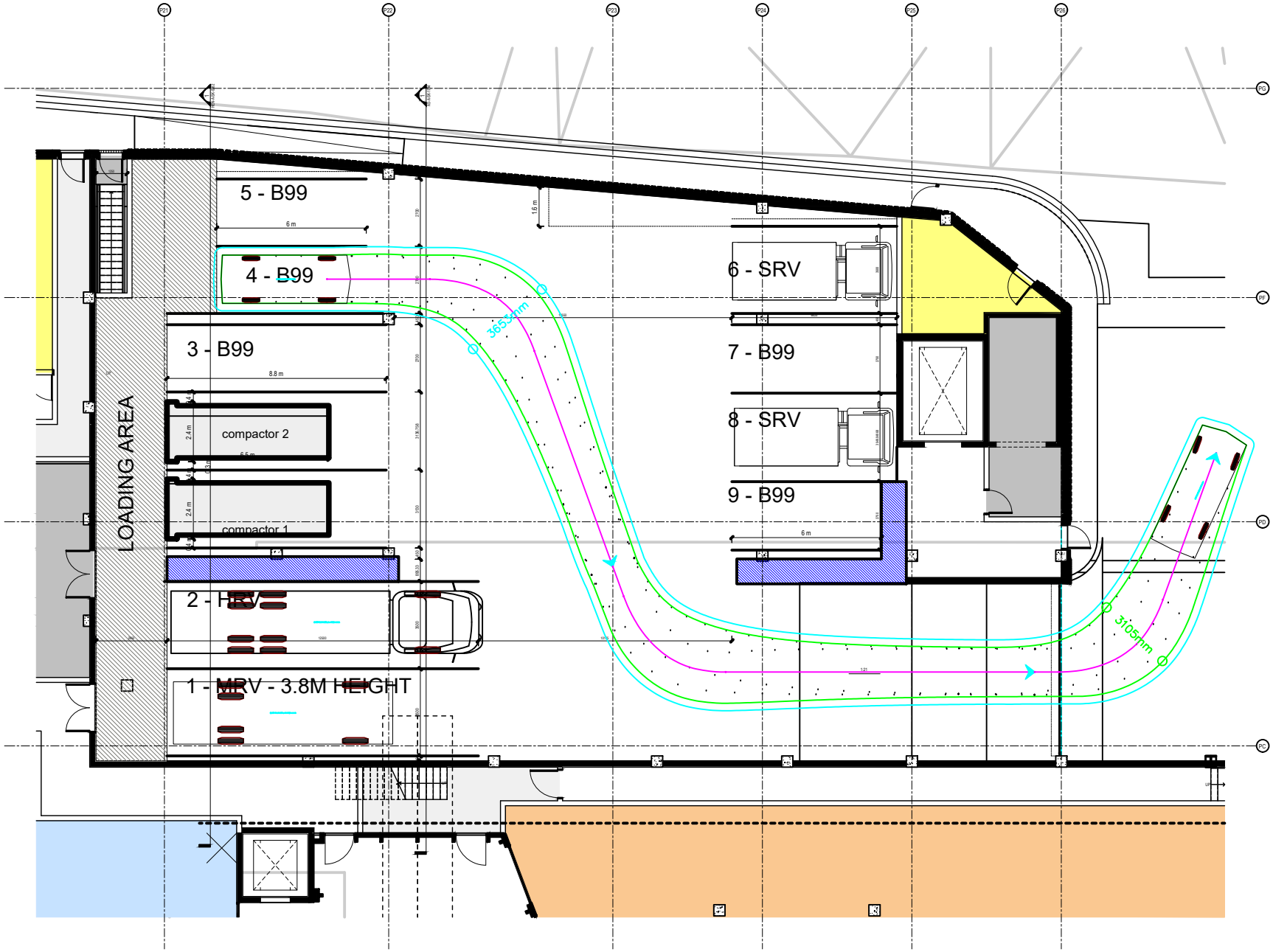

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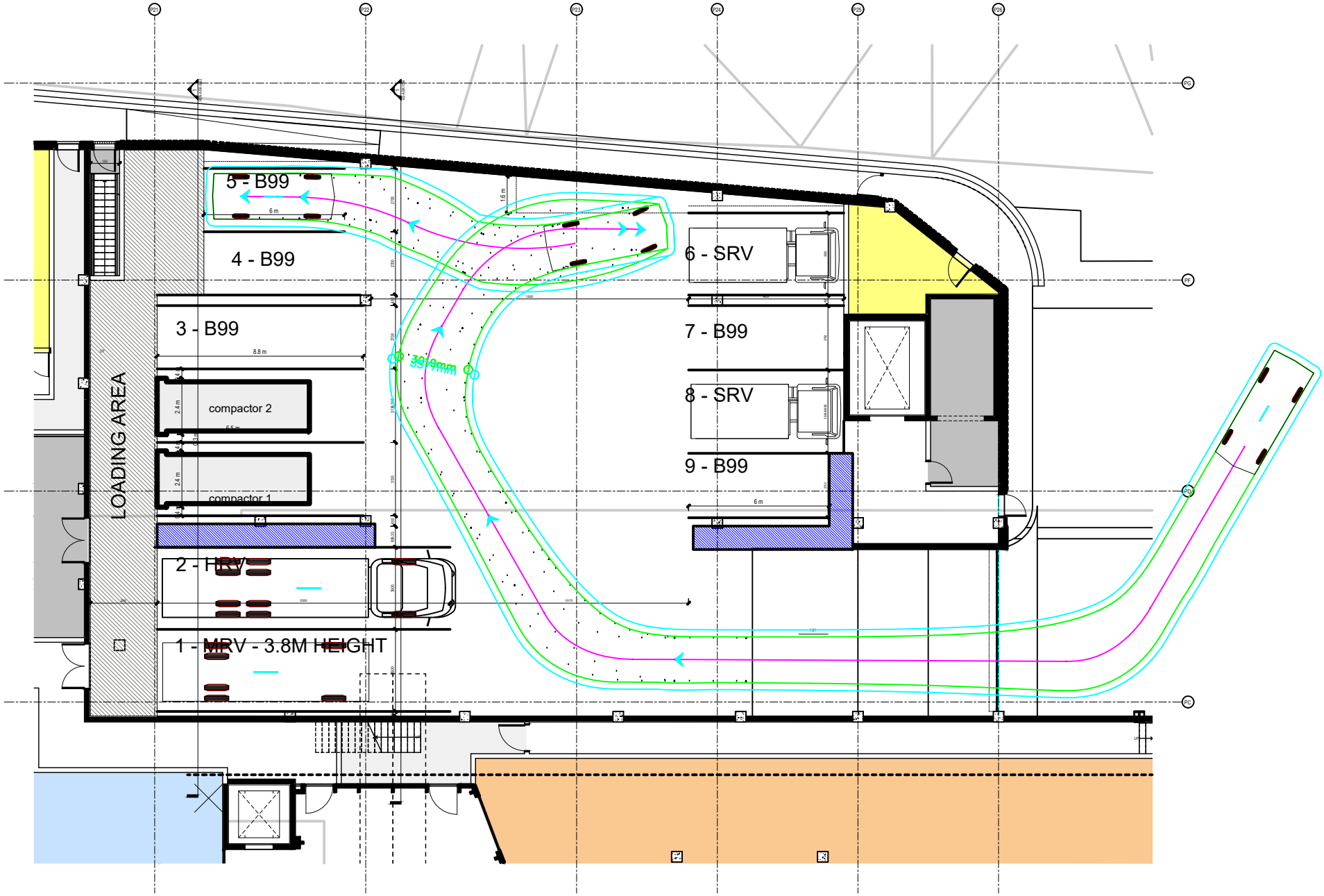

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FILE No. 20210929_GROUND FLOOR_For_Information_LOADING_DOCK_PATHS SHEET: 09 OF 23
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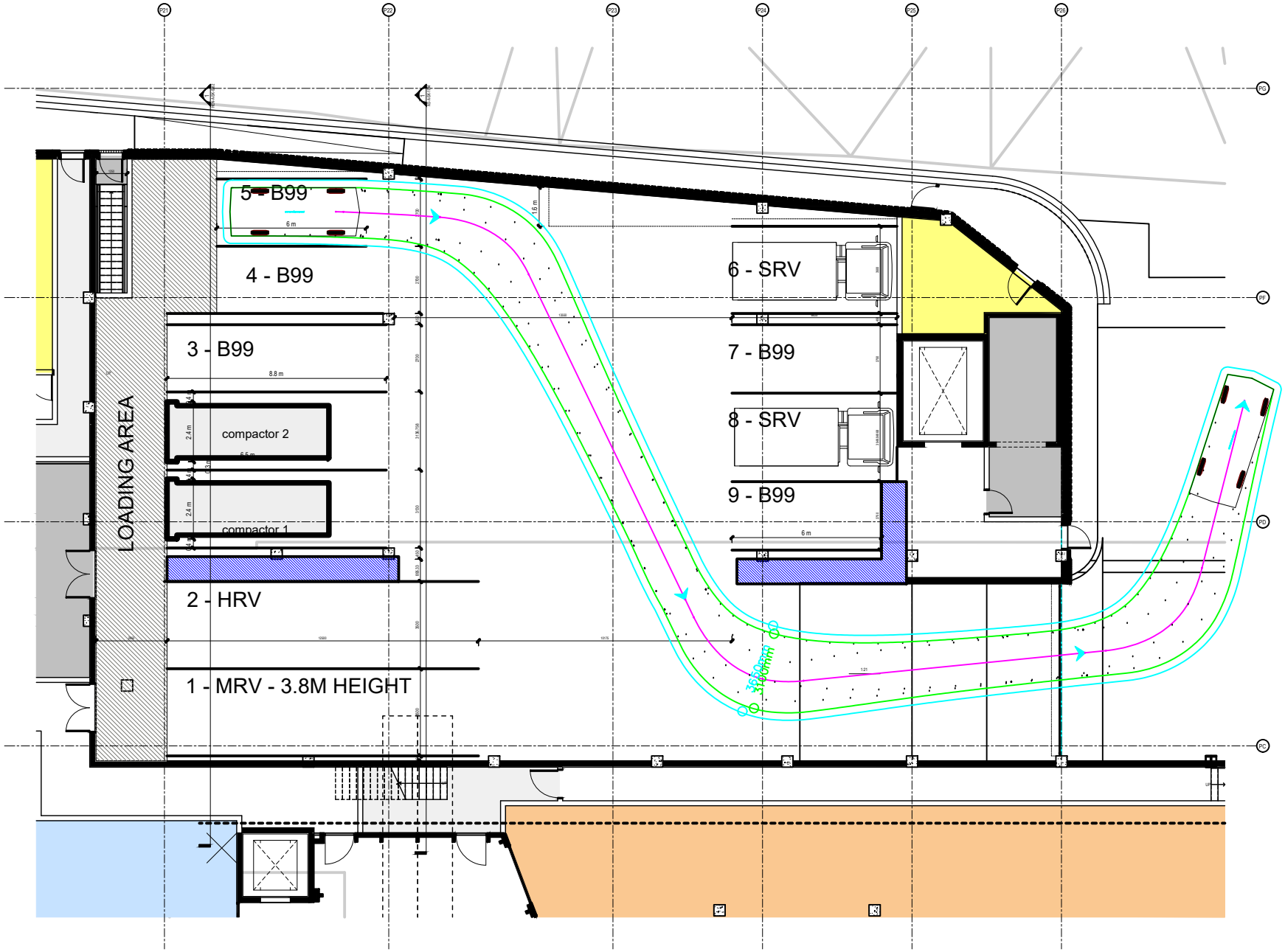

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SHEET: 10 OF 23

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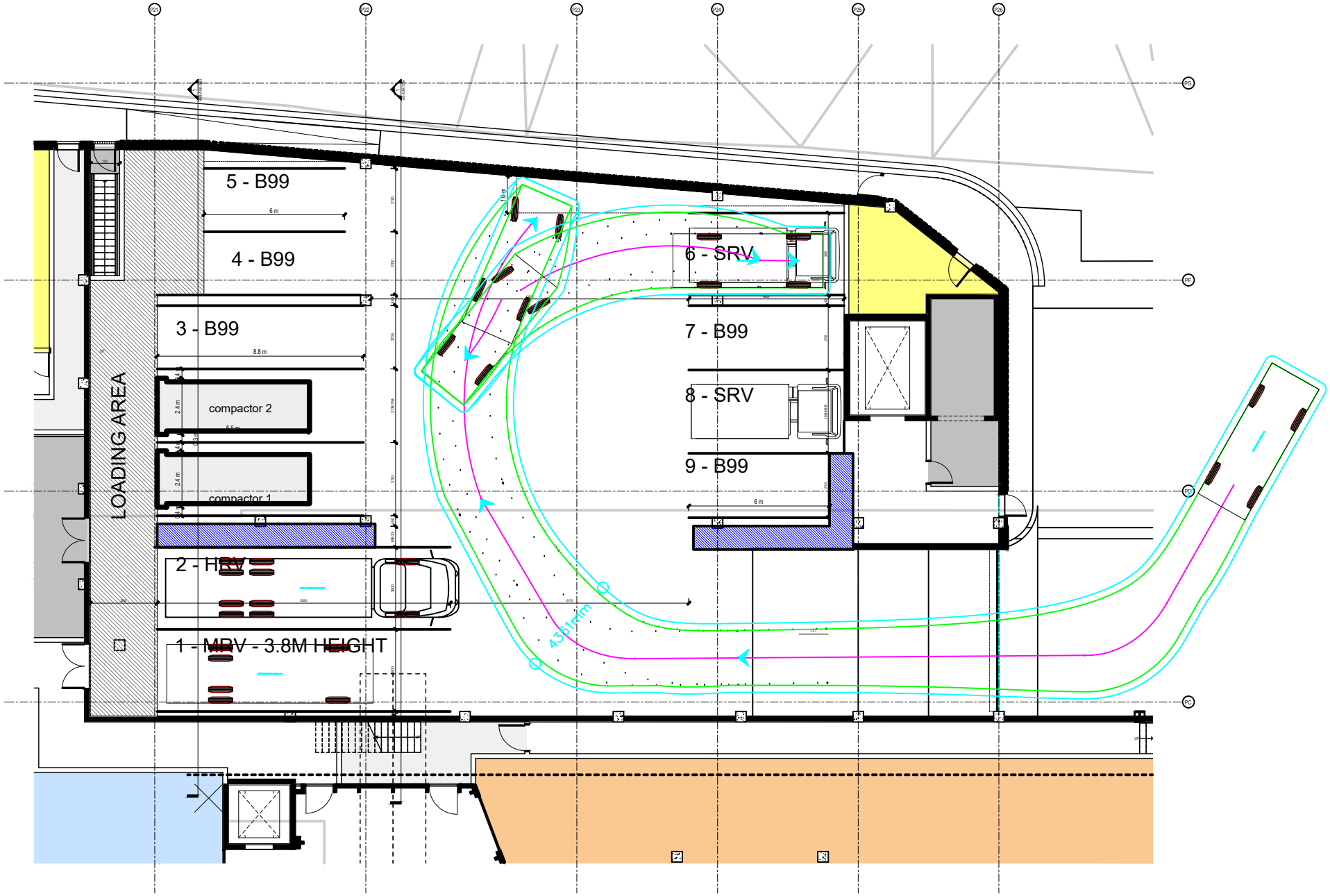

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FILE No. 20210929_GROUND FLOOR_For_Information_LOADING_DOCK_PATHS SHEET: 11 OF 23
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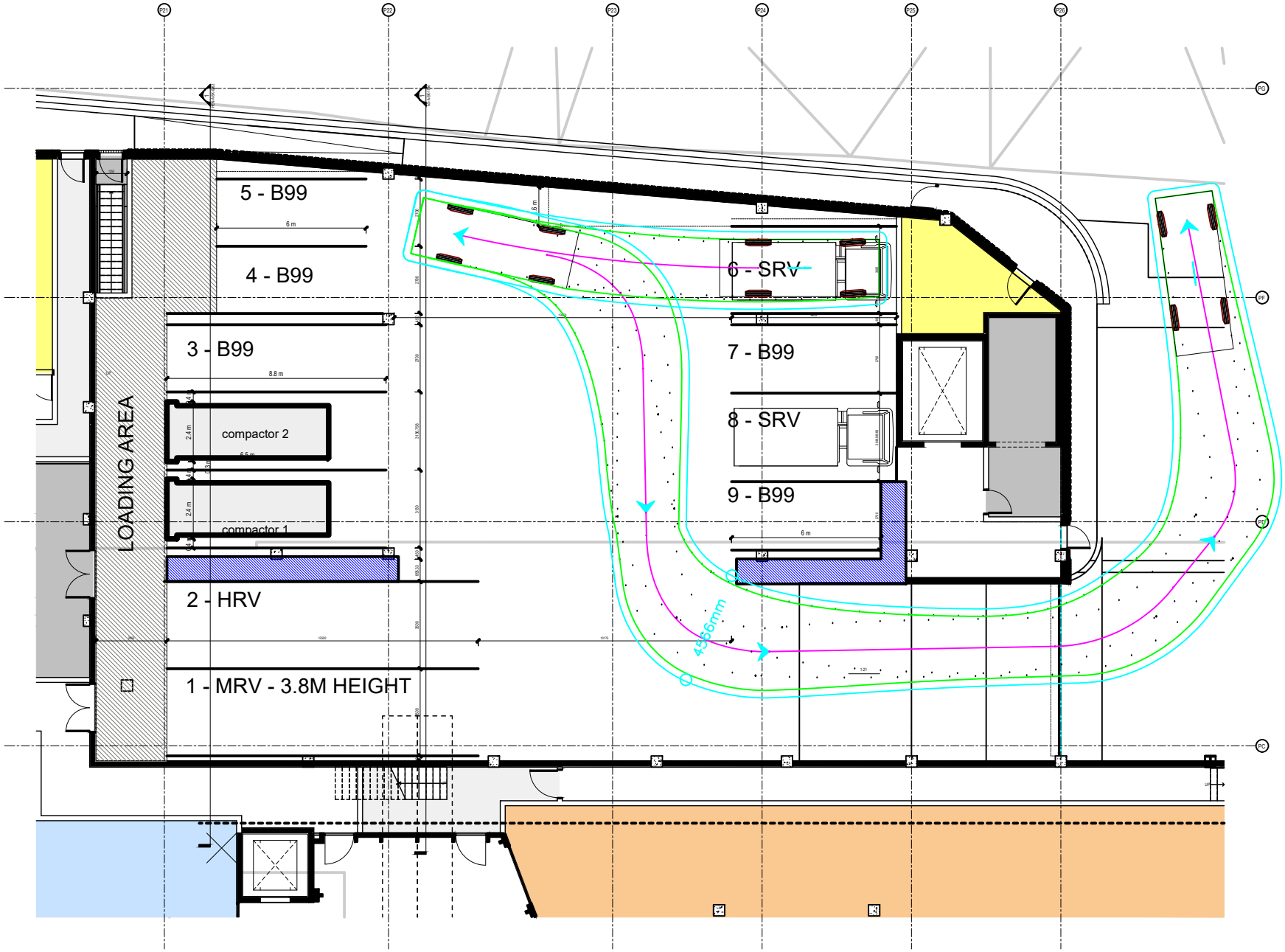

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FILE No. 20210929_GROUND FLOOR_For_Information_LOADING_DOCK_PATHS SHEET: 12 OF 23
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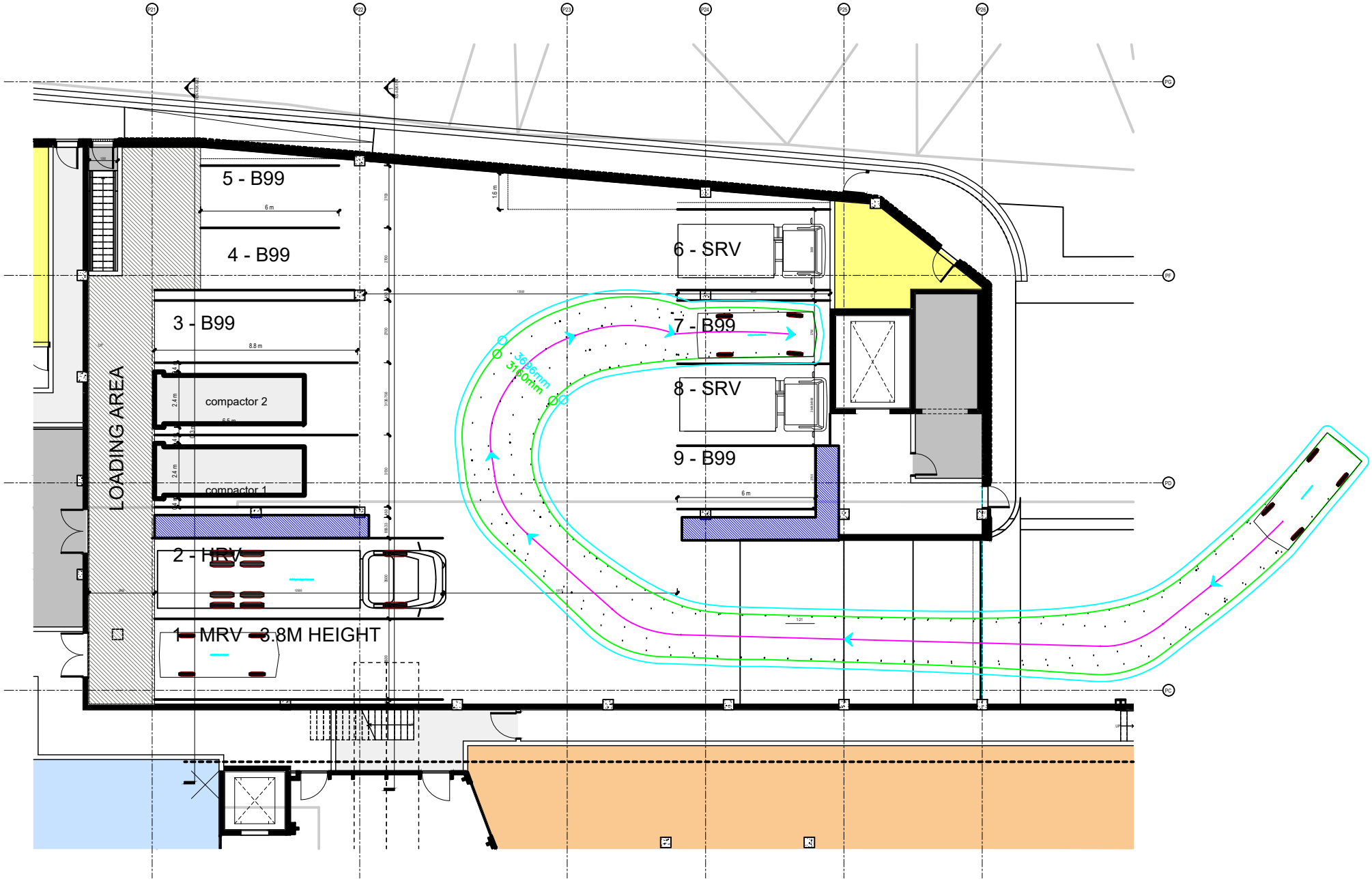

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SHEET: 15 OF 23

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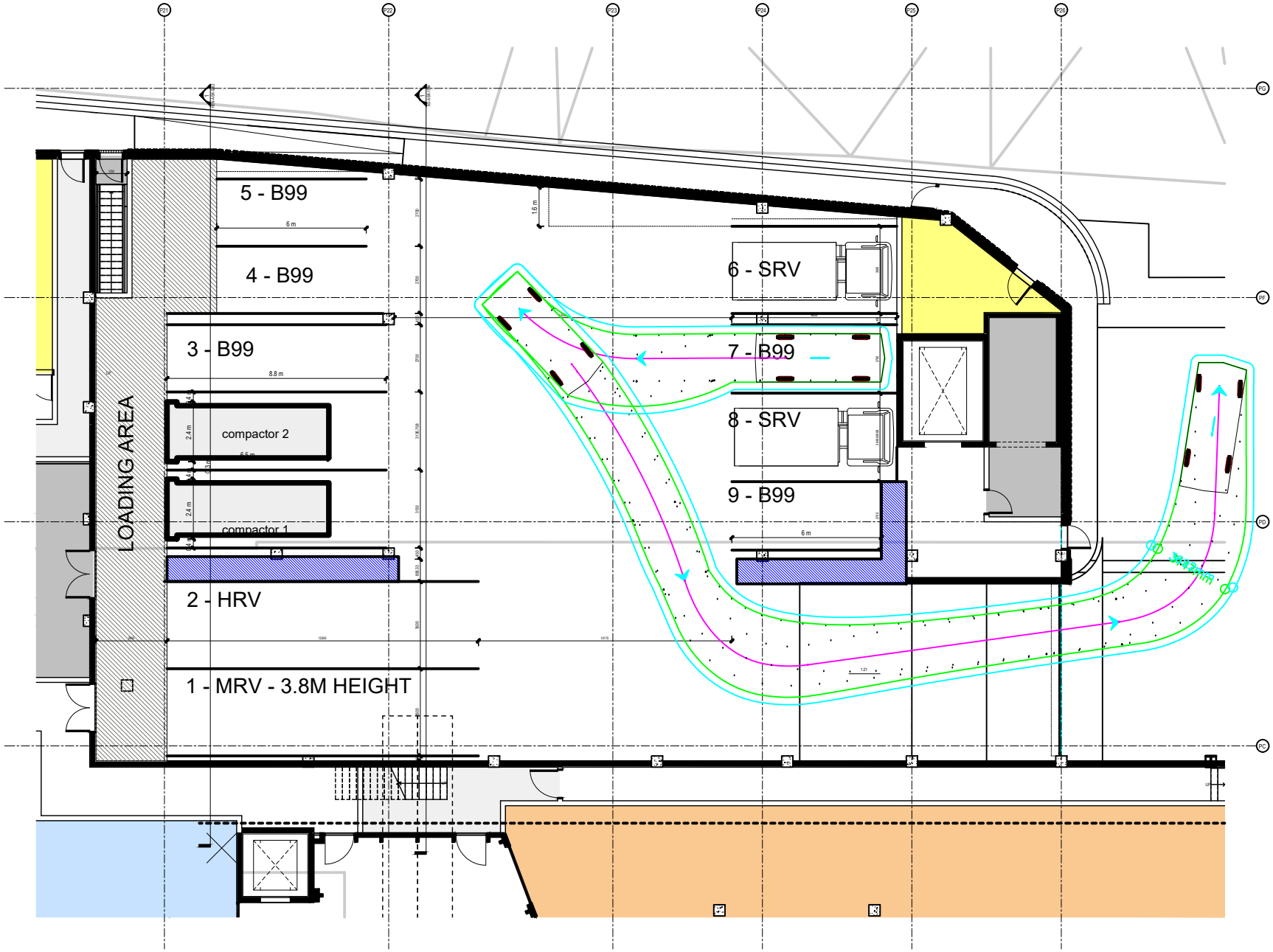

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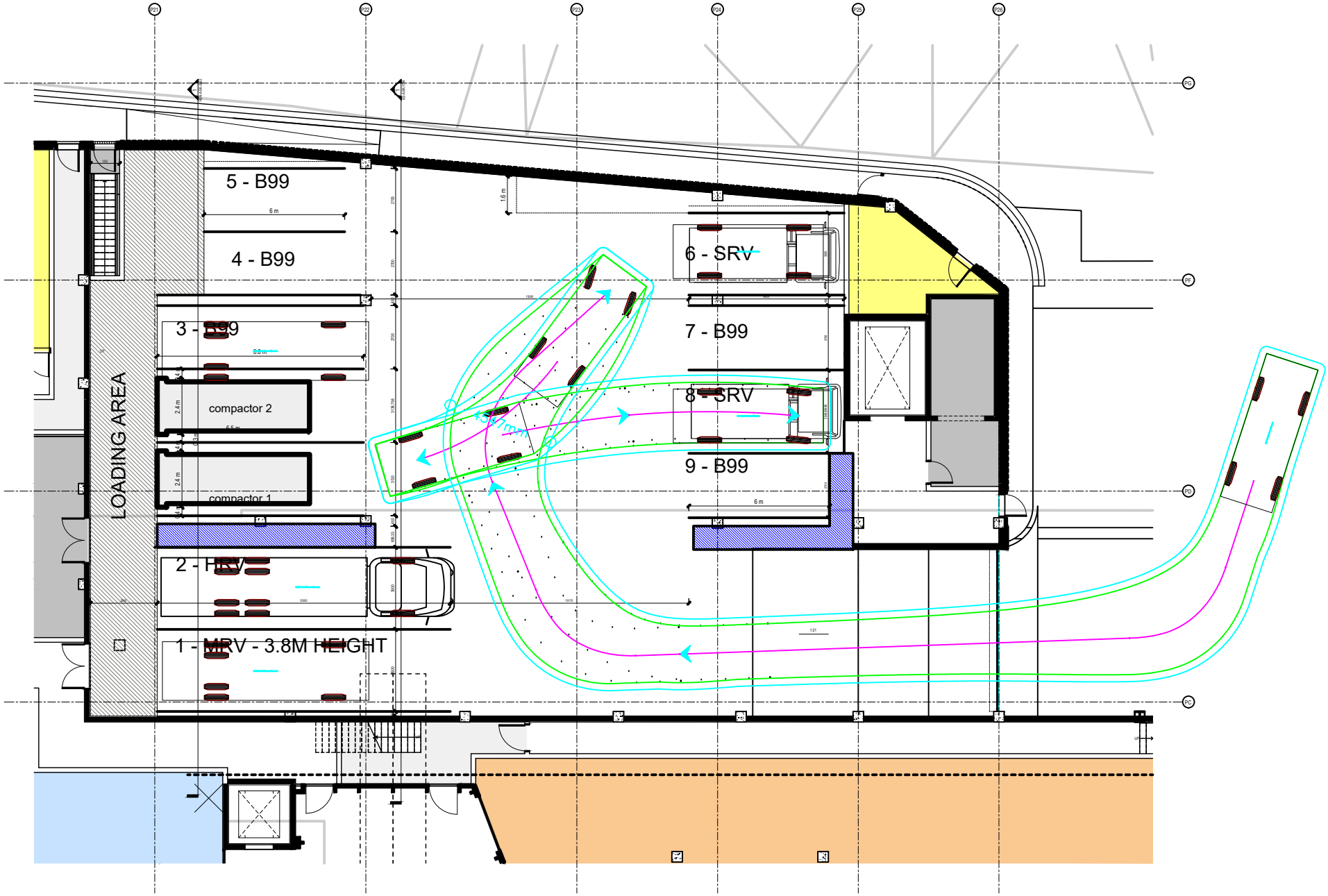

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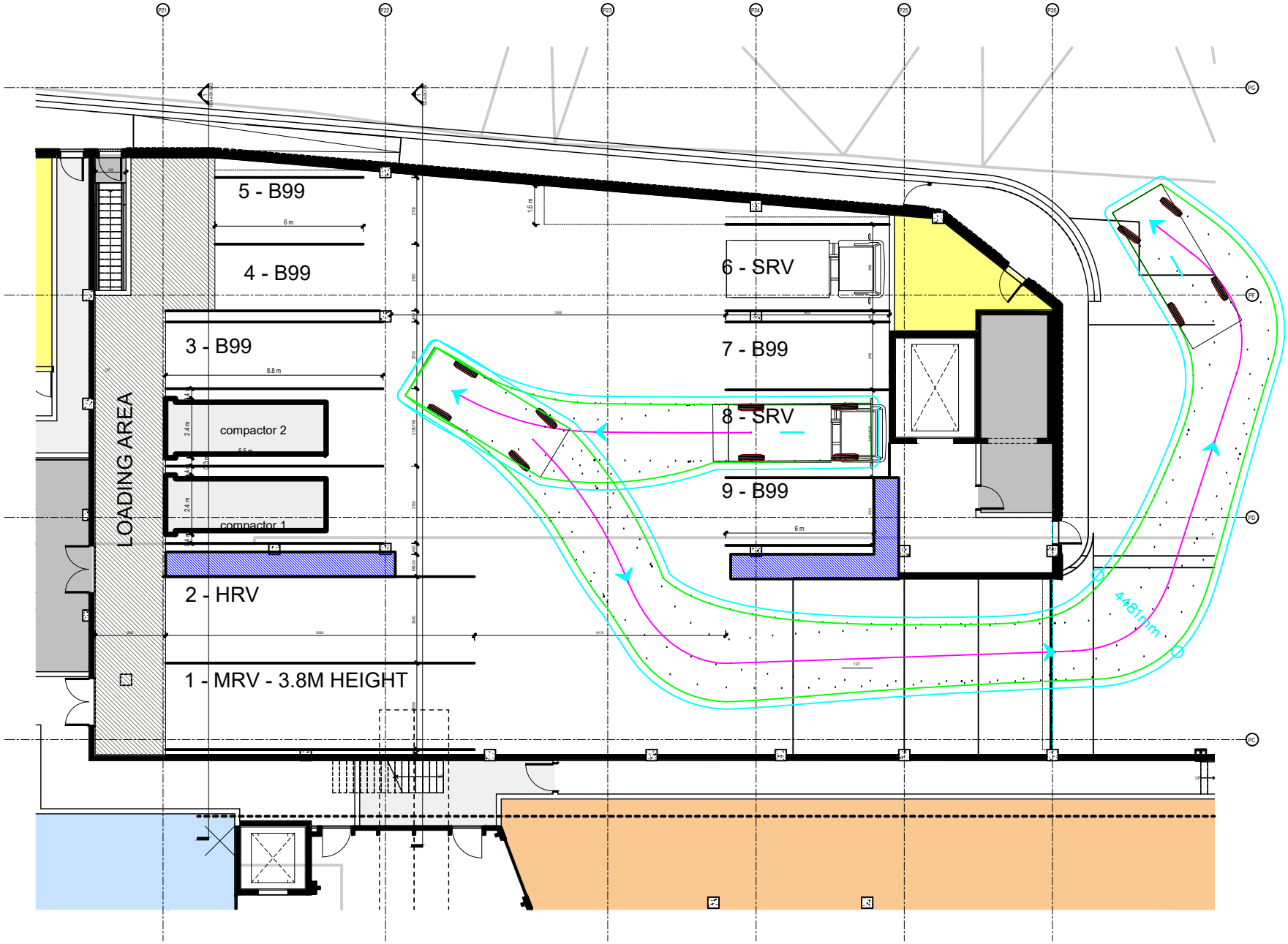

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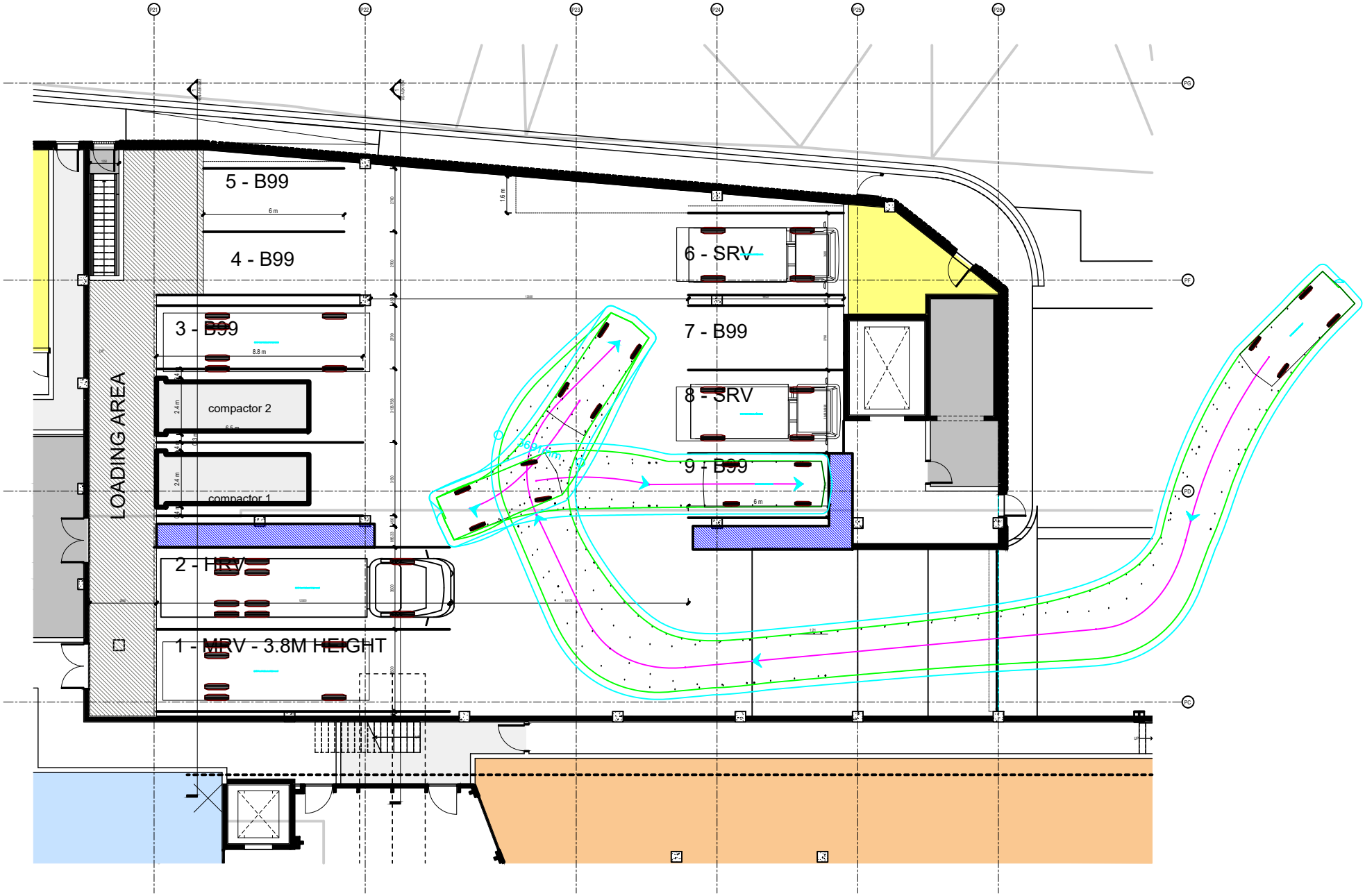

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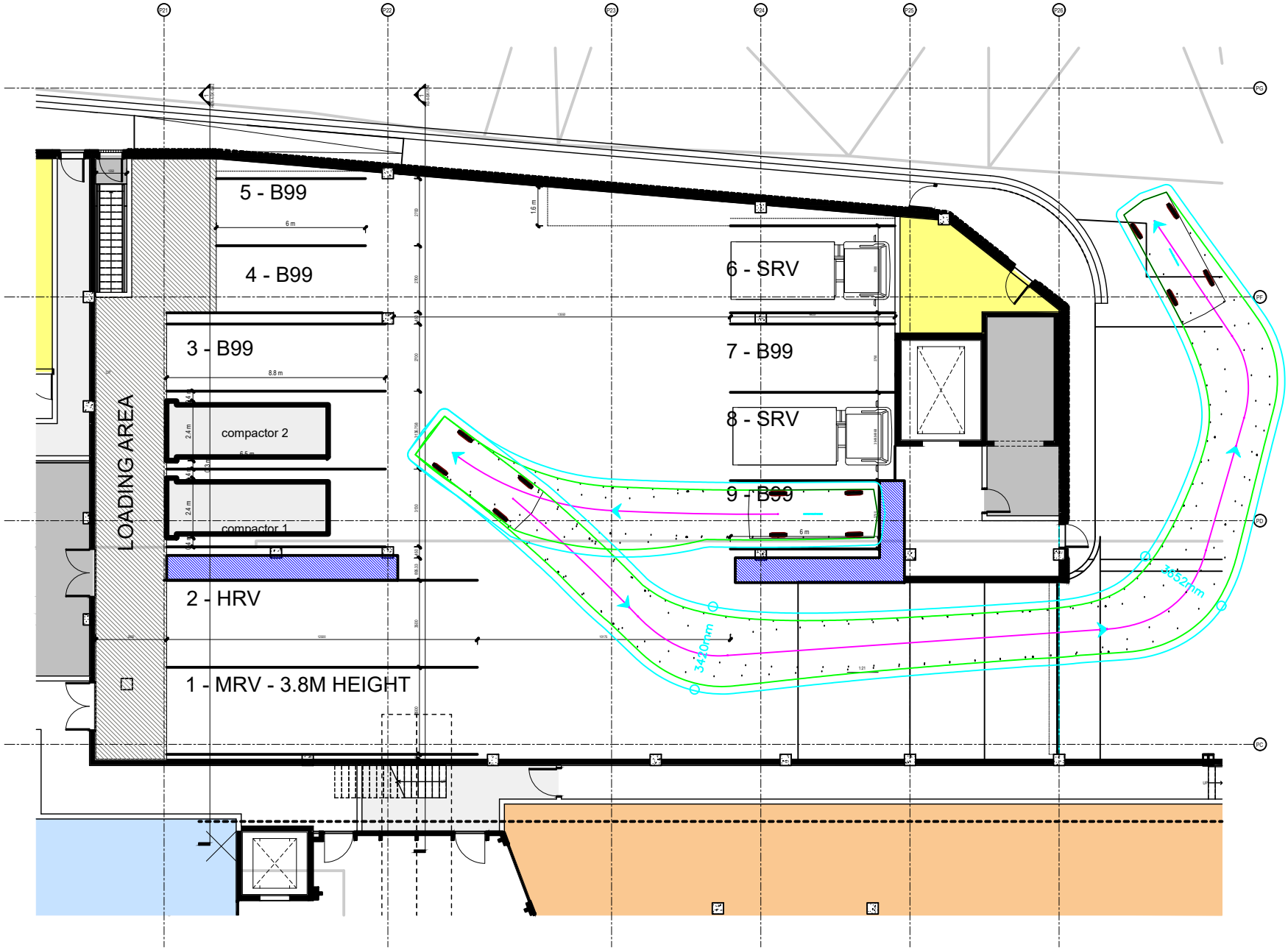

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FILE No. 20210929_GROUND FLOOR_For_Information_LOADING_DOCK_PATHS SHEET: 18 OF 23
STATUS:

DRG No.	REV	VER	EDMS No.	AMD No.
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Appendix D – Loading dock benchmarks

A benchmarking exercise of ten recent developments in the Sydney CBD with similar functions was undertaken to determinewhat was an appropriate number of parking bays when compared to other developments in Sydney CBD. Table below highlight the GFA, services and number of bays of each development.

Development	GFA (m^2)	Services	GFA (m2)	Bays	Breakdown	Ratio GFA/bay
W Hotel	54,880	Retail Commercial Hotel Serviced Apartments Cinema	1,800 450 56,230	7	3 x 8.8m 1 x 6.4m 3 x smaller vehicles	*7,840*
375 Pitt Street	9,531	Retail Commercial Hotel Serviced Apartments Cinema	350 150 9,031	2		*4,766*
Emerald City - Green Square	37,463	Retail Commercial Residential	7,318 5,500 24,645	4		*9,366*
CQT	64,700	Retail Commercial	1,800 62,900	17	Garbage Truck Parking: 1 MRV parking: 2 SRV Parking: 3 Courier Parking: 11	*3,806*
Mount Street	42,000	Retail Commercial	1,500 40,500	5	MRV parking: 2 (1 for garbage Truck) Courier Bike Parking: 1 Courier Parking: 2	*8,400*
Wynyard (Brookfield place redev)	81,200	Retail Commercial	4,900 76,300	15	MRV - 4 (1 for Garbage truck) SRV - 3 Courier - 8	*5,413*
Central Precinct - IDF (incl Central Place)	436,152	Retail (food) Commercial Retail Hotel Student Housing	18,024 351,973 66,155	*48*		*9,087*
Pitt Street North OSD	52,951	Retail Commercial	1,700 52,951	7	- 1 Metro Station maintenance bay - 3 courier service bays; - 2 SRV - 1 MRV	*7,564*
Victoria Cross Station OSD	64,500	Retail Commercial	4,500 60,000	12	2 x MRV 2 x SRV 2 x Van (maintenance and operational) 6 x Courier x Van Spaces	*5,375*
Denison Street	64,712	Commercial		10	2 x MRV 2 x SRV 6 x Courier x Van Spaces *7 x Broadcast vehicle - Channel 9 building*	*6,471*

Appendix E – Road safety review

A Road Safety Review was undertaken on Wheat Road – Site Works Overall Plan (drawing CBP-SK-ENS-CIV-DRW-20-1011, Rev01) on 23/09/2021 by Frank Banno who is certified from Transport for NSW Centre for Road Safety's Register of Road Safety Auditors (**http://www.roadsafetyregister.com.au**) as a Level 2 Road Safety Auditor (Auditor ID: RSA-02-0312).

A close out meeting occurred between the auditor and the design team on 27/09/2021 to discuss the findings of the review. These findings can be found in the table below:

No.	Location / drawing number	Review finding	Designers response
1	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	Have cyclists been considered as part of the design?	Cyclist are not expected to travel in the loading dock. There is a designated cycleway along Cockle Bay Wharf (in Darling Harbour promenade)
2	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	What is the extent of pedestrian movements? Path narrows on the western side. People may be forced to walk on the road and potentially be hit be a vehicle	This part is for the emergency egress of the building only directing people south
3	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	Unclear lane width on left turn lane to W Hotel, as it looks like it varies. Is it sufficient for the the design vehicle?	B99 and short service vehicles are expected to use this lane
4	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	No signage shown around loading dock entry intersection. Without signage and pavement marking only this may lead to confusion and may cause accidents	Signage will be developed at the next design stage
5	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	Unclear if stop or give way line (from W Hotel to exit Wheat Road)	GIVE WAY hold line and signage to be provided. Intersection does not warrant STOP sign
6	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	Can vehicles turn left and right at this point (from off-ramp)? Will the design vehicle make the movements required?	Vehicles accessing the loading dock are expected to turn right. Vehicles accessing W Hotel should turn left
7	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	It is unsure what the design vehicle is and what the turn path movements around this roundabout are, there is potential of accidents if the movements can not be made	This design is by others under an approved DA
8	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	What is posted speed on this road (to W Hotel)? Will vehicles be entering at a higher speed and not see the roundabout, thus potentially cause accidents	Harbour Street is subject to a 50 km/h speed limit.
9	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	Looks as though the length of deceleration has been reduced, if not within the austroad guide for the design speed this has a potential to cause rear end accident (two off ramps from Harbour Street)	This design is by others under an approved DA
10	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	I assume this is a footing below the road (square drawing with roundabout)	Existing columns include the Western Distributor and Market Street pedestrian bridge

11	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	The design vehicle is unknown, can the design vehicle make this turn with having to do a three point turn? If a three point turn is required it may back up traffic into the through lane and has the potential to cause rear end accidents	The design vehicle for the Cockle Bay Park loading dock is 12m. These vehicles should not turn. Rigid vehicles accessing W Hotel should use the other off-ramp. Swept paths have been provided in Appendix B.
12	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	Is there an end treatment on the end of the barrier? crash cushion? (Wheat Road - Harbour Street on-ramp)	Type F kerbs are generally proposed along Harbour street with crash cushions at diverges. End treatment will be detailed at the next design stage
13	Loading dock / W Hotel CBP-SK-ENS-CIV-DRW-20-1011-01	Is there any signage on this traffic island? (between Wheat Road and Harbour Street)	Signage on the island will include Give Way sign and left on arrow on single pole for exiting vehicles. Give way replicated on nearside and left only in median. Keep left sign at nose for exiting vehicles 15kmh exit speed advisory sign will also be required
14	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	It is unclear what the design speed is and if the deceleration is suitable.	Exit design speed is 40km/h on left hand curve and 30 km/h on right hand curve after 20 kmh speed zone
15	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	Unclear what these dimensions are measuring. (Off-ramp measurements)	They are marked up incorrectly. Taper is 35m and Aux Lane is 35m to give a total of 70m
16	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	What is the size of this area (kerb markings)? Will a car fit here? There is a potential that cars may park her if the spaces a full. this may lead to side swipe accidents	This area is required for FSD around the curve, the hatch is design to discourage stopping. This will be enforced by “No Stopping Signage”
17	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	What does this line type represent (blue line)? Barrier? If so, what type and has the dynamic deflection been considered in placement?	Type F Barrier kerbs tied down to the road. 750mm from face to vertical face for rollover. No working width provided as low speed environment
18	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	2.1m is very narrow for a parking space, if this is a drop area they need to be wider in accordance with the on-street parking Australian standard. Less frequent use can be narrower but high use need to be wider. With this being a narrow space and frequently used and the through lane only 3.6m there is a potential for side swipes or pedestrians being hit by vehicles in the through lane	Australian Standards were checked to define these parking spaces. 2.1m is the minimum required width
19	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	Check space dimension and aisle width with AS to enable the manoeuvrability into the space. this includes reverse parking	Australian Standards were checked to define these parking spaces
20	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	Check dimension of end space as there are usually long if they are constrained at both ends. If the spaces are sub standard there is a potential that the vehicle may stick out into the through lane and cause rear end accidents of block traffic which	Unobstructed end space can be 5.4m according to the Australian Standards

		will then back into the through lane of the main road	
21	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	What are the pedestrian movements? Is there enough room for pedestrians to walk in this area (porte cochere north)? If not they may be forces to walk out onto the road and be struck by a vehicle.	Refer to Design team intent here – Need to enderstand if pedestrian traffic occurs between underside of Pyrmont Bridge and Drop off zone.
22	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	What is the design vehicle, can they make these turns at the posted speed? have turn paths been done	Swept paths are provided in Appendix B
23	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	stop or give way line? Signage and linemarking plan missing	GIVE WAY is to be provided
24	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	Crash cushion and barrier arrangement looks very tight around the column. Has the dynamic deflection been considered in selection and placement of barrier? What type of barrier this is? (Between Wheat Road and Harbour Street)	Type F kerb has mostly been removed in consultation with TfNSW as a blade wall is proposed on the RHS.
25	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	0.75m from face to barrier to column is not enough for dynamic deflection, what barrier has been selected?	Design speed is very low,
26	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	Has the 20kph speed limit been approved by TfNSW?	Its the proposed new commencement of an existing speed zone
27	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	Pavement arrow missing (Wheat Road)	Will be added
28	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	What is the width of this area? Is there a potential that vehicles will park here and pedestrian walk across the road without a dedicated crossing? (Wheat Road)	Required to allow a broken down vehicle to be passed. “No Stopping” signage to be supplied. Deterrent marker to be applied inside of E4 line.
29	Drop-off CBP-SK-ENS-CIV-DRW-20-1011-01	Is there a signage plan including direction signage on the main road to direct motorist. A lack of signage will cause confusion amongst motorist and may lead to accidents	Signage to be fully developed at next stage

Appendix F – GTP draft Action plan

Strategy 2 – Provision of facilities			
No	Action	Timeline	Responsible
2.1	Provide safe access and clear wayfinding signage within the building for cyclists to navigate to the bike parking areas.	Development design phase and prior to occupation	Developer
2.2	Implement security systems at the bike parking area, e.g. CCTV	Prior to occupation	Developer
2.3	Provide adequate signage for the proposed bike lane to the EOT facilities.	Development design phase and prior to occupation	Developer
2.4	Provide EOT facilities, including showers, dry room, hairdryer, iron, lockers etc.	Development design phase and prior to occupation	Developer
2.5	Install facilities to provide umbrella plastic bags.	Prior to occupation	Developer

Strategy 3– Provision of information			
No	Action	Timeline	Responsible
3.1	Install a digital display board (iPad) in a public area such as the lobby, the lifts or within the lift waiting area, providing transport related information such as: ▪ Weather forecast ▪ Events calendar ▪ Road closures and their impacts or traffic delays ▪ Active transport options and updates to new or upgraded infrastructure and facilities ▪ Public transport facilities, options and disruptions in particular for Town Hall Station	Prior to occupation	Developer
3.2	Provide a welcome package for commercial and retail tenants comprising information about public and active transport facilities within the development and the surrounding area. This could include brochures or other advertising material, including maps, to inform tenants of: ▪ the high walkability to public transport and key points of interest. ▪ the available cycling infrastructure (i.e. location of cycling routes and bike parking, shared paths and others), including safe cycling routes to major points of interest. ▪ the nearby available public transport options. This should include details on timetables and routes. ▪ car and ride share providers and directions to the nearest pick-up locations.	Prior to occupation and ongoing	Building Manager

Strategy 3– Provision of information			
No	Action	Timeline	Responsible
3.3	During negotiations for new tenants, or the lease renewal of current tenants, strategies should be discussed to provide information packs to new employees, containing information material similar to Recommendation 3.2.	Prior to occupation and ongoing	Building Manager
3.4	Provide periodic electronic letters to retail and commercial tenants outlining and promoting travel related information, such as: ■ Sustainable transport events run by Building Management and within the City of Sydney ■ Major news impacting sustainable transport options i.e. road closures, long term public transport disruptions and cycle path upgrades ■ Information regarding bicycle end of trip facilities within the building (e.g. how to access them, how to rent lockers etc.) ■ Key information regarding access to the site, e.g. the times of the last public transport services from the site in the evening ■ Health benefits of sustainable transport options	Ongoing	Building Manager
3.5	Promote the use of operators' websites/mobile applications, such as the Commuter NSW application.	Ongoing	Building Manager

Strategy 4 – Provision of support			
No	Action	Timeline	Responsible
4.1	Employ a travel coordinator or equivalent role (e. g. on site concierge) as part of the building's management activities.	Prior to occupation and ongoing	Building Manager
4.2	Provide communal bicycle repair toolkits within the building, located within the bike parking area to be used by both retail and office employees.	Prior to occupation and ongoing	Building Manager
4.3	Consider a partnership with a nearby bicycle repair shop to provide discounts to tenants of the building for bicycle accessories/repairs. Undertake promotional initiatives, e.g. invite bicycle shop owner to hold a free 'bicycle check-up' or bike-repair sessions in the building.	Prior to occupation and ongoing	Building Manager
4.4	Consider partnerships with car share or ride share operators (membership options, discounts).	Prior to occupation and ongoing	Building Manager
4.5	Establish a building committee to coordinate different aspirations and concerns of tenants. Discuss to include their sustainable transport aspirations.	On occupation and ongoing	Building Manager

Strategy 5 – Promotion of social activities and events			
No	Action	Timeline	Responsible
5.1	Promote participation in public walking and cycling events, such as - Walking challenges; - Cycling challenges; - Charity bike rides; - Cultural walking tours; - Lunchtime walking groups; - Overall health and wellbeing initiatives; and - Events available on City of Sydney's website. Consider providing discounted entry prices to further promote participation.	Ongoing	Building Manager
5.2	Employ an event coordinator to organise internal promotional events, such as "Cycle to Work" day or a walking challenge "Walk 10,000 steps each day for one week" and provide a free meal to the participants.	Prior to occupation and ongoing	Building Manager
5.3	Coordinate a "children to school walking bus" or a "children to childcare walking bus" group based on demand of employees of different tenancies.	Ongoing	Building Manager

Strategy 6 – Responsibility and monitoring			
No	Action	Timeline	Responsible
6.1	Employ a travel coordinator or equivalent (e. g. on site concierge) role as part of the building's management activities.	Prior to occupation and ongoing	Building Manager
6.2	Actively monitor the travel mode share by retail and residential tenants by undertaking periodic surveys (see Section 5.3)	Ongoing	Building Manager

Document prepared by

Aurecon Australasia Pty Ltd
ABN 54 005 139 873
Level 5, 116 Military Road
Neutral Bay NSW 2089
PO Box 538
Neutral Bay NSW 2089
Australia

T +61 2 9465 5599
F +61 2 9465 5598
E sydney@aurecongroup.com
W aurecongroup.com