



ptc.

30th March 2026

**Waterloo Estate (South)
Concept SSD-93222706
Stockland and Homes NSW
Transport Impact
Assessment**

For: Stockland and Homes NSW

Site Address: 247 - 251 Cope Street, Waterloo



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contents;

1.Executive Summary	1
2.Introduction	2
2.1. Secretary’s Environmental Assessment Requirement (SEARs)	3
3.Site Description	5
3.1. Surrounding Site Context	6
3.2. Project Vision and Intended Outcomes	8
4.Land Zoning	9
5.Planning Concept	11
5.1. Proposed Concept SSDA	11
6.Parking Assessment	13
6.1. Existing Parking Environment	13
6.2. Post Development Parking Environment	14
6.3. Planning Concept	15
6.3.1. Planning Policy	15
6.3.2. Bicycle Parking Requirements	15
6.3.3. End of Trip Facility Requirements	17
6.3.4. Car Share Requirements	18
6.3.5. Car Parking Requirements	19
6.3.6. Accessible Car Parking	21
6.3.7. Motorcycle Parking Requirements	21
6.3.8. Service Vehicle Parking Requirements	22
6.4. Summary of Parking	22
7.Transport Environment	24
7.1. Historic Travel Mode Share	24
7.2. Active Travel	26
7.2.1. Pedestrian Infrastructure	26
7.2.2. Bicycle Network	27
7.2.3. Proposed Active Transport Upgrades	29
7.3. Public Transport	31
7.3.1. Metro	32
7.3.2. Train	33
7.3.3. Buses	33
7.3.4. Proposed Public Transport Upgrades	35

contents;

7.4.	Road Network	36
7.4.1.	Administrative Road Hierarchy	36
7.4.2.	Surrounding Road Network	36
7.4.3.	Existing Local Road Network	37
7.5.	Proposed Precinct Street Network	42
7.5.1.	Assessment of Street Sections	0
7.5.2.	Precinct Access and Circulation	0
8.	Transport Assessment	0
8.1.	Approved Trip Generation	0
8.1.1.	Jacobs Transport Study	0
8.1.2.	City of Sydney Planning Proposal	2
8.2.	Proposed Trip Generation	3
8.3.	Comparison of Trip Generation	4
9.	Typical Carpark and Access Assessment	5
9.1.	Vehicular Access	5
9.1.1.	Access Assessment for Each Block	7
9.2.	Car Parking Design Requirements	15
9.2.1.	Typical Requirements	15
9.2.2.	Accessible Parking	15
9.3.	Bicycle Parking	16
9.4.	Service Vehicle Parking	16
9.5.	Emergency Vehicle Access	16
10.	Framework Green Travel Plan	17
10.1.	What is a Green Travel Plan?	17
10.2.	Why is a Green Travel Plan required?	17
10.3.	The Purpose of Green Travel Plan	18
10.4.	Potential Outcomes	19
10.5.	Steps to Set Up a Green Travel Plan	20
10.5.1.	Step 1 – Set up an Advisory Committee	20
10.5.2.	Step 2 – Data Collection and Review Existing Situation	20
10.5.3.	Step 3 – Prepare the Green Travel Plan	22
10.5.4.	Step 4 – Deliver and Implement	22
10.5.5.	Step 5 – Recognise Progress	22
10.6.	Proposed Action Items	22
10.6.1.	Walking	23
10.6.2.	Cycling	23

contents;

10.6.3. Public Transport	23
10.7. Promotion and Marketing Strategy	23
10.8. Monitoring and Evaluation	24
10.9. Travel Access Guide	25
11. Delivery and Service Management Plan	26
11.1. Delivery and Service Demand	26
11.1.1. City of Sydney Development Control Plan 2012	26
11.1.2. TfNSW Urban Freight Forecaster	27
11.2. Management Measures	27
11.2.1. Rules for using the Delivery and Service Facilities	28
11.3. Delivery and Service Strategy	29
11.3.1. Hours of Operation	29
11.3.2. Service Vehicle Access	29
11.3.3. Delivery and Service Bay Limitations	29
11.3.4. Other Considerations	30
11.4. Monitoring and Review	30
12. Conclusion	31
Appendix 1. Supplementary Data	32
Appendix 2. Site Plan	34
Appendix 3. TfNSW Freight Forecaster Model	35
Appendix 4. Swept Path Assessment	36
Appendix 5. Accessible Consultant Parking Rate Extract	37
Appendix 6. ASPECT Studios Public Domain Coordination Plans	38

contents;

List of Tables

Table 1: SEARs/Council Requirements	3
Table 2: Legal Description of Waterloo South	5
Table 3: Key Development Metrics	11
Table 4: Bicycle Parking Provision	15
Table 5: End of Trip Facilities Provision	17
Table 6: Car Share Provision	18
Table 7: Car Parking Provision	19
Table 8: Motorcycle Parking Provision	21
Table 9: Service Vehicle Provision	22
Table 10: Metro Service Summary – Waterloo Metro Station	33
Table 11: Summary of Train Service	33
Table 12: Summary of Bus Service	35
Table 13: Characteristic of Wellington Street	38
Table 14: Characteristic of Cope Street	38
Table 15: Characteristic of Cooper Street	39
Table 16: Characteristic of George Street	39
Table 17: Characteristic of West Street	40
Table 18: Characteristic of Pitt Street	40
Table 19: Characteristic of Gibson Street	41
Table 20: Characteristic of John Street	41
Table 21: Characteristic of McEvoy Street	42
Table 22: Summary of Departures from Design Guide Street Design	0
Table 23: Summary of Approved Person Trip Generation (Source: Jacobs)	1

contents;

Table 24: Summary of Approved Vehicle Trip Generation (Source: Jacobs)	2
Table 25: Summary of Approved Person Trip Generation (Source: CoS)	2
Table 26: Summary of Approved Vehicular Trip Generation (Source: CoS)	2
Table 27: Summary of Proposed Person Trip Generation for Concept SSDA	3
Table 28: Summary of Proposed Vehicular Trip Generation for Concept SSDA	3
Table 29: Comparison of Vehicular Trip Generation	4
Table 30: Initial Mode Share Estimate	24
Table 31: Existing On-Street Parking within the Precinct	32

contents;

List of Figures

Figure 1: Waterloo Estate (South) Concept SSDA Aerial (Source: SJB)	3
Figure 2: Aerial Image of the Precinct (Source: Nearmap)	6
Figure 3: Aerial View of the Waterloo Estate (Source: ptc.)	7
Figure 4: Waterloo South Boundaries	8
Figure 5: Land Use Zoning (Source: NSW Planning Portal)	9
Figure 6: Surrounding Centres and Stategic Traffic and Transport Network (Source: Jacobs)	10
Figure 7: Indicative Planning Proposal Precinct Plan (Source: SJB Architects)	12
Figure 8: On-Street Parking Availble in the Existing Precinct	13
Figure 9: Post Development Parking Facilities within the Precinct	14
Figure 10: Travel to Work mode share for Waterloo (Source: ABS 2016)	24
Figure 11: Sydney Metro Patronage Data (monthly trips)	25
Figure 12: Patronage Data (all modes) for Public Transport	25
Figure 13: Pedestrian Network	26
Figure 14: Existing Cycle Network in the Vicinity of the Precinct (Source: CoS)	28
Figure 15: CoS Planned Bike Network (Source: Cycling Strategy and Action Plan 2018 - 2030)	29
Figure 16: Wellington Street Cycling Infrastructure (Source: CoS)	30
Figure 17: Planned Regional Bike Route in Waterloo	30
Figure 18: Walking and Cycling Catchment around the Precinct (Source: Nearmap)	31
Figure 19: Public Transport Accessibililty Level of the Precinct	32
Figure 20: Location of Nearby Bus Stops (Source: Google Maps)	34
Figure 21: Bus Network Surrounding the Precinct	34
Figure 22: Road Hierarchy (Source: TfNSW)	36

contents;

Figure 23: Arterial and Sub-Arterial Road	37
Figure 24: Overview of Internal Road Network	37
Figure 25: Wellington Street – Westbound (Source: Google Streetview)	38
Figure 26: Cope Street - Southbound (Source: Google Streetview)	38
Figure 27: Coper Street - Southbound (Source: Google Streetview)	39
Figure 28: George Street - Southbound (Source: Google Streetview)	39
Figure 29: West Street - Southbound (Source: Google Streetview)	40
Figure 30: Pitt Street – Northbound (Source: Google Streetview)	40
Figure 31: Gibson Street - Southbound (Source: Google Streetview)	41
Figure 32: John Street - Eastbound (Source: Google Streetview)	41
Figure 33: McEvoy Street - Eastbound (Source: Google Streetview)	42
Figure 34: Future Street Network (Design Guide)	43
Figure 35: Future Street Network (Proposed)	44
Figure 36: Street Section - George Street (Aspect Studios)	2
Figure 37: Street Plan - George Street (Aspect Studios)	2
Figure 38: Street Section - Wellington Street (Aspect Studios)	3
Figure 39: Street Plan - Wellington Street (Aspect Studios)	3
Figure 40: Street Section - Pitt Street Extension (Aspect Studios)	4
Figure 41: Street Plan - Pitt Street (Aspect Studios)	4
Figure 42: Street Section - Cooper Street North (Aspect Studios)	5
Figure 43: Street Plan - Cooper Street North (Aspect Studios)	5
Figure 44: Street Section - West Street (Aspect Studios)	6
Figure 45: Street Plan - West Street (Aspect Studios)	6

contents;

Figure 46: Street Section - Mead Street (Aspect Studios)	7
Figure 47: Street Plan - Mead Street (Aspect Studios)	7
Figure 48: Street Section - Cooper Street South (Aspect Studios)	8
Figure 49: Street Section - Cooper Street South (Aspect Studios)	8
Figure 50: Street Plan - Cooper Street South (Aspect Studios)	9
Figure 51: Street Section - John Street (Aspect Studios)	10
Figure 52: Street Plan - John Street (Aspect Studios)	10
Figure 53: Street Section - Reeve Street (Aspect Studios)	11
Figure 54: Street Plan - Reeve Street (Aspect Studios)	11
Figure 55: Street Section - Kellick Street (Aspect Studios)	12
Figure 56: Street Plan - Kellick Street (Aspect Studios)	12
Figure 57: Street Section - Gibson Street (Aspect Studios)	13
Figure 58: Street Plan - Gibson Street (Aspect Studios)	13
Figure 59: Access and Circulation for Vehicles (Design Guide)	1
Figure 60: Access and Circulation for Vehicles (Proposed)	2
Figure 61: Precinct Traffic Circulation Diagram	3
Figure 62: Proposed Basement Vehicular Access Points and Precinct Circulation	6
Figure 63: Block 2 Driveway Assessment	7
Figure 64: Block 3 Driveway Assessment	8
Figure 65: Block 4 Driveway Assessment	9
Figure 66: Block 5 Driveway Assessment	10
Figure 67: Block 7 Driveway Assessment	11
Figure 68: Block 8 Driveway Assessment	12



contents;

Figure 69: Block 9 Driveway Assessment	13
Figure 70: Block 10 Driveway Assessment	14
Figure 71: Steps in developing a GTP	20
Figure 72: Mode Hierarchy	22
Figure 73: Management Measures (Source: TFNSW Last Mile Toolkit)	28
Figure 74: Indicative Service and Refuse Vehicle Route	29

1. Executive Summary

This Traffic Impact Assessment is submitted to the Department of Planning, Housing and Infrastructure (the Department) on behalf of Stockland and Homes NSW (the Applicant) in support of a concept State Significant Development Application (SSDA) for the redevelopment of the site within the Waterloo Estate (South) Precinct Area, hereby known as “Waterloo South” or simply the ‘precinct’.

Waterloo South is located approximately 3 kilometres south of Sydney CBD and is bounded by Raglan Street to the north, Cope Street to the west, McEvoy Street to the south, and Waterloo Park, Kellick Street, Gibson Street, Wellington Street and George Street to the east. The precinct is located adjacent to the Waterloo Metro station and Waterloo Metro Quarter development, which grants it exceptional accessibility to public transport.

This Concept SSDA is supported by more detailed planning controls in the Waterloo South Design Guide 2022.

The concept SSDA proposal comprises the following development outcomes for Waterloo South:

- approximately 3,300 dwellings, including 50 percent Social and Affordable Housing;
- a large park of more than two hectares adjoining Waterloo Metro station and a small park in the south of the precinct; and
- approximately 15,000 sqm of floor space for non-residential premises comprising commercial, retail, community facilities, childcare and health facilities.

A range of public infrastructure has been identified as being required to support the significant population growth and demographic change brought about by the redevelopment of Waterloo Estate (South), including:

- public open space;
- new streets and the upgrade of existing streets, and through site links;
- a new cycleway along Wellington Street;
- flood mitigation works in public space; and
- community facilities.

The precinct has been assessed from a traffic engineering perspective with respect to traffic generation, road and street design, car parking provision and design elements. The proposed scheme has been found to be acceptable in the following ways:

- Having appropriate road design driven by relevant planning controls and authority guidelines,
- Generation a similar traffic outcome and related impact to the surrounding road network as the previously approved scheme (PP-2021-3265), and
- Having adequate parking provision and compliant design or being capable of being made to meet the requirements parking provision and compliant design.

In such a way, **ptc.** find the proposed Waterloo Estate (South) to be supportable from a traffic engineering perspective.

2. Introduction

This Transport Impact Assessment is submitted to the Department of Planning, Housing and Infrastructure (the Department) on behalf of Stockland and NSW Land and Housing Corporation (the Applicant) in support of a concept State Significant Development Application (SSDA) for the redevelopment of the site within the Waterloo Estate (South) Precinct Area, hereby known as “Waterloo South”.

In this report reference to “Homes NSW” or “the Applicant” shall also be taken to mean “New South Wales Land and Housing Corporation (LAHC)” who is the registered owner of 93 per cent of land within the Waterloo South Precinct Area. Any reference to “Waterloo South” in this report should be read as the redevelopment of land owned by LAHC and associated public land (such as roads) throughout the Precinct Area.

The concept development is categorised as State Significant Development (SSD) as per Section 26, Schedule 1 of State Environmental Planning Policy Planning Systems 2021 (Planning Systems SEPP) as the project includes housing development carried out by or on behalf of the LAHC, with an estimated development cost (EDC) of more than \$30 million.

The concept, in summary, aims to deliver:

- High quality mixed tenure housing in the context of a rapidly transforming area.
- Approximately 3,300 new dwellings, of which a minimum 30% will be social housing, approximately 20% will be affordable housing, and a maximum 50% will be market housing (measured as a percentage of the total residential gross floor area).
- Publicly accessible open space and public realm activation.
- An authentic mixed-use precinct, with housing co-located with non-residential uses, community facilities, essential services, and access to public transport.

The concept SSDA will guide the detailed design of future buildings, open spaces, and the public realm within the Waterloo South site. The concept SSDA seeks development consent for key planning metrics, including maximum building envelopes, building heights, setbacks, vehicular access points and road network, and the distribution of floor area across different land uses and residential tenure types.

A state-assessed rezoning application has also been prepared and submitted concurrently to give effect to this concept SSDA. The state-assessed rezoning application seeks amendments to the Sydney Local Environmental Plan 2012 (SLEP 2012) and the Waterloo Estate (South): Design Guide 2022 (2022 Design Guide) to align with the maximum building envelopes sought in this concept SSDA. Notably no additional gross floor area (GFA) or density is sought under the state-assessed rezoning application than is currently permissible on the site under the SLEP 2012.

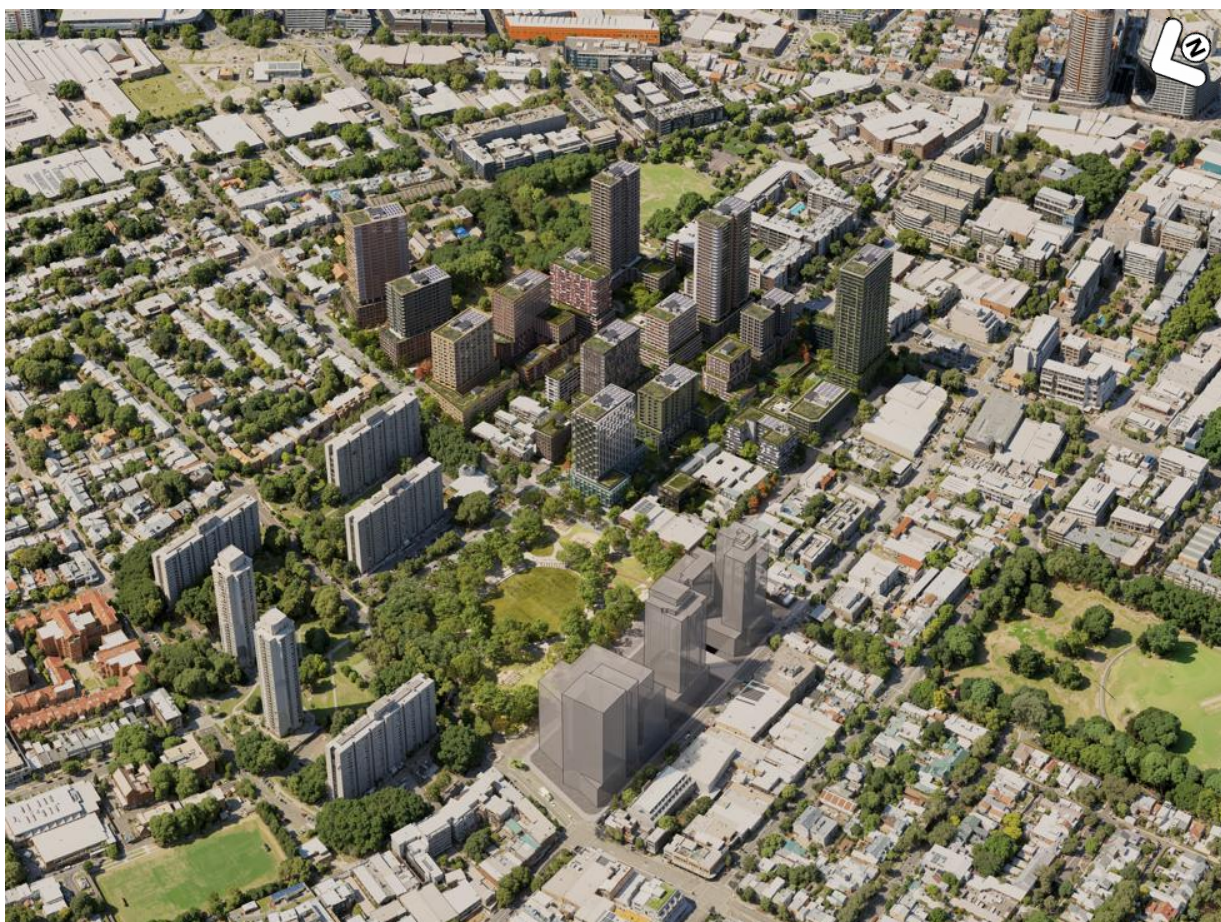


Figure 1: Waterloo Estate (South) Concept SSDA Aerial (Source: SJB)

2.1. Secretary’s Environmental Assessment Requirement (SEARs)

This Transport Impact Assessment addresses the following relevant Secretary’s Environmental Assessment Requirement (SEARs) set out in Table 1.

Table 1: SEARs/Council Requirements

Item	Description of requirement	Documentation	Section Reference
Secretary’s Environmental Assessment Requirement			
Item 8	<p>Transport</p> <ul style="list-style-type: none"> • Provide a Transport Impact Assessment (TIA) in accordance with the processes and methodology recommended in the Guide to Transport Impact Assessment (GTIA) published by TfNSW. • Provide a Green Travel Plan (GTP) to demonstrate a commitment to sustainable transport and modal shift. The GTP should include, but not be limited to, measures to promote sustainable travel choices for employees and residents, such as connections into existing walking and cycling networks, minimising car use, encouraging car share and public transport, providing adequate bicycle parking and high-quality end-of-trip facilities. 	<p>Transport Impact Assessment</p> <p>Green Travel Plan</p>	<p>This Report</p> <p>Section 10</p>
City of Sydney Council Requirements			

Item	Description of requirement	Documentation	Section Reference
Item 11	<p>Public Domain Design and Transport</p> <p>The concept public domain plan accompanying the EIS must be prepared with reference to the following:</p> <ul style="list-style-type: none"> • The City’s Sydney Streets Code and accompanying technical specifications. • The City’s Public Domain manual including the inclusive and accessible public domain guidelines and • TfNSW’s Movement and Place Policy and Guidance. <p>The altered closure of George Street and its use to meet deep soil targets is not supported.</p> <p>The Traffic, Transport and Accessibility Impact Assessment accompanying the EIS needs to address the requirements of the Design Guide, particularly Section 9.</p> <p>Any transport modelling should consider the removal of the right turn ban from Botany Road onto Wellington Street, and northbound through traffic utilising Botany Road, Bourke Street, and Elizabeth Street instead of Wellington Street.</p> <p>Upon review, the City requests a left in and left out from George Street to McEvoy Street</p>		<p>Refer to Section 7.5 for assessment of the proposed precinct streets and public domain.</p> <p>As requested by City of Sydney, this assessment has been undertaken without inclusion of the right turn ban proposed in the Design Guide. Refer to 7, 8.</p> <p>It is understood that City of Sydney and TfNSW are in discussion regarding access to the precinct from McEvoy Street. The outcome of these discussions has not been finalised and will be further assessed during detailed SSDA submissions.</p>
	Strategy for servicing around the site	Delivery Service Plan (DSP)	Section 11

3. Site Description

The Waterloo South Precinct Area comprises approximately 123,149m² across 10 street blocks in the City of Sydney Local Government Area (LGA), generally bounded by Cope, Raglan, George, Wellington, Gibson, Kellick, Pitt and McEvoy Streets.

The Waterloo South site area, excluding any privately owned properties within the Waterloo South Precinct Area, comprises approximately 114,822m², or just over 93 per cent of the land within the Precinct Area. The legal description of Waterloo South Precinct is detailed in Table 2.

Table 2: Legal Description of Waterloo South

Address	Lot/DP
Lots owned by NSW Land and Housing Corporation (land is subject to both the rezoning and the concept SSDA)	
209-219 Cope Street, Waterloo	Lot 1 DP 217386
238-246 George Street, Waterloo	Lot 1 DP 225159
229-231 Cope Street Waterloo	Lot 3 DP 10721
6 John Street, Waterloo	Lot 1 DP 533762
97-109 Cooper Street, Waterloo	Lot A DP 105916, Lot B DP 105916, Lot C DP 105916, Lot 14 DP 10721
248-254 George Street, Waterloo	Lot 2 DP 533678
232 Pitt Street, Waterloo	Lot 11 DP 635663, Lot 10 DP 635663
74-76 Wellington Street, Waterloo	Lot 1 DP 224728
331-337 George Street, Waterloo	Lot 3 DP 533680
247-251 Cope Street, Waterloo	Lot 1 DP 533679
339-341 George Street, Waterloo	Lot 1 DP 77168
250 Pitt Street, Waterloo	Lot 313 DP 606576
Cooper Street, Waterloo	Lot 3 DP 217386
Lots owned by others (land that does not form a part of the concept SSDA)	
221-223 Cope Street, Waterloo	Lot 6 DP 10721, Lot 7 DP 10721, Lot 9 DP 10721, Lot 8 DP 1147179
225-227 Cope Street, Waterloo	Lot 5 DP 10721, Lot 4 DP 10721
233 Cope Street, Waterloo	Lot 12 DP 1099410, Lots 1-41 SP 79210
116 Wellington Street, Waterloo	Lot 10 DP 10721, Lot 11 DP 10721
111 Cooper Street, Waterloo	Lot 15 DP 10721
291 George Street, Waterloo	Lot 10 DP 1238631, Lots 1-20 SP 96906
110 Wellington Street, Waterloo	Lot 101 DP 1044801, Lots 1-58 SP 69476
336 George Street, Waterloo	Lot 3 DP 10686
213-215 Cope Street, Waterloo	Lot 2 DP 217386

The boundaries of Waterloo South are identified in Figure 2. It should be noted that the precinct includes three privately held properties which are not subject to this Concept SSDA.

The precinct is reasonably flat with a slight fall to the south.



Figure 2: Aerial Image of the Precinct (Source: Nearmap)

3.1. Surrounding Site Context

The suburb of Waterloo is located with the City of Sydney Local Government Area (LGA) 3km south of Sydney CBD. Waterloo South is part of the broader “Waterloo Estate”, which comprises the northern, central, and southern precincts and accommodates a significant community residing in social housing.

Waterloo South Precinct Area is predominantly owned by LAHC, however, as outlined in Table 2 the site, the subject of this report, excludes several privately owned lots located within the boundary of the broader Waterloo South precinct outlined in Figure 3. The privately owned lots are currently used for residential, office, light industrial, and infrastructure uses. The LAHC owned sites are currently used almost exclusively for the provision of social housing, with ancillary offices and community facilities. Overall, Waterloo South currently contains a total of 750 social housing dwellings and 120 private dwellings.

As shown in Figure 3, surrounding suburbs include Redfern to the north, Green Square to the south, Alexandria to the west and Zetland to the east. This broader area has been subject to significant change over the last 10 years with projects such as South Eveleigh, Redfern North Eveleigh Precinct Renewal, Waterloo Metro Quarter and over station development (OSD) all contributing to the changing character of the area.

These broader renewal projects are supported by proximity to a range of public transport services, including Redfern Station, Green Square Station, and Waterloo Metro Station, all of which are within walking distance of Waterloo South.

The major strategic centres located near Waterloo Estate South are:

- Green Square and Mascot located south

- Australian Technology Park located north
- Sydney CBD is located approximately 2.5 kilometres north

The hierarchy of centres and strategic public transport network surrounding Waterloo South is illustrated in Figure 6.



Figure 3: Aerial View of the Waterloo Estate (Source: ptc.)



Figure 4: Waterloo South Boundaries

3.2. Project Vision and Intended Outcomes

The vision for the site is to create a unique and vibrant mixed-tenure housing precinct that supports the needs of the community and delivers much needed housing in response to National and State Government priorities.

The Vision is:

To create a new and unique urban village on the Project Land (Gadigal Land) which: delivers new homes, community places and green spaces with diverse housing choice and amenity; prioritises the health and wellbeing of residents; and offers an authentic sense of place and mixed and more sustainable local and mixed communities.

The proposed redevelopment seeks to respond to this vision by creating a unique and vibrant neighbourhood that can deliver significant social benefits to residents, visitors, and workers in the Waterloo area and broader City of Sydney LGA. The co-location of community uses with housing and employment will ensure the redevelopment is an integrated, accessible and connected precinct that supports the social needs of community.

4. Land Zoning

According to the NSW Planning Portal, the majority of Waterloo South is situated within a Mixed Used (MU1) Zone and Local Centre (E1) Zone, with a Recreation (RE1) Zone just south of Raglan Street.

The site is predominantly surrounded by Mixed Used (MU1) Zone, Productivity Support (E3) Zone, General Residential (R1) Zone, Low Density Residential (R2) Zone, High Density Residential (R4) Zone and Public Recreational (RE1) Zone as illustrated in Figure 5.

The site is also bounded on the south by Infrastructure (SP2) Zone – Classified Road including a small portion which is located within the site.

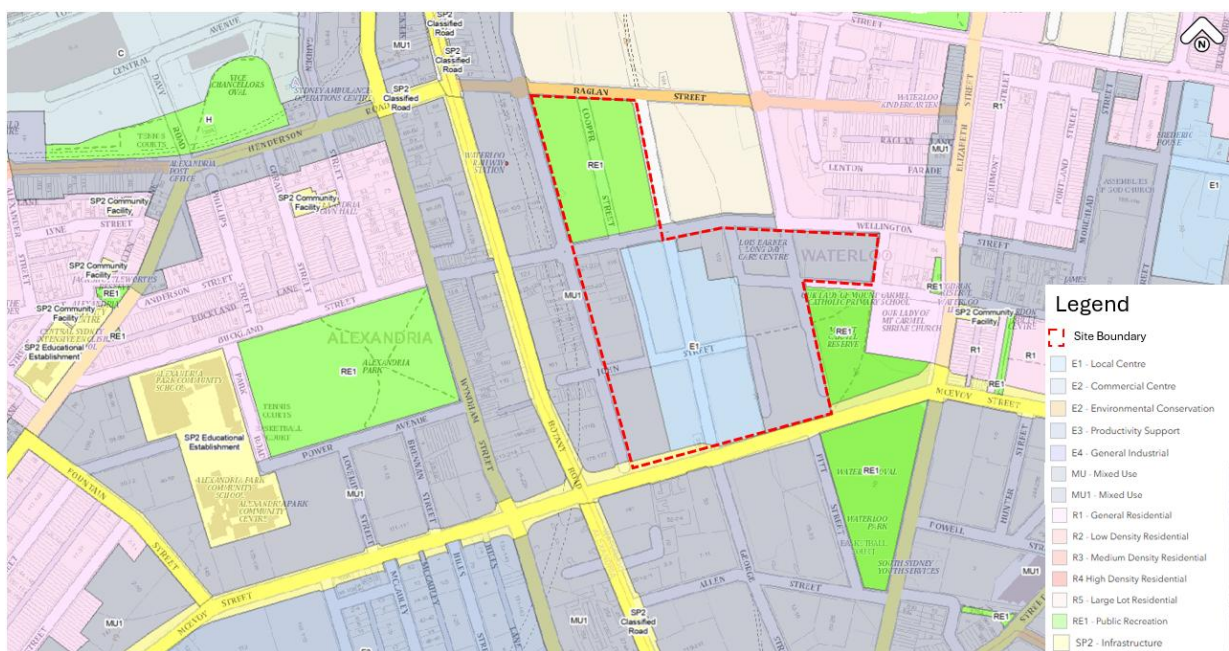


Figure 5: Land Use Zoning (Source: NSW Planning Portal)

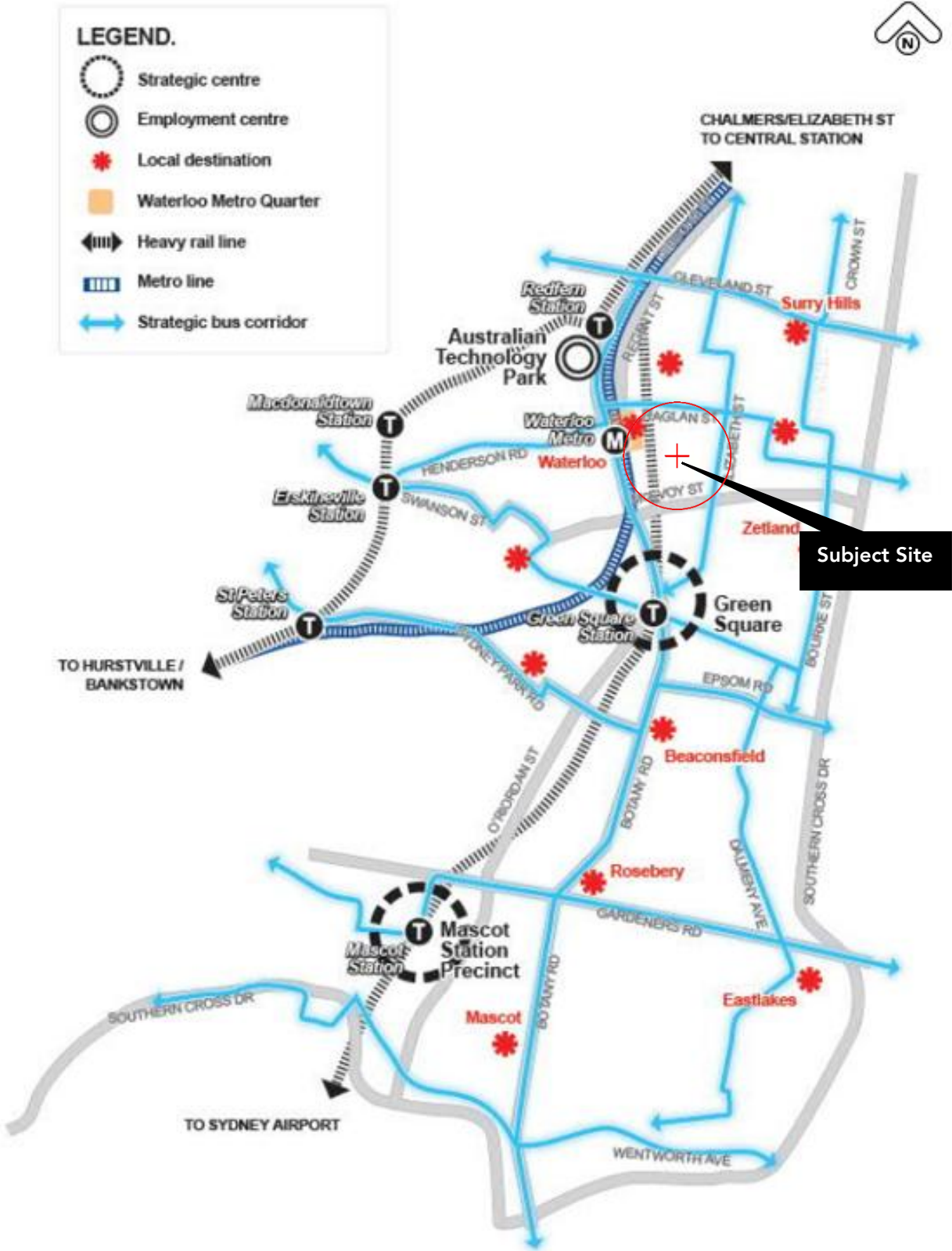


Figure 6: Surrounding Centres and Strategic Traffic and Transport Network (Source: Jacobs)

5. Planning Concept

5.1. Proposed Concept SSDA

The concept SSDA seeks concept approval in accordance with section 4.22 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the comprehensive redevelopment of the Waterloo South site

The concept proposal, if approved, will guide the detailed design of future buildings, public open spaces, and the public realm within Waterloo South. It will seek concept development consent for key planning metrics for the precinct as generally described in Table 3 and Figure 7.

Table 3: Key Development Metrics

Description	Project Details
Project Area	<ul style="list-style-type: none"> Waterloo South has a developable site area of 114,822sqm / 11.5ha The broader Waterloo South Precinct Area, which includes all LAHC owned and privately owned properties and roads within the precinct, has a site area of 123,149sqm / 12.3ha
Project Description	<ul style="list-style-type: none"> Maximum building envelopes, including maximum building heights, street-wall heights and setbacks. Distribution of gross floor area (GFA) across the Waterloo South development blocks. Indicative allocation of floor space between social, affordable and market housing, as well as non-residential and community uses, across the Waterloo South Precinct Area. Loading, vehicular, pedestrian, and active transport access arrangements. Public domain upgrades and new public domain and publicly accessible areas. Indicative subdivision plan, staging plan and delivery sequencing for development. Approval of the following management plans and strategies to inform future stages of the development: <ul style="list-style-type: none"> Updated Design Excellence Strategy Design with Country Strategy Preliminary Public Art Strategy Contamination Strategy Flood Management Strategy Stormwater Management and Drainage Strategy ESD Strategy Strategies for utilities and service provision including service infrastructure lead-in enabling works Tree Retention Strategy
Land Uses	<p>Residential</p> <ul style="list-style-type: none"> Social housing: no less than 30% of residential GFA Affordable housing: ~20% of residential GFA (balance between the delivery of minimum 30% social housing, and the maximum 50% market housing) Market housing: no greater than 50% of residential GFA <p>Non-residential</p> <ul style="list-style-type: none"> A total of 15,000m² of GFA, of which at least 5,000m² of GFA is to be delivered as community Uses' (which can include child-care, health, education or community facilities).
Gross Floor Area	Up to 282,485m ²
Building Heights	Between 2 and 33 storeys
Car Parking	Approximately 1,500 spaces (across all land uses), excluding on-street car parking spaces
Staging/ Phasing	It is expected that the redevelopment will occur in seven (7) stages (inclusive of the delivery of the large park on Block 1), however this staging remains indicative

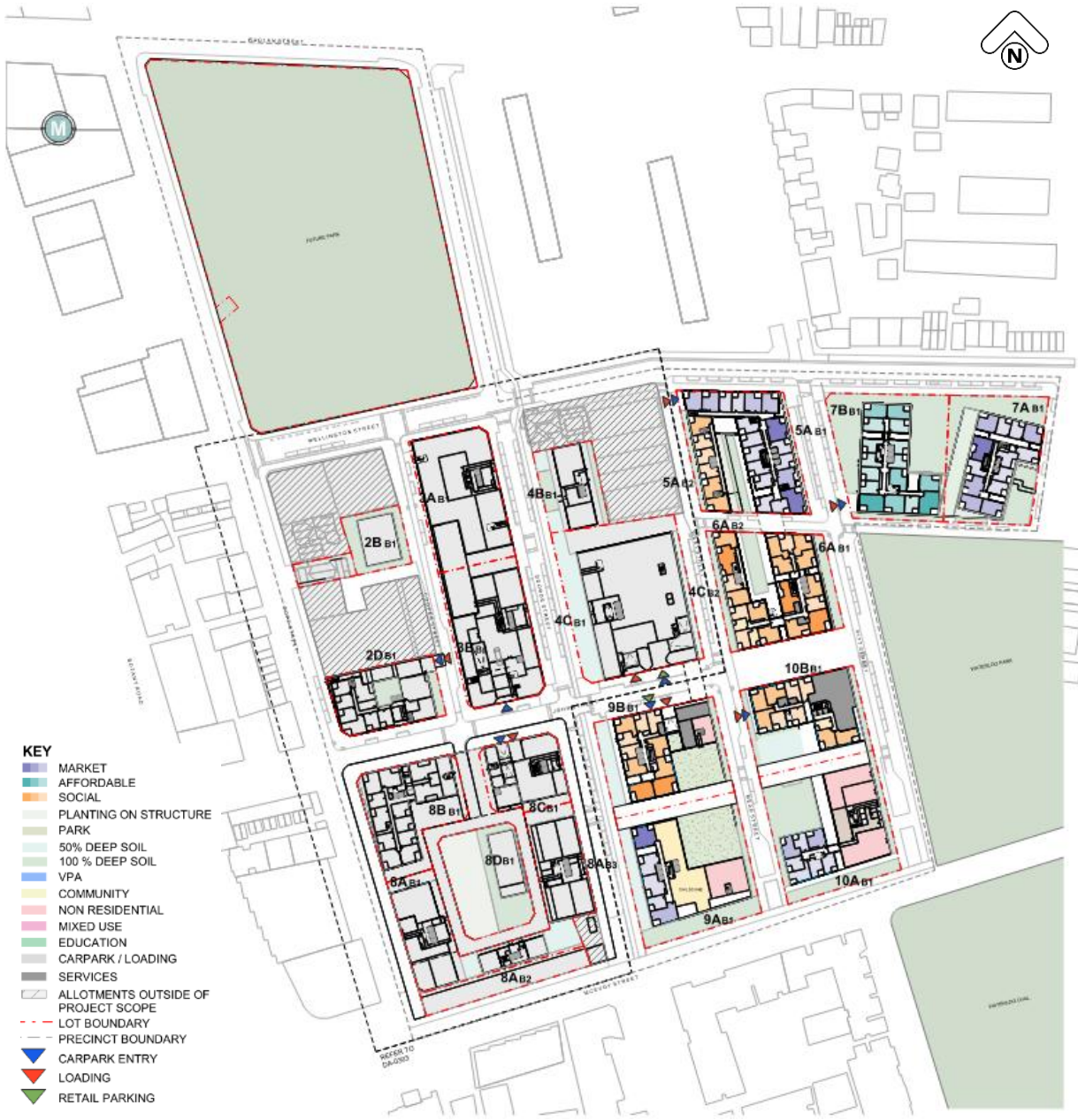


Figure 7: Indicative Planning Proposal Precinct Plan (Source: SJB Architects)

6. Parking Assessment

Redevelopment of Waterloo South aims for a sustainable and equitable transport outcome. Reflecting this aim, a key objective of the development is to remodel the precinct without significantly impacting the existing parking facilities, and to encourage alternate modes of transport.

The following sections describe the present and proposed parking arrangements within the precinct.

6.1. Existing Parking Environment

The Waterloo South precinct has been assessed in relation to the available on-street and public parking that will serve the various users of the development as illustrated in Figure 8.



Figure 8: On-Street Parking Available in the Existing Precinct

The quantum of on-street parking within the precinct is estimated to be:

- 203 on-street car parking spaces, and
- 5 other spaces designated as loading zones, authorised vehicle parking only, or bus zone.

6.2. Post Development Parking Environment

The streetscape and landscaping will be redeveloped as part of the overall precinct rejuvenation. However, the on-street parking quantum will be retained as far as possible, with reference to the latest TfNSW design guidelines. The post-development parking facilities within the precinct are illustrated in Figure 9.



Figure 9: Post Development Parking Facilities within the Precinct

With reference to the count of existing on-street parking (summarised in Appendix 1), the precinct intends to provide approximately 190 on-street car parking spaces, subject to the detailed Development Applications for each block, which may alter design elements such as driveway widths. Parking controls, such as time restrictions or drop-off zones, to be determined on a block-by-block basis as part of the future detailed Development Applications.

6.3. Planning Concept

6.3.1. Planning Policy

The planning is subject to the parking requirements stipulated in following document.

- State Environmental Planning Policy (Housing) 2021;
- City of Sydney Local Environmental Plan 2012;
- City of Sydney Development Control Plan 2012;
- Guide to Transport Impact Assessment; and
- Waterloo Estate (South): Design Guide 2022.

In accordance with the Sydney Local Environmental Plan (LEP) 2012, the development precinct is classified as Category A for residential land uses and Category D for non-residential land uses.

In accordance with Clause 2.10 of the State Environmental Planning Policy, Planning Systems (SEPP 2021), the provisions of the Sydney Development Control Plan 2012 (SDCP) do not apply to this development (unless specified by the Concept Approval Conditions of Consent). Notwithstanding this, the SDCP 2012 has been considered as a parking rate reference point for the purposes of establish a concept level appreciation of the parking provisions, which is consistent with the requirements of the Design Guide.

A summary of the permissible and potential parking provisions for each block of the development is summarised in following sections.

6.3.2. Bicycle Parking Requirements

The assessment of bicycle parking requirements has been undertaken as per the requirements of City of Sydney DCP 2012 as summarised in Table 4.

Table 4: Bicycle Parking Provision

Block	Land Use	Unit/ GFA	Minimum LEP Parking Rates	Required Minimum Spaces	Bike Parking Class
Block 2	Residential - Social Housing	94 units	1 space per unit	94	Class 1
	Residential Visitor	94 Units	1 space per 10 units	9	Class 3
	Community staff	1,839m ²	1 space per 150m ²	12	Class 2
	Community Visitor	1,839m ²	1 space per 400m ²	5	Class 3
	Retail Staff	354m ²	1 space per 250m ²	1	Class 2
	Retail Visitor	354m ²	2 plus 1 per 100sqm over 100sqm GFA	5	Class 3
	Sub-Total				126
Block 3	Residential – Affordable Housing	409 units	1 space per unit	409	Class 1
	Residential Visitor	409 Units	1 space per 10 units	41	Class 3
	Retail Staff	2,506m ²	1 space per 250m ²	10	Class 2
	Retail Visitor	2,506m ²	2 plus 1 per 100sqm over 100sqm GFA	26	Class 3
	Sub-Total				486

Block	Land Use	Unit/ GFA	Minimum LEP Parking Rates	Required Minimum Spaces	Bike Parking Class
Block 4	Residential – Social Housing and Market Apartment	299 units	1 space per unit	299	Class 1
	Residential Visitor	299 Units	1 space per 10 units	30	Class 3
	Retail Staff	770m ²	1 space per 250m ²	3	Class 2
	Retail Visitor	770m ²	2 plus 1 per 100sqm over 100sqm GFA	9	Class 3
	Community Facility Staff	1,736m ²	1 space per 150m ²	12	Class 2
	Community Facility Visitor	1,736m ²	1 space per 400m ²	4	Class 3
	Sub-Total			357	
Block 5	Residential – Social Housing and Market Apartment	218 units	1 space per unit	218	Class 1
	Residential Visitor	218 units	1 space per 10 units	22	Class 3
	Sub-Total			240	
Block 6	Residential - Social Housing	244 units	1 space per unit	244	Class 1
	Residential Visitor	244 units	1 space per 10 units	24	Class 3
	Sub-Total			268	
Block 7	Residential – Affordable and Market Apartment	470 units	1 space per unit	470	Class 1
	Residential Visitor	470 units	1 space per 10 units	47	Class 3
	Sub-Total			517	
Block 8	Residential – Affordable Housing, Social and Market Apartment	438 units	1 space per unit	438	Class 1
	Residential Visitor	438 units	1 space per 10 units	44	Class 3
	Retail Staff	1,659m ²	1 space per 250m ²	7	Class 2
	Retail Visitor	1,659m ²	2 plus 1 per 100sqm over 100sqm GFA	18	Class 3
	Commercial Staff	1,214m ²	1 space per 150m ²	8	Class 2
	Commercial Visitor	1,214m ²	1 space per 400m ²	3	Class 3
	Sub-Total			517	
Block 9	Residential - Social Housing and Market Apartment	504 units	1 space per unit	504	Class 1
	Residential Visitor	504 units	1 space per 10 units	50	Class 3
	Childcare Staff	600m ²	1 space per 150m ²	4	Class 2
	Childcare Visitor	600m ²	1 space per 400m ²	2	Class 3
	Retail Staff	3,077m ²	1 space per 250m ²	12	Class 2
	Retail Visitor	3,077m ²	2 plus 1 per 100sqm over 100sqm GFA	32	Class 3
	Sub-Total			604	
Block 10	Residential - Social Housing and Market Apartment	500 units	1 space per unit	500	Class 1
	Residential Visitor	500 Units	1 space per 10 units	50	Class 3
	Retail Staff	1,504m ²	1 space per 250m ²	6	Class 2
	Retail Visitor	1,504m ²	2 plus 1 per 100sqm over 100sqm GFA	16	Class 3
	Sub-Total			572	

Block	Land Use	Unit/ GFA	Minimum LEP Parking Rates	Required Minimum Spaces	Bike Parking Class
Total Minimum Parking Spaces				3,687	

Adopting the yields presented in Table 4, the precinct would be required to provide 3,679 bicycle parking spaces, comprising a mix of:

- Residential Class 1 bike parking spaces;
- Residential Class 3 bike parking spaces;
- Retail/Commercial/Community/Education Facility Class staff 2 bike parking spaces; and
- Retail/Commercial class 3 Visitors bike parking spaces.

Given the increase in delivery and courier services provided by bikes and e-bikes, it is proposed that the precinct will allocate specific bike parking areas for such activities. The quantity and location of these facilities will be outlined in further detail as part of the development application for each individual block, noting that these will be incorporated within the visitor bike parking provision.

6.3.3. End of Trip Facility Requirements

For non-residential uses, the following facilities for bicycle parking are to be provided at the following minimum rates in accordance with the SDCP:

- 1 personal locker for each bike parking space;
- 1 shower and change cubicle for up to 10 bike parking spaces;
- 2 shower and change cubicles for 11 to 20 or more bike parking spaces are provided;
- 2 additional showers and cubicles for each additional 20 bike parking spaces or part thereof;
- showers and change facilities may be provided in the form of shower and change cubicles in a unisex area in both female and male change rooms; and
- locker, change room and shower facilities are to be located close to the bike parking area, entry and exit points and within an area of security camera surveillance where there are such building security systems.

In accordance with the SDCP the following EoTF requirements are summarised in Table 5. The EoTF provision is linked to the yield schedule and as such is subject to future rationalisation

Table 5: End of Trip Facilities Provision

Block	Land Use	Bike Parking Requirement	Required Minimum Provision	
			Lockers	Shower and Change Room
2	Community staff	12	12	3
	Retail Staff	1	1	
3	Retail Staff	10	10	1
4	Retail Staff	3	3	1
	Community/Facility Staff	12	12	3
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-

Block	Land Use	Bike Parking Requirement	Required Minimum Provision	
			Lockers	Shower and Change Room
8	Retail Staff	7	7	1
	Commercial Staff	8	8	1
9	Childcare Staff	4	1	1
	Retail Staff	12	15	3
10	Retail Staff	6	5	1
Total		75	75	15

The development is required to provide 85 individual lockers and 19 shower/change rooms for the staff of the precinct, based on current yield and intended bicycle parking quantity.

6.3.4. Car Share Requirements

The provision of car share is documented to decrease car ownership and is considered to be a valuable addition to a precinct within the inner Sydney area where public transport accessibility is high, and thus car ownership can be reduced with provision of car share services.

As required by the City of Sydney LEP, car share provision is summarised in Table 6.

Table 6: Car Share Provision

Block	Land Use	Intended Car Parking ¹	LEP Parking Rate (Minimum)	Required Minimum Spaces
Block 2	Residential - Social Housing	19	1 per 50 Spaces	1
	Community		1 per 30 spaces	
	Retail			
Block 3	Residential – Affordable Housing	81	1 per 50 Spaces	2-3
	Retail		1 per 30 spaces	
Block 4	Residential – Social Housing and Market Apartment	152	1 per 50 Spaces	3-5
	Retail		1 per 30 spaces	
Block 5	Residential – Social Housing and Market Apartment	120	1 per 50 Spaces	3-4
	Retail		1 per 30 spaces	
Block 6	Residential - Social Housing	47	1 per 50 Spaces	1-2
	Community		1 per 30 spaces	
Block 7	Residential – Affordable Housing and Market Apartment	241	1 per 50 Spaces	5-8
	Retail		1 per 30 spaces	
Block 8	Residential – Affordable, Social and Market Residential Apartment	255	1 per 50 Spaces	5-9
	Retail		1 per 30 spaces	
	Community/Commercial		1 per 30 spaces	
Block 9	Residential - Social and Market Residential Apartment	298	1 per 50 Spaces	6-10
	Retail		1 per 30 spaces	
Block 10	Residential - Social and Market Residential Apartment	225	1 per 50 Spaces	5-8
	Retail		1 per 30 spaces	
Total				31-49

¹ Refer to Table 7

The development is required to provide between 31-49 car share spaces based on intended car parking quantity. The range calculated is based on the two differing rates for residential and retail/commercial land use, of which there is no distinction at this point for each land use intended parking provision. As such, the rationalised car share quantity required will be confirmed in the development application for each block. However, given the nature of the precinct and a desire to reduce private car use/ownership, it is suggested that the higher target figure be provided.

6.3.5. Car Parking Requirements

The car parking quantity limitations as per the relevant planning controls, and the intended car parking to be provided in the precinct blocks is summarised in Table 7. These car parking calculations apply to the private (restricted access) parking within the basement levels of each block, and not on-street parking.

Table 7: Car Parking Provision

Block	Land Use	Unit/GFA	LEP Parking Rate (Maximum)	Maximum Permissible Spaces	Intended Parking Provision
Block 2	Residential - Social Housing	Studio – 0 1 Bedroom – 66 2 Bedroom – 28 3+ Bedroom – 0	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	39	19
	Residential Visitor	94 Units	-	-	
	Community	1,839m ²	1 space per 175m ²	11	
	Retail	354m ²	1 space per 90m ²	4	
Block 3	Residential – Affordable Housing	Studio – 0 1 Bedroom – 204 2 Bedroom – 164 3+ Bedroom – 41	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	217	81
	Residential Visitor	409 Units	-	-	
	Retail	2,506m ²	1 space per 90m ²	28	
Block 4	Residential – Social Housing	Studio – 6 1 Bedroom – 47 2 Bedroom – 40 3+ Bedroom – 7	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	50	152
	Residential Visitor	100 Units	-	-	
	Residential – Market Apartment	Studio – 0 1 Bedroom – 69 2 Bedroom – 98 3+ Bedroom – 33	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	122	
	Residential Visitor	99 Units	-	-	
	Retail	770m ²	1 space per 90m ²	9	
	Community Facility	1,736m ²	1 space per 200m ²	9	
Block 5	Residential – Social Housing	Studio – 4 1 Bedroom – 10 2 Bedroom – 17 3+ Bedroom – 4	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	19	120
	Residential Visitor	35 Units	-	-	
	Residential – Market Apartment	Studio – 0 1 Bedroom – 64 2 Bedroom – 91 3+ Bedroom – 28	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	111	
	Residential Visitor	183 Units	-	-	

Block	Land Use	Unit/GFA	LEP Parking Rate (Maximum)	Maximum Permissible Spaces	Intended Parking Provision
Block 6	Residential - Social Housing	Studio – 25 1 Bedroom – 73 2 Bedroom – 117 3+ Bedroom – 29	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	136	47
	Residential Visitor	244 Units	-	-	
	Community	0m ²	1 space per 175m ²	-	
Block 7	Residential – Affordable Housing	Studio – 0 1 Bedroom – 108 2 Bedroom – 86 3+ Bedroom – 22	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	114	241
	Residential Visitor	216 Units	-	-	
	Residential – Market Apartment	Studio – 0 1 Bedroom – 89 2 Bedroom – 127 3+ Bedroom – 42	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	155	
	Residential Visitor	258 Units	-	-	
Block 8	Residential – Affordable Housing	Studio – 0 1 Bedroom – 38 2 Bedroom – 30 3+ Bedroom – 8	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	40	255
	Residential Visitor	76 Units	-	-	
	Residential - Social Housing	Studio – 20 1 Bedroom – 84 2 Bedroom – 119 3+ Bedroom – 23	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	135	
	Residential Visitor	246 Units	-	-	
	Residential – Market Apartment	Studio – 0 1 Bedroom – 101 2 Bedroom – 144 3+ Bedroom – 47	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	178	
	Residential Visitor	292 Units	-	-	
	Retail	1,659m ²	1 space per 90m ²	18	
	Community/Commercial	1,214m ²	1 space per 175m ²	7	
Block 9	Residential - Social Housing	Studio – 18 1 Bedroom – 52 2 Bedroom – 84 3+ Bedroom – 21	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	97	298
	Residential Visitor	174 Units	-	-	
	Residential – Market Apartment	Studio – 0 1 Bedroom – 114 2 Bedroom – 163 3+ Bedroom – 53	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	201	
	Residential Visitor	330 Units	-	-	
	Retail	3,077m ²	1 space per 90m ²	34	
	Childcare	600 m ²	1+1 per 100m ²	7	
Block 10	Residential - Social Housing	Studio – 19 1 Bedroom – 57 2 Bedroom – 92 3+ Bedroom – 23	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	106	225
	Residential Visitor	191 Units	-	-	
	Residential – Market Apartment	Studio – 0 1 Bedroom – 1072 Bedroom – 152 3+ Bedroom – 50	0.1 spaces per unit 0.3 spaces per unit 0.7 spaces per unit 1 space per unit	188	
	Residential Visitor	309 Units	-	-	

Block	Land Use	Unit/GFA	LEP Parking Rate (Maximum)	Maximum Permissible Spaces	Intended Parking Provision
	Retail	1,504m ²	1 space per 90m ²	17	
Total				2,052	1,438

The development must provide no more than 2,052 car parking spaces within the blocks, in alignment with the relevant planning controls. The current scheme intends to provide 1,438 parking spaces inclusive of accessible parking (refer Section 6.3.6), which falls within the permissible parking quantity.

The exact breakdown of car parking proposed to support each block will be outlined in the subsequent detailed SSDAs in accordance with the maximum permissible parking rates outlined above.

6.3.6. Accessible Car Parking

Accessible car parking shall be provided at a rate of 4% of the total unit yield. This is based on empirical data provided by the Accessible Consultant and supplied for reference in Appendix 5.

6.3.7. Motorcycle Parking Requirements

City of Sydney DCP 2012 outlines the requirement of motorcycle parking as follows:

In all buildings that provide onsite parking, 1 motorcycle parking space for every 12 car parking spaces is to be provided as separate parking for motorcycles. Each motorcycle parking space is to be designated and located so that parked motorcycles are not vulnerable to being struck by a manoeuvring vehicle.

Table 8: Motorcycle Parking Provision

Block	Land Use	Intended Car Parking	Required Minimum Spaces
Block 2	Residential - Social Housing	19	2
	Community		
Block 3	Residential – Affordable Housing	81	7
	Retail		
Block 4	Residential – Social Housing	152	13
	Residential – Market Apartment		
	Retail		
Block 5	Residential – Social Housing	120	10
	Residential – Market Apartment		
	Retail		
Block 6	Residential - Social Housing	47	4
	Community		
Block 7	Residential – Affordable Housing	241	20
	Residential – Market Apartment		
	Retail		
Block 8	Residential – Affordable Housing	255	21
	Residential - Social Housing		
	Residential – Market Apartment		
	Retail		
	Community/Commercial		
Block 9	Residential - Social Housing	298	25
	Residential – Market Apartment		
	Retail		
Block 10	Residential - Social Housing	225	19

Block	Land Use	Intended Car Parking	Required Minimum Spaces
	Residential – Market Apartment		
	Retail		
Total Required Minimum Motorcycle Parking		1,438	121

The development intends to provide 1,438 car parking spaces. Therefore, the development is required to provide at least 121 motorcycle parking spaces in accordance with the relevant planning controls.

6.3.8. Service Vehicle Parking Requirements

The TfNSW Urban Freight Forecaster Model is a tool developed by TfNSW used to determine delivery and servicing demand, which is based on modern empirical data sources. This tool has been utilised to assess the service vehicle parking requirements, based on current yield schedule, associated with Waterloo South.

The summary of the required service vehicle parking is presented in Table 9.

Table 9: Service Vehicle Provision

Block	Land Use	Units /GFA/ Spaces	The TfNSW Freight Forecaster Recommendation			
			Small Bay	Medium (SRV) Bay	Large (MRV) Bay	Average Efficacy (%)
2	Residential Community Retail	94 units 1,839m ² 354m ²	2	1	1	96.60
3	Residential Retail	409 units 2,506m ²	5	2	1	89.15
4	Residential Retail Community Facility	299 units 770m ² 1,736m ²	4	2	0	96.59
5	Residential	218 units	2	2	1	93.21
6	Residential	244 units	3	2	0	97.31
7	Residential	470	4	2	1	94.29
8	Residential Community Retail	438 units 1,214m ² 1,659m ²	5	2	1	97.29
9	Residential Childcare Retail	504 units 600 m ² 3,659m ²	6	3	1	92.84
10	Residential Retail	500 units 1,504m ²	5	3	1	93.27
Total			36	19	7	

Provision for delivery and service vehicles within the precinct will be detailed as part of the development application for each block. Each block shall meet the minimum recommendations of the TfNSW Freight Forecaster as outlined in Table 9.

6.4. Summary of Parking

On the basis of Section 6.1 and Section 6.2, the on-street parking facilities within the precinct will remain generally unchanged.

Basement parking is provided in alignment with the requirements of the City of Sydney LEP and DCP based on the current scheme yield schedule and intended car parking provision. Further rationalisation of the parking provision shall be provided in the development applications for each block.

The precinct proposes constrained parking well below the maximum permissible, which is aligned with the precinct character and intent, and is supported by the high accessibility of public and active transport.

7. Transport Environment

One of the main aims of redeveloping Waterloo South is to provide an increased supply of diverse and affordable housing for the rapidly growing community, supported by sustainable transport options. Sustainable transport can include active transport, public transport, car share, and car-pool.

By way of context, the travel behaviour of residents living within the Waterloo suburb has likely changed significantly since the opening of Waterloo Metro Station. Reference has been made to TfNSW data for public transport trips by mode.

7.1. Historic Travel Mode Share

With reference to the Australian Bureau of Statistics (ABS) 2016 Census², an assessment of the travel behaviour within the suburb of Waterloo had been conducted, which is summarised in Figure 10.

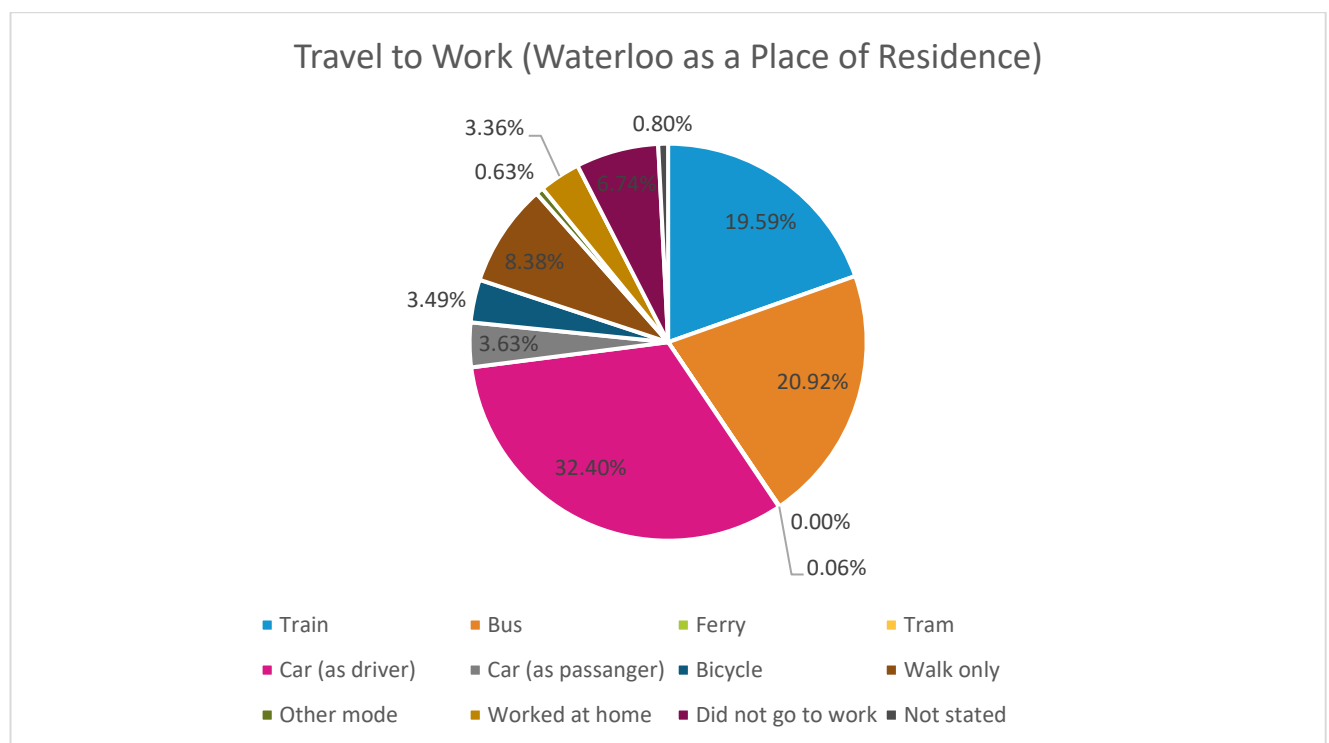


Figure 10: Travel to Work mode share for Waterloo (Source: ABS 2016)

It is noted that the data was collected prior to the opening of the Waterloo Metro Station and therefore it may be possible that the travel behaviour has changed significantly as of 2025, with a possible reduction in private car usage due to the addition of the new Sydney Metro City Line.

TfNSW patronage data for the metro is shown in Figure 11. The opening of Waterloo Metro Station and the Metro City Line in August 2024 corresponds to a significant increase in patronage.

Taking a more detailed look at recent years patronage data for all modes of public transport (Figure 12) indicates that other travel modes such as Train, Bus, Light Rail and Ferry remain largely consistent in patronage volumes. This indicates that at least some of the increased patronage of the Metro in

² 2021 Census data is not representative given the implications of the Covid-19 pandemic and restriction imposed on travel

August 2024 was a result of private vehicle users changing to public transport as their preferred mode of travel.

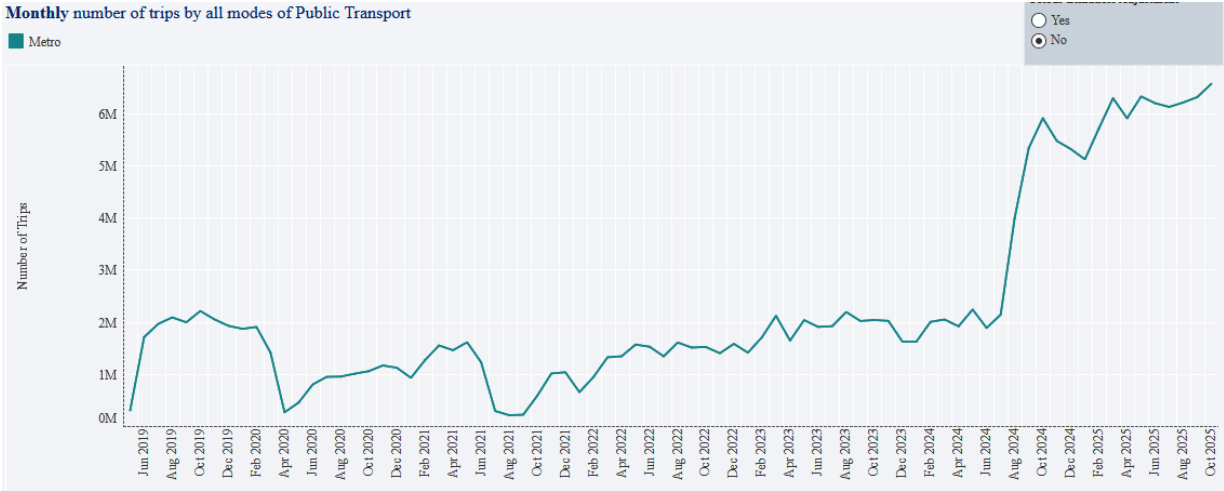


Figure 11: Sydney Metro Patronage Data (monthly trips)

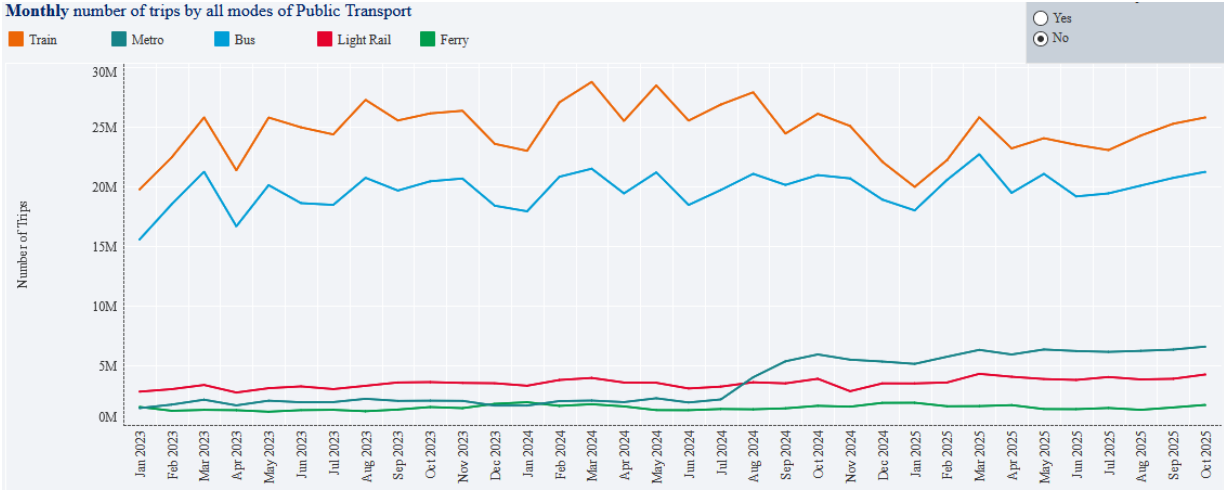


Figure 12: Patronage Data (all modes) for Public Transport

7.2. Active Travel

7.2.1. Pedestrian Infrastructure

There is generally a high level of pedestrian amenity within the Waterloo South precinct and the surrounding streets. Footpaths and kerb ramps are present on both sides of the streets, and footpaths are generally wide and unobstructed.

Signalised pedestrian crossings are provided at the intersection of McEvoy Street / George Street, and pedestrian crossings are provided at Wellington Street before George Street immediately adjacent to the precinct. Signalised pedestrian crossings are also provided along Botany Road / Buckland Street which provides safe connection for pedestrian access to the precinct.

Street lighting and passive surveillance are valuable amenities for pedestrian safety and comfort, particularly during hours after sunset. Street lighting is typically provided on both sides of the surrounding streets which allows for safe travel during the night.

Pedestrian facilities in the vicinity of the precinct and the surrounding public transport facilities within an 800m walking catchment are illustrated in Figure 13.



Figure 13: Pedestrian Network

7.2.2. Bicycle Network

The cycle network throughout the City of Sydney Council area is shown in Figure 14.

The cycle network currently provides access to a range of key destinations including the University of Sydney, Redfern Station, Sydney CBD, Newtown and Moore Park. East-west movement is constrained by the existing heavy rail corridor to the west, which limits access to the north of the rail line and to Carriageworks and the University of Sydney (USYD). There are limited and sparsely located crossing opportunities, including Lawson Street at Redfern Station.

City of Sydney Council, as part of its cycle network strategy, has identified 10 priority cycle routes across the inner city including through Waterloo Precinct. Key routes include:

- City North to Green Square: Running north-south through Waterloo Precinct, complete as far as Green Square with a separated cycleway on George Street, Waterloo. This route would be the most direct north-south connection to the Waterloo Station
- Sydney Park to Central Park: Running east-west through Waterloo Precinct, upgrades are identified on Buckland, Wellington, Morehead and Phillip Streets, Waterloo. This route would be the most direct east-west connection to the Waterloo Station
- Newtown to Bondi Junction: Running east-west through Redfern on Wells and Turner Streets, upgrades currently in progress
- USYD to University of New South Wales: Running east west through Alexandria
- Sydney Harbour to Botany Bay: Running north-south along Bourke Street, complete with separated cycleway for much of its length.
- As part of the Alexandria to Moore Park Connectivity Upgrade, a shared path is proposed along the northern side of McEvoy Street west of George Street, continuing on the southern side of McEvoy Street east of George Street. Cyclists would be required to cross McEvoy Street at its intersection with George Street. If approved, the upgrade would facilitate east-west movements to and from the Waterloo Precinct.



Figure 14: Existing Cycle Network in the Vicinity of the Precinct (Source: CoS)

7.2.3. Proposed Active Transport Upgrades

Providing a connected and safe cycling network is an important element in encouraging more people of all ages and abilities to ride, both in the city centre and surrounding areas.

City of Sydney has a planned network of local and regional bike routes which is illustrated in Figure 15.

The precinct will benefit from several east-west planned routes in close proximity, granting access for cyclists to key precincts and areas such as Moore Park, UNSW, and St Peters.

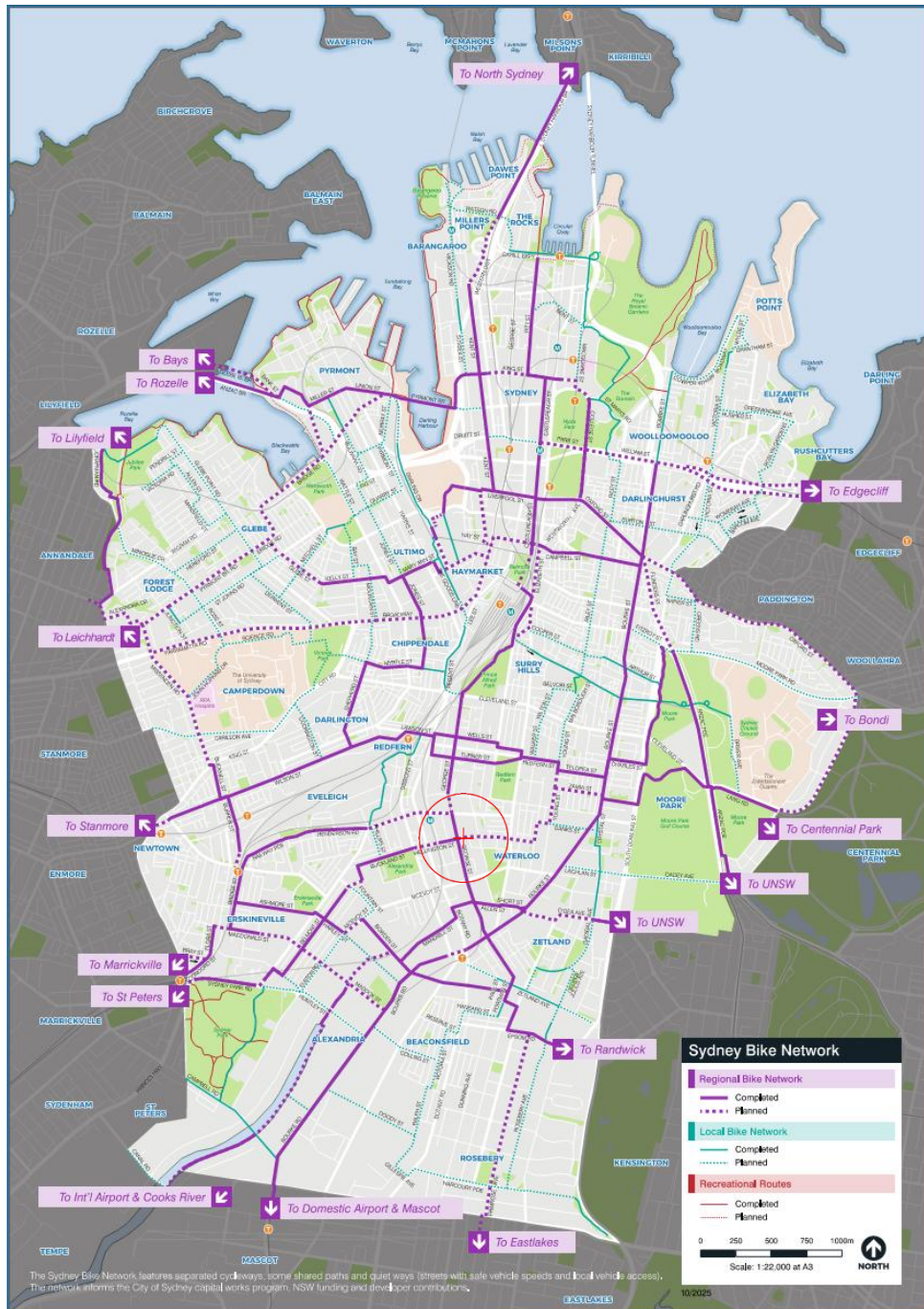


Figure 15: CoS Planned Bike Network (Source: Cycling Strategy and Action Plan 2018 - 2030)

Wellington Street is currently under construction to accommodate a new 1.5m cycleway on each side of the road between Cope Street and George Street as illustrated in Figure 16.



Figure 16: Wellington Street Cycling Infrastructure (Source: CoS)

Following this Wellington Street upgrade between Cope Street and George Street, the bike route is planned to extend and continue along Wellington Street, Morehead Street, Danks Street, Young Street, Zamia Street and connect to Bourke Street as illustrated in Figure 17.

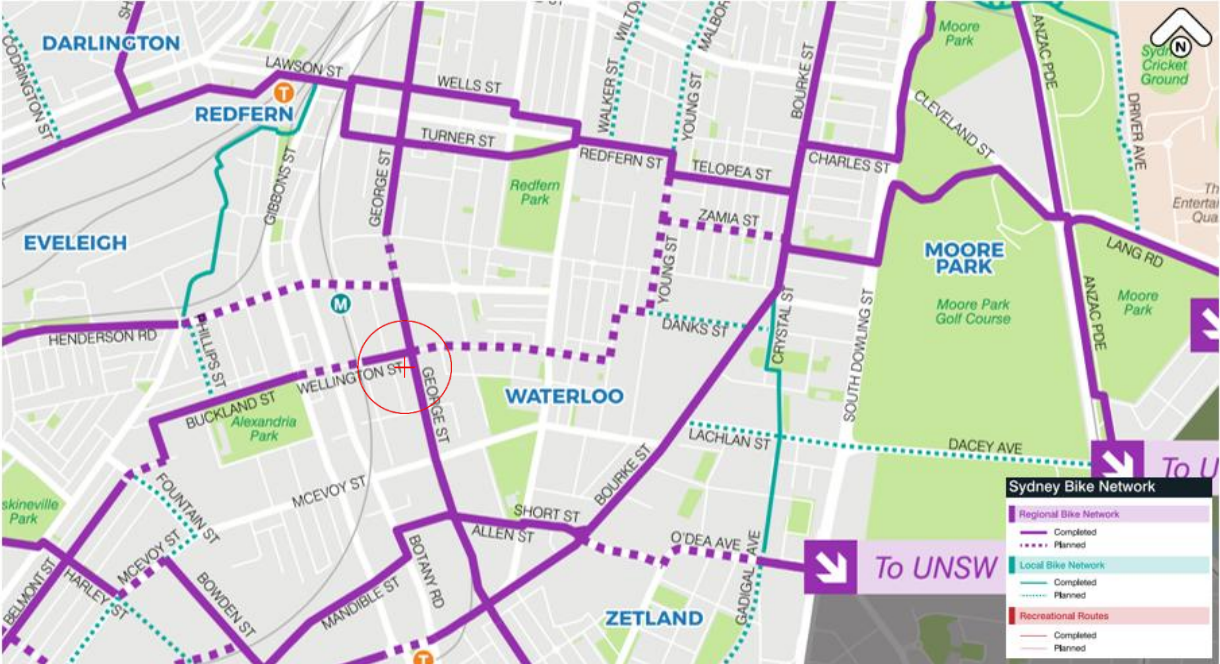


Figure 17: Planned Regional Bike Route in Waterloo

7.3. Public Transport

This assessment considered the NSW Planning Guidelines for Walking and Cycling (2004), which suggests that a distance of 400-800m is a walkable catchment and 1,500m is a suitable cycling catchment when the development is within proximity to public transport.



Figure 18: Walking and Cycling Catchment around the Precinct (Source: Nearmap)

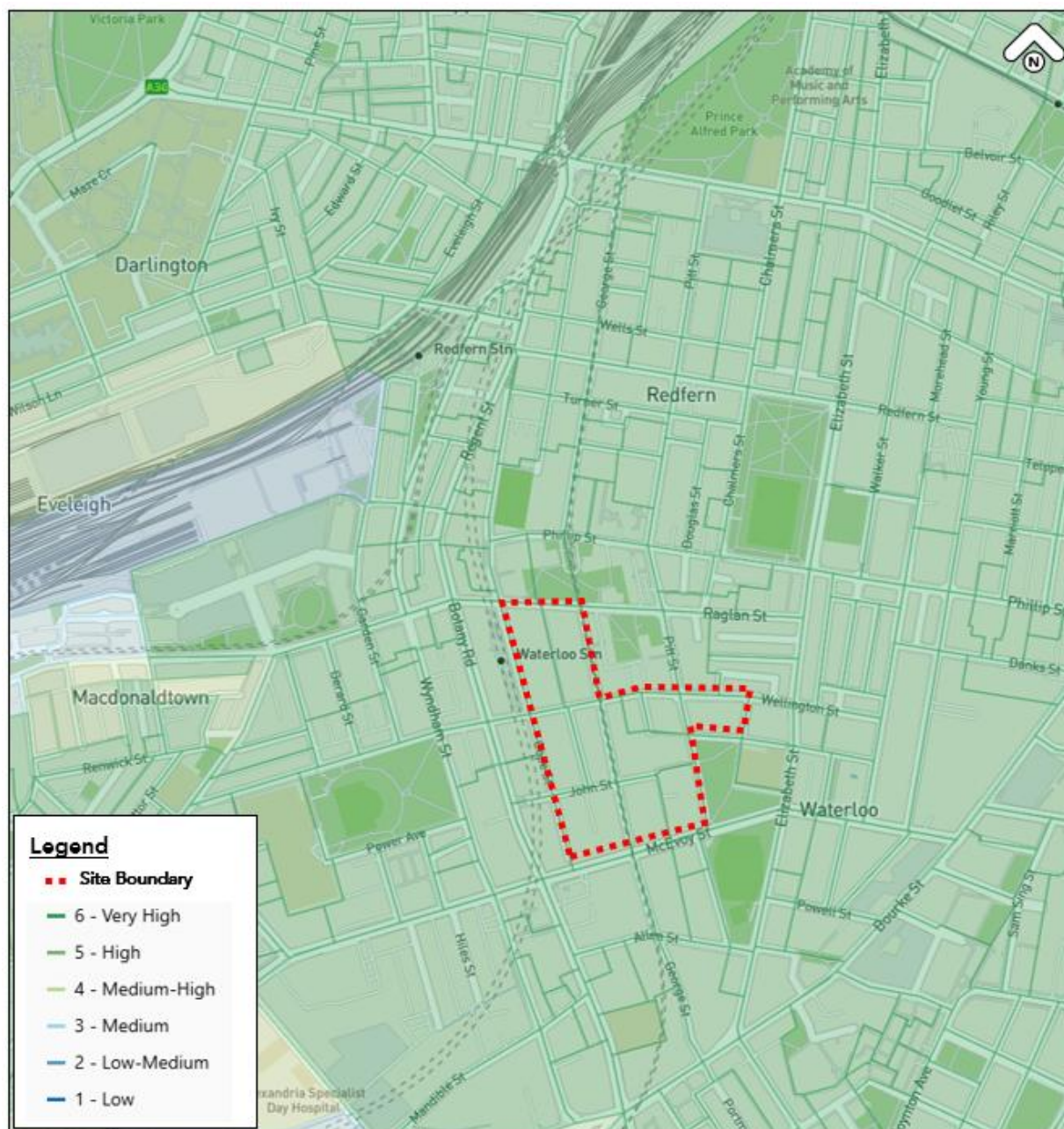


Figure 19: Public Transport Accessibility Level of the Precinct

On the basis of the Public Transport Accessibility Level Map, the precinct is located in level 6 – Very High accessibility to the public transport as illustrated in Figure 19.

The locality has been assessed in relation to the available public transport options that may serve the various users of the subject development.

7.3.1. Metro

The development precinct is located adjacent to the Waterloo Metro Station which provides metro services from Tallawong in north-west and Sydenham in south. During the morning and evening peak hours, the station provides each metro service every 4 minutes and 10 minutes off-peak period in either direction (towards Sydenham or Tallawong).

Table 10 illustrates the summary of the peak hour metro services and operating hours from the Waterloo Metro Station.

Table 10: Metro Service Summary – Waterloo Metro Station

Station	Direction	Frequency
Macquarie Park	Tallawong - Sydenham	Monday to Friday: Every 4-10 minutes Saturday: Every 10 minutes Sunday and Public Holiday: Every 10 minutes

7.3.2. Train

The development precinct is located approximately 750 metres walking distance from Redfern Station to the north and approximately 600 meters from Green Square Station to the south.

These stations operate the following services:

Table 11: Summary of Train Service

Line	Coverage
T1 - North Shore & Western Line	North Shore, Western and Richmond
T2 - Inner West & Leppington Line	City, Inner West and Leppington
T3 - Bankston Line	City, Liverpool and Lidcombe
T4 - Eastern Suburbs & Illawarra Line	Eastern Suburbs, Illawarra and Cronulla
T8 - Airport & South Line	City and South
T9 - Northern Line	Gordon and Northern
T1 - North Shore & Western Line	North Shore, Western and Richmond
T2 - Inner West & Leppington Line	City, Inner West and Leppington
T3 - Bankston Line	City, Liverpool and Lidcombe

Redfern station is also served by regional lines including Blue Mountains line, Central Coast & Newcastle line and South Coastline.

7.3.3. Buses

A number of bus stops have been identified within walking distance of the development, as shown in Figure 20 and Figure 21.

The routes servicing these stops are summarised in Table 12.

Table 12: Summary of Bus Service

Bus Route	Coverage	Operation
305	Redfern to Mascot Stamford Hotel	Weekday-only service with a 30-minute headway in the peak direction.
306	Redfern to Mascot Station (Loop Service)	Operates all week: 10-minute peak, 20-minute off peak headways
309	Port Botany to Redfern	Operates all week. 5-minute peak, 10 minutes off-peak headways
310	Botany to Central Railway Square	Weekday service only AM peak to Railway Square, PM peak to Botany, 20-minute headway
355	Marrickville Metro to Bondi Junction via Moore Park & Erskineville	Operates all week. 30-minute headway.

With consideration of the number of existing public transport options, their combined coverage throughout the Sydney metropolitan region and medium to high frequency headways, the precinct is very well placed in the context of public transport, with the potential to have a significantly reduced car-share mode of travel.

7.3.4. Proposed Public Transport Upgrades

Proposed extension of the Sydney Metro is expected to be valuable for the precinct, given the proximity to the Waterloo Metro Station. The extension to the metro is outlined below.

Sydney Metro Southwest

Sydney Metro Southwest, T3 Bankstown line connecting Sydenham to Bankstown is under construction and is expected to start services late 2025.

Sydney Metro Southwest will update and convert 10 stations into metro standard at Marrickville, Dulwich Hill, Hurlstone Park, Canterbury, Campsie, Belmore, Lakemba, Wiley Park, Punchbowl and Bankstown.

This metro line between Sydenham and Bankstown will operate fully segregated from the existing Sydney Trains railway. The T3 Line west beyond Bankstown will continue to be operated by Sydney Trains.

Sydney Metro West

Sydney Metro West is a new underground railway connecting Greater Parramatta and the Sydney CBD. This once-in-a-century infrastructure investment will transform Sydney for generations to come, doubling rail capacity between these two areas, linking new communities to rail services and supporting employment growth and housing supply between the two CBDs.

The locations of proposed metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street.

7.4. Road Network

7.4.1. Administrative Road Hierarchy

The road network servicing the area comprises a number of Local Road and State Roads, making the precinct easily accessible from different regions of the metropolitan area as illustrated in Figure 22. The road network in this area also comprises several local streets providing direct access to the surrounding retail, commercial and residential land-uses.

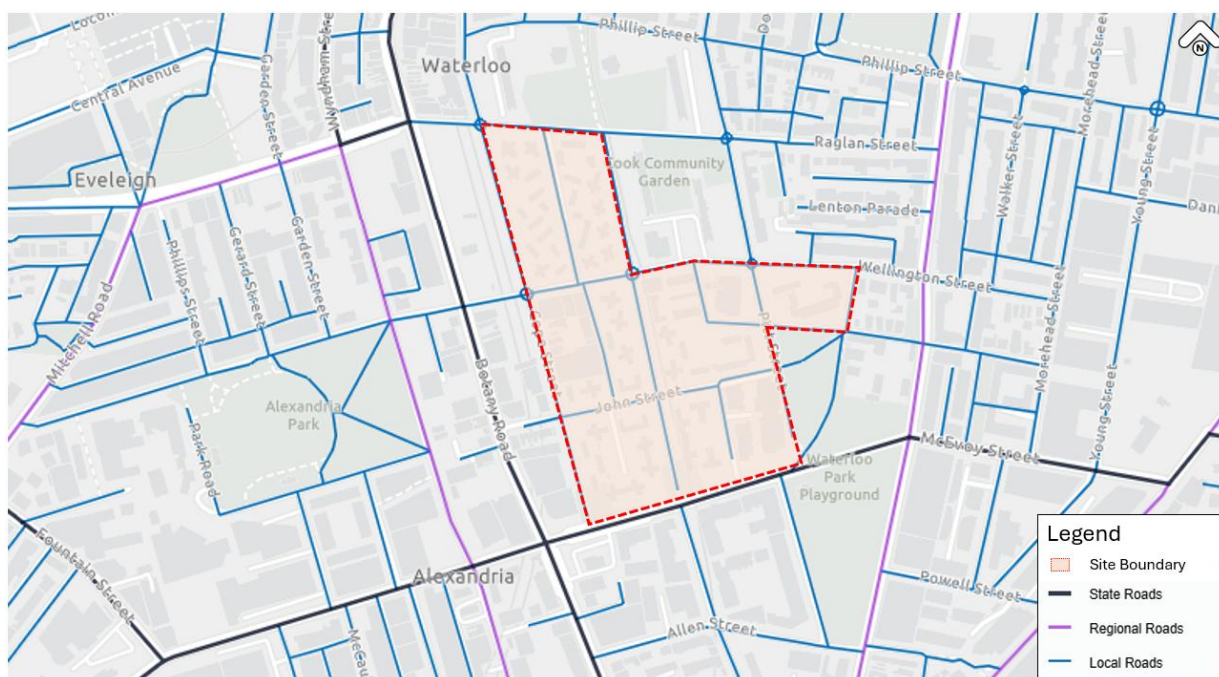


Figure 22: Road Hierarchy (Source: TfNSW)

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy:

- State Roads: Freeways and Primary Arterials (TfNSW managed);
- Regional Roads: Secondary or sub-arterials (Council managed, partly funded by the State);
- Local Roads: Collector and local access roads (Council managed).

The characteristics of the road network within the vicinity of the development precinct are described overleaf.

7.4.2. Surrounding Road Network

The precinct has limited vehicular connection with the surrounding road network.

The precinct has a southern frontage to McEvoy Street, however no connection is made for motorised vehicles. Emergency vehicles may be permitted to access the precinct from McEvoy Street. To the west Botany Road runs parallel to the precinct, a state road with connection to the precinct at Wellington and Raglan Streets. Elizabeth Street runs north-south to the east of the precinct, connected primarily via Wellington Street. Refer to Figure 23 for greater clarity of the arterial and sub-arterial road network.

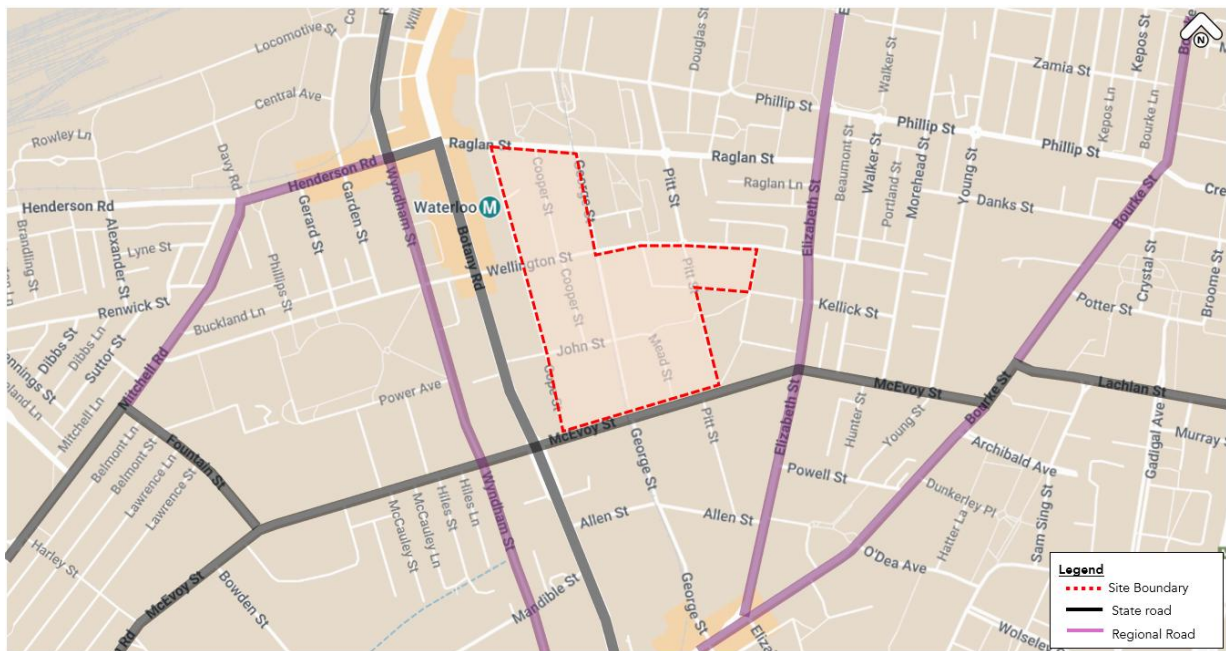


Figure 23: Arterial and Sub-Arterial Road

7.4.3. Existing Local Road Network

The internal road network and connection to the surrounding road network is illustrated in Figure 24. Modal filters are existing and proposed to be retained to limit the movement of private vehicles and promote the use of alternate transit, such as public or active transport. The characteristics of the existing internal road network are detailed overleaf.

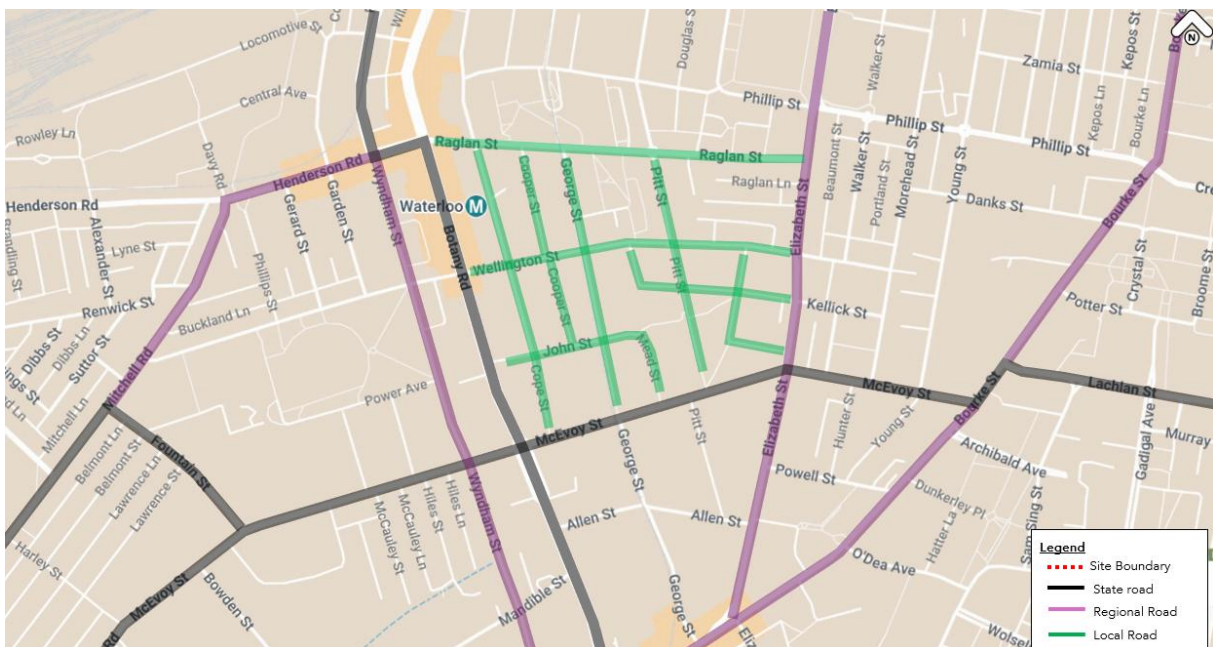


Figure 24: Overview of Internal Road Network

Review of the existing road network within the precinct finds that the design language prioritises private vehicle movements, with limited provision for walking and cycling resultant from narrow footways or obstructed footpaths, lack of on-road cycling infrastructure. Note that the George Street

cycleway is already in place within the precinct and is proposed to be retained and upgraded to increase connectivity throughout the precinct.

Table 13: Characteristic of Wellington Street

Wellington Street	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	1 lane in each direction
Carriageway Type	Divided
Carriageway Width	12m (6m in each direction)
Speed Limit	50 km/hr
School Zone	No
Parking Controls	Typically varies between unrestricted parking, '1P', and 'Loading Zone'.
Within precinct	Yes



Figure 25: Wellington Street – Westbound (Source: Google Streetview)

Table 14: Characteristic of Cope Street

Cope Street	
Road Classification	Local Road
Alignment	North - South
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	12m (6m in each direction)
Speed Limit	50 km/hr
School Zone	No
Parking Controls	Typically, unrestricted parking
Within precinct	Yes



Figure 26: Cope Street - Southbound (Source: Google Streetview)

Table 15: Characteristic of Cooper Street

Cooper Street	
Road Classification	Local Road
Alignment	North – South
Number of Lanes	One lane- One way southbound
Carriageway Type	Undivided
Carriageway Width	4m
Speed Limit	50km/hr
School Zone	No
Parking Controls	No parking on both side of road
Within precinct	Yes



Figure 27: Coper Street - Southbound (Source: Google Streetview)

Table 16: Characteristic of George Street

George Street	
Road Classification	Local Road
Alignment	North - South
Number of Lanes	One lane each way
Carriageway Type	Divided
Carriageway Width	9m
Speed Limit	50km/hr
School Zone	No
Parking Controls	Parking lane on each side of road
Within precinct	Yes



Figure 28: George Street - Southbound (Source: Google Streetview)

Table 17: Characteristic of West Street

West Street	
Road Classification	Local Road
Alignment	North - South
Number of Lanes	One lane – one way southbound
Carriageway Type	Undivided
Carriageway Width	4m
Speed Limit	10km/hr – Shared Zone
School Zone	No
Parking Controls	No parking on both sides of road
Within precinct	Yes



Figure 29: West Street - Southbound (Source: Google Streetview)

Table 18: Characteristic of Pitt Street

Pitt Street	
Road Classification	Local Road
Alignment	North - South
Number of Lanes	One lane each way
Carriageway Type	Divided
Carriageway Width	7m
Speed Limit	50km/hr
School Zone	No
Parking Controls	Unrestricted parking on east side and parking bays on west side
Within precinct	Yes



Figure 30: Pitt Street – Northbound (Source: Google Streetview)

Table 19: Characteristic of Gibson Street

Gibson Street	
Road Classification	Local Road
Alignment	North - South
Number of Lanes	One lane – One way southbound
Carriageway Type	Undivided
Carriageway Width	5m
Speed Limit	40km/hr
School Zone	Yes
Parking Controls	Unrestricted parking on one side of road
Within precinct	Yes



Figure 31: Gibson Street - Southbound (Source: Google Streetview)

Table 20: Characteristic of John Street

John Street	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	One lane each way
Carriageway Type	Divided
Carriageway Width	9m
Speed Limit	50km/hr
School Zone	No
Parking Controls	Restricted parking on both sides
Within precinct	Yes



Figure 32: John Street - Eastbound (Source: Google Streetview)

Table 21: Characteristic of McEvoy Street

McEvoy Street	
Road Classification	State Road
Alignment	East - West
Number of Lanes	Two lanes each way
Carriageway Type	Divided
Carriageway Width	12.5m
Speed Limit	50km/hr
School Zone	No
Parking Controls	No parking on both sides of road
Within precinct	No, bounding road



Figure 33: McEvoy Street - Eastbound (Source: Google Streetview)

7.5. Proposed Precinct Street Network

In keeping with the proposed character of the precinct, which is to be a mixed-use neighbourhood with retail, commercial and residential offerings, the road design has been carefully considered to offer appropriate road user space allocation. Relevant planning documents from TfNSW such as the Design of Roads and Streets manual have been referred to in the design of the proposed network within the precinct.

The Waterloo Estate (South): Design Guide 2022 outlines the minimum design requirements for the internal precinct road network. An assessment of each of the proposed roads/streets is provided in Section 7.5 which compares the design guide and the proposed design envisioned under the current scheme.

In general, contrasted to the road network present in the existing condition, the proposed precinct places more focus on active transport (pedestrian and cyclist) and public transport, over private vehicle. Narrowed or reduced vehicular lane widths enable wider footpaths, more landscaping and act to slow vehicular traffic, which creates a safe environment for pedestrians and cyclists, and enables placemaking through provision of commercial and retail land use activation at the ground plane.

Design Guide 2022



Figure 34: Future Street Network (Design Guide)

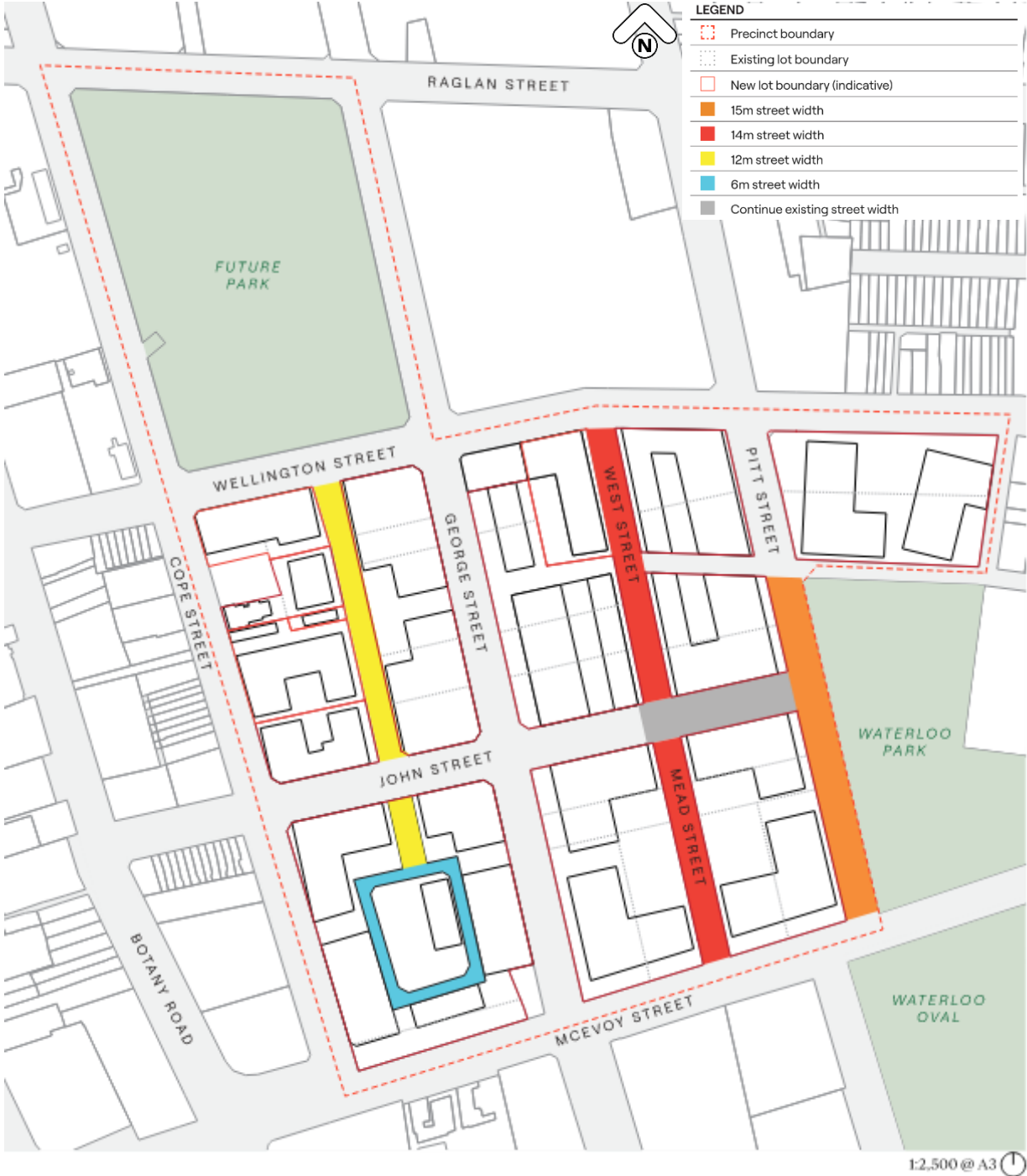


Figure 35: Future Street Network (Proposed)

7.5.1. Assessment of Street Sections

This section aims to compare the street design of the proposal with that of the Design Guide. A summary of the public domain relevant to traffic engineering has been provided below. Refer to Appendix 4 for swept path analysis of the precinct road network, and Appendix 6 for further detailed public domain plans. Where departures from the Design Guide are noted, an evaluation is given.

Table 22: Summary of Departures from Design Guide Street Design

Street Name	Characteristics	Departures from Design Guide	Comment
George Street	Primary north-south connection within the precinct providing for vehicular movement with a two lane two way road and providing for active transport by retaining the existing bi-directional cycle path.	Nil proposed	Consistent with Design Guide
Wellington Street	Primary east-west connection within the precinct, acting as the major corridor for traffic connection to Botany Road and Elizabeth Street. Supports movement for vehicles, cyclists and pedestrians.	Cycle path width increased from 1.3m single lane to 1.45m single lane.	Departure noted and found to be acceptable by supporting active transport
Pitt Street	A quieter local street which prioritises low traffic speed and volume through design, with pockets of green space.	Street type updated to a two-way yield street south of Kellick Street. Footpath width increased on the eastern alignment from 2m to 4.2m	Departure noted and found to be acceptable by supporting active transport
Cooper Street North	A shared street in the form of a shared zone, giving priority to active transport over vehicular movement. A one-way southbound direction of travel is provided.	One-way traffic direction changed from northbound to southbound. Footpath widths increased from 6m total (both sides of road) to 7m total (both sides of road). Furniture zone widths swapped from east to west, widths maintained.	Change to traffic direction important for circulation through the precinct, particularly for service vehicles and refuse collection. This departure is necessary to effective vehicular movement through the precinct.
West Street	A quiet one-way residential street (northbound) with low speed traffic movements supported by road design.	Nil proposed	Consistent with Design Guide
Mead Street	A single lane two-way yield street with generous provision for pedestrian traffic. The street culminates to the south in a cul-de-sac.	Vehicular travel lane width increased from 3.1m to 3.6m. Parking lane decreased from 2.2m to 2.1m.	Vehicular travel lane width increased to support access and egress from parking spaces. Parking lane consistent with minimum parking lane widths of AS2890.

Street Name	Characteristics	Departures from Design Guide	Comment
		Furniture zones decreased by 200mm width on both sides of the road.	
Cooper Street South	A shared zone street which provides access to Block 8 and the adjoining park and community building. A high level of active transport provision is made to reflect the nature of intended use.	Vehicular travel lane increased from 9m wide two-way shared zone to 9.9m wide two-way shared zone.	Vehicular travel lane width increased to support access and egress from adjacent blocks and circulation throughout the precinct
Cooper Place	A shared zone is provided to manage vehicle speeds and provide adequate space for active transport movement between surrounding buildings and the green space of the park.	Nil proposed	Consistent with Design Guide
John Street	Provision of a two-lane two-way street running east-west through the precinct, to support vehicular access and servicing within the blocks.	Nil proposed	Consistent with Design Guide
Reeve Street	A one-way street to facilitate local access between blocks.	No section included in Design Guide	Consistent with Design Guide
Kellick Street	A one-way street to facilitate local access between blocks and service vehicle movements.	No section included in Design Guide	Consistent with Design Guide
Gibson Street	A one-way street to facilitate local access between blocks and service vehicle movements.	No section included in Design Guide	Consistent with Design Guide

George Street

Design Guide

Proposed



Figure 36: Street Section - George Street (Aspect Studios)

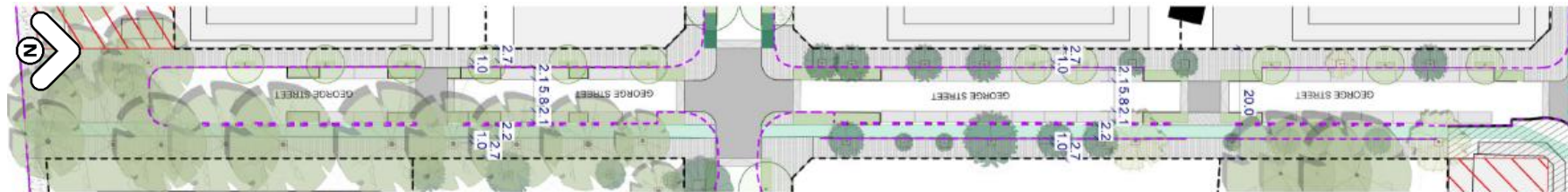


Figure 37: Street Plan - George Street (Aspect Studios)

Wellington Street

Design Guide

Proposed



Figure 38: Street Section - Wellington Street (Aspect Studios)



Figure 39: Street Plan - Wellington Street (Aspect Studios)

Pitt Street Extension

Design Guide

Proposed

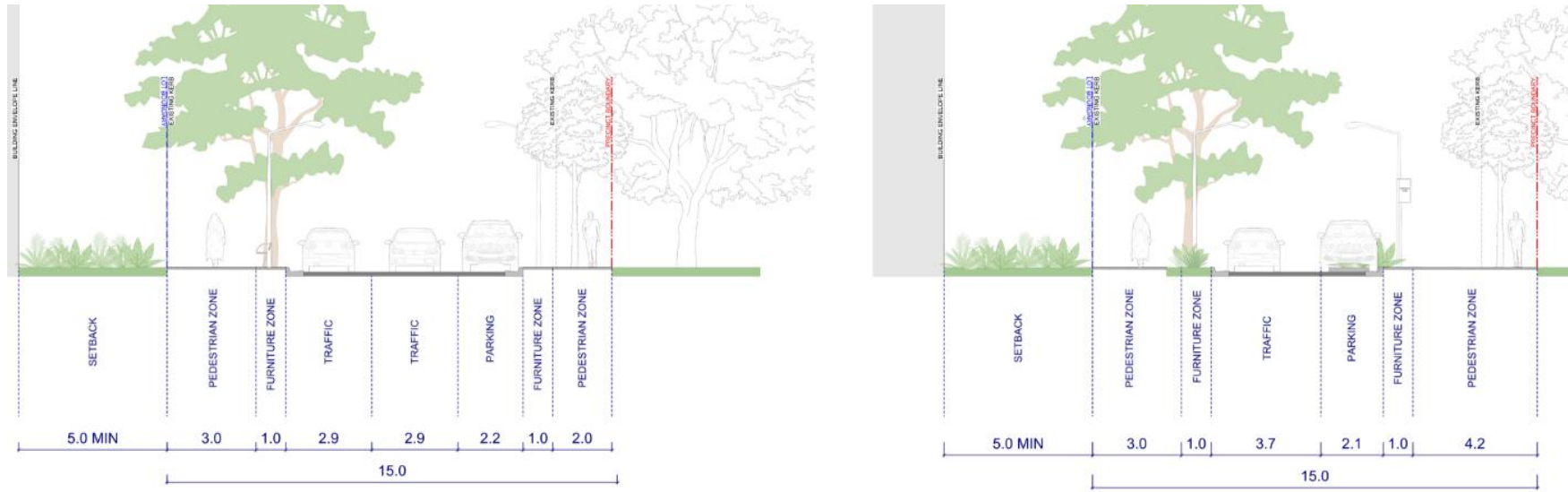


Figure 40: Street Section - Pitt Street Extension (Aspect Studios)

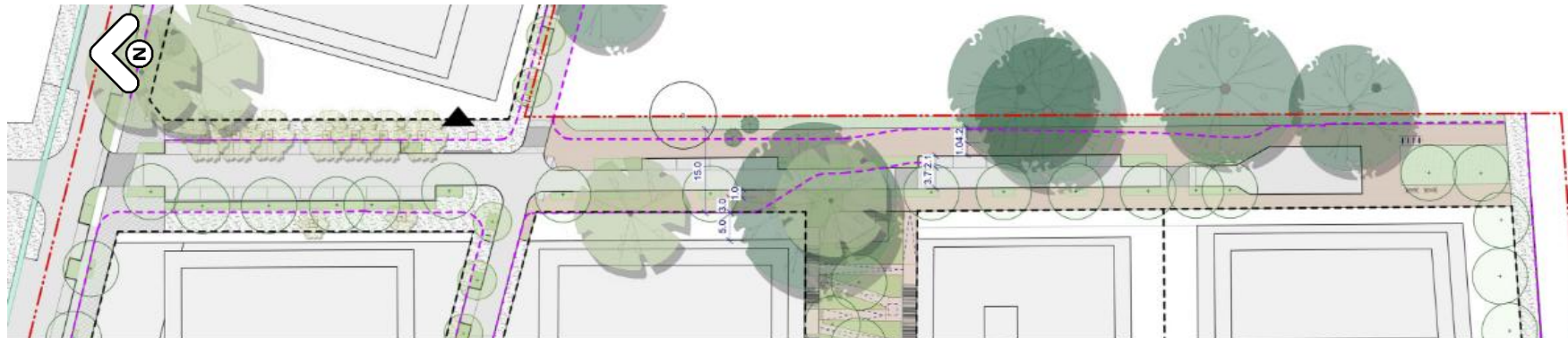


Figure 41: Street Plan - Pitt Street (Aspect Studios)

Cooper Street North



Figure 42: Street Section - Cooper Street North (Aspect Studios)

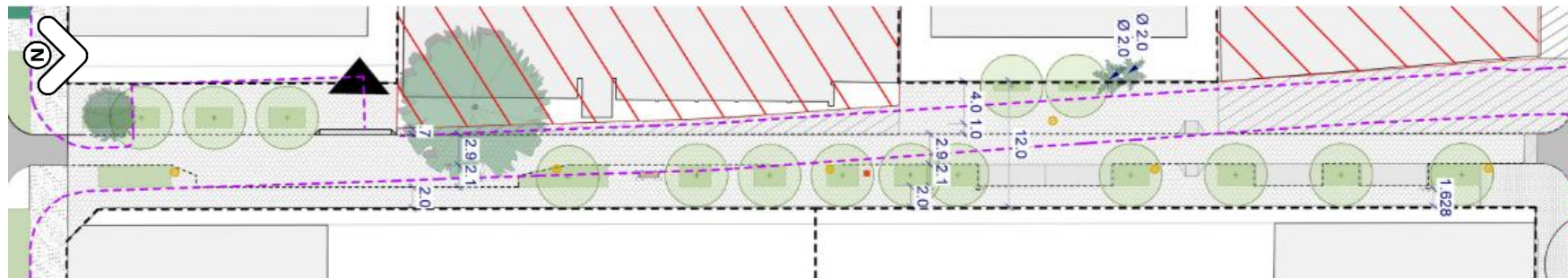


Figure 43: Street Plan - Cooper Street North (Aspect Studios)

West Street

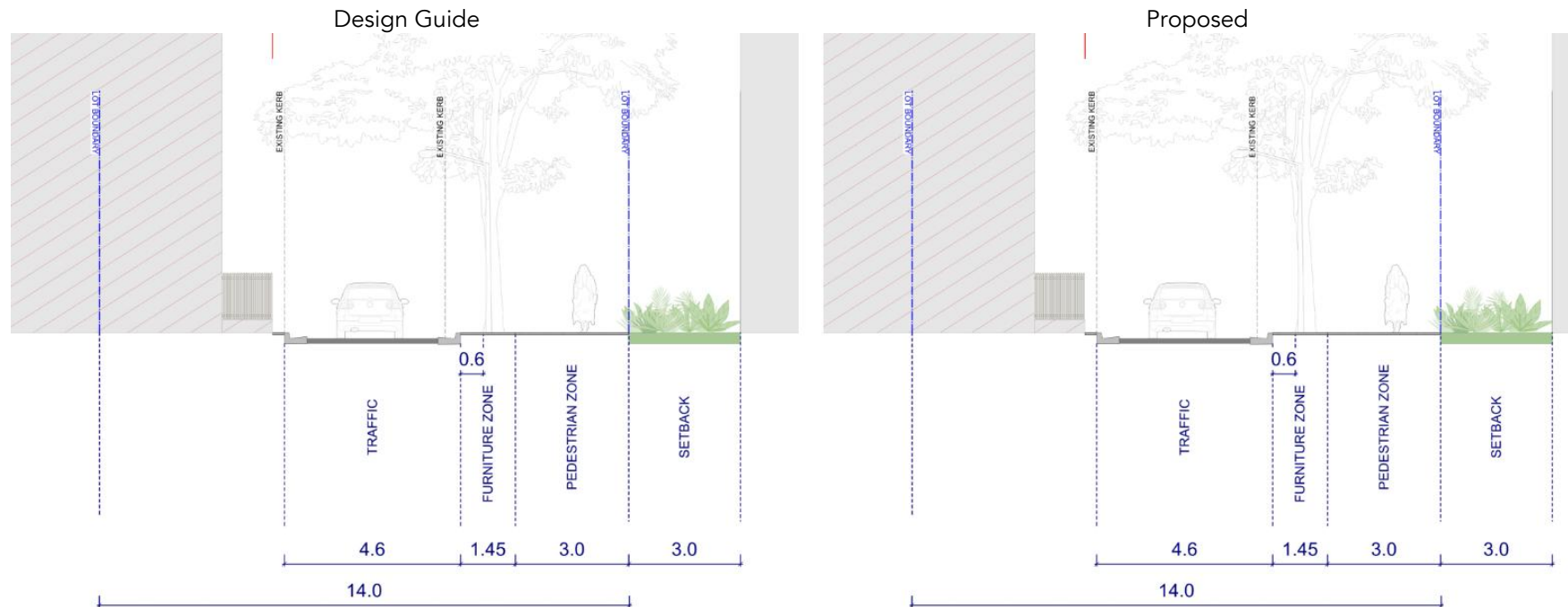


Figure 44: Street Section - West Street (Aspect Studios)

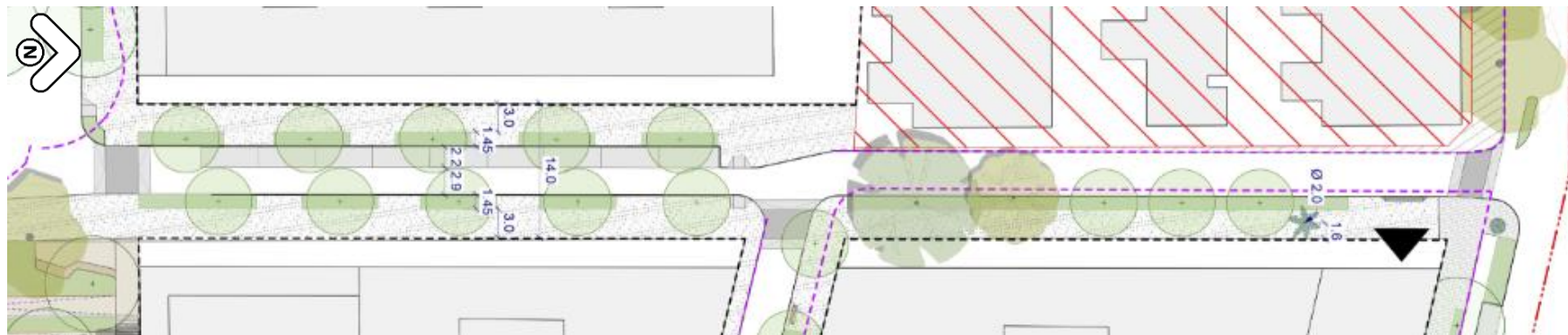


Figure 45: Street Plan - West Street (Aspect Studios)

Mead Street

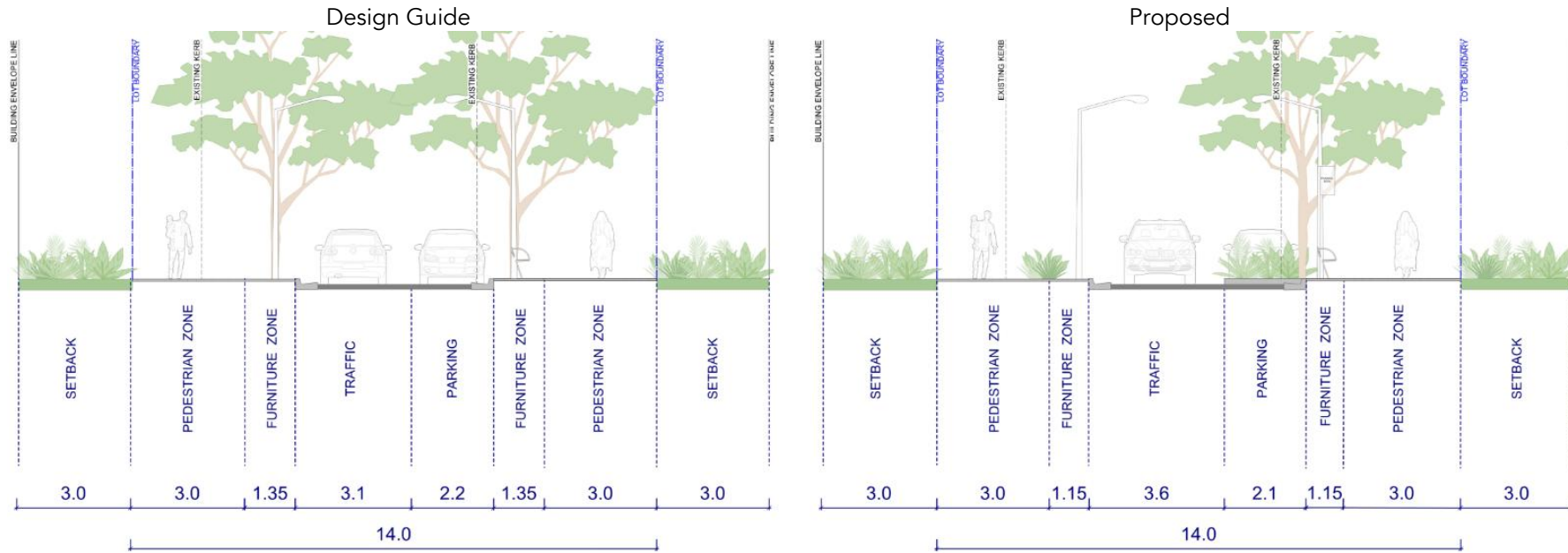


Figure 46: Street Section - Mead Street (Aspect Studios)

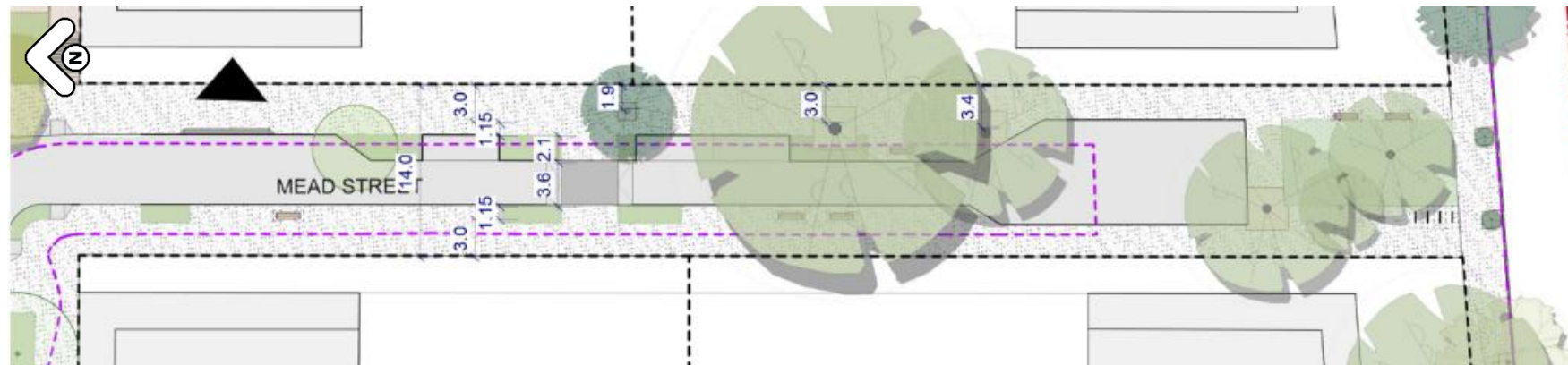


Figure 47: Street Plan - Mead Street (Aspect Studios)

Cooper Street South

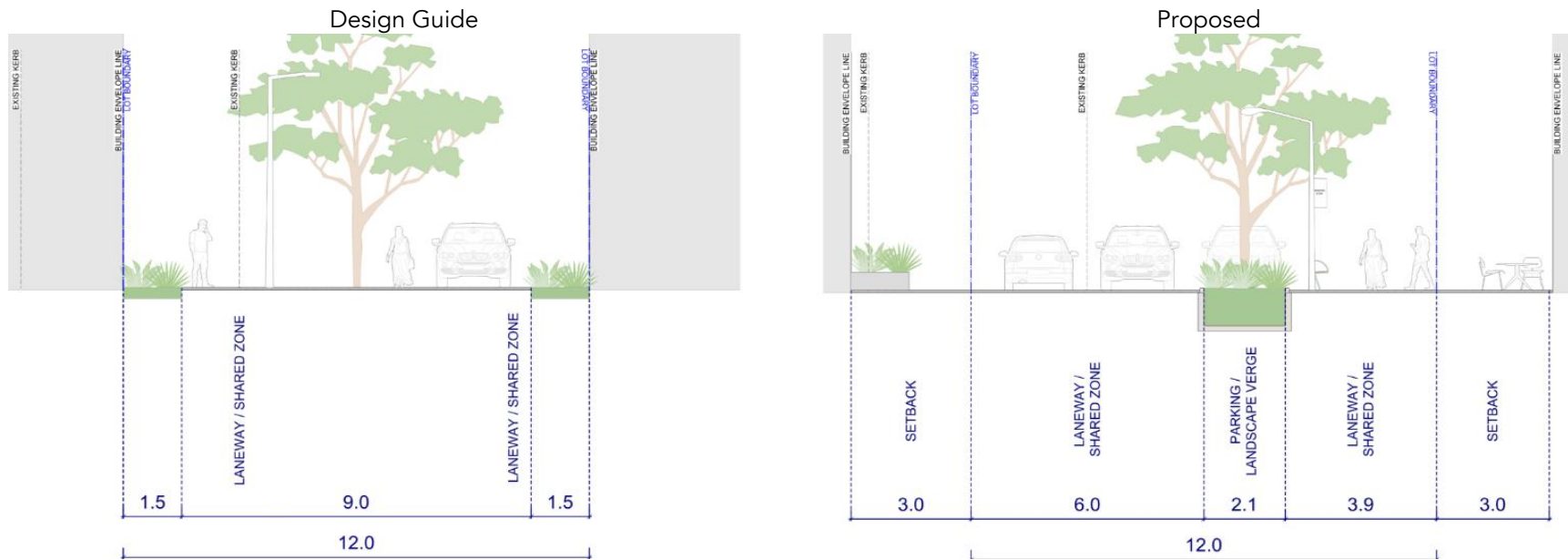


Figure 48: Street Section - Cooper Street South (Aspect Studios)



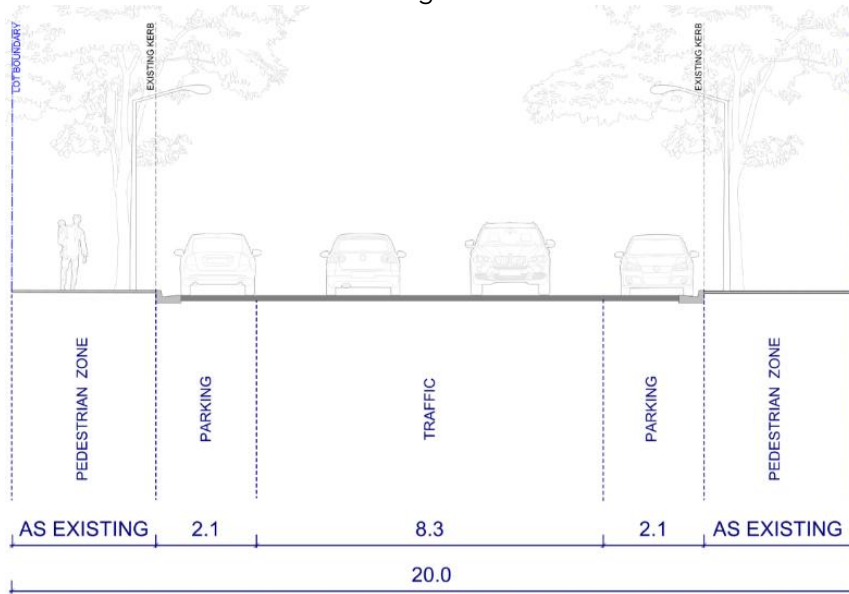
Figure 49: Street Section - Cooper Street South (Aspect Studios)



Figure 50: Street Plan - Cooper Street South (Aspect Studios)

John Street

Design Guide



Proposed

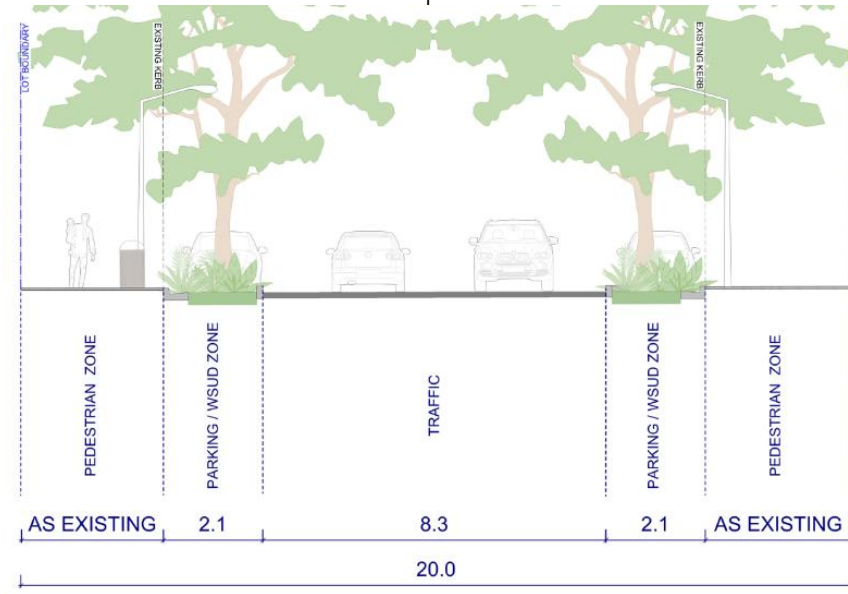


Figure 51: Street Section - John Street (Aspect Studios)

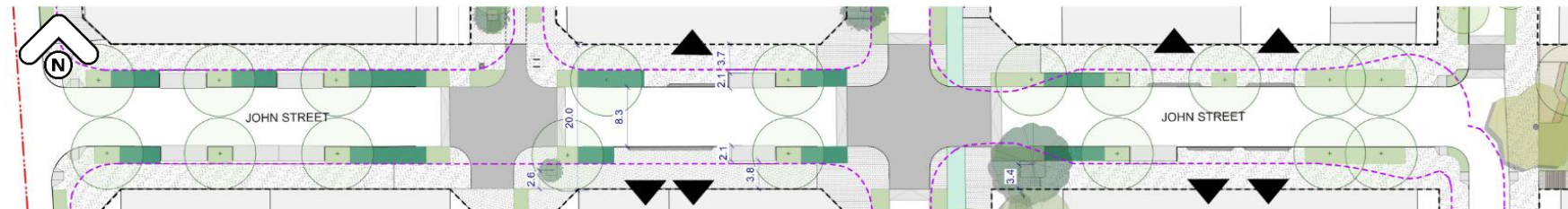


Figure 52: Street Plan - John Street (Aspect Studios)

Reeve Street

Design Guide

NO SECTION PROVIDED IN DESIGN GUIDE

AS EXISTING

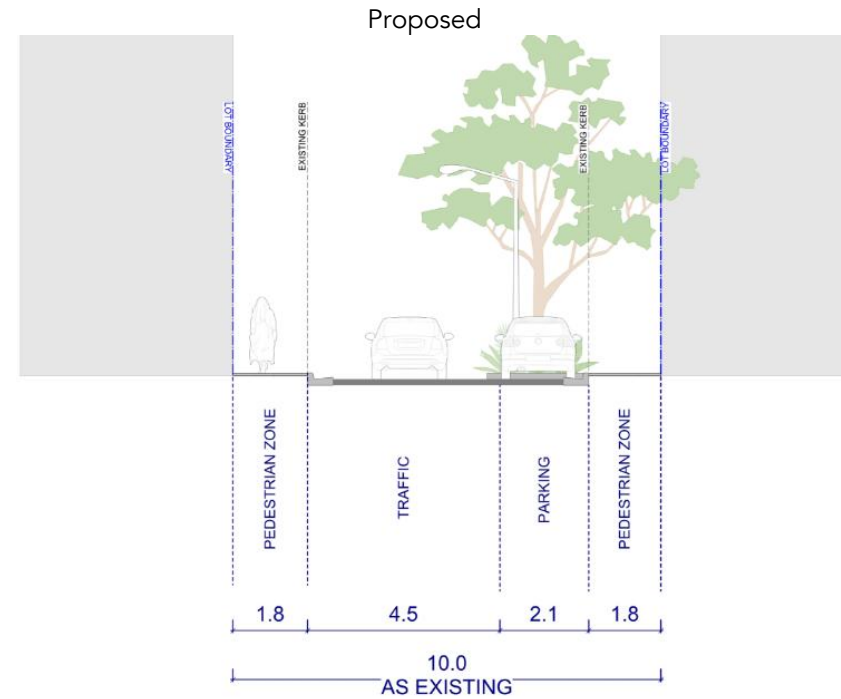


Figure 53: Street Section - Reeve Street (Aspect Studios)



Figure 54: Street Plan - Reeve Street (Aspect Studios)

Kellick Street

Design Guide

NO SECTION PROVIDED IN DESIGN GUIDE

AS EXISTING

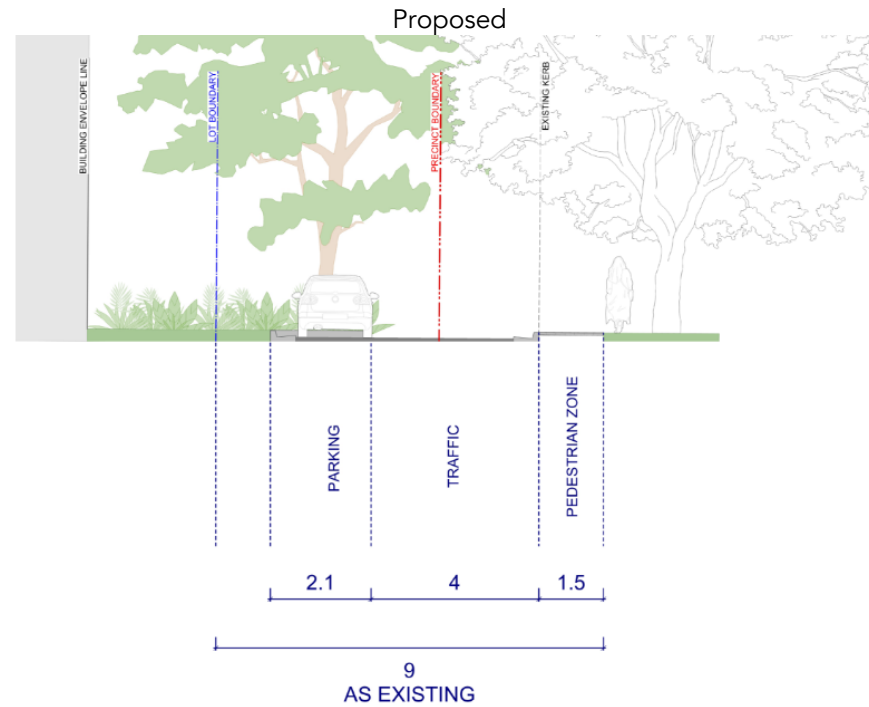


Figure 55: Street Section - Kellick Street (Aspect Studios)

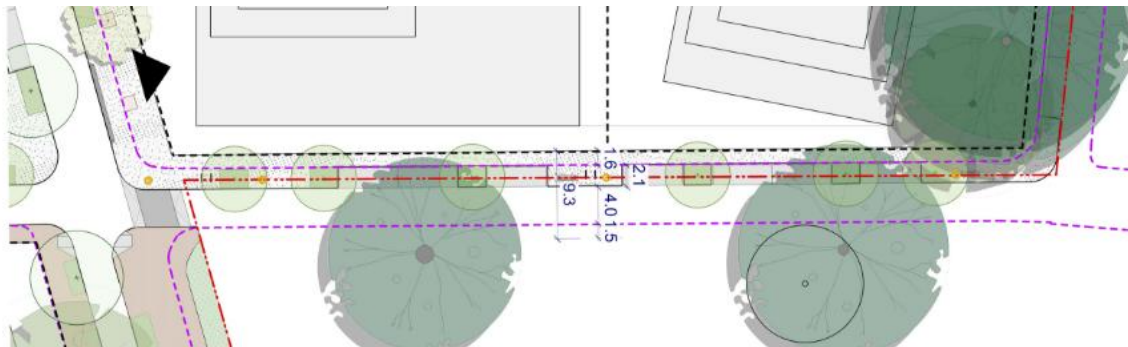


Figure 56: Street Plan - Kellick Street (Aspect Studios)

Gibson Street

Design Guide

NO SECTION PROVIDED IN DESIGN GUIDE

AS EXISTING

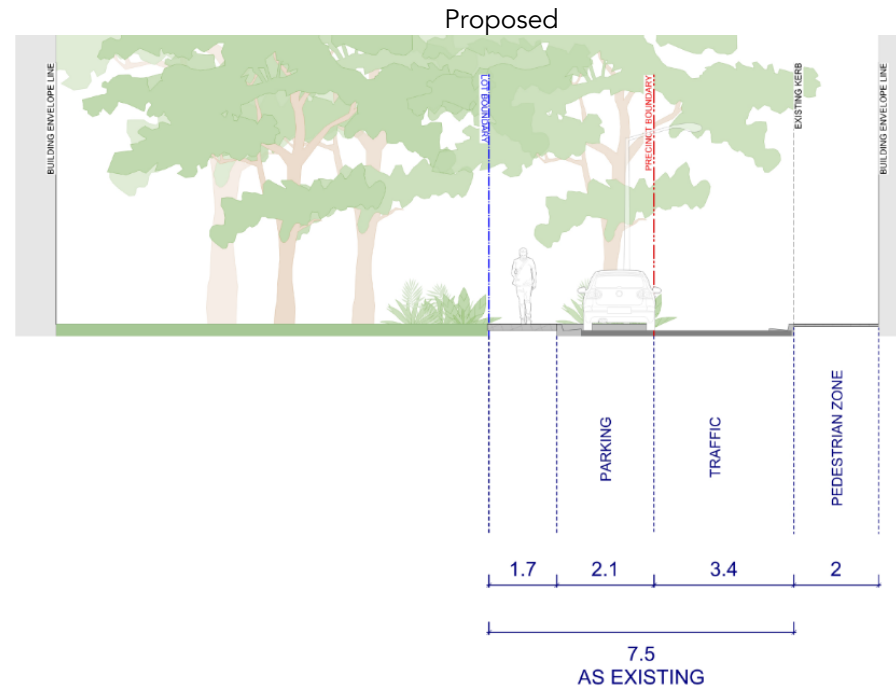


Figure 57: Street Section - Gibson Street (Aspect Studios)

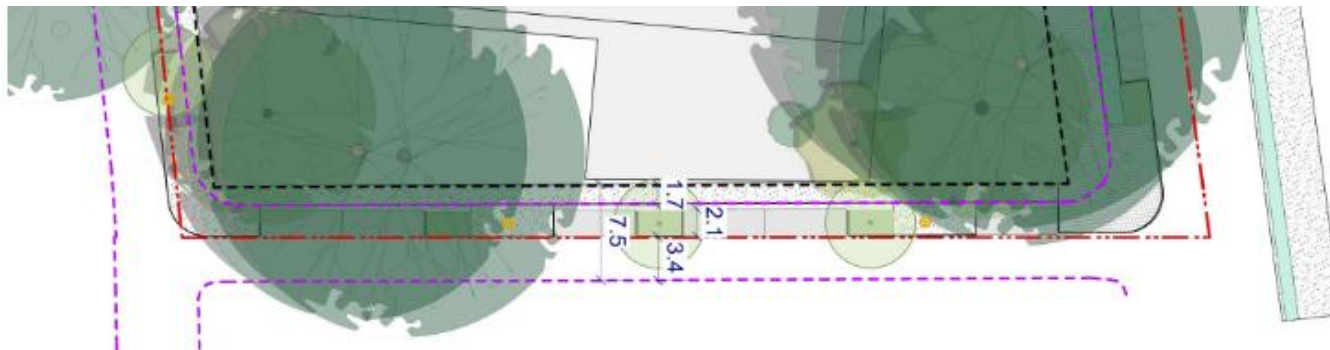


Figure 58: Street Plan - Gibson Street (Aspect Studios)

7.5.2. Precinct Access and Circulation

Access and circulation has been formulated taking into account existing constraints in the road network, as well as proposed changes to the street layout. Consideration for all user groups (pedestrian, cyclist and vehicles) has been made.

Pedestrian and cyclist permeability throughout the precinct has been facilitated with the provision of modal filters at the site boundary, through-site links and dedicated cycle lanes and footpaths. The location of all proposed pedestrian facilities are shown, however the facility type will be determined at detailed design submission for each block.

Continuation of regional active transport links (as outlined in Figure 15) will be facilitated through the precinct via dedicated cycling lanes along George and Wellington Streets.

Wellington Street acts as the primary feeder road for vehicles and cyclists through the site in both the Design Guide and proposed layouts, maintaining consistency between the two.

The provision of new streets within the precinct remains largely unchanged between the design guide and the proposal. A summary of the departures from the Design Guide is provided below.

Yield streets are proposed on Mead Street and Pitt Street (south of Kellick Street), which facilitates two-way traffic through a single width lane. In this way, traffic at either end of the yield street must give way to any vehicle already in the yield street, which promotes cautious driving and reduced vehicle speeds. The provision of a yield street is a departure from the Design Guide. However, this introduction will largely bring about reduced vehicle speeds and increase pedestrian and cyclist safety with limited impact expected to vehicular traffic, and so is deemed to be an acceptable departure.

Cooper Street North is proposed to be a one-way street southbound. This departs from the design Guide, which intended to provide a one-way street northbound. The purpose of this departure is to provide safer vehicular access and circulation from Wellington Street.

A right turn into Wellington Street from Botany Road is currently permitted. The design guide proposed that this be removed as part of the future precinct development. However, the proposed design does make allowance for the retention of the existing right turn into Wellington Street from Botany Road as requested by City of Sydney in SEARs Agency Advice. Due to constrained vehicular access into the precinct, it is thought that the provision of the right turn movement is necessary to facilitate access to the precinct by private vehicle when approaching from the south. The impacts of retaining the existing right turn movement have been considered in Section 8.

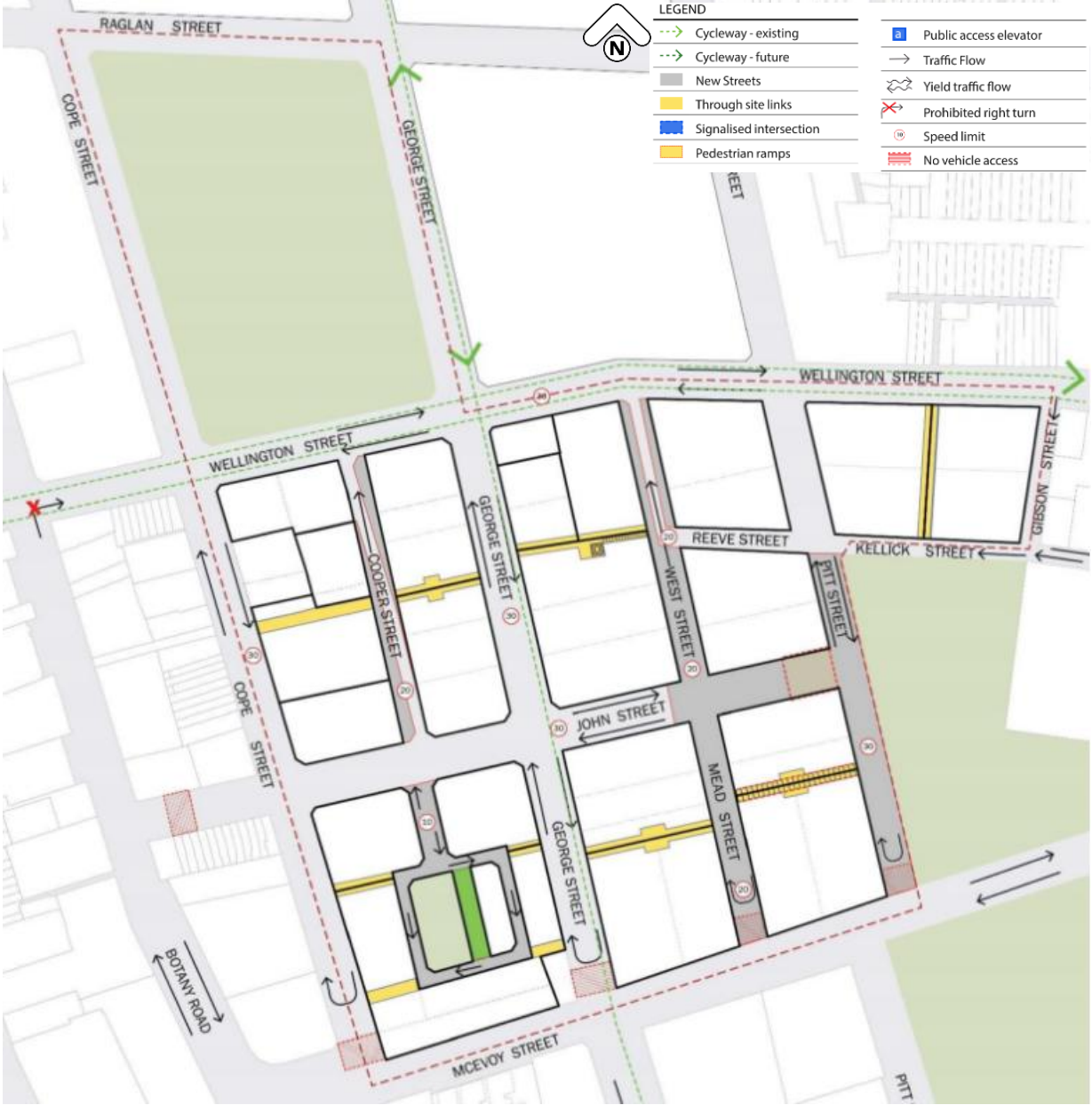


Figure 59: Access and Circulation for Vehicles (Design Guide)



Figure 60: Access and Circulation for Vehicles (Proposed)

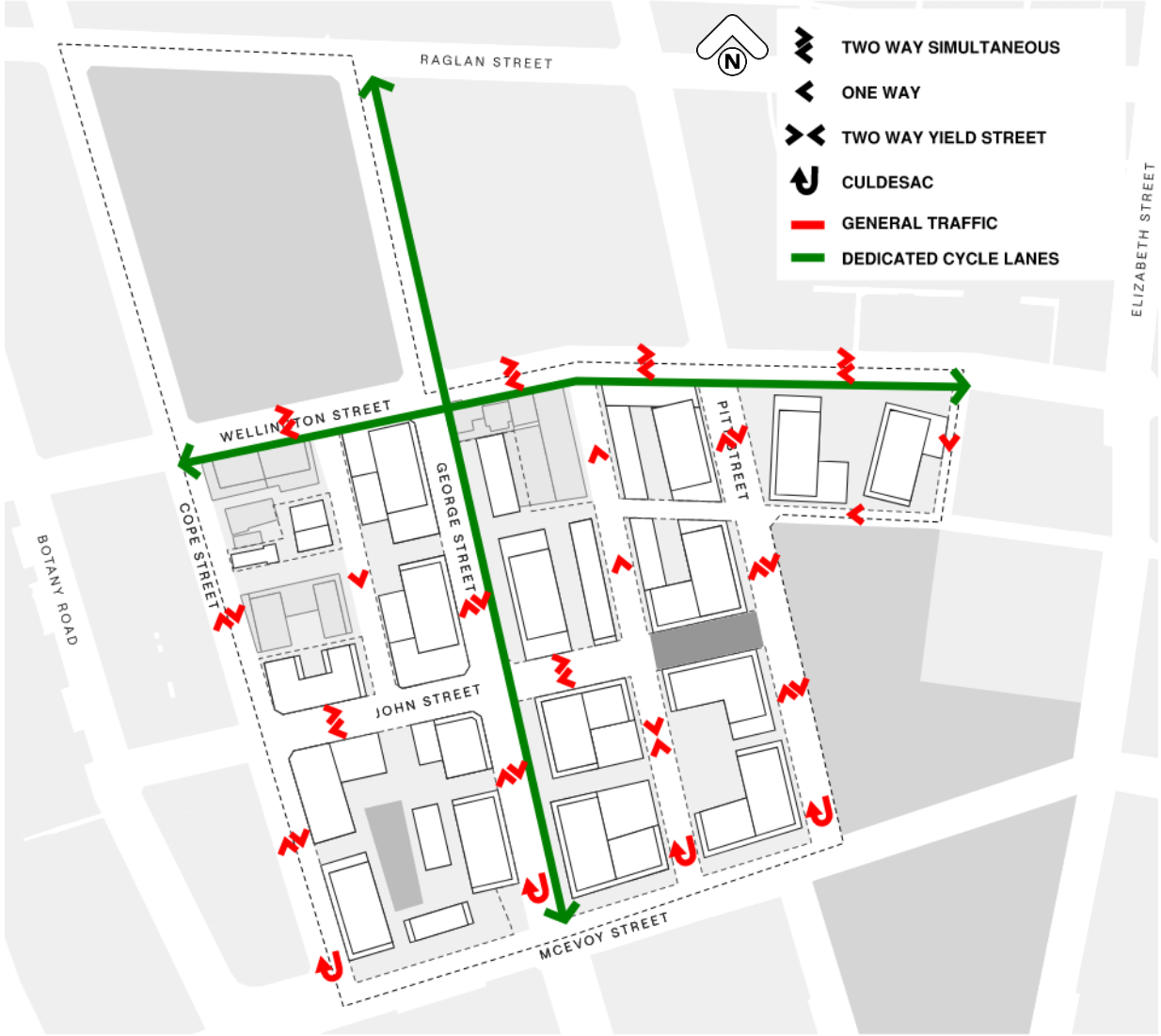


Figure 61: Precinct Traffic Circulation Diagram

For detailed swept path assessment of the various intersections throughout the precinct, refer to Appendix 4.

8. Transport Assessment

This section outlines the historical planning approvals and assessments undertaken for the precinct, and in doing so, demonstrates that the current concept scheme falls within the threshold of previously approved schemes with regard to traffic generation. In such a way, the proposed scheme is found to be suitable concerning the trip generation of various transport modes.

The introduction of the Metro has likely reduced the through traffic volumes along key road corridors (refer Section 7.1), and likely reduces the reliance on private vehicles in the locality of the station. As such, comparing the Concept SSDA to a previous Planning Proposal in which there was no consideration of substantial public transport infrastructure improvements is considered to be valid and represents a robust and conservative approach.

8.1. Approved Trip Generation

8.1.1. Jacobs Transport Study

The *Waterloo South Planning Proposal Transport Study* prepared by Jacobs in March 2020 was prepared to support the original (2020) planning proposal prepared by Homes NSW to amend the previous planning controls that apply to the precinct, and enable the mixed-use redevelopment of Waterloo South. The trip generation as per the Jacobs Transport Study is presented below.

Table 23 outlines the person trip generation per dwelling based on the RMS *Guide to Traffic Generating Developments – Updated traffic surveys (TDT 2013/04a)*³, and distributes this total generation into different travel modes.

³ This document has since been superseded by the GTIA (2024)

Table 24, in contrast, provides the vehicular trip generation of the precinct making use of the vehicular peak hour trip generation rate found in the Jacobs report, which is based on survey of two existing sites in Waterloo and Redfern. The Jacobs report made use of the 0.14 residential trips per dwelling rate, and 0.4 and 0.8 non-residential trips per car space rate for AM and PM peak hours respectively, in its traffic assessment.

Table 23: Summary of Approved Person Trip Generation (Source: Jacobs)

Trip Per Dwelling	Number of Dwelling	Waterloo Estate (South) Residential Trip Generation					
		All Modes	Rail (40%)	Bus (10%)	Cycling (5%)	Walk (25%)	Car (20%)
0.71	3,048	2,164	866	216	108	541	433

Table 24: Summary of Approved Vehicle Trip Generation (Source: Jacobs)

Land Use	Number of Dwelling / Car Spaces Provided	Peak Hour	Trip Generation Rate	Trip Generation
Residential	3,048 dwellings	AM	0.14	427
		PM		427
Non-residential	199 car parking spaces	AM	0.4	80
		PM	0.8	160
Total		AM		507
		PM		587

8.1.2. City of Sydney Planning Proposal

The City of Sydney prepared an alternative masterplan in response to the original (2020) Homes NSW planning proposal.

The trip generation as per the *Planning Proposal* prepared by the City of Sydney in February 2021 is presented below.

As above, Table 25 outlines the person trip generation per dwelling and distributes this total generation into different travel modes. The CoS Planning Proposal increased the number of dwellings when compared to the Jacobs Study, and therefore the vehicular trip generation in Table 25 is higher than that of Table 23.

Table 26, in contrast, calculates the vehicular trip generation of the precinct making use of the vehicular peak hour trip generation rates defined in the original Jacobs Study, as outlined in 8.1.1.

Table 25: Summary of Approved Person Trip Generation (Source: CoS)

Trip Per Dwelling	Number of Dwelling	Waterloo Estate (South) Residential Trip Generation					
		All Modes	Rail (40%)	Bus (10%)	Cycling (5%)	Walk (25%)	Car (20%)
0.71	3,067	2,178	871	218	109	544	436

Table 26: Summary of Approved Vehicular Trip Generation (Source: CoS)

Land Use	Number of Dwelling / Car Spaces Provided	Peak Hour	Trip Generation Rate	Trip Generation
Residential	3,067 dwellings	AM	0.14	429
		PM		429
Non-residential	114 car parking spaces	AM	0.4	46
		PM	0.8	91
Total		AM		475
		PM		520

8.2. Proposed Trip Generation

Trip generation of the concept SSDA has been calculated making reference to the Guide to Transport Impact Assessment 2024 (GTIA) section 5.6.2. For residential person trip generation, the site is categorised as high density, high public transport accessibility. For commercial person trips, the data presented in section 5.6.4 of the GTIA has been used with reference to the precinct location being within Sydney.

Mode share percentages have not been altered as part of this assessment, to provide clear comparison between the concept SSDA and previous planning proposal approvals. However, it is worth noting that the Metro/Rail mode share has likely increased since 2020 and the opening of the Sydney Metro, as outlined in Section 7.1.

The trip generation of the proposed concept SSDA is summarised in Table 27 and Table 28.

Table 27: Summary of Proposed Person Trip Generation for Concept SSDA

Trip Generation Rate ⁴	Quantity	Waterloo Estate (South) Residential Trip Generation					
		All Modes	Metro/Rail (40%)	Bus (10%)	Cycling (5%)	Walk (25%)	Car (20%)
0.66 per dwelling	3,300 dwellings	2,177	871	218	109	544	435
2.49 per 100m ² GFA	15,305m ²	381	153	38	19	95	76

Table 28: Summary of Proposed Vehicular Trip Generation for Concept SSDA

Land Use	Number of Dwelling / GFA	Peak Hour	Trip Generation Rate	Trip Generation
Residential	3,300 dwellings	AM	Table 27	435
		PM		435
Non-residential	15,305m ²	AM		76
		PM		76
Total		AM		511
		PM		511

⁴ The trip generation rates outlined in the Guide to Transport Impact Assessment (2024) has been used as this document is current and makes use of the latest empirical data.

8.3. Comparison of Trip Generation

The vehicular trip generation of the proposed concept SSDA (2025) is compared against the vehicular trip generation of the precinct under the previous Planning Proposal (PP-2021-3265) which was approved in 2022 is presented in Table 29.

Table 29: Comparison of Vehicular Trip Generation

Peak Hour	LAHC (Jacobs)	Planning Proposal (CoS)	Concept SSDA	Variation	
				SSDA vs Jacobs	SSDA vs CoS
AM	507	475	511	+4	+36
PM	587	520	511	-76	-9

On the basis of the above vehicular trip generation comparison, it can be concluded that the proposed concept SSDA is expected to generate a similar traffic outcome and related impact to the surrounding road network as the previously approved schemes under PP-2021-3265.

This assessment does not reduce the expected mode share for private vehicles and instead retains the 20% private vehicle mode share from the approved Jacobs documentation as part of a robust comparative assessment. It is expected that travel mode by private vehicle may have decreased since the preparation and approval of PP-2021-3265 given the introduction of the Sydney Metro City Line, of which a stop is located immediately adjacent to the development precinct. Work behaviour, such as work from home or flexible / reduced office days, is likely represented by the revised (reduced) trip generation rates outlined in the 2024 Guide to Transport Impact Assessment. These revised rates have been used for the assessment of the Concept SSDA (2025) scheme.

It is expected that any changes (turning restrictions) at the intersections of Wellington Street and Botany Road would result in redistribution of vehicular traffic into the local network, which would generally not be expected to have a profound impact. In such a way, there is found to be no requirement for further traffic modelling or assessment.

Public transport networks surrounding the precinct are of a high calibre and provide a high level of access. With the recent addition of the Sydney Metro City Line, and ongoing extension of the Southwest and West metro lines, the Waterloo Metro Station is expected to be capable of accommodating the expected trips generated by the precinct.

Active transport infrastructure currently existing within and adjacent to the precinct is proposed to be retained and expanded to accommodate future growth in this mode of travel.

As such, the concept SSDA is found to be supportable in regard to expected traffic generation. As the development of the precinct progresses in a block-by-block format, the Green Travel Plan (Section 10) should be further developed for each Development Application making reference to any completed upgrades to active or public transport infrastructure.

9. Typical Carpark and Access Assessment

9.1. Vehicular Access

As per the Waterloo Estate (South): Design Guide 2022, vehicular access and egress to the basement car parks is not permitted from the following roads:

- George Street
- Wellington Streets
- Cope Street
- Cooper Street
- Mead Street
- Kellick Street
- McEvoy Street

The indicative vehicular access and egress points for the various blocks within the precinct is illustrated in Figure 62. This is subject to design finalisation and subsequent development applications for each block.

A swept path assessment of the current proposed design has been undertaken to evaluate the suitability of each access point, which is presented in a block-by-block format in 9.1.1.



Figure 62: Proposed Basement Vehicular Access Points and Precinct Circulation

9.1.1. Access Assessment for Each Block

The following sub-headings detailed the swept path assessment undertaken for each driveway throughout the precinct. The largest anticipated vehicle to make use of each driveway has been considered. Swept path assessment have been undertaken for the largest anticipated vehicle (9.24m Council Refuse Vehicle, refer to Appendix 4).

Block 2

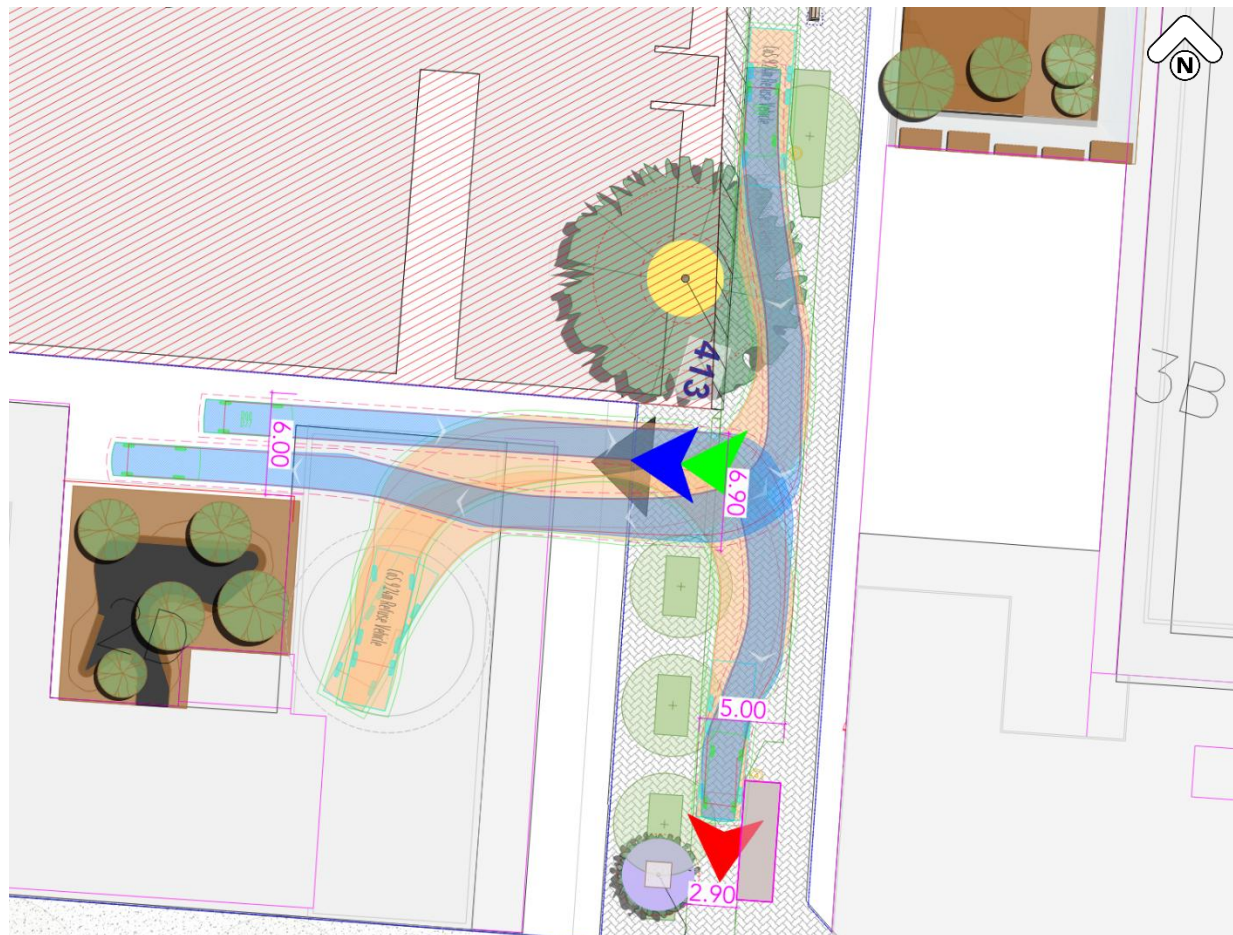


Figure 63: Block 2 Driveway Assessment

A 6.9m wide driveway is provided for Block 2 vehicular access by the 9.25m CoS Refuse and B99 cars. All vehicles will perform a forward entry and forward exit from the block. Detailed driveway design will be undertaken in association with the Development Application for each block.

Block 3

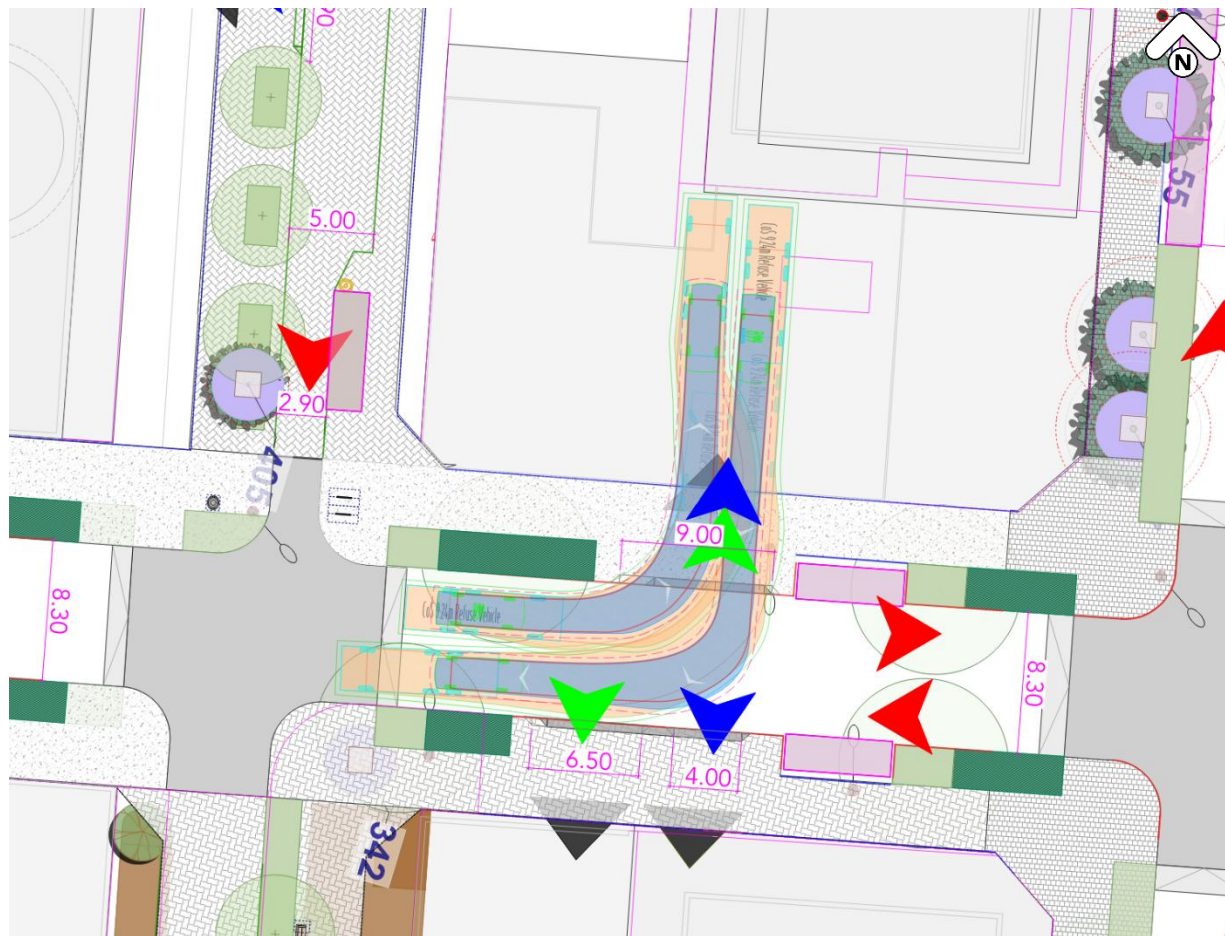


Figure 64: Block 3 Driveway Assessment

A 9m wide driveway is provided for Block 3 vehicular access by the 9.25m CoS Refuse and B99 cars. All vehicles will perform a forward entry and forward exit from the block. Detailed driveway design will be undertaken in association with the Development Application for each block.

Block 4

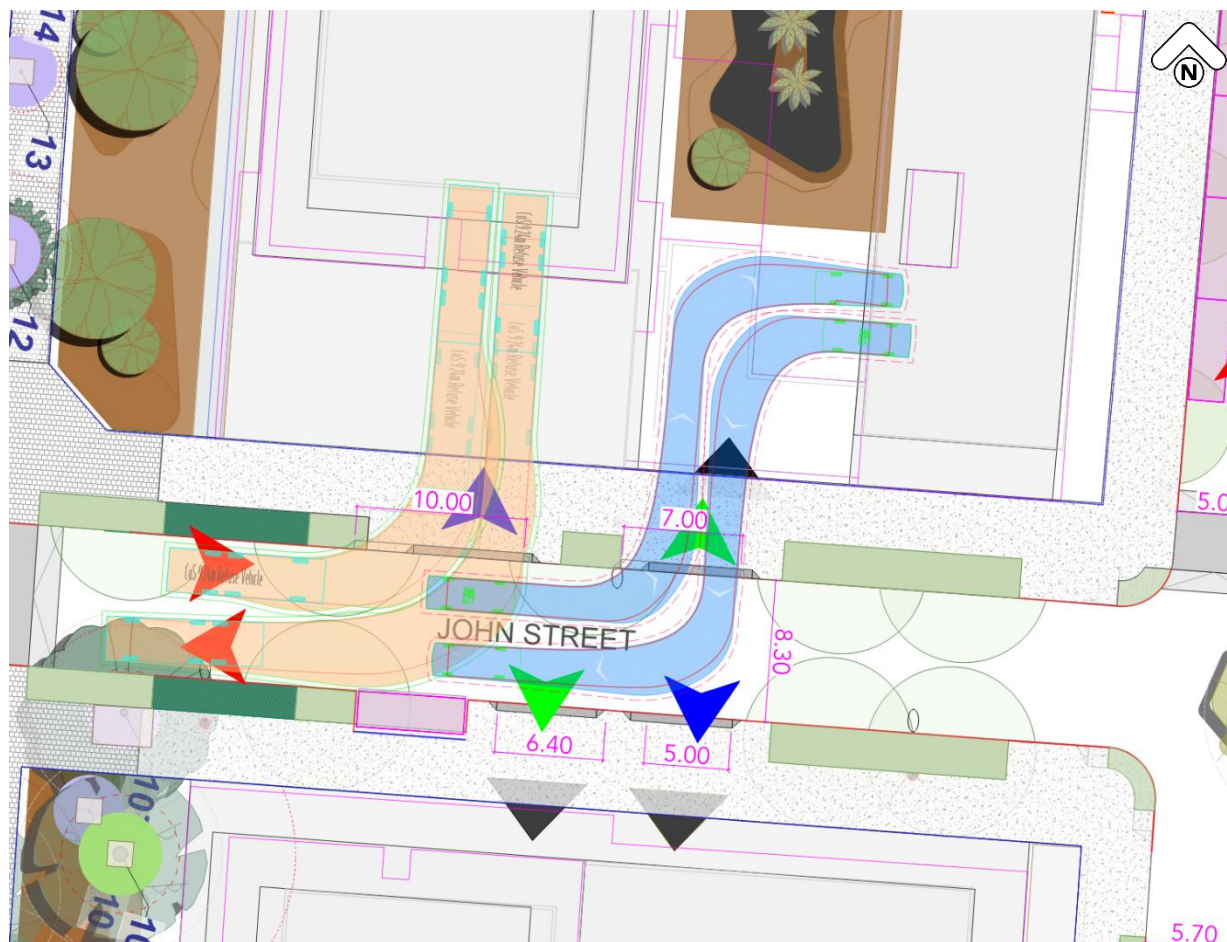


Figure 65: Block 4 Driveway Assessment

A 10.0m wide driveway is provided for Block 4 vehicular access by the 9.25m CoS Refuse Vehicle. A 7m wide driveway is provided for B99 cars. All vehicles will perform a forward entry and forward exit from the block.

Detailed driveway design will be undertaken in association with the Development Application for each block.

Block 5

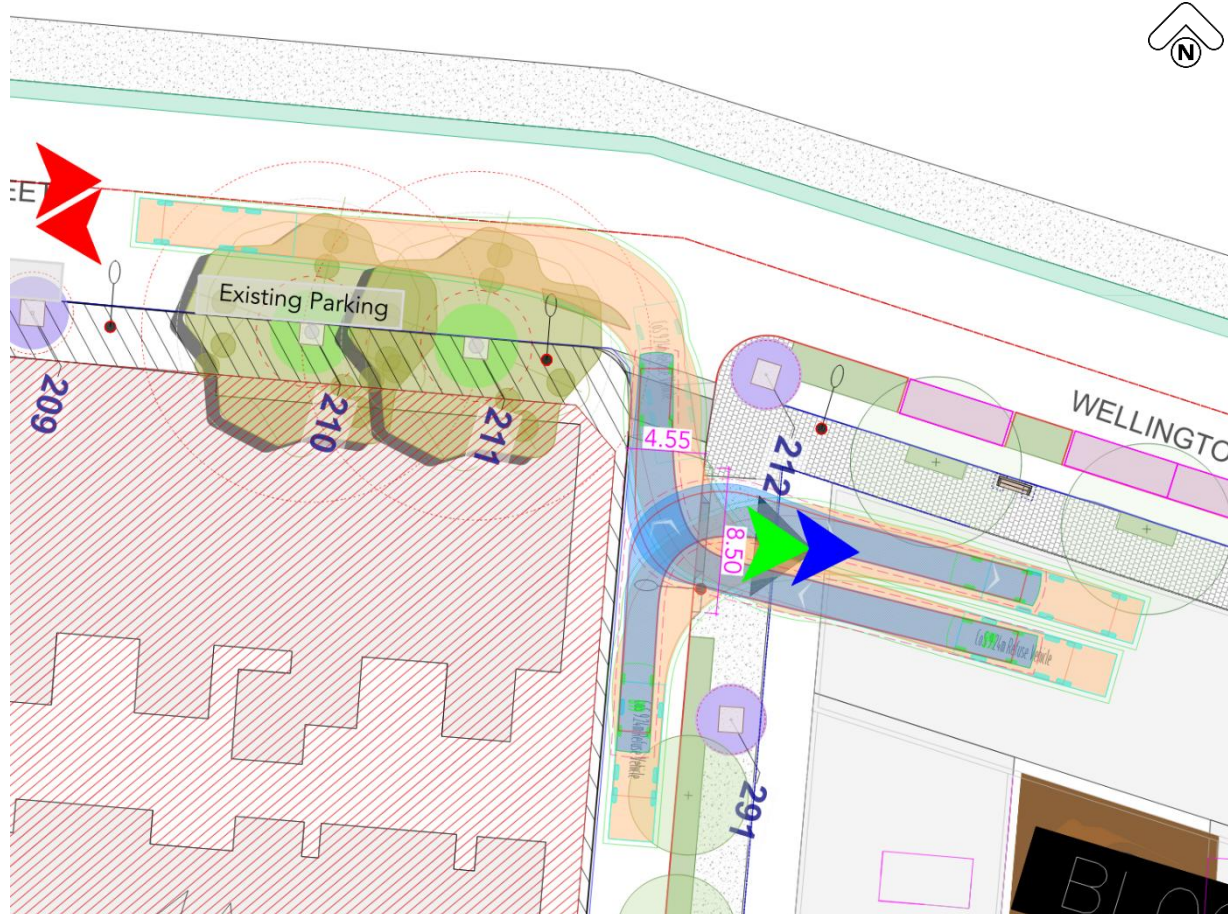


Figure 66: Block 5 Driveway Assessment

An 8.5m wide driveway is provided for Block 5 vehicular access by the 9.25m CoS Refuse and B99 cars. All vehicles will perform a forward entry and forward exit from the block. Detailed driveway design will be undertaken in association with the Development Application for each block.

Block 6

No vehicular access is provided to Block 6. Access to the basement of Block 6 is provided from an adjacent block.

Block 7



Figure 67: Block 7 Driveway Assessment

A 7.5m wide driveway is provided for Block 7 vehicular access by the 9.25m CoS Refuse and B99 cars. All vehicles will perform a forward entry and forward exit from the block. Detailed driveway design will be undertaken in association with the Development Application for each block.

Block 8

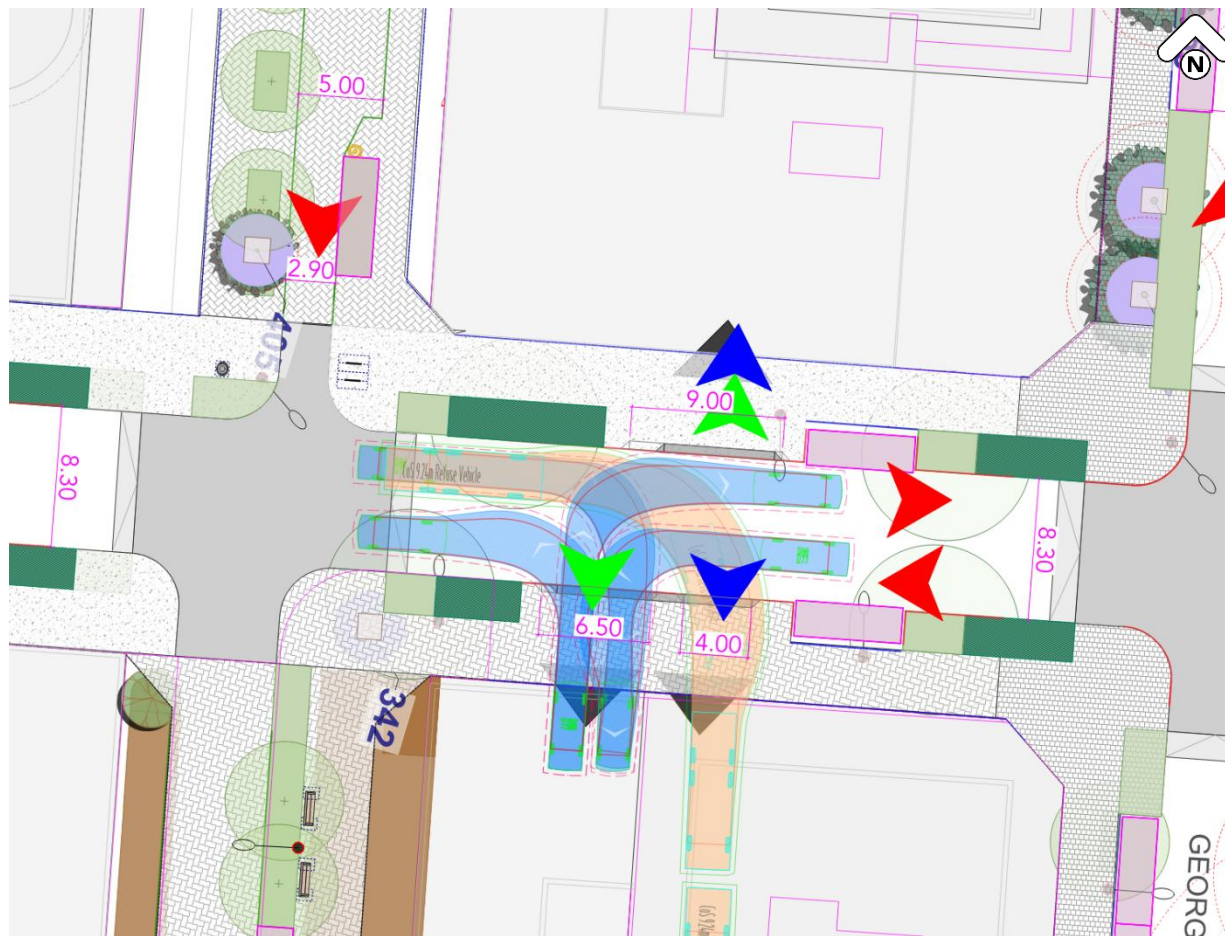


Figure 68: Block 8 Driveway Assessment

Separated service and passenger vehicle driveways are provided for Block 8 vehicular access. A 6.5m wide two-way driveway is provided for B99 cars, and a 4.0m one-way entry driveway is provided for vehicles up to 9.25m CoS Refuse. All vehicles will perform a forward entry and forward exit from the block.

Detailed driveway design will be undertaken in association with the Development Application for each block.

Block 9

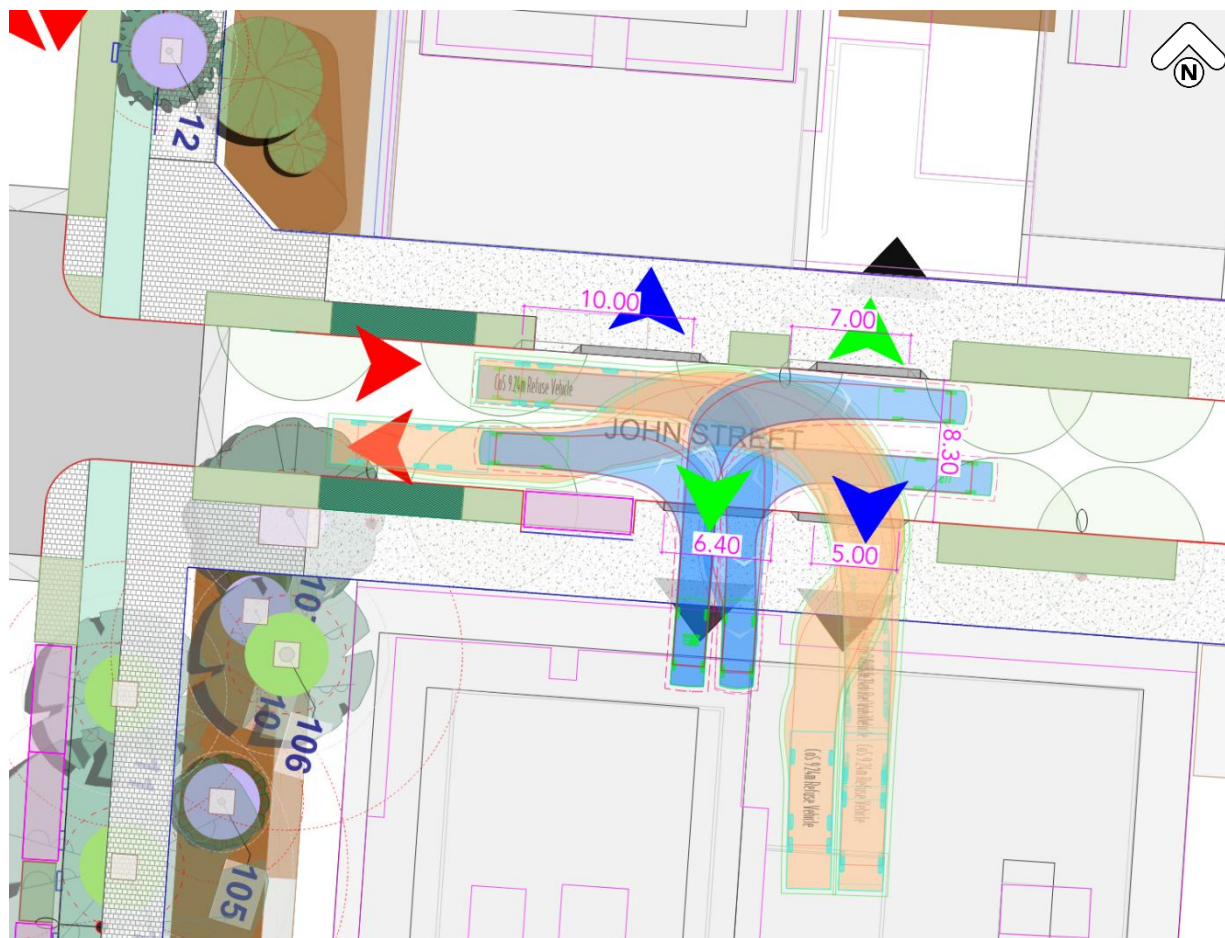


Figure 69: Block 9 Driveway Assessment

Separated service and passenger vehicle driveways are provided for Block 9 vehicular access. A 6.4m wide driveway is provided for B99 cars, and a 5.0m two-way yield driveway is provided for vehicles up to 9.25m CoS Refuse. All vehicles will perform a forward entry and forward exit from the block. Detailed driveway design will be undertaken in association with the Development Application for each block.

Block 10

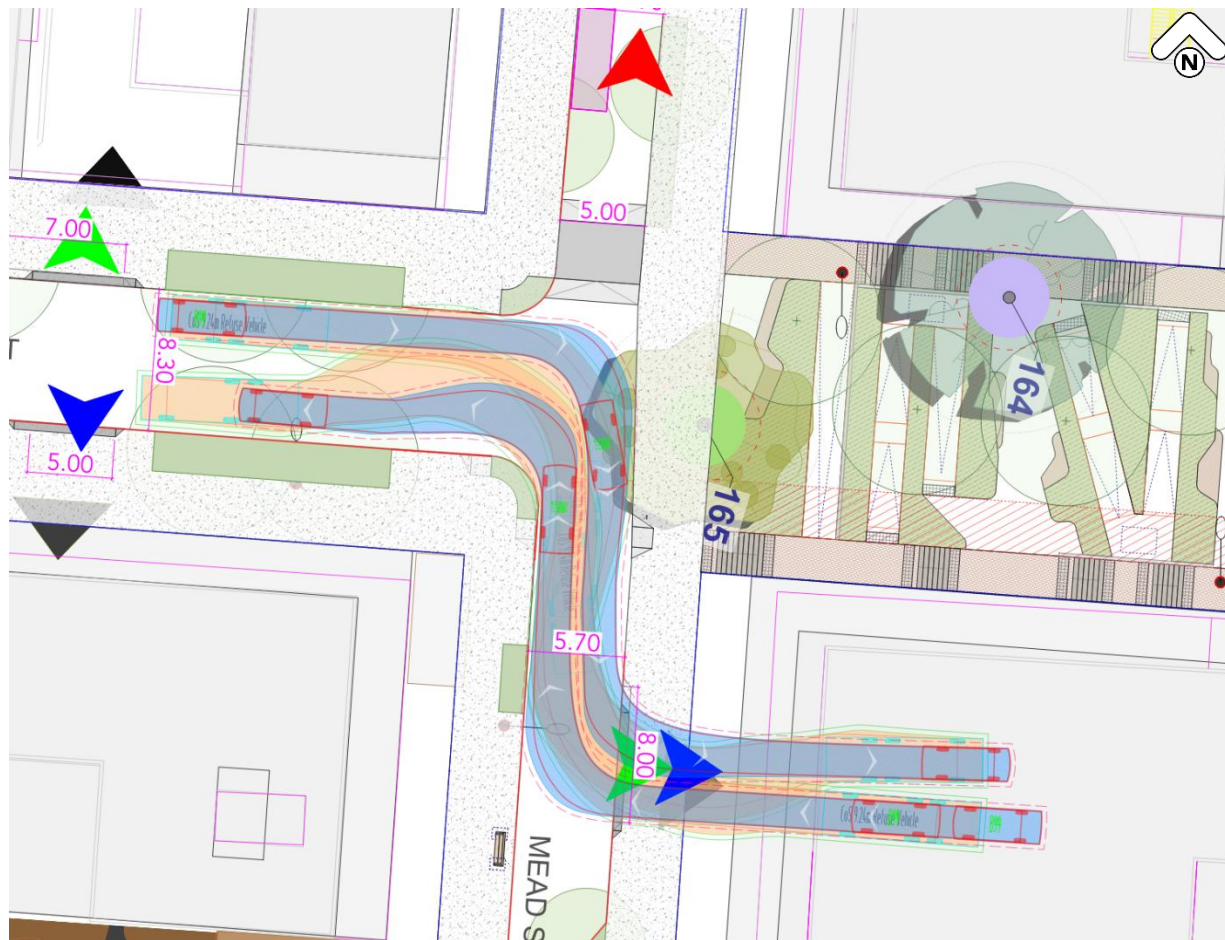


Figure 70: Block 10 Driveway Assessment

An 8.0m wide driveway is provided for Block 10 vehicular access by the 9.25m CoS Refuse and B99 cars. All vehicles will perform a forward entry and forward exit from the block. Detailed driveway design will be undertaken in association with the Development Application for each block.

9.2. Car Parking Design Requirements

9.2.1. Typical Requirements

The land uses of the development have the following minimum parking space dimension requirements for basement car parking in accordance with AS2890.1:2004 Section 1.4:

Class 1 (Employee and commuter Parking; generally, all day parking)

Minimum space width:	2.4m
Minimum space length:	5.4m
Minimum aisle width:	5.8m

All car parking bays are to be within the following grades as per AS2890.1 Section 2.4.6:

Maximum grade parallel to parking angle:	1:20 (5%)
Maximum grade in any other direction:	1:16 (6.25%)
Minimum grade for covered carparking:	1:200 (0.5%)

All parking spaces (except accessible parking) and circulation aisles are to have a minimum headroom in accordance with AS2890.1 Section 5.3:

Headroom Requirement:	2.2m to lowest obstruction
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Blind aisle extensions are required in all dead-end aisles that exceed 6 car spaces in length.

Turning bays are required in all aisles which exceed a length equivalent to six perpendicular car parking spaces and are not allocated car parking spaces.

9.2.2. Accessible Parking

All accessible parking is subject to the following minimum parking space dimension requirements in accordance with AS2890.6 Section 2.2:

Accessible Parking

Space Width:	2.4m
Space Length:	5.4m
Aisle Width:	5.8m
Shared Bay:	2.4m x 5.4m

All accessible shared bays are to be level with accessible parking spaces.

All accessible car parking bays and shared bays are to be within the following grades as per AS2890.6 Section 2.3:

Maximum grade in any direction:	1:40 (2.5%)
Minimum grade for covered car parking:	1:200 (0.5%)

Accessible parking spaces are to have the following minimum headroom in accordance with AS2890.6 Section 2.4:

Headroom Requirement:	2.5m over the parking space and shared bays
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9.3. Bicycle Parking

Bicycle parking design is to adhere to the requirements outlined in AS2890.3.

Horizontal bicycle parking is to be of the following minimum dimensions:

1.8m length x 0.5m width x 1.2m height with an aisle of 1.5m

9.4. Service Vehicle Parking

Service vehicle access will be provided to each block within the precinct.

Each instance of service vehicle facility is to comply with the requirements of AS2890.2, including:

Minimum space width:	3.5m
Minimum space length:	6.4m (SRV), 8.8m (MRV), 12.5m (HRV)
Headroom:	3.5m (SRV), 4.5m (MRV and HRV)

9.5. Emergency Vehicle Access

Access throughout the precinct is maintained for emergency vehicles.

Emergency vehicle access is permitted from McEvoy Street at George Street, as per existing arrangements.

All streets operate in a drive through manner, except Mead and Pitt Street, which end in cul-de-sacs, and will require the fire service vehicle to reverse a maximum of 120 metres from the hydrant to the nearest intersection at which a turn manoeuvre can be performed (in accordance with the FRNSW Access Guidelines).

10. Framework Green Travel Plan

The details in this section will be developed as a stand-alone document, as the project progresses, with a view to the implementation of a formalised monitoring and evaluation process to achieve the maximum benefits of a Green Travel Plan (GTP).

Noting that this submission is made for the Waterloo Estate precinct, it is simplified in nature. Detailed Green Travel Plans would be prepared for each future Development Application made for each block within the precinct.

10.1. What is a Green Travel Plan?

A Green Travel Plan (GTP) is a document that outlines how a development intends to make travel to and from the precinct safer and more sustainable for occupants and their visitors. The GTP addresses local traffic issues around the precinct and encourages active, safe and sustainable travel methods, such as walking, cycling, scooting, public transport or car sharing. A GTP correlates with the development's overall aspirations and is a document that is monitored and reviewed regularly.

A GTP is not just the installation of bike racks or provision of end-of-trip facilities. An effective GTP aims to promote and maximise the use of more sustainable modes of travel via a range of actions, promotional campaigns and incentives. The plan includes precinct management tools that encourage staff and visitors to make more sustainable transport choices. A GTP requires ongoing implementation, monitoring and review. As such, nominating an individual or a team to oversee the implementation of a travel plan is a crucial component of success.

An effective GTP can offer many benefits, such as less congestion on public road networks, as well as health and environmental benefits.

10.2. Why is a Green Travel Plan required?

The implementation of a GTP is generally accepted as one of the best ways to increase active travel to and from the subject precinct. A successful GTP offers many benefits for the community, including:

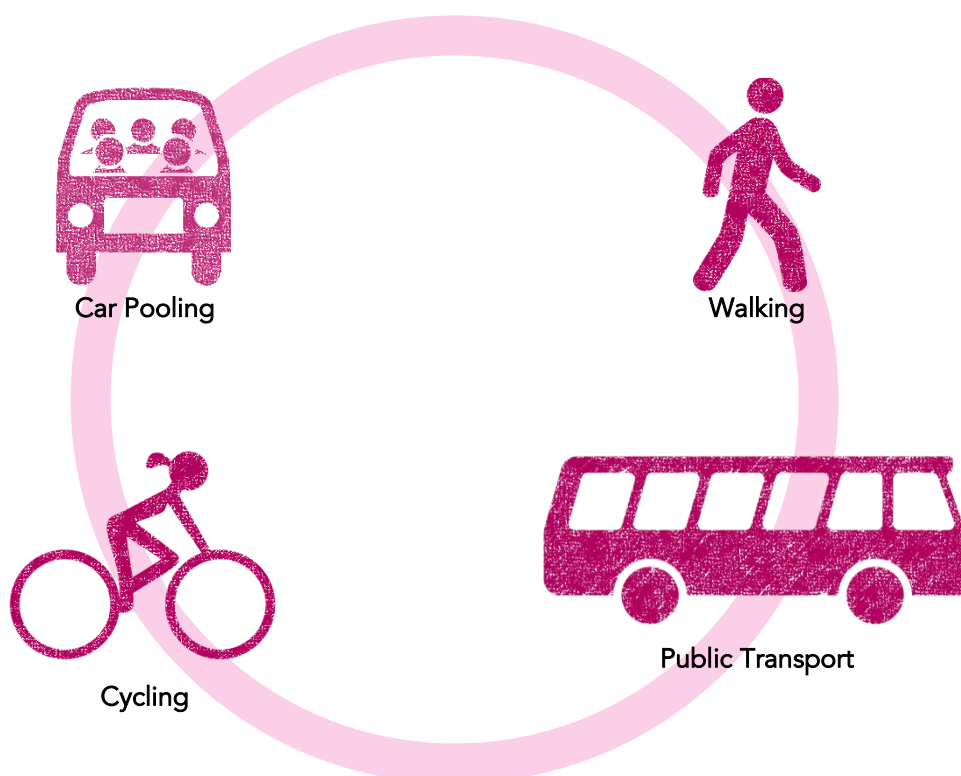
- Building confidence and improving social interaction by walking and/or cycling;
- Assists in the implementation of health, fitness and well-being programs.
- Improving social interaction with others to be more interested and involved with the precinct as they walk or cycle;
- Improving safety by reducing traffic and local road congestion;
- Improving the environment by reducing air pollution from private vehicles;
- Creating opportunities for healthier lifestyles and more vibrant, cohesive and accessible communities;

It is likely that occupants with a good understanding of active and sustainable modes of transport will follow a healthy and active lifestyle, care about the environment and prioritise location and lifestyle over car ownership.

10.3. The Purpose of Green Travel Plan

The purpose of the GTP is to provide a package of measures with the aim of promoting a reduction in the reliance on private car usage and encouraging and supporting the uptake of daily business in a more sustainable way. This may be achieved through the review of existing policies and identifying programmes to encourage occupants and visitors to adopt more active and sustainable forms of transport.

The high prevalence of active and public transport infrastructure within, through and adjacent to the precinct is outlined in detail in Section 7 of this combined report.



This document identifies the following:

- Review of existing public transport infrastructure and future transport options (provided in Section 7.2 and 7.3);
- Assessment of existing travel patterns within the area (provided in Section 7.1);
- A modal share target for the development (Section 10.8);
- A framework to identify and respond to travel demand from the development and surrounding area;
- Strategies to implement prior to and during occupancy and
- The monitoring strategy to track the performance of the GTP.

10.4. Potential Outcomes

- Successful negotiations with private transport providers (if necessary) to provide increased public transport services to the precinct.
- Improvements to cycling and walking infrastructure, if required. Note that there are several planned upgrades to regional cycling infrastructure through and surrounding the precinct.
- Recommendations for any relevant policy changes will be made to commercial land use management (e.g. flexible work and work-from-home/hub policies).
- A campaign promoting the health and other benefits of non-car modes of travel will be implemented.
- Monitoring and Evaluation
 - Carpooling use (number of new users)
 - Private car-park usage
 - Feedback from public transport providers
 - Patronage on any new commuter public transport services

10.5. Steps to Set Up a Green Travel Plan

To develop a GTP, there are five key steps to follow to commence its operation, as illustrated in Figure 71.

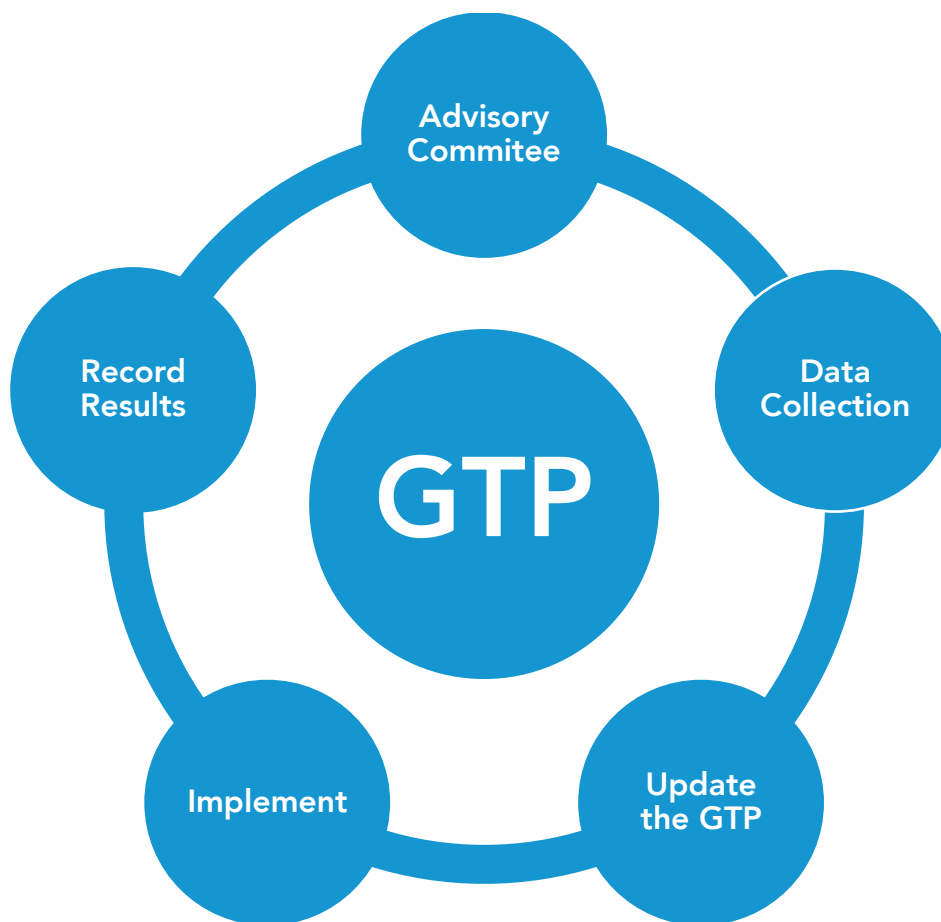


Figure 71: Steps in developing a GTP

10.5.1. Step 1 – Set up an Advisory Committee

- Appoint an individual to coordinate specific actions and to track the progress of this work;
- Develop a working group that involves representatives from residents within the development;
- Identify ways in which residents will be involved and informed of the work (e.g. regular articles / social media).

10.5.2. Step 2 – Data Collection and Review Existing Situation

As part of the development, it is expected that there will be new residents, employees and visitors travelling to and from the precinct on a daily basis. To identify how residents and tenants in the development travel to and from the precinct for work, an initial survey should be conducted to identify the travel behaviour of employees and visitors within six months of the occupation of the development. This may be conducted as an online survey or an intercept survey of those accessing the precinct.

As a minimum, the following questions should be considered:

- Are you a resident, employee or visitor to the precinct?
- Did you park within the precinct today? If so, where?
- What type of vehicle did you park within the precinct? (car/motorcycle/bicycle etc.)

Tenant Only Questions

- If you are a tenant, do you have an allocated car parking space within the precinct?
- How do you currently travel to work, and what is the distance travelled?
- Based on the availability of public transport and other sustainable travel options, which would be their preferred mode of travel?
 - Walk/Run
 - Bicycle
 - Train/Metro
 - Bus
 - Drive car
 - Passenger in car
 - Other
- Is your place of work in an area that is not currently serviced by any of the identified transport options?
- Do you need to drive to work for another reason? Why and how often this would occur (i.e. shift work).

Visitors Only Questions

- If you are a visitor, where did you travel from today?
- What mode of transport did you use?
- Why did you use this particular mode of transport?

All Users

- Have you heard of car share? If this was readily available to you, would you use car share if car parking was unavailable?
- If not, what are the barriers to you using car share to travel to and from the precinct?
- What would make you consider using car share to access the precinct?
- Do you have any suggestions/recommendations to encourage the uptake of sustainable modes of transport, etc.?

Once the survey findings are available, methods to achieve specific targets can be identified with proposed time frames.

10.5.3. Step 3 – Prepare the Green Travel Plan

Based on the data, an overall vision for the travel modes should be considered with clear objectives. The GTP should be prepared based on these objectives, notably:

- Build a culture that supports active travel by motivating and encouraging the community to get involved.
- Set specific SMART (Specific, Measurable, Achievable, Relevant, Timed) targets.
- Develop an action plan that lists activities and strategies to eliminate the community’s barriers to active travel and meet the objectives.
- Estimate the budget required to meet the objectives, identify funding sources, and develop implementation strategies.
- Review and consult with the community.

10.5.4. Step 4 – Deliver and Implement

Once developed, launch the GTP and carry out regular monitoring (every 12 months is recommended) as part of the implementation strategy. Travel mode data should be collected and reviewed each quarter.

10.5.5. Step 5 – Recognise Progress

The successes of the GTP should be celebrated regularly, for example, at key community events. The plan should regularly be reviewed and include new ideas, targets, and benchmarks.

10.6. Proposed Action Items

In developing the GTP, it may not be possible to implement all action items at the same time. Therefore, a staged implementation should be considered. There may be some crucial actions that can be implemented immediately, while others might take longer to plan and develop. Detailed development applications for each block within the precinct shall be undertaken in the future, at which time, relevant actions for the block should be assigned.

Before implementing any actions, relevant stakeholders must be consulted to approve the changes.

The following travel mode hierarchy is proposed for this GTP:



Figure 72: Mode Hierarchy

There are several actions that can be employed to encourage non-car modes of transport to and from the precinct. The following sections outline the potential strategies that can be adopted to achieve future transport targets.

10.6.1. Walking

Walking is the most space-efficient mode of transport for short trips and presents the highest benefits. The co-benefits of walking when replacing a motorised trip include improved health for the individual, reduced congestion on the road network, and reduced noise and emission pollution. The following action items could be implemented to increase walking amongst residents in the development:

- Residents and staff living within 1km of their place of work could be targeted to walk to work for their commuting journey;
- A working partnership could be established with Council to determine whether there are opportunities to improve the pedestrian connectivity to the precinct;
- Residents and staff could be encouraged to implement the '*10,000 steps per day initiative*' to measure their daily step count as a way of promoting a healthy lifestyle and
- Residents and staff could be encouraged to participate in '*Walk to Work*' day on an annual basis.

10.6.2. Cycling

The precinct has acceptable surrounding cycling infrastructure due to its proximity to the Sydney CBD, however is bound by major roads with high traffic volumes along heavy freight routes, which could act as barriers to cycling.

Future active transport infrastructure upgrades, as outlined earlier in this report, should be incorporated into revised GTPs as part of regular reviews, and celebrated and promoted once they become available for use.

To promote the future bike usage by residents and visitors, the development will include bicycle parking provisions and End of Trip facilities as outlined in Section 6.3.2. The provision of visitor bicycle parking at grade is expected to be a valuable way to encourage short distance local trips to and from the retail premises by residents living in the precinct and surrounding suburbs.

10.6.3. Public Transport

The public transport options surrounding the precinct are well-established. Bus stops are located around the precinct within walking distance with a wide range of services available. Metro and Train stations are positioned in close proximity to the precinct, and can be accessed easily by walking.

A review of the public transport available in the vicinity of the precinct is outlined in Section 7.3.

10.7. Promotion and Marketing Strategy

Once the plan has been adopted, it is essential to maintain interest in the scheme. Each new initiative in the plan will need to be publicised with effective marketing. Actions are the core of a GTP. Therefore, the GTP needs to have a variety of actions that guide strategies relating to promotion, facilities, and policies to create incentives for sustainable travel behaviour. If actions are to be staged, a staging strategy should be outlined in the plan.

Strategic promotion of travel plans and associated initiatives tend to result in higher uptake of sustainable travel modes. It is imperative to ensure that all users are aware of the initiatives. From time to time, assistance should be sought from Council, Bicycle NSW, Pedestrian Council Australia, TfNSW and other stakeholders.

Another way to promote non-vehicle modes of transport is to print a map on the back of business cards or brochures. Best practice suggests that the information should be as concise, simple and precinct-specific as possible. If instructions are too complex, they are likely to be ignored.

10.8. Monitoring and Evaluation

A travel plan should not simply be a list of actions. Monitoring and reviewing of a travel plan are one of the most critical components of the travel planning process. It is crucial to understand whether and how the travel plan is having an impact on the mode share. An annual review of the GTP is recommended to identify how mode share has changed over time. This will assist in understanding whether progress is being made.

The monitoring strategy should ensure that the GTP is achieving the desired benefits. As stated in Section 10.5.2, it is essential to undertake the initial data collection of the existing mode share to establish more accurate targets and overall goals. Surveys will help to identify which actions are having an impact on occupant’s travel behaviour and whether some are more effective than others. It may also help to identify ongoing or unresolved issues and barriers that are preventing greater improvement.

Mode share targets can initially be set based on the approval Planning Proposal documentation, as outlined in Section 8, and summarised below:

Table 30: Initial Mode Share Estimate

Metro/Rail (40%)	Bus (10%)	Cycling (5%)	Walk (25%)	Car (20%)
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The overall success of the GTP will depend on good communication. It will be necessary to explain the reason for adopting the plan, promote benefits and provide information about alternatives to driving. It will also be necessary to provide feedback to occupants to ensure that they can see the benefits of sustainable transport.

Once data are updated, the targets and actions of the travel plan will need to be reviewed. The review should consider:

- Are the targets still realistic? Are they still ambitious? Should they be updated?
- Are residents and visitors struggling to achieve particular targets? What are the likely reasons for this?
- Are there any gaps with regard to actions?
- What is preventing further improvement in mode share, and how can this be addressed?

The GTP Coordinator will be responsible for ensuring that annual performance reports are provided to the Council for at least the first five years from occupation of the development. Consultation with the Council during the monitoring and evaluation process will ensure that the targets are still achievable and allow for any existing strategies to be adjusted or developed to achieve the outlined mode share targets.

The steps outlined above should not be considered as a linear process but rather be an ongoing cycle. Travel planning requires regular review and adjustment, which may reveal the need to reconsider objectives or targets or add new actions to create greater incentives for the uptake of sustainable transport choices.

10.9. Travel Access Guide

To encourage residents, employees and visitors to adopt alternative sustainable transport options, a Transport Access Guide (TAG) should be developed to summarise available transport options identified. A TAG is a concise presentation of how to reach the precinct using low-energy, sustainable and active forms of transport.

The aim of a TAG is to make sure people know how to get to the subject development by walking, cycling or public transport (as well as by car).

A TAG can take many forms; TAGs may be incorporated into stationery, brochures and provided electronically on social media. An electronic version can be kept on a computer and produced as needed.

11. Delivery and Service Management Plan

The Delivery and Service Management Plan aims to identify the delivery and service requirements associated with the development and ensure the efficient utilisation of the loading docks and service bays proposed for the development as well as the on-street loading zones available throughout the precinct.

This management plan includes provision for not only service vehicles such as trucks and courier vans, but also delivery made by bicycle or similar mode of transport.

The primary objectives of the Waterloo South Delivery and Service Management Plan are outlined below:

- Identify the expected service and delivery demand and associated development trips.
- Demonstrate safety and efficiency around all types of loading and service areas among all user groups associated with the development.
- Maintain a high level of access and efficiency of the loading and service bay facilities.
- Identification and use of innovation and modern technologies in smooth operation of delivery and service facilities.
- Minimise disruption to surrounding road network.
- Reduce conflicting occupancy within the loading and service areas and avoiding the risk of queuing onto the road network.
- Outline the rules associated with the use of the loading and service bay facilities.

11.1. Delivery and Service Demand

For effective delivery and servicing of the precinct, it is necessary to determine the delivery and servicing demand associated with the proposal.

The delivery and service demand mainly identifies the following:

- Types and frequency of the service vehicles (inclusive of bicycle) associated with the development.
- Number and size of required loading docks/bays for the development.
- Location of the loading / delivery facilities and associated access points.

Several guidelines, tools and standards can be used to determine the delivery and servicing demand associated with the development which are described overleaf.

11.1.1. City of Sydney Development Control Plan 2012

Section 7.8 of Sydney DCP 2012 outlines the requirement of service vehicle parking as follows:

- a) *Residential buildings and serviced apartments:*
 - i. *1 space for the first 50 dwellings or serviced apartments; plus*

ii. 0.5 spaces for every 50 dwellings/serviced apartments or part thereafter.

b) Commercial premises:

i. 1 space per 3,300sqm GFA, or part thereof, for the first 50,000sqm; plus

ii. 1 space per 6,600sqm, or part thereof, for additional floor area over 50,000sqm and under 100,000sqm; plus

iii. 1 space per 13,200sqm, or part thereof, for additional floor area over 100,000sqm.

c) (c) Shops, shopping centres:

i. 1 space per 350sqm GFA, or part thereof, up to 2,000sqm; then

ii. 1 space per 8,00sqm GFA thereafter.

Bicycle provision as per the DCP requires retail, commercial and residential visitor bicycle parking, which is expected to be utilised by any delivery or services carried out on bicycle.

11.1.2. TfNSW Urban Freight Forecaster

The TfNSW Urban Freight Forecaster Model is a tool developed by TfNSW used to determine the delivery and servicing demand of development sites, and is based on modern empirical data sources. This tool has been utilised to assess the delivery and service vehicle requirement associated with the Waterloo South precinct.

The recommended number of loading docks and service bays by the TfNSW Urban Freight Forecaster Model for each block is presented in Table 9 within Section 6.3.8, and the efficiency of the loading dock and service bays is presented in Appendix 3. A total provision of 64 service vehicle bays of varying sizes is recommended to provide adequate efficacy, which should be provided in addition to service facilities for other forms of travel, such as bicycle. The loading facilities are proposed to be dispersed throughout the precinct, rather than centralised.

11.2. Management Measures

Management measures should consider the wider supply chain for various services rather than being limiting to the curtilage of the development. The movement of goods and vehicles within the precinct and within the individual blocks is an important consideration, as well as the access and egress for service vehicles to and from the external road network around the precinct.

The management measures are to be developed and driven by a travel demand management approach as outlined in TfNSW Freight Forecaster Model as illustrated in Figure 73.



Retime

Delivery and Servicing booking system for use by all tenants
Shift activities outside peak times
Flexible / digital kerbside management



Remode

Pedestrian porters
Cycle freight including e-bikes
Electric vehicles
Hydrogen vehicles
Autonomous vehicles
Cold room for activities in standard work hours



Reroute

Delivery point assessment - provides drivers with clear instructions on where and how to access the development to avoid causing disruption to other road users and pedestrian



Reduce

Collective procurement and nominated courier schemes
Collaboration/sharing of resources
Off-site freight consolidation
Waste consolidation through a single waste contractor for all tenants
Improve turnaround time of vehicles on site

Figure 73: Management Measures (Source: TFNSW Last Mile Toolkit)

Some of the delivery and service management measures are described briefly in the section below.

11.2.1. Rules for using the Delivery and Service Facilities

All authorised users of the delivery and service facilities must obey the following general rules:

- The loading facilities are only to be used in accordance with this management plan and any other rules determined by the Building Manager (or similar);
- The loading facilities are strictly for the use of those delivering to or servicing the residents or tenants of the precinct. No vehicles are permitted to park within these areas. No objects are to be stored in the loading facilities or obstruct access to and from these areas;
- The loading and unloading of goods are to be carried out in a safe and orderly manner, with respect to ongoing operation of surrounding roads and areas;
- Vehicles must be positioned within the designated areas unless specifically permitted by the Building Manager (or similar);

11.3. Delivery and Service Strategy

11.3.1. Hours of Operation

All delivery and servicing facilities are to be used in accordance with any time restrictions imposed by precinct management or on-street signage controls. The intent of such restrictions is to minimise impact to residents and tenants such as noise.

11.3.2. Service Vehicle Access

All areas of the precinct have been designed to accommodate the 9.25 metre City of Sydney refuse vehicle, inclusive of roads, driveways, service bays and loading docks.

Circulation through the precinct will occur in a manner that is efficient and minimises double up of traversed road, as outlined in Figure 74.

Access to the delivery and servicing facilities will be guided by signage and linemarking where appropriate.



Figure 74: Indicative Service and Refuse Vehicle Route

11.3.3. Delivery and Service Bay Limitations

All delivery and loading facilities are constrained to accommodate vehicles which can wholly fit within the designated space. On-street loading for small retail use only is permitted under the Design Guide.

11.3.4. Other Considerations

Pedestrian Safety and Signage

All delivery and service facilities are to be clearly marked and signposted appropriately to ensure that these areas are clearly denoted. This will limit the potential for misuse, and raise awareness to surrounding precinct users of the potential hazards.

Cleanliness

All delivery and service facilities are to be kept in a clean and orderly condition, free from clutter which may obstruct safe visibility or pedestrian paths of travel. All relevant linemarking and signage is to be kept in a clean and well maintained condition.

11.4. Monitoring and Review

The building manager (or similar) will be responsible for monitoring the performance of the delivery and service management plan regularly and to assess the potential for refinement if required.

Feedback and reviews shall be collected from all users of the delivery and service facilities. Incident or any traffic concerns within the delivery and service areas shall be reported.

The monitoring process may include the following:

- The achievement of the objective of the delivery and service management plan will be pre-determined and constantly tracked.
- Different approaches will be adopted and implemented if any of the objectives are not achieved.
- Any changes in the development (land use and management) associated with the development will be documented.
- Monitoring and assessment of the delivery and service management plan will be co-ordinated with the relevant authorities.

12. Conclusion

This report has been prepared by **ptc.** to accompany a concept State Significant Development Application (SSDA) for the Waterloo Estate (South).

The Waterloo South precinct has been assessed from a traffic engineering perspective and **ptc.** find that the proposal aligns with the character of the precinct as defined in the design guidelines, and prioritises the uptake of active and public transport opposed to private vehicle use through road design in alignment with the latest TfNSW policies and manuals.

The surrounding active and public transport opportunities are abundant and act to support and promote the increased mode share of trips made to and from the precinct by modes other than private motorised vehicle.

An assessment of the potential traffic generation of the precinct finds that the vehicular trip generation of the proposed scheme is consistent with previously approved schemes, and on this basis is found to be acceptable and appropriate.

The preliminary provision of parking within the proposed scheme aligns with the target requirements of the relevant planning controls and parking guidance and as such is found to be suitable. This is to be further rationalised during the detailed application for each block individually.

The preliminary design of the parking facilities have been assessed and found to comply, or capable of being made to comply, with relevant Australian Standards.

Appendix 1. Supplementary Data

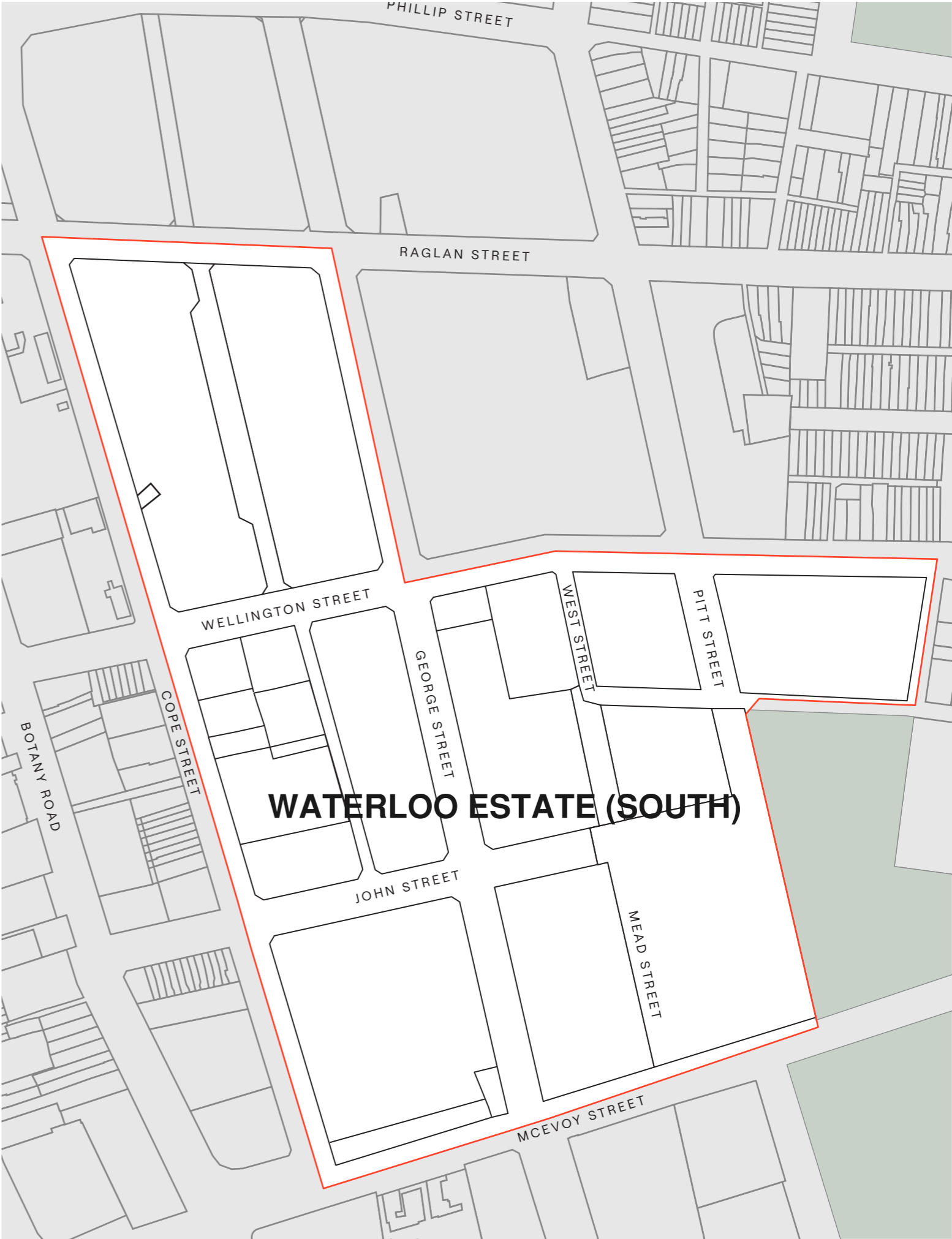
Table 31: Existing On-Street Parking within the Precinct

Code	Street	Section	Capacity		Parking Restriction
			Car Space	Other	
A	Cope Street	John Street to South End	10		2P Parking
CP1	Cope Street		9		2P Parking
B	George Street – West	John Street to South End	12		Unrestricted Parking
C	George Street – East		13		Unrestricted Parking
D	Mead Street	John Street to South End	11		Unrestricted Parking
E	Cope Street	Wellington Street to John Street	18		Unrestricted Parking
				1	Authorised Vehicle
F	George Street – West	Wellington Street to John Street	18		Unrestricted Parking
G	George Street – East	Wellington Street to John Street	17		Unrestricted Parking
				1	Loading Zone
CP7	Pitt Street - West		10		Carpark
H	Pitt Street – East	Wellington Street to Kellic Street	8		Unrestricted Parking
I	Gibson Street – West	Wellington Street to Kellic Street	10		Unrestricted Parking
J	Wellington Street – South	Cope Street to Copper Street	2		Unrestricted Parking
K	Wellington Street – South	Cope Street to Copper Street	1		2P Parking
L	Wellington Street – South	Cooper Street to George Street	4		2P Parking
M	Wellington Street – South	George Street to West Street	4		Unrestricted Parking
				1	Authorised Vehicle
N	Wellington Street – South	West Street to Pitt Street	1		1/4 P Parking
O	Wellington Street – South	Pitt Street to Gibson Street (West)		1	Bus Zone
P	Wellington Street – South	Pitt Street to Gibson Street (East)	9		2P Parking
Q	Kellick Street – North	Pitt Street to Gibson Street	7		Unrestricted Parking

Code	Street	Section	Capacity		Parking Restriction
			Car Space	Other	
				1	Authorised Vehicle
R	John Street – North	Cope Street to Cooper Street	7		2P Parking
S	John Street – South	Cope Street to Cooper Street	7		2P Parking
T	John Street – North	Cooper Street to George Street	4		Unrestricted Parking
U	John Street – South	Cooper Street to George Street	6		2P Parking
V	John Street – North	George Street to East End	5		Unrestricted Parking
W	John Street – South	George Street to East End	3		Unrestricted Parking
X	Reeve Street - South	Pitt Street to West Street	7		Unrestricted Parking
Total Parking			203	5	

Appendix 2. Site Plan

Figure 1: Site Identification Map



LEGEND
- - - - - Precinct boundary

Appendix 3. TfNSW Freight Forecaster Model

Urban Freight Forecasting Model

A guide for forecasting freight & servicing demand and loading dock performance.

Please enter values into yellow boxes for the parameters of the building.

This model is based on traffic assessment of buildings across Sydney in 2017-22. Various analytical and statistical techniques are used to provide forecasts of freight and servicing activity.

Waterloo South Block 2

Building Information

Please enter characteristics about the building, including the floor space of each land use that the building will contain, or leave blank if unknown. Land use and size are substantial factors in determining how many freight & servicing trips a building will generate.

Number of floors	8
Commercial area, m2	1,839
Residential area, m2	0
Number of apartments	94
Number of hotel rooms	0
Retail area, m2	354

Availability of a dedicated goods lift

Parking spaces provided by building for commercial vehicles

Please enter the proposed number of commercial parking spaces provided by the building. This will enable our model to test the performance of these spaces against forecasted demand. A combination of suggested spaces can be generated to assist planning. Clicking the 'Suggested Spaces' button will recommend the most optimal/economic combination of dock spaces that can achieve a sufficient level of servicability.

[Suggest Spaces](#)

	No. of spaces provided	No. of spaces suggested
Small (B99, Vans, Utes)	4	2
Medium (SRV, Small Truck)	2	1
Large (MRV, HRV, Large Trucks)	0	1

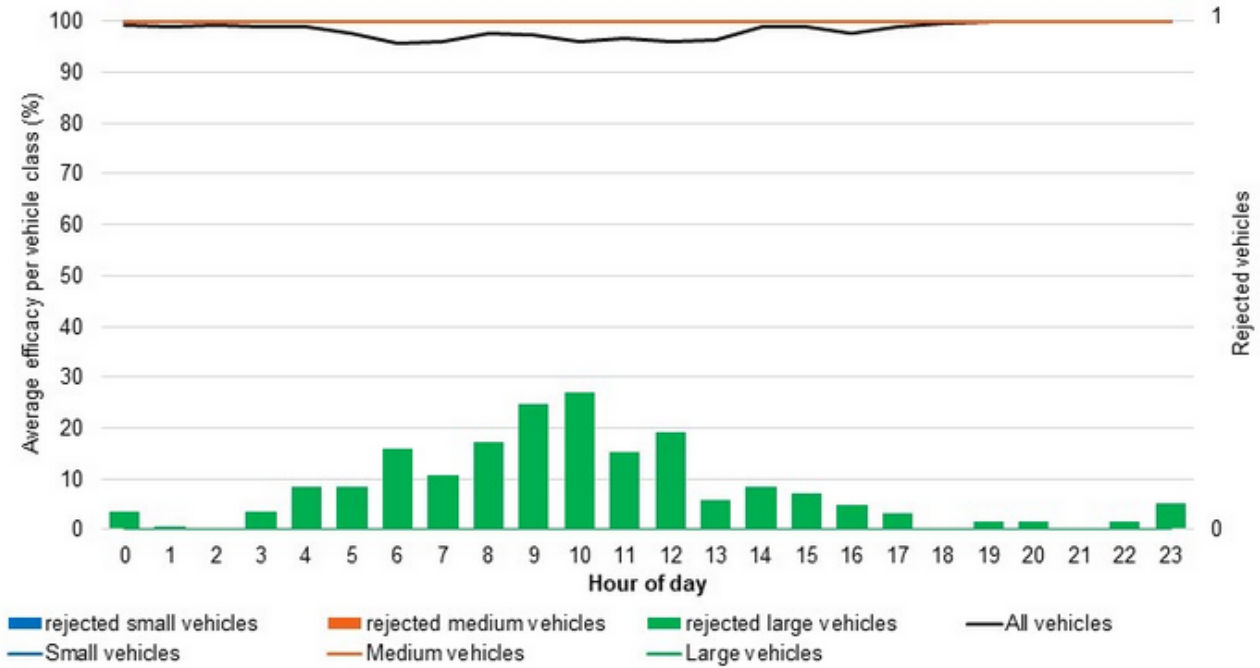
Efficacy Dashboard

This view provides a report on the service level performance of the dock to accommodate arriving vehicles. The information also states the vehicles that cannot be accommodated (rejected) by the dock.

Waterloo South Block 2

30/03/2026

Dock service level performance + unaccommodated vehicles



DOCK CONFIGURATION	
Small spaces	4
Medium spaces	2
Large spaces	0

VEHICLE ACTIVITY		
	Daily Total	Peak Hour
Vehicle arrivals (excl Bikes)	29	3
Vehicles serviced	28	2
Rejected vehicles	1	1

Courier/food bike arrivals	7	1
----------------------------	---	---

Total incl. courier/food bikes	36
--------------------------------	----

LOADING DOCK PERFORMANCE	
Average efficacy, %	96.60

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Urban Freight Forecasting Model

A guide for forecasting freight & servicing demand and loading dock performance.

Please enter values into yellow boxes for the parameters of the building.

This model is based on traffic assessment of buildings across Sydney in 2017-22. Various analytical and statistical techniques are used to provide forecasts of freight and servicing activity.

Waterloo South Block 3

Building Information

Please enter characteristics about the building, including the floor space of each land use that the building will contain, or leave blank if unknown. Land use and size are substantial factors in determining how many freight & servicing trips a building will generate.

Number of floors	20
Commercial area, m2	0
Residential area, m2	0
Number of apartments	409
Number of hotel rooms	0
Retail area, m2	2,506

Availability of a dedicated goods lift

Parking spaces provided by building for commercial vehicles

Please enter the proposed number of commercial parking spaces provided by the building. This will enable our model to test the performance of these spaces against forecasted demand. A combination of suggested spaces can be generated to assist planning. Clicking the 'Suggested Spaces' button will recommend the most optimal/economic combination of dock spaces that can achieve a sufficient level of servicability.

[Suggest Spaces](#)

	No. of spaces provided	No. of spaces suggested
Small (B99, Vans, Utes)	5	5
Medium (SRV, Small Truck)	0	2
Large (MRV, HRV, Large Trucks)	1	1

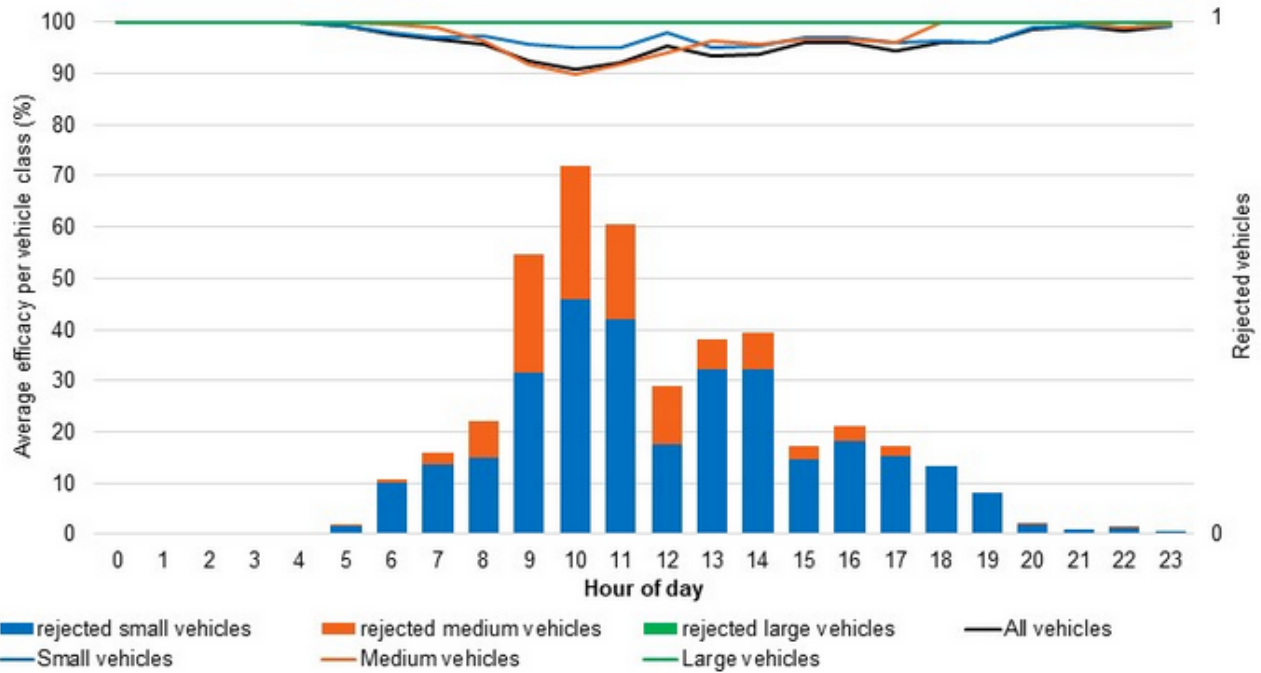
Efficacy Dashboard

This view provides a report on the service level performance of the dock to accommodate arriving vehicles. The information also states the vehicles that cannot be accommodated (rejected) by the dock.

Waterloo South Block 3

30/03/2026

Dock service level performance + unaccommodated vehicles



DOCK CONFIGURATION	
Small spaces	5
Medium spaces	0
Large spaces	1

VEHICLE ACTIVITY		
	Daily Total	Peak Hour
Vehicle arrivals (excl Bikes)	128	15
Vehicles serviced	120	13
Rejected vehicles	8	2

Courier/food bike arrivals	33	4
----------------------------	----	---

Total incl. courier/food bikes	161
--------------------------------	-----

LOADING DOCK PERFORMANCE	
Average efficacy, %	89.15

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Urban Freight Forecasting Model

A guide for forecasting freight & servicing demand and loading dock performance.

Please enter values into yellow boxes for the parameters of the building.


This model is based on traffic assessment of buildings across Sydney in 2017-22. Various analytical and statistical techniques are used to provide forecasts of freight and servicing activity.

Waterloo South Block 4

Building Information

Please enter characteristics about the building, including the floor space of each land use that the building will contain, or leave blank if unknown. Land use and size are substantial factors in determining how many freight & servicing trips a building will generate.

Number of floors	18
Commercial area, m2	1,736
Residential area, m2	0
Number of apartments	299
Number of hotel rooms	0
Retail area, m2	770

Availability of a dedicated goods lift 

Parking spaces provided by building for commercial vehicles

Please enter the proposed number of commercial parking spaces provided by the building. This will enable our model to test the performance of these spaces against forecasted demand. A combination of suggested spaces can be generated to assist planning. Clicking the 'Suggested Spaces' button will recommend the most optimal/economic combination of dock spaces that can achieve a sufficient level of servicability.

[Suggest Spaces](#)

	No. of spaces provided	No. of spaces suggested
Small (B99, Vans, Utes)	5	4
Medium (SRV, Small Truck)	2	2
Large (MRV, HRV, Large Trucks)	0	0

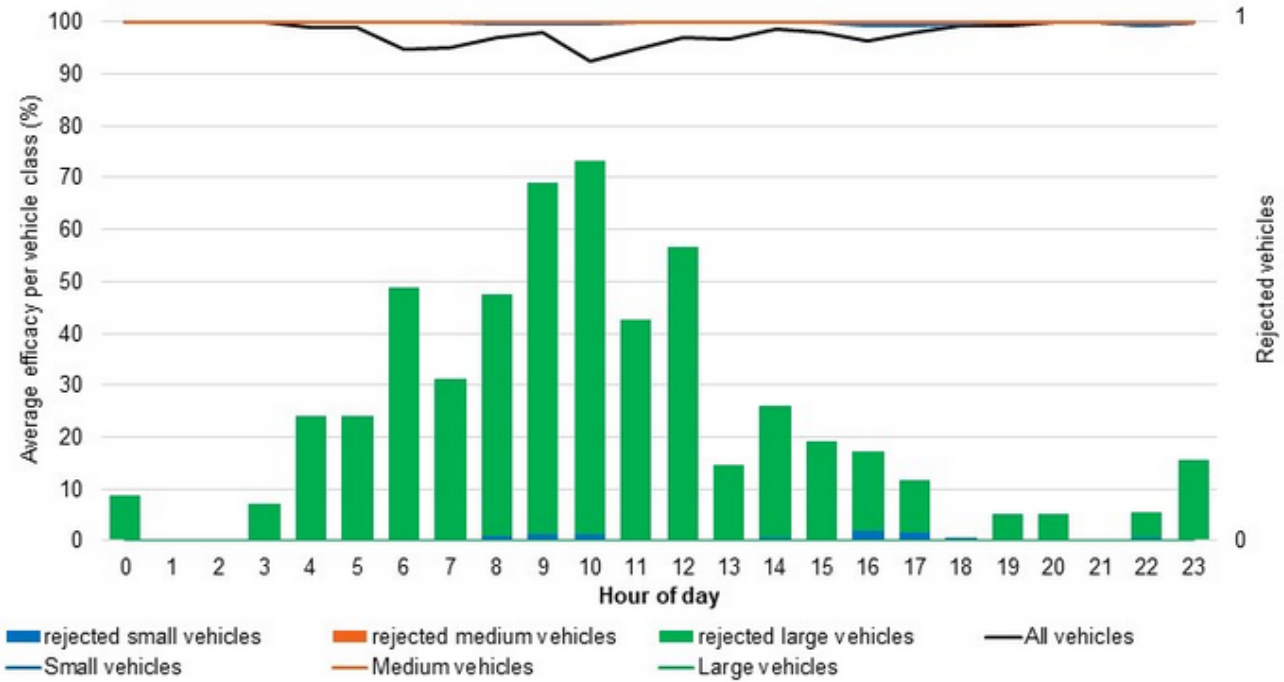
Efficacy Dashboard

This view provides a report on the service level performance of the dock to accommodate arriving vehicles. The information also states the vehicles that cannot be accommodated (rejected) by the dock.

Waterloo South Block 4

30/03/2026

Dock service level performance + unaccommodated vehicles



DOCK CONFIGURATION	
Small spaces	5
Medium spaces	2
Large spaces	0

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VEHICLE ACTIVITY		
	Daily Total	Peak Hour
Vehicle arrivals (excl Bikes)	78	9
Vehicles serviced	75	8
Rejected vehicles	3	1
Courier/food bike arrivals	20	3

Total incl. courier/food bikes	98
--------------------------------	----

LOADING DOCK PERFORMANCE	
Average efficacy, %	96.59

Urban Freight Forecasting Model

A guide for forecasting freight & servicing demand and loading dock performance.

Please enter values into yellow boxes for the parameters of the building.

This model is based on traffic assessment of buildings across Sydney in 2017-22. Various analytical and statistical techniques are used to provide forecasts of freight and servicing activity.

Waterloo South Block 5

Building Information

Please enter characteristics about the building, including the floor space of each land use that the building will contain, or leave blank if unknown. Land use and size are substantial factors in determining how many freight & servicing trips a building will generate.

Number of floors	16
Commercial area, m2	0
Residential area, m2	0
Number of apartments	218
Number of hotel rooms	0
Retail area, m2	0

Availability of a dedicated goods lift

Parking spaces provided by building for commercial vehicles

Please enter the proposed number of commercial parking spaces provided by the building. This will enable our model to test the performance of these spaces against forecasted demand. A combination of suggested spaces can be generated to assist planning. Clicking the 'Suggested Spaces' button will recommend the most optimal/economic combination of dock spaces that can achieve a sufficient level of servicability.

[Suggest Spaces](#)

	No. of spaces provided	No. of spaces suggested
Small (B99, Vans, Utes)	3	2
Medium (SRV, Small Truck)	1	2
Large (MRV, HRV, Large Trucks)	0	1

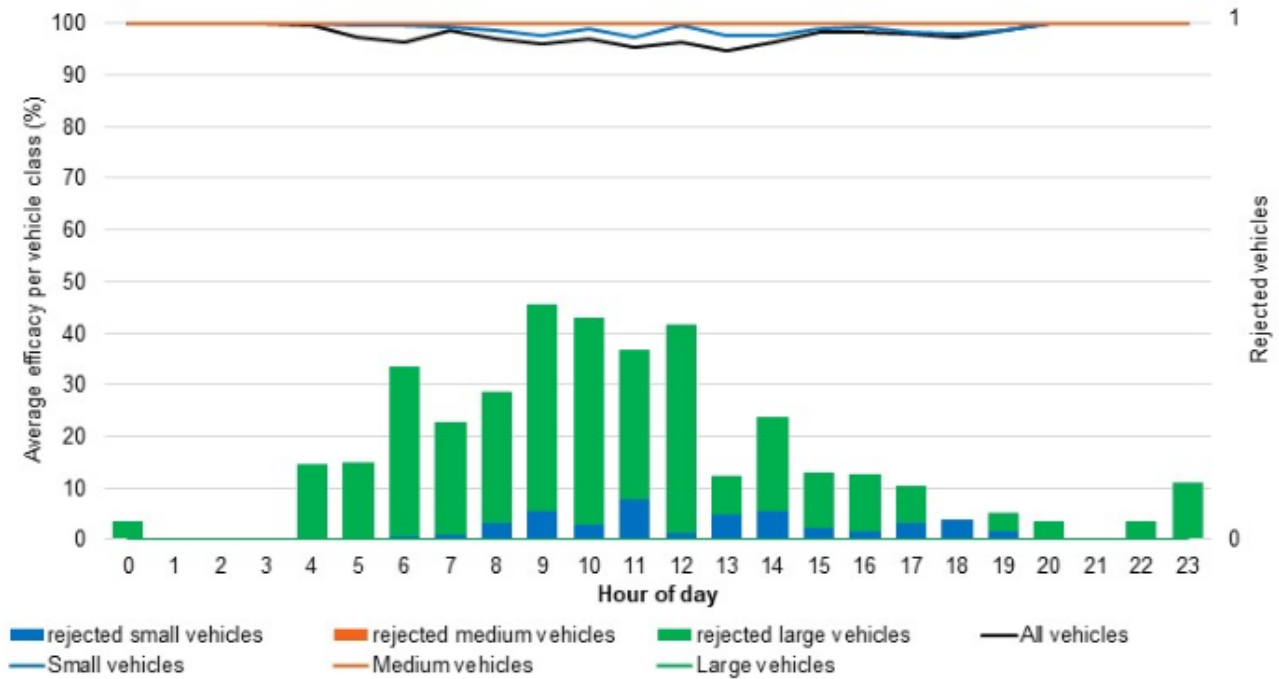
Efficacy Dashboard

This view provides a report on the service level performance of the dock to accommodate arriving vehicles. The information also states the vehicles that cannot be accommodated (rejected) by the dock.

Waterloo South Block 5

11/02/2026

Dock service level performance + unaccommodated vehicles



DOCK CONFIGURATION	
Small spaces	3
Medium spaces	1
Large spaces	0

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VEHICLE ACTIVITY		
	Daily Total	Peak Hour
Vehicle arrivals (excl Bikes)	43	5
Vehicles serviced	42	4
Rejected vehicles	1	1

Courier/food bike arrivals	12	2
----------------------------	----	---

Total incl. courier/food bikes	55
--------------------------------	----

LOADING DOCK PERFORMANCE	
Average efficacy, %	93.21

Urban Freight Forecasting Model

A guide for forecasting freight & servicing demand and loading dock performance.

Please enter values into yellow boxes for the parameters of the building.


This model is based on traffic assessment of buildings across Sydney in 2017-22. Various analytical and statistical techniques are used to provide forecasts of freight and servicing activity.

Waterloo South Block 6

Building Information

Please enter characteristics about the building, including the floor space of each land use that the building will contain, or leave blank if unknown. Land use and size are substantial factors in determining how many freight & servicing trips a building will generate.

Number of floors	18
Commercial area, m2	0
Residential area, m2	0
Number of apartments	244
Number of hotel rooms	0
Retail area, m2	0

Availability of a dedicated goods lift 

Parking spaces provided by building for commercial vehicles

Please enter the proposed number of commercial parking spaces provided by the building. This will enable our model to test the performance of these spaces against forecasted demand. A combination of suggested spaces can be generated to assist planning. Clicking the 'Suggested Spaces' button will recommend the most optimal/economic combination of dock spaces that can achieve a sufficient level of servicability.

[Suggest Spaces](#)

	No. of spaces provided	No. of spaces suggested
Small (B99, Vans, Utes)	4	3
Medium (SRV, Small Truck)	1	2
Large (MRV, HRV, Large Trucks)	0	0

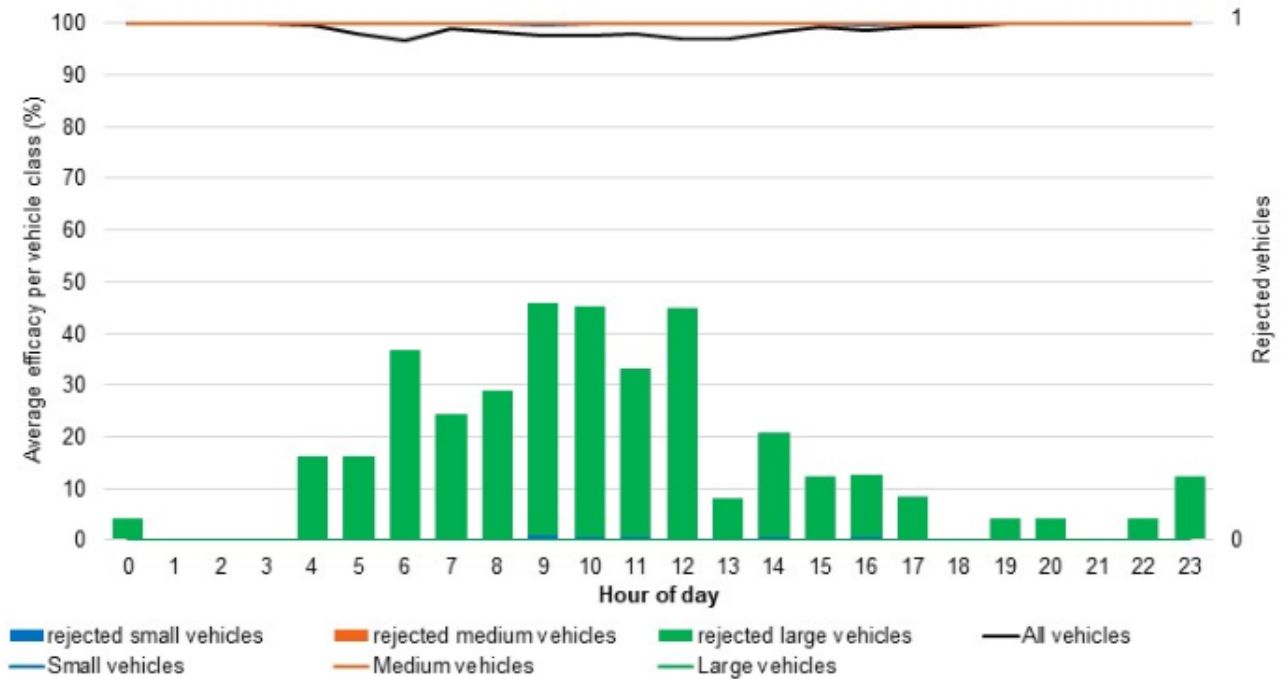
Efficacy Dashboard

This view provides a report on the service level performance of the dock to accommodate arriving vehicles. The information also states the vehicles that cannot be accommodated (rejected) by the dock.

Waterloo South Block 6

11/02/2026

Dock service level performance + unaccommodated vehicles



DOCK CONFIGURATION	
Small spaces	4
Medium spaces	1
Large spaces	0

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VEHICLE ACTIVITY		
	Daily Total	Peak Hour
Vehicle arrivals (excl Bikes)	49	6
Vehicles serviced	48	5
Rejected vehicles	1	1

Courier/food bike arrivals	13	2
----------------------------	----	---

Total incl. courier/food bikes	62
--------------------------------	----

LOADING DOCK PERFORMANCE	
Average efficacy, %	97.31

Urban Freight Forecasting Model

A guide for forecasting freight & servicing demand and loading dock performance.

Please enter values into yellow boxes for the parameters of the building.

This model is based on traffic assessment of buildings across Sydney in 2017-22. Various analytical and statistical techniques are used to provide forecasts of freight and servicing activity.

Waterloo South Block 7

Building Information

Please enter characteristics about the building, including the floor space of each land use that the building will contain, or leave blank if unknown. Land use and size are substantial factors in determining how many freight & servicing trips a building will generate.

Number of floors	26
Commercial area, m2	0
Residential area, m2	0
Number of apartments	470
Number of hotel rooms	0
Retail area, m2	0

Availability of a dedicated goods lift 

Parking spaces provided by building for commercial vehicles

Please enter the proposed number of commercial parking spaces provided by the building. This will enable our model to test the performance of these spaces against forecasted demand. A combination of suggested spaces can be generated to assist planning. Clicking the 'Suggested Spaces' button will recommend the most optimal/economic combination of dock spaces that can achieve a sufficient level of servicability.

[Suggest Spaces](#)

	No. of spaces provided	No. of spaces suggested
Small (B99, Vans, Utes)	4	4
Medium (SRV, Small Truck)	1	2
Large (MRV, HRV, Large Trucks)	1	1

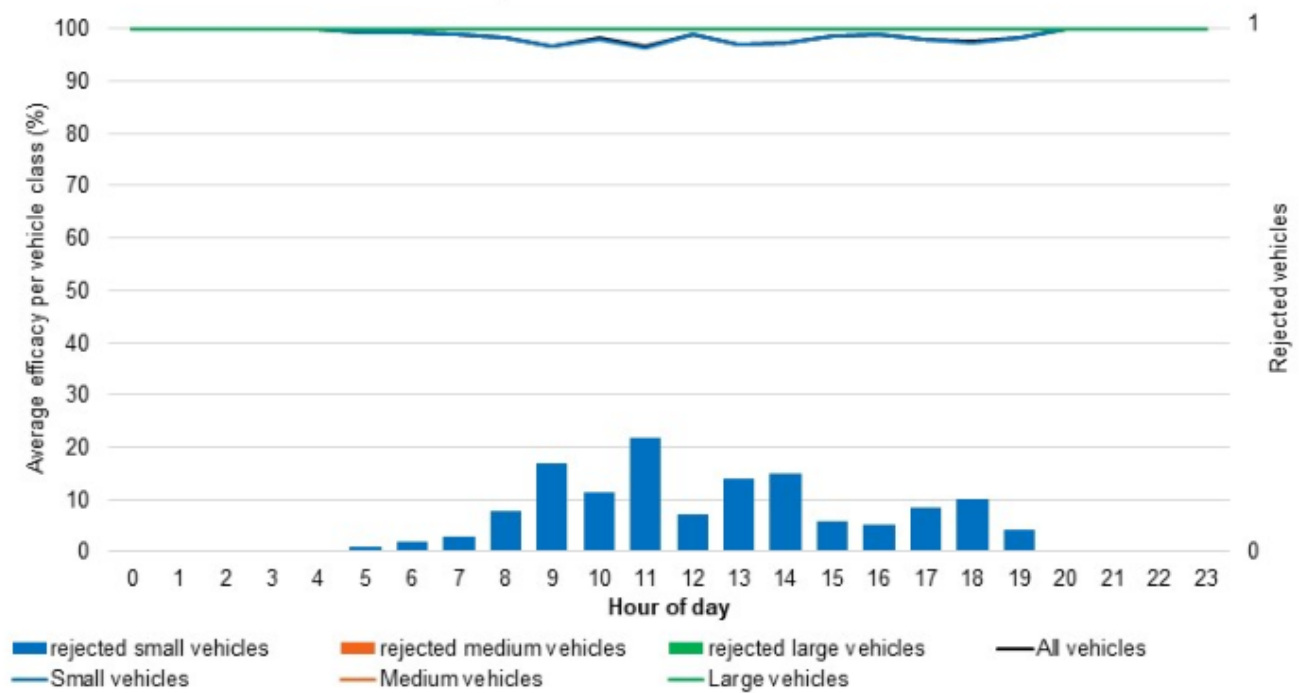
Efficacy Dashboard

This view provides a report on the service level performance of the dock to accommodate arriving vehicles. The information also states the vehicles that cannot be accommodated (rejected) by the dock.

Waterloo South Block 7

11/02/2026

Dock service level performance + unaccommodated vehicles



DOCK CONFIGURATION	
Small spaces	4
Medium spaces	1
Large spaces	1

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VEHICLE ACTIVITY		
	Daily Total	Peak Hour
Vehicle arrivals (excl Bikes)	94	11
Vehicles serviced	92	10
Rejected vehicles	2	1
Courier/food bike arrivals	26	4
Total incl. courier/food bikes	120	

LOADING DOCK PERFORMANCE	
Average efficacy, %	94.29

Urban Freight Forecasting Model

A guide for forecasting freight & servicing demand and loading dock performance.

Please enter values into yellow boxes for the parameters of the building.

This model is based on traffic assessment of buildings across Sydney in 2017-22. Various analytical and statistical techniques are used to provide forecasts of freight and servicing activity.

Waterloo South Block 8

Building Information

Please enter characteristics about the building, including the floor space of each land use that the building will contain, or leave blank if unknown. Land use and size are substantial factors in determining how many freight & servicing trips a building will generate.

Number of floors	33
Commercial area, m2	1,214
Residential area, m2	0
Number of apartments	438
Number of hotel rooms	0
Retail area, m2	1,659

Availability of a dedicated goods lift 

Parking spaces provided by building for commercial vehicles

Please enter the proposed number of commercial parking spaces provided by the building. This will enable our model to test the performance of these spaces against forecasted demand. A combination of suggested spaces can be generated to assist planning. Clicking the 'Suggested Spaces' button will recommend the most optimal/economic combination of dock spaces that can achieve a sufficient level of servicability.

[Suggest Spaces](#)

	No. of spaces provided	No. of spaces suggested
Small (B99, Vans, Utes)	4	5
Medium (SRV, Small Truck)	3	2
Large (MRV, HRV, Large Trucks)	1	1

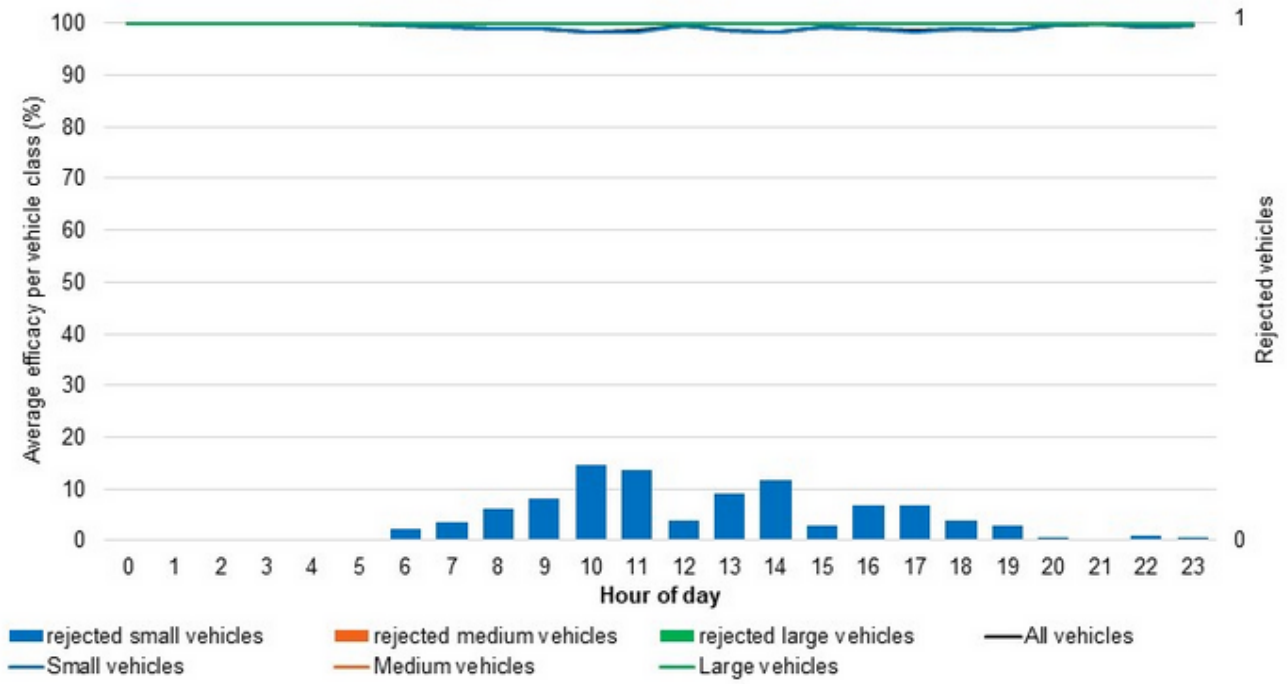
Efficacy Dashboard

This view provides a report on the service level performance of the dock to accommodate arriving vehicles. The information also states the vehicles that cannot be accommodated (rejected) by the dock.

Waterloo South Block 8

30/03/2026

Dock service level performance + unaccommodated vehicles



DOCK CONFIGURATION	
Small spaces	4
Medium spaces	3
Large spaces	1

Print pdf reports for this scenario

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VEHICLE ACTIVITY		
	Daily Total	Peak Hour
Vehicle arrivals (excl Bikes)	120	14
Vehicles serviced	119	13
Rejected vehicles	1	1

Courier/food bike arrivals	31	4
----------------------------	----	---

Total incl. courier/food bikes	151
--------------------------------	-----

LOADING DOCK PERFORMANCE	
Average efficacy, %	97.29

Urban Freight Forecasting Model

A guide for forecasting freight & servicing demand and loading dock performance.

Please enter values into yellow boxes for the parameters of the building.

This model is based on traffic assessment of buildings across Sydney in 2017-22. Various analytical and statistical techniques are used to provide forecasts of freight and servicing activity.

Waterloo South Block 9

Building Information

Please enter characteristics about the building, including the floor space of each land use that the building will contain, or leave blank if unknown. Land use and size are substantial factors in determining how many freight & servicing trips a building will generate.

Number of floors	34
Commercial area, m2	600
Residential area, m2	0
Number of apartments	504
Number of hotel rooms	0
Retail area, m2	3,659

Availability of a dedicated goods lift 

Parking spaces provided by building for commercial vehicles

Please enter the proposed number of commercial parking spaces provided by the building. This will enable our model to test the performance of these spaces against forecasted demand. A combination of suggested spaces can be generated to assist planning. Clicking the 'Suggested Spaces' button will recommend the most optimal/economic combination of dock spaces that can achieve a sufficient level of servicability.

[Suggest Spaces](#)

	No. of spaces provided	No. of spaces suggested
Small (B99, Vans, Utes)	5	6
Medium (SRV, Small Truck)	2	3
Large (MRV, HRV, Large Trucks)	1	1

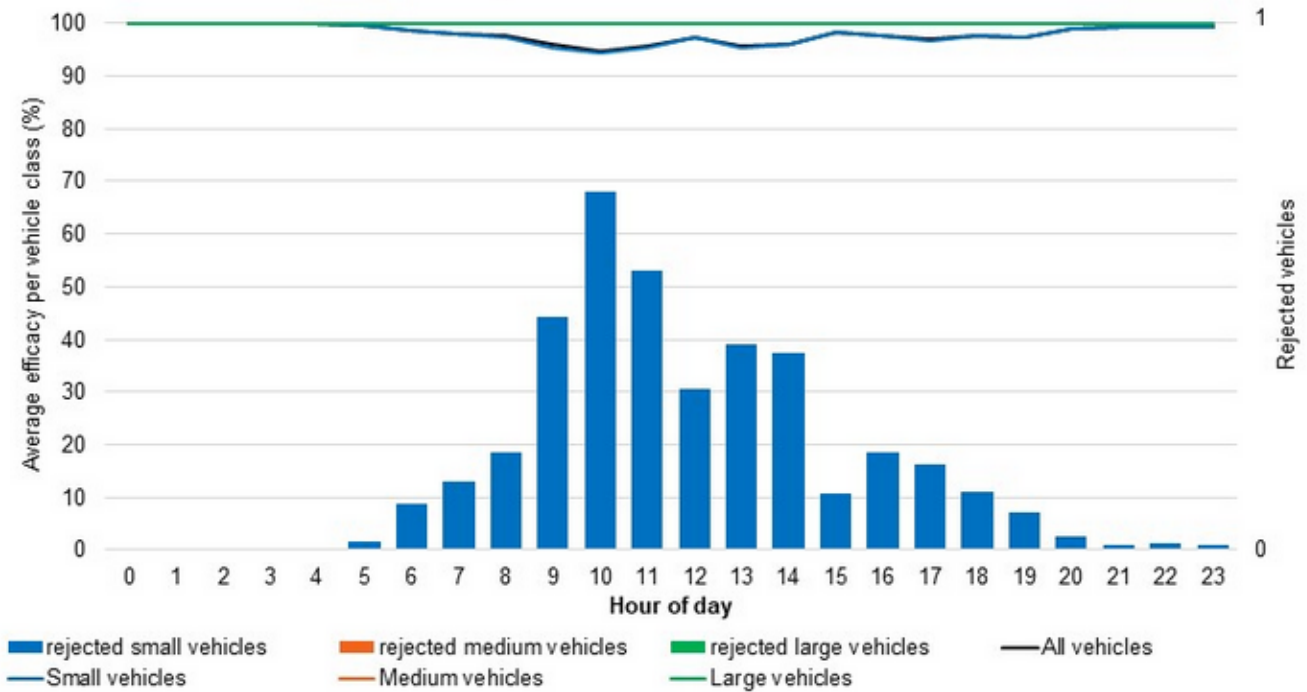
Efficacy Dashboard

This view provides a report on the service level performance of the dock to accommodate arriving vehicles. The information also states the vehicles that cannot be accommodated (rejected) by the dock.

Waterloo South Block 9

30/03/2026

Dock service level performance + unaccommodated vehicles



DOCK CONFIGURATION	
Small spaces	5
Medium spaces	2
Large spaces	1

Print pdf reports for this scenario

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VEHICLE ACTIVITY		
	Daily Total	Peak Hour
Vehicle arrivals (excl Bikes)	169	19
Vehicles serviced	163	18
Rejected vehicles	6	1

Courier/food bike arrivals	43	6
----------------------------	----	---

Total incl. courier/food bikes	212
--------------------------------	-----

LOADING DOCK PERFORMANCE	
Average efficacy, %	92.84

Urban Freight Forecasting Model

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Waterloo South Block 10

Building Information

Please enter characteristics about the building, including the floor space of each land use that the building will contain, or leave blank if unknown. Land use and size are substantial factors in determining how many freight & servicing trips a building will generate.

Number of floors	32
Commercial area, m2	0
Residential area, m2	0
Number of apartments	500
Number of hotel rooms	0
Retail area, m2	1,504

Availability of a dedicated goods lift

Parking spaces provided by building for commercial vehicles

Please enter the proposed number of commercial parking spaces provided by the building. This will enable our model to test the performance of these spaces against forecasted demand. A combination of suggested spaces can be generated to assist planning. Clicking the 'Suggested Spaces' button will recommend the most optimal/economic combination of dock spaces that can achieve a sufficient level of servicability.

[Suggest Spaces](#)

	No. of spaces provided	No. of spaces suggested
Small (B99, Vans, Utes)	5	5
Medium (SRV, Small Truck)	3	3
Large (MRV, HRV, Large Trucks)	0	1

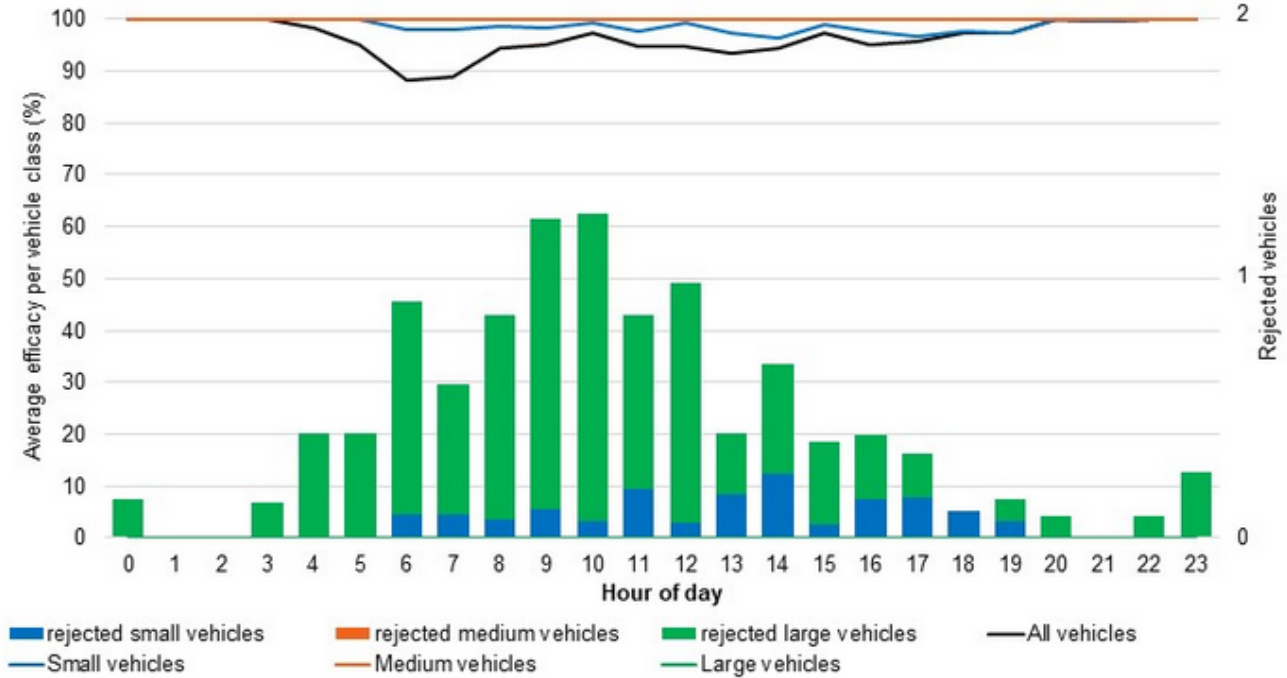
Efficacy Dashboard

This view provides a report on the service level performance of the dock to accommodate arriving vehicles. The information also states the vehicles that cannot be accommodated (rejected) by the dock.

Waterloo South Block 10

30/03/2026

Dock service level performance + unaccommodated vehicles



DOCK CONFIGURATION	
Small spaces	5
Medium spaces	3
Large spaces	0

Print pdf reports for this scenario

Print to pdf

VEHICLE ACTIVITY		
	Daily Total	Peak Hour
Vehicle arrivals (excl Bikes)	127	15
Vehicles serviced	120	14
Rejected vehicles	7	1




Courier/food bike arrivals	34	5
----------------------------	----	---

Total incl. courier/food bikes	161
--------------------------------	-----

LOADING DOCK PERFORMANCE	
Average efficacy, %	93.27

Appendix 4. Swept Path Assessment



- LEGEND**
-  TRAFFIC FLOW
 -  CAR ACCESS / EGRESS
 -  SERVICE VEHICLE ACCESS / EGRESS

NOTES:

NOT FOR CONSTRUCTION
 These drawings have been prepared for information only and are not issue for construction

SWEPT PATHS
 The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

DRAWING KEY

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Whole Site

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
 +61 2 8920 0800
 ptcconsultants.co

CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.1
PROJECT # 25-1221
SCALE 1 : 750 @ A1
 1 : 1500 @ A3

SSD
REV 11



- LEGEND**
- ▶ TRAFFIC FLOW
 - ▶ CAR ACCESS / EGRESS
 - ▶ SERVICE VEHICLE ACCESS / EGRESS

NOTES:

NOT FOR CONSTRUCTION
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SWEPT PATHS
 The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytco Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

	B99 Vehicle (Realistic min radius) (2004)	5200m
	Overall Length	1940m
	Overall Width	1878m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1.840m
	Track Width	4.025m
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	

	MRV - Medium Rigid Vehicle	8800m
	Overall Length	2500m
	Overall Width	3.633m
	Overall Body Height	0.228m
	Min Body Ground Clearance	2.500m
	Track Width	4.000m
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	

	CoS 924m Refuse Vehicle	9240m
	Overall Length	2600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.000m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

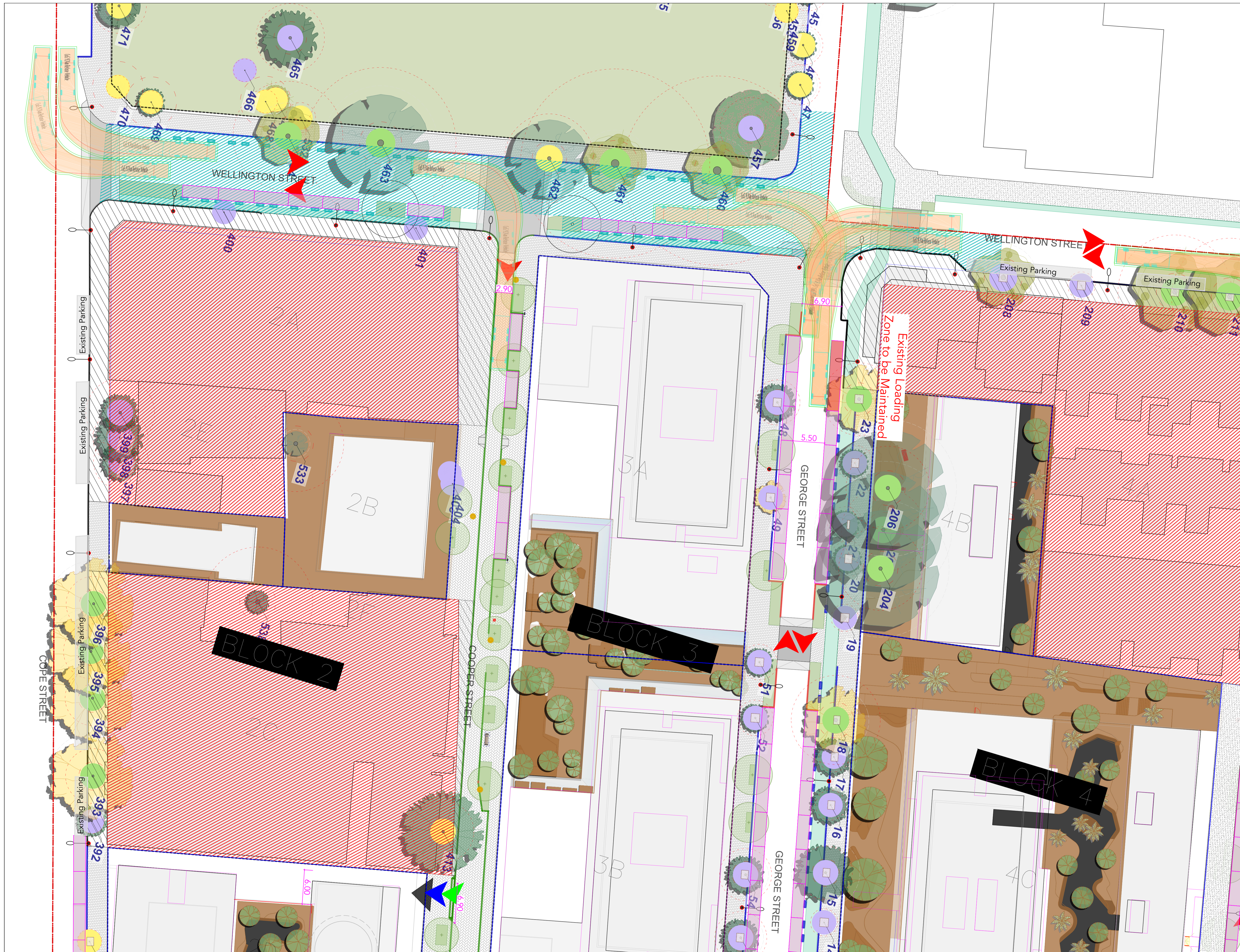
PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Precinct South West

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
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CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.2
PROJECT # 25-1221
SCALE 1 : 300 @ A1
 1 : 600 @ A3
 SSD

REV 11

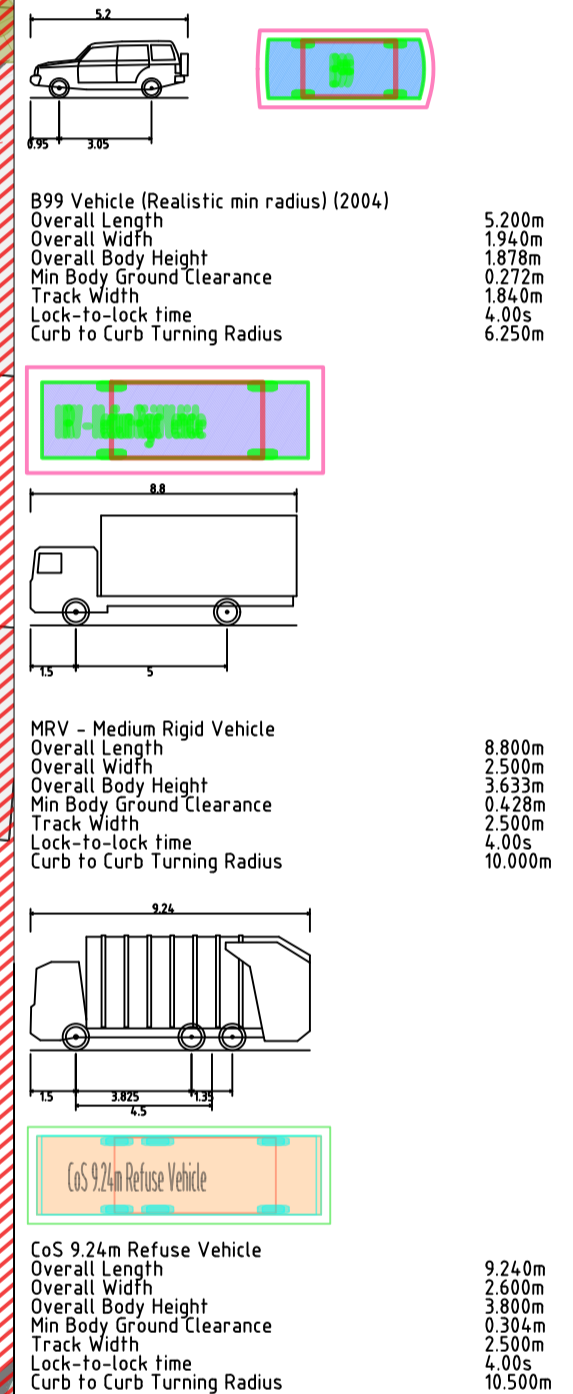


- LEGEND**
- TRAFFIC FLOW
 - CAR ACCESS / EGRESS
 - SERVICE VEHICLE ACCESS / EGRESS

NOTES:

NOT FOR CONSTRUCTION
 These drawings have been prepared for information only and are not issue for construction

SWEPT PATHS
 The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytco Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.



REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Precinct North West

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
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CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.3
PROJECT # 25-1221
SCALE 1 : 300 @ A1
 1 : 600 @ A3
 SSD

REV 11



- LEGEND**
- TRAFFIC FLOW
 - CAR ACCESS / EGRESS
 - SERVICE VEHICLE ACCESS / EGRESS

NOTES:

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SWEPT PATHS
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	B99 Vehicle (Realistic min radius) (2004)	5.200m
	Overall Length	1.940m
	Overall Width	1.878m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1.840m
	Track Width	4.025m
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	

	MRV - Medium Rigid Vehicle	8.800m
	Overall Length	2.500m
	Overall Width	3.633m
	Overall Body Height	0.428m
	Min Body Ground Clearance	2.500m
	Track Width	4.000m
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	

	CoS 9.24m Refuse Vehicle	9.240m
	Overall Length	2.600m
	Overall Width	3.800m
	Overall Body Height	0.300m
	Min Body Ground Clearance	2.500m
	Track Width	4.000m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

PROJECT
 WATERLOO PRECINCT




DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Precinct South East

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 North Sydney NSW 2060
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CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.4
PROJECT # 25-1221
SCALE 1 : 300 @ A1
 1 : 600 @ A3
 SSD

REV 11

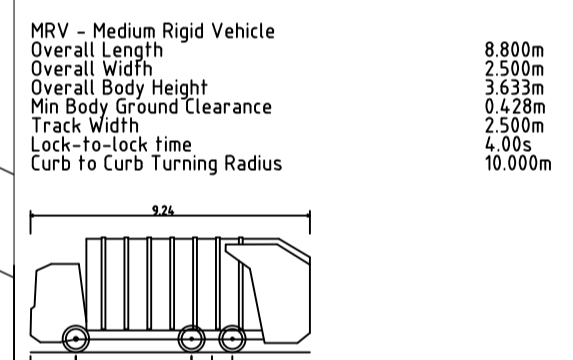
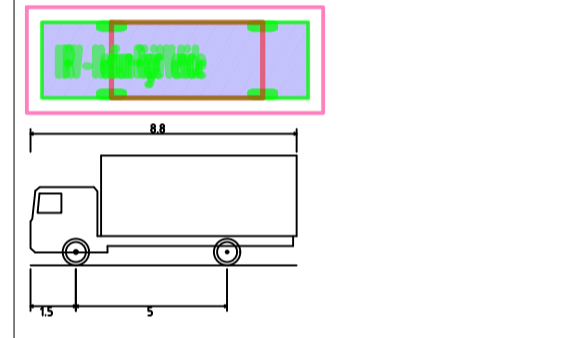
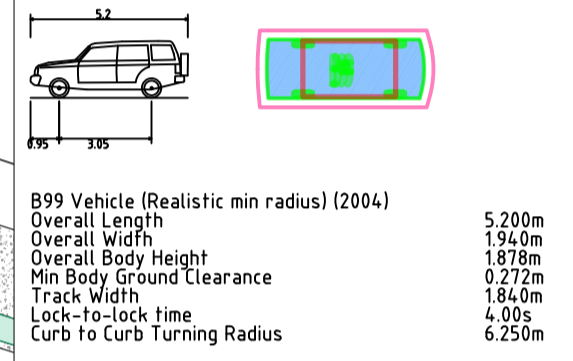


- LEGEND**
-  TRAFFIC FLOW
 -  CAR ACCESS / EGRESS
 -  SERVICE VEHICLE ACCESS / EGRESS

NOTES:

NOT FOR CONSTRUCTION
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SWEPT PATHS
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REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

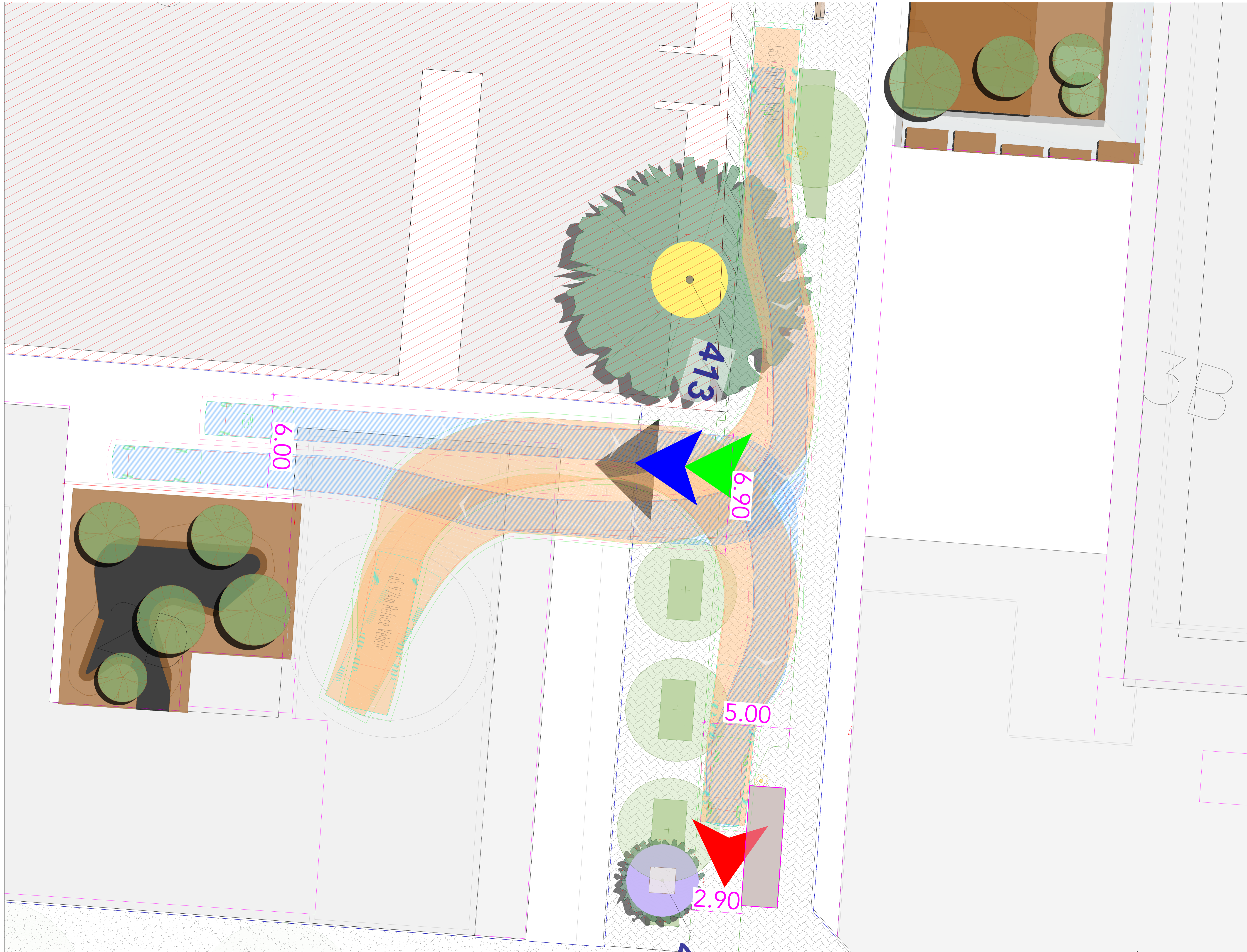
PROJECT	
WATERLOO PRECINCT	

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Precinct - North East

ptc. Suite 502, 1 James Place
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 +61 2 8920 0800
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CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.3
PROJECT # 25-1221
SCALE 1 : 300 @ A1
 1 : 600 @ A3

SSD
REV 11



- LEGEND**
- ▶ TRAFFIC FLOW
 - ▶ CAR ACCESS / EGRESS
 - ▶ SERVICE VEHICLE ACCESS / EGRESS

NOTES:

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SWEPT PATHS
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	B99 Vehicle (Realistic min radius) (2004)	5.200m
	Overall Length	1.940m
	Overall Width	1.878m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1.840m
	Track Width	1.905m
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	
	MRV - Medium Rigid Vehicle	8.800m
	Overall Length	2.500m
	Overall Width	3.633m
	Overall Body Height	0.428m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	
	CoS 9.24m Refuse Vehicle	9.240m
	Overall Length	2.600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

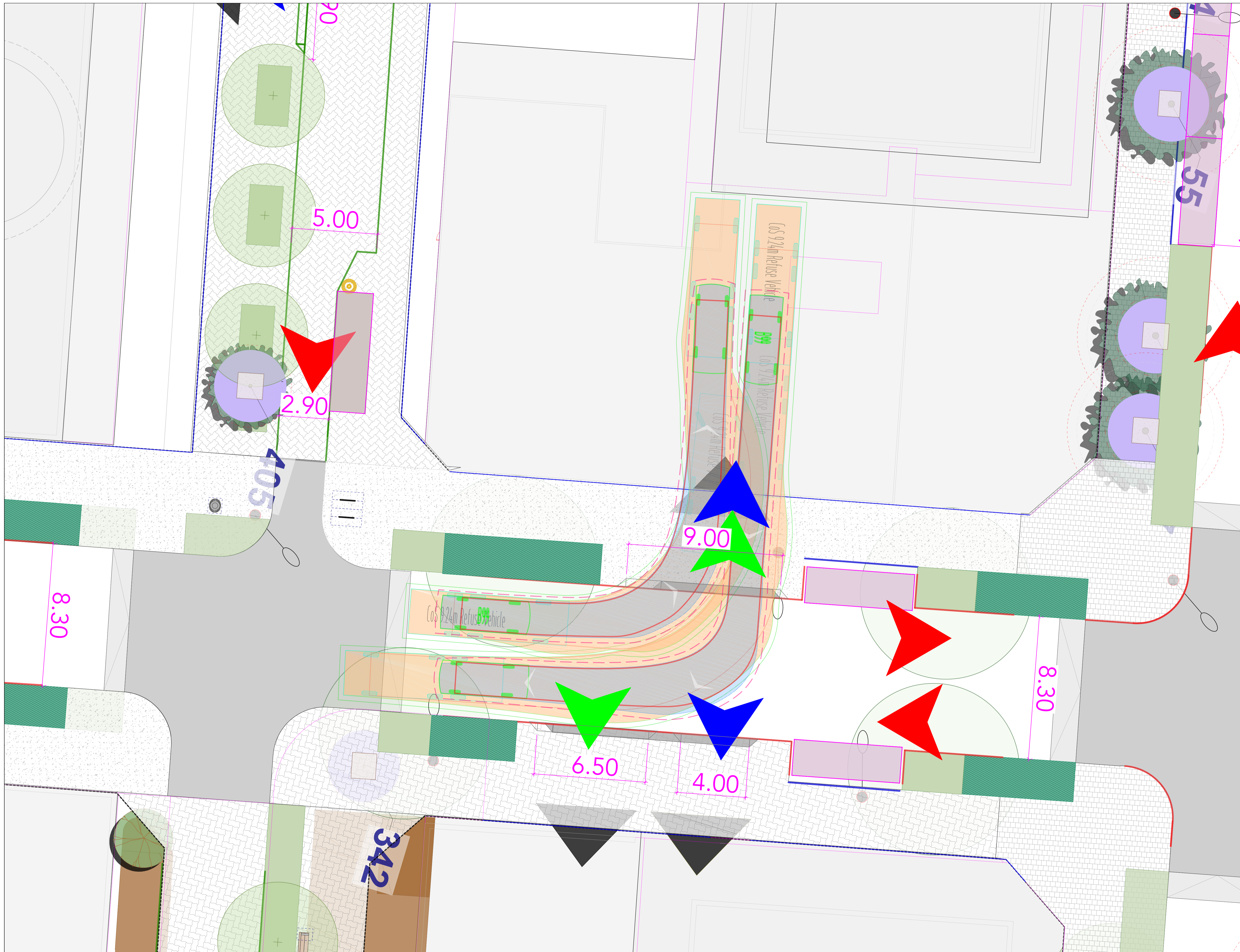
PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Block 2
 Access & Egress

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
 +61 2 8920 0800
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CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.6
PROJECT # 25-1221
SCALE 1 : 100 @ A1
 1 : 200 @ A3

SSD
REV 11



- LEGEND**
- TRAFFIC FLOW
 - CAR ACCESS / EGRESS
 - SERVICE VEHICLE ACCESS / EGRESS

NOTES:

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SWEPT PATHS
 The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

	B99 Vehicle (Realistic min radius) (2004)	5.200m
	Overall Length	1.940m
	Overall Width	1.878m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1.840m
	Track Width	4.005m
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	

	MRV - Medium Rigid Vehicle	8.800m
	Overall Length	2.500m
	Overall Width	3.633m
	Overall Body Height	0.220m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	

	CoS 924m Refuse Vehicle	9.240m
	Overall Length	2.600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

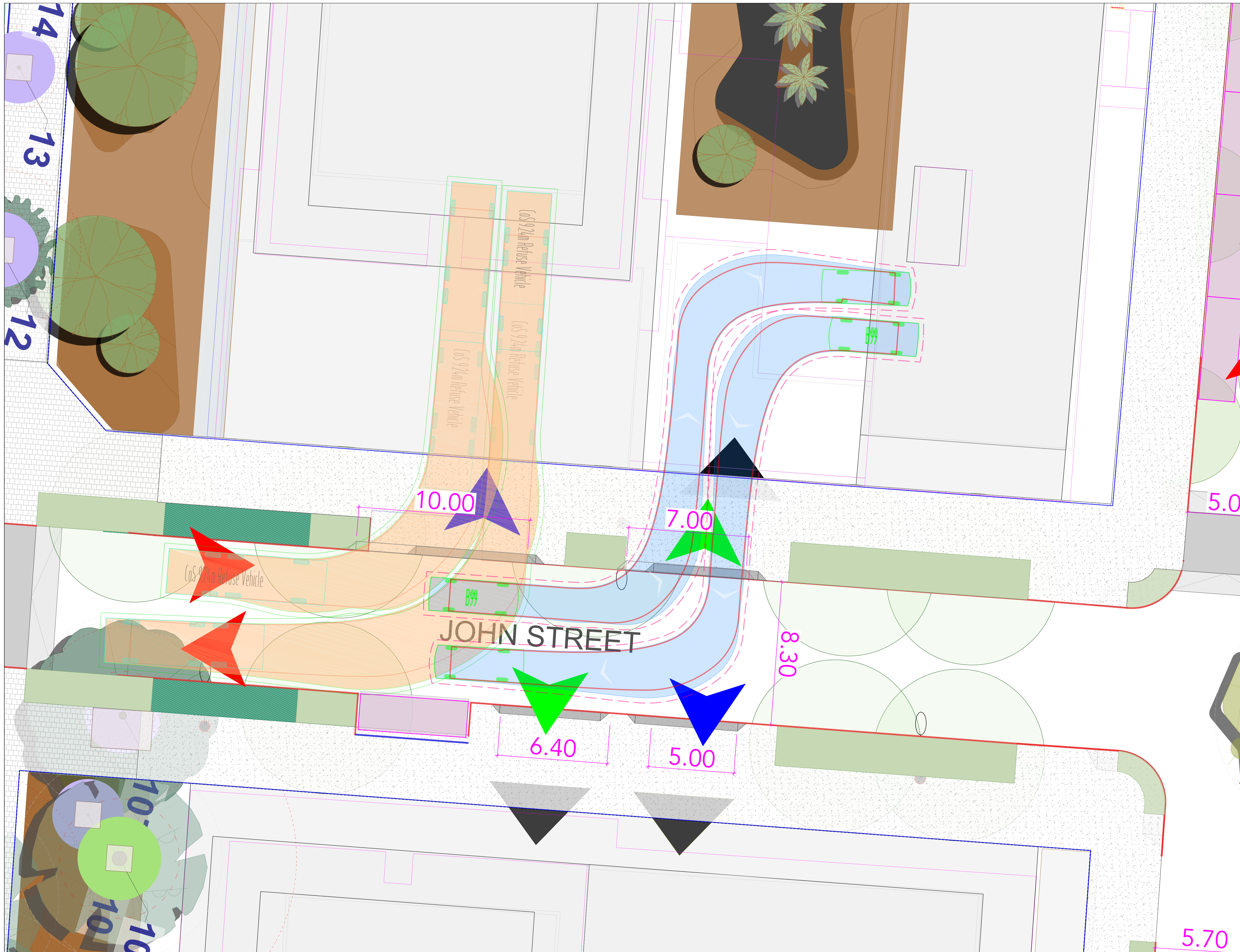
PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Block 3
 Access & Egress

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
 +61 2 8920 0800
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CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.18
PROJECT # 25-1221
SCALE 1 : 100 @ A1
 1 : 200 @ A3

SSD
REV 11



- LEGEND**
- TRAFFIC FLOW
 - CAR ACCESS / EGRESS
 - SERVICE VEHICLE ACCESS / EGRESS

NOTES:

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SWEPT PATHS
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	B99 Vehicle (Realistic min radius) (2004)	5.200m
	Overall Length	1.940m
	Overall Width	1.878m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1.840m
	Track Width	4.025m
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	

	MRV - Medium Rigid Vehicle	8.800m
	Overall Length	2.500m
	Overall Width	3.633m
	Overall Body Height	0.228m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	

	CoS 924m Refuse Vehicle	9.240m
	Overall Length	2.600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

	CoS 524m Refuse Vehicle	5.240m
	Overall Length	2.600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE	SW	AM

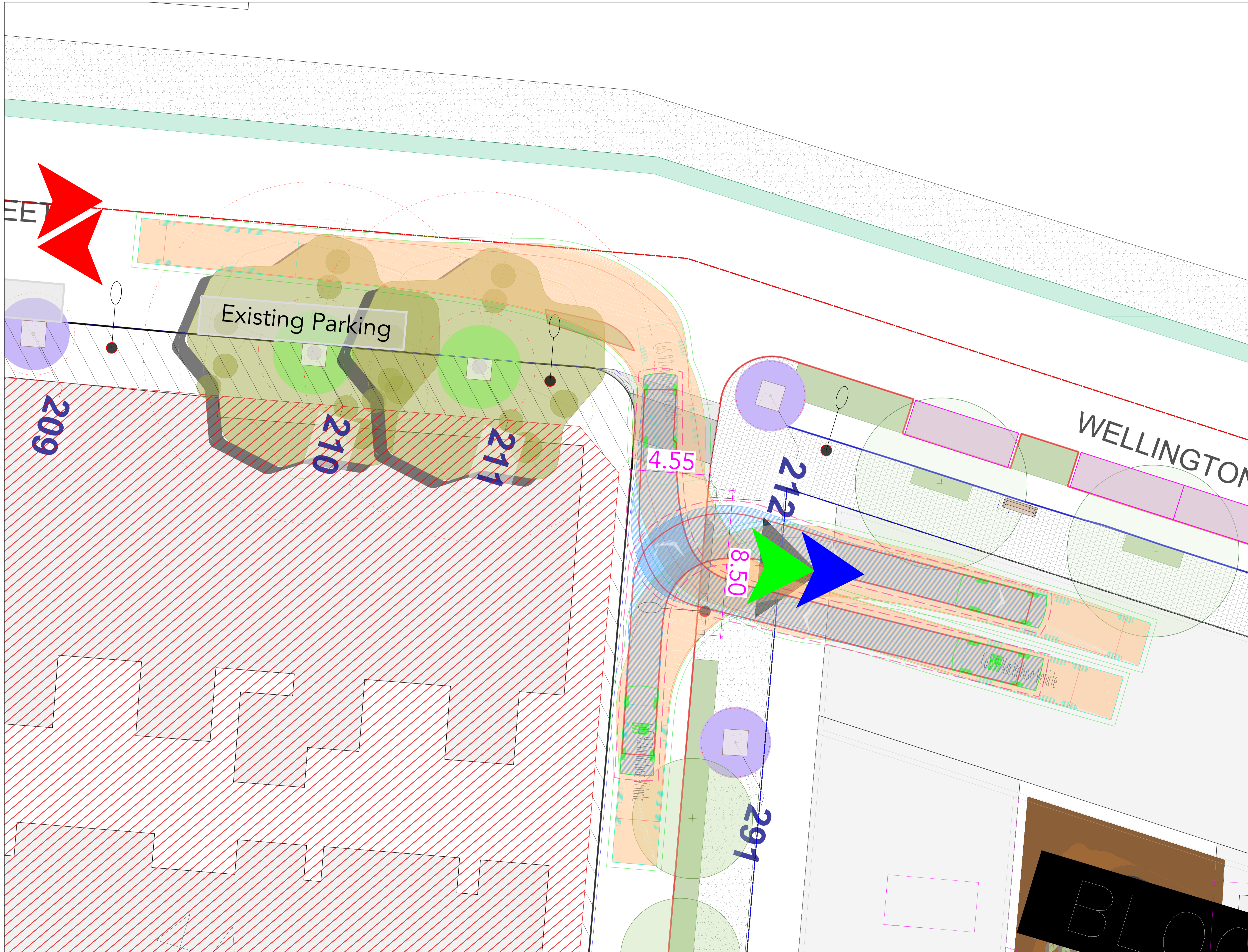
PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Block 4
 Access & Egress

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
 +61 2 8920 0800
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CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02_114
PROJECT # 25-1221
SCALE 1 : 100 @ A1
 1 : 200 @ A3

SSD
REV 11



- LEGEND**
- TRAFFIC FLOW
 - CAR ACCESS / EGRESS
 - SERVICE VEHICLE ACCESS / EGRESS

NOTES:

NOT FOR CONSTRUCTION
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SWEPT PATHS
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	B99 Vehicle (Realistic min radius) (2004)	5.200m
	Overall Length	1.940m
	Overall Width	1.870m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1.840m
	Track Width	4.025m
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	

	MRV - Medium Rigid Vehicle	8.800m
	Overall Length	2.500m
	Overall Width	3.633m
	Overall Body Height	0.228m
	Min Body Ground Clearance	2.500m
	Track Width	4.000m
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	

	CoS 924m Refuse Vehicle	9.240m
	Overall Length	2.600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	AM	

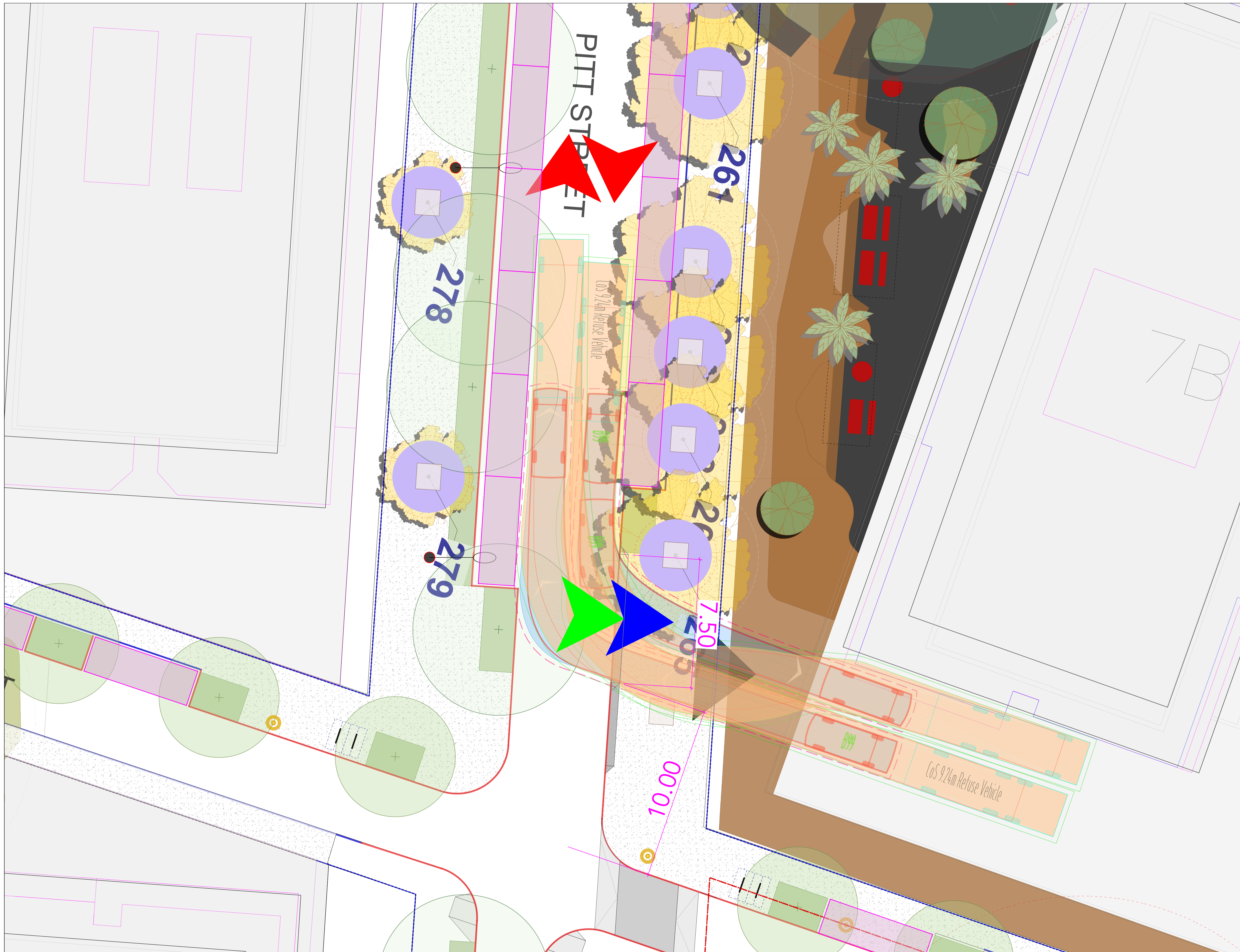
PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Block 5
 Access & Egress

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
 +61 2 8920 0800
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CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.1b
PROJECT # 25-1221
SCALE 1 : 100 @ A1
 1 : 200 @ A3

SSD
REV 11



- LEGEND**
- TRAFFIC FLOW
 - CAR ACCESS / EGRESS
 - SERVICE VEHICLE ACCESS / EGRESS

NOTES:

NOT FOR CONSTRUCTION
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SWEPT PATHS
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	B99 Vehicle (Realistic min radius) (2004)	5.200m
	Overall Length	1.940m
	Overall Width	1.878m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1.840m
	Track Width	4.025m
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	

	MRV - Medium Rigid Vehicle	8.800m
	Overall Length	2.500m
	Overall Width	3.633m
	Overall Body Height	0.228m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	

	CoS 9.24m Refuse Vehicle	9.240m
	Overall Length	2.600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

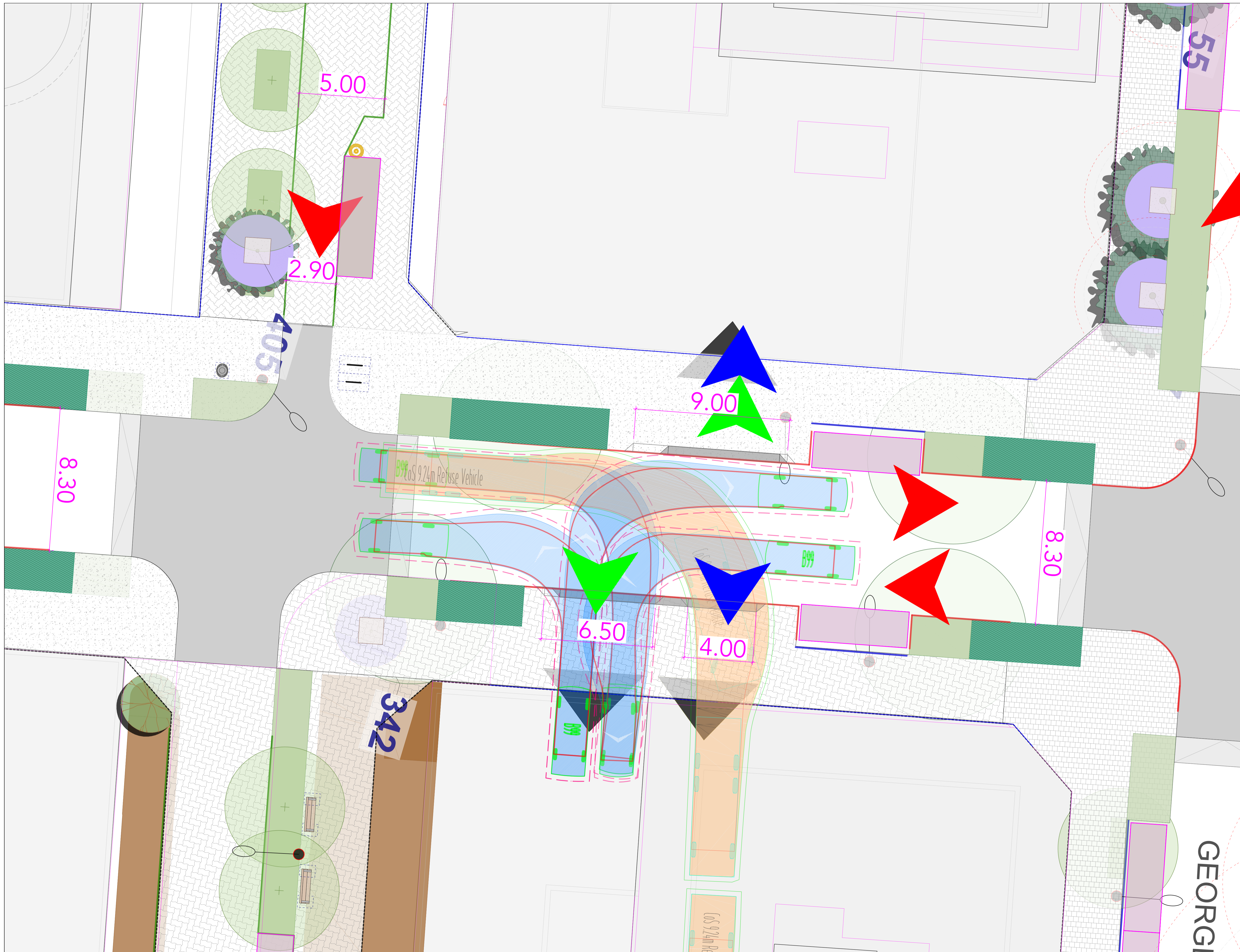
PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Block 7
 Access & Egress

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
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CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.10
PROJECT # 25-1221
SCALE 1 : 100 @ A1
 1 : 200 @ A3

SSD
REV 11



- LEGEND**
- TRAFFIC FLOW
 - CAR ACCESS / EGRESS
 - SERVICE VEHICLE ACCESS / EGRESS

NOTES:

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SWEPT PATHS
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	B99 Vehicle (Realistic min radius) (2004)	5.200m
	Overall Length	1.940m
	Overall Width	1.870m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1.840m
	Track Width	4.025m
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	

	MRV - Medium Rigid Vehicle	8.800m
	Overall Length	2.500m
	Overall Width	3.633m
	Overall Body Height	0.228m
	Min Body Ground Clearance	2.500m
	Track Width	4.000m
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	

	CoS 924m Refuse Vehicle	9.240m
	Overall Length	2.600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

PROJECT				
WATERLOO PRECINCT				
DRAWING TITLE				
PRECINCT PARKING STRATEGY Block 8 Access & Egress				

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
 +61 2 8920 0800
 ptcconsultants.co

CLIENT STOCKLANDS

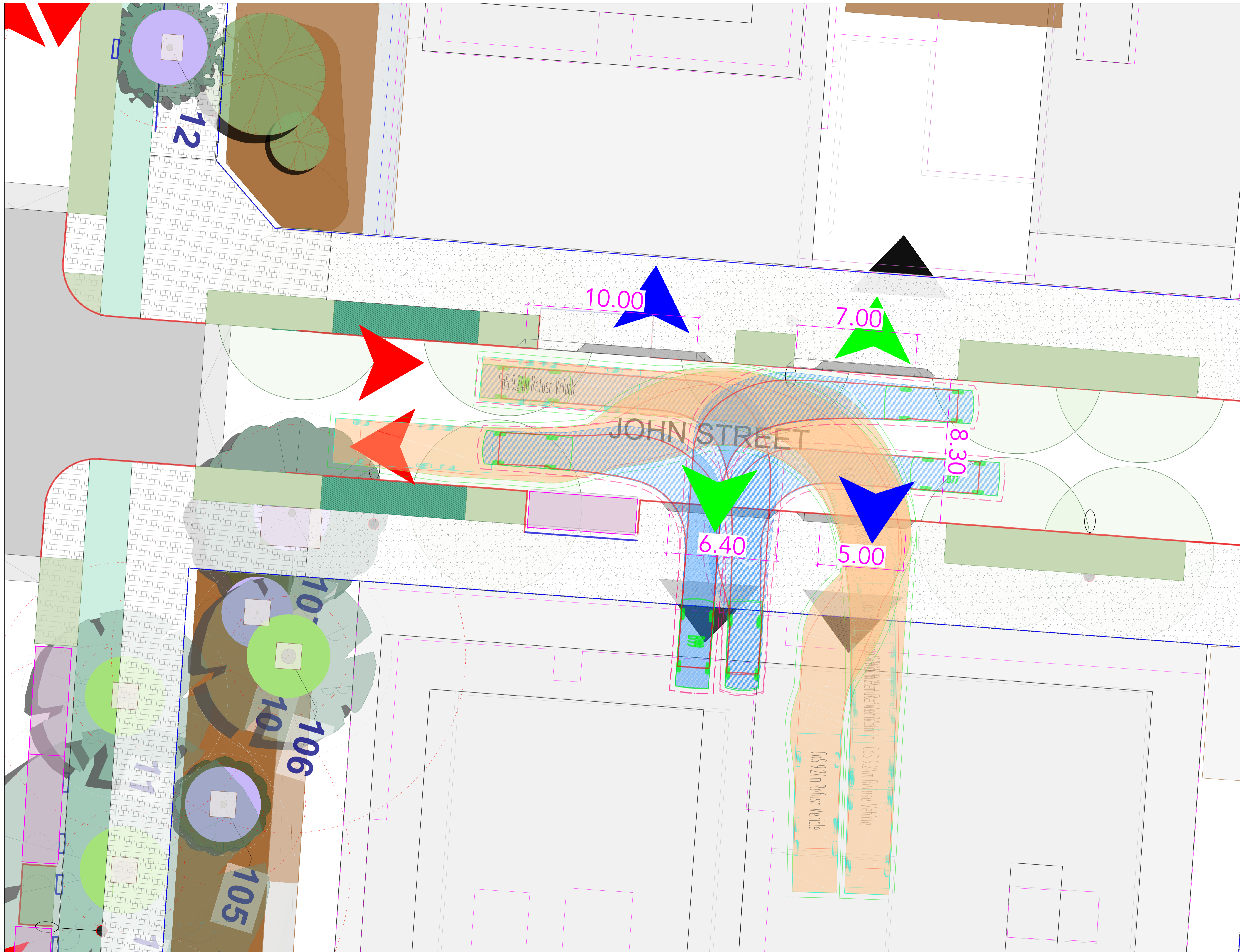
DRAWING # ptcT_DWG_SSD02.18

PROJECT # 25-1221

SCALE 1 : 100 @ A1
 1 : 200 @ A3

SSD

REV 11



- LEGEND**
- TRAFFIC FLOW
 - CAR ACCESS / EGRESS
 - SERVICE VEHICLE ACCESS / EGRESS

NOTES:

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SWEPT PATHS
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	B99 Vehicle (Realistic min radius) (2004)	5.200m
	Overall Length	1.940m
	Overall Width	1.878m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1.840m
	Track Width	4.025m
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	

	MRV - Medium Rigid Vehicle	8.800m
	Overall Length	2.500m
	Overall Width	3.633m
	Overall Body Height	0.228m
	Min Body Ground Clearance	2.500m
	Track Width	4.000m
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	

	CoS 924m Refuse Vehicle	9.240m
	Overall Length	2.600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.005m
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE SW	SW	AM

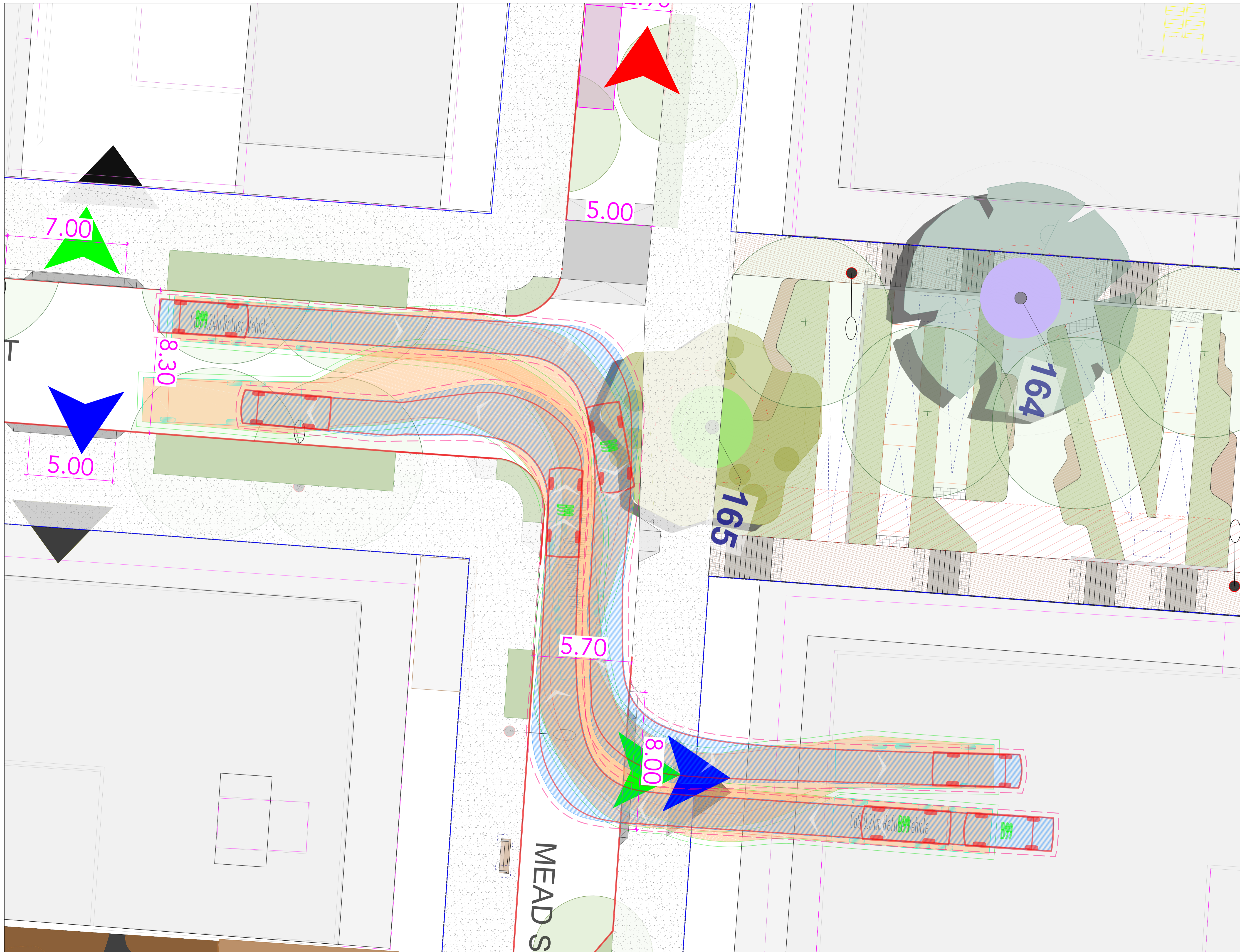
PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Block 9
 Access & Egress

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
 +61 2 8920 0800
 ptcconsultants.co

CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.19
PROJECT # 25-1221
SCALE 1 : 100 @ A1
 1 : 200 @ A3

SSD
REV 11



- LEGEND**
- TRAFFIC FLOW
 - CAR ACCESS / EGRESS
 - SERVICE VEHICLE ACCESS / EGRESS

NOTES:

NOT FOR CONSTRUCTION
 These drawings have been prepared for information only and are not issue for construction

SWEPT PATHS
 The turning paths illustrated in this drawing have been prepared using the Autotrack vehicle modelling software in conjunction with AutoCAD. The vehicle model was prepared by Analytico Pty Ltd based upon vehicle data provided by Austroads. While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

	B99 Vehicle (Realistic min radius) (2004)	5200m
	Overall Length	1940m
	Overall Width	1878m
	Overall Body Height	0.272m
	Min Body Ground Clearance	1840m
	Track Width	4.05s
	Lock-to-lock time	6.250m
	Curb to Curb Turning Radius	
	MRV - Medium Rigid Vehicle	8800m
	Overall Length	2500m
	Overall Width	3.633m
	Overall Body Height	0.428m
	Min Body Ground Clearance	2.500m
	Track Width	4.00s
	Lock-to-lock time	10.000m
	Curb to Curb Turning Radius	
	CoS 9.24m Refuse Vehicle	9240m
	Overall Length	2600m
	Overall Width	3.800m
	Overall Body Height	0.306m
	Min Body Ground Clearance	2.500m
	Track Width	4.00s
	Lock-to-lock time	10.500m
	Curb to Curb Turning Radius	

REV	DATE	DESCRIPTION	DRAWN	REVIEWED
11	04/02/26	SSDA	SW	AM
10	18/12/25	DRAFT SSDA	SW	AM
8	27/11/25	COOPER & WEST ST	SW	AM
7	19/11/25	COOPER & WEST ST	SW	AM
5	13/11/25	BLOCK 8 ADJUSTMENTS	SW	AM
4	10/11/25	UPDATED LAYOUT	SW	AM
3	03/11/25	UPDATED COOPER PLACE	SW	AM

PROJECT
 WATERLOO PRECINCT

DRAWING TITLE
 PRECINCT PARKING STRATEGY
 Block 10
 Access & Egress

ptc. Suite 502, 1 James Place
 North Sydney NSW 2060
 +61 2 8920 0800
 ptcconsultants.co

CLIENT STOCKLANDS
DRAWING # ptcT_DWG_SSD02.20
PROJECT # 25-1221
SCALE 1 : 100 @ A1
 1 : 200 @ A3

SSD
REV 11

Appendix 5. Accessible Consultant Parking Rate Extract

30 September 2025

Martin Hills
Stockland
Level 25, 133 Castlereagh Street
Sydney
NSW 2000
Martin.Hills@stockland.com.au

RE: Waterloo South Estate – Block 8 & 9 Development Accessible Car Parking Provision

Dear Martin,

I refer to our previous commentary in regard to the accessible car parking requirements to the development and would formally set out the DCP requirements initially and then our proposed considerations:

- i. The Waterloo South Design Guide references Clause 3.12.2 of the Sydney DCP, which is titled 'Adaptable dwelling mix'. This Clause seeks for 15% of all apartments to be adaptable.
- ii. The Design Guide additionally seeks for 100% of the remaining units to meet Silver (85%) and Gold (15%) level of the Liveable Housing Association (LHA) Guidelines. This element does not talk to car parking requirements however with the adaptability piece referred to concerning the apartment itself and the provision of wall structure to allow for future functionality – i.e. able to install grabrails in the bathroom.
- iii. It is broadly recognised that in providing 15% of apartments to be adaptable, this meets the parallel requirements of LHA Gold by default.
- iv. Based on the 15% Adaptability requirement, Block 8 requires 91 adaptable units (based on 603 units overall); and Block 9 requires 73 adaptable units (based on 485 units overall).

In understanding the number of adaptable units required within the development I'd move onto the car parking provision requirements:

- i. Clause 7.8.5 of the DCP – in calling up Schedule 7 of the DCP – seeks for each Adaptable Unit to be provided with an accessible car parking space. Accordingly, an equivalent number of accessible parking bays are required to serve each unit.
- ii. It is recognised that the LHA Guidelines do not set out any car parking provision / numbers and as such there is no further accessible parking provision sought for the LHA units.

With the above defined, it is recognised that there is a desire to rationalise the number of accessible parking bays provided, recognising they are a sizeable impact on basement floor area by virtue of the typical common 2400mm shared space in essence another parking bay.

Jensen Hughes Pty Limited
ABN 29 077 183 192

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One of the four principles of the Adaptable Housing Standard, and to a lesser extent the Liveable Housing Guidelines, is to ensure that residents have the ability to age in place, with the residence able to be adapted over that time to address their specific needs / layout requirements.

As we have noted previously, the primary intent of an adaptable unit is for it to be designed to cater for residents in wheelchairs. However, available statistics indicate that the general population requiring a wheelchair is recognised to be much less than 15% of the community. The Australian Institute of Health and Welfare have stated that approximately 20% of the Australian population have a permanent disability, with 4% of those with a permanent disability requiring a wheelchair.

Accordingly, recognising the intent of the Adaptable Housing I'd confirm we recognise and are in agreement that there is a supporting methodology that would afford a rationalisation of accessible car parking provision from the 91 and 73 currently required. Our initial consideration would be to present to Council a level of rationalisation, with an opening consideration of 4% (per the above) in lieu of 15%, which would result in 25 and 20 bays to Block 8 and 9 respectively.

Tangentially, there is historic confusion in parking type for adaptable housing car parking design as:

- AS 4299 (1995) Adaptable Housing Standard seeks for accessible parking bays to be 3800mm wide, which aligns with historic requirements under AS 2890 suite of Standards
- AS 2890.6 (2009) Off-street parking for people with disabilities, takes a more broader modern interpretation and seeks the 2400mm wide bay with a 2400mm shared space – as is currently detailed on the plans reviewed.

It would be prudent to formalise this consideration too as part of the process, recognising AS 2890 represents a more considered approach, recognising AS 4299 is a thirty-year-old standard and the thinking as to means of circulation has evolved in that time and would be prudent to use more current Standards.

I trust the above is clear, naturally we are happy to be involved in discussions with Council to discuss and understand what level of rationalisation they are willing to support. It is recognised rationalised provision of the overall percentage of adaptable units have been supported in previous residential developments to varying extents. It should be stressed in this instance however the rationalisation is to extend to the parking provision only and as such still meets the broad intent of the DCP.

Yours sincerely

Jensen Hughes

Senan Mescall
Vice President, Code & Accessibility – Pacific Region

Appendix 6. ASPECT Studios Public Domain Coordination Plans

PLANS AND SECTIONS FOR COORDINATION

WATERLOO PUBLIC DOMAIN PLAN

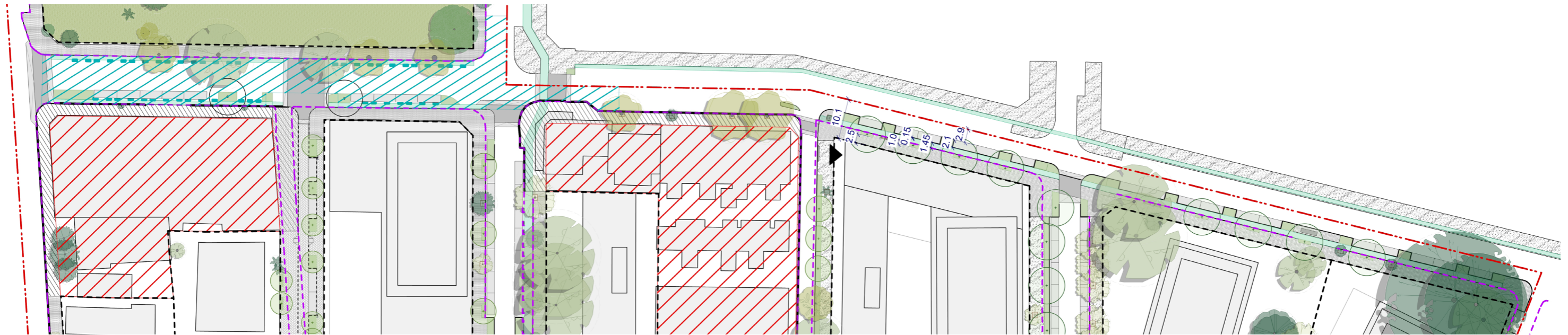
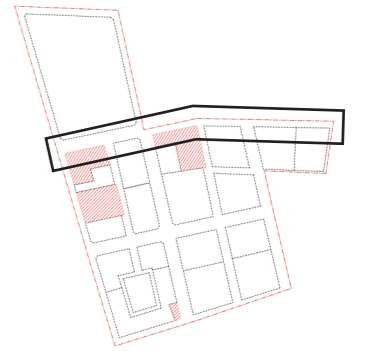
FEBRUARY 4TH 2026
FOR INFORMATION

PROJECT #	WATERLOO PUBLIC DOMAIN PLAN
STATUS	FOR INFORMATION
ISSUE	3
DATE	
PREPARED BY	BM
APPROVED BY	LN / TD

Overall Site



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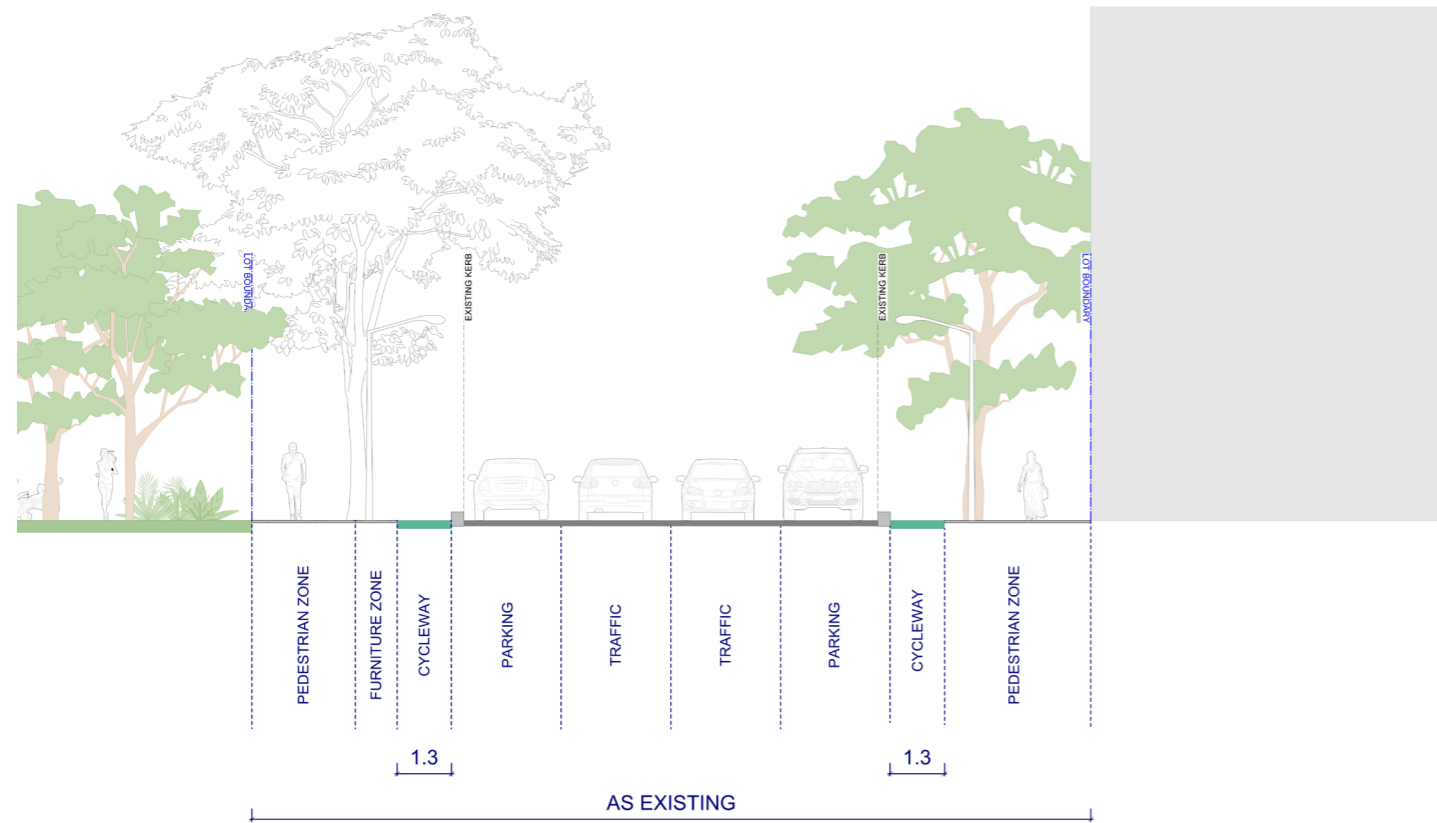


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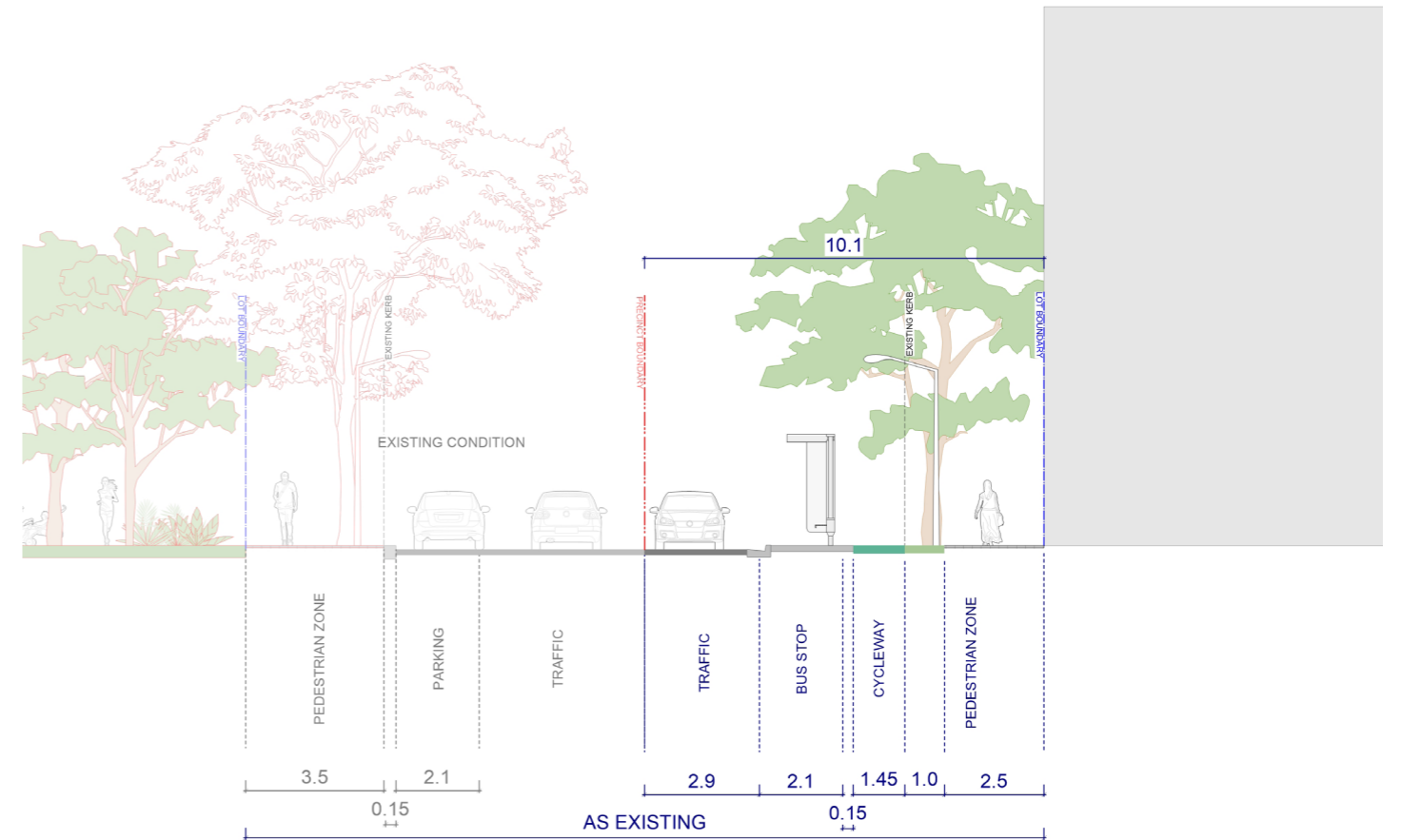
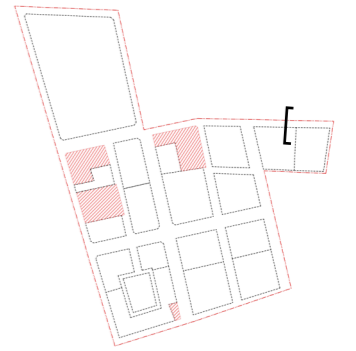
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- Planting
- Cycleway
- Raised pedestrian crossing
- Car Parking Space
- Vehicle access point
- Lot Boundary
- Building footprint
- Existing Kerb Line
- Bike Rack
- Furniture
- Bin
- Traffic sign
- Electrical Pillar
- Light Pole

Wellington Street - West

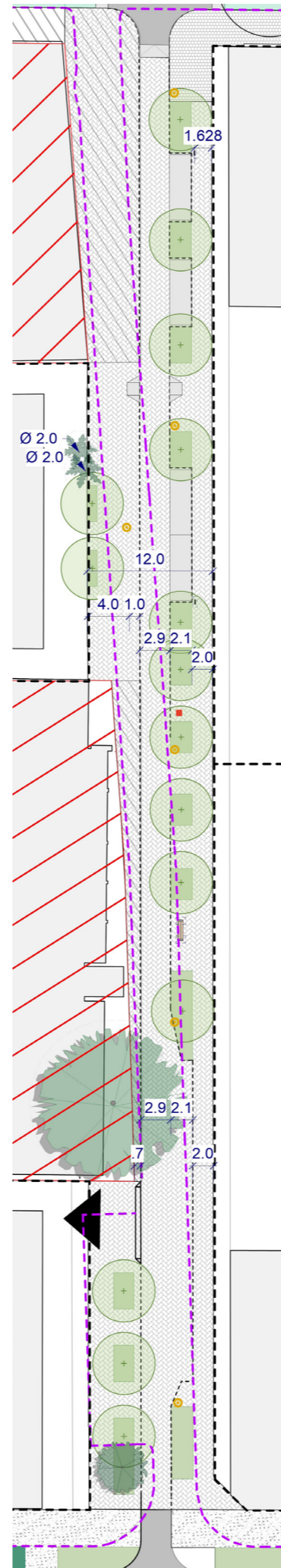
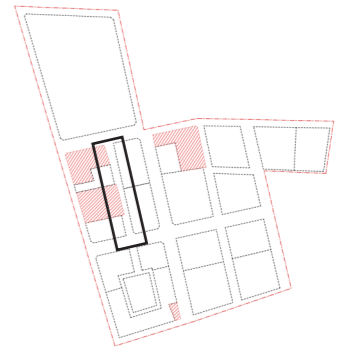
Design Guide



Proposal



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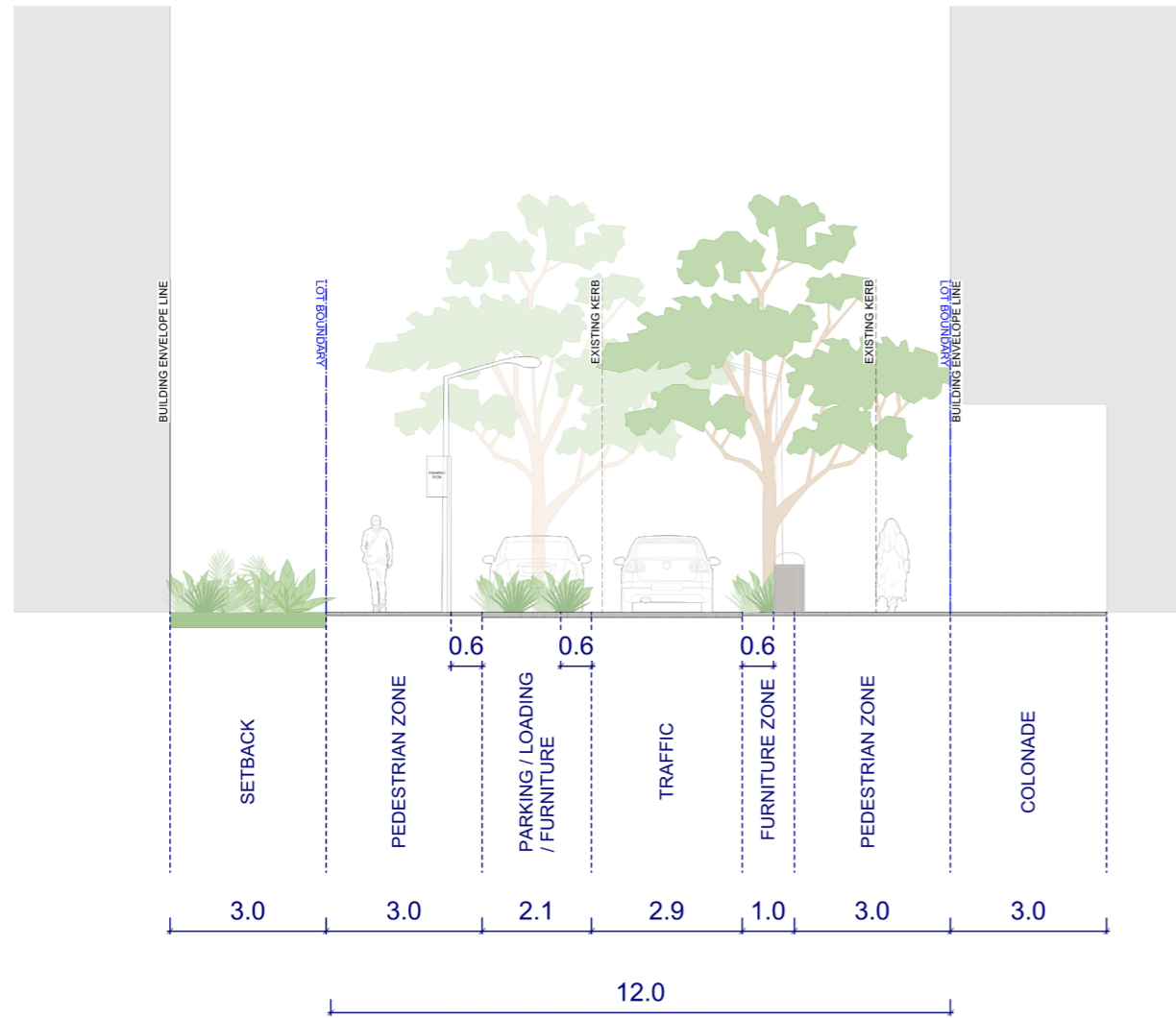


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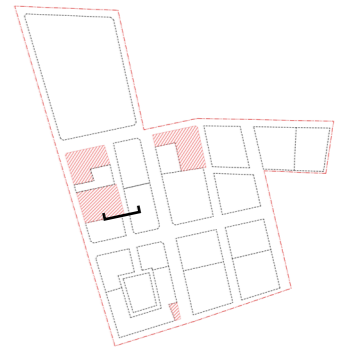
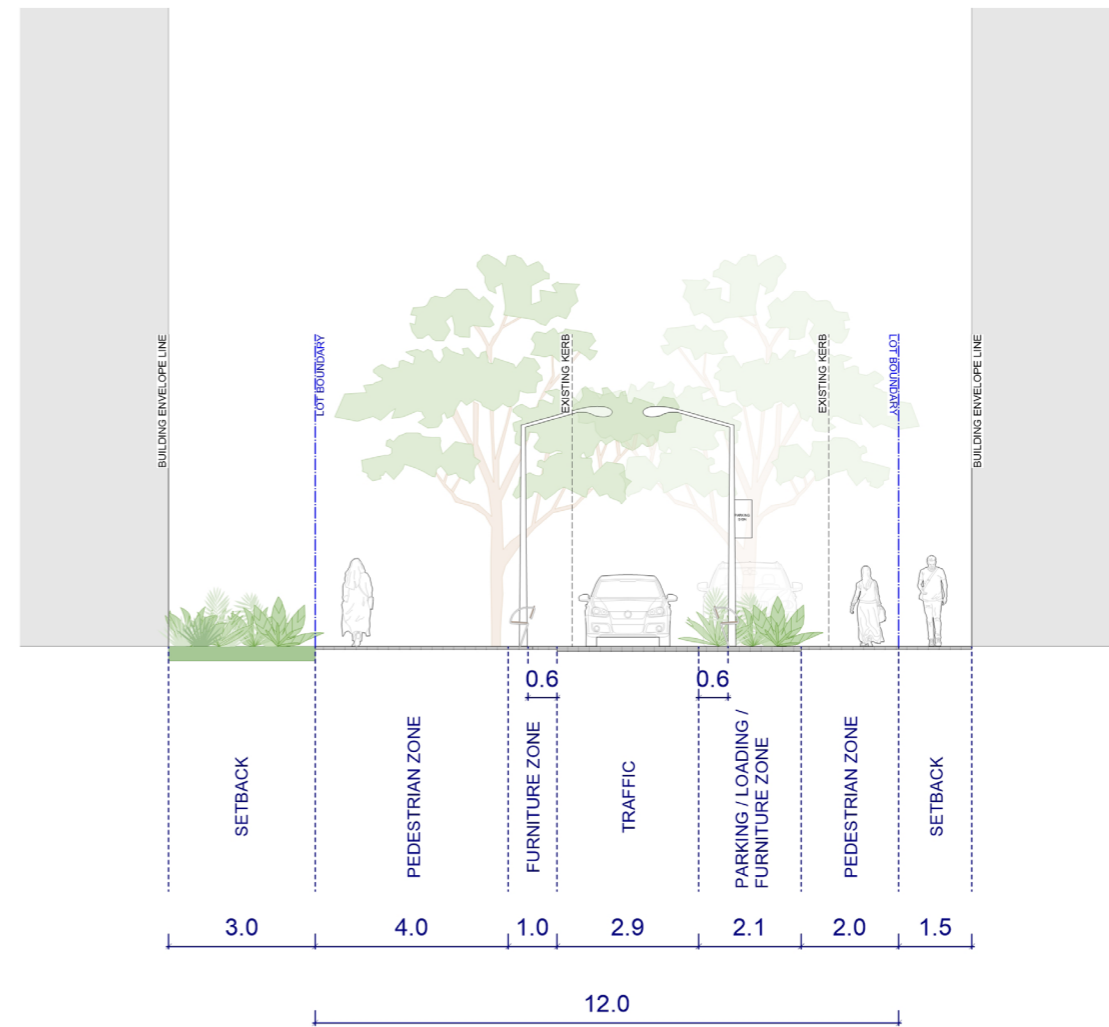
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Cooper Street North

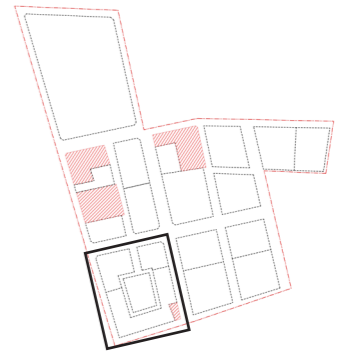
Design Guide



Proposal



Cooper Street South

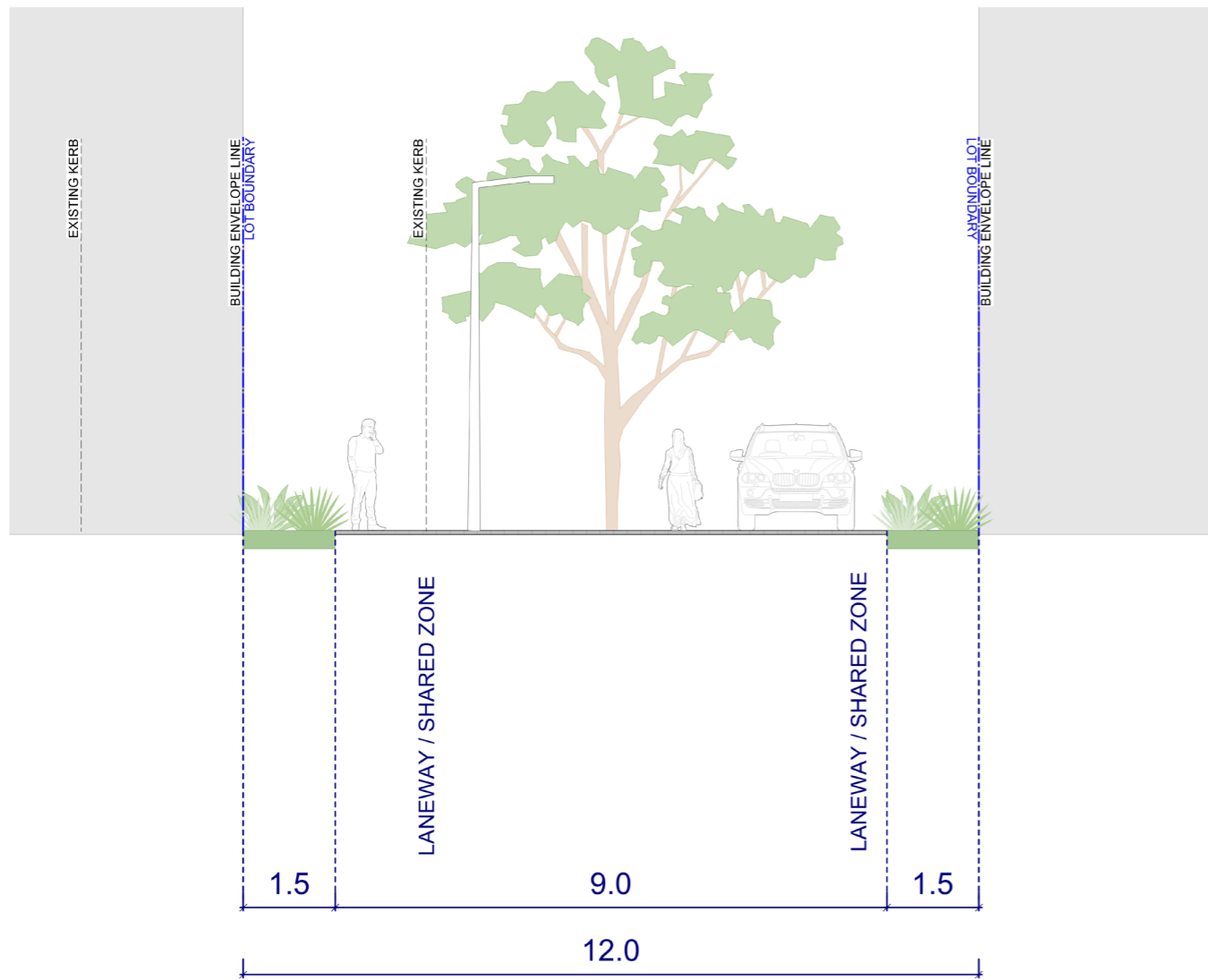


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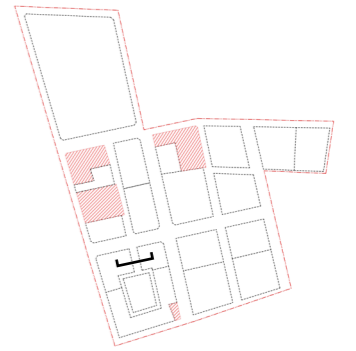
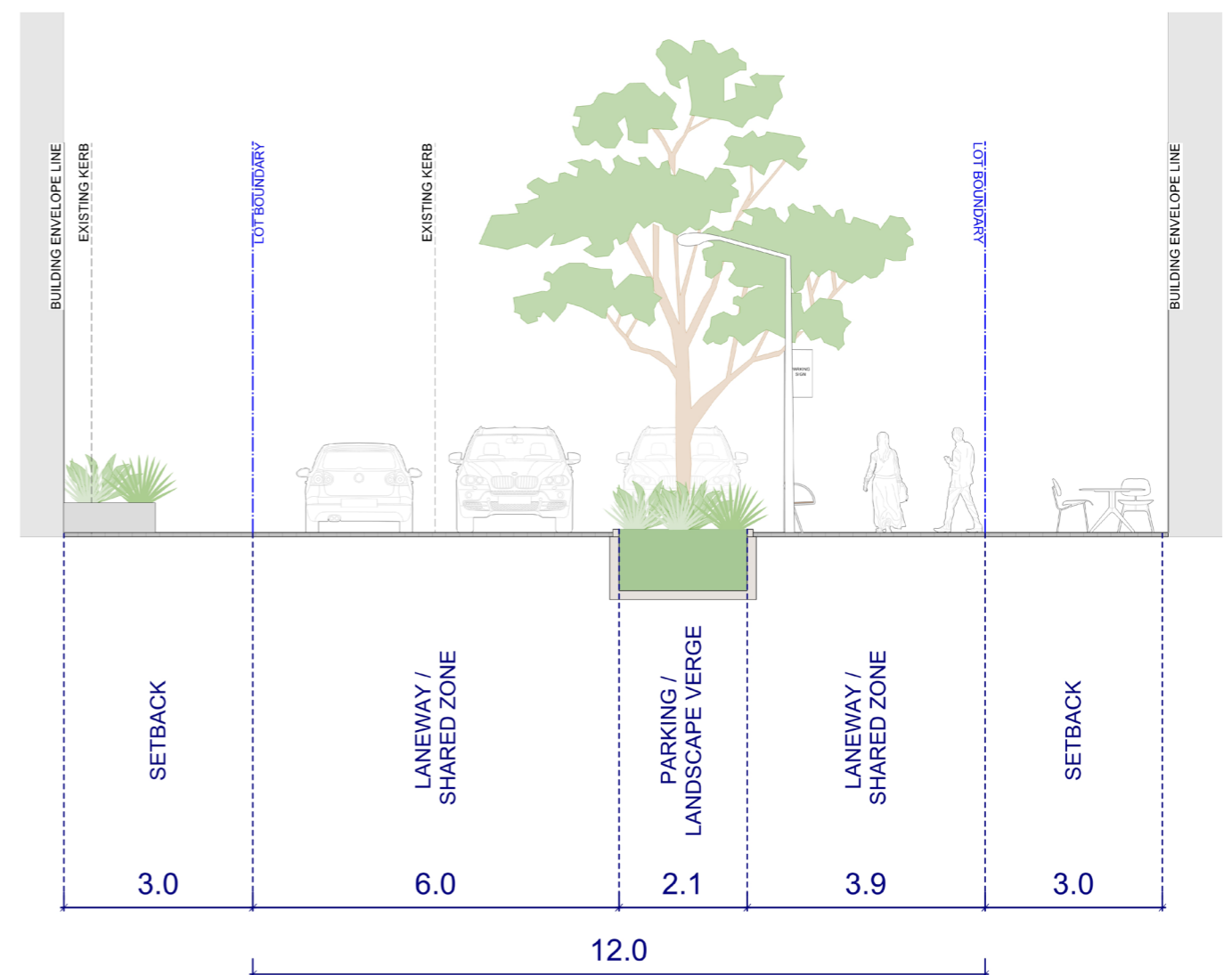
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Cooper Street South

Design Guide

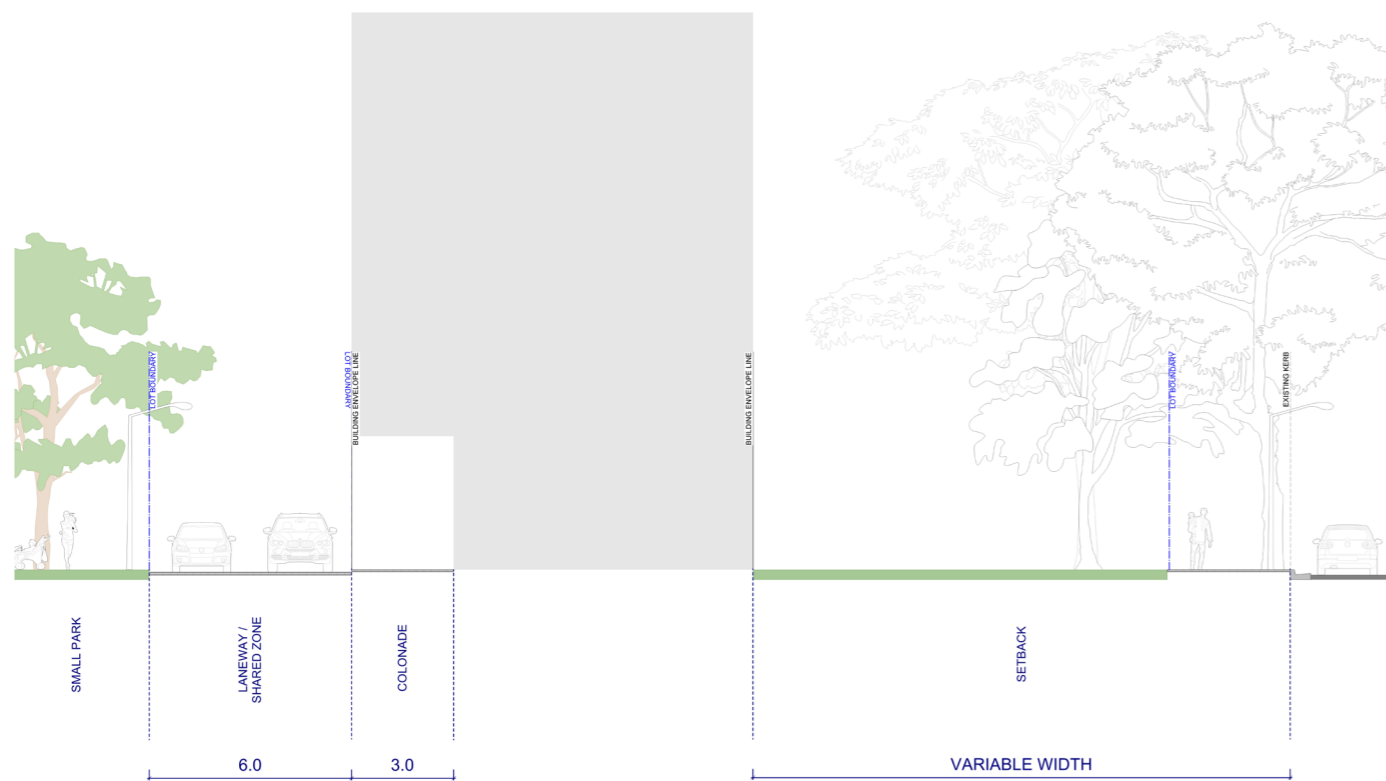


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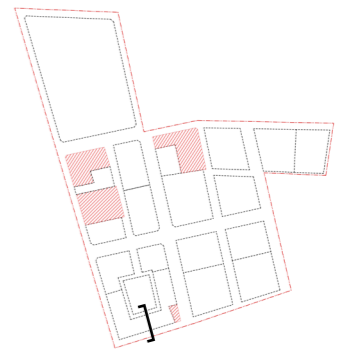
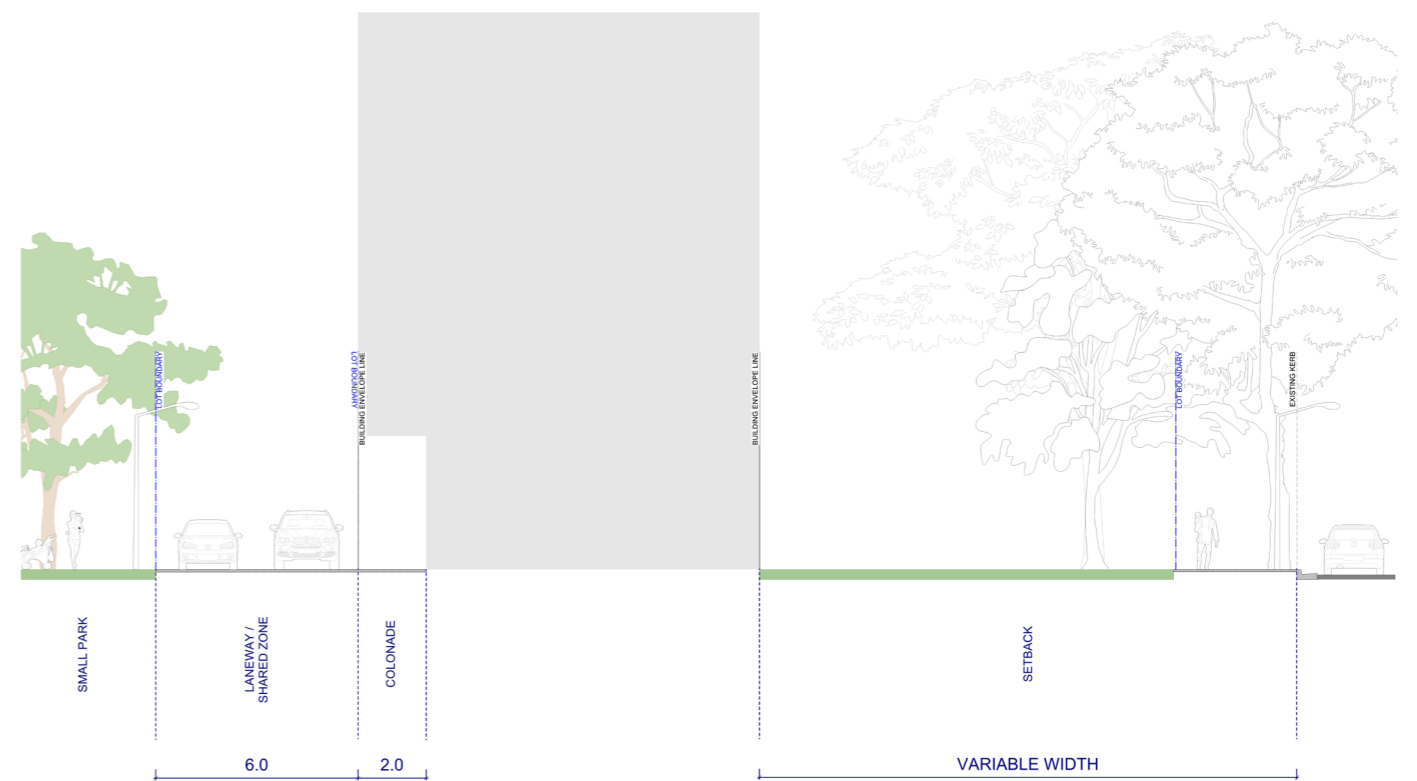


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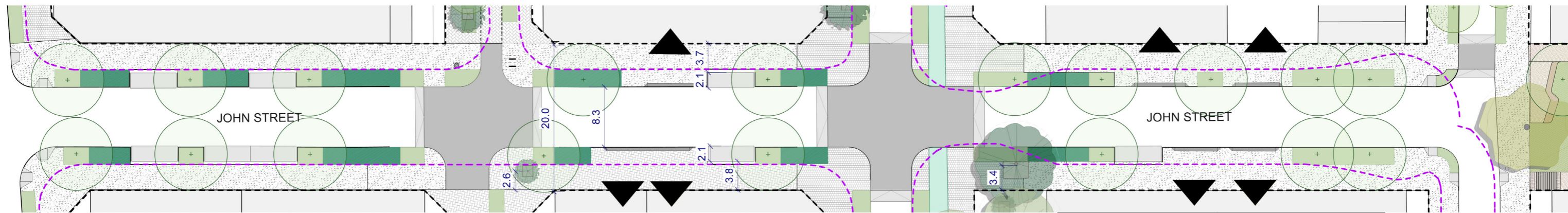
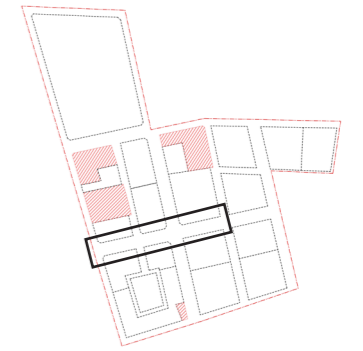
Design Guide



Proposal



John Street

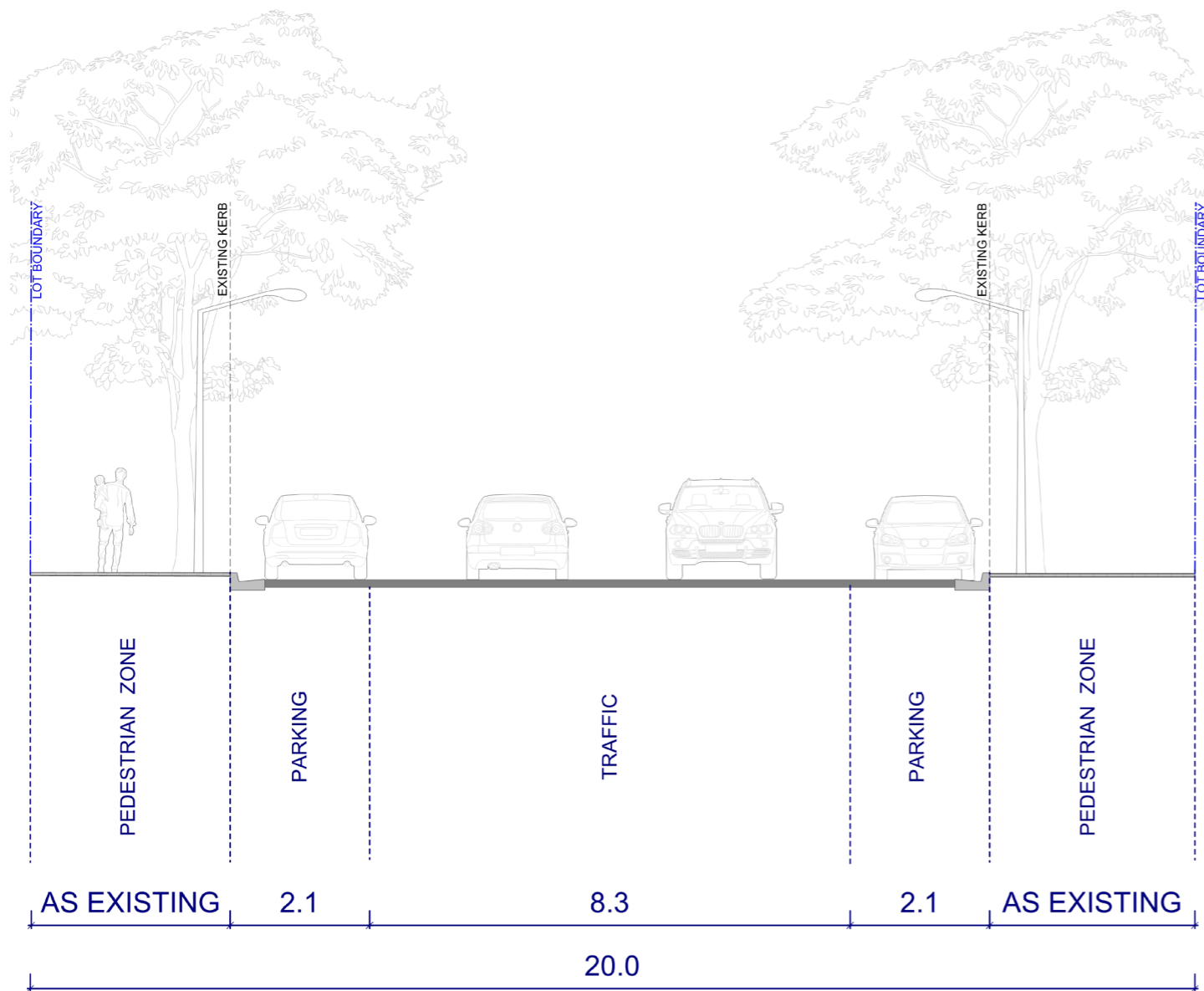


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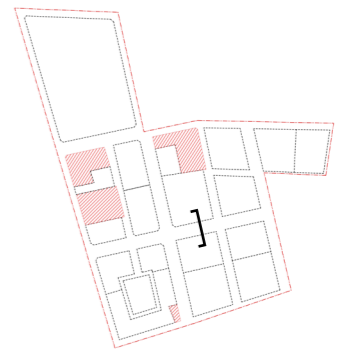
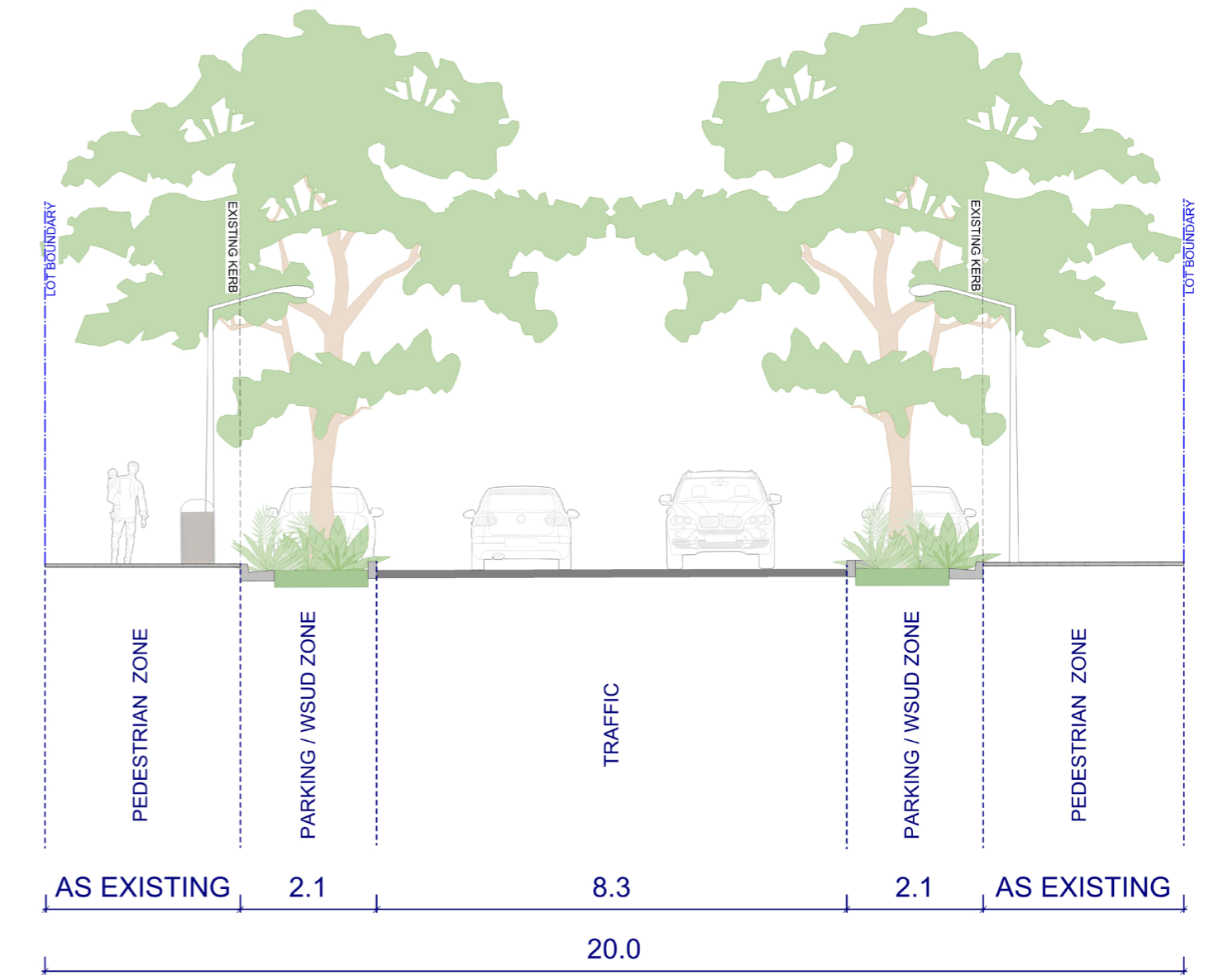
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John Street

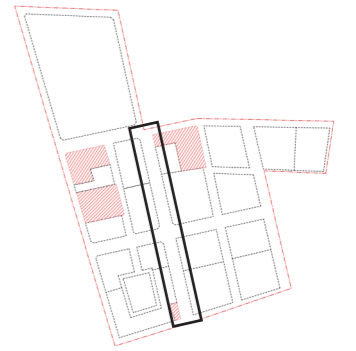
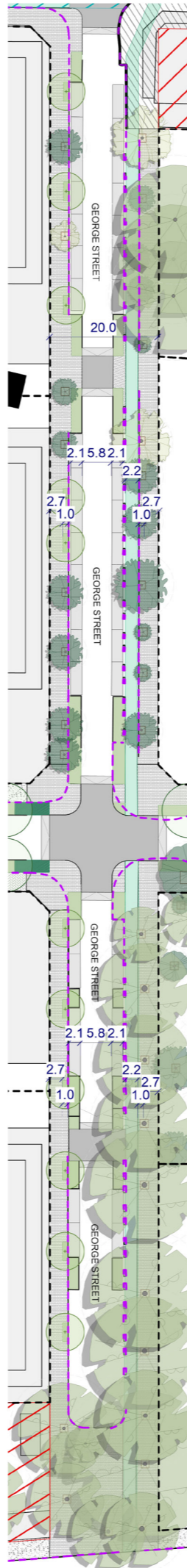
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


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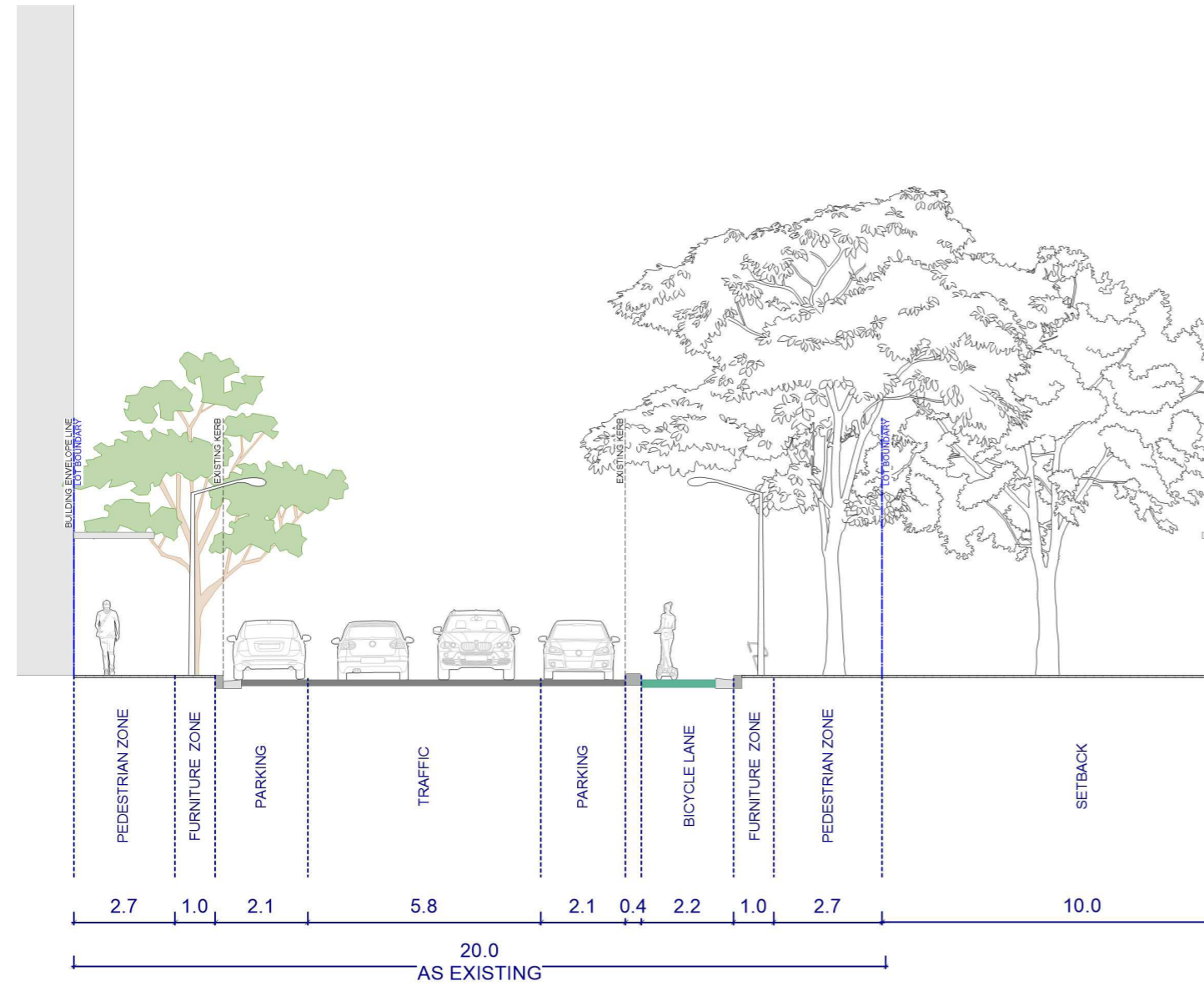


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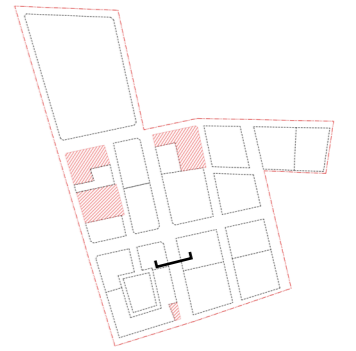
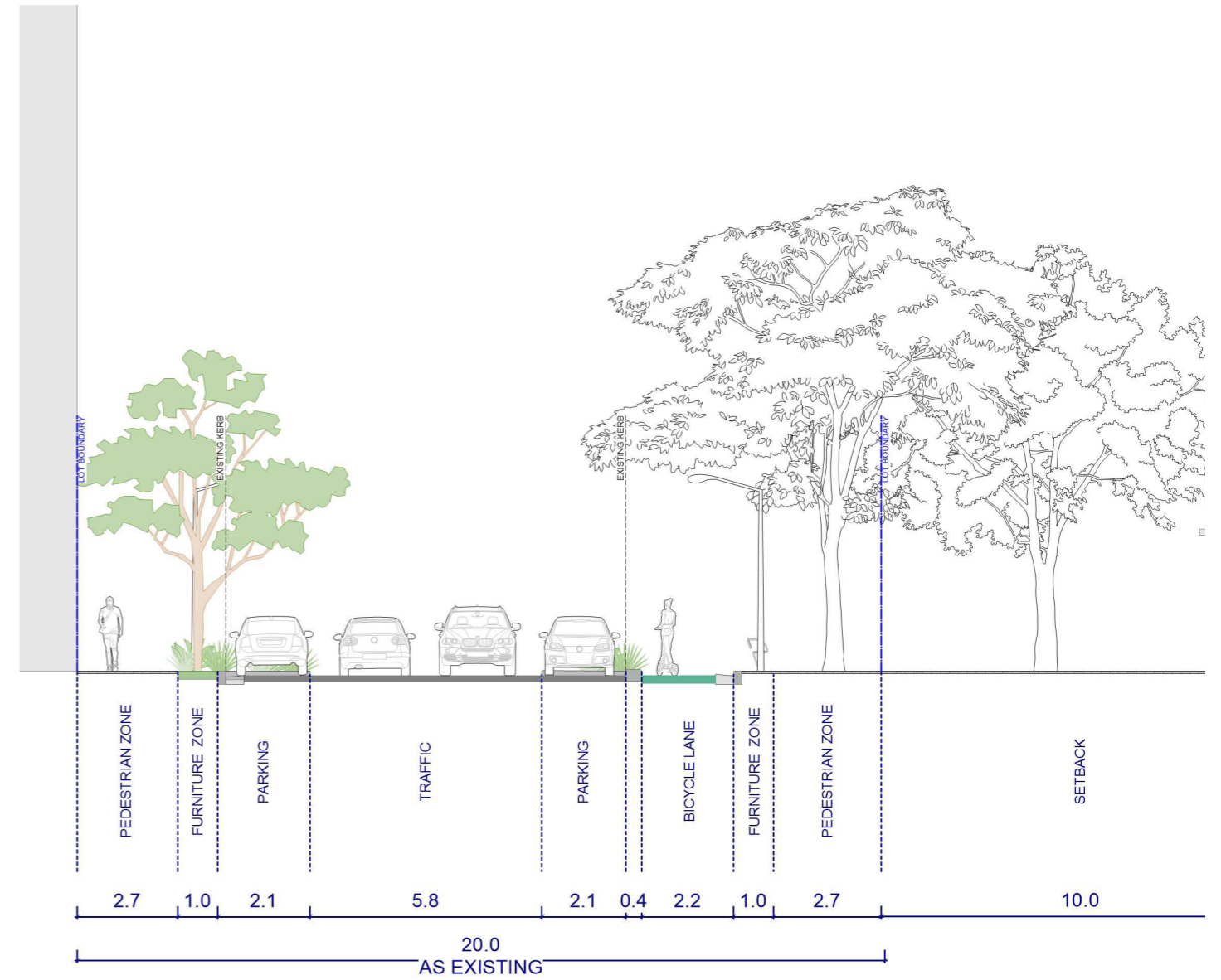
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George Street

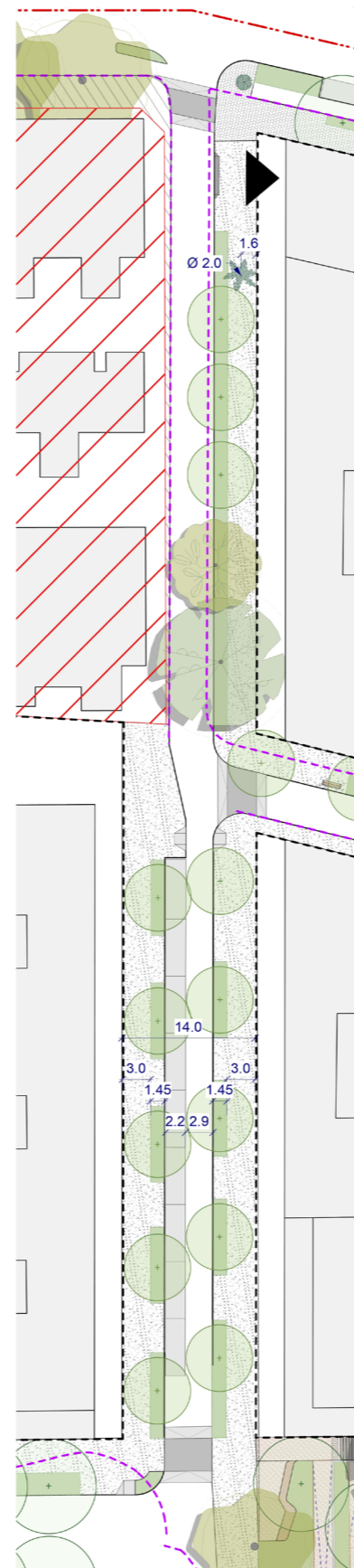
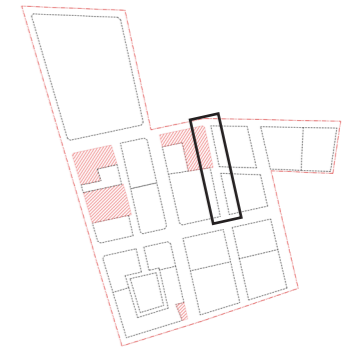
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




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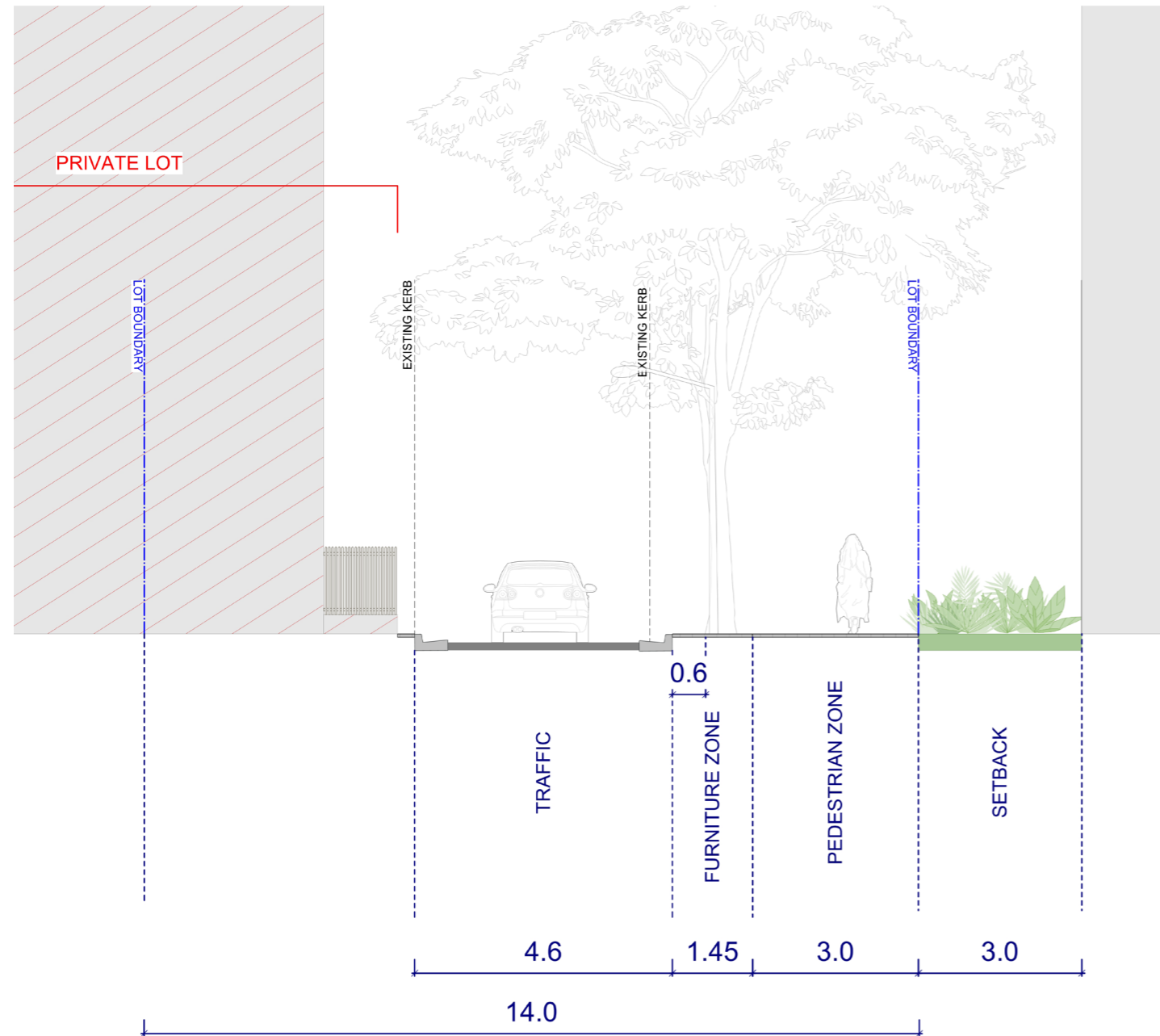
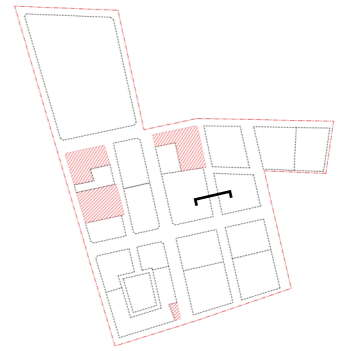


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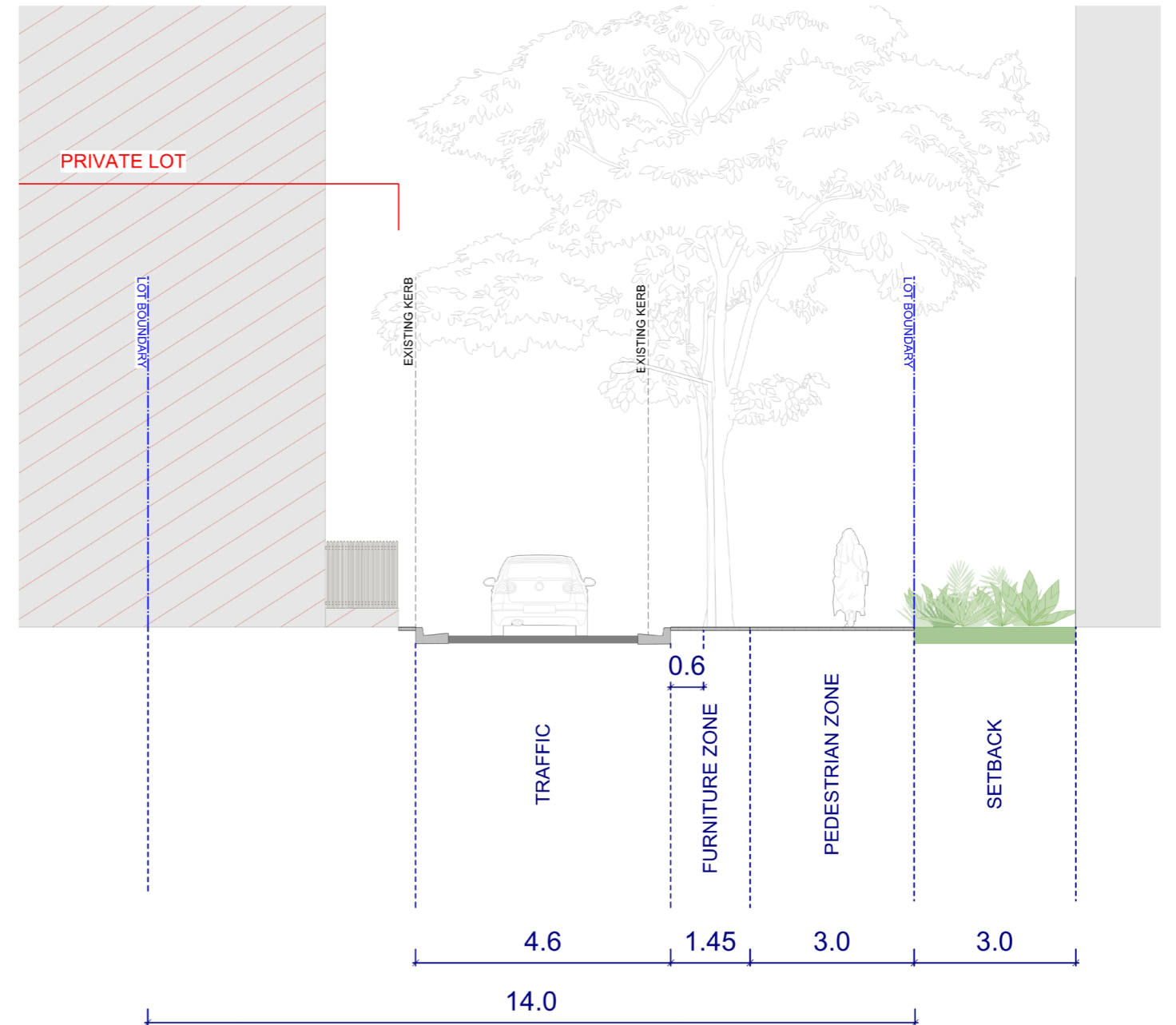
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West Street

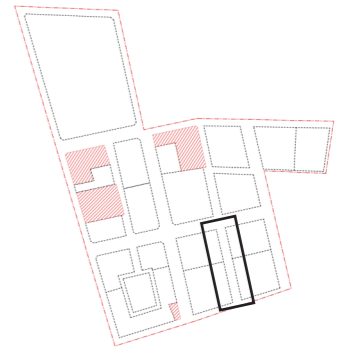
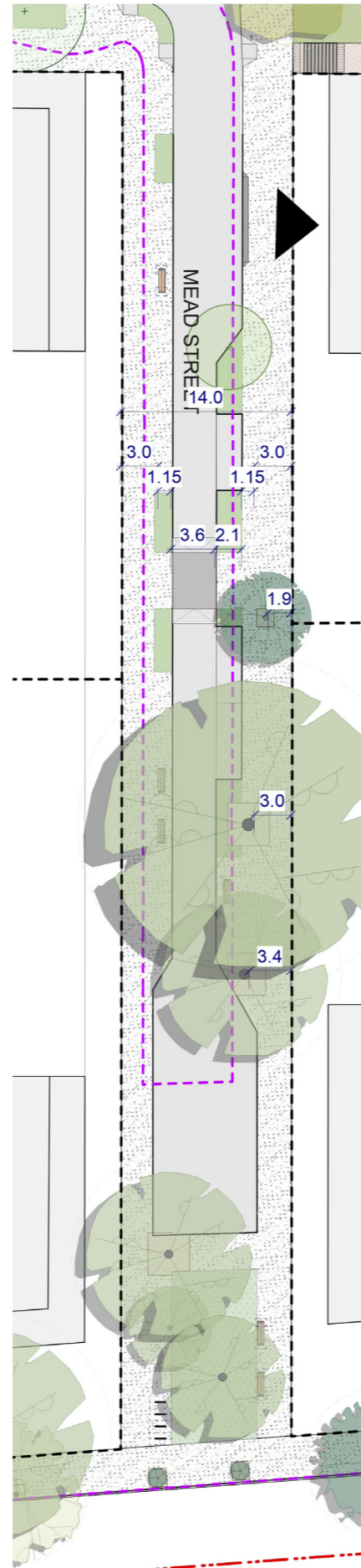
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Proposal



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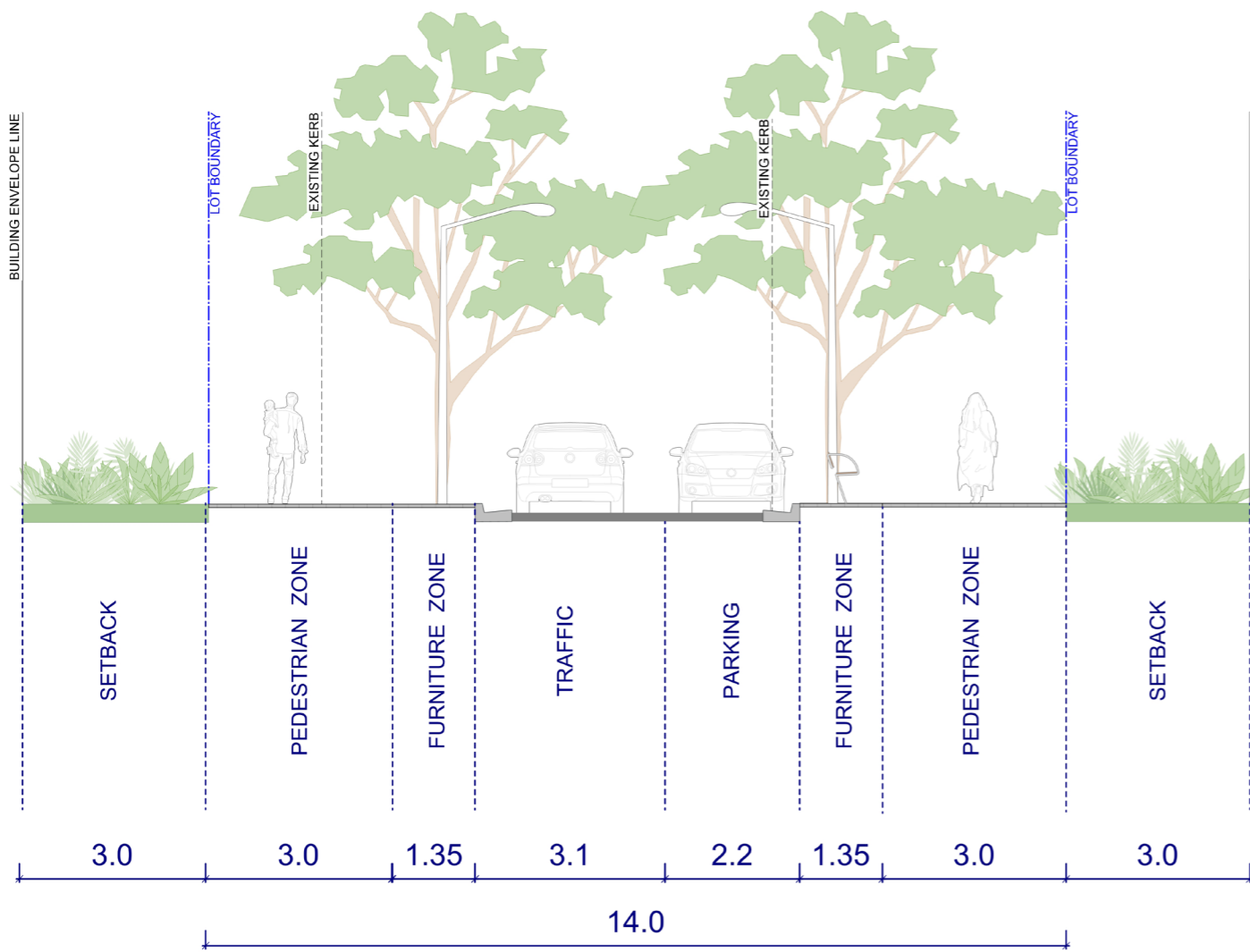


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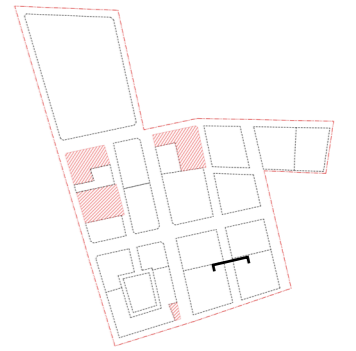
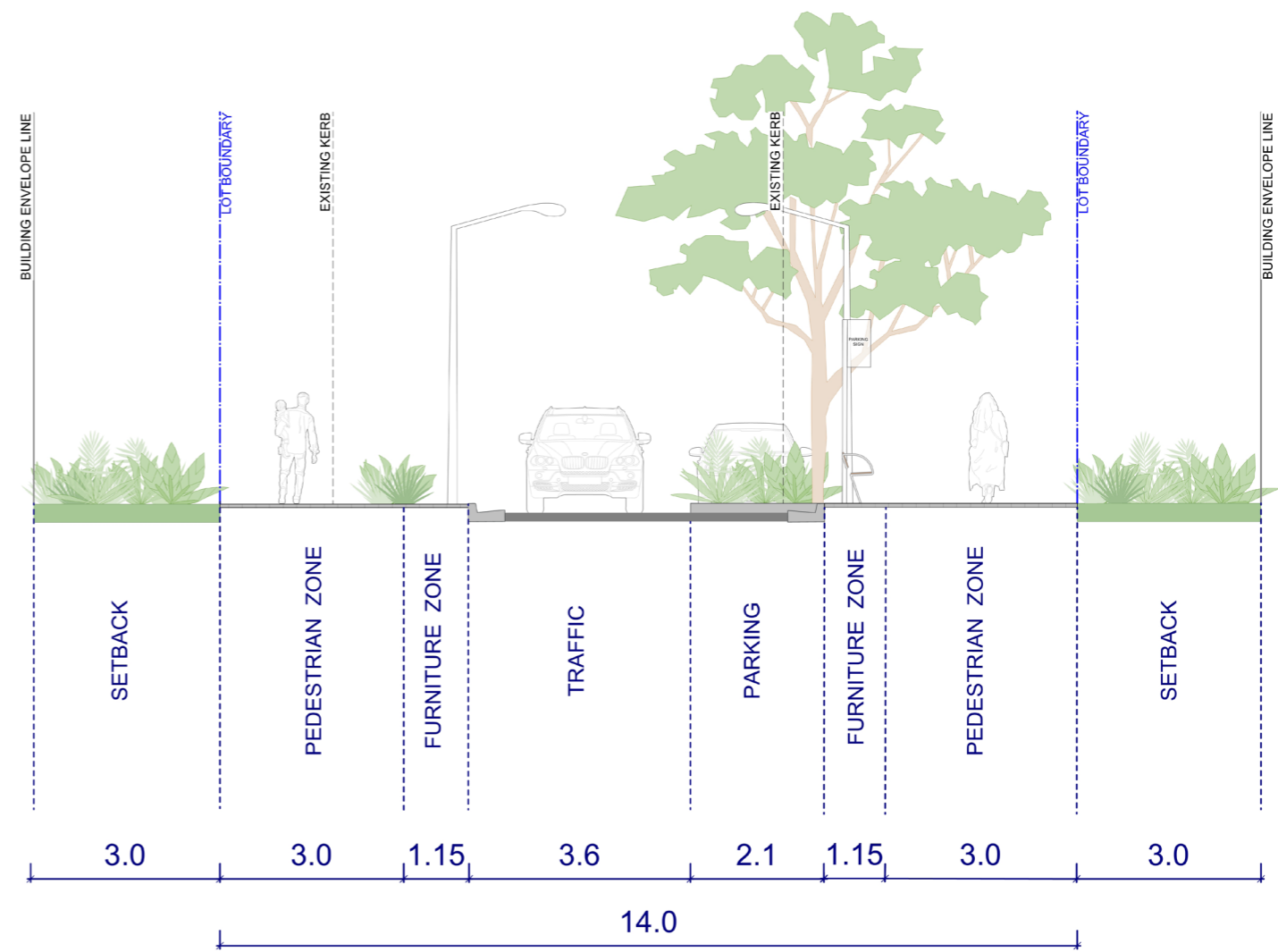
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Mead Street

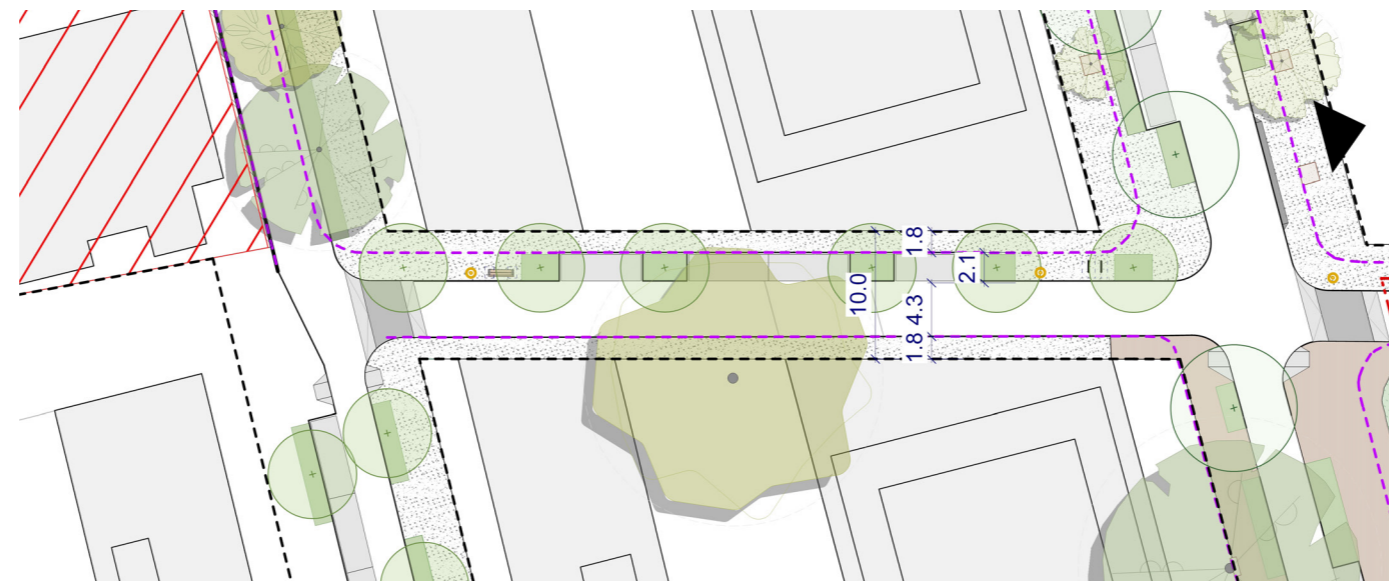
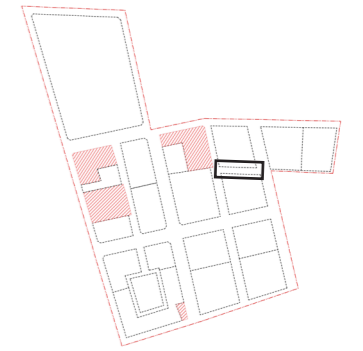
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Proposal



Reeve Street



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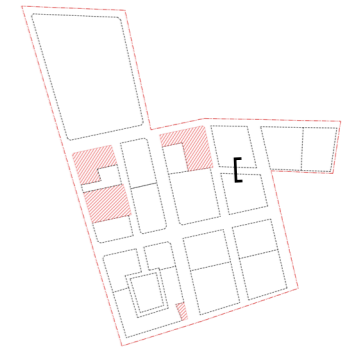
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Reeve Street

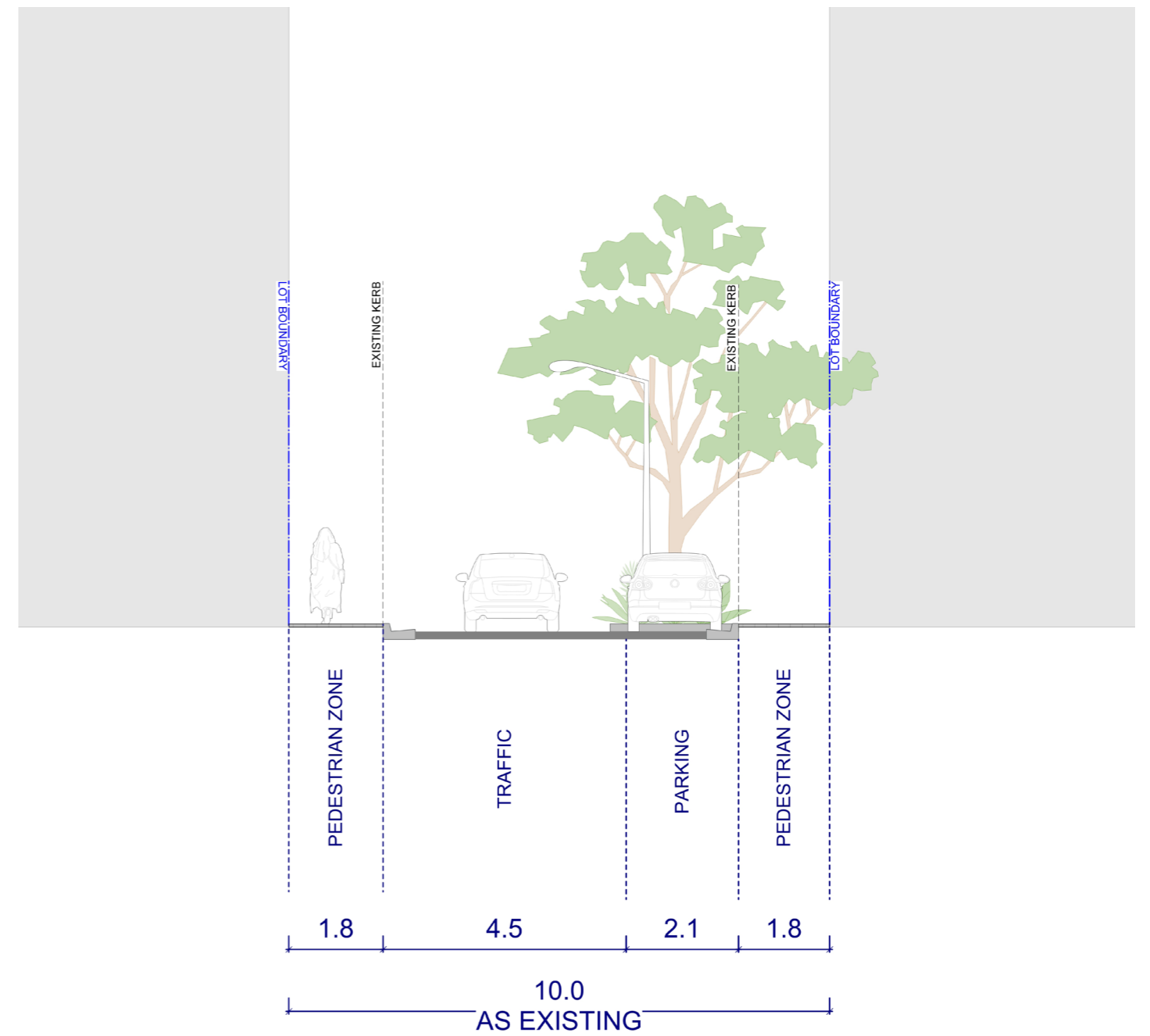


Design Guide

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Proposal

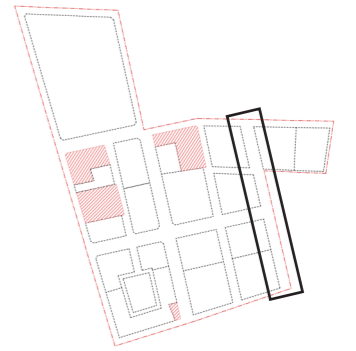
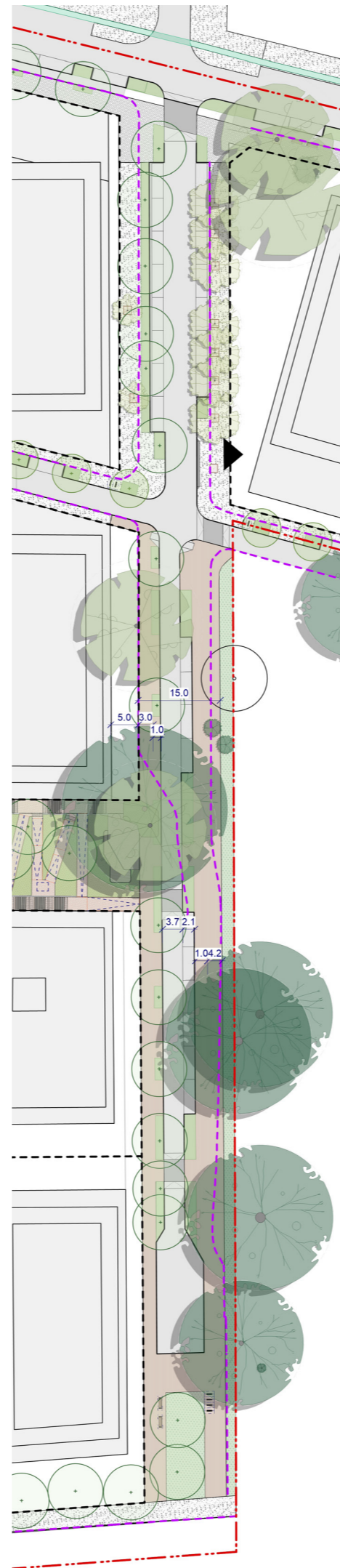


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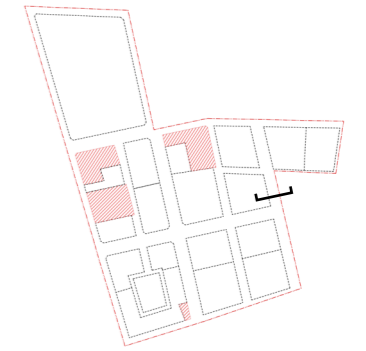
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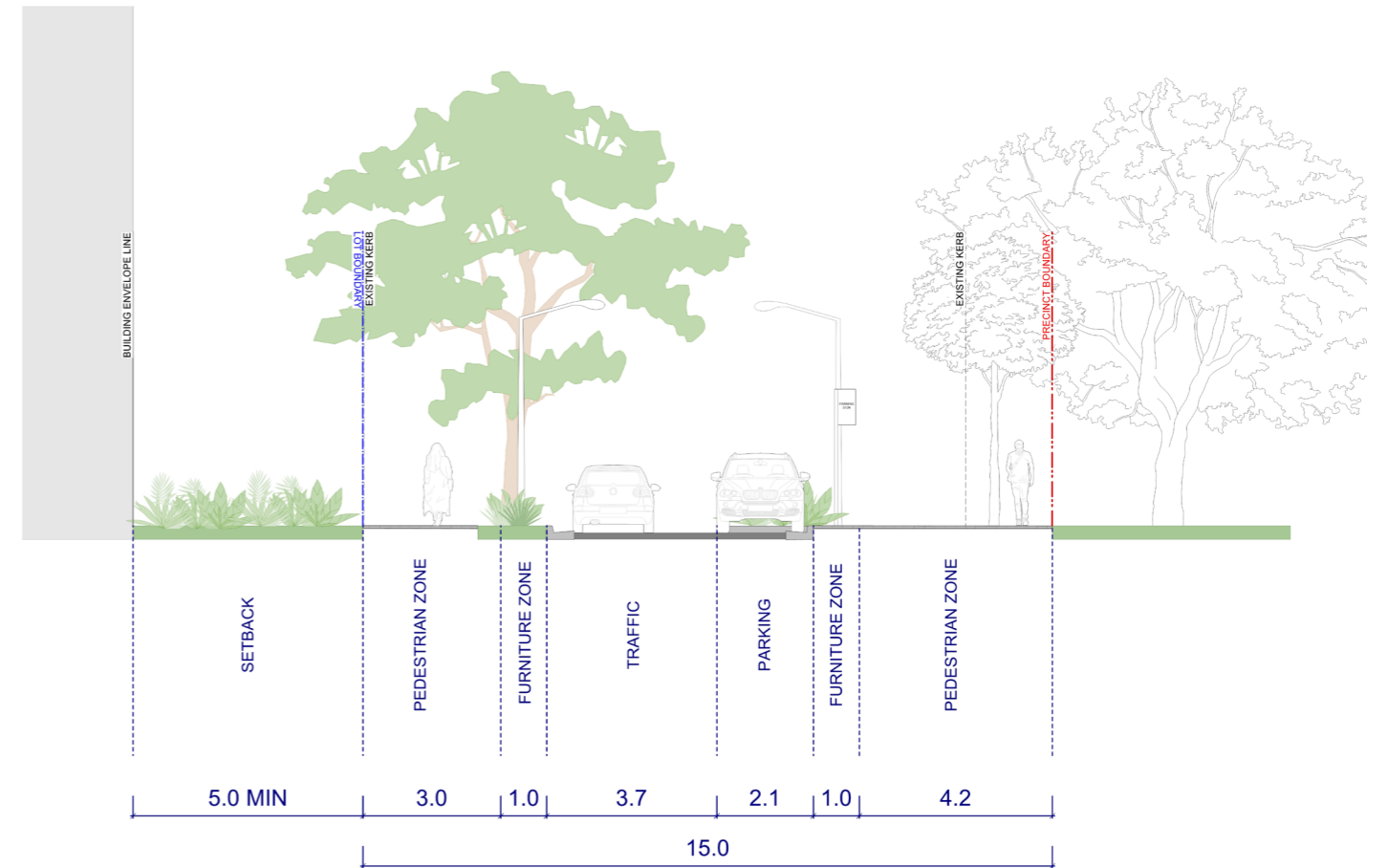
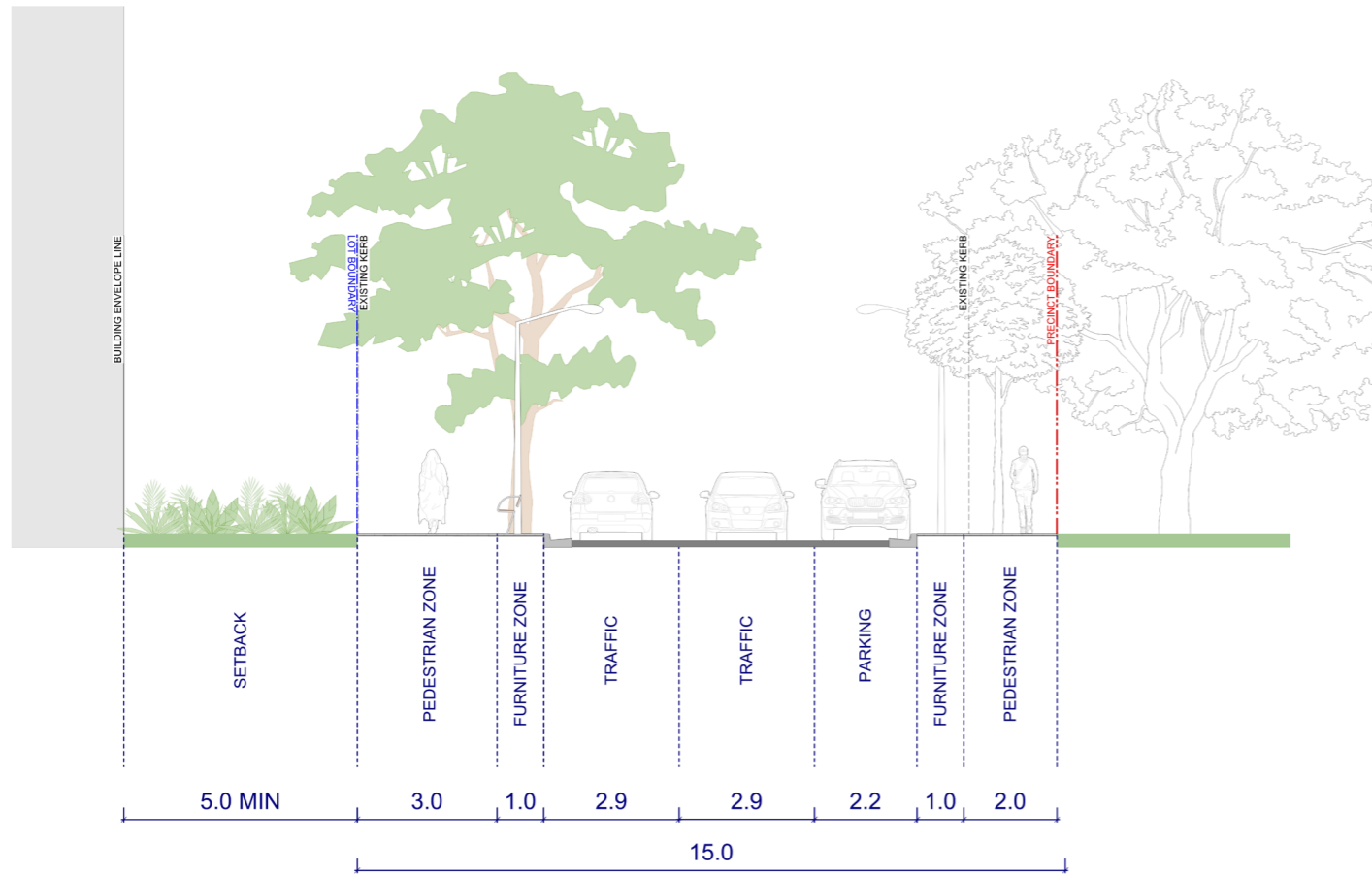


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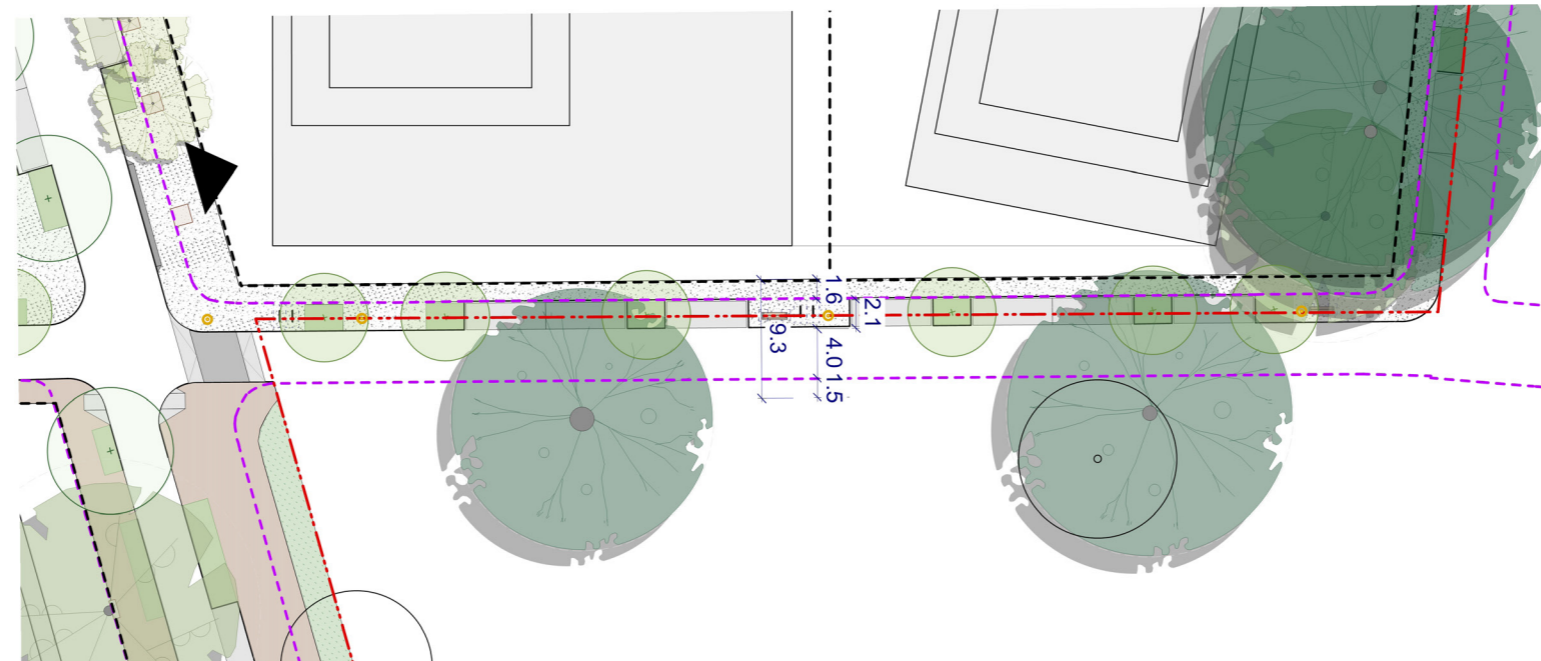
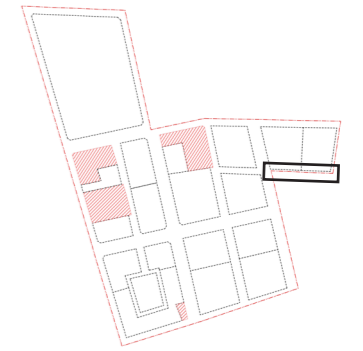
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


Proposal



Kellick Street



Key

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	Planting
	Cycleway
	Raised pedestrian crossing
	Car Parking Space
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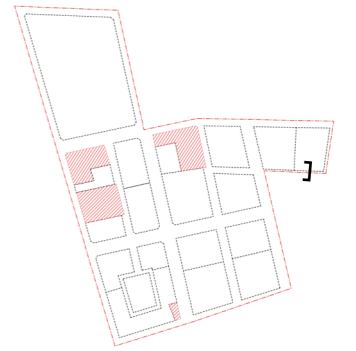
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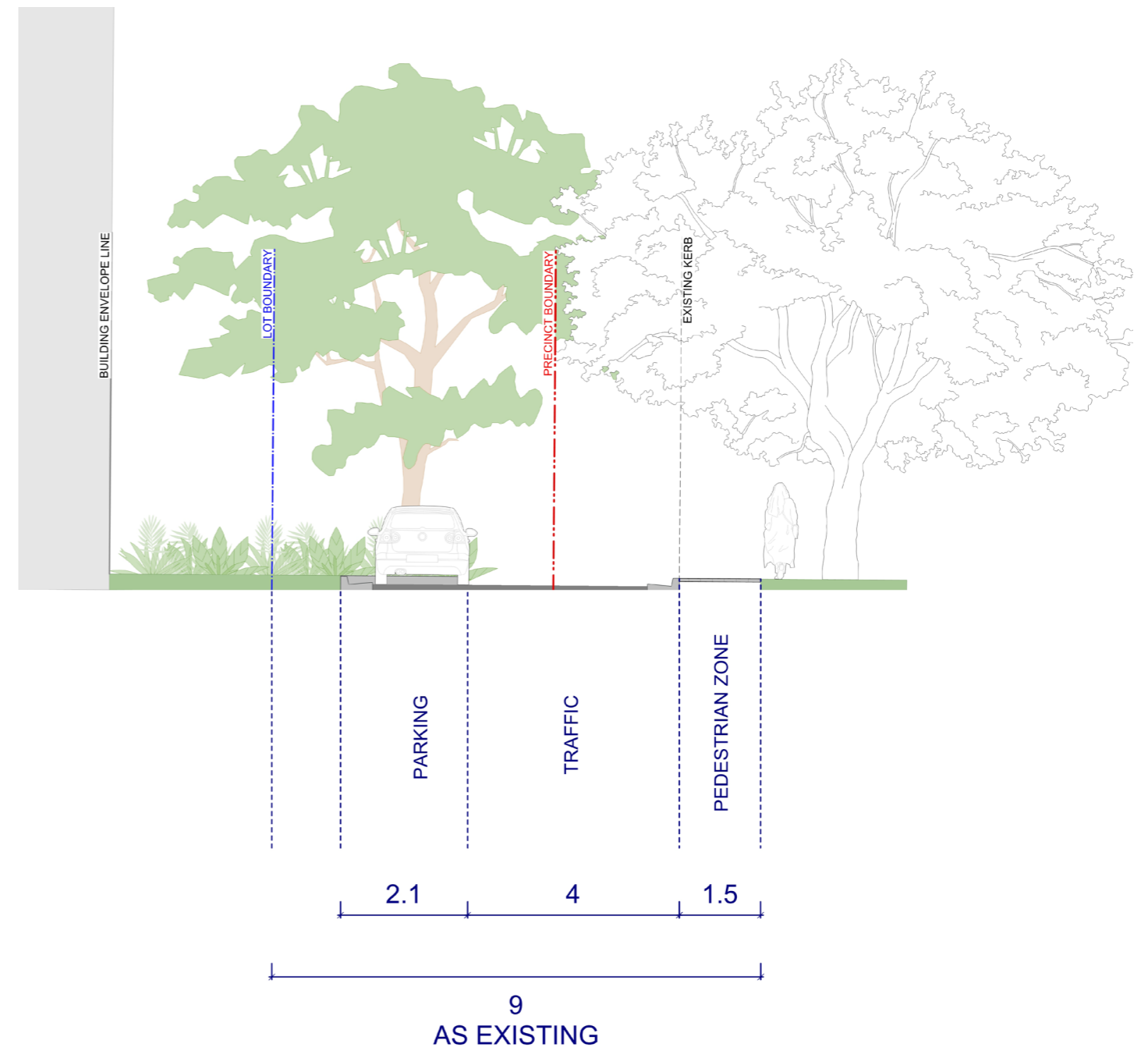
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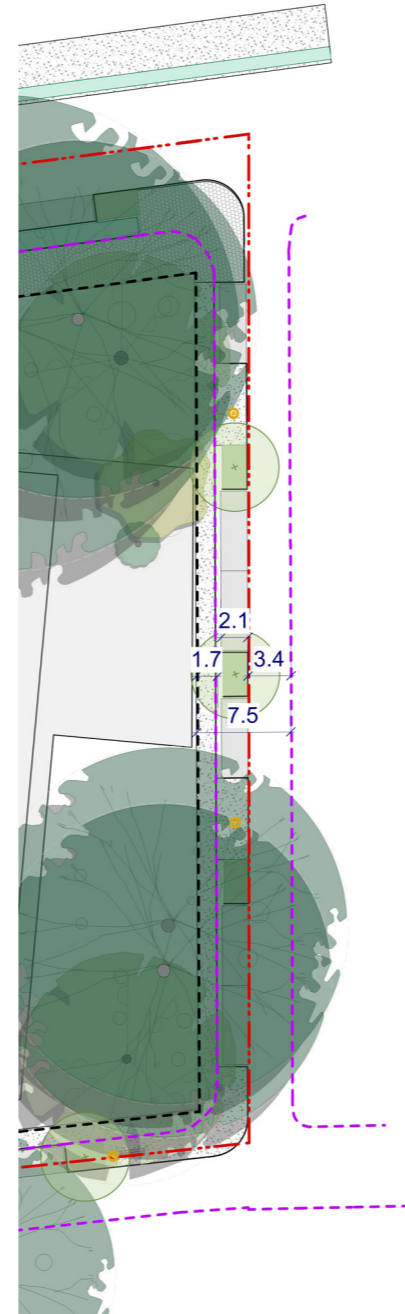
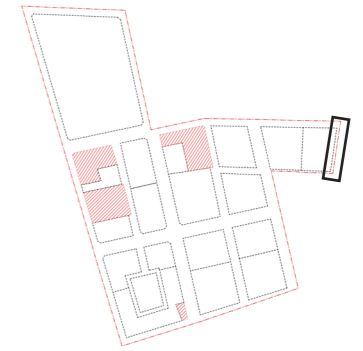
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Proposal



Gibson Street



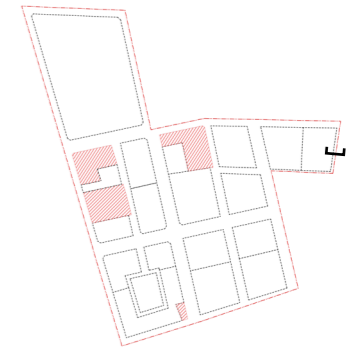
Key

	Raingarden planting
	Planting
	Cycleway
	Raised pedestrian crossing
	Car Parking Space
	Vehicle access point
	Lot Boundary
	Building footprint
	Existing Kerb Line
	Bike Rack
	Furniture
	Bin
	Traffic sign
	Electrical Pillar
	Light Pole

Gibson Street

Design Guide

NO SECTION PROVIDED IN DESIGN GUIDE
AS EXISTING



Proposal

