



Metro Inner Development Assessment Panel Agenda

Meeting Date and Time: Wednesday, 19 June 2024; 9.30am
Meeting Number: MIDAP/19
Meeting Venue: 140 William Street, Perth
Public Observing: Online

A live stream will be available at the time of the meeting, via the following link:
[MIDAP/19 - 19 June 2024 - City of Melville - City of Stirling](#)

PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement
2. Apologies
3. Members on Leave of Absence
4. Noting of Minutes

PART B – CITY OF MELVILLE

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
 - 3.1 No. 5 (Lot 121) Fiona Wood Road & No. 55 (Lot 120) Barry Marshall Parade, Murdoch - Mixed use - Residential, Commercial, Office, Retail and Carpark – DAP/24/02647
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

PART C – CITY OF STIRLING

1. Declarations of Due Consideration
2. Disclosure of Interests
3. Form 1 DAP Applications
 - 3.1 Mixed use - Residential, Commercial, Office, Retail and Carpark – Child Care Centre – DAP/22/02355
4. Form 2 DAP Applications
5. Section 31 SAT Reconsiderations

PART D – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals
2. General Business
3. Meeting Closure

Please note, presentations for each item will be invited prior to the items noted on the agenda and the presentation details will be contained within the related information documentation



ATTENDANCE

DAP Members

Francesca Lefante (Presiding Member)
Ian Birch (Deputy Presiding Member)
John Syme (Specialist Member)

Part B – City of Melville

Cr Matthew Woodall (Local Government Member, City of Melville)
Cr Daniel Lim (Local Government Member, City of Melville)

Part C – City of Stirling

Cr Suzanne Migdale (Local Government Member, City of Stirling)
Cr Michael Dudek (Local Government Member, City of Stirling)

Minute Secretary

Tenielle Brownfield (DAP Secretariat)

Officers in Attendance

Ashlee Kelly (DAP Secretariat)



PART A – INTRODUCTION

1. Opening of Meeting, Welcome and Acknowledgement

The Presiding Member declares the meeting open and acknowledges the traditional owners and pay respects to Elders past and present of the land on which the meeting is being held.

This meeting is being recorded and livestreamed on the DAP website in accordance with regulation 40(2A) of the *Planning and Development (Development Assessment Panels) Regulations 2011*. Members are reminded to announce their name and title prior to speaking.

2. Apologies

Nil.

3. Members on Leave of Absence

Nil.

4. Noting of Minutes

Signed minutes of previous meetings are available on the [DAP website](#).



PART B – CITY OF MELVILLE

1. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

2. Disclosure of Interests

Nil.

3. Form 1 DAP Applications

- 3.1 No. 5 (Lot 121) Fiona Wood Road & No. 55 (Lot 120) Barry Marshall Parade, Murdoch - Mixed use - Residential, Commercial, Office, Retail and Carpark – DAP/24/02647

4. Form 2 DAP Applications

Nil.

5. Section 31 SAT Reconsiderations

Nil.

**PART B - ITEM 3.1 - No. 5 (LOT 121) FIONA WOOD ROAD &
No. 55 (LOT 120) BARRY MARSHALL PARADE, MURDOCH –
MIXED-USE DEVELOPMENT**

Form 1 – Responsible Authority Report
(Regulation 12)

DAP Name:	Metro Inner JDAP
Local Government Area:	City of Melville
Applicant:	Lateral Planning
Owner:	Development WA (Western Australian Land Authority)
Value of Development:	\$100 million ☒ Mandatory (Regulation 5) ☐ Opt In (Regulation 6)
Responsible Authority:	City of Melville
Authorising Officer:	Peter Varelis – Director of Urban Planning
LG Reference:	DAP-2024-5
DAP File No:	DAP/24/02647
Application Received Date:	5 February 2024
Report Due Date:	7 June 2024
Application Statutory Process Timeframe:	90 Days Under Schedule 2, Clauses 65A and 65B of the <i>Planning and Development (Local Planning Schemes) Regulations 2015</i> a request for additional information was requested by the City of Melville on the 28 th of March 2024 and the additional information requested was provided by the applicant on the 5 th of May 2024 which stopped the clock during this period. Under Clause 75(c) of <i>Planning and Development (Development Assessment Panels) Regulations 2011</i> an additional 14 days for the Responsible Authority Report (RAR) submission was agreed between the applicant and the City of Melville and supported by the Joint Development Assessment Panel (JDAP) on 22 May 2024.
Attachment(s):	1. Planning Report (February 2024) 2. Development Plans (February 2024) 3. Landscaping Plan (February 2024) 4. Transport Report (January 2024) 5. Waste Management Plan (January 2024) 6. Sustainability Report (January 2024) 7. Acoustic Report (January 2024) 8. Pedestrian Wind Environment Assessment (January 2024) 9. Preliminary Public Art Plan (January 2024)

	10. City of Melville Local Planning Policy 4.4 Murdoch Health and Knowledge Precinct (November 2016) 11. Initial Design Review Panel Report (January 2024) 12. Design Review Panel Endorsement Report (April 2024) 13. Transport Report Addendum (May 2024) 14. Public Transport Authority Final Comments (May 2024)	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☐ Yes ☒ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Inner JDAP resolves to:

1. **Accept** that the DAP Application reference DAP/24/02647 is appropriate for consideration as a Mixed-Use development containing Shop, Supermarket, Small Bar, Restaurant/Café, Recreation Private, Medical Centre, Consulting Room, Office and Multiple Dwellings land uses and is compatible with the objectives of the zoning table in accordance with clause no. 16 of the City of Melville Local Planning Scheme No. 6;
2. **Defer** DAP Application reference DAP/24/02647 and accompanying plans (Plan Number 1 to 9 – 04/02/2024) for a Mixed-Use Development at No. 5 (Lot 121) Fiona Wood Road and No. 55 (Lot 120) Barry Marshall Parade, Murdoch for 60 days to enable the applicant to demonstrate compliance with Local Planning Policy 4.4 – Murdoch Health and Knowledge Precinct with regards to the proposed vehicular access off Barry Marshall Parade and ensure mandatory sunlight access requirements to the nearby Conservation Area are achieved.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Urban
Local Planning Scheme	City of Melville Local Planning Scheme No.6
Local Planning Scheme - Zone/Reserve	Urban Development
Structure Plan/Precinct Plan	Murdoch Specialised Activity Centre Structure Plan
Structure Plan/Precinct Plan - Land Use Designation	Murdoch Health and Knowledge Precinct
Use Class and permissibility:	Shop – Permitted Supermarket – Permitted Small Bar – Permitted Restaurant/Café – Permitted Recreation Private – Permitted

	Medical Centre – Permitted Consulting Room – Permitted Office – Permitted Multiple Dwellings - Permitted
Lot Size:	4,705sqm
Existing Land Use:	Vacant Land
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☐ N/A ☐ Local Design Review Panel ☐ State Design Review Panel ☒ Other (Development WA Design Review Panel)
Bushfire Prone Area	No
Swan River Trust Area	No

Proposal:

The proposed development application is for a mixed-use development over two sites at No. 5 (Lot 121) Fiona Wood Road and 55 (Lot 120) Barry Marshall Parade, Murdoch that sits between St John of God Hospital Murdoch and the Murdoch Train Station (See Figure 1 below). The proposed development is located within the Murdoch Health and Knowledge Precinct, a strategic development area within the larger Murdoch Specialised Activity Centre under State Planning Policy 4.2 – Activity Centres. The development includes:

- A 24-Storey mixed use building on No. 5 (Lot 121) Fiona Wood Road comprising 216 build-to-rent multiple dwellings (151 affordable housing units and 65 social housing units), 11 ground floor commercial tenancies, four levels of above-ground car parking and communal/co-working space on top of the podium level;
- A 13-storey commercial building on No. 55 (Lot 120) Barry Marshall Parade comprising ground floor commercial tenancies, four levels of above-ground parking and above that, 1,910sqm of gross floor area for Office tenancies.

Vehicular access to the site for service vehicles is via Wonnul Place while access to the parking bays for the multiple dwellings and commercial/office tenancies is via Barry Marshall Parade.

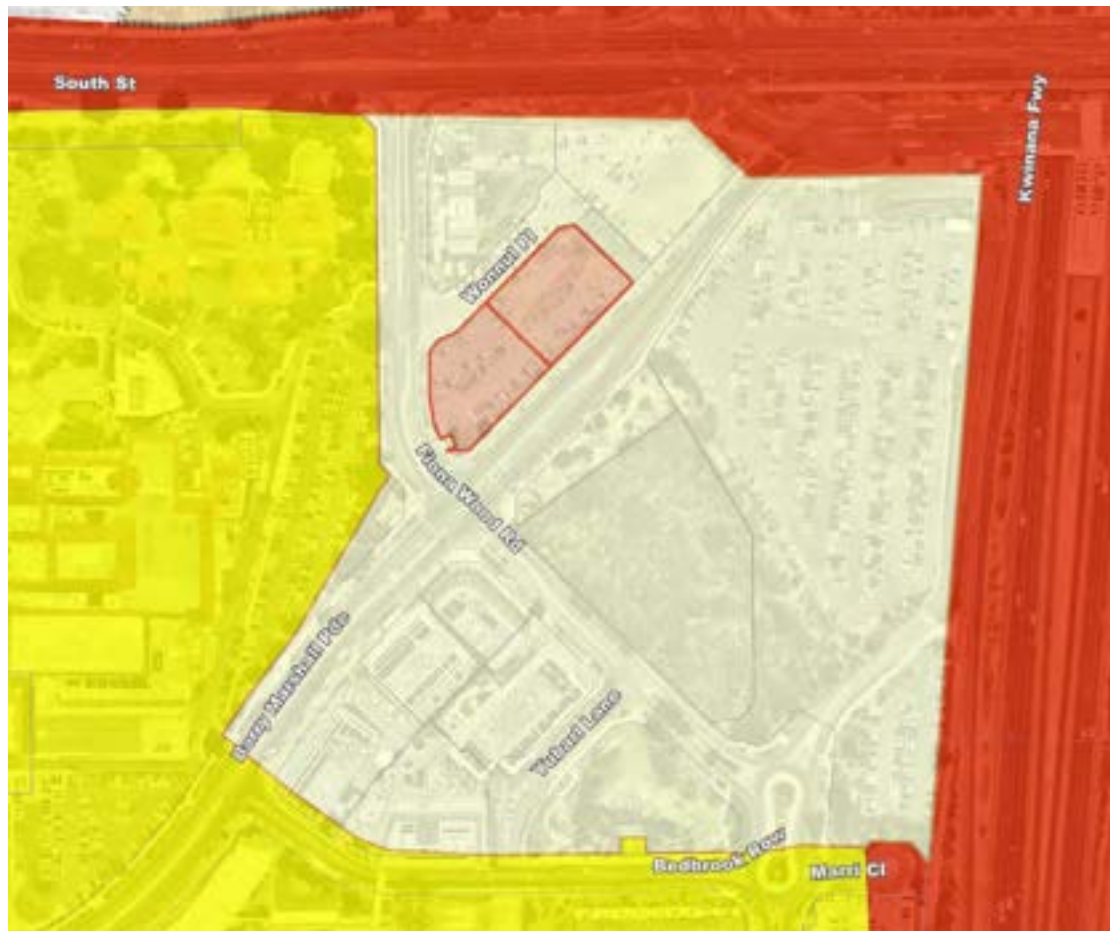


Figure 1 - Subject site within the MHKP



Figure 2 - Proposed development as viewed from corner of Fiona Wood Road and Barry Marshall Parade

Proposed Land Uses	Shop, Supermarket, Small Bar, Restaurant/Café, Recreation Private, Medical Centre, Consulting Room, Office and Multiple Dwellings
Proposed Net Lettable Area	Lot 121 – 783sqm Lot 120 – 13405sqm
Proposed No. Storeys	Lot 121 - 24 storeys Lot 120 – 13 storeys
Proposed No. Dwellings	216 Multiple Dwellings

Background:

The development site is one of a number of strategic development sites created as part of Development WA's *Murdoch Health and Knowledge Precinct Stage 1 (MHKP)*. The subject site is bound by Fiona Wood Road, Barry Marshall Parade and Wonnul Place, positioned at the entrance to the MHKP as shown in Figure 1.

To the South-East of the subject site is a bush park, to the South on the other corner of Fiona Wood Road and Barry Marshall Parade is the recently completed Murdoch Square development comprising an aged care facility, hotel, medical centre, medical hotel and various retail, office, and commercial tenancies and to the West is St John of God Hospital.

The Murdoch Mixed Use Precinct has excellent access to public transport. Murdoch Train Station is located approximately 250m east of the development site providing a direct connection to the Perth Central Business District and beyond. In addition, buses running along Barry Marshall Parade, provide for a bus service every two minutes on average during peak times linking the site to Fremantle, Cannington, Murdoch University and other key locations. South Street offers direct access to and from the Kwinana Freeway, which also offers a Principal Shared Path for cycling.

The subject lot is currently vacant and used for parking by construction workers working within the MHKP.

Legislation and Policy:

Legislation

- Planning and Development Act 2005
- Planning and Development (Local Planning Schemes) Regulations 2015
- City of Melville Local Planning Scheme No. 6 (LPS6)

State Government Policies

- State Planning Policy 3: Urban Growth and Development (SPP3)
- State Planning Policy 4.2: Activity Centres for Perth and Peel (SPP4.2)
- State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning (SPP5.4).
- Development Control Policy 1.6 – Planning to Support Transit Use and Transit Orientated Development (DCP1.6)

Structure Plans / Precinct Structure Plans

- Murdoch Mixed Use Activity Centre Structure Plan
- Murdoch Specialised Activity Centre Structure Plan (MSACSP)

Local Policies

- LPP1.1: Planning Process and Decision Making
- LPP1.3: Waste and Recyclables Collection for Multiple Dwellings, Mixed Use and Non- Residential Developments.
- LPP1.4: Provisions of Public Art in Development Proposals
- LPP1.8: Crime Prevention Through Environmental Design of Buildings Policy
- LPP1.10: Amenity
- LPP4.4: Murdoch Health and Knowledge Precinct
- LPP2.1: Non-Residential Development
- LPP1.22 Construction Management Plans

Other

- State Planning Strategy 2050
- Local Planning Strategy 2016

City of Melville Local Planning Scheme No 6

Under the provisions of Local Planning Scheme No. 6 (LPS6) the site is zoned 'Urban Development'. The objectives of the Urban Development zone are to facilitate future detailed structure planning, provide for a range of residential densities and to allow for commercial uses usually found in an urban centre. Development controls within this particular Urban Development zone are contained within the Murdoch Mixed Use Activity Centre Structure Plan (Structure Plan) and Local Planning Policy 4.4 - Murdoch Health and Knowledge Precinct (LPP4.4).

Murdoch Specialised Activity Centre Structure Plan (MSACSP)

The Murdoch Activity Centre (MAC) is one of five specialised activity centres in Perth with the potential to become a "knowledge-intensive and competitive urban centre". Its strategic value is identified in *Perth and Peel-Directions 2031 and Beyond*, which led the Western Australian Planning Commission (WAPC) to prepare the *Murdoch Specialised Activity Centre Structure Plan* (MSACSP) in partnership with the City of Melville and Murdoch University. The MSACSP was endorsed by the WAPC in 2013.

Figure 3 below shows that the MSACSP covers a large and diverse area, which is why the MSACSP is broken into eight distinct precincts. Each of these precincts has a unique focus, and rather than relying on the strategically focussed MSACSP to guide development within these precincts, the MSACSP requires that a local structure plan be prepared for each.

One of the two core areas identified in the MSACSP and the precinct likely to see most of the new development, is the Murdoch Mixed Use Precinct. Located adjacent to the Health Precinct comprising primarily of the Fiona Stanley and St John of God hospitals, it is intended to include "associated health care and accommodation facilities". The MSACSP states that the Mixed-Use Precinct:

"Will be a key arrival gateway between Murdoch Station and the central area of the activity centre. Its urban setting adjacent to the rail station and freeway also lends to the development of a mix of offices, retail and entertainment amenities which will support an intense workforce throughout the day and night".

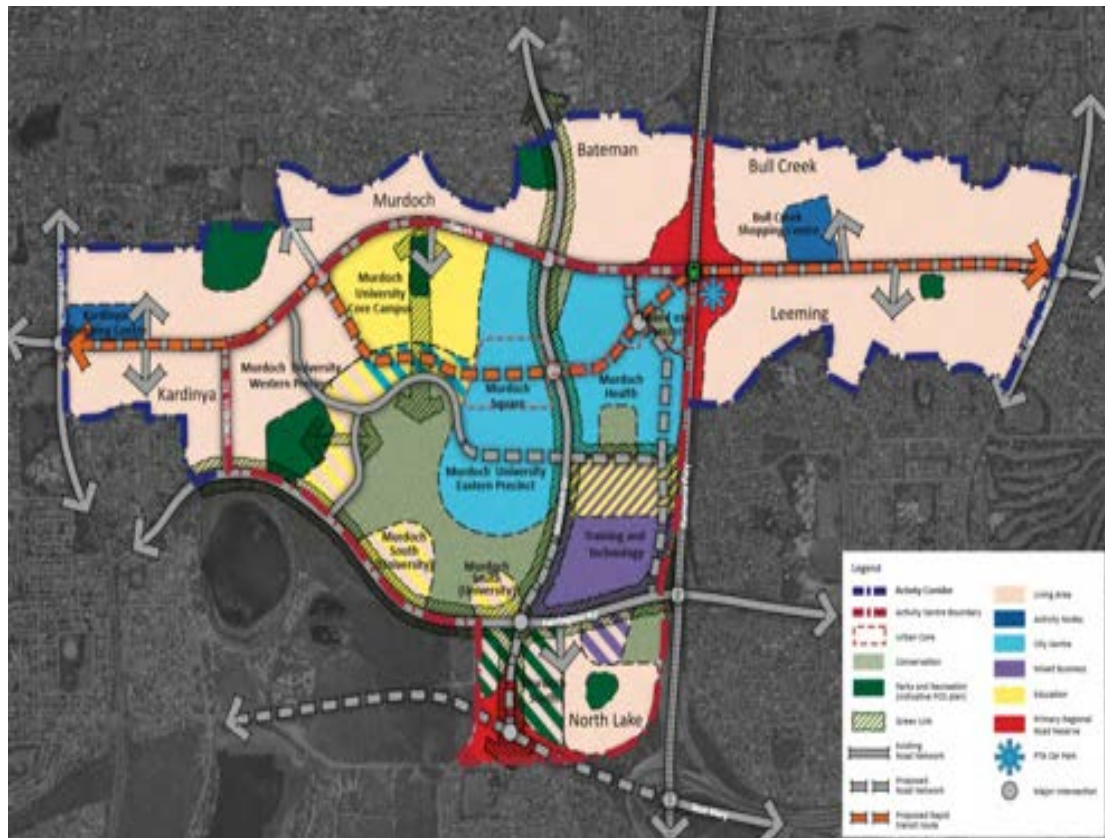


Figure 3 - Murdoch Specialised Activity Centre Structure Plan map

Murdoch Mixed Use Precinct Activity Centre Structure Plan

In accordance with the objectives of the MSACSP, Development WA (previously LandCorp) commissioned the preparation of the *Murdoch Mixed Use Precinct Activity Centre Structure Plan* (the Structure Plan). The Structure Plan is more detailed than the MSACSP and provides the key objectives and specific development requirements for the Mixed-Use Precinct. Approved by the Western Australian Planning Commission in 2014 this document covers the staging of development within the Structure Plan area, land use permissibility, and a number of primary development controls including plot ratio, parking and public open space.

The Structure Plan defers most of the development controls for the Mixed-Use Precinct to Design Guidelines developed by the City of Melville as a Local Planning Policy (LPP4.4. – *Murdoch Health and Knowledge Precinct*) adopted in late 2016. This policy provides Design Guidelines for new development and are performance-based with sufficient detail to ensure suitable control over development to achieve quality and desirable built form outcomes.

Whilst the City is required to consider all development proposals against the Structure Plan, LPP4.4 and other State and Local Planning Policies as the Responsible Authority, Development WA is also required to endorse any development proposal within the Mixed-Use Precinct as condition of the land transaction.

State Planning Policy 4.2 - Activity Centres for Perth and Peel

Under the provisions of State Planning Policy 4.2 (SPP4.2), Murdoch is classed as a Specialised Centre. Specialised centres focus on regionally significant economic and institutional activities, such as logistics-based businesses for airports or knowledge based for health and tertiary education precincts. Planning for these centres should aim to protect the specialisation while improving the growth and clustering of business activity of State and regional significance, particularly in knowledge-based or logistics-based industries. These areas are to be developed as places with a concentration of linked businesses and institutions providing a major contribution to the economy, with excellent transport links and potential to accommodate significant future growth in jobs and in some instances housing. Specialised nodes are smaller in scale than specialised centres.

Consultation:

Public Consultation

Advertising of the above proposal was undertaken in accordance with the City's *Local Planning Policy 1.1 – Planning Process and Decision Making*. The formal consultation process included the following measures:

- Correspondence sent to both nearby hospitals and the owners of the adjacent development sites;
- Two Signs located on two of the street frontages (Barry Marshall Parade and Fiona Wood Road); and
- Plans for the proposal and all relevant information uploaded to the City's website via its Melville Talks page.

In response to the formal consultation, five submissions were received, one in support, three opposing the development and one neither supporting nor opposing the development. The comments and concerns raised by the submissions received are summarised in the following tables:

Summary of Objections

Nature of Concern	Officer Comment
Traffic Congestion	Refer to the Planning Assessment Section of this report. A detailed Traffic Impact Assessment (TIA) prepared by Uloth & Associates has been reviewed by the City's Traffic Engineers as well as by the Public Transport Authority (PTA). The TIA was referred to PTA due to vehicular access for residents and users of the proposed development is to be from Barry Marshall Parade (which is currently a bus route to Murdoch Train Station). Both the City and the PTA have determined that the access as proposed off Barry Marshall Parade will generate additional traffic by the development which will prejudice the area.

Concerned about desire to build high rises	The proposed multiple dwellings are a preferred land use in this emerging precinct and are consistent with the objectives of the Murdoch Mixed Use Activity Centre Structure Plan.
Oppose any potential housing either private or public purposes	The proposed multiple dwellings are a preferred land use in this emerging precinct and are consistent with the objectives of the Murdoch Mixed Use Activity Centre Structure Plan.
Buildings should not be higher than existing in the area.	The proposed height of the two buildings is compliant with the planning framework.

Summary of Support Submission

Nature of Support	Officer Comment
Should be more housing in the City of Melville, including social housing.	Noted.

Referrals/consultation with Government/Service Agencies

Public Transport Authority

The application was referred to the PTA on 8 March 2024 due to vehicular access off Barry Marshall Parade proposed by the development. The section of Barry Marshall Parade impacted by the proposed vehicle access is currently only used by PTA buses accessing Murdoch Train Station.

On the 26 March 2024, the PTA provided their comments and requested the following additional information from the applicant:

- *Transport Consultant's reasoning as to how they arrived at the proposed parking capacity numbers. We note that this is a build to rent development with 151 affordable housing units and 65 social housing units, however 191 residential car bays are provided = 88% of total dwellings. This seems high given the nature of housing, the proximity to the bus and train station and public health services in this precinct.*
- *Why PTA and Transperth Planning have not been contacted during the development of the JDAP (we refer to attached correspondence between Development WA and Department of Transport in working collaboratively to determine the best land use outcomes for the precinct).*
- *Stakeholder list including meeting dates.*
- *Traffic modelling, including:*
 - o *trip generation rates;*
 - o *inbound/outbound movements during AM and PM peaks broken down into traffic movements assigned northbound (Freeway via Murdoch Drive and Barry Marshall Parade), southbound (Freeway or Murdoch Drive via Barry Marshall Parade), east bound (South Street via Murdoch Drive), and west bound (South Street via Fiona Wood Road);*

- o *bus movements along Barry Marshall Parade need to reflect the timetable for Routes 204, 205, 206, 207, 510, 511, 512, 514, 998/999 and future Mid-Tier service. This is 60 inbound and 71 outbound buses during AM Peak (0700-0900), and 69 inbound and 74 outbound buses during PM Peak. Contact Transperth for future year service levels. Future service levels are as below based on Murdoch Station Upgrade project figures.*

In response, a meeting between the applicants, the City and PTA was convened on the 26 April 2024. As a result of this meeting, the applicant on the 6 May 2024 provided a stand-alone Transport Report Addendum (Attachment 13) addressing the SIDRA Network modelling for Barry Marshall Parade - Fiona Wood Road and the proposed access driveway off Barry Marshall Parade, taking into account the existing and future bus movements along Barry Marshall Parade as per the comments received from the PTA on 26 March 2024, and as discussed at the meeting held on 26 April 2024.

Upon reviewing the updated transport report, PTA indicated on 17 May 2024 that the proposal was not supported and recommended the applicant investigate and/or consider the following:

- *PTA's primary concerns do not relate to intersection performance, our concerns relate to the turning movements and interactions with bus services and their access to the development.*
- *Potential future mid-tier alignment on Barry Marshall Parade with required cross section potentially excluding right turn egress from the development.*
- *The addition of a roundabout on Fiona Wood Road on the intersection of Wonnul Place, noting access and egress demands of the future consideration for DA Lot 601.*
- *Proposed private vehicle access eastbound of the Barry Marshall Parade & Fiona Wood Road intersection is predicated on right turn access into the Development WA cell to the southeast. Stage 2 in the Long-Term Concept Plan indicates the only left-turn egress from the Development WA site will be provided. See Stage 2 Strategic Plan (attached). This is not consistent with the layout in the Applicant's Long Term Concept Plan.*
- *The PTA holds concerns regarding inadvertent private vehicle access past the Lot 120/121 access point and that this would leave no option for drivers other than to enter the bus interchange. Applicant needs to demonstrate mitigation of this scenario.*

PTA did indicate in their correspondence to the City on 17 May 2024 that they forwarded the addendum transport report to their engaged traffic modellers for review and were awaiting a response and would provide further comment to the City regarding this. At the time of preparing this report, no further correspondence from PTA has been received.

Jandakot Airport

A referral was sent to Jandakot Airport to confirm whether the proposed development (maximum height of 103m AHD) which is above the helipad height of 66m AHD approved at Fiona Stanley Hospital, would affect helicopter movements within the area. Jandakot Airport had no concerns with the proposal besides recommending that the City liaise with CASA on this matter and ensure that the applicants are aware of the potential safety issues around crane activities in the area. Should the application

be recommended for approval; a condition will be recommended ensuring the possible issue with cranes is addressed prior to the commencement of works on-site.

Civil Aviation Safety Authority

Given the above comments from Jandakot Airport, a referral was sent to the Civil Aviation Safety Authority (CASA) to provide comment regarding any impacts the development may have on the Fiona Stanley Hospital helipad. CASA confirmed that the proposed development at approximately 340 metres from the helipad, 35 metres above the elevation of the helipad and at a slope of approximately 10 per cent would not affect helicopter movements. However, CASA recommended that the tallest proposed building be lit with a steady red medium-intensity obstacle light at night and during low visibility in accordance with the requirements of *Part 139 (Aerodromes) Manual of Standards (MOS)*, noting that the proposed structure will represent the highest obstacle within the immediate vicinity of the Fiona Stanley Hospital helipad. Therefore, should the application be recommended for approval, a condition to cover the CASA lighting requirements will be recommended.

City of Melville Internal Referrals

The assessment process included referrals to a number of internal stakeholders. The responses received from these stakeholders were supportive of the development subject to the imposition of appropriate conditions with the exception of the City's Technical Services whose comments are summarised below.

Technical Services

The Transport Report (Attachment 4), and other traffic related documentation submitted in support of the application, has been reviewed by the City's officers. The primary concern from the City's Traffic Engineers is in relation to the vehicular access proposed off Barry Marshall Parade for resident/commercial parking entry and exit:

"Barry Marshall Parade between Fiona Wood Road and Murdoch Bus Station is a dedicated bus route. As such, the City's Engineering Department is not supportive of the proposed access from Barry Marshall Parade. It is recommended to provide all accesses from Wonnul Pl. However, if Public Transport Authority permits, the City may consider the proposed access from Barry Marshall Parade".

In addition to PTA not currently supporting the proposal, the City's Traffic Engineers are not supportive of the proposed access off Barry Marshall Parade unless it reduces trip generation due to safety concerns in accordance with Schedule 2, Part 9, Clause 67 (2) (s)(i) and (t) of the *Planning and Development (Local Planning Schemes) Regulations 2015* which are as follows:

- (s) *the adequacy of –*
 - (i) *The proposed means of access to and egress from the site; and*
- (t) *the amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety.*

Design Review Panel Advice

Murdoch Health and Knowledge Precinct Design Review Panel (DRP)

The Murdoch Health and Knowledge Precinct Design Review Panel (DRP) was established by Development WA and is comprised of the estate architect and representatives from Development WA, the Office of the Government Architect and the City of Melville Design Review Panel. The role of the DRP is to provide expert advice and recommendations to the applicant and decision makers with regard to the design quality of a proposal and to ensure any development meets the vision and objectives for the area.

The proposed development was presented initially to the DRP on 14 November 2023 in the form of a high-level presentation from the applicant detailing the project context, precinct response, façade approach and preliminary drawings. The Design Review panel commended the applicant on their active engagement with the design review process however, the DRP had significant concerns with the consolidation of podium form into a monolithic 5 storey predominantly carpark element which is a significant departure from the local planning policy and design guidelines in both detailed controls and design objectives. As such, the DRP outlined that there should be additional work done to describe the connection to context in both form and concept for the proposal, especially with regard to the future (and soon to be completed) works adjacent to the amalgamated sites. This included acknowledging and responding to the developing architectural language(s) and creating appropriate urban outcomes with distinct landmark elements.

Notwithstanding the above, the DRP believed that the tower elements could meet the objectives of the design guidelines. Therefore, the DRP encouraged the applicants to continue to refine and evolve the architectural language around context and climatic drivers to define some variation in towers whilst being part of a broader family of buildings.

A second DRP meeting took place on 19 December 2023 whereby the applicant provided revised plans to address many of the DRP's concerns raised from the first meeting. The DRP noted that the discretion sought for setbacks, height and building separation across the development was generally supportable, conditional on the façade / screening of the podium element being improved to address the Panel's concerns. The DRP reiterated that the importance of improving this element to obtain DRP support of the proposal. Therefore, the DRP requested that the applicant reconsider and refine the screening of the parking areas to the satisfaction of the DRP prior to the submission of the development application.

After this meeting, the applicant liaised with Development WA and outlined their need for an urgent endorsement by the DRP and development approval in order to get funding for the proposal offered by Housing Australia in relation to the residential component of the development. As such, a revised proposal was sent through to the DRP panel via email on 25 January 2024 which was viewed favourably by the DRP on 29 January 2024 with a letter confirming preliminary support for the revised proposal sent on 30 January 2024, outlining that additional information was required from the applicant within 30 days of lodgement of the DAP application.

The subject development application was lodged with the City on 5 February 2024 however, the additional information requested by the DRP was not received by the City

until 2 April 2024. Notwithstanding, on 17 April 2024 the DRP provided an endorsement letter advising of their support of the proposal with conditions for resolution prior to submission of a Building Permit (See Attachment 12).

It is important to note that should Development Approval be granted, both Development WA's Design Guidelines and the City's LPP4.4 require the applicant to present the final detailed plans, including any changes made to meet conditions of development approval to the DRP prior to being permitted to lodge for a Building Permit. It is anticipated that as part of this process, important conditions such as materials and finishes, landscaping and public art would be cleared to the satisfaction of the City and Development WA.

Planning Assessment:

The proposed development is of a high quality and one which satisfies the relevant requirements of the planning framework. The following matters require a performance assessment and therefore warrant particular consideration prior to determination by the JDAP.

Local Planning Policy 4.4 Murdoch Health and Knowledge Precinct

Urban Design

In regard to access, LPP4.4 anticipates that developments will provide secure and clearly defined car parking for residents, workers and visitors, with the target of lowering car dependency and encourage the use of alternative transport, while minimising the impact of vehicles on the public realm. Vehicle access for sites is permissible only on tertiary frontages. As shown in Figure 4 below, the subject development sites are 1D and 1C and Barry Marshall Parade is a secondary frontage.



- Primary frontages
- Secondary frontages
- Tertiary frontages

Figure 4 – Development Site Frontages within the Murdoch Health and Knowledge Precinct as depicted within LPP4.4

The application proposes vehicle access for service vehicles from Wonnul Place, whilst access to the car park containing the car parking bays for the proposed multiple dwellings and commercial tenancies is proposed from Barry Marshall Parade, as per Figure 5 below.



Figure 5 – Proposed Ground Floor Plan with vehicular access proposed off Wonnul Place for Service Vehicles and off Barry Marshall Parade for access to the four-level car park

Vehicles utilising the Barry Marshall Parade access will be able to enter and exit in a forward gear. Primary vehicle access is not taken via Wonnul Place or Fiona Wood Road as required by LPP4.4 and as outlined earlier in this report, both the PTA and the City are not supportive of the proposed access arrangement off Barry Marshall Parade. Under Clause 1.5 of LPP4.4, the design objectives that need to be considered are as follows:

- *To provide secure and clearly defined car parking for residents, workers and visitors, with the target of lowering car dependency and encouraging the use of alternative transport; and*
- *To allow for efficient and clearly defined movement of local, visitor and service vehicles, while minimising the impact of vehicles on the public realm.*

The current access arrangements will not result in a safe environment and may result in vehicles potentially impacting on the public realm in this area – namely the safe movement of buses, cyclists and pedestrians. Furthermore, the applicant has not been able to adequately demonstrate that the design cannot be delivered without access from Barry Marshall Parade.

Therefore, the City cannot support the current access arrangement off Barry Marshall Parade as it is contrary to the development control of vehicle access – being only permitted on tertiary frontages (Wonnul Place and Fiona Wood Road). Noting potential

safety risk to other movements, approval of the proposed development would be contrary to Schedule 2, Clause 67 of the *Planning and Development (Local Planning Schemes) Regulations 2015*, with particular reference to the following subclauses:

- (a) *the aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area;*
- (b) *the requirements of orderly and proper planning;*
- (g) *any local planning policy for the Scheme area;*
- (s) *the adequacy of –*
 - (i) *The proposed means of access to and egress from the site; and*
- (t) *the amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety.*

The recommendation of a condition to address this issue was considered by the City. However, given resolution of the issue will require amended plans and an updated traffic report which would need to be submitted for review and approved by the City, a condition is considered inappropriate and ultimately may lead to an unsuccessful outcome.

Therefore, it's the opinion of the City as Responsible Authority to the JDAP that the development as proposed cannot be supported in access terms at this time and deferral is the most appropriate recommendation.

Additionally, under the Urban Design requirements of LPP4.4, discretion is sought in relation to the required number of motorcycle/scooter parking bays. 53 scooter/motorcycle bays are proposed (21 for residential and 32 for the commercial tenancies) exceeding the maximum allowed of 48 bays.

Considering there is not an oversupply of car parking, these additional 5 motorcycle bays do not undermine the intent of the structure plan to reduce the reliance of vehicle parking (namely car parking) and therefore the additional motorcycle/scooter bays are supported.

Built Form

LPP4.4 anticipates a podium and tower model of development within the structure plan area in order to activate the streetscape, manage bulk and allow for view corridors within the precinct. The proposal requires a performance assessment having regards to a number of clauses in LPP4.4 (i.e. 2.1.3 Height, 2.2.1 Colonnade, 2.7 Building Services, 2.12.1 Solar Access and Part 3 - Site Specific Requirements) as outlined below.

LPP4.4 Clause	Design Objective	Development Control	Design Response
2.1.3 Height	To create the desired character and proportions of the precinct streets, and provide appropriate density for the precinct	Developments shall comply with minimum and maximum podium heights, and minimum tower heights, as outlined in Part 3.	One additional storey to proposed to podium, five storeys total, in lieu of the required four storeys as per Part 3 of LPP4.4.

			Supported. See comments below.
2.2.1 Colonnade	To create a cohesive, consistent edge to the public realm, blur the threshold between public realm and built form, and define and frame a wider space for pedestrian movement.	All Primary Frontages shall provide a colonnade zone as an extension of the public realm. The colonnade zone applies a four-metre building setback at ground level and nil building setback to the site boundary at podium level. Refer to Figure 2.	A colonnade frontage is required to the Secondary Frontage along Barry Marshall Parade as per the Part 3 of LPP4.4. In lieu of a colonnade as per the development control, an alternative colonnade treatment has been proposed in the form of a considered pedestrian canopy with provision of significant landscaping, which achieves the qualities of a pedestrian-based colonnade space. Supported. See comments below.
2.7 Building Services	To ensure services are hidden and integrated into the built form to minimise the impact of services on the public realm.	Residential developments shall provide each dwelling with an enclosed, lockable storage area accessible from outside the dwelling, with a minimum area of 4m ² and a minimum dimension of 1.5m. Storage areas shall not be visible from the public realm.	Stores have been based on R Code requirements which is 3m² for one-bed apartments and 4m² for two-bed apartments. Supported. See comments below.
2.12.1 Solar Access	To minimise the impact of development on solar access to the public realm and development sites, and to achieve mandatory sunlight	If developments on Sites 1C, 1D, 2A, 2B or 4 are proposed to exceed the suggested maximum heights specified in Part 3, developers shall provide a solar modelling report at DA stage that demonstrates that the	A solar modelling report has not been provided noting this is required given the podium height discretion sought. Through the DRP process, the

	requirements to the Conservation Area.	additional height does not impact negatively on the Conservation Area. Specifically, the report shall demonstrate that at least 95% of the Conservation Area receives at least 50% of available sunlight at all times of the year, assuming that all undeveloped sites are developed to their suggested maximums.	applicants showed that the conservation area performs well but there was no specific consideration of the reporting requirements. Therefore, DRP supported this element conditional as part of their endorsement subject to this development control being achieved, to the satisfaction of the City. As part of the RAR recommendation for deferral, a requirement for a solar modelling report will be requested.
--	--	---	--

LPP4.4 Clause	Development Control	Design Response
Part 3 - Site Specific Requirements	<i>Vehicle and Service Access</i> Laneway to north-west	Service vehicle access is via Wonnul Place. All other vehicle access is via Barry Marshall Parade, not as specified.
	<i>Building Heights, Podium</i> Minimum 2 storeys - Maximum 4 storeys	A five storey podium is proposed to Wonnul Place, Fiona Wood Road and Barry Marshall Parade in recognition of landmark development site and to maximise the activity fronting / overlooking all street frontages.
	<i>Setbacks, Tower Levels</i> Minimum 10m setback to shared boundary Minimum 5m setback to all other boundaries	<i>Tower 1 (Residential)</i> Nil to Wonnul Place in lieu of 5m <i>Tower 2 (Commercial)</i>

		4.0m to Wonnul Place & 3.8m to Barry Marshall Parade in lieu of 5m.
		3.0m to shared boundary in lieu of 10m.
	<i>Minimum Residential Dwellings, Hotel Rooms or Serviced Apartments</i>	<i>Site 1C (Tower 2 – Commercial:</i>
	Site 1C: 56	Nil

Under the provisions of LPP4.4, where the proposal does not meet the specific development control, applicants are to demonstrate that the proposal meets the objectives of the policy through alternative design solutions with guidance from the DRP. As noted above, the proposed development was presented to the DRP on a number of occasions and the applicant responded positively to the feedback from the DRP by revising the plans and providing additional information in order to improve the overall quality of the built form and ensure that the building responds appropriately to the site context and the provisions of LPP4.4.

The built form is considered to meet the objectives and design principles of LPP4.4 on the basis that:

- The subject lot is a 'landmark site' as identified in LPP4.4, and as such the built form having a stronger presence on the corner of Barry Marshall Parade and Fiona Wood Road is supported as it marks a major intersection for the precinct.
- The change in the materials and colours help to break up the massing and ensure the building is visually interesting to passing pedestrians and motorists.
- The podium and tower proportions ensure that the proposal is of a human scale, allows for appropriate levels of sunlight to the adjoining sites and allow for view corridors to be maintained between buildings.
- The proposed heights of both towers are below the maximum building height development control. The proposal has been designed to provide high levels of streetscape engagement and pedestrian protection to the Barry Marshall Parade and Fiona Wood Road frontages. The applicant has also activated Wonnul Place to some extent continuing the high quality of the design as the other street frontages.
- The design of the podium, predominantly a car park element, has improved throughout the DRP process. Podiums are required to have articulated human scaled qualities, legible entries and contribute to a high-quality streetscape; and if podium parking is introduced, sleeved active uses facing the public realm. The proposed façade screening to the podium now demonstrates the qualities expected and complies with the applicable development control to be visually screened from view.
- The tower design, scale and separation reinforces the major view corridor of Barry Marshall Parade, while affording views over the public open spaces and conservation area to the southeast.

- The development proposal is complementary to the precinct and meets the strategic objectives for the area, particularly with respect to delivery of affordable housing in close proximity to the Murdoch Train Station.

The proposal will provide a high-quality built form which will have a positive impact on the public realm and adjoining properties while providing a good pedestrian experience and reinforces this important site within the precinct (subject to removal of the vehicle access to Barry Marshall Parade). The proposed development is therefore considered to meet the objectives of LPP4.4 in regards to built form.

Residential Design Codes

Since the application was lodged, the Residential Design Codes Volume 1 (Revised R-Codes Vol. 1) was released on 1 March 2024 with their implementation from 10 April 2024. As per Table 1.4A within Revised R-Codes Vol. 1, as the subject site is zoned R-AC, Residential Design Codes Volume 2 (R-Codes Vol. 2) still applies for this proposal in regards to the residential component of the development proposed on No. 5 Fiona Wood Road.

The requirements of R-Codes Vol.2 apply in all respects except where modification is indicated in LPP4.4. As such, the table below details the only relevant matter which requires a performance assessment, the applicable planning controls, a brief description of the proposal and an officer comment.

Provision	Requirement	Proposal	Assessment
Element 3.6 & A3.6.3	Upper-level balconies and/or windows overlook the street and public domain areas.	The proposal includes dwellings (above the podium) that face and overlook the street, except for one dwelling on each level.	Supported. The residential tower proposal provides a suitable transition between the private and public domain to ensure safety of residents as well as being a street facing development with high levels of amenity.

Conclusion:

The City considers that the application is a high quality and important development proposal for the Murdoch Health and Knowledge Precinct. The proposal is considered to meet most of the relevant elements of the applicable planning framework and will bring a significant number of jobs and residents to the area and contribute towards the strategic function of this area as a specialised activity centre.

However, the proposed development does not meet the City's expectations in terms of vehicular access having regard to the relevant planning framework. The applicant has not demonstrated that vehicle access arrangement will not work without access to Barry Marshall Parade nor demonstrated the safety of the proposed arrangement and

therefore the City and the PTA are not satisfied that the access arrangement will not prejudice the safe movement of vehicles and people within the area.

The recommendation of a condition by the City to try and resolve this matter through design change is not considered appropriate in this instance given the necessary level of assessment of any amended plans and traffic reports, as well as endorsement from the City's internal stakeholders and the PTA being required before this element is considered acceptable and consistent with the design objectives for access outlined within Clause 1.5 of LPP4.4 and Clause 67 of the *Planning and Development (Local Planning Schemes) Regulations 2015*.

Given the ongoing discussions that have been occurring with the City, the applicant and PTA through the development application process to address this vehicular access matter from Barry Marshall Parade, a deferral of the application to allow sufficient time for this matter to be resolved to the satisfaction of all parties is considered more reasonable than recommending the proposal as a whole, be refused solely on non-compliance with this one element.

It is therefore recommended that the JDAP defer the application for minimum 90 days to allow sufficient time for the applicant to prepare amended plans and further traffic addendum, allow for referral back to the PTA and the City's re-assessment and reporting back to the JDAP.



Application for Development Approval

Mixed Use Development

Lot 120 and 121 Fiona Wood Road
Murdoch

Document Control

Reference	0198
Location	Lot 120 and 121 Fiona Wood Road, Murdoch
Client	MHKP 118 Asset Pty Ltd (Hesperia)
Document Title	Mixed Use Development
Document File Name	0198 20240131 Development Application.docx
Document Date	31 January 2024
Document Version	V1
Author	Sean Fairfoul

Contents

1.0 Executive Summary	1	5.1 Metropolitan Region Scheme	10
2.0 Introduction	2	5.2 State Planning Policies	10
3.0 Site Assessment	3	5.2.1 State Planning Policy 4.2: Activity Centres for Perth and Peel	10
3.1 Location	3	5.2.2 State Planning Policy 5.4: Road and Rail Noise and Freight Considerations in Land Use Planning	11
3.2 Title Particulars	3	5.2.3 State Planning Policy 7.0 – Design of the Built Environment	11
3.3 Existing Improvements	3	5.2.4 State Planning Policy 7.3 – Residential Design Codes Volume 2 – Apartments	11
3.4 Services	3	5.2.5 Murdoch Specialised Activity Centre	11
3.4.1 Sewer	3	6.0 Local Planning Considerations	12
3.4.2 Drainage	3	6.1 City of Melville Local Planning Scheme No. 6	12
3.4.3 Water	3	6.1.1 Land Use Permissibility	12
3.4.4 Power	3	6.2 Murdoch Mixed Use Precinct Activity Centre Plan	12
4.0 Description of Proposal	4	6.3 Local Planning Policies	13
4.1 Design Review Assessment	5	6.3.1 Local Planning Policy 4.4: Murdoch Health and Knowledge Precinct Design Guidelines	13
4.1.1 DRP Meeting 1	5	6.3.2 Local Planning Policy 2.1: Non-Residential Development	16
4.1.2 DRP Meeting 2	5	6.3.3 Local Planning Policy 1.2: Architectural and Urban Design Advisory Panel	17
4.1.3 Further Discussions	6	6.3.4 Local Planning Policy 1.3: Waste and Recyclables Collection for Multiple Dwelling, Mixed Use and Non-Residential Developments	17
4.2 Landscaping	6	6.3.5 Local Planning Policy 1.4: Provision of Public Art in Development Proposals	17
4.3 Traffic and Parking Management	7	6.3.6 Local Planning Policy 1.5: Energy Efficient in Building Design	17
4.4 Acoustic	7	6.3.7 Local Planning Policy 1.8: Crime Prevention Through Environmental Design	17
4.5 Waste Management	8	6.3.8 Local Planning Policy 1.10: Amenity	18
4.5.1 Bin Storage Areas	8	7.0 Conclusion	18
4.5.2 Residential Waste	8		
4.5.3 Commercial Waste	8		
4.6 Drainage	8		
4.7 Environmentally Sustainable Design	8		
4.8 Wind Management	8		
4.8.1 Ground Level Areas	8		
4.8.2 Communal Open Space	8		
4.9 Public Art	8		
4.10 Staging	9		
5.0 Regional Planning Considerations	10		

1.0 Executive Summary

This Application proposes the construction of a mixed-use multi-storey development on Lots 120 (No. 55) Barry Marshall Parade and Lot 121 (No. 5) Fiona Wood Road, Murdoch (Site). The proposal is for a significant social and affordable housing project, along with a substantial commercial development at the Murdoch Health and Knowledge Precinct (MHKP).

This development will deliver essential affordable housing options for the future MHKP workforce, including occupations such as nurses, health support roles and staff for nearby educational institutions. The Foundation Housing element of the proposal includes a 24-storey building containing 216 build-to-rent dwellings. The development will comprise 151 affordable housing units (70%) and 65 social housing units (30%), substantially increasing the social housing available within Southern Metropolitan region and becoming a significant component of the achievement of the residential targets within the centre.

The other portion of the proposal includes a 13-storey commercial building on the adjoining Lot 120, with future provision for 13,405m² of office space.

The development layout and building form has been subject to a rigorous design review process which have refined the building design language.

Close consideration has been given to the manner in which the design responds to the active site frontages; incorporating active ground level uses to Fiona Wood Road, Barry Marshall Parade and the adjoining pedestrian access way which connects to Wonnul Place. This activation strategy provides for active edges to the primary pedestrian spaces, while allowing for the sensible location of back-of-house and vehicle access / egress spaces.

The development serves as a landmark entrance to the wider precinct, with the built form emphasis oriented toward the intersection of Fiona Wood Road and Barry Marshall Parade. All roof level services are setback from active edges and screened to ensure they are not visible from public spaces or adjacent developments.

Vehicle parking is provided within the podium levels, accessible via the crossover to Barry Marshall Parade. Podium vehicle parking is partially screened from view by way of interpretive screening / artwork.

The proposed development will add to the other mixed use outcomes within this precinct and is another worthwhile addition, particularly given the proximity to the rail station.

Included within this report is a suite of technical reports that demonstrate that the proposal can be developed sustainably and in harmony with the existing and future development outcomes contemplated by the Centre Plan. In this regard, the project team is of the view that the proposal will provide increased amenity and activity to the precinct, facilitating positive outcomes which is worthy of the support of the Joint Development Assessment Panel.



2.0 Introduction

Lateral Planning acts on behalf of the landowners of Lot 120 and 121 on Deposited Plan 412855, Murdoch.

This Report has been prepared in support of the enclosed Application for Development Approval (**Development Application**), which seeks approval from the Inner-South Joint Development Assessment Panel for a Mixed-Use development comprising, residential, retail and commercial land uses.

In support of the Development Application, this report includes a description of the following matters:

- Location of the Site;
- Description of the existing land use;
- Overview of the relevant planning and design matters;
- Detailed explanation of the proposed development; and
- Justification for the proposed development.

The project team guiding the proposal includes:

Discipline	Consultant
Development Manager	Hesperia
Acoustic	Marshall Day
Architecture and Landscaping	Hassell
Building Surveyor	Resolve
Car Park	Level 5 Design
Development Manager	Hesperia
Electrical & Vertical Transportation	Best
Fire	Strategic Fire
Geotechnical	Galt
Hydraulic & Wet Fire	Iconic
Mechanical	Link
Project Management	Encon
Public Art	Appartus
Quantity Surveyor	WT
Retail Leasing	Lease Equity
Sustainability	Stantec
Town Planning	Lateral Planning
Traffic	Uloth and Associates

Waste Management	Encycle Consulting
Wind	Windtech

This Report is accompanied by the following documentation:

- Certificates of Title;
- Architectural Package;
- Landscaping Plans;
- Transport Assessment;
- Acoustic Assessment;
- Waste Management Strategy;
- ESD Strategy;
- Wind Assessment; and
- Civil / Services Review.

It is important to note that the Development Application has been prepared with reference to the Murdoch Mixed Use Precinct Activity Centre Plan (**Centre Plan**). This Application also references the current planning framework including the Metropolitan Region Scheme, City of Melville Local Planning Scheme No. 6, and the various Local Planning Policies.

3.0 Site Assessment

3.1 Location

The Site is located in the municipality of the City of Melville (**City**), approximately 13 kilometres south of the Perth Central Area. The Site is situated south-west of the Kwinana Freeway / South Street intersection, adjacent to the Aileen Plant Park and Rail public transport interchange.

The Site is bound by Fiona Wood Road, Barry Marshall Parade and Wonnul Place, positioned generally at the entrance to the Murdoch Health and Knowledge Precinct.

The Site is easily accessed via the Kwinana Freeway, by way of private vehicle or public transport. The Site is approximately 250m west of the Murdoch Train Station, and is accessible by bus routes 503, 504, 505 and 513.

3.2 Title Particulars

The Site comprises two (2) allotments, legally described as follows:

- Lot 120 on Deposited Plan 412855, Certificate of Title Volume 2954 and Folio 559; and
- Lot 121 on Deposited Plan 412855, Certificate of Title Volume 2954 and Folio 560.

The Site has a total land area of 4,705m² and frontages of approximately 110m to Barry Marshall Parade, 47m to Fiona Wood Road, 72m to Wonnul Place and 38m to the pedestrian access way.

Refer to Certificate of Title and Deposited Plan.

3.3 Existing Improvements

In early 2013, the Site was cleared of all remnant vegetation and structures. The Site is now cleared and leveled and secured by way of fencing.

3.4 Services

In late 2013, the Site was cleared of all remnant vegetation and structures. The Site is now cleared and leveled and secured by way of fencing.

3.4.1 Sewer

Both lots are serviced by a connection along Barry Marshall Parade and have adequate capacity to receive the proposed development flows.

3.4.2 Drainage

Typically for these developments, standard drainage flows are contained on site and infiltrated into existing soils.

The stormwater drainage design for the civil development has been undertaken in accordance with the City of Melville requirements to store a 1 in 100 ARI (1% AEP) stormwater event of critical duration.

Based on the site area, the site will require stormwater retention tanks (as currently included/located in the architectural planning) and discharge into the local network. Based on the early design stages, it is proposed that stormwater be contained underground via 1500 GRAF cells which will provide an on-site detention of 314m³, equivalent to 73.5mm per effective impervious area.

Advice and approvals will be required from the City of Melville to implement the stormwater drainage strategy.

3.4.3 Water

Previous works undertaken in the development of the Fiona Stanley Hospital precinct indicate there are adequate water pressures within the local Water Corporation network.

3.4.4 Power

A Western Power Substation is located at the corner of Fiona Wood Road and Barry Marshall Parade.

4.0 Description of Proposal

It is proposed to develop the site for a high-quality Mixed-Use proposal, including residential, commercial and retail uses. The development features an active ground and podium level with two (2) tower components.

This development will deliver essential affordable housing options for the future MHKP workforce, including occupations such as nurses, health support roles and staff for nearby educational institutions. The Foundation Housing element of the proposal includes a 24-storey building containing 216 build-to-rent dwellings. The development will comprise 151 affordable housing units (70%) and 65 social housing units (30%), substantially increasing the social housing available within Southern Metropolitan region and becoming a significant component of the achievement of the residential targets within the centre.

The other portion of the proposal includes a 13-storey commercial building on the adjoining Lot 120, with future provision for 13,405m² (NLA) or 14,780m² (GFA) of office space.

The ground level is intended to include a range of active uses including retail and food / beverage.

The proposal is visually interesting and high quality that will be a gateway landmark into the Activity Centre.

This Report supports the Development Application which proposes the following key elements:

- Semi-Basement
 - Back-of-house, vehicle circulation and vertical transport
- Ground Level
 - 920m² (NLA) Retail / Commercial tenancies;
 - Residential and Commercial end-of-trip facilities comprising:
 - 90 bike parking racks;
 - 90 lockers;
 - 5 male and 5 female showers.
 - 15 visitor bike racks:
- Levels 1 – 4
 - 156 car bays and 21 motorbike bays - Residential;
 - Up to 364 car bays and 33 motorbike/scooter bays - Visitor and Commercial;
 - 144 Residential stores.
- Level 5
 - Communal Open Space;
 - Office tenancy;
- Level 6 – 22 (Lot 121 Tower - Residential)
 - 216 residential apartments;
 - 72 Residential stores; and

- Services (roof)
- Level 6 – 17 (Lot 120 Tower - Commercial)
 - 1,910m² (GFA) Office tenancies; and
 - Services (roof)

	Apartments					Commercial (GFA)			Plant
Level	1x1 Bed	2x1 Bed	2x2 Bed	Total	Stores	Retail	Office	Car Park	
Roof									plant
23	8	2	2	12	4				
22	8	2	2	12	4				
21	8	2	2	12	4				
20	8	2	2	12	4				
19	8	2	2	12	4				
18	8	2	2	12	4				
17	8	2	2	12	4				
16	8	2	2	12	4				
15	8	2	2	12	4				
14	8	2	2	12	4				
13	8	2	2	12	4				plant
12	8	2	2	12	4		1,910		
11	5	2	4	11	4		1,910		
10	5	2	4	11	4		1,910		
9	5	2	4	11	4		1,910		
8	5	2	4	11	4		1,910		
7	5	2	4	11	4		1,910		
6	5	2	4	11	4		1,910		
5	4		2	6			1,400		
4					33			4,505	
3					33			4,505	
2					33			4,505	
1					45			4,505	
Ground						1,619	85	2,531	
TOTAL	130	36	50	216	216	1,619	14,865	20,551	

Table 1: Apartment Numbers and Commercial Floorspaces

Level	Residential	Visitor / Commercial	Motorbike	Total
4	52	66	16	118
3	52	66	16	118
2	52	66	16	118
1		100	6	100
Total			54	454

Table 2: Parking Provision

The proposed uses include:

- Multiple Dwelling;
- Office;
- Consulting Room;
- Medical Centre;
- Shop;
- Recreation – Private;
- Restaurant/ Cafe;
- Small Bar; and
- Car Park

It is likely that the construction of the proposal will be staged to align with leasing and commercial feasibility requirements. The residential element is to be included in the first stage.

It is important to note that should the construction be staged it is proposed to include an additional 66 car parking bays and 9 motorcycle bays on the roof of the podium level. It is also proposed that either EV plant will be used as a shade structure.

4.1 Design Review Assessment

The Development WA Design Review Panel has reviewed and considered the proposal on 14 November 2023 and 19 December 2023. A further phone conference was held on 25 January 2024.

A summary of the feedback of the Design Review Panel is provided below:

4.1.1 DRP Meeting 1

The Design Review Panel outlined that the amalgamation of Lot 120 and Lot 121 with residential and commercial tower elements is in principle supported. However, there are significant concerns with the consolidation of podium form into a monolithic 5 storey predominantly carpark element.

There should be additional work done to describe the connection to context in both form and concept for the proposal, especially with regard to the future (and soon to be completed) works adjacent to the amalgamated sites. This includes acknowledging and responding to the developing architectural language(s) and creating appropriate urban outcomes with distinct landmark elements as required.

The Proponent is encouraged to continue to refine and evolve the architectural language around context and climatic drivers to define some variation in towers whilst being part of a broader family of buildings. Further detail and development of window treatments, sun shading fins and screening devices is required. These elements will have a large impact on architectural language and need to be resolved for DRP2.

The proposed podium for the development was not supported. Podiums are required to have articulated human scaled qualities, legible entries and contribute to a high-quality streetscape; and if podium parking is introduced, sleeved active uses facing the public realm.

The revised vehicular access proposed off Barry Marshall Parade is non-compliant and when considered in conjunction with the range of design issues in this report is not yet supported. With commitments from relevant stakeholders such as the PTA and the City of Melville, and in conjunction with the improvements to activated used onto Barry Marshall Parade, improved streetscape interfaces, landscaping excellence the Panel could see a path to support this. Presently the Panel would prefer to see the vehicle access all off Wonnul Place and seeks further justification and design work.

The landscape strategy proposed needs further consideration including planting on structure and strategies to ensure the viability of the podium landscaping.

4.1.2 DRP Meeting 2

The Design Review panel commended the Proponent on their presentation and their active engagement with the design review process. The work undertaken to address many of the Panel's concerns at DRP1 was acknowledged and appreciated.

The low-cost construction cost outcomes to enable feasibility in a challenging market was acknowledged. This includes the proposal of a non-subterranean parking solution to reduce cost and provide a “more with less” design solution.

The discretion sought for setbacks, height and building separation across the development are generally supportable conditional of the façade / screening of the podium element be improved to meet the Panel’s concerns. The Panel seeks to support an “in the round” holistic design solution which meets the performance requirements of the Objectives of the Design Guidelines. Currently the proposed façade screening to the podium is not meeting the qualities expected which does not enable full support to be granted.

This will need to be resolved and achieve support from the Estate Architect prior to submission for Development Application and may require an additional Design Review Panel meeting in January 2024.

The Panel was generally supportive of the vehicle access off Barry Marshall Parade subject to further technical review to be undertaken by the City during the development application assessment.

4.1.3 Further Discussions

Plans detailing an updated podium façade treatment were sent to the Estate Architect for review on the 25 January 2024. These plans included refined screening treatment.



Development WA and the DRP have provided conditional supported the lodgement of the proposal subject to further review as part of the assessment of the proposal by the City of Melville, and the provision of additional information as part of that process.

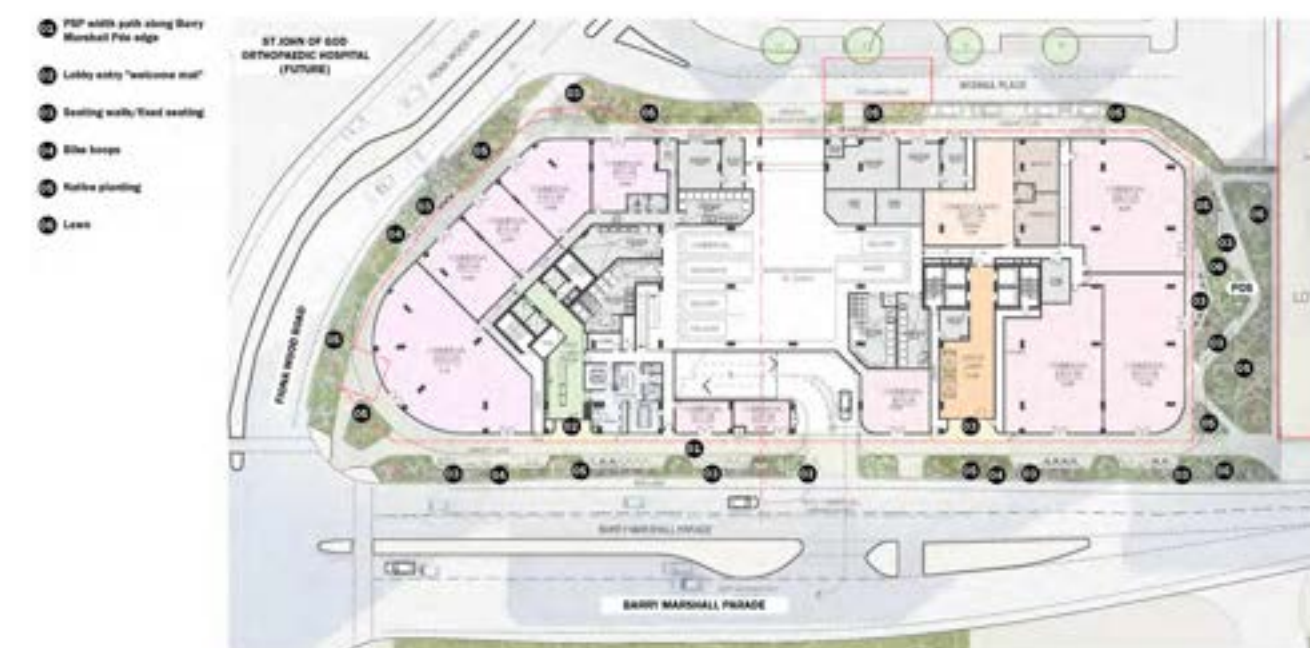
4.2 Landscaping

Landscaping on the site is focused on ground level, the Level 5 podium and roof terrace, which is intended to become an extension of the residential apartments. The location of the podium terrace is vertically separated from Fiona Wood Road and Barry Marshall Parade, to avoid noise impacts and is sheltered from the northern sun.

The design principles for the landscape design included:

1. Activate surrounds - utilises active nodes to take advantage of building setback and creates natural green outlook from building
2. Scales of Use - encourages interaction between people through different settings and safes spaces accessible for all; and
3. Extend precinct ecology - becomes an integrated part of wider ecological systems through the precinct

The ground level landscaping includes both soft and hard elements to activate the open space between the site and Lot 119, and create the colonnade feel along Barry Marshall Parade.



The podium landscaping is intended to provide screening between the residential and commercial elements, provide recreational options and include deep soil elements, which will allow for shade plantings.



A number of vertical elements are intended to break up the podium façade.



4.3 Traffic and Parking Management

Uloth and Associates were engaged to undertake a review of the traffic and access implications arising from the proposal.

It is important to note that the overall Centre was subject to an overall traffic impact assessment, with the road network designed to accommodate the expected traffic associated with the full

development of the Centre. This proposal is consistent with the expected form of development on the site and provides parking that is below the maximum parking allowances. As such the proposal is therefore included in the predicted traffic generation rates.

The proposal is not expected to result in any undue impact to the road network.

The proposed development will provide a total of 454 car parking spaces and 54 motorcycle spaces, with 174 car spaces plus 21 motorcycle spaces reserved for the residential tower. The remaining car spaces and motorcycle spaces are reserved for visitors and commercial parking.

Should the proposed development be staged whereby the whole podium levels are constructed prior to the commercial / office tower a total of 520 bays will be constructed, with a portion being located on the podium slab. A portion of the podium parking will be used as a fee paying car park.

Many new approvals within the Perth Metropolitan area have been subject to a condition requiring the preparation of a Travel Behaviour Change Plan. The intention of this plan is to discourage the use of the private motor vehicle in of increased patronage of public transport and / or use of other transport modes.

The Centre is also well serviced by public transport. The subject site is less than 250m away from the Murdoch Train Station, which forms part of the Perth to Mandurah train line, and the Bus Interchange. Twenty (20) bus routes pass through the bus interchange. Accordingly, the subject site is conveniently accessed by public transport.

The Kwinana Freeway bike path is also located in close proximity to the site.

The subject site is located within the Murdoch Specialised Activity Centre, which has been subject to extensive planning, including the incorporation of provisions that limit the amount of parking. In this instance the proposal does not provide the maximum number of bays. The proposal provides less than the minimum parking requirements for other areas of the City of Melville.

As such the requirement for a Travel Behaviour Plan is not necessary.

4.4 Acoustic

Marshall Day was engaged to provide a preliminary Acoustic Review of the proposal to provide an outline of the acoustic design criteria and an overview of the acoustic issues associated with the development including potential noise impacts from the surrounding area.

A high-level review has been carried out and indicates that the assigned noise level can be achieved at the surrounding noise-sensitive receivers with the provision of some noise controls. These noise controls would include standard items such lined ductwork, vibration isolation of the fire pumps, the provision of screening for roof plant, and provision of roof-based plant.

The review noted that there should be limits on the volume of music played on the terrace and made a number of recommendations in relation to the car parks.

The review also noted that the noise level targets specified within State Planning Policy 5.4 – Road and Rail Noise are achievable on most residential balconies and has made a number of recommendations to mitigate the transfer of noise into residential apartments.

4.5 Waste Management

Encycle Consulting were engaged to prepare a Waste Management Plan (**WMP**), which is attached. Refer to the Waste Management Plan.

4.5.1 Bin Storage Areas

The WMP outlines that there are four (4) bin stores to service the residential and commercial tenancies of the building, as follows:

- Bin Store 1 – Residential waste, recycling and food organics;
- Bin Store 2 – Commercial office waste, recycling and food organics;
- Bin Store 3 – Retail 1 – Commercial supermarket/retail waste, recycling and food organics;
- Bin Store 4 – Retail 2 – Commercial food and beverage/retail waste, recycling and food organics.

4.5.2 Residential Waste

A dual chute system will be installed in the residential apartment tower, including one (1) chute for general waste and one (1) chute for commingled recyclables. A 40L FOGO bin will also be contained in the waste room on each level.

Residents will be responsible for the transfer of waste to the waste room located on their respective floor. It is intended that the residential waste will be collected by the City's waste contractor.

4.5.3 Commercial Waste

Office cleaning staff will transfer the bins from the office floor to Bin Store 2 for collection via the lift.

Staff from the ground floor commercial and food and beverage tenancies will be responsible for the manual transfer of waste to either Bin Store 3 or 4.

A private service provider will service the full range of commercial bins.

The vehicle movements have been endorsed by Uloth and Associates.

4.6 Drainage

It is proposed to contain stormwater on site, except for the major events, which will spill into the road network.

4.7 Environmentally Sustainable Design

S Stantec is engaged as the sustainability consultants for the project and will be responsible for the delivery of the sustainability objectives.

A preliminary assessment of the project's potential to achieve a 5-star Green star rating has been undertaken. Points that are easily achieved or present best value for money have been selected according to previous experience with similar projects, these will be coordinated with other design team members. This points strategy will be revised as design progresses, additional feedback and details become available.

It is intended that the proposal will include a number of initiatives including:

- High efficiency LED lighting;
- 100kW Solar PV system to the Office Tower
- 86kW Solar PV system to the Residential Tower;
- Water efficient fixtures;
- End of Trip facilities;
- EV Charging bays; and
- High efficiency/performance facades and glazing.

4.8 Wind Management

Windtech were engaged to evaluate the effects of the proposed building on wind patterns around the proposed building. The assessment also considered the building's design influences on outdoor spaces within the development, and whether appropriate measures are being put in place to address any concerns.

4.8.1 Ground Level Areas

Windtech determined that due to the proposed canopy over the pedestrian walkways around the entirety of the development, as well as the proposed densely foliating vegetation, it is expected that the wind considerations will meet the walking comfort criterion along the adjacent pedestrian pathways and access ways.

4.8.2 Communal Open Space

The communal terrace located on Level 5 is identified as being exposed to winds predominately from the east and channelling between the towers, as well as south-westerly winds that are expected to funnel between the towers, impacting the southern side of the communal terrace areas.

Windtech determined that the proposed extensive vegetation within the podium level will assist in dissipating the incident wind flow and make the communal open space comfortable for occupants. Windtech also recommends the inclusion of impermeable screen partitions, extended to full height along the façade would further mitigate and redirect air flow away from outdoor dining and open spaces.

4.9 Public Art

Public Art will be provided for the development as will be detailed in a Public Art Strategy to be provided prior to the completion of construction. It is planned to incorporate at least four main art elements within the proposal, being podium screening.

Hesperia has engaged the services of an in-house art facilitator. It will be their responsibility to finalise the Public Art Strategy and co-ordinate the installation, which will occur as part of the construction of the development.

4.10 Staging

It is likely that the delivery of the overall development will be staged. The final configuration of the staging will be commercially driven, but is expected to commence with the delivery of the residential tower on Lot 121, and potentially the podium car park on Lot 120. A staging plan will be provided prior to the commencement of construction.

5.0 Regional Planning Considerations

5.1 Metropolitan Region Scheme

Pursuant to the provisions of the Metropolitan Region Scheme (MRS), the Site is included within the 'Urban' Zone. Land to the north, east, and south is similarly included within the Urban Zone. Land located immediately west of the Site, is reserved as 'Public Purposes – Hospital'.

The 'Urban' Zone is defined as:

Areas in which a range of activities are undertaken, including residential, commercial, recreational and light industry.

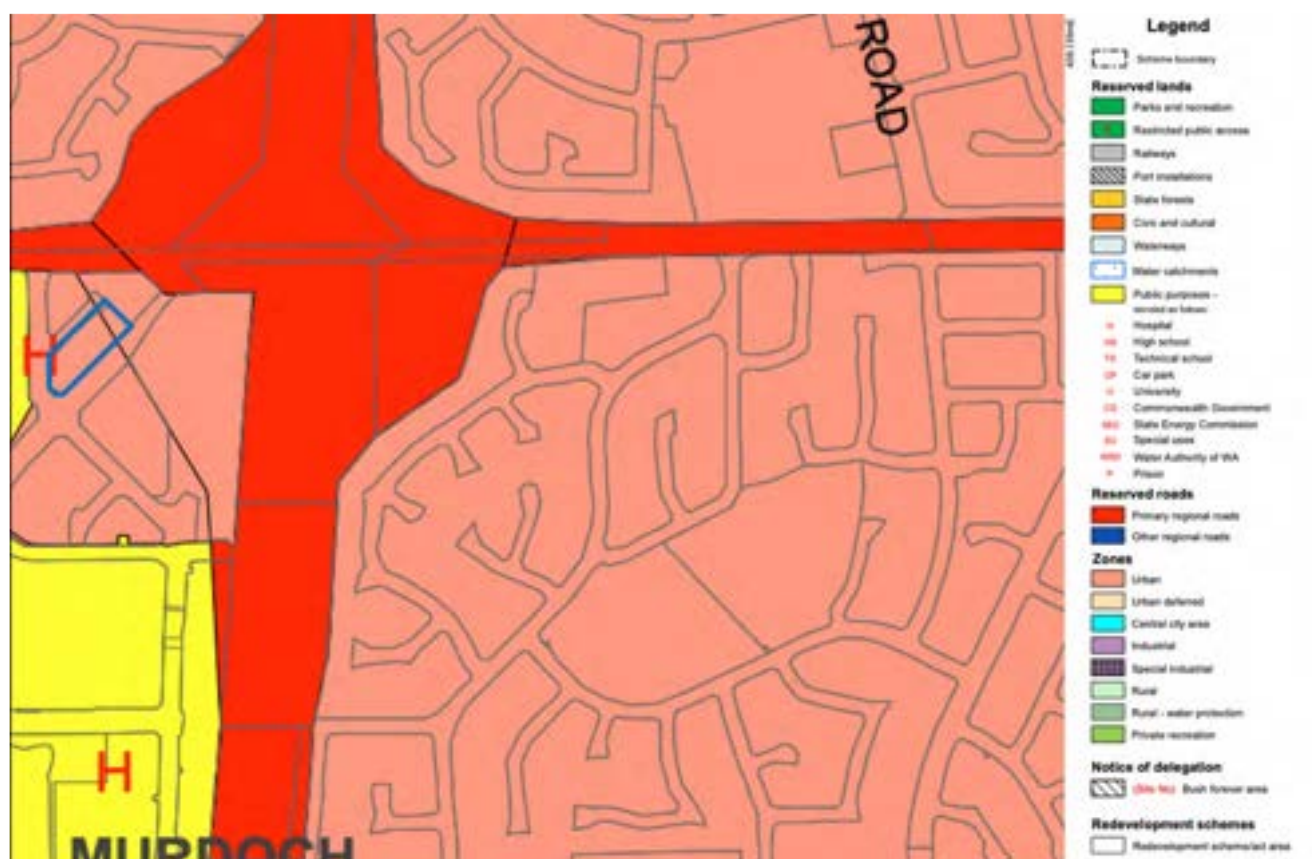


Figure 1 – MRS Zoning

5.2 State Planning Policies

5.2.1 State Planning Policy 4.2: Activity Centres for Perth and Peel

State Planning Policy No. 4.2 – Activity Centres for Perth and Peel (SPP 4.2) guides the planning and development of activity centres within the Perth and Peel sub-regions.

The principal focus of the policy is to set out broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel. SPP4.2 is mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres, and with coordinating their land use and infrastructure planning.

An activity centre is defined by SPP 4.2 as following:

Activity centres are community focal points. They include activities such as commercial, retail, higher-density housing, entertainment, tourism, civic/community, higher education, and medical services. Activity centres vary in size and diversity and are designed to be well-served by public transport.

Murdoch is classified as a 'Specialised Centre' under SPP 4.2.

'Specialised Centres' are anticipated to have regionally significant economic or institutional activities that generate many work and visitor trips, which therefore require a high level of transport accessibility. The current proposal to develop the Murdoch Health and Knowledge Precinct would be in accordance with the broad principles and retail hierarchy expected for a 'Specialised Centre' such as Murdoch.

(2) Specialised centres provide opportunities for the development of complementary activities, particularly knowledge-based business. A range of land uses that complement the primary function of these centres will be encouraged on a scale that will not detract from other centres in the hierarchy. It is noted that Perth and Jandakot airports are subject to Commonwealth legislation and are, therefore, outside the State and local government jurisdictions.

SPP 4.2 identifies transport connectivity and access as important characteristics with a focus on rail and high frequency bus networks.

There are four principles for sustainable Activity Centres that are broadly encompassed within SPP 4.2. These are:

- Diversity - Activity Centres with diverse offerings and users are desirable for an economically, environmentally and socially sustainable city;
- Employment - Activity Centres need to perform a role in providing both quantity and quality employment as appropriate for its position in the defined hierarchy;
- Intensity - Activity Centres should be vibrant, intense places of an appropriate scale; and
- Accessibility - Activity Centres need to be accessible to a wide user mix utilising different modes of transport.

The existing Murdoch centre already contains the key components of a successful activity centre, albeit in its initial form. It is a major public transport hub including bus and rail interchange and has immediate access to the Kwinana Freeway. The centre also contains a mix of land-uses.

The Centre Plan has clearly been developed with SPP 4.2 in mind and includes an increased residential population along with additional commercial uses.

This Development Application is consistent with the planning that has already occurred for this centre and will result in an outcome that is consistent with SPP 4.2.

5.2.2 State Planning Policy 5.4: Road and Rail Noise and Freight Considerations in Land Use Planning

State Planning Policy 5.4 – Road and Rail Transport Noise and Freight Considerations in Land Use Planning (**SPP 5.4**) seeks to minimise the adverse impact of transport noise without placing unreasonable restrictions on noise-sensitive development. SPP 5.4 is applied where the proposal includes:

- A proposed new noise-sensitive development in the vicinity of an existing or future major road, rail or freight handling facility;
- A proposed new major road or rail infrastructure project in the vicinity of existing or future noise sensitive and uses;
- A proposed major redevelopment of existing major road or rail infrastructure in the vicinity of existing or future noise-sensitive land uses; and
- A proposed new freight handling facility.

Marshall Day Acoustics has prepared an acoustic assessment to assess the impact of traffic noise on the residential component of the proposed development. Based on the initial analysis, the noise level targets specified within SPP 5.4 are considered achievable on most residential balconies and on the Level 5 communal open space deck.

A detailed assessment of the development in accordance with SPP 5.4 will be undertaken once detailed design is finalised to provide a more accurate assessment.

5.2.3 State Planning Policy 7.0 – Design of the Built Environment

State Planning Policy 7.0 – Design of the Built Environment (**SPP 7.0**) sets out the objectives, measures, principles and processes which apply to the design and assessment of built environment proposals within Western Australia.

A copy of the 10 Design Principles Report, prepared by Hassell, is attached to this Report and sets out the vision and design direction for the proposed development.

5.2.4 State Planning Policy 7.3 – Residential Design Codes Volume 2 – Apartments

State Planning Policy 7.3 – Residential Design Codes Volume 2 (**SPP 7.3**) provides performance-based standards for residential apartments across Western Australia. As such, a detailed assessment of the proposed development has been undertaken against the relevant provisions of SPP 7.3.

The proposed development meets the Performance Requirements outlined in SPP 7.3. Where variations to the requirements of SPP 7.3 are proposed, justification against the relevant Element Objectives has been provided.

It is important to note that SPP7.3 was gazetted after the adoption of the City's Local Planning Policy 4.4: Murdoch Health and Knowledge Precinct Design Guidelines. Section 1.2.1 provides that:

1.2.1 Pre-existing local planning policies

If a properly adopted local planning policy which came into effect prior to the gazettal of the R-Codes is inconsistent with the R-Codes Volume 2:

- For those sections identified in clause 1.2.2, the provisions of the R-Codes Volume 2 do not supersede any development standard provided in the local planning policy*
- For the sections of Parts 3 and 4 identified in clause 1.2.3, the provisions of the R-Codes Volume 2 prevail over the local planning policy to the extent of the inconsistency.*

Clause 1.2.2 allows local governments to amend the following provisions of the R-Codes without approval from the WAPC:

- All of Part 2
- 3.6 Public domain interface
- 3.7 Pedestrian access and entries
- 3.8 Vehicle access
- 4.10 Façade design
- 4.11 Roof design
- 4.13 Adaptive reuse

All other elements of the R-Codes cannot be varied by an existing Local Planning Policy without the approval of the WAPC. It is understood that the WAPC has not been asked to adopt the Local Planning Policy 4.4.

An R-Codes assessment is provided in Attachment 5, and has been undertaken with reference to the above.

5.2.5 Murdoch Specialised Activity Centre

The Murdoch Specialised Activity Centre Structure Plan (**SAC Structure Plan**) was endorsed by the Western Australian Planning Commission (**WAPC**) in October 2013. The SAC Structure Plan was prepared jointly between the Department of Planning, the WAPC, Murdoch University and the City of Melville.

It was considered that the structure plan is consistent with the State Government's Directions 2031 and Beyond strategy, which established the broad land use planning objectives of the State through to the year 2031.

It is expected that development of the centre in accordance with the SAC Structure Plan will help meet the State's employment and housing targets, and will contribute towards diversifying the Western Australian economy.

The implementation of the SAC Structure Plan will be administered by the Local Authority. To that end, Local Planning Policy 4.4 was prepared to guide the layout and design of development within the SAC Structure Plan area.

6.0 Local Planning Considerations

6.1 City of Melville Local Planning Scheme No. 6

Under the provisions of the Local Planning Scheme No. 6 (**LPS 6**), the Site is included within the 'Urban Development' Zone.

The permissibility of the uses in the 'Urban Development' Zone is determined in accordance with the provisions of the relevant Structure Plan, being the Murdoch Mixed Use Precinct Activity Centre Plan (**MUP**).

Clause 3.16.2 of LPS 6 provides the following objectives of the 'Urban Development' zone are:

- To provide an intention of future land use and a basis for more detailed structure planning in accordance with the provisions of this Scheme.
- To provide for a range of residential densities to encourage a variety of residential accommodation.
- To provide for the progressive and planned development of future urban areas for residential purposes and for commercial and other uses normally associated with residential development.

We have set out below a thorough assessment of the proposal against the applicable provisions of the local planning framework.



Figure 2 – Local Planning Scheme No. 6.

6.1.1 Land Use Permissibility

Table 3 of LPS 6 states that the Activity Centre Plan is to be given due regard when determining the permissibility of land uses at the Site. Specifically, in accordance with Clause 18(7) of LPS 6, where the Zoning Table does not identify any permissible uses of land in a particular zone, the City is required to have regard to the relevant Activity Structure Plan.

As set out at Clause 43 (1) of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* (Regulations):

A decision maker for an application for development approval or subdivision approval in an area that is covered by an activity centre plan that has been approved by the Commission is to have due regard to but not bound by, the activity centre plan when deciding the application.

Accordingly, the decision maker is able to approve any use on the subject site.

The proposal includes the following uses:

- Multiple Dwelling;
- Office;
- Consulting Room;
- Medical Centre;
- Shop;
- Recreation – Private;
- Restaurant/ Cafe;
- Small Bar; and
- Car Park

The land uses which are proposed provide for ground level activation and sustainable, high-quality commercial floor space, consistent with the development outcome contemplated by the planning framework. Accordingly, the uses are of a typology which is capable of being supported by the decision maker.

6.2 Murdoch Mixed Use Precinct Activity Centre Plan

As noted previously, the Site is located within the boundaries of the Murdoch Mixed Use Precinct (**MUP**). The Activity Centre Plan is included within the SAC Structure Plan which was endorsed by the WAPC in October 2013. The SAC Structure Plan identified the MUP for mixed use development.

In accordance with the MUP, the Site is zoned 'Mixed Use' with an applicable density coding of R-AC0.

The Site-Specific Requirements are detailed in Part 3 of the Murdoch Health and Knowledge Precinct Design Guidelines (Local Planning Policy 4.4), which have been comprehensively addressed in the following sections of this report.

6.3 Local Planning Policies

6.3.1 Local Planning Policy 4.4: Murdoch Health and Knowledge Precinct Design Guidelines

Local Planning Policy 4.4: Murdoch Health and Knowledge Precinct Design Guidelines (**Guidelines**) have been prepared to guide development within the MUP. The Guidelines are separated into two sections and provide general and site-specific development provisions. We have set out at the following sections an assessment of the proposal against the Guidelines.

6.3.1.1 Urban Design

The development incorporates land uses which are complimentary and support one another, generating considerable activation and increase active and perceived surveillance.

Diversity and Accessibility

The proposal includes the introduction of a significant affordable housing component, a range of retail / commercial tenancies and a large office building. This proposal will, upon completion, increase the range of uses, services and commercial opportunities within the precinct.

Land Use and Active Edges

Fiona Wood Road, Wonnul Place and the frontage facing the open space are all designated as tertiary frontages by the Guidelines, which are intended to accommodate 'inactive' uses. As well as the secondary frontage, being Barry Marshall Parade, the proposal includes active frontages on Fiona Wood Road and fronting the open space.

It is important to note that the proposal does include vehicular access onto Barry Marshall Parade. This is to minimise the amount of traffic heading to the intersection of Barry Marshall Parade and Murdoch Drive, by allowing vehicles to access Barry Marshall Parade and then turn right onto Fiona Wood Road to access South Street.

Despite the introduction of this access to Barry Marshall Parade, the proposal includes significantly more activity that was proposed by the Structure Plan and Guidelines.

Public Art

The proposal will include a public art element. The details will be provided prior to consideration of the application.

Safety and Surveillance

As noted above, the proposal includes substantially more activation than was proposed by the Structure Plan or Guidelines. This will significantly improve the opportunities for surveillance. The activity is expected to extend beyond standard business hours which will also improve the perceived safety levels within this portion of the centre.

In support of the activated ground level, the proposal will be well lit at the ground and upper levels. It is intended that glazing will be suitably transparent and free from considerable signage which, combined with strategically located view corridors, will provide a visually permeable development outcome further increasing actual and perceived surveillance within the public and private realm.

Access and Parking

As noted previously it is proposed to provide a total of 454 car parking spaces and 54 motorcycle spaces, with 174 car spaces plus 21 motorcycle spaces reserved for the residential tower. The remaining car spaces and motorcycle spaces are reserved for visitors and commercial parking.

Should the proposed development be staged whereby the whole podium levels are constructed prior to the commercial / office tower a total of 520 bays will be constructed, with a portion being located on the podium slab. A portion of the podium parking will be used as a fee paying car park.

In relation to the residential component, the Guidelines require the provision of 1.1 spaces for each 1 or 2 bedroom dwelling, with an additional 5% of the residential requirement being provided for visitor parking. This would require 238 resident bays and an additional 12 bays for visitors. This rate of provision is above industry standard for new developments located in close proximity to a rail station.

The R-Codes require the provision of 0.75 bays for each 1 bedroom dwelling and 1 bay for each 2 bedroom dwelling. Visitor parking is to be provided at 1 bay per 4 dwellings for the first 12 dwellings and 1 bay per 8 dwellings thereafter. The R-Codes acceptable outcome would be 184 bays plus 29 visitor bays. In addition 19 motorcycle / scooter bays are required, although this reduces the required number of resident parking bays by 4 bays. It is proposed to provide up to 174 vehicle parking bays and 21 motorcycle / scooter bays for residents. It is considered that the minor shortfall is appropriate considering the location, intended use of the building and design guidance provisions of the R-Codes.

The Guidelines limit the parking for commercial uses, as follows:

- Commercial – maximum 1 space per 60m² GFA (25% available for visitor parking);
- Small Retail – maximum 1 space per 50m² GFA (100% visitor bays); and
- Scooter / motorcycle bays – maximum 1 space per 10 total parking bays.

The total amount of retail floorspace, being the ground floor tenancies is 1,618m² NLA. The total remaining GFA floorspace within the development is 26,956m², noting that the gross floor area (GFA) definition includes the full extent of the whole building. This would allow for the following maximum parking provision;

Commercial – 449 bays (maximum)

Small Retail – 32 bays (maximum)

Scooter / motorcycle – 48 (maximum).

The proposal is well short of the maximum parking rates allowed by the Guidelines.

It is important to note that there are no restrictions within the Guidelines with respect to public Car Parks.

Signage

Signage will be integrated into the facades, and will be finalised as part of a signage strategy, which should be conditioned.

6.3.1.2 Built Form Design

The proposed development seeks to complement the other uses within the Centre and to maximise the activity within this portion precinct. The proposal was supported during the design review process and seeks to orientate development towards Barry Marshall Parade, as well Fiona Wood Road and the open space. The proposal will be a landmark development that reinforces the connection between the Fiona Stanley Hospital and the rail station.

Setbacks

As outlined within the Site Specific Provisions section (6.3.14) the proposal is generally consistent with the intended built form and setbacks, albeit there are some minor variations primarily due to the shape of the truncations.

Building Layout and Orientation

The site locates to taller tower element (residential) towards to western portion of the site to limit overshadowing of the communal open space and the nearby reserve. This orientation also seeks to the maximise the separation between the residential and office elements, whilst still ensuring a leasable office footprint.

Height

The site specific provisions do not limit building heights. The proposed residential tower is under the maximum heights specified for the operation of the Jandakot airport or the helipad on the Fiona Stanley Hospital.

The podium does just exceed the maximum podium height, but this is necessary to ensure that basement parking is not required and so that portions of the podium can be adapted for use as residential dwellings. Accordingly floor to ceiling heights have been adjusted. It is considered that this outcome, which is unlikely to be noticeable for the general public, is a more preferable outcome than the simple compliance of the provision.

Floor Levels

The proposal ensures that access to each entry is at grade.

Colonnade

The proposal includes an alternative colonnade treatment

Podium

The podiums are generally located at the street boundary and provide for communal space. The façade of the podiums include articulation associated with the entrances to break up the visual bulk of the podium.

Towers

The towers

Facades

The building facades, materials and architectural elements ensure that the development is of a high-quality with considerable visual interest.

Materials

A material schedule will be provided prior to the lodgement of a Building Permit, and can be conditioned.

Building Entrances

The proposal includes two main building entrances, along with entrances to the individual tenancies. Separate residential and commercial entrances are provided. The proposal is consistent with the Guidelines with respect to foyer amenity and integration of facilities within the foyers.

Roof

Services located at roof level will be screened from view from off the site.

Outdoor Living Areas

Outdoor areas include significant planting and active areas, which delineates the space creating pockets for activity and quiet enjoyment.

Building Services

The ground level building services are all located on Wonnul Place. Other services are located within the parking areas or at roof level, and will be screened from view from off the site.

Waste collection will occur within the internal loading area.

Clothes drying will be integrated into the balconies of the residential dwellings.

Air-conditioning units and stores are provided in accordance with the R-Codes.

Bicycle Parking and End of Trip Facilities

Bicycle parking is provided within a dedicated End-of-trip facility access via the Wonnul Place. The rate at which bicycle parking, lockers, showers and associated amenities is provided is consistent with the Guidelines.

Screening

The proposal does not include ground level dwellings or front fencing.

Acoustics

An acoustic assessment is included as an attachment to this application.

Lighting

Detailed lighting design will be provided as part of the Building Permit plans, and will be designed so as not to negatively impact on the public realm or adjacent developments.

Climate Responsive Design

A sustainability report is included as an attachment to this application.

Solar Access

The proposal has limited impact on the Aileen Plant Park. The park will receive 83% of the available sunlight, with the majority of any impact on the park occurring late in the afternoon.

Wind

A wind assessment was undertaken and is included as an attachment to this application.

6.3.1.3 Landscape Design

The proposal includes a significant landscaping component consistent with the requirements. The extent of landscaping includes the verges and the adjacent open space.

6.3.1.4 Site Specific Provisions

As set out within Part 3 of the Guidelines, the Development Intent for Site 1C & 1D (being the Site) is as follows:

Site 1C and 1D are located in the South Street Precinct, and may be delivered individually or amalgamated. The sites have frontages to Barry Marshall Parade to the south-east, and Fiona Wood Road North to the west. Vehicle access is off the service laneway to the north-west.

The intersection of Barry Marshall Parade and Fiona Wood Road is a major thoroughfare for people accessing MHKP, Fiona Stanley Hospital, and the wider health and education precincts, whether by car, bus, bicycle or on foot. It is crucial that the design of Site 1D responds appropriately to the importance of this landmark location.

Barry Marshall Parade is a major pedestrian route linking Murdoch Station and the wider precinct. The ground floor of the development will allow for future retail activation on this frontage. The podium and tower above will reinforce the major view corridor of Barry Marshall Parade, while affording maximum views over the POS and conservation area.

The proposed development outcome is aligned with the Development Intent for the Site. The project team has focused on ground level activation of South Street and Fiona Wood Road, while presenting an overall development outcome which is responsive to the importance of the Site location. It is the view of the project team that the built form theme and development outcome is appropriate for its setting and represents an excellent design response.

The Guidelines set out the provisions which are specific to the Site at pages 29 and 30. We have combined the Site Specific development provisions within the table below, and provided an assessment of the proposed development.

Element	Provision	Design Response
Land Uses	- Ground - Shops, supermarket, food & beverage, small office, foyers, residential. - Podium and Tower - Residential, serviced apartments, hotel, office.	Ground level uses include retail and private recreation, supermarket and café. Upper levels provide commercial office floor space and residential apartments.
Vehicle Access	Laneway to north-west	Service vehicle access is taking via Wonnul Place. All other vehicle access is taking via Barry Marshall Parade.
Building Height	- Podium - Min 2 Storeys - Max 4 Storeys - Tower - Min 6 storeys (incl. podium)	Overall building height is 23 storeys. A 5-level podium is proposed to Wonnul Place, Fiona Wood Road and Barry Marshall Parade in recognition of landmark development site and to maximise the activity fronting / overlooking all street frontages. Architectural design differentiation between levels provides a breakup in massing and provides suitable human scale at the street.
Setbacks	Ground	Ground

	- o 5m to shared boundary - o 0 – 4m to all other boundaries • Podium - o 5m to shared boundary - o 0m to all other boundaries • Tower - o Minimum 10m to shared boundary - o Minimum 5m to all other boundaries	- o Nil to all boundaries. • Podium - o Nil to all boundaries. • Tower 1 (Residential) - o 6.0m to Fiona Wood Road. - o Nil to Wonnul Place. - o 5.0m to Barry Marshall Parade. - o 16.0m to shared boundary. • Tower 2 (Commercial) - o 4.0m to Wonnul Place. - o 3.8m to Barry Marshall Parade. - o 3.0m to shared boundary.
Min. Residential Dwellings, Hotel Rooms or Serviced Apartments	Site 1C (Lot 120): 56 Site 1D (Lot 121): 59	Site 1C: Nil Site 1D: 216 apartments.
ESD Requirement	'Australian Excellence' Green Star	Refer attached ESD Report.

As above, the proposed development presents a building mass which is broadly consistent with the development provisions applicable to Site 1C and 1D. The design approach serves to reinforce the Site 1C as a landmark within the MUP.

Setbacks to all boundaries at the podium level provide the opportunity to incorporate 'podium' level landscaping and active outdoor areas for guests and tenants, while maintaining a higher level of sunlight penetration.

The design of the upper levels is purposefully recessive to anchor the built form and present a scale which is appropriate for the landmark site.

6.3.2 Local Planning Policy 2.1: Non-Residential Development

Local Planning Policy 2.1 Non-Residential Development (**LPP 2.1**) applies to the proposed development. The objectives of LPP2.1 are as follows:

- *To promote high quality architectural form to maintain and enhance the visual character of the City.*
- *To ensure new buildings are designed to be of human scale to facilitate effective movement and interaction between building and street;*
- *To ensure building frontages at the street level assist in the creation of safe built environments through the use of internal and external lighting, encouraging visual interest and ensuring passive surveillance.;*
- *To ensure that all buildings make a positive contribution to the streetscape, assisting in the maintenance and creation of safe, secure and attractive places.*

The proposed development satisfies the development standards of LPP 2.1 as set out at the following sections.

6.3.2.1 Building Design

LPP 2.1 requires that the development should be orientated towards the primary street frontage, encouraging activation along street level. The proposal is orientated towards Barry Marshall Parade and Fiona Wood Road, incorporating non-residential retail and recreation uses at the ground level which provide activation and interaction with the public realm.

Articulation has been used to further activate the façade of the building, providing visual interest and articulation to the public realm. The podium level of the development offers mixed uses including retail, recreation and screened parking to the lower levels. The design of the development activates the upper levels, offering high-quality residential apartments and commercial uses. Considered design distinguishing the building elements is used to incorporate a differentiated design approach reinforced through material and colours selection.

The proposal relocates the tower setback from Wonnul Place towards Barry Marshall Parade, so as to create a more meaningful space above the public plaza. It is considered that this results in a far superior outcome than just adhering to the Design Guidelines.

As the proposal is located on a corner site, LPP2.1 requires that development is designed to accentuate and front each adjacent street. This is achieved through the activated façade design and considered massing strategy within the Site, which highlight the Whadjuk architectural language focussing the building mass to the corner.

Facades fronting the street and public domain incorporate window and door openings to provide passive surveillance, and windows at the ground floor level will remain visually permeable.

Awnings are provided to ensure that weather and sunlight protection is achieved.

6.3.2.2 Active Uses

Active uses such as retail, food and beverage, private recreation and shop uses are to be located on the ground floor level of the proposal. This will promote interaction and deliver vitality within the streetscape.

6.3.2.3 Landscaping

The proposal will satisfy the landscaping requirements as outlined in LPP2.1 throughout the development, and a detailed landscaping plan will be provided as a condition of approval.

The proposal incorporates communal open space at the podium level of the site, to enhance and positively contribute to the streetscape. The communal space incorporates areas for active and passive recreation for residential and commercial tenants and guests.

Street trees and landscaping will be maintained within the street verge adjoining the development site. Proposed landscaping will incorporate waterwise, native plants.

6.3.2.4 Visual Privacy

Visual privacy for adjoining sites is provided through lot boundary setbacks and considered site planning. The commercial tower also is designed to ensure all outdoor spaces are oriented away from the residential tower.

6.3.2.5 Vehicle Access, Loading and Parking

Vehicle access for service vehicles is taken from Wonnul Place, whilst access to the car park is taken via Barry Marshall Parade. Vehicles utilising the on-site car parking will be able to enter and exit in a forward gear. Although primary vehicle access is not taken via Wonnul Place, the proposed vehicle access seeks to create a separation between service vehicles and private motor vehicles. The vehicle access design improves way-finding legibility for private motor vehicles, whilst adequately screening the parking within the podium level. The servicing access location to Wonnul Place is also well-considered to be sleeved behind the primary frontages of the site.

The access is provided away from the street corner and parking is not provided within the front setback area, instead provided from Level 1 to Level 4 of the proposal.

As noted previously the total number of bays provided is less the maximum permitted by the Design Guidelines.

6.3.2.6 Plant

All air conditioners and similar servicing plant are appropriately located and screened from the street and neighbouring properties.

6.3.2.7 Waste

Waste storage and collection is to occur within the servicing area, located off Wonnul Place. This is consistent with the Guidelines.

6.3.3 Local Planning Policy 1.2: Architectural and Urban Design Advisory Panel

As set out above, the proposal has been presented to the Development WA Design Review Panel on several occasions and has received endorsement. Malcolm Mackay represented the City's Architectural and Urban Design Advisory Panel was part of this process. Representatives from the City's Planning team also attended these meetings. The City advised that a separate review by the City's Panel was not required as a result of the extensive design review process prior to lodgement and that the design has been refined to incorporate the Panel's feedback.

6.3.4 Local Planning Policy 1.3: Waste and Recyclables Collection for Multiple Dwelling, Mixed Use and Non-Residential Developments

Waste will be managed in accordance with a detailed Waste Management Plan.

A bin store for the development is provided in accordance with the City's Policy LPP 1.3 Waste and Recyclables Collection for Multiple Dwellings, Mixed Use Development and Non-Residential Developments.

Bin storage area is incorporated into the design of the building and is conveniently located within the service area.

6.3.5 Local Planning Policy 1.4: Provision of Public Art in Development Proposals

The City of Melville's Local Planning Policy 1.4 – Provision of Public Art in Development Proposals details the Public Art objectives and requirements applicable to the development of a multiple dwelling, mixed use or non-residential development where the cost of development exceeds 1 million dollars. The requirement is consistent with the Public Art requirements within the MHKP Area.

Public Art will be provided for the development, detailed in a Public Art Strategy as part of a condition of approval.

The landowner has an in-house art facilitator as part of it's staff. It will be their responsibility to finalise the Public Art Strategy and co-ordinate the installation.

6.3.6 Local Planning Policy 1.5: Energy Efficient in Building Design

The City of Melville's Local Planning Policy 1.5 Energy Efficiency in Building Design (**LPP 1.5**) aims to encourage the incorporation of environmentally sustainable and energy efficient design principles as standard practice in the development of buildings. The policy requires that developments achieve energy efficiency design principles such as passive solar design, solar access, landscaping and energy efficient building infrastructure.

The proposal is planned to achieve high levels of energy efficiency, and will include high performance glazing, efficient lighting, PV cells on the roof, water efficient fixtures and infrastructure planning for 100% EV conversion of all car bays.

6.3.7 Local Planning Policy 1.8: Crime Prevention Through Environmental Design

The City's Local Planning Policy 1.8 Crime Prevention Through Environmental Design of Building Policy (**LPP 1.8**) applies to the proposed development. The objectives of LPP 1.8 are as follows:

- *To reduce the potential for crime and anti-social behaviour to occur within the City of Melville through well designed buildings and places;*
- *To raise awareness of key community safety, security and crime prevention issues, designing out crime principles and solutions;*
- *To ensure that planning for development and redevelopment activity within the City of Melville takes into consideration Designing out Crime principles.*

The proposal includes substantially increased street activation than is planned by the Design Guidelines. The proposal incorporates design principles to reduce crime from the introduction of this additional street activation, ensure clear sightlines and lighting within the awnings.

Centrally located parking within the development incorporates access control, securing access from the public realm, and fencing and gates to define boundaries between public and private space will further reduce crime potential around the development. Furthermore, access ways, entrances and parking areas will be clearly visible at night through the installation of lighting. It is planned that the limited portions of the site with a blank wall will incorporate an appropriate anti-graffiti treatment.

6.3.8 Local Planning Policy 1.10: Amenity

Local Planning Policy 1.10 Amenity (**LPP 1.10**) details the due consideration that should be given to the preservation of reasonable amenity for occupiers of adjoining properties and the surrounding area when a new development is proposed. The objectives of the policy are as follows:

- *To ensure that when new development is proposed, due consideration is given to the preservation of reasonable amenity for occupiers of adjoining properties and the surrounding area;*
- *To promote guidance in the consideration of amenity impacts arising from proposal seeking assessment under the Design Principles of the Residential Design Codes (R-Codes); and*
- *To provide assistance on the consideration of all planning applications against the amenity provisions contained within the Planning and Development (Local Planning Schemes) Regulations 2015.*

The proposal does not present a negative impact on the surrounding locality and will positively contribute to the amenity of Murdoch.

7.0 Conclusion

The development proposal represents a high-quality addition to the Murdoch Health and Knowledge Precinct. Through the design review process, it is demonstrated that the architectural massing and language is appropriate having regard to the planning framework and the existing and planned buildings within the Precinct and most importantly the specific characteristics of the site.

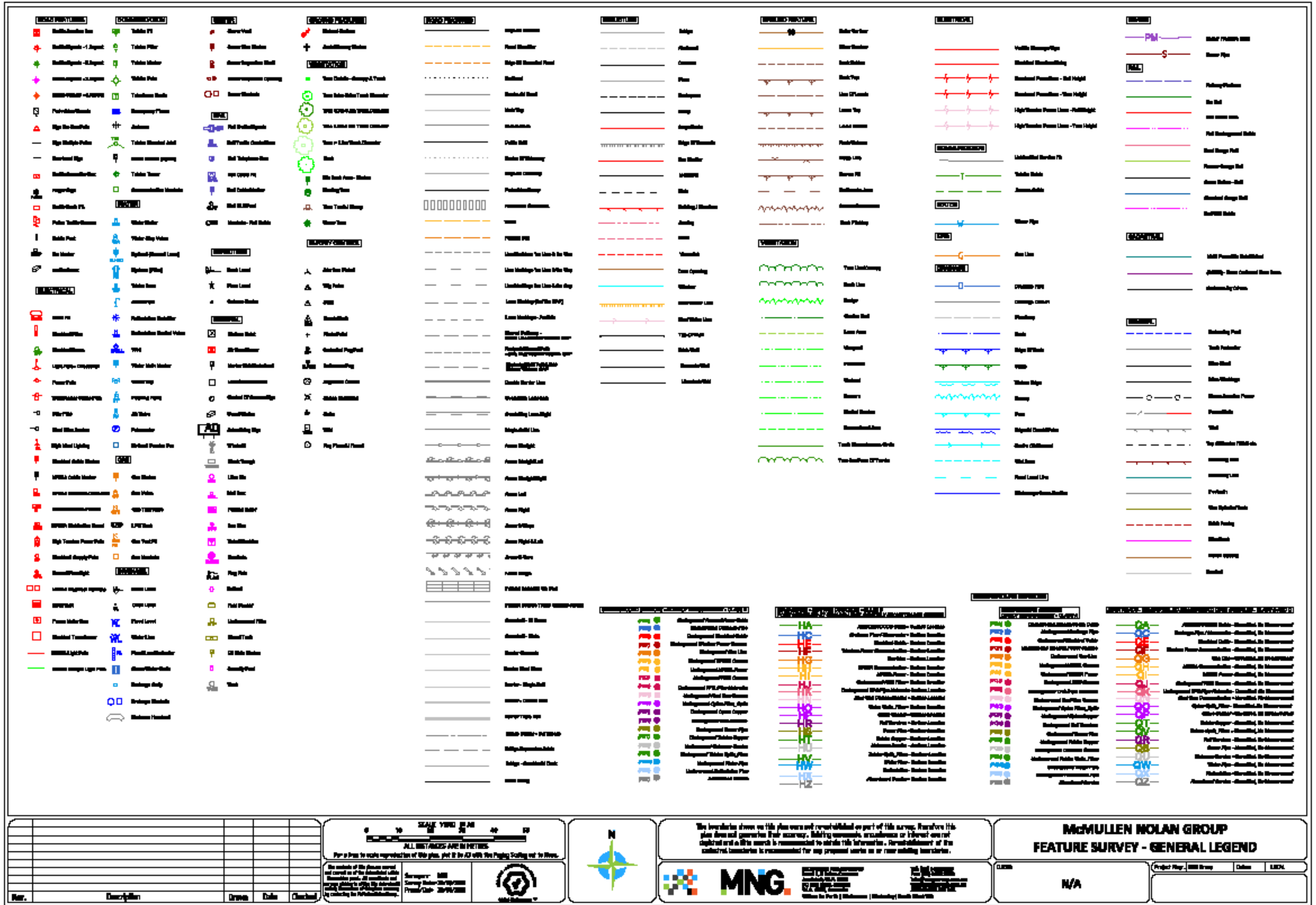
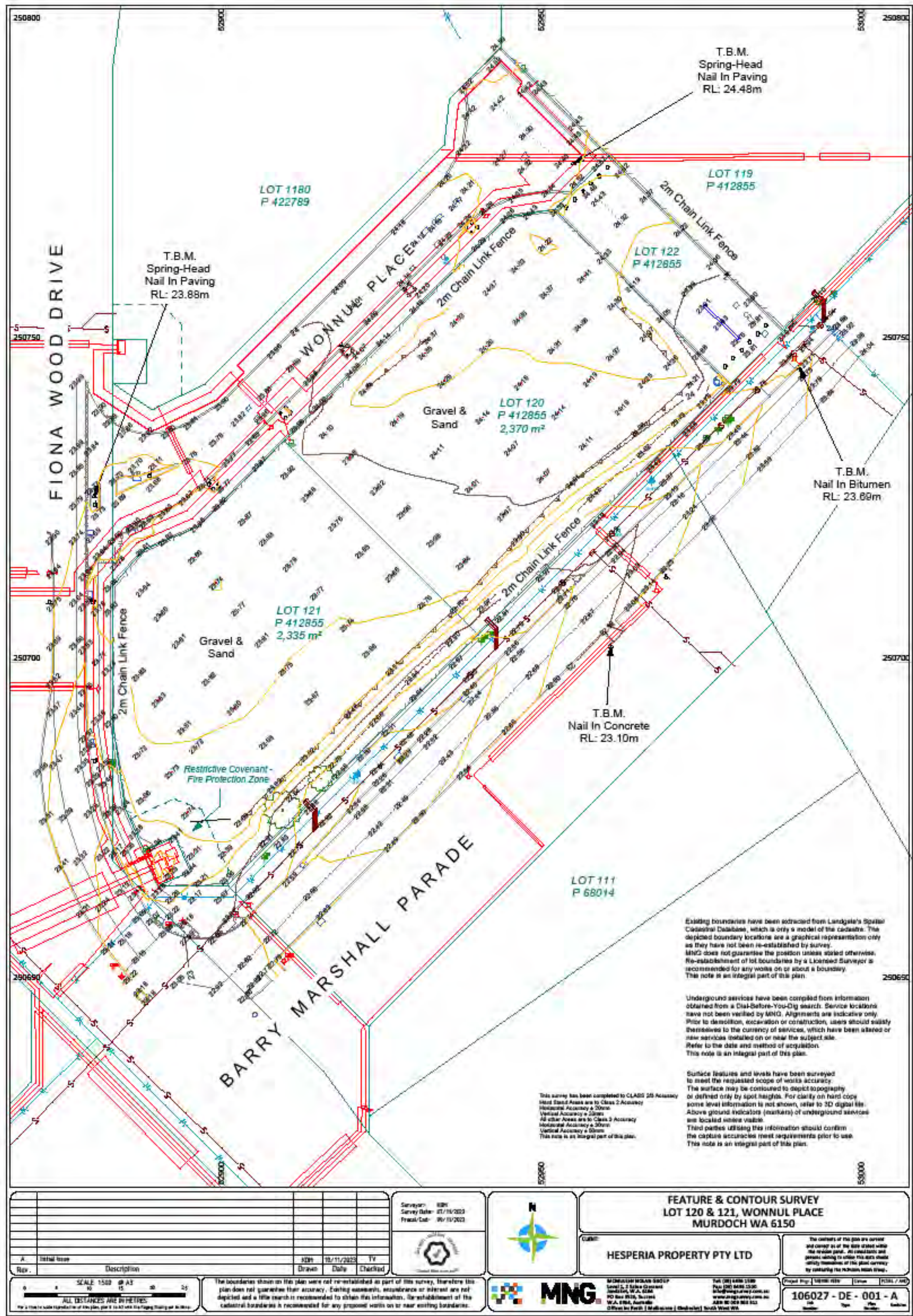
As has been set out throughout this report, the development proposal is complementary to the Precinct, particularly with respect to delivery of affordable housing in close proximity to the rail station.

The project team is of the considered view that the development proposal represents an excellent addition to the precinct and is consistent with the intent of the planning framework.

Accordingly it is requested that the Development Assessment Panel grant conditional approval to the proposal.

LOT 120-121 MURDOCH

DEVELOPMENT APPLICATION DRAWINGS



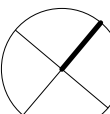
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
SITE SURVEY

REVIEWED

MJ

SCALE @ A1

APPROVED

MJ

PROJECT NO.

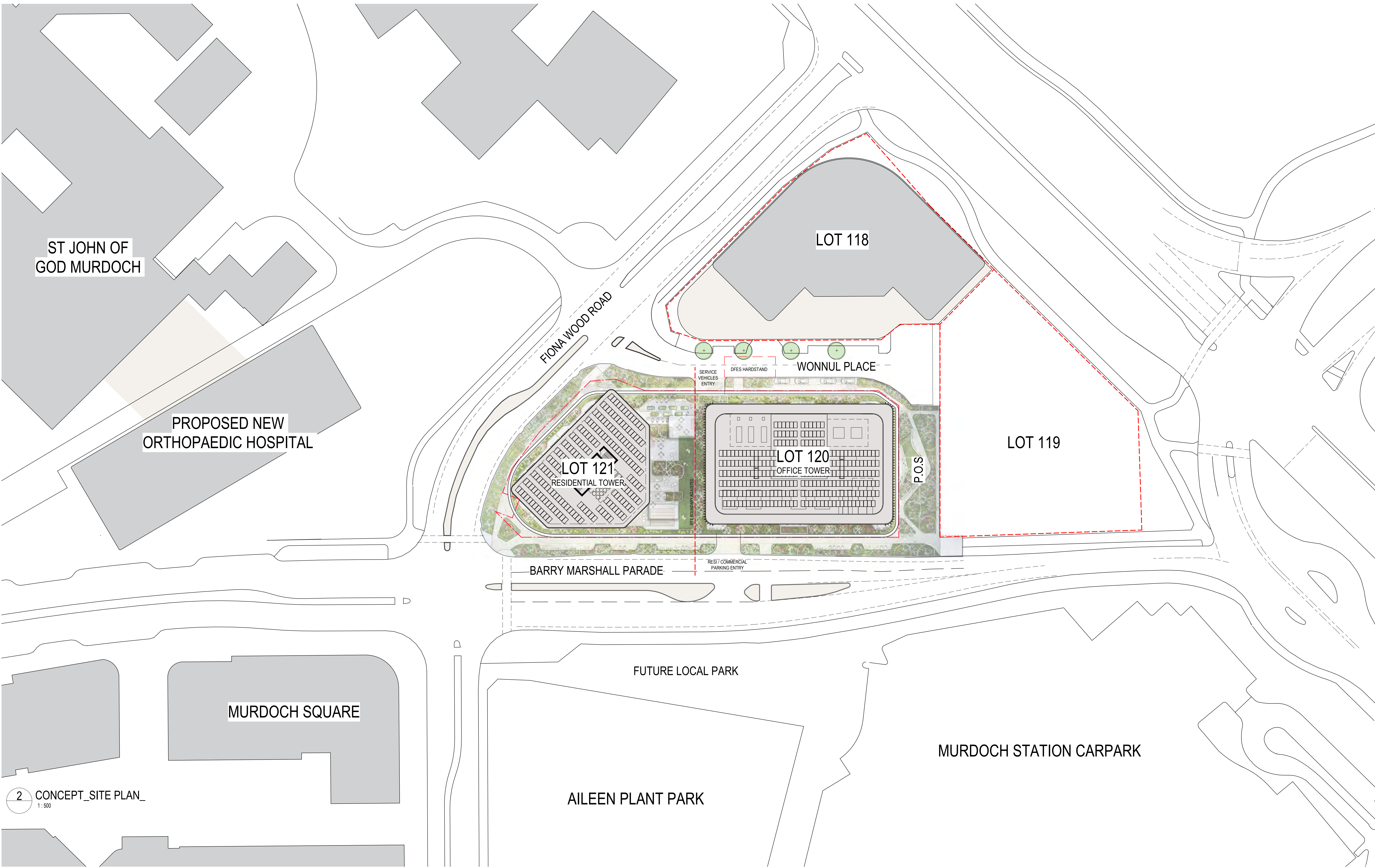
016226

DRAWING NO.

SK_A

REV NO.

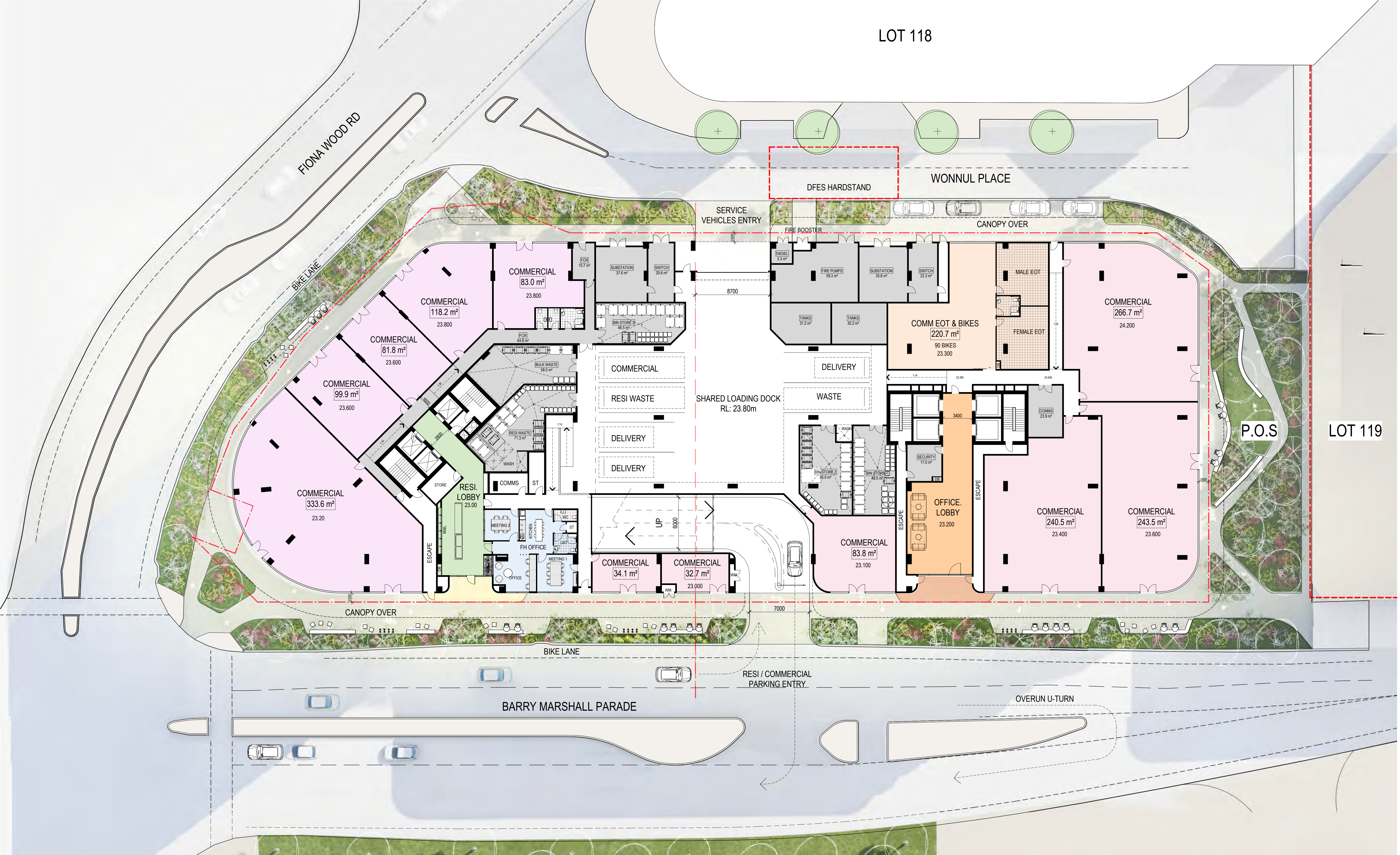
A



2 CONCEPT_SITE PLAN_
1:500

	CONSULTANT		REFERENCE		NOTES		REV DESCRIPTION		DATE		CLIENT		STATUS		REVIEWED		SCALE @ A1	
	Hassell				1. Do not scale drawing. Written dimensions govern		A Development Application		31/01/24		HESPERIA + FOUNDATION HOUSING PROJECT		DRAWING TITLE		MJ		1:500	
	Hassell LTD ABN 24 007 711 435 Level 1 Commonwealth Bank Building 242 Murray Street Perth WA 6000 Australia T +61 8 6477 6000 perth@hassellstudio.com				2. All dimensions are in millimeters unless noted otherwise						Lot 120-121 Murdoch BARRY MARSHALL PARADE + FIONA WOOD ROAD MURDOCH PERTH WA 6150		SITE PLAN		APPROVED		PROJECT NO.	
					3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.										MJ		016226	

DRAWING NO.		REV NO.	
SK000		A	



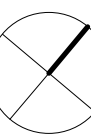
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
GROUND FLOOR

REVIEWED

MJ

APPROVED
MJ

DRAWING NO.
SK001

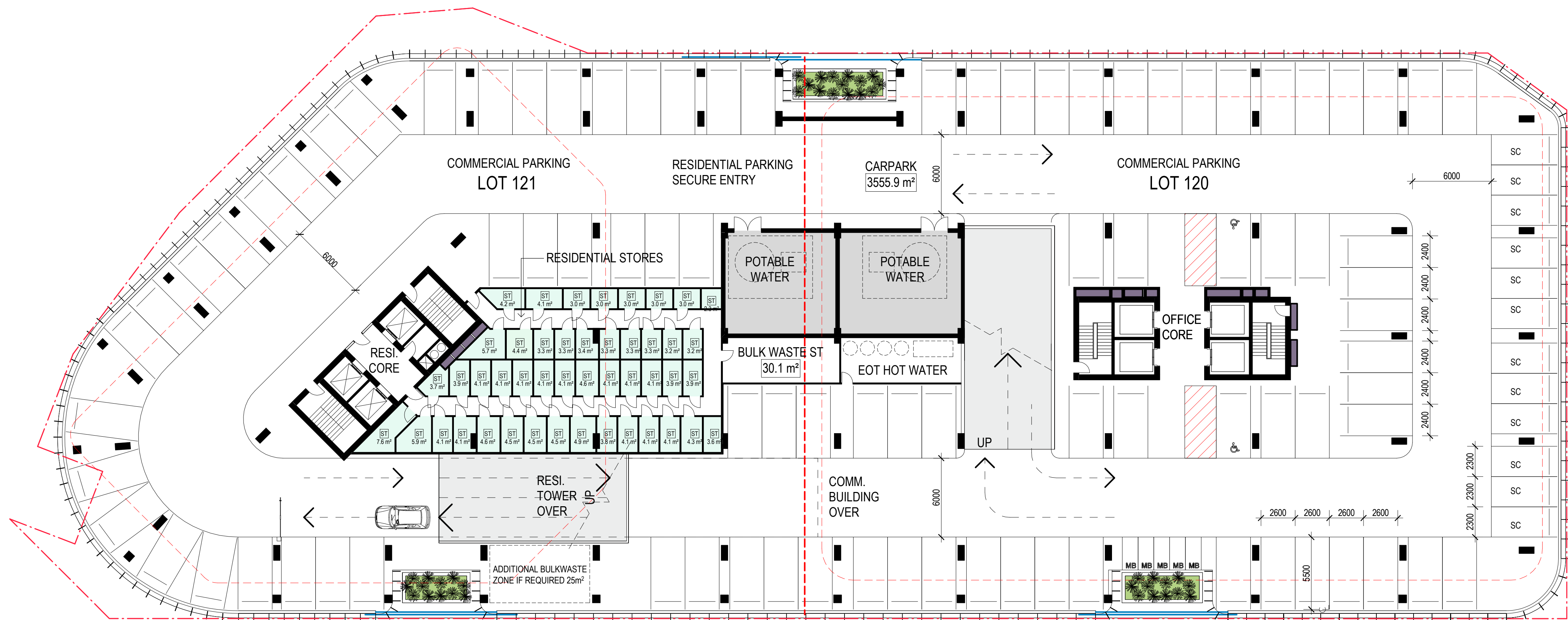
SCALE @ A1

1 : 200

PROJECT NO.
016226

REV NO.

A



121 PARKING
TOTAL CAR BAYS = 38
SMALL CARBAYS = 0
MOTORCYCLE BAYS = 0

LEVEL 01 PARKING
TOTAL CAR BAYS = 100
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 5

120 PARKING
TOTAL CAR BAYS = 62
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 5

1 GA PLAN - L01 CARPARK
1:200

NOTE: PARKING BAYS ARE
2600mm WIDE UNLESS
OTHERWISE NOTED OR
DIMENSIONED

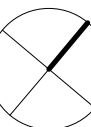


CONSULTANT

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
LEVEL 01 PARKING

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK002

SCALE @ A1

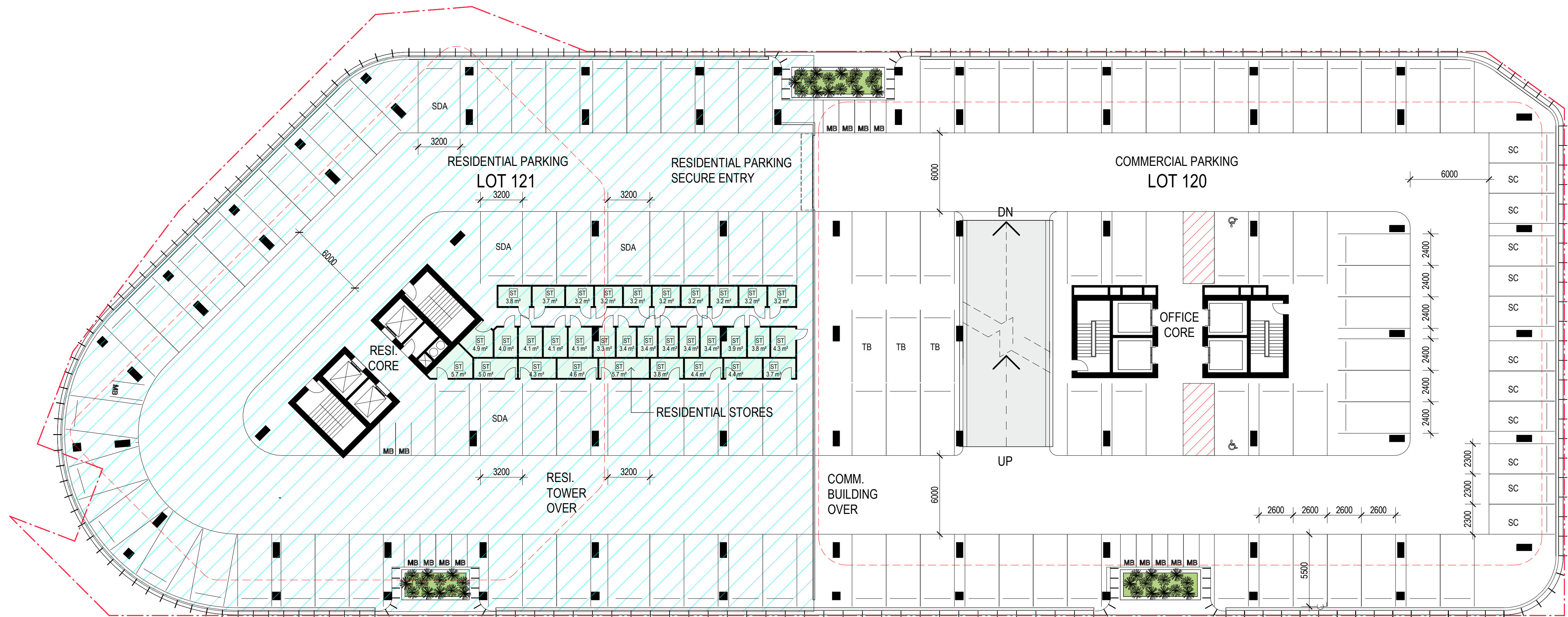
1 : 200

PROJECT NO.

016226

REV NO.

A



121 PARKING
TOTAL CAR BAYS = 51
SMALL CARBAYS = 0
SDA BAYS = 4
MOTORCYCLE BAYS = 7

LEVEL 02 PARKING
TOTAL CAR BAYS = 117
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 16

120 PARKING
TOTAL CAR BAYS = 66
TANDEM BAYS = 3
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 9

1 GA PLAN - L02 CARPARK
1:200

NOTE: PARKING BAYS ARE
2600mm WIDE UNLESS
OTHERWISE NOTED OR
DIMENSIONED



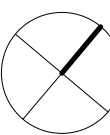
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
LEVEL 02 PARKING

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK003

SCALE @ A1

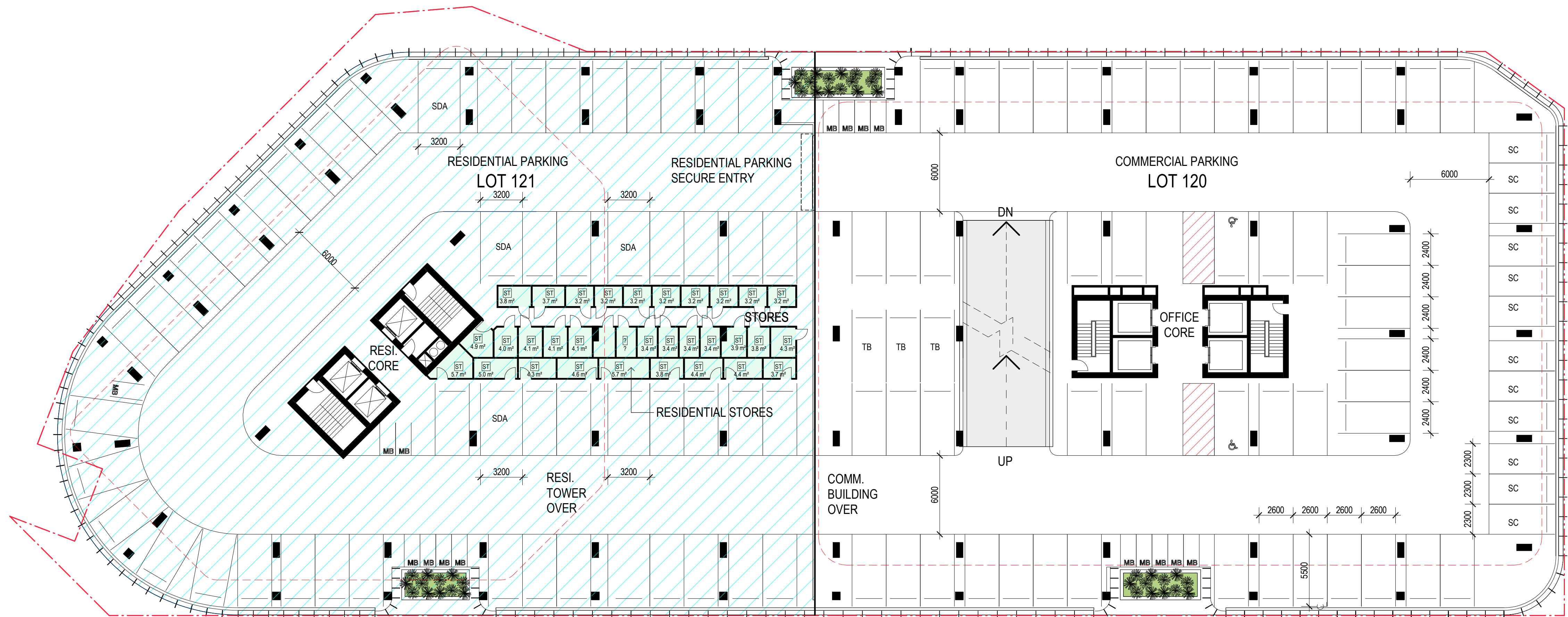
1 : 200

PROJECT NO.

016226

REV NO.

A



121 PARKING
TOTAL CAR BAYS = 51
SMALL CARBAYS = 0
SDA BAYS = 4
MOTORCYCLE BAYS = 7

LEVEL 02 PARKING
TOTAL CAR BAYS = 117
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 16

120 PARKING
TOTAL CAR BAYS = 66
TANDEM BAYS = 3
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 9

1 GA PLAN - L03 CARPARK
1:200

NOTE: PARKING BAYS ARE
2600mm WIDE UNLESS
OTHERWISE NOTED OR
DIMENSIONED



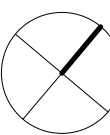
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
LEVEL 03 PARKING

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK004

SCALE @ A1

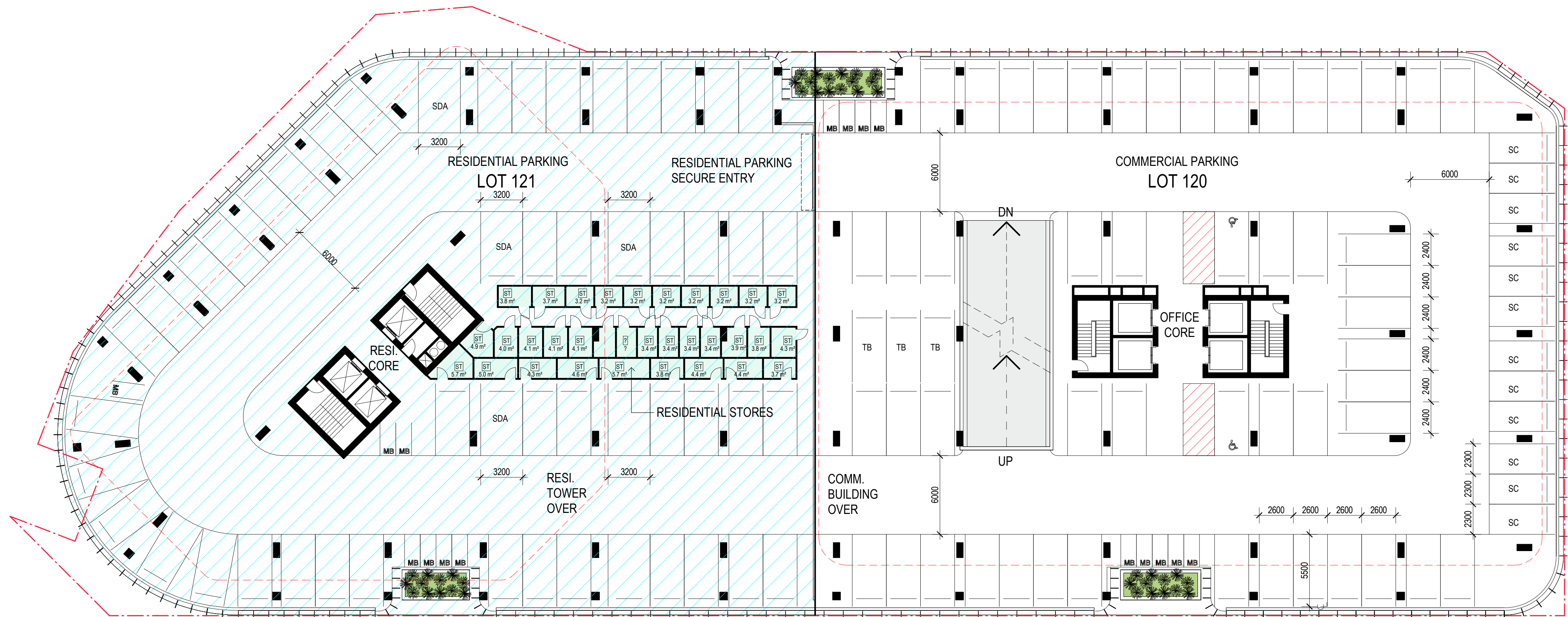
1:200

PROJECT NO.

016226

REV NO.

A



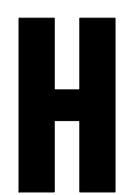
121 PARKING
TOTAL CAR BAYS = 51
SMALL CARBAYS = 0
SDA BAYS = 4
MOTORCYCLE BAYS = 7

LEVEL 02 PARKING
TOTAL CAR BAYS = 117
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 16

120 PARKING
TOTAL CAR BAYS = 66
TANDEM BAYS = 3
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 9

1 GA PLAN - L04 CARPARK
1:200

NOTE: PARKING BAYS ARE
2600mm WIDE UNLESS
OTHERWISE NOTED OR
DIMENSIONED



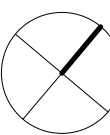
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
LEVEL 04 PARKING

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK005

SCALE @ A1

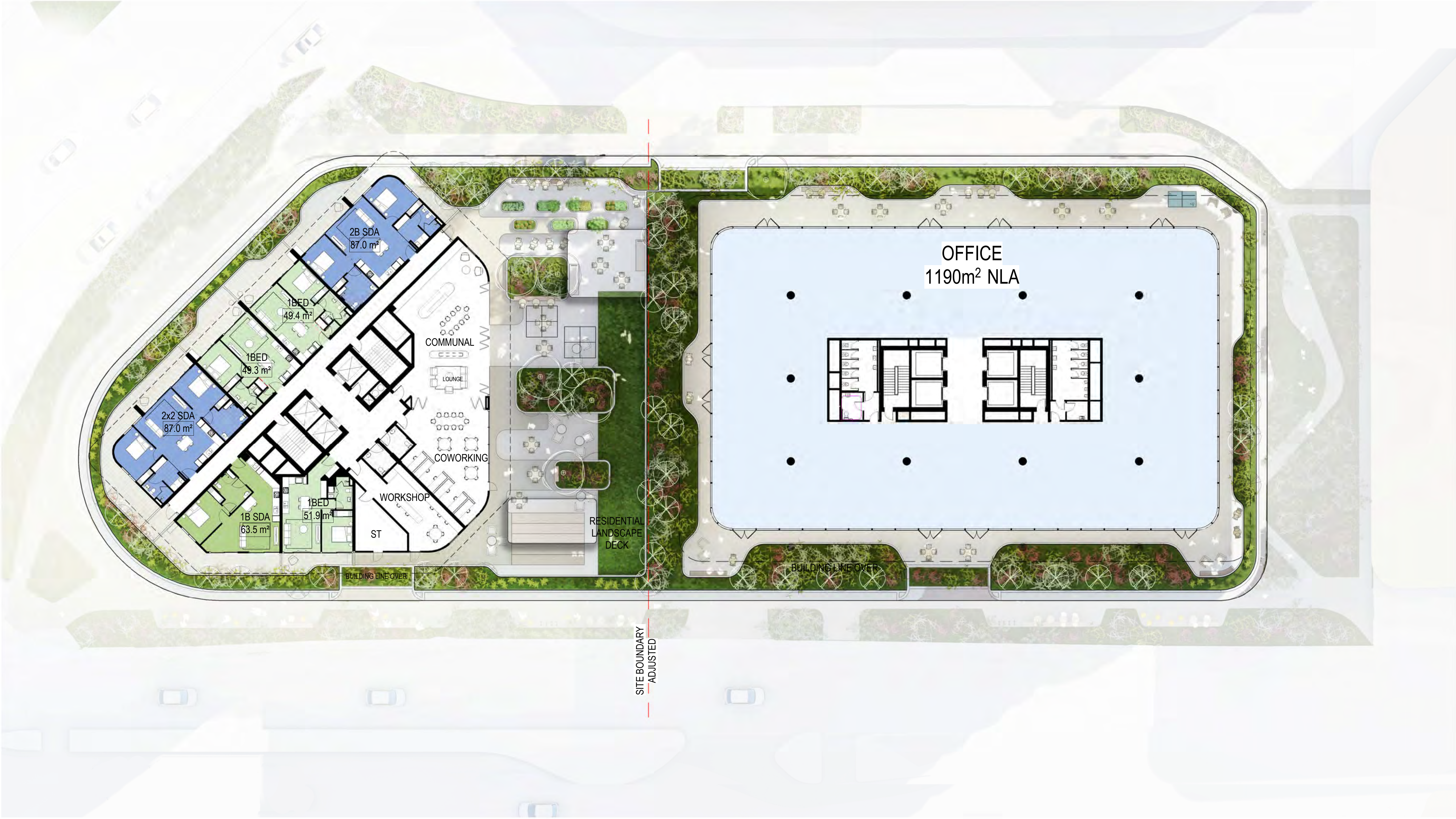
1 : 200

PROJECT NO.

016226

REV NO.

A



1 L05 PODIUM AMENITY
1:200



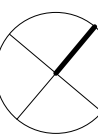
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
L5 PODIUM

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK006

SCALE @ A1

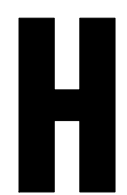
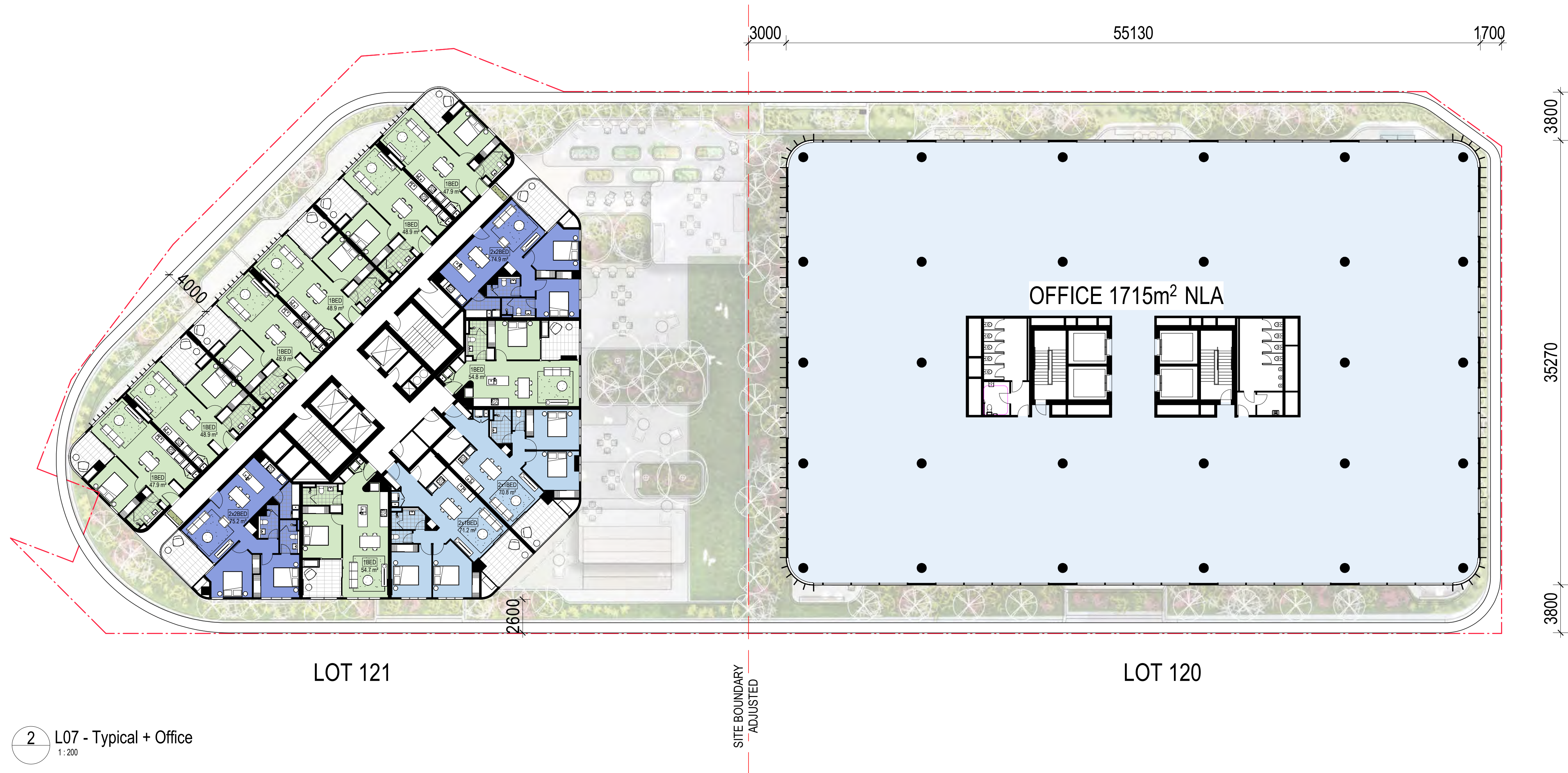
1 : 200

PROJECT NO.

016226

REV NO.

A



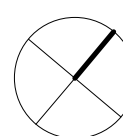
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
TYPICAL RESIDENTIAL PLATE + OFFICE

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK007

SCALE @ A1

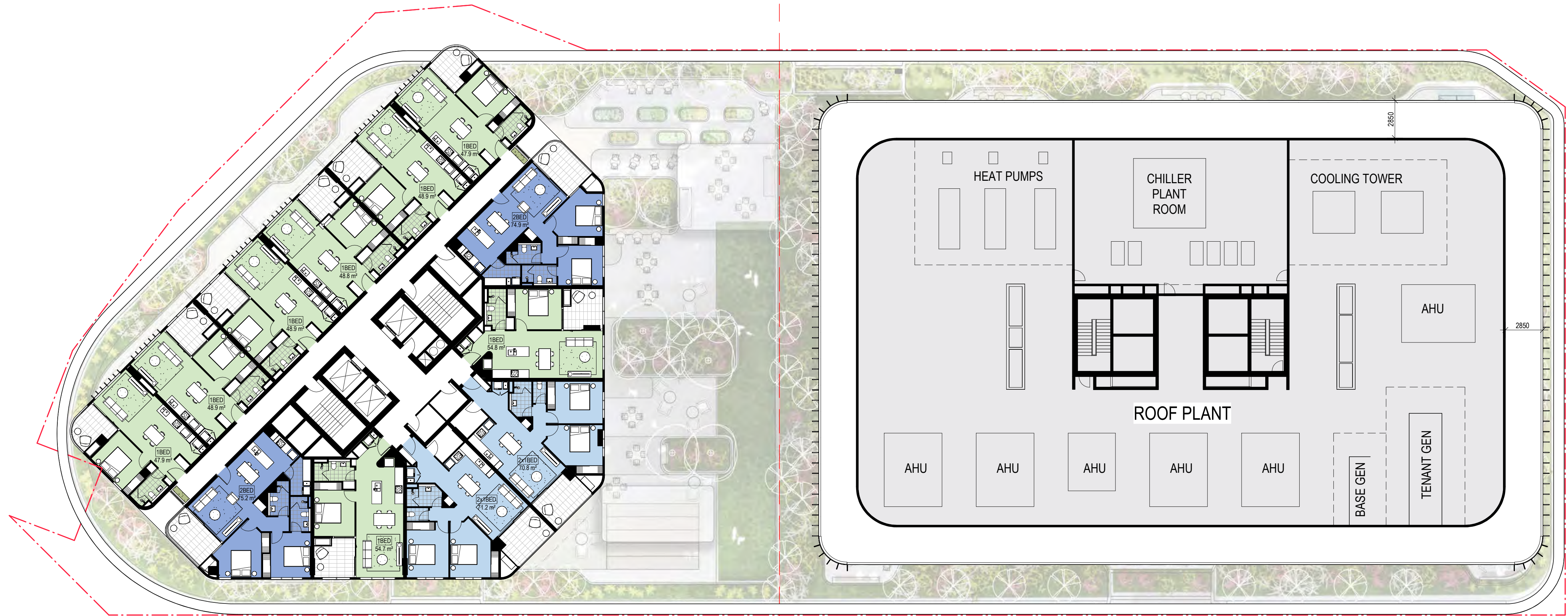
1 : 200

PROJECT NO.

016226

REV NO.

A



LOT 121

LOT 120

1 L13 OFFICE PLANT
1:200

H

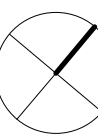
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
RESIDENTIAL PLATE + OFFICE PLANT

REVIEWED

MJ

APPROVED
MJ

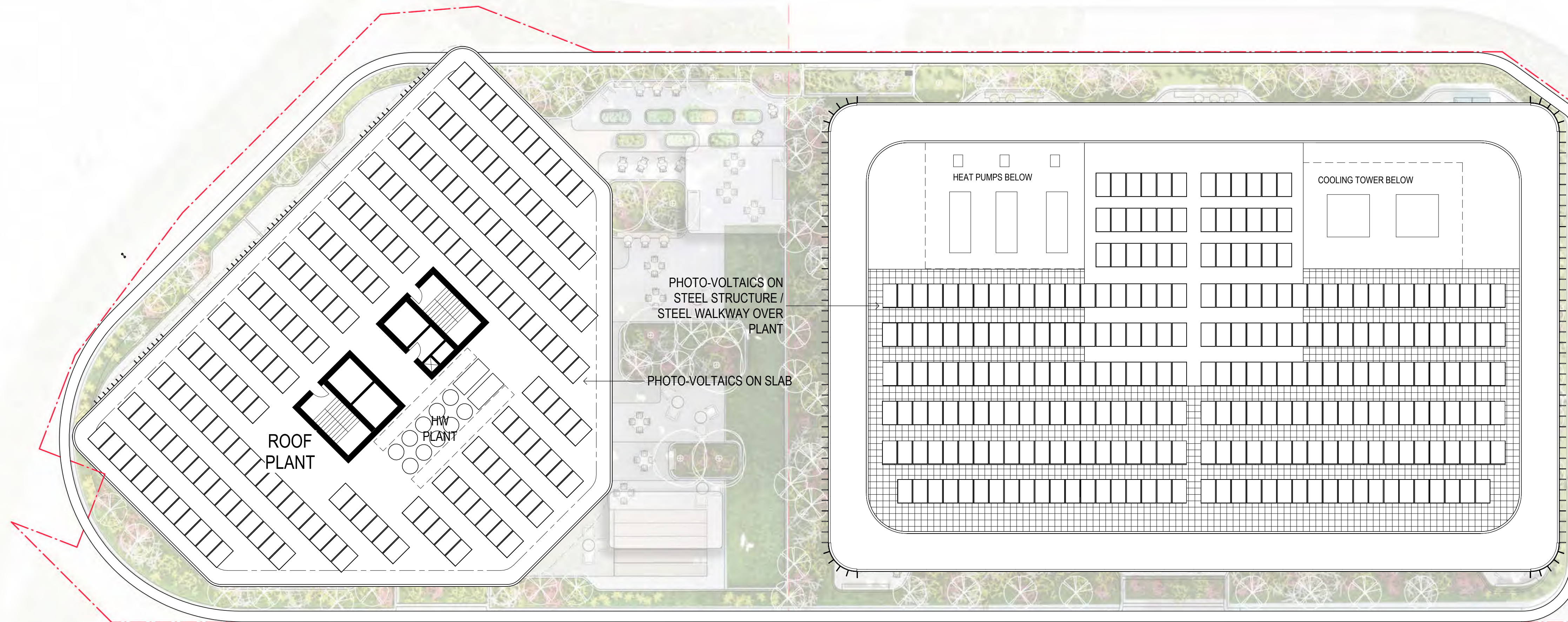
DRAWING NO.
SK008

SCALE @ A1

1 : 200

PROJECT NO.
016226

REV NO.
A



LOT 121

LOT 120

1 L24 RESIDENTIAL PLANT
1:200

H

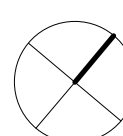
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
RESIDENTIAL - PLANT LEVEL

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK009

SCALE @ A1

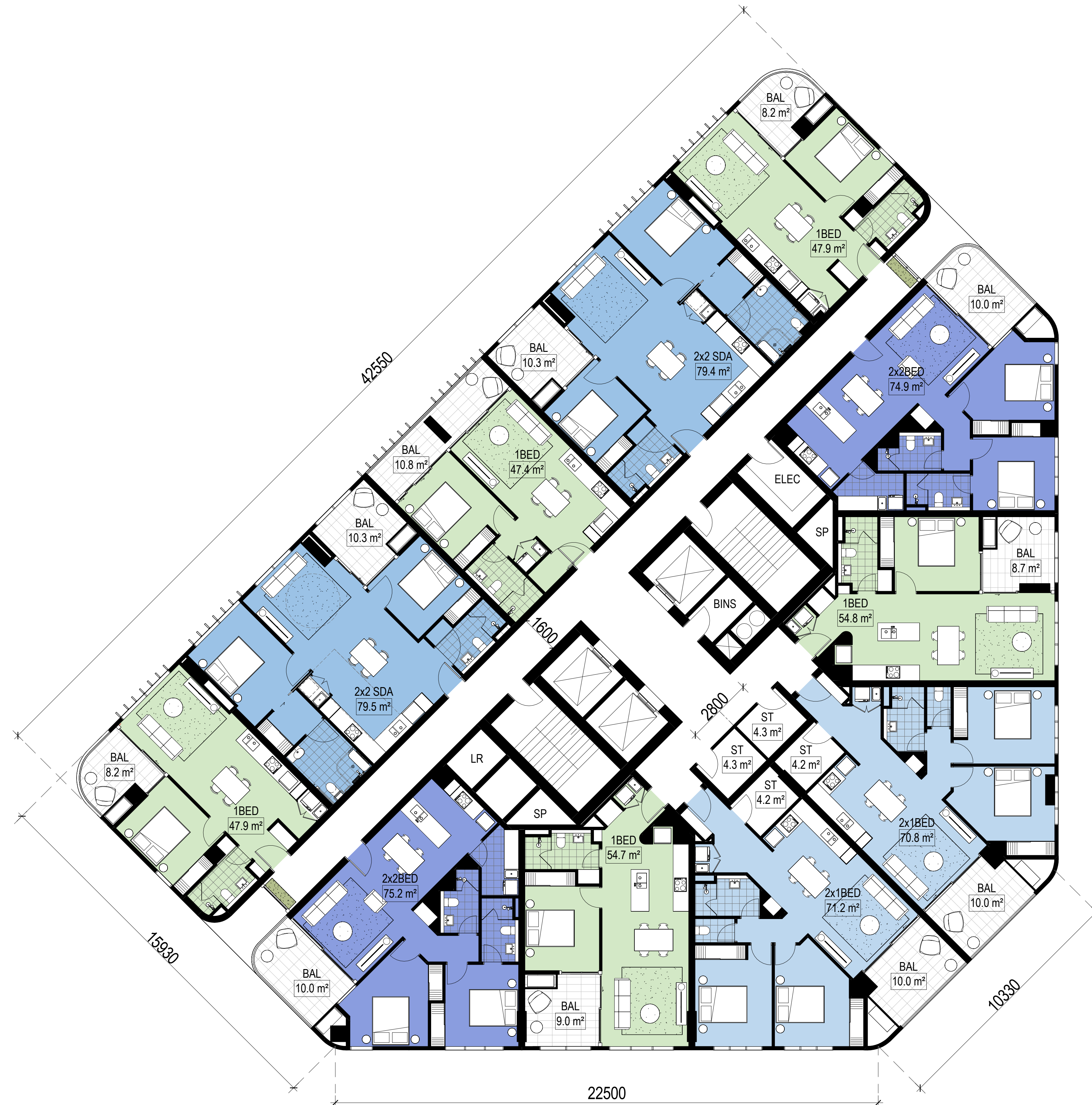
1:200

PROJECT NO.

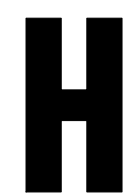
016226

REV NO.

A



1 L09 - TYPICAL RESIDENTIAL PLATE_L6-11
1:100



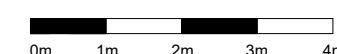
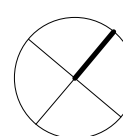
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE

TYPICAL RESIDENTIAL PLATE_L6-11

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK010

SCALE @ A1

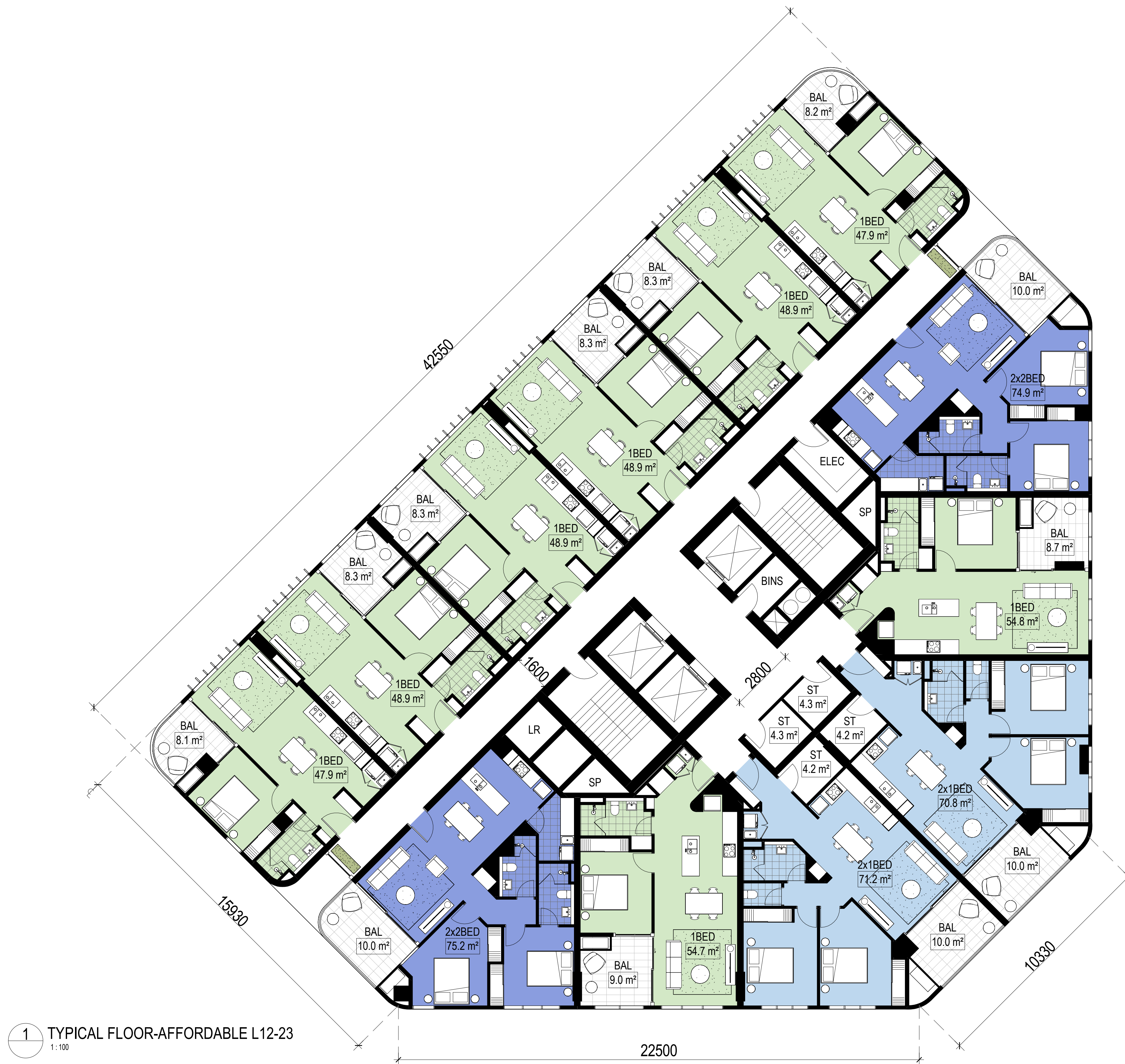
1 : 100

PROJECT NO.

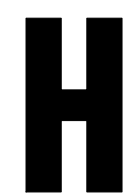
016226

REV NO.

A



1 TYPICAL FLOOR-AFFORDABLE L12-23
1:100



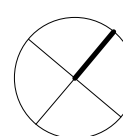
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
TYPICAL RESIDENTIAL PLATE_L12-23

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK011

SCALE @ A1

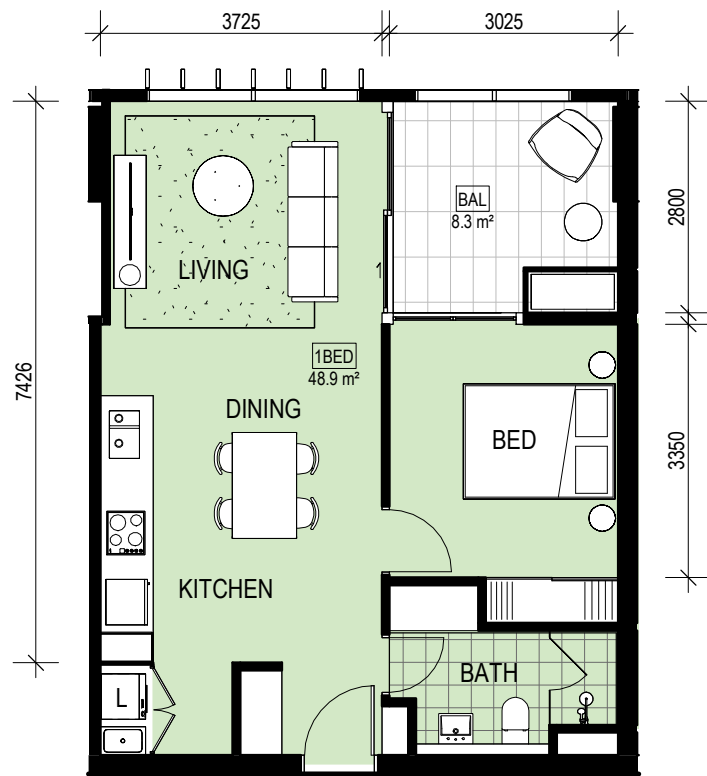
1 : 100

PROJECT NO.

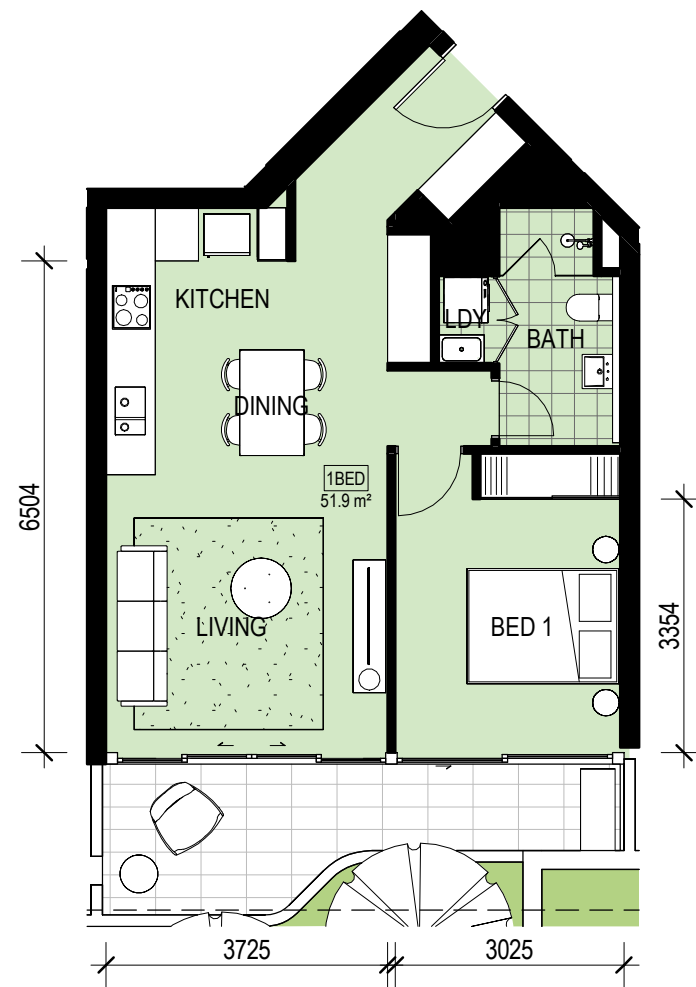
016226

REV NO.

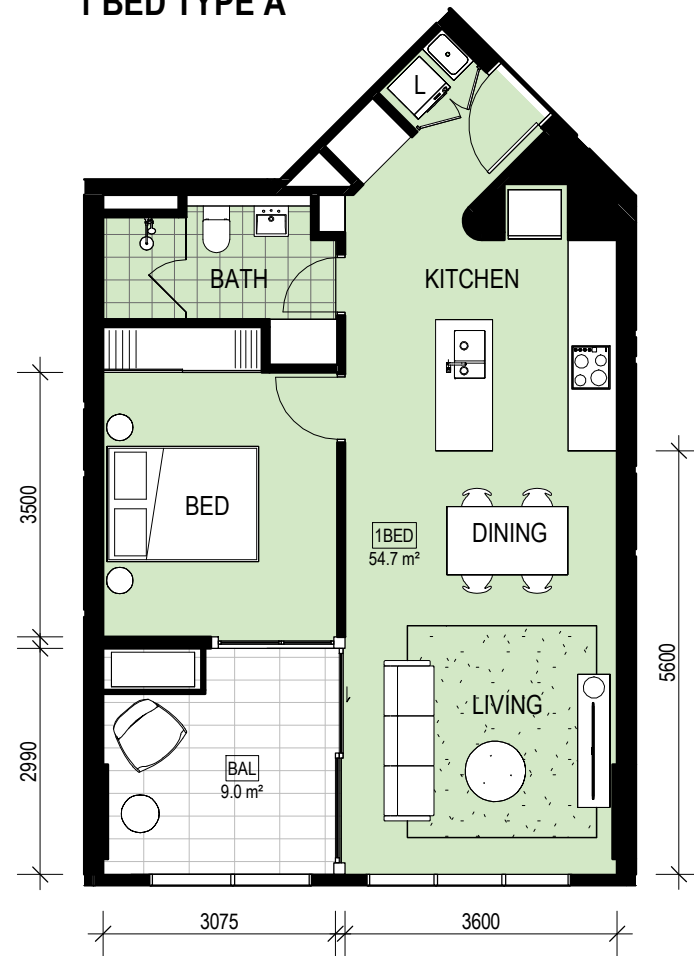
A



1 BED TYPE A



1 BED TYPE C



1 BED TYPE B



2x2 BED



2x1 BED (+ STORE)

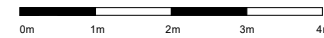
H

CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 2, Pier 8/9, 23 Hickson Rd
Sydney NSW 2000 Australia
T +61 2 9101 2000
F +61 2 9101 2100
sydney@hassellstudio.com
Nominated Architects NSW:
Tony Grist 5350
Glenn Scott 6842
Ross de la Motte 7398

REFERENCE



NORTH



NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION HOUSING

PROJECT

Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE

TYPICAL APARTMENT LAYOUTS _1-100

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK012

SCALE @ A3

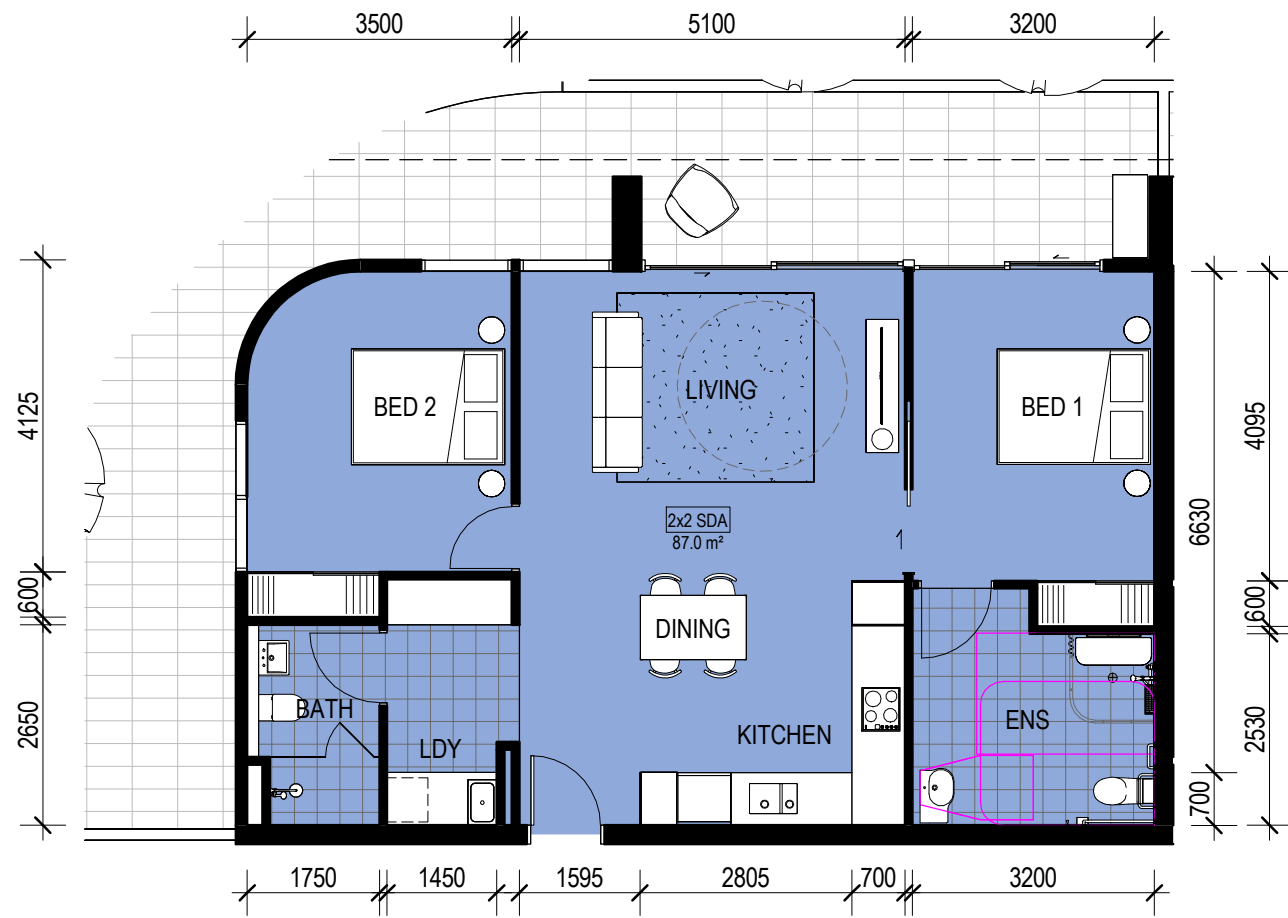
1 : 100

PROJECT NO.

016226

REV NO.

A



2 BED SDA TYPE A



2 BED SDA TYPE B



1 BED SDA

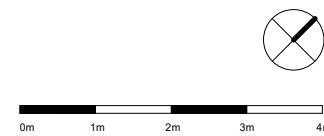


CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level2, Pier 8/9,23 Hickson Rd
Sydney NSW 2000 Australia
T +61 2 9101 2000
F +61 2 9101 2100
sydney@hassellstudio.com
Nominated Architects NSW:
Tony Grist 5350
Glenn Scott 6842
Ross de la Motte 7398

REFERENCE



NORTH

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION HOUSING

PROJECT

Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE

TYPICAL APARTMENT LAYOUTS _1-100

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK013

SCALE @ A3

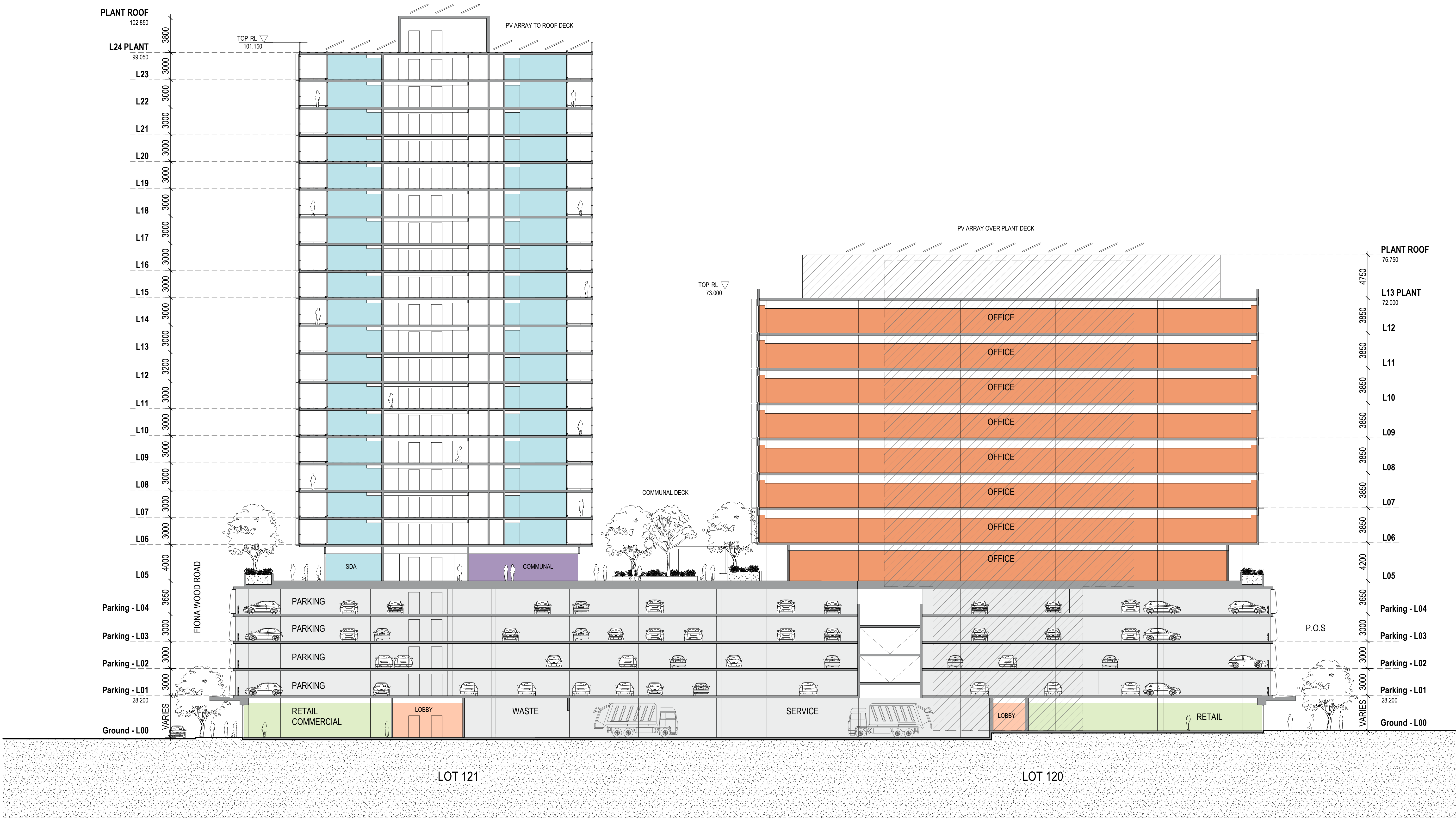
1 : 100

PROJECT NO.

016226

REV NO.

A



1 TYPICAL LONG SECTION
1:200

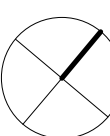
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
INDICATIVE LONG SECTION

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK020

SCALE @ A1

1:200

PROJECT NO.

016226

REV NO.

A



1 TYPICAL SHORT SECTION
1:200



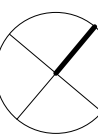
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
INDICATIVE SHORT SECTION

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK021

SCALE @ A1

1 : 200

PROJECT NO.

016226

REV NO.

A



SOUTH EAST ELEVATION_BARRY MARSHALL PARADE
1:250



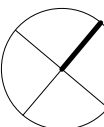
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE

ELEVATION - BARRY MARSHALL PARADE

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK030

SCALE @ A1

1 : 250

PROJECT NO.

016226

REV NO.

A



NORTH WEST ELEVATION_FIONA WOOD ROAD
1:250



NORTH EAST ELEVATION_WONNUL PLACE
1:250



SOUTH EAST ELEVATION_P.O.S
1:250



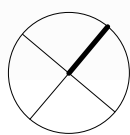
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
ELEVATION - NORTH EAST P.O.S

REVIEWED

MJ

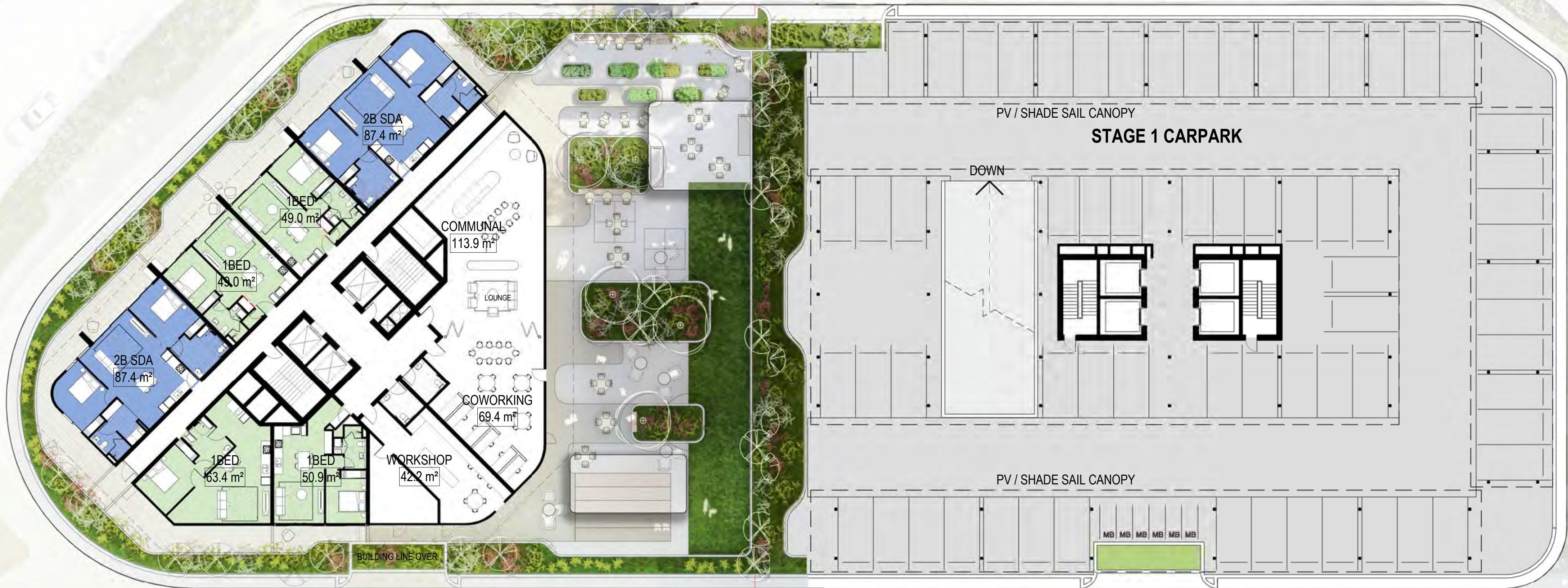
APPROVED
MJ

DRAWING NO.
SK033

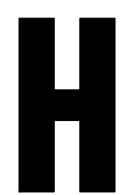
SCALE @ A1
1 : 250

PROJECT NO.
016226

REV NO.
A



1 L05 PODIUM - STAGE 1
1:200



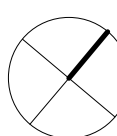
CONSULTANT

Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

1. Do not scale drawing. Written dimensions govern
 2. All dimensions are in millimeters unless noted otherwise
 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings
- This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
LEVEL 5 PODIUM - STAGE 1

REVIEWED

MJ

APPROVED

MJ

DRAWING NO.

SK040

SCALE @ A1

1:200

PROJECT NO.

016226

REV NO.

A

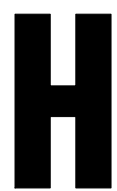


120 ADAPTIVE REUSE (PER FLOOR)
TOTAL APARTMENTS = 11
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 4

120 ADAPTIVE REUSE TOTAL
TOTAL APARTMENTS = 33
SMALL CARBAYS = 18
MOTORCYCLE BAYS = 12

120 PARKING
TOTAL CAR BAYS = 65
SMALL CARBAYS = 6
MOTORCYCLE BAYS = 9

1 GA PLAN - L02-L04 CARPARK_ADAPTIVE REUSE
1:200

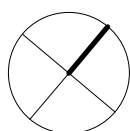


Hassell

Hassell LTD ABN 24 007 711 435
Level 1
Commonwealth Bank Building
242 Murray Street
Perth WA 6000 Australia
T +61 8 6477 6000
perth@hassellstudio.com

REFERENCE

NORTH



0m 1m 2m 3m 4m

NOTES

- Do not scale drawing. Written dimensions govern
- All dimensions are in millimeters unless noted otherwise
- All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies.
- This drawing must be read in conjunction with all relevant contracts, specifications and drawings

This drawing is an uncontrolled copy. Unless noted otherwise
© Copyright of this drawing is vested in Hassell Ltd.

REV DESCRIPTION

A Development Application

DATE

31/01/24

CLIENT

HESPERIA + FOUNDATION
HOUSING
PROJECT
Lot 120-121 Murdoch
BARRY MARSHALL PARADE + FIONA WOOD
ROAD
MURDOCH PERTH WA 6150

STATUS

DRAWING TITLE
SECTION_STAGE 1

REVIEWED

MJ

APPROVED
MJ

DRAWING NO.
SK042

SCALE @ A1

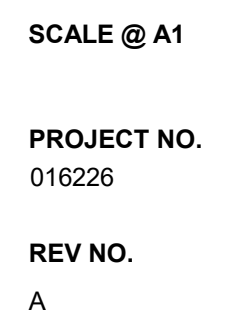
PROJECT NO.
016226

REV NO.
A



RENDER - FIONA WOOD RD FACING NORTH

H	CONSULTANT Hassell Hassell LTD ABN 24 007 711 435 Level 1 Commonwealth Bank Building 242 Murray Street Perth WA 6000 Australia T +61 8 6477 6000 perth@hassellstudio.com	REFERENCE NORTH	NOTES 1. Do not scale drawing. Written dimensions govern 2. All dimensions are in millimeters unless noted otherwise 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies. 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings This drawing is an uncontrolled copy. Unless noted otherwise © Copyright of this drawing is vested in Hassell Ltd.	REV DESCRIPTION A Development Application DATE 31/01/24	CLIENT HESPERIA + FOUNDATION HOUSING PROJECT Lot 120-121 Murdoch BARRY MARSHALL PARADE + FIONA WOOD ROAD MURDOCH PERTH WA 6150	STATUS DRAWING TITLE RENDER - FIONA WOOD RD FACING NORTH	REVIEWED MJ APPROVED MJ DRAWING NO. SK050 SCALE @ A1 PROJECT NO. 016226 REV NO. A
--------------	---	---	---	---	---	---	--





RENDER - FIONA WOOD RD FACING SOUTH

H	CONSULTANT Hassell Hassell LTD ABN 24 007 711 435 Level 1 Commonwealth Bank Building 242 Murray Street Perth WA 6000 Australia T +61 8 6477 6000 perth@hassellstudio.com	REFERENCE NORTH 0m1m2m3m4m	NOTES 1. Do not scale drawing. Written dimensions govern 2. All dimensions are in millimeters unless noted otherwise 3. All dimensions shall be verified on site before proceeding with the work. Hassell shall be notified in writing of any discrepancies. 4. This drawing must be read in conjunction with all relevant contracts, specifications and drawings This drawing is an uncontrolled copy. Unless noted otherwise © Copyright of this drawing is vested in Hassell Ltd.	REV DESCRIPTION A Development Application	DATE 31/01/24	CLIENT HESPERIA + FOUNDATION HOUSING PROJECT Lot 120-121 Murdoch BARRY MARSHALL PARADE + FIONA WOOD ROAD MURDOCH PERTH WA 6150	STATUS DRAWING TITLE RENDER - FIONA WOOD RD FACING SOUTH	REVIEWED MJ	SCALE @ A1
								APPROVED MJ	PROJECT NO. 016226
								DRAWING NO. SK052 REV NO. A	



RENDER - BARRY MARSHALL PDE FACING WEST



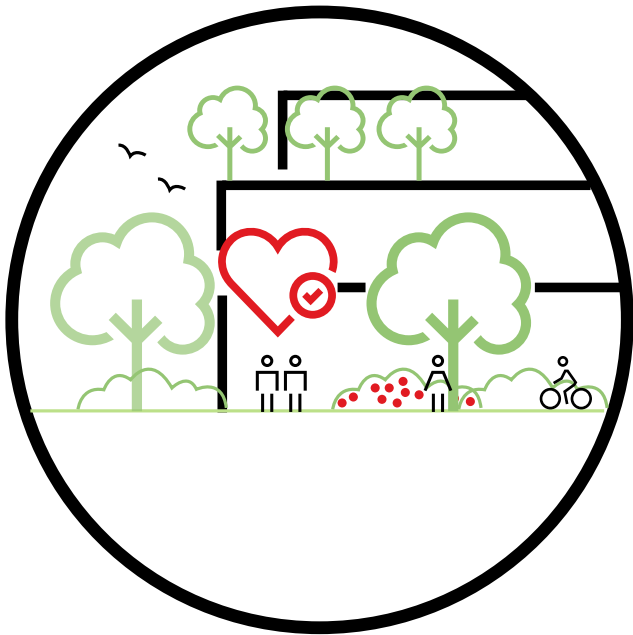
RENDER - BARRY MARSHALL PDE COLONNADE 1



RENDER - BARRY MARSHALL PDE COLONNADE 2

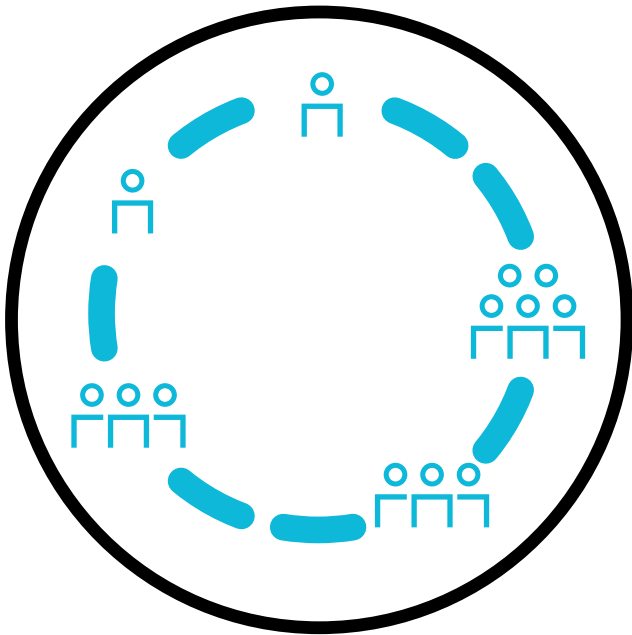
LANDSCAPE QUALITY

DESIGN PRINCIPLES



ACTIVATE SURROUNDS

UTILISES ACTIVE NODES TO
TAKES ADVANTAGE OF BUILDING SETBACK
CREATES NATURAL GREEN OUTLOOK FROM BUILDING



SCALES OF USE

ENCOURAGES INTERACTION BETWEEN PEOPLE THROUGH
DIFFERENT SETTINGS
SAFES SPACES ACCESSIBLE FOR ALL

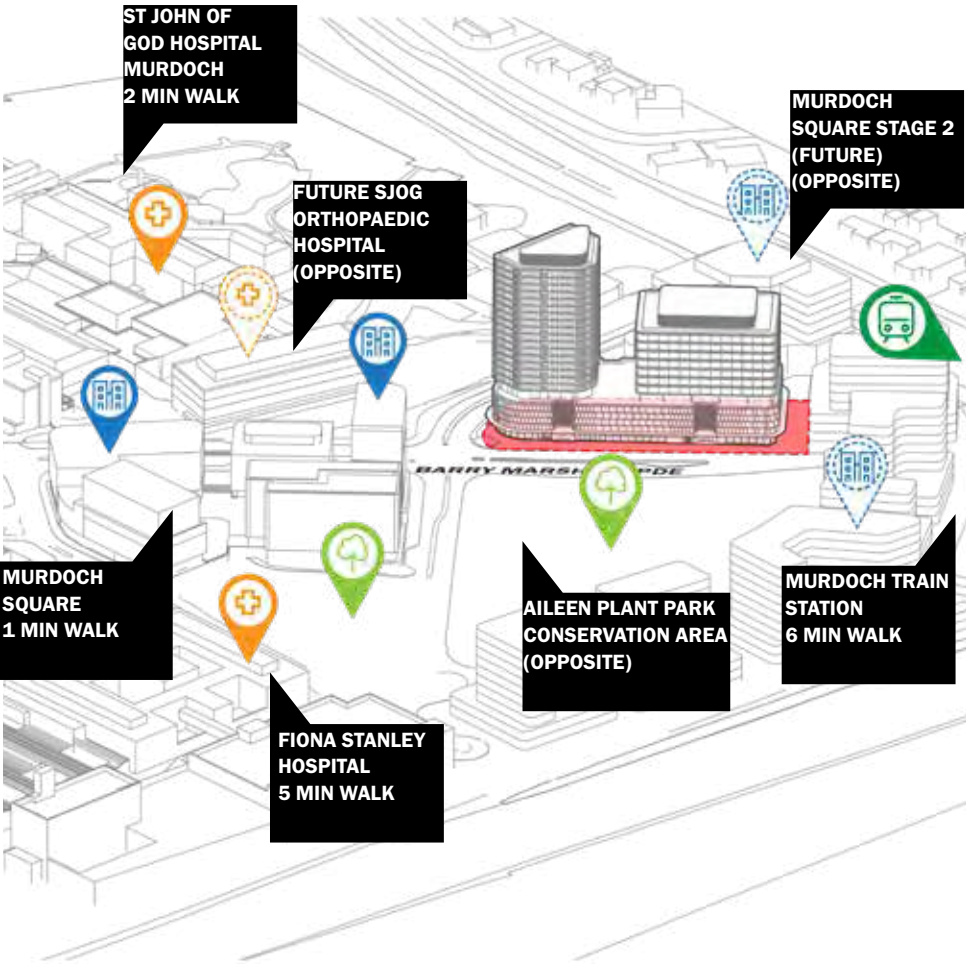


EXTEND PRECINCT ECOLOGY

BECOMES AN INTEGRATED PART OF WIDER ECOLOGICAL SYSTEMS
THROUGH THE PRECINCT

EXISTING SITE

The site sits adjacent a large piece of conservation bushland, at the northern entry to the Murdoch Health and Knowledge Precinct.



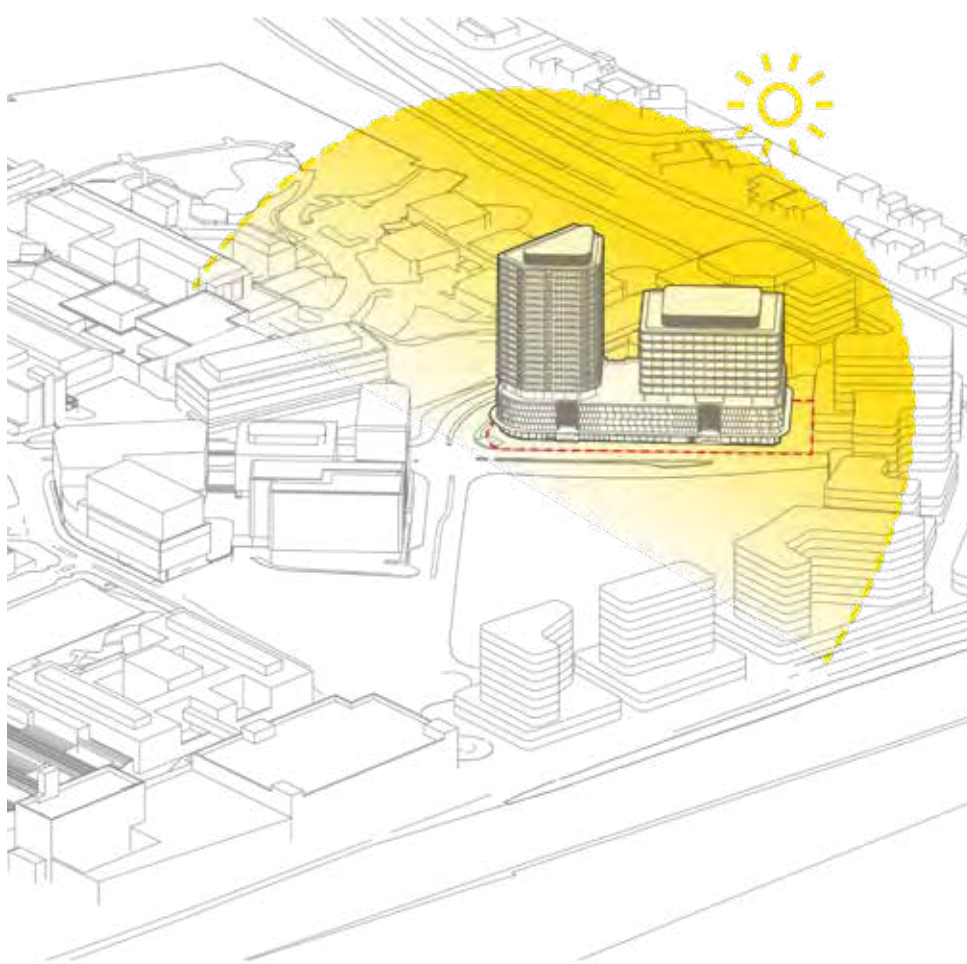
Precinct-wide access

The site is well-situated within the broader Murdoch Mixed Use Precinct, close to other sites and public transport.



Existing vegetation

Broader vegetation connection from Murdoch bushland to the west through to conservation bushland across the road (Aileen Plant Park).

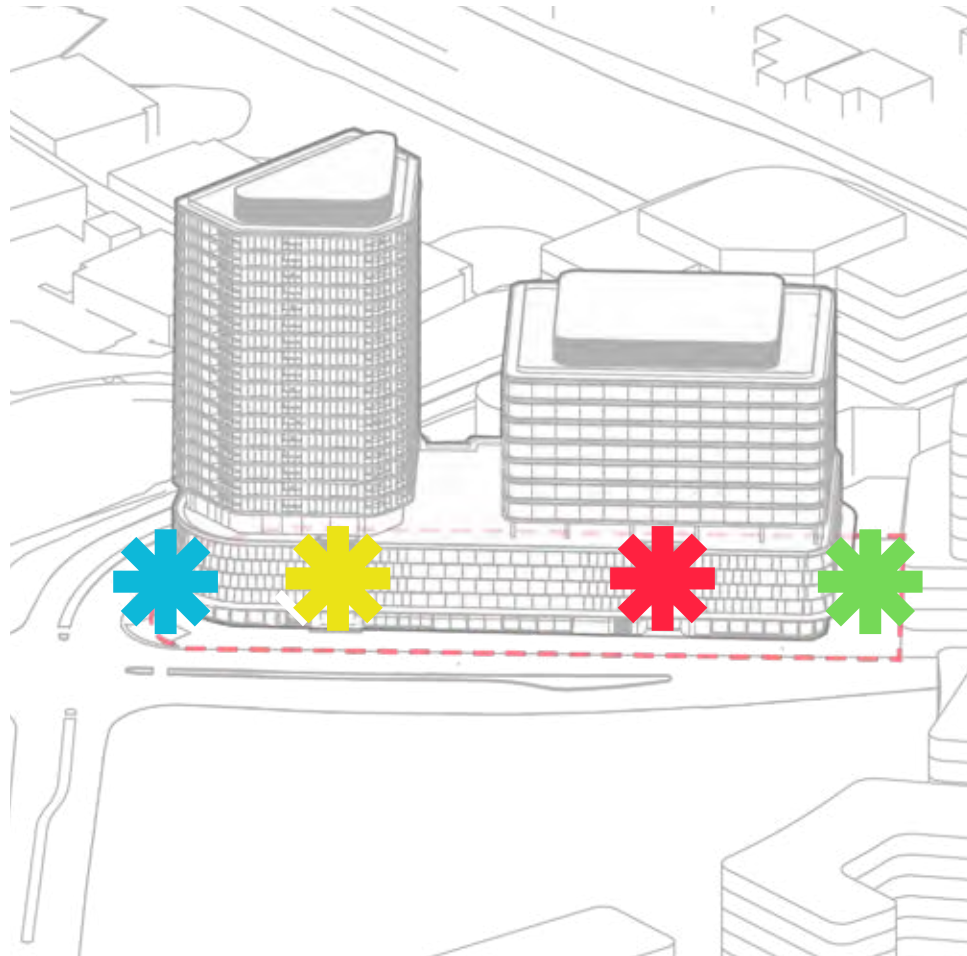


Access to shade

No existing trees on site, no other forms of shade, particularly along pathway to train station and POS zone.

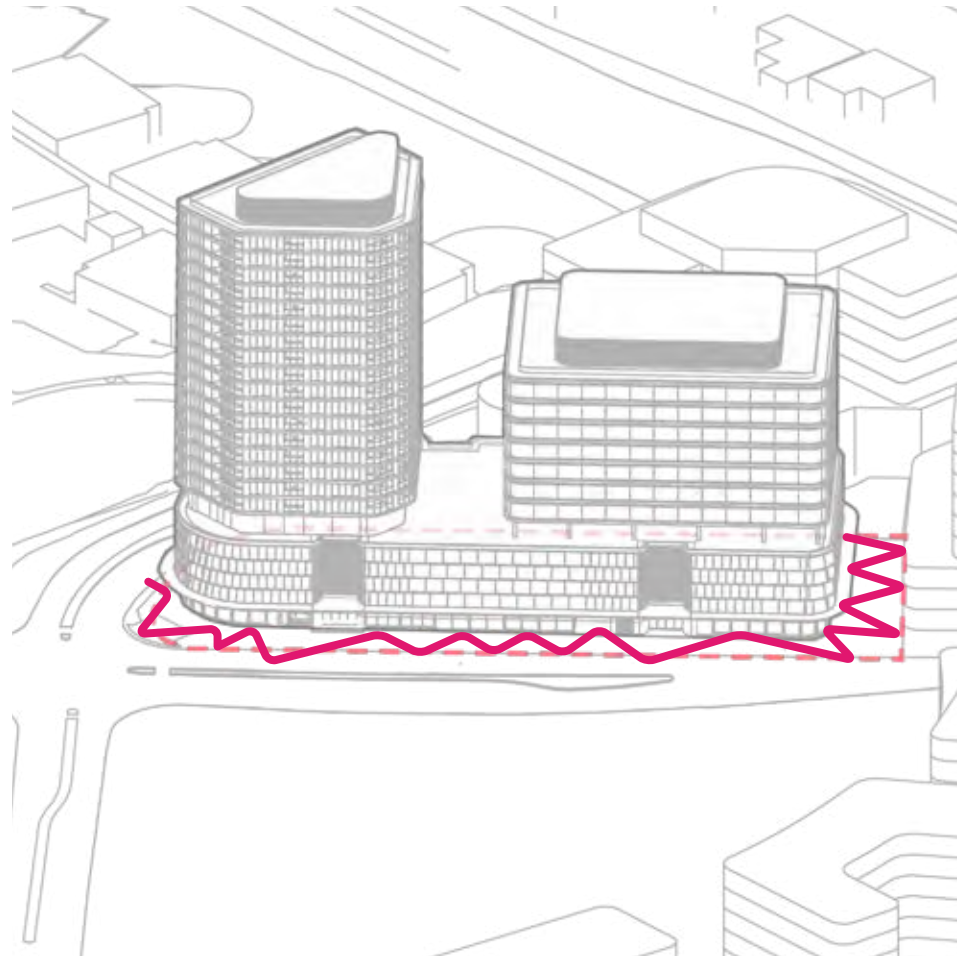
PRECINCT STRATEGIES

Enhance connections between nature and people, create a space for activation and improve upon existing ecologies within vegetation



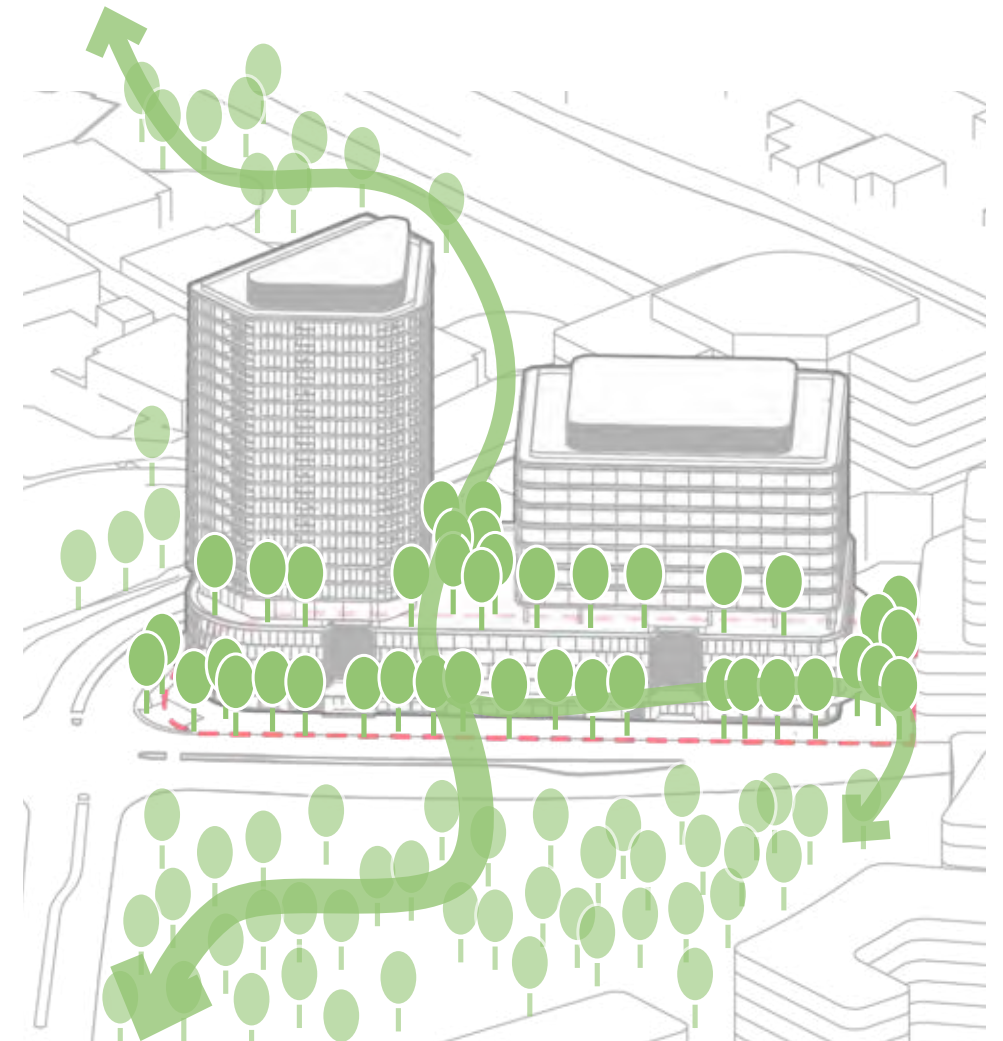
LEGIBLE ENTRY

- Promote clear points of entry from street edge
- Accessible movements to building frontage from Barry Marshall Pde
- Aligned spaces with adjacent building uses to improve legibility



ACTIVE EDGE

- Utilise seating and other elements against street edge to create small active 'nodes'
- Provide flexible spaces outside key tenancies



RETAIN CANOPY CONNECTION

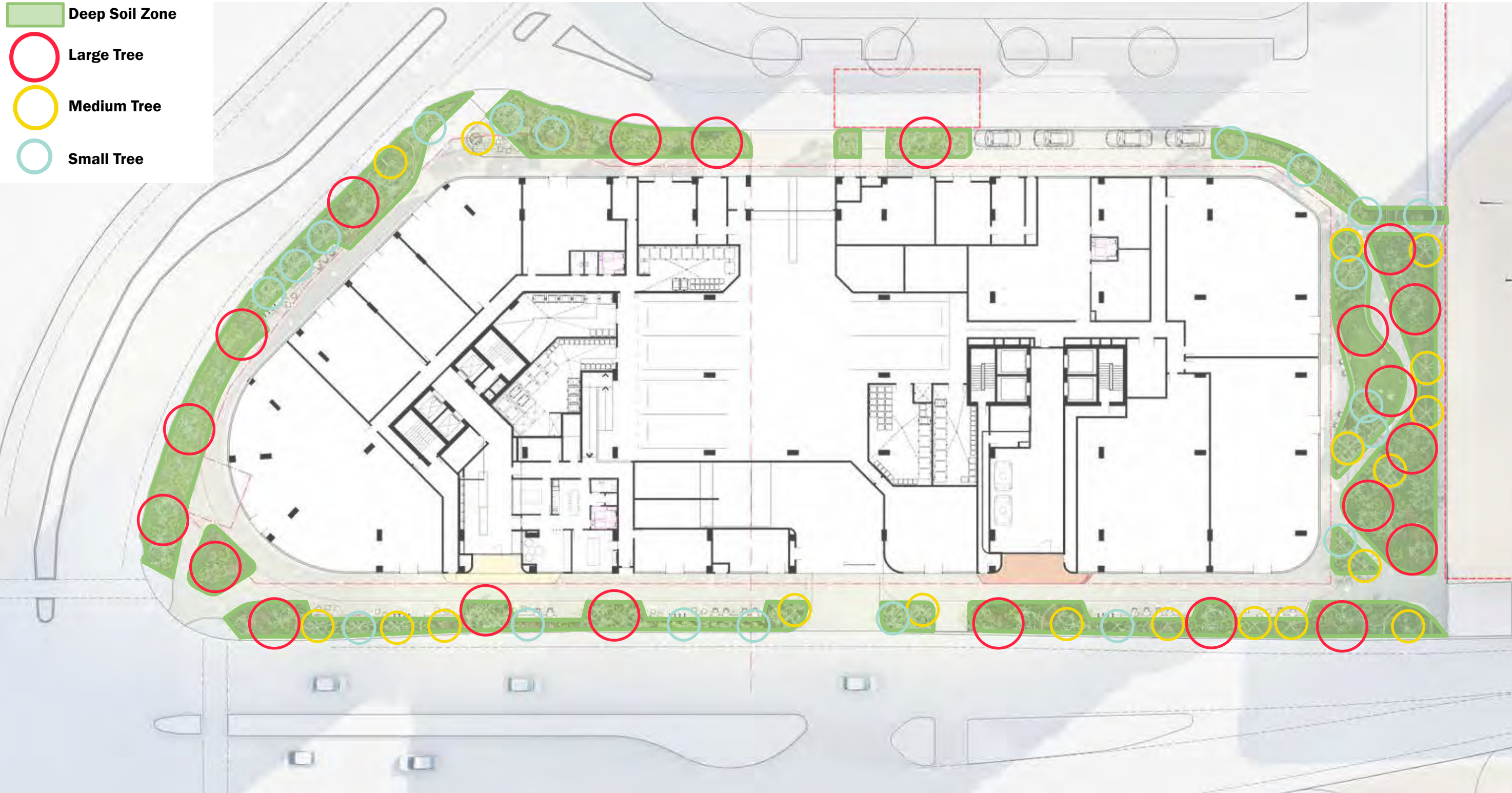
- Add to precinct tree canopy with new planting
- Use native species to connect with larger precinct strategy

DEEP SOIL STRATEGY

AREA OF DEEP SOIL - 12% of build/landscape scope

LARGE	MEDIUM	SMALL
GROUND LEVEL TREES		
21 no.	19 no.	18 no.
TOTAL		58 no.

- Deep Soil Zone
- Large Tree
- Medium Tree
- Small Tree



PLANTING PALETTE

Key species examples



Productive

Productive shrubs (e.g. rosemary)



Native

Banksia sp.



Sensory

Grevillea sp.



Bird Attracting

Anigozanthos



Climbing

Hibbertia scandens



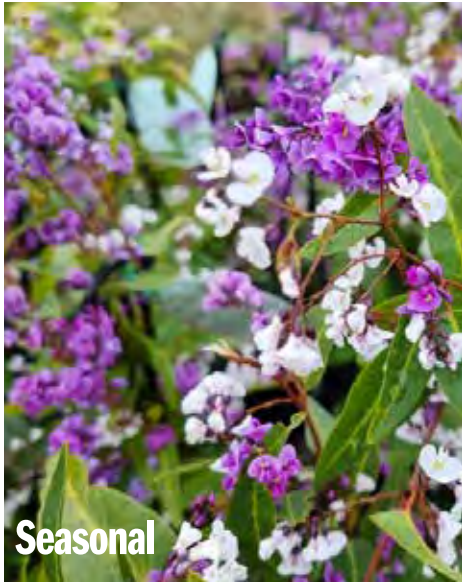
Cascading

Dichondra



Screening

Lilly Pilly



Seasonal

Hardenbergia violacea



Local

Dianella revoluta



Small Canopy

Hakea laurina



Large Canopy

Eucalyptus leucoxylon

MATERIAL PALETTE



High quality in-situ concrete



Brick paver



Raised steel edge



Brick seating wall with timber back and arm rest



Timber raised seating



Concrete seating wall with timber top and integrated feature lighting



Tables and chairs (fixed)



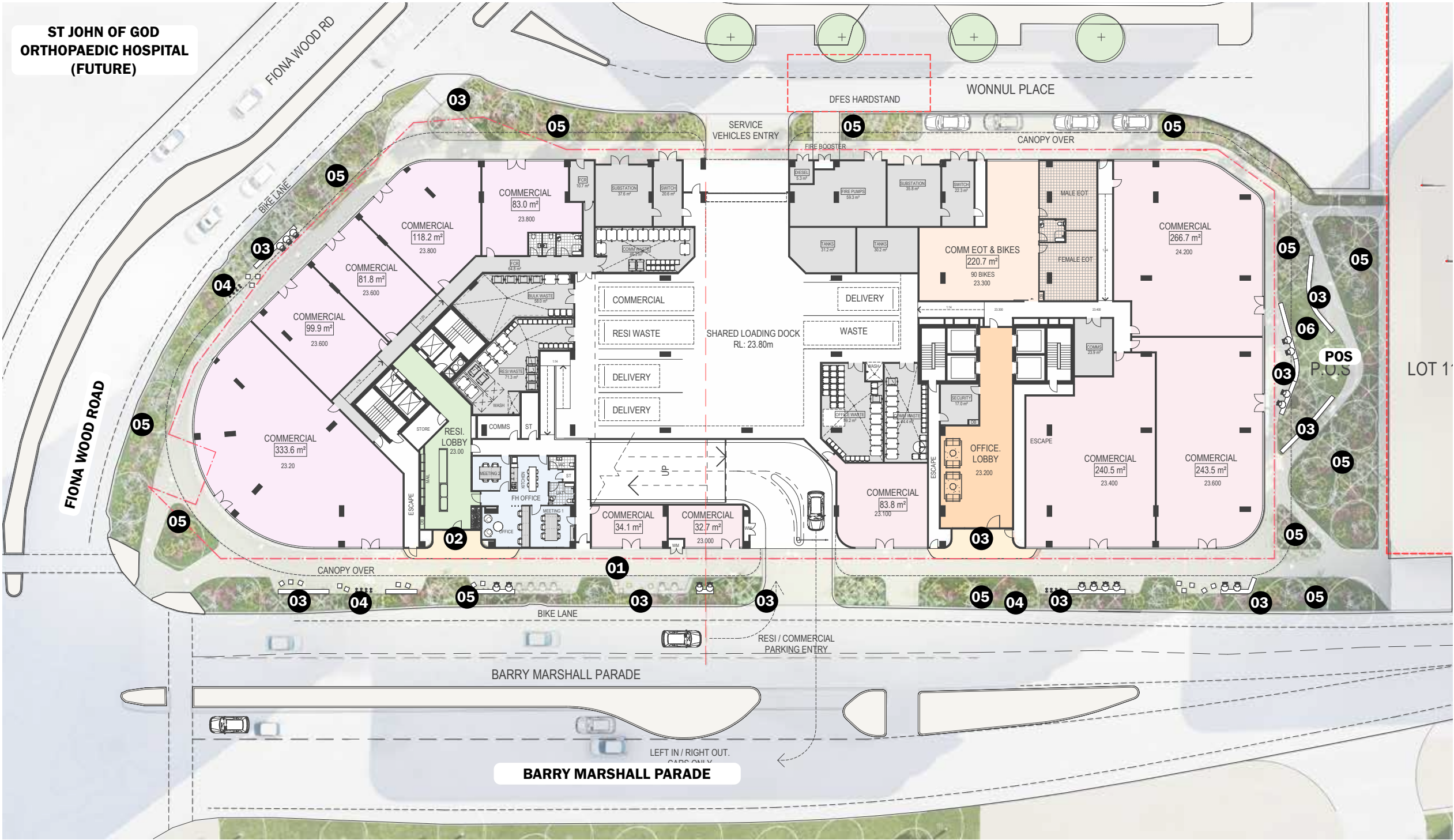
Feature lighting in garden beds



Shade structure

GROUND FLOOR

- 01 PSP width path along Barry Marshall Pde edge
- 02 Lobby entry "welcome mat"
- 03 Seating walls/fixed seating
- 04 Bike hoops
- 05 Native planting
- 06 Lawn



GROUND FLOOR

LOOK AND FEEL - PUBLIC AMENITY



OPEN LAWN



NATIVE PLANTING



FIXED SEATING NODES



PUBLIC SPACE



STREET SEATING



LOOSE FURNITURE

VIEW - BARRY MARSHALL PDE



Fixed singular furniture elements



Loose furniture against seating wall



Native planting as screening against road edge



VIEW - POS



Shaded lawn



Loose furniture against seating wall

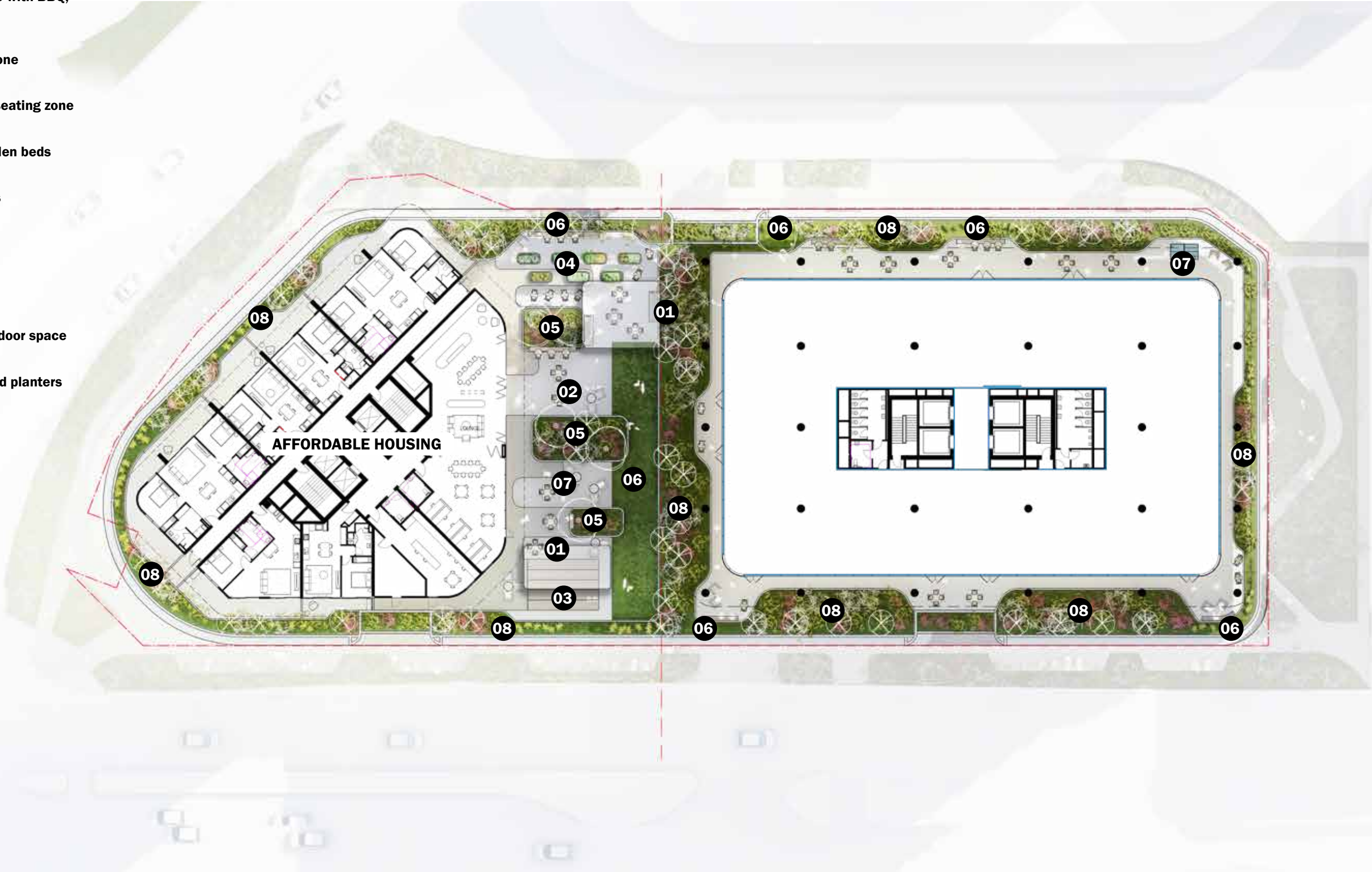


Native planting as screening against road edge



PODIUM

- 01 Shade structure with BBQ, seating
- 02 Open seating zone
- 03 Raised timber seating zone
- 04 Productive garden beds
- 05 Raised planters
- 06 Lawn
- 06 Seating walls
- 07 Co-working outdoor space
- 08 Perimeter raised planters (1.2m high)



PODIUM PLANTING STRATEGY

AREA OF 1200mm DEEP SOIL - 13% of Lot

LARGE	MEDIUM	SMALL
PODIUM LEVEL TREES		
9 no.	31 no.	26 no.
TOTAL		66 no.

- 1200mm Soil Depth
- 500-1000mm Soil Depth
- Large Tree (min. 9no.)
- Medium Tree (min. 9 no.)
- Small Tree



LANDSCAPE LOOK & FEEL

OUTDOOR SPACE/AMENITIES



OPEN LAWN



ROOFTOP PLANTING



SHADED DINING SPACES



COMMUNAL BARBECUES



MIX OF SEATING (FIXED)



TIMBER TERRACE

VIEW - PODIUM



Raised planters with seating edge



Lawn for dogs/active use



BBQ and seating zone



Proposed Mixed Use Development – Lots 120 & 121, Murdoch Mixed Use Precinct

TRANSPORT REPORT FOR PROPOSED
DEVELOPMENT APPLICATION



31 January 2024

TABLE OF CONTENTS

	<u>Page</u>
1. INTRODUCTION	1
1.1 Study Objectives	1
2. STUDY FINDINGS AND CONCLUSIONS	2
2.1 Existing Situation	2
2.2 Proposed Development	3
2.3 Proposed Access off Barry Marshall Parade	3
2.4 Proposed Parking Provision and Parking Requirements	4
2.5 Future Traffic Flows and Traffic Impacts	5
2.6 Swept Path Analysis	5
3. OVERALL CONCLUSIONS AND RECOMMENDATIONS	6
TECHNICAL APPENDIX	A-1
A.1 EXISTING ROADS AND INTERSECTIONS INCLUDING TRAFFIC FLOWS	A-2
A.2 EXISTING PEDESTRIAN/CYCLIST FACILITIES	A-3
A.3 PROPOSED DEVELOPMENT	A-4
A.4 SWEPT PATH DIAGRAMS	A-6

LIST OF TABLES

LIST OF FIGURES

		<u>Follows</u> <u>Page</u>			<u>Follows</u> <u>Page</u>
A.1	Proposed Mixed-Use Development Lot 120 & 121, Murdoch Mixed Use Precinct	A-4	1.	Overall Locality Plan – Murdoch Mixed Use Precinct	1
A.2	Future Weekday Trip Generation for Proposed Mixed Use Development Lots 120 & 121, Murdoch Mixed Use Precinct	A-5	2.	Proposed Development Site – Within Murdoch Mixed Use Precinct	1
			3.	Recommended Long Term Concept Plan – For Access off Barry Marshall Parade	6
			4.	Recommended Short Term Concept Plan – For Access off Barry Marshall Parade	6

TECHNICAL APPENDIX

A.1	Existing Overall Road Network – In the Vicinity of Murdoch Mixed Use Precinct	A-2
A.2	Existing Roads and Intersections – In the Vicinity of Proposed Development	A-2
A.3	Existing Situation – Adjacent to Proposed Development	A-2
A.4	Existing Weekday Traffic – In the Vicinity of Proposed Development	A-2
A.5	Existing Pedestrian/Cyclist Facilities – In the Vicinity of Proposed Development	A-3
A.6	Development Application Plan – Proposed Mixed Use Development	A-5
A.7	Level 1 Car Park Plan - Proposed Mixed Use Development	A-5
A.8	Level 2 Car Park Plan - Proposed Mixed Use Development	A-5
A.9	Proposed Development Plan – With Adjacent Roads and Intersections	A-5
A.10	Overall Future Traffic Distribution – Proposed Mixed Use Development	A-5
A.11	Future Development Traffic Flows – Proposed Mixed Use Development	A-5
A.12	Swept Paths for B99 Cars (5.2m) – Accessing Site off Barry Marshall Parade	A-6
A.13	Swept Paths for Commercial Truck (10.0m) – Accessing Loading Bay 1 (Lot 121)	A-6
A.14	Swept Paths for Rubbish Truck (10.5m) – Accessing Loading Bay 2 (Lot 121)	A-6
A.15	Swept Paths for Small Rigid Vehicle (6.4m) – Accessing Loading Bays 3 & 4 (Lot 121)	A-6
A.16	Swept Paths for Small Rigid Vehicle (6.4m) – Accessing Loading Bay 5 (Lot 121)	A-6
A.17	Swept Paths for Rubbish Truck (10.5m) – Accessing Loading Bay 6 (Lot 120)	A-6

1. INTRODUCTION

Hesperia, in conjunction with Hassell Architects, is proposing a mixed-use development at the north western corner of the Murdoch Mixed Use Precinct, in Murdoch, which is located within the Murdoch Specialised Activity Centre Structure Plan area.

The Murdoch Mixed Use Precinct is located on the southern side of South Street, bounded by Fiona Wood Road, Barry Marshall Parade, Bedrock Row and Kwinana Freeway, as shown in the Locality Plan in Figure 1, while the proposed development site at Lot 120 (No. 55) Barry Marshall Parade and Lot 121 (No. 5) Fiona Wood Road is located at the north eastern corner of the Barry Marshall Parade - Fiona Wood Road intersection, as shown in Figure 2.

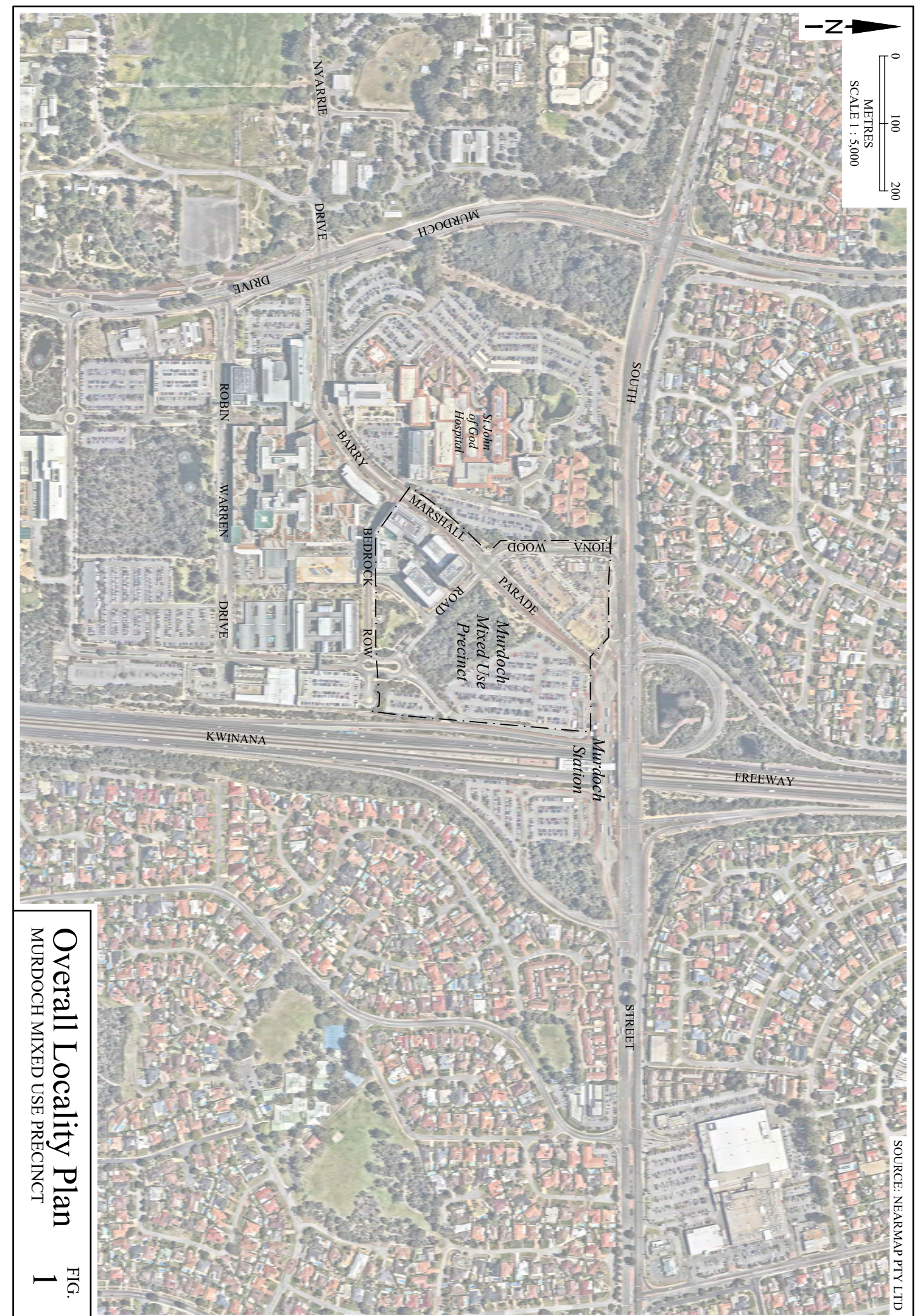
It is important to note that vehicular access for the proposed development site has so far been planned to occur only via Wonnul Place. However, the traffic study for the approved development application at Lot 1180 (No. 1) Fiona Wood Road, opposite the proposed development site, has identified that traffic congestion at the Murdoch Drive intersection with Barry Marshall Parade will be impacted by additional development within Wonnul Place due to the restricted (left-turn-only) egress from Wonnul Place onto Fiona Wood Road. It is therefore now proposed to provide car park access for the current development off Barry Marshall Parade (thereby allowing exiting traffic to access South Street via Fiona Wood Road), while using Wonnul Place for service vehicle access only.

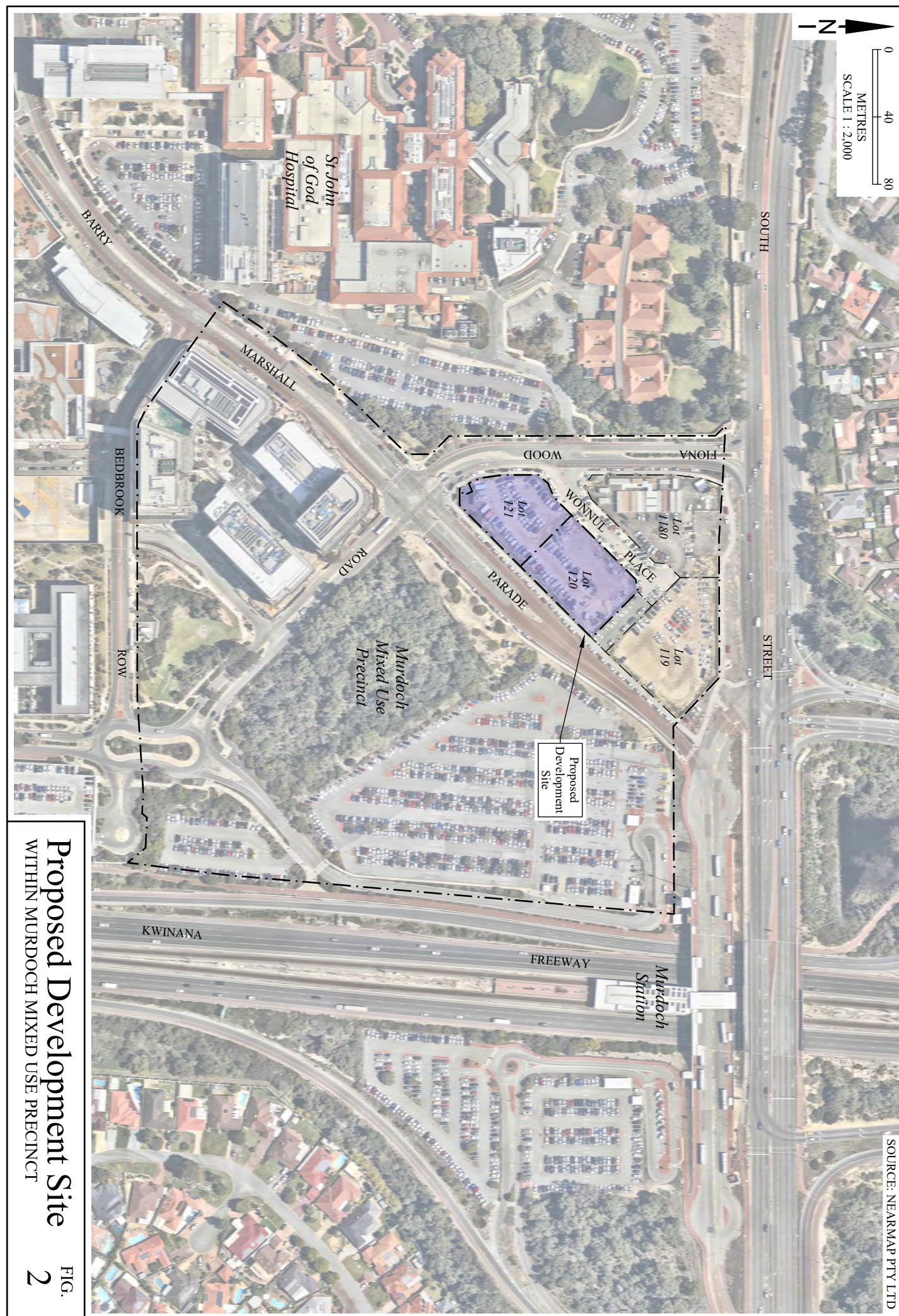
After initially providing input to the preparation of the overall concept plan and site access arrangements, Uloth and Associates has been appointed to prepare this Transport Impact Assessment Report in support of the proposed Development Application.

1.1 STUDY OBJECTIVES

The overall study objectives are as follows:

- Identify the existing situation and proposed development site.
- Identify future traffic flows for the proposed development.
- Make recommendations regarding concept designs for the proposed access off Barry Marshall Road, to reduce traffic impact at the Murdoch Drive - Barry Marshall Parade intersection.
- Review the proposed development plans and confirm that the proposed car park layouts and circulation ramps are acceptable.
- Prepare swept path diagrams to confirm the suitability of the proposed access driveways and loading areas.





Proposed Development Site
WITHIN MURDOCH MIXED USE PRECINCT

FIG.
2

2. STUDY FINDINGS AND CONCLUSIONS

The study findings and conclusions regarding the proposed mixed-use development are presented and discussed in this chapter, with reference to more detailed information documented in the Technical Appendix.

2.1 EXISTING SITUATION

The existing overall road network in the vicinity of the Murdoch Mixed Use Precinct and the existing roads and intersections in the vicinity of the proposed development are shown in the aerial photographs in Figures A.1 and A.2, respectively, in Chapter A.1 in the Technical Appendix, while the existing situation within and immediately adjacent to the site is shown in more detail in Figure A.3.

- It can be seen in Figure A.1 that vehicular access to/from the Murdoch Mixed Use Precinct is via Fiona Wood Road (to/from South Street) or via Barry Marshall Parade (to/from Murdoch Drive).
- South Street, in the vicinity of the proposed development site, is a 6-lane divided east-west urban arterial road, with major intersections at the Kwinana Freeway interchange and at Murdoch Drive. It is identified as a Primary Distributor road under the Main Roads WA functional road hierarchy and has a posted speed limit of 70 kilometres per hour.
- Murdoch Drive is also an important urban arterial road with a posted speed limit of 70 kilometres per hour and is identified as a Distributor A road under the Main Roads WA functional road hierarchy. It is a 4-lane divided north-south road, with major intersections at South Street and Barry Marshall Parade and extends further south over Farrington Street to link with Roe Highway (east) and Kwinana Freeway (south).
- Barry Marshall Parade is a 4-lane divided Access Road, but with kerbside bus lanes leaving just 1 lane in each direction for general traffic, while Fiona Wood Road is a 2-lane divided Access Road (with left-in/left-out access only at South Street), with both roads operating at the default urban area speed limit of 50 kilometres per hour.
- Wonnul Place is a 2-lane undivided Access Road, with access only off Fiona Wood Road (but with no right-turn-out from Wonnul Place into Fiona Wood Road).
- Existing weekday traffic flows in the vicinity of the proposed development are shown in Figure A.4 in Chapter A.1 in the Technical Appendix, based on data available from the Main Roads WA Trafficmap website plus additional traffic surveys carried out by Uloth and Associates. It can be seen in Figure A.4 that traffic flows on South Street vary from approximately 43,100 to 47,300 vehicles per day, while Murdoch Drive carries between 22,200 to 27,500 vehicles per day. Fiona Wood Road carries 5,700 vehicles per day south of Wonnul Place, while Barry Marshall Parade carries 5,100 vehicles per day west of Fiona Wood Road and just 990 vehicles per day (almost entirely Buses) east of Fiona Wood Road.
- There are a high number of bus services operating in the area, with the bus lanes on Barry Marshall Parade providing a direct route for high frequency buses to/from Murdoch Station, together with other feeder bus routes also operating along South Street.
- There are bus stops in Barry Marshall Parade approximately 200 metres south-west of the proposed development site, as shown in Figure A.5 in Chapter A.2 in the Technical Appendix, plus additional bus stops in South Street just west of Fiona Wood Road (approximately 300 metres walking distance from the proposed development).
- Figure A.5 also shows the existing pedestrian/cyclist facilities in the vicinity of the proposed development, along both sides of Barry Marshall Parade, Fiona Wood Road, Wonnul Place, and South

Street, including connectivity to/from Murdoch Station, which is located just 300 metres north-east along Barry Marshall Parade.

- Murdoch Station provides train connections to Perth, Rockingham and Mandurah, as well as Bus connections to/from Fremantle Station, Curtin University Bus Station, Morley Bus Station, Stirling Station, Claremont Station and other stops along Circle Routes 998 and 999, plus multiple feeder Bus services to the surrounding local areas.
- Historical crash data was also obtained from Main Roads WA over the past 5 years to December 2022, with 4 right-angle crashes recorded along Fiona Wood Road in the vicinity of the proposed development site. Three of the incidents occurred at the Wonnul Place intersection while the remaining incident occurred at the intersection with Barry Marshall Parade.

2.2 PROPOSED DEVELOPMENT

- The proposed development comprises a podium structure with ground level commercial/retail tenancies plus 4 levels of parking, together with a Residential Apartment tower (closest to Fiona Wood Road, on Lot 121) and a Commercial Office tower (on Lot 120).
- The proposed development plans are provided in Figures A.6 to A.9 in Chapter A.3 in the Technical Appendix, together with a summary of proposed land uses and corresponding traffic generation calculations in Tables A.1 and A.2.
- Figure A.6 in Chapter A.3 shows the proposed ground floor development plan, as prepared by Hassell architects, while Figures A.7 and A.8 show the proposed parking layouts for Levels 1 and 2 of the proposed podium, noting that the Level 2 car park layout in Figure A.8 will also be replicated on Levels 3 and 4. Figure A.9 then shows the proposed ground floor plan in the context of the adjacent roads and intersections.
- It can be seen in Figure A.6 that the proposed development will provide 11 commercial tenancies fronting Fiona Wood Road, Barry Marshall Parade, and the public open space at the eastern end of the site, while Figures A.7 and A.8 show that the proposed car park will provide ‘commercial’ parking on Level 1, but both ‘residential’ and ‘commercial’ parking on Levels 2 to 4, as discussed in more detail below in Section 2.4.
- Figure A.9 then shows that service vehicle access for the proposed mixed-use development is located on the northern side of the building (accessed off Wonnul Place), while the proposed car park is accessed via a new driveway off Barry Marshall Parade, with a proposed median opening to allow right turn movements in and out of the proposed car park, as described below in Section 2.3.
- Table A.1 in Chapter A.3 in the Technical Appendix shows that the proposed commercial tenancies at Ground Level will provide a total of 1,618 square metres net lettable area, while the Residential Tower on Lot 121 is proposed to provide 216 units (130 1-bed and 86 2-bed units over 19 floors on Level 5 to Level 23), and the Office Tower on Lot 120 will provide offices on Level 5 to Level 12 (with a total 14,780 square metres gross floor area).

2.3 PROPOSED ACCESS OFF BARRY MARSHALL PARADE

- Planning for Lot 1180 and Lots 119 to 121 is currently based on full access solely via Wonnul Place, but with no right turn-out from Wonnul Place onto Fiona Wood Road. This means that all traffic exiting these 4 Lots must turn left onto Fiona Wood Road, before then turning right onto Barry Marshall Parade to access Murdoch Drive.
- However, traffic analysis carried out as part of the Development Application for Lot 1180 suggests that traffic operations at the Murdoch Drive - Barry Marshall Parade signalised intersection are

approaching capacity, due (in part) to the modifications regarding Roe Highway Stage 8 and the subsequent extension of Murdoch Drive linking with the Kwinana Freeway - Roe Highway interchange.

- In order to relieve some of this congestion, it is proposed to allow development on Lots 120 and 121 to have direct access to/from Barry Marshall Parade, thereby allowing exiting traffic to turn right from Barry Marshall Parade into Fiona Wood Road towards South Street. This will take traffic away from the Murdoch Drive - Barry Marshall Parade intersection and will therefore improve traffic operations for the overall Precinct.
- Figure 3 in Chapter 3 Overall Conclusions and Recommendations therefore shows the proposed long-term concept plan for the new access off Barry Marshall Parade, including the already planned local road on the south side of Barry Marshall Parade (just east of Lot 120), together with the recommended median opening within Barry Marshall Parade for vehicles to turn right out of Lots 120 and 121.
- Figure 4 in Chapter 3 then shows the corresponding proposed short-term access arrangement, prior to the construction of the future road on the south side.

2.4 PROPOSED PARKING PROVISION AND PARKING REQUIREMENTS

Figures A.7 and A.8 in Chapter A.3 in the Technical Appendix shows the parking provision for the proposed development for Level 1 and Level 2, respectively, noting that the Level 2 parking layout (in Figure A.8) will be replicated on Levels 3 and 4.

- The proposed development will provide a total of 451 car parking spaces and 44 motorcycle spaces, with 153 car spaces plus 12 motorcycle spaces reserved for the residential tower and the remaining 298 car spaces plus 32 motorcycle spaces for use by the commercial/retail tenancies and visitors.
- End of Trip facilities and secure parking for 90 bicycles are proposed on the Ground Level, together with 15 bicycle racks for visitors.
- Typical car parking space dimensions are all 2.6 metres x 5.5 metres, with a 6.0 metre aisle width, which satisfies the requirements for User Class 3 (short-term parking) under Australian Standard AS 2890.1. However, there are also 48 ‘small car’ spaces which should satisfy the minimum dimensions of 2.3 metres x 5.0 metres (as also specified in AS 2890.1), and 8 Accessible spaces (with an adjacent shared area as required under AS 2890.6).
- Justifications and calculations regarding overall parking requirements are provided separately within the Planning Report, by Lateral Planning.

2.5 FUTURE TRAFFIC FLOWS AND TRAFFIC IMPACTS

- Future traffic generation for the proposed mixed-use development is calculated in Table A.2 in Chapter A.3 in the Technical Appendix. It can be seen in Table A.2 that the proposed development is expected to generate a total of 3,480 vehicle trips per day during weekday, with 318 trips and 359 trips during the Weekday AM and PM peak hours, respectively.
- Taking into account the previous traffic study for the Murdoch Activity Centre Transport Assessment (2016), the traffic distribution for the proposed development is assumed as follows:
 - To / from the North: 25 percent
 - To / from the East: 30 percent
 - To / from the South: 30 percent
 - To / from the West: 15 percent
- This results in an overall future daily traffic distribution for the proposed development as shown in Figure A.10 in Chapter A.3 with 15 percent travelling to / from the west (via South Street), 25 percent to/from north (10 percent via Murdoch Drive and 15 percent via Kwinana Freeway), 30 percent to /from the east (via South Street) and 30 percent to/from the south (21 percent via Murdoch Drive and 9 percent via Kwinana Freeway).
- The resulting travel routes for the AM and PM peak hour and Daily traffic flows accessing the proposed development site are therefore shown in Figure A.11.
- However, these future development traffic flows will be part of the total traffic flows accessing the overall Murdoch Activity Centre area, with traffic operations already assessed as part of the broader traffic studies used to determine the overall access arrangements and development potential for the overall precinct.

2.6 SWEPT PATH ANALYSIS

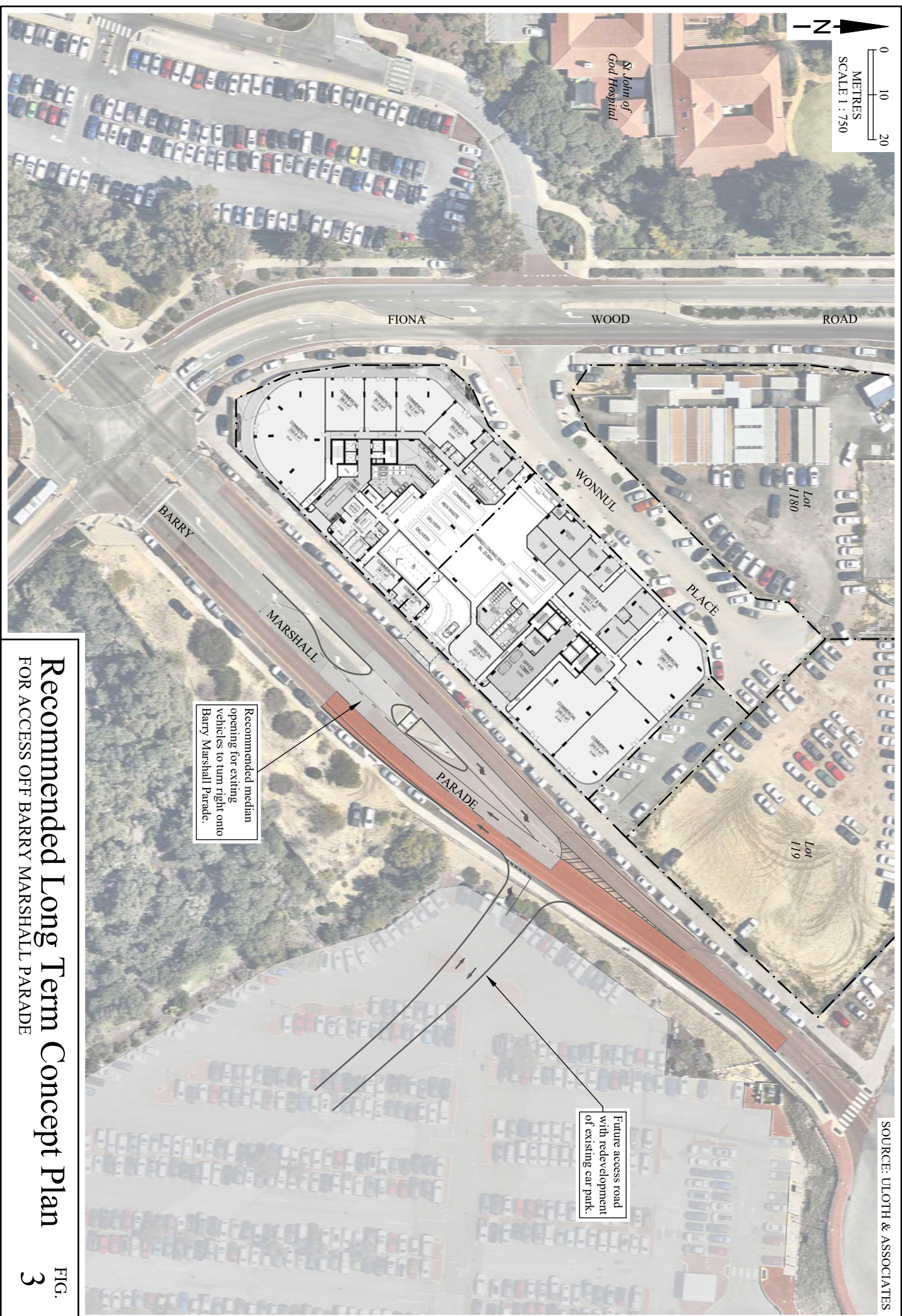
Swept path diagrams for vehicles accessing the proposed development site are provided in Figures A.12 to A.17 in Chapter A.4 in the Technical Appendix.

- Figure A.12 shows swept paths for a 5.2-metre B99 Car accessing the proposed development driveway off Barry Marshall Parade.
- Swept paths for service vehicles using the driveway off Wonnul Place are then shown in Figures A.13 to A.17, including swept paths to/from the various loading bays in the shared loading dock for the proposed development.

3. OVERALL CONCLUSIONS AND RECOMMENDATIONS

The overall conclusions and recommendations regarding the proposed mixed use development are drawn from the study findings and conclusions presented above in Chapter 2, and the additional information documented in the Technical Appendix, as follows:

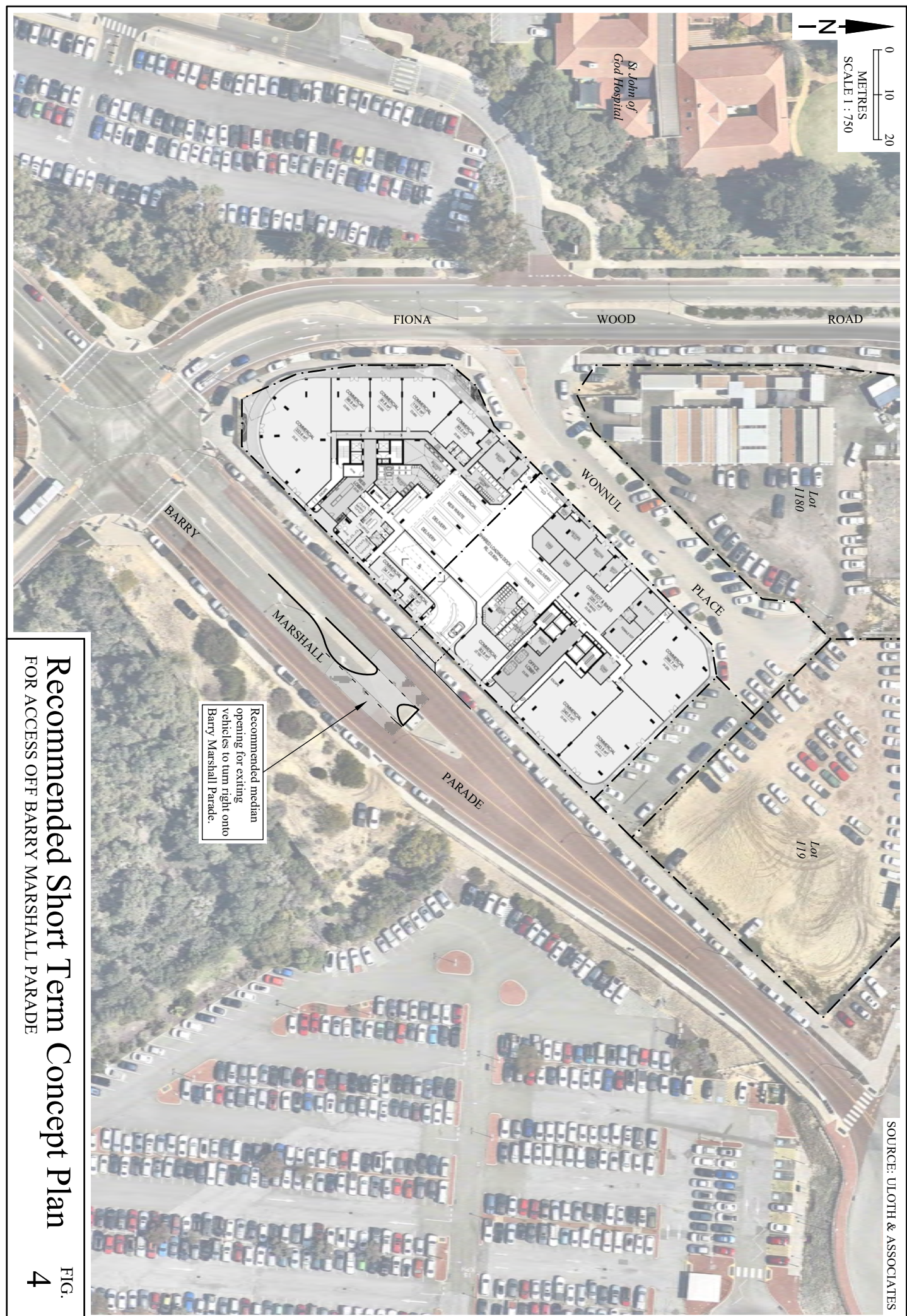
- The overall development plan proposes 216 residential apartments (within the Residential Tower on Lot 121), 14,780 square metres GFA of office (within the Office Tower on Lot 120), plus 11 commercial/retail tenancies (with a total of 1,618 square metres NLA).
- The proposal includes an overall parking provision of 451 car parking spaces plus 44 motorcycle spaces, including 48 'Small Car' spaces and 8 Accessible spaces. This includes 153 car spaces plus 12 motorcycle spaces for residential tenants, leaving 298 car spaces plus 32 motorcycle spaces for the commercial tenants and visitors.
- It is estimated that the proposed development will generate a total of 318 vehicle trips and 359 vehicle trips during the AM and PM peak hours, respectively, with 3,480 vehicle trips per day.
- It is recommended to provide car park access off Barry Marshall to improve traffic operations for the overall Murdoch Mixed Use precinct and reduce congestion at the Murdoch Drive - Barry Marshall Parade signalised intersection.
- Figure 3 therefore shows the recommended long-term concept plan, including the already planned local road on the south side of Barry Marshall Parade (just east of Lot 120), together with the recommended median opening within Barry Marshall Parade for vehicles to turn right out of Lots 120 and 121.
- Figure 4 then shows the proposed short-term access arrangement, prior to the construction of the future road on the south side.
- Swept paths for vehicles accessing the proposed development site are as shown in Figures A.12 to A.17 in Chapter A.4 in the Technical Appendix, thus confirming the suitability of the overall plans.



Recommended Long Term Concept Plan

FOR ACCESS OFF BARRY MARSHALL PARADE

FIG. 3



Recommended Short Term Concept Plan

FOR ACCESS OFF BARRY MARSHALL PARADE

FIG. 4

TECHNICAL APPENDIX

The Technical Appendix documents the existing situation and proposed development, plus future development traffic flows and swept path diagrams.

A.1 EXISTING ROADS AND INTERSECTIONS INCLUDING TRAFFIC FLOWS

Figure A.1 shows the existing overall road network in the vicinity of the Murdoch Mixed Use precinct.

Figure A.2 then shows the existing roads and intersections in the vicinity of the proposed development site, while Figure A.3 shows the existing situation within and adjacent to the proposed development.

Figure A.4 shows existing weekday traffic flows in the vicinity of the proposed development.

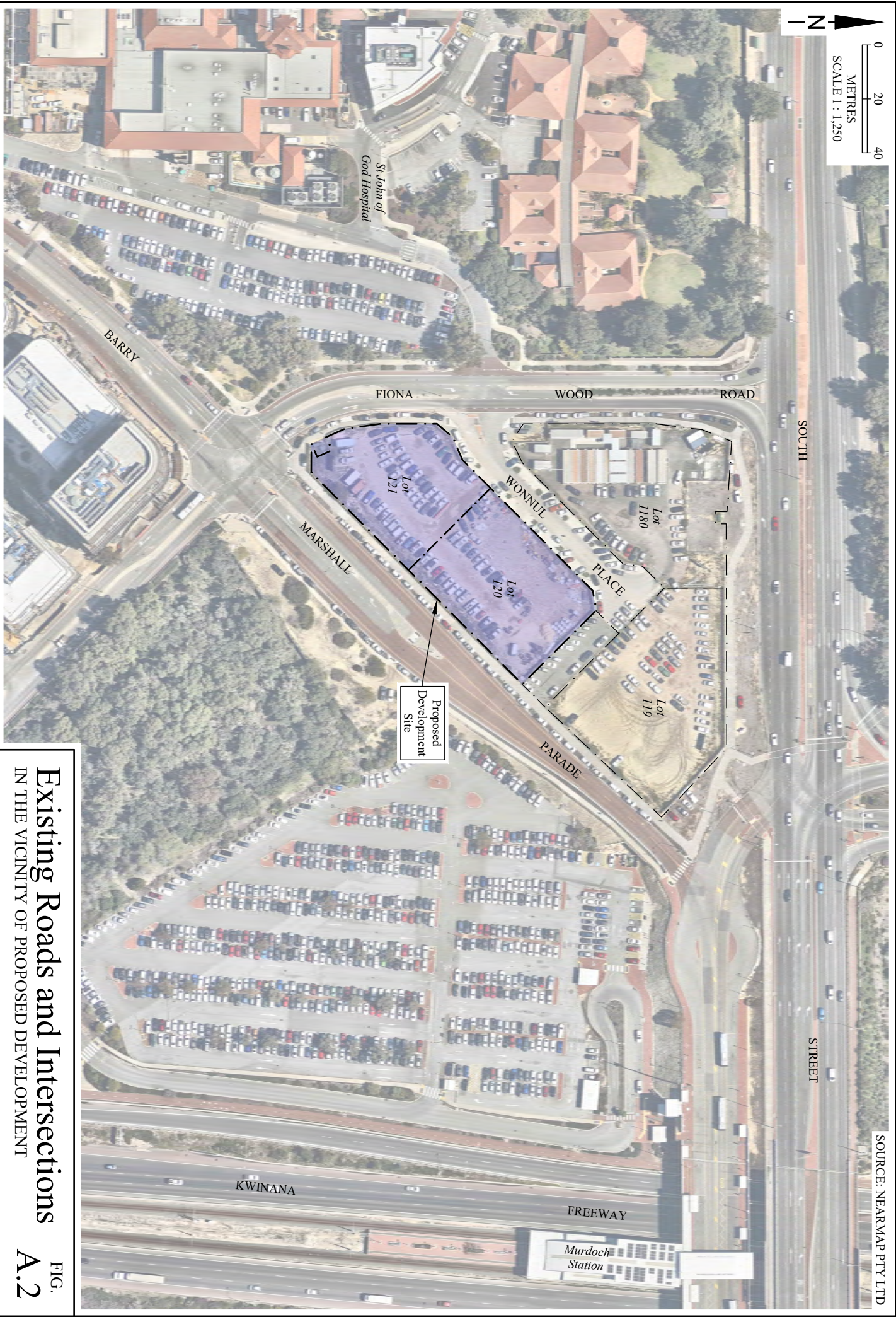


FIG. A.2
Existing Roads and Intersections
IN THE VICINITY OF PROPOSED DEVELOPMENT

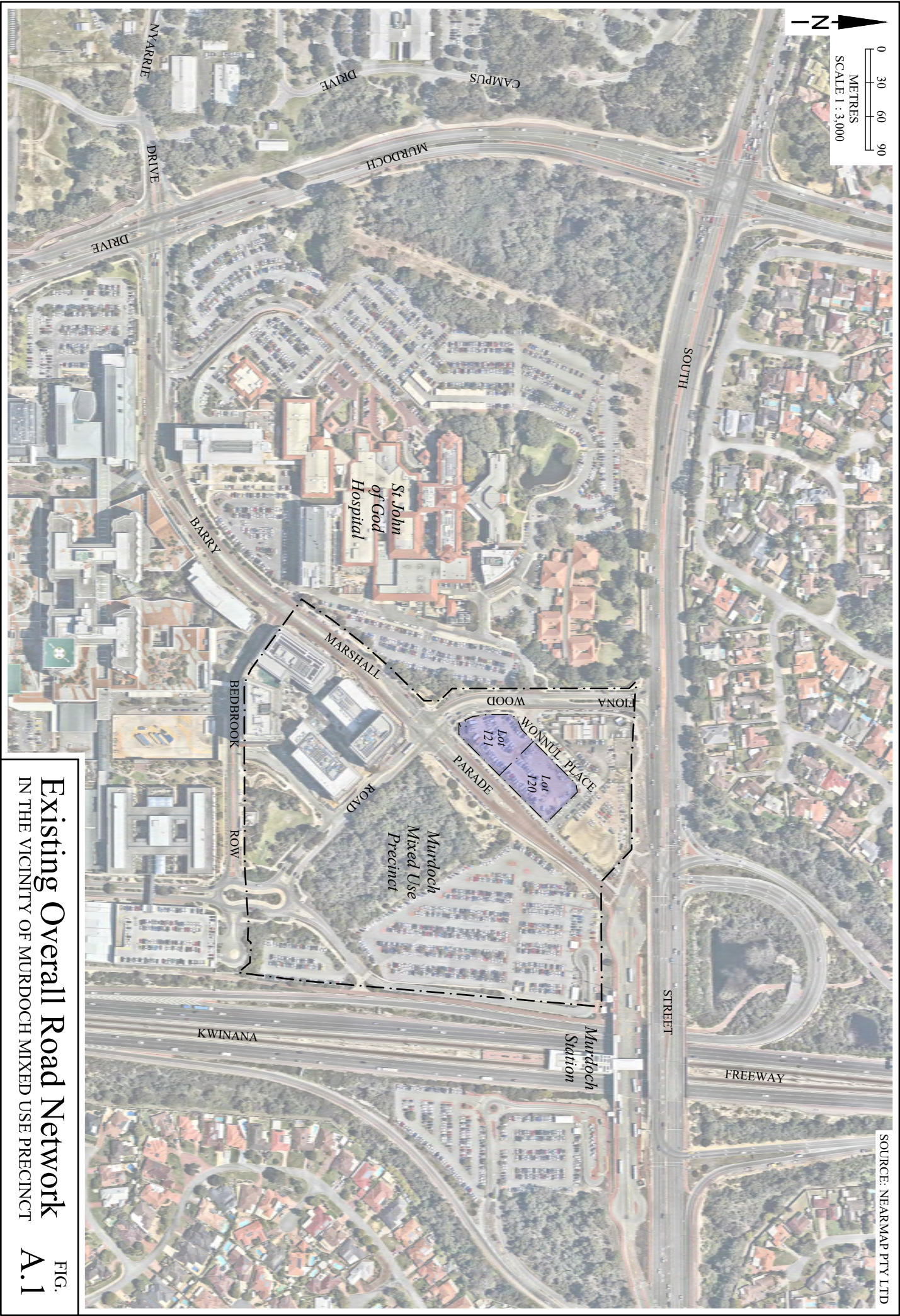
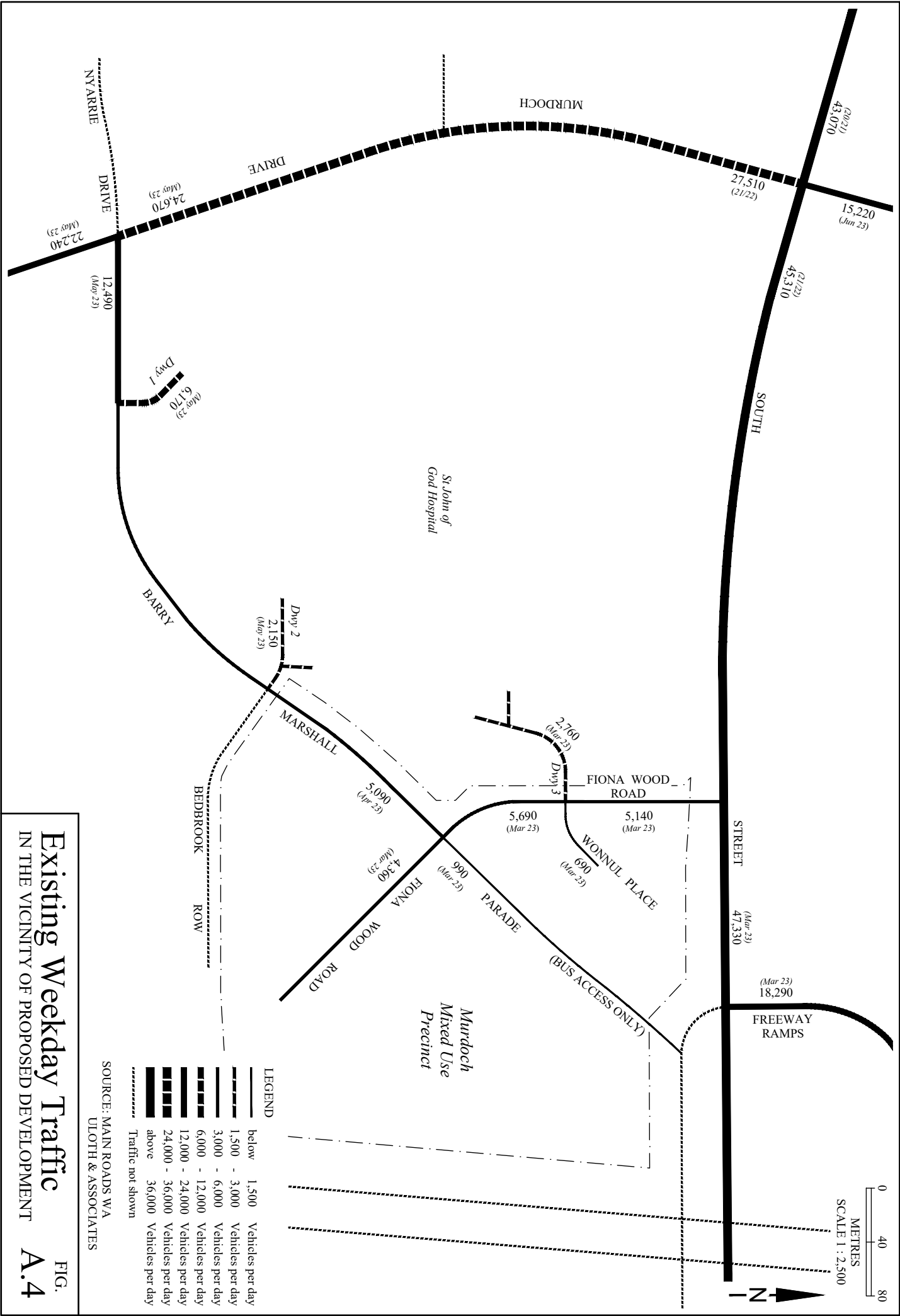
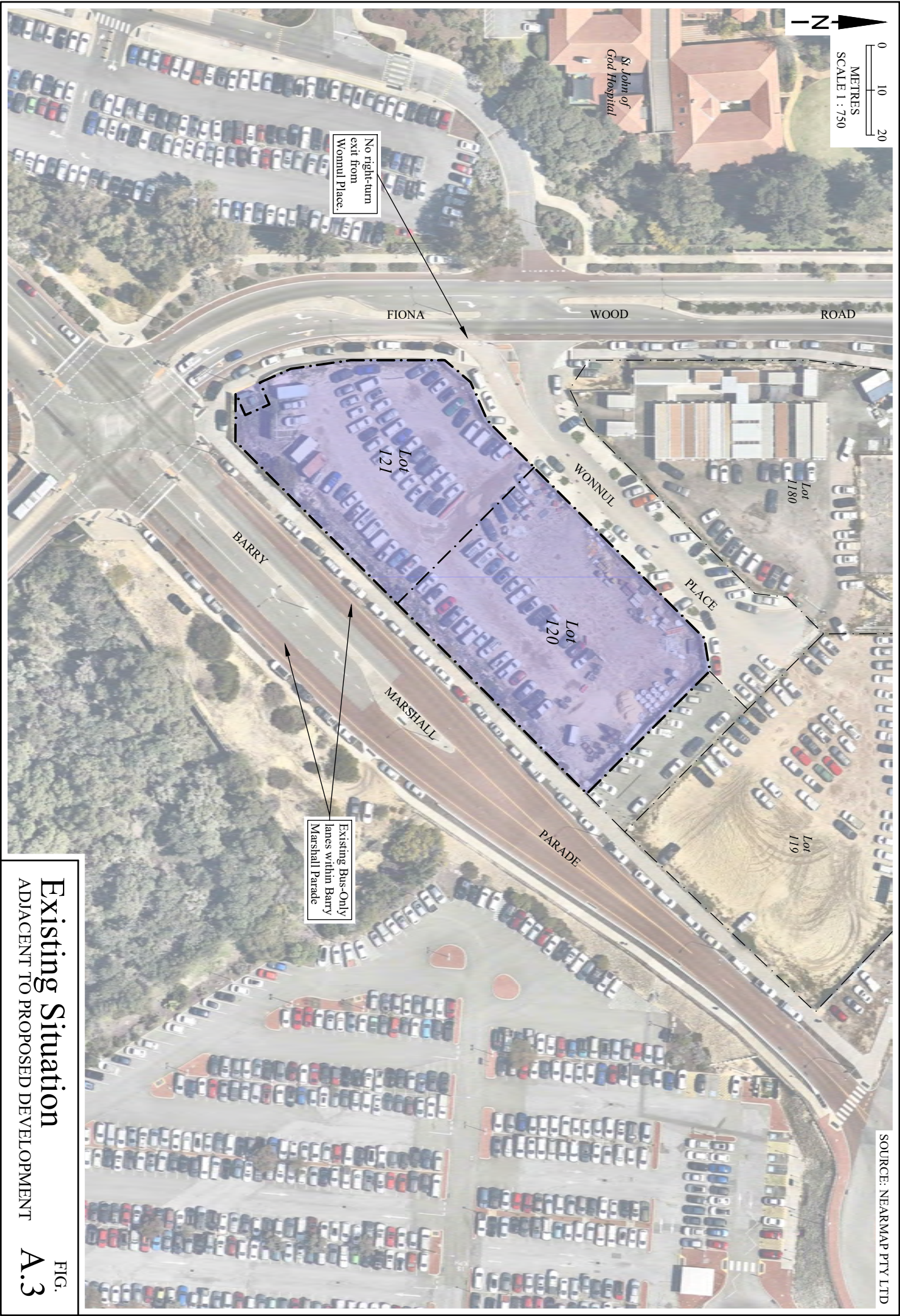


FIG. A.1
Existing Overall Road Network
IN THE VICINITY OF MURDOCH MIXED USE PRECINCT



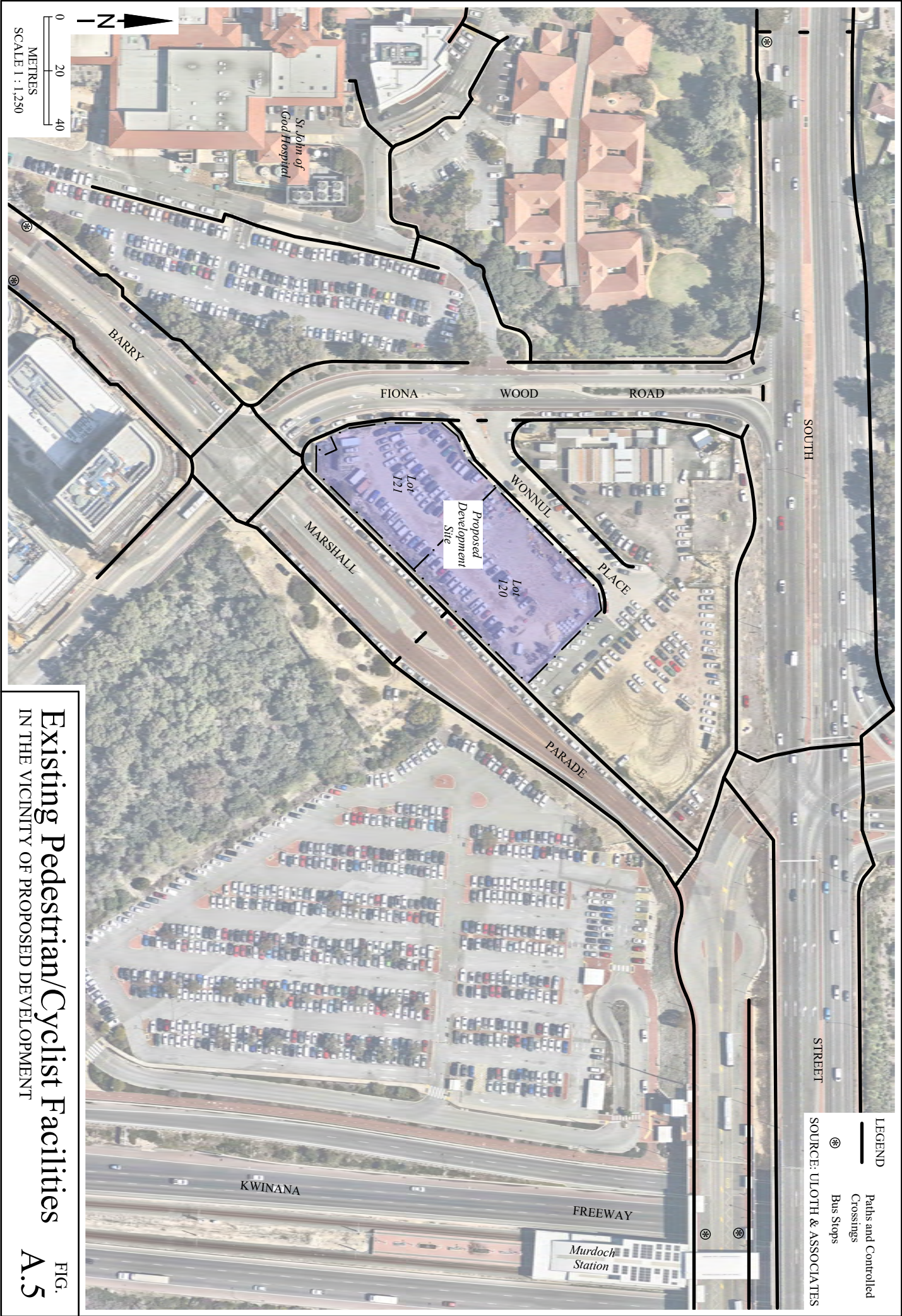
Existing Weekday Traffic
IN THE VICINITY OF PROPOSED DEVELOPMENT
FIG. A.4



Existing Situation
ADJACENT TO PROPOSED DEVELOPMENT
FIG. A.3

A.2 EXISTING PEDESTRIAN/CYCLIST FACILITIES

Figure A.5 shows the existing pedestrian/cyclist facilities in the vicinity of the proposed development site, including existing footpaths and/or dual-use paths, plus controlled road crossings and Bus Stops.



Existing Pedestrian/Cyclist Facilities
IN THE VICINITY OF PROPOSED DEVELOPMENT

FIG. A.5

A.3 PROPOSED DEVELOPMENT

Figure A.6 shows the Gound Floor plan for the proposed development, as prepared by Hassell Architects, while Figures A.7 and A.8 show the proposed car park layouts on Levels 1 and 2, respectively, noting that the Level 2 parking layout will be replicated for Levels 3 and 4.

Figure A.9 then shows the ground floor plan overlaid on an aerial photograph in the context of the adjacent roads and intersections.

Table A.1 shows the proposed land use for the overall development while Table A.2 shows the resulting future weekday trip generation calculations, based on industry standard trip generation rates within the NSW RMS ‘Guide to Traffic Generating Developments’ handbook and the ITE ‘Trip Generation’ manual.

It can be seen in Table A.2 that the proposed development is estimated to generate 318 and 359 vehicle trips per hour during the Weekday AM and PM peak hours, respectively, with 3,480 vehicle trips per day during the Weekday.

Figure A.10 then shows the overall traffic distribution for the proposed development, while Figure A.11 shows the assignment of AM peak hour, PM peak hour and Weekday Daily traffic flows.

TABLE A.1
PROPOSED MIXED-USE DEVELOPMENT
LOT 120 & 121, MURDOCH MIXED USE PRECINCT

TENANCY AND LAND USE	AMOUNT	
	Lot 120	Lot 121
<u>Residential</u>		
• Apartments (Levels 5 to 23)		
- 1 Bedroom	-	130 units
- <u>2 Bedrooms</u>	-	<u>86 units</u>
- Total	-	216 units
<u>Non-Residential</u>		
• Commercial/Retail (Ground Level) (11 Tenancies)	835m²	783m²
• Office (Levels 5 to 12)	14,780m²	-

Source: Hassell Studio

TABLE A.2
FUTURE WEEKDAY TRIP GENERATION FOR PROPOSED MIXED USE DEVELOPMENT
LOTS 120 & 121, MURDOCH MIXED USE PRECINCT

LAND USE	AM PEAK			PM PEAK			DAILY TRAFFIC
	In	Out	Total	In	Out	Total	
• Lot 121							
- Residential Apartments ¹⁾ (216 Units)	16	33	49	32	24	56	860
- Commercial/Retail ²⁾ (835m²)	8	6	14	19	19	38	460
• Lot 120							
- Commercial/Retail ²⁾ (783m²)	8	5	13	18	18	36	440
- Office ³⁾ (14,780m²)	213	29	242	39	190	229	1,720
• Total	245	73	318	108	251	359	3,480

- Notes:
- 1) Based on ITE ‘Trip Generation Manual - 11th Edition’ for ‘Multi-Family Housing (High Rise) - Close to Rail Transit (#222).
 - 2) PM Peak hour and Daily trip rates based on ‘Specialty Shops’ rate for shopping centres in NSW RMS ‘Guide to Trip Generating Developments’. AM peak hour equals 36 percent of PM peak hour, based on comparison in ITE ‘Trip Generation Manual 11th Edition’ for ‘Strip Retail Plaza (#822)’.
 - 3) Based on ITE ‘Trip Generation Manual - 11th Edition’ for ‘General Office Building (#710)’.

Source: Hassell Studio and Uloth and Associates

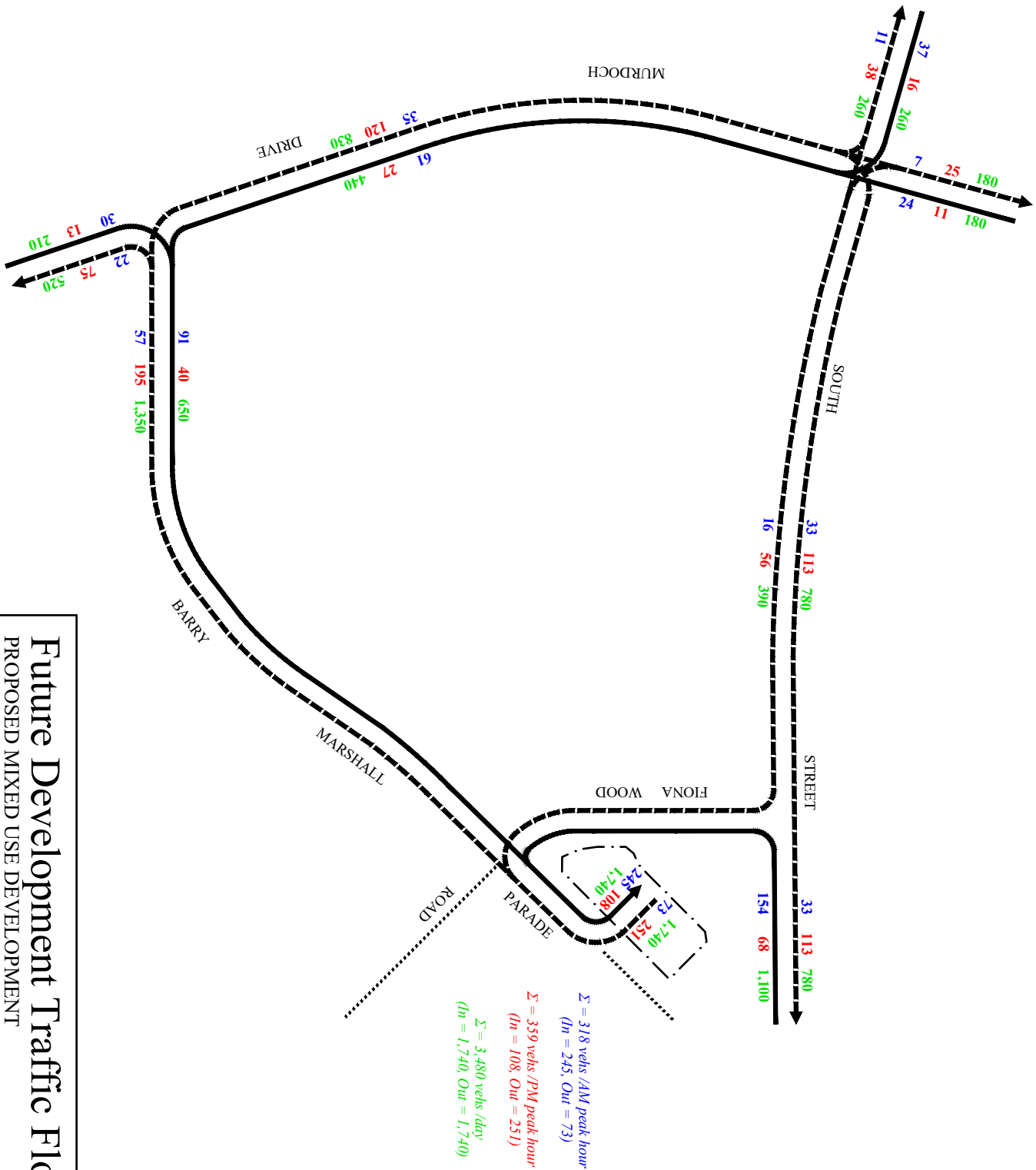


FIG. A.11
Future Development Traffic Flows
PROPOSED MIXED USE DEVELOPMENT

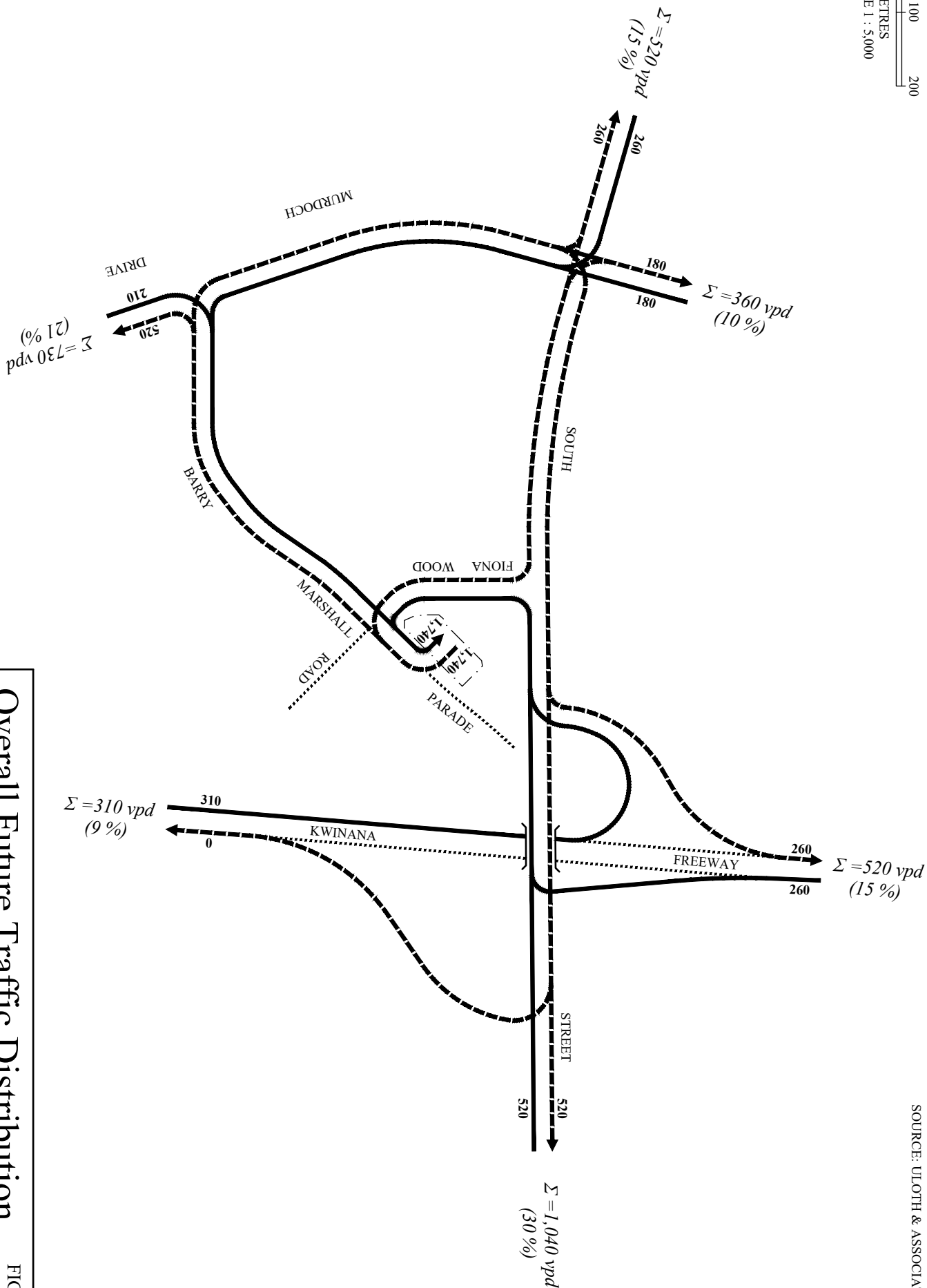


FIG. A.10
Overall Future Traffic Distribution
PROPOSED MIXED USE DEVELOPMENT

A.4 SWEEP PATH DIAGRAMS

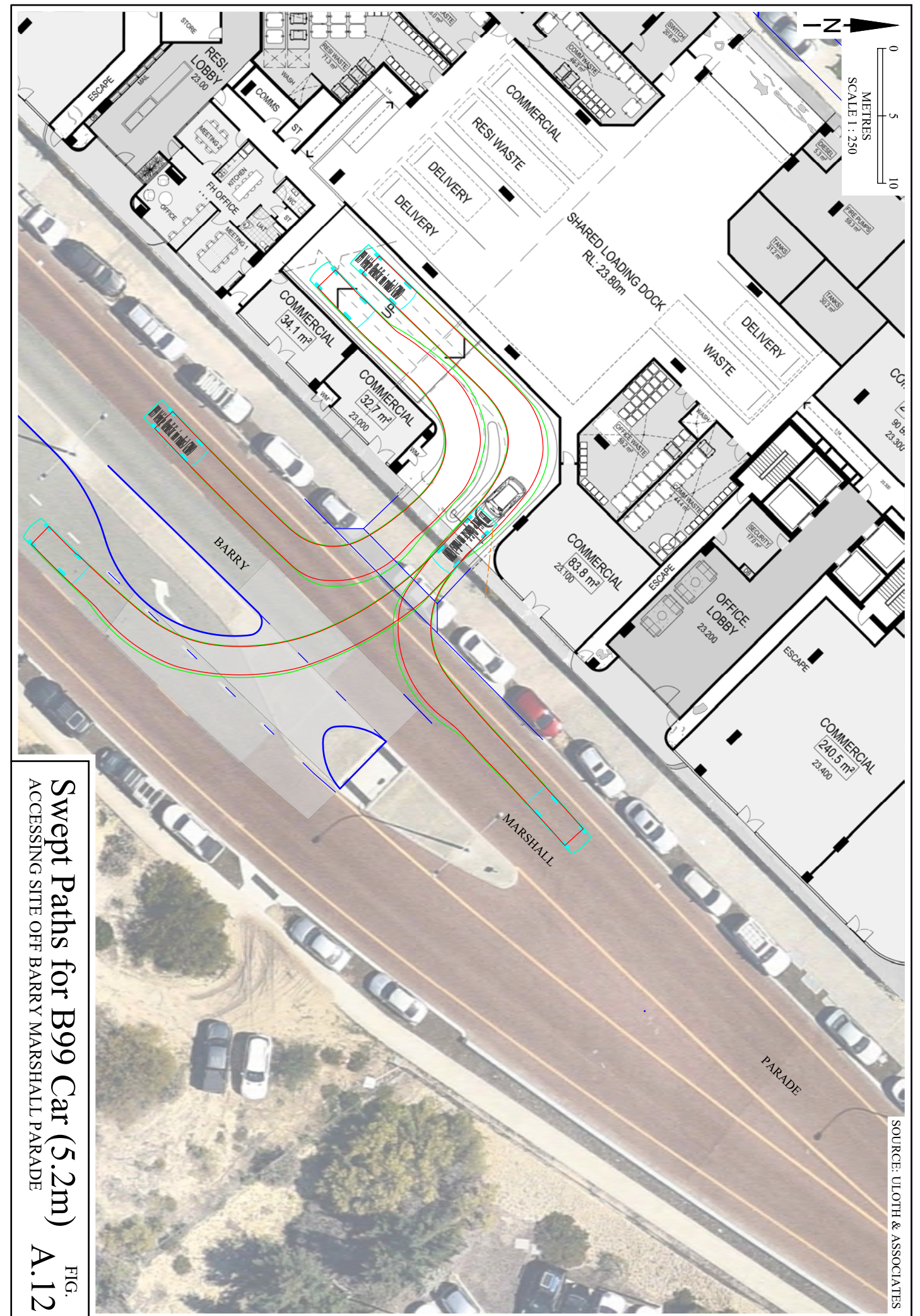
Swept paths diagrams for the proposed development are shown in Figures A.12 to A.17, as follows:

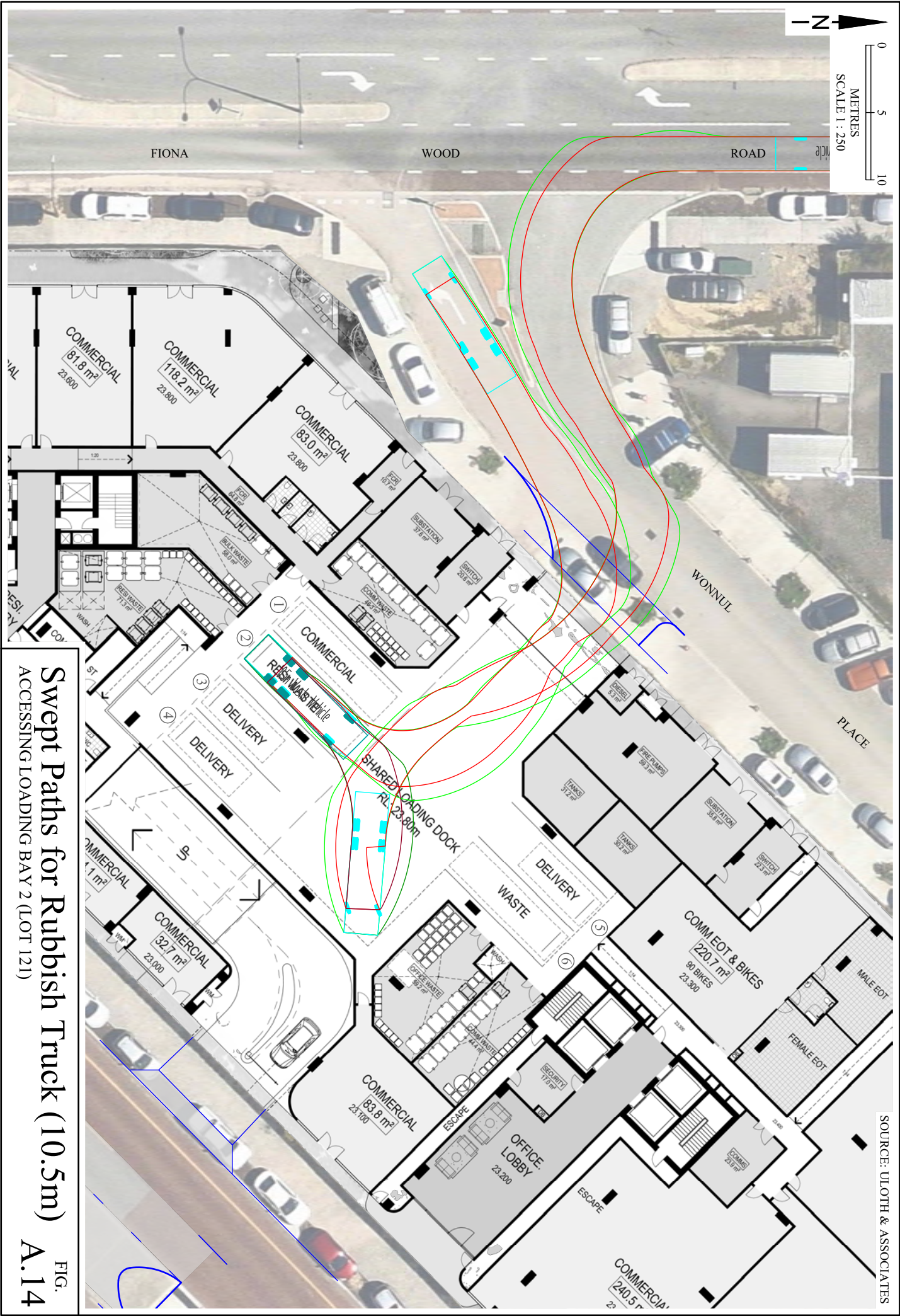
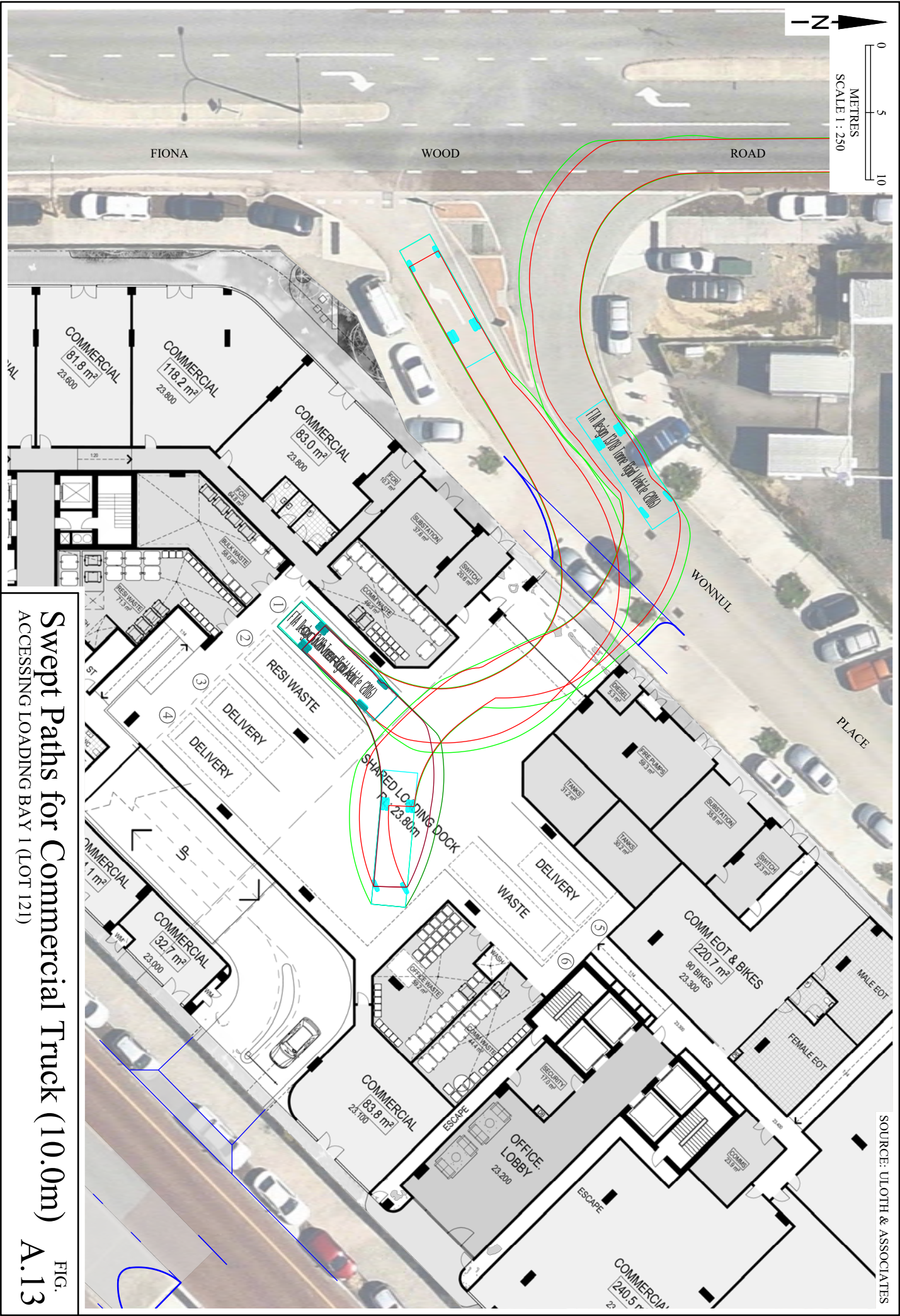
Barry Marshall Parade Access:

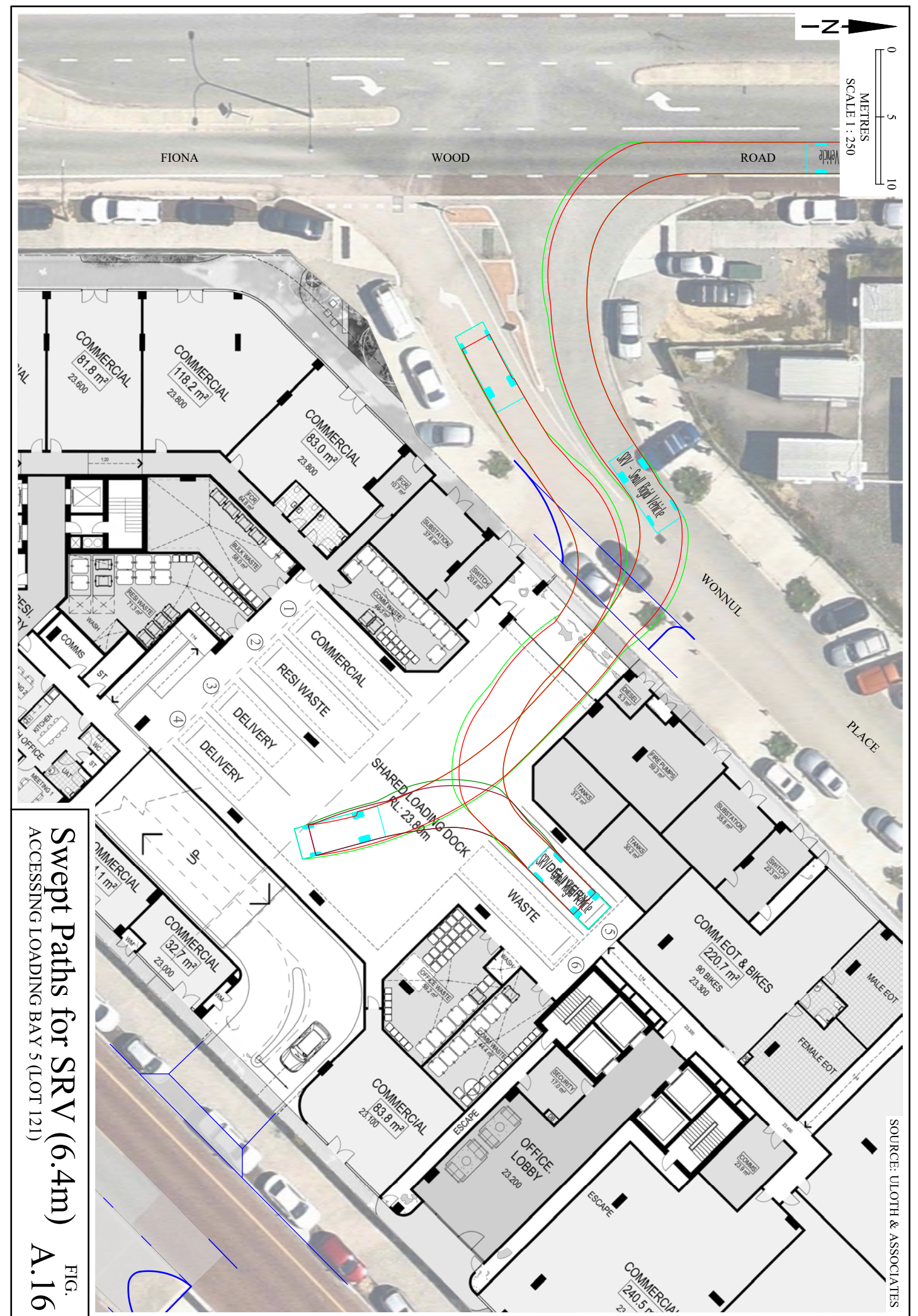
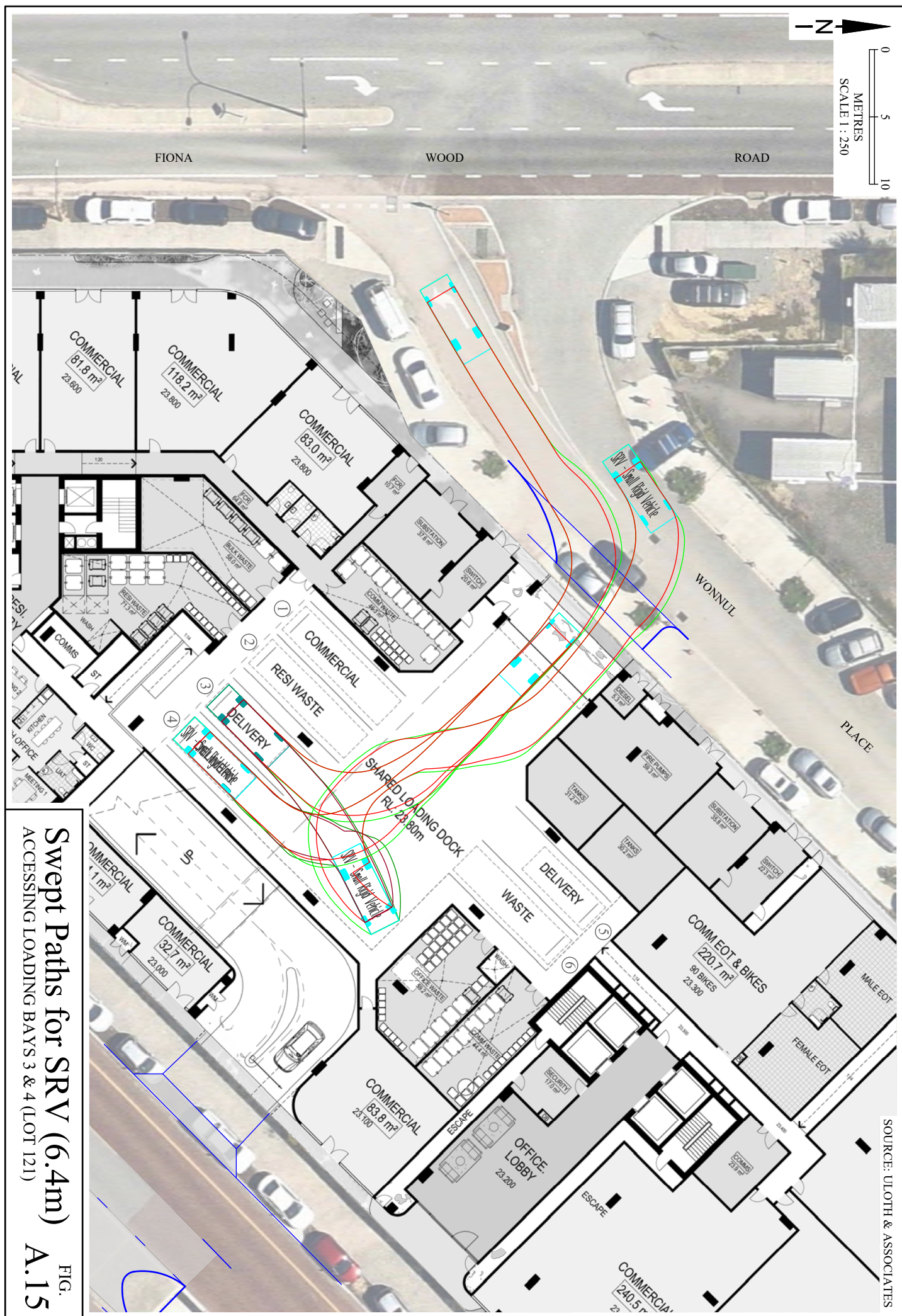
- Figure A.12 shows swept paths for a 5.2-metre B99 Car accessing the proposed car park off Barry Marshall Parade.

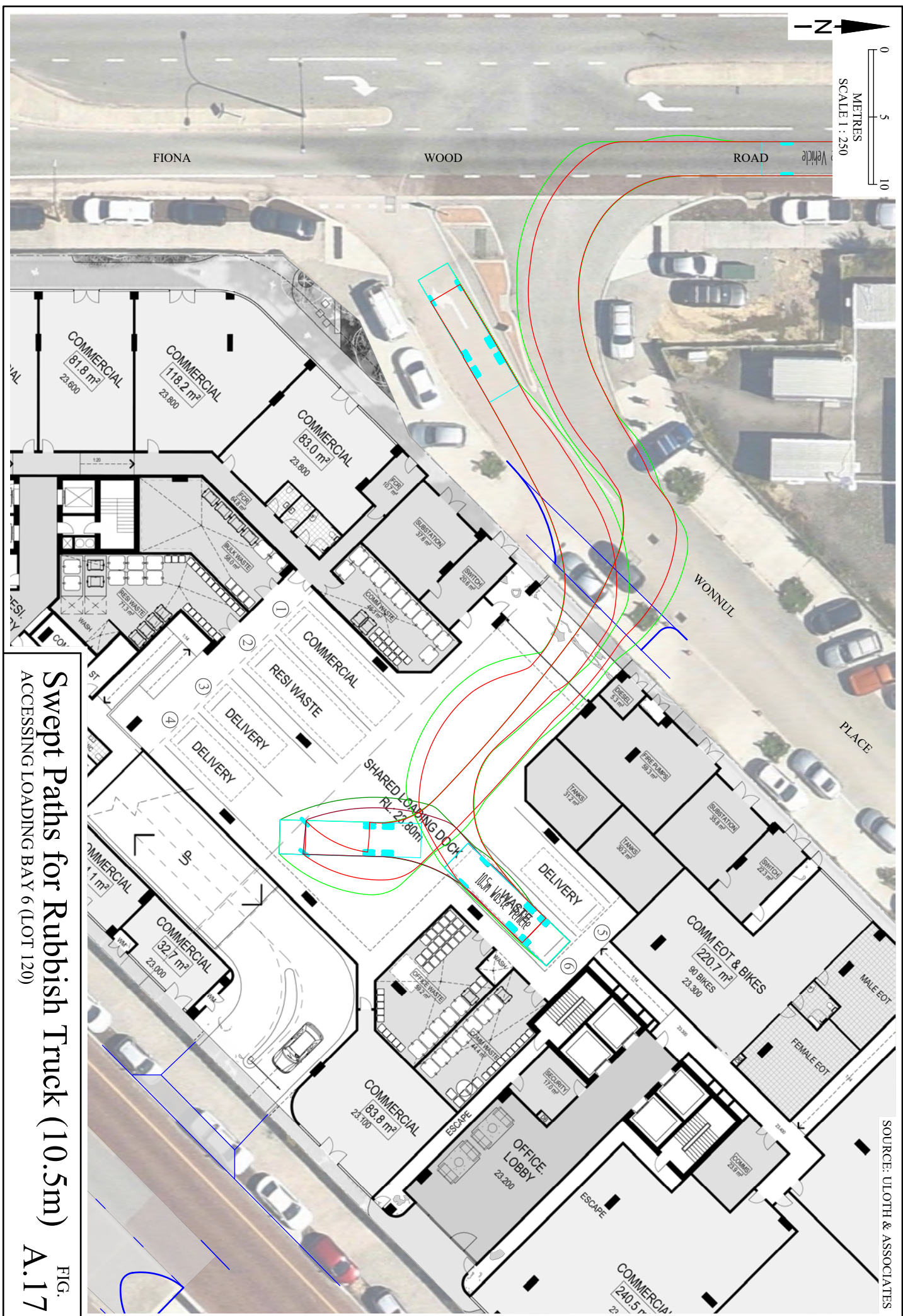
Service Vehicle Access (off Wonnul Place):

- Figure A.13 shows swept paths for a 10.0-metre Commercial Truck accessing Loading Bay 1 (on Lot 121), while Figure A.14 shows swept paths for a 10.5-metre Rubbish Truck accessing Loading Bay 2.
- Figure A.15 shows swept paths for a 6.4-metre Small Rigid Vehicle accessing Loading Bays 3 and 4 (on Lot 121), while Figure A.16 shows for a 6.4-metre Small Rigid Vehicle accessing Loading Bay 5 (on Lot 120).
- Figure A.17 shows swept paths for a 10.5-metre Rubbish Truck accessing Loading Bay 6 (on Lot 120).









Waste Management Plan

Murdoch Health & Knowledge Precinct (MHKP) Lots 120 & 121

Rev_1

Project No. 23-1508
Hesperia Property Pty Ltd
31 January 2024



Encycle Consulting Pty Ltd
ABN 41 129 141 484

PO Box 6044
East Perth WA 6892

t: +61 8 9444 7668

www.encycle.com.au

SCampagna@encycle.com.au

Revision	Drafted by	Reviewed by	Date issued
Draft Rev_0	S. Campagna	J. Ferguson	29 January 2024
Rev_1	S. Campagna	J. Ferguson	31 January 2024

Copyright

All intellectual property rights and copyright associated with Encycle Consulting services and publications shall remain vested in and the property of Encycle Consulting. Advice and material contained within this document may be used exclusively by the Company named as the recipient of this work solely for use as specified in this document. Reproduction, publication or distribution of this work without prior written permission from Encycle Consulting is strictly prohibited.

Disclaimer

While steps have been taken to ensure the accuracy of this document, Encycle Consulting cannot accept responsibility or be held liable to any person for any loss or damage arising out of or in connection with this information being accurate, incomplete or misleading.

Table of contents

1 Development details 1

1.1 Context 2

1.2 Key components of the Waste Management Plan 2

2 Estimated waste and recycling volumes 3

2.1 Project parameters 3

2.2 Local Government Guidelines 3

2.3 Waste generation rates – residential 4

2.4 Waste generation rates – commercial 4

2.5 Number of bin stores required 6

2.6 Number of bins required – residential bin store 1 7

2.7 Number of bins required – commercial office bin store 2 8

2.8 Number of bins required – commercial bin store 3 8

2.9 Number of bins required – commercial bin store 4 9

3 Bin store locations and amenity 10

3.1 Bin stores locations 10

3.2 Bin stores amenity 12

4 Internal transfer 14

4.1 Chute system 14

4.2 Transfer of waste from residential apartments to bin store 15

4.3 Transfer of waste from office tower to bin store 2 15

4.4 Transfer of waste from ground floor commercial tenancies to bin stores 3 and 4 15

4.5 Bin transfer requirements 16

5 Collection and vehicle access 17

6 Ongoing communication and management 20

6.1 Management 20

6.2 Communication 20

Appendix A: Glossary of terms and acronyms 21

1 Development details

This Waste Management Plan (WMP) has been prepared for the following project:

Project name / address	Lots 120 & 121 Murdoch Health & Knowledge Precinct (MHKP) Lot 120, 55 Barry Marshal Pde, Murdoch WA 6150 Lot 121, 5 Fiona Wood Road, Murdoch WA 6150
Client	Hesperia Property ty Ltd
Architect	Hassell Ltd
Project manager	Jamie Fini, Hesperia / Shaun Oostryck, Encon
Main point of contact	Jamie Fini, Hesperia Shaun Oostryck, Encon
Planning status	DA submission
Green rating / sustainability objectives	5 Star Green Star rating
Overview of development	New mixed used development including: - Residential tower (216 apartments) 23 floors - Office tower (8 floors) 13,195 m² NLA - Up to 11 commercial tenancies on the ground floor - Podium with car park
Sustainability objectives and targets	5 Star Green Star rating
Architectural plans / area schedule / development information	- Architectural plans, received from Hassell, received 28 and 30 January 2024 - Bin store layouts, from Hassell, received 30 January 2024 - Area schedule, for ground floor tenancies from Hassell, received 11 January 2024 - Area schedule for residential tower from Hassell, received 18 December 2023
Local Government discussions	Conversations and emails with Vanja Marjanovic, Coordinator Resource Recovery and Waste, City of Melville, regarding council waste management requirements 17-18 January 2024.

1.1 Context

For efficient and effective waste management, the collection and centralisation of waste and recyclables has been carefully considered at the building design phase. Key factors considered at the design phase include:

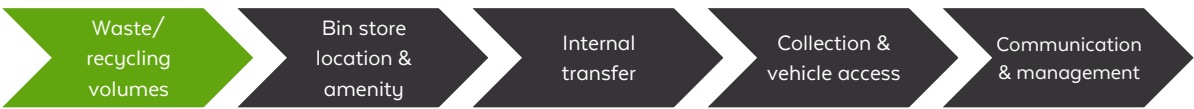
- Local government requirements for determining waste generation rates
- Waste and recycling volumes likely to be generated during building operation
- Number and types of bins required
- Bin stores size, location and amenity (odours and noise)
- Internal transfer and access to bins and storage areas from within the building
- Access for vehicles for waste collection
- Safety for all operatives involved in waste management
- Communication and ongoing management of waste and recycling services

1.2 Key components of the Waste Management Plan

This Waste Management Plan (WMP) consists of five core components. It will present detailed information on each of the following components.



2 Estimated waste and recycling volumes



2.1 Project parameters

The development when operational will include the following areas:

- Lot 121 - Residential tower consisting of 23 floors, with 216 apartments on floors 5 to 23
- Lot 120 - Office tower consisting of 12 floors, with 8 office floors totalling 13,195 m² between floors 5 to 12
- Podium (Lot 120-121) consisting of:
 - Ground floor with commercial tenancies, front of house services, bin stores and a shared loading dock
 - Levels 1 -4 with car parking and apartment storage areas
 - Level 5 spanning between Lots 120 and 121; with separate outdoor and communal areas for the residential and commercial towers

2.2 Local Government Guidelines

The following documents have been used in the development of this report:

- LPP 1.3 Waste, Recycling and Food Organics Garden Organics (FOGO) Collections for Multiple Dwellings, Mixed Use Developments and Non-Residential Developments (last review date 21 February 2023 - this version 4 July 2023).
- WALGA Commercial and Industrial Waste Management Plan Guidelines (2018)
- WALGA Multiple Dwelling Waste Management Plan Guidelines
- Green Star Buildings v1 - Credit 4 Operational Waste

2.3 Waste generation rates – residential

The City of Melville Guidelines in addition to Encycle’s experience and knowledge of the uses of multi-unit developments have been used to calculate the estimated generation of waste, recycling and organics. The rates in Table 1 have been applied.

Table 1: Residential waste generation rates

No. of bedrooms	Waste requirement	Recycling requirement	FOGO requirement
1 bedroom	40 L/ week	60 L/ week	10 L/ week
2 bedroom	60 L/ week	80 L/ week	20 L/ week

The number of 1 and 2 bedroom apartments for this development are set out in Table 2.

Table 2: Number of 1 and 2 bedroom apartments

Number of bedrooms	No. of apartments
1 Bedroom	130
2 Bedroom	86
Total apartments	216

2.4 Waste generation rates – commercial

The City of Melville Guidelines in addition to Encycle’s experience and knowledge of the uses of the development have been used to calculate the estimated generation of waste, recycling and organics.

Specifically, the generation rates applied to each building use are presented in Table 3. The City of Melville rates do not include a breakdown of material streams included in the ‘recycling’ stream. The final column presents Encycle Consulting’s in-house estimate of the material streams present in the recycling stream based on our working experience of operational buildings in Perth.

Table 3: Commercial waste generation rates

Premises type/ building use	Waste generation rate	Recycling generation rate	Percentage breakdown of recycling stream by material
Gymnasium 267 m²	0.1 L /1m²/day	0.1 L /1m²/day	40% commingled 50% cardboard 10% soft plastics
Hairdresser 82 m²	0.6 L /1m²/day	0.6 L /1m²/day	40% commingled 50% cardboard 10% soft plastics
Office 13,195 m²	0.1 L /1m²/day	0.1 L /1m²/day	7% commingled 79% paper 14% cardboard 10% soft plastics 20% of waste is organics
Restaurant 244 m²	6.6 L /1m²/day	2.0 L /1m²/day	40% commingled 50% cardboard 100% glass (in addition) 10% used cooking oil 10% soft plastics 20% of waste is organics
Shops (non-food) 542 m²	0.5 L /1m²/day	0.5 L /1m²/day	25% commingled 50% cardboard 25% soft plastics
Supermarket 334 m²	6.6 L /1m²/day	2.0 L /1m²/day	25% commingled 50% cardboard 25% soft plastics 20% of waste is organics
Café 84 m²	3 L /1m²/day	2 L /1m²/day	40% commingled 50% cardboard 10% used cooking oil 10% soft plastics 20% of waste is organics
Takeaway/café (pre-packaged food only) 67 m²	1.5 L /1m²/day	1.5 L /1m²/day	40% commingled 50% cardboard 10% used cooking oil 10% soft plastics 10% of waste is organics

2.5 Number of bin stores required

The building will have four bin stores to service the residential and commercial tenancies of the building separately:

- i. Bin Store 1 - Residential waste, recycling and food organics
- ii. Bin Store 2 - Commercial office waste, recycling and food organics
- iii. Bin Store 3 - Retail 1 - Commercial supermarket/ retail waste, recycling and food organics
- iv. Bin Store 4 - Retail 2 - Commercial food & beverage / retail waste, recycling and food organics

2.6 Number of bins required – residential bin store 1

The number of bins required for the residential waste in bin store 1 are set out in Table 4.

Table 4: Number of bins to be stored in residential bin store 1

Waste stream	Bin size (L)	Number of bins	Collection frequency	Colour code
General waste compacted (chute)	660	5	2 x weekly	W
Commingled recycling (chute)	1100	8	2 x weekly	CM
Food organics and garden organics (FOGO)	140	22	Weekly	FOGO
Area accessible to tenants below				
Charity bin for clothing/textiles	1100	1	As required	CH
Cardboard recycling	1100	1	As required	CB
Glass recycling	240	2	As required	G
CDS recycling	240	2	As required	CDS
Bulky general waste (items not suitable for chute)	660	4	As required	BGW- bins
Bulk general waste	113 m ² space over 2 levels Ground floor: 58 m ² Level 1: 30 m ² and additional 25 m ² if required		As required	BGW - loose

2.7 Number of bins required - commercial office bin store 2

The number of bins required for offices are set out in Table 5.

Table 5: Number of bins to be stored in commercial bin store 2

Waste stream	Bin size (L)	Number of bins	Collection frequency	Colour code
General waste (excluding food waste)	1100	4	2 x weekly	W
Commingled recycling	660	1	Weekly	CM
Paper recycling	660	6	2 x weekly	P
Cardboard recycling	1100	1	Weekly	CB
CDS recycling	240	1	As required	CDS
Soft plastics recycling	240	1	As required	SP
Organic waste (food)	120	9	2 x weekly	FOGO
Electronic waste (e-waste)	1 m ²	1	As required	E
Bulk general waste	3 m ² space		As required	B

2.8 Number of bins required - commercial bin store 3

The number of bins required for the supermarket and retail tenancies are set out in Table 6.

Table 6: Number of bins to be stored in commercial bin store 3

Waste stream	Bin size (L)	Number of bins	Collection frequency	Colour code
General waste (excluding food waste)	1100	8	2 x weekly	W
Commingled recycling	660	2	2 x weekly	CM
Cardboard recycling	1100	2	2 x weekly	CB
Soft plastics recycling	1100	2	Weekly	SP
Organic waste (food)	120	15	2 x weekly	FO

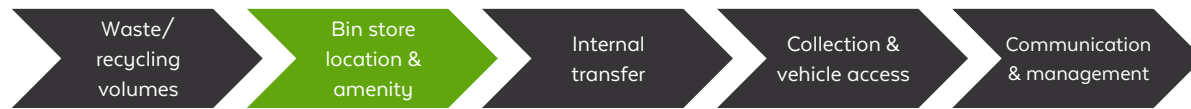
2.9 Number of bins required - commercial bin store 4

The number of bins required for the food and beverage and retail tenancies are set out in Table 7.

Table 7: Number of bins to be stored in commercial bin store 4

Waste stream	Bin size (L)	Number of bins	Collection frequency	Colour code
General waste (excluding food waste)	1100	5	3 x weekly	W
Commingled recycling	1100	1	3 x weekly	CM
Cardboard recycling	1100	2	2 x weekly	CB
Used cooking oil	800	1	As required	CO
CDS / Glass recycling	240	9	2 x weekly	CDS/G
Soft plastics recycling	660	1	As required	SP
Organic waste (food)	120	13	2 x weekly	FO

3 Bin store locations and amenity



3.1 Bin stores locations

The four bin stores and a residential bulk waste store will be located on the ground floor (refer Figure 1). Additional residential bulk waste storage areas are located on level one as shown in Figure 2. Individual bin store layouts are shown in Figures 3, 4 and 5.



Figure 1: Ground floor plan showing the locations of the bin stores and residential bulk waste 1

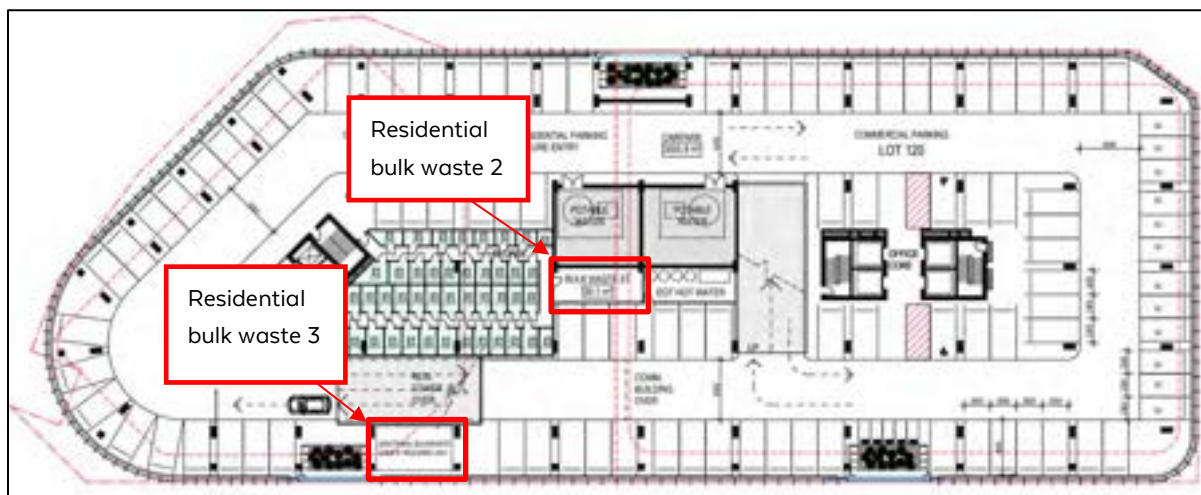


Figure 2: Level 1 floor plan showing the locations of bulk waste storage areas 2 and 3

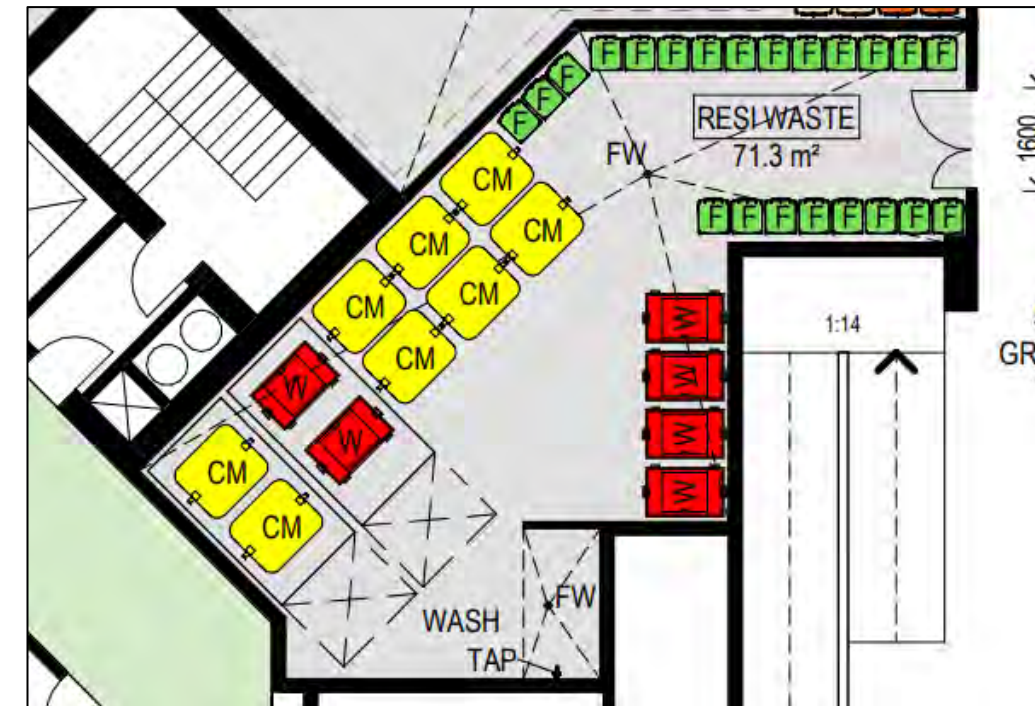


Figure 3: Residential bin store 1 layout

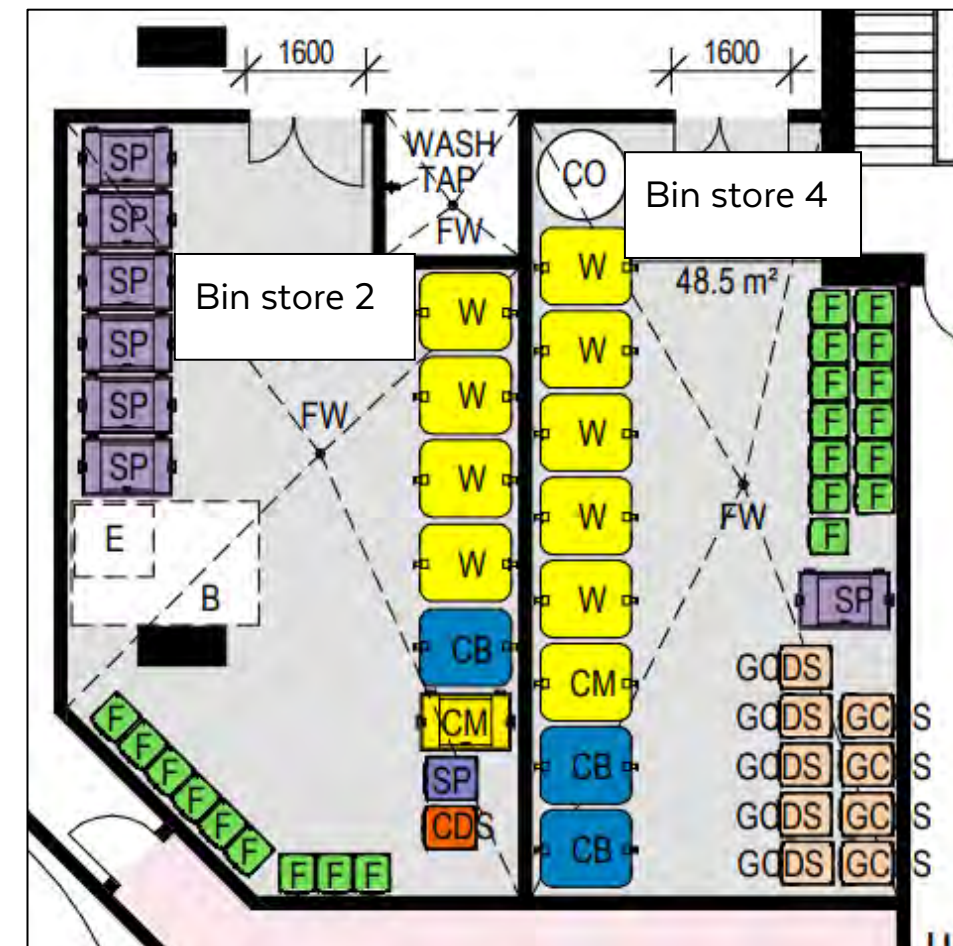


Figure 4: Commercial office bin store 2 and commercial bin store 4 layouts

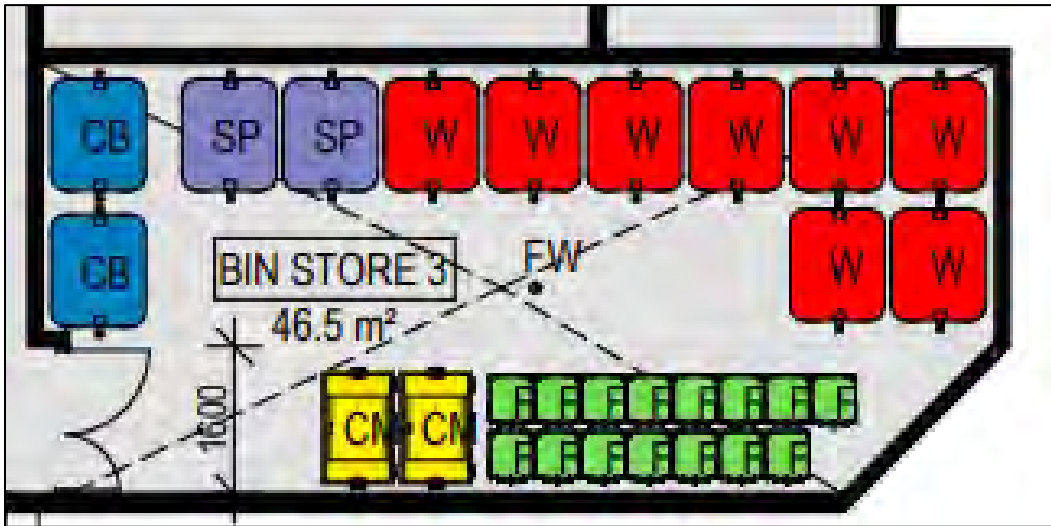


Figure 5: Commercial bin store 3 layout

3.2 Bin stores amenity

The bin stores have been designed to include the following requirements in Table 8.

Table 8: Bin store amenity requirements

Aesthetics	The bin stores are consistent with the overall aesthetics of the development.
Fully enclosed	The bin stores are fully enclosed and weatherproof, and only accessible by tenants, cleaners, strata/building management and waste service providers.
Spatial requirements	The bin stores allow sufficient space to accommodate, manoeuvre and wash the bins and equipment specified. Space for personnel access way between rows of bins is included.
Bin wash	The bin stores have impermeable walls and floors grading to an industrial floor waste (including a charged ‘water-trap’ connected to sewer/an approved septic system), with a hose cock to enable bins and/or the enclosure to be washed out. A 100 mm floor waste gully to waste outlet is included. Both hot and cold water is available.
Doors	Doors are ventilated both internally and externally for each bin stores. Self-closing doors are installed to the bin stores to eliminate access to vermin. Doors from the bin stores to the servicing/collection area can be locked open.

	Doors are designed to fit the largest bin, to enable bins to be easily wheeled into and out of the bin stores.
Security	Security measures are designed to limit access to the bin stores, e.g. PIN code that can be easily changed and reduces loss of key cards etc.
Walls and ceilings	Internal bin stores walls are cement rendered (solid and impervious) to enable easy cleaning. Ceilings are finished with a smooth faced, non-absorbent material that can be easily cleaned. Walls and ceilings are finished or painted in a light colour.
Floors	Floors are constructed in concrete in accordance with AS 2870. Floors are evenly graded to an approved liquid refuse disposal system. Slab thickness is a minimum of 100 mm, impervious and with a brush finish treatment.
Ventilation and odour	The design of the bin stores provides for adequate separate ventilation with a system that complies with Australian Standard 1668 (AS1668). The ventilation outlet is not in the vicinity of windows or intake vents associated with other ventilation systems.
Lighting	Bin stores are provided with artificial lighting, with sensor or switch controls both internal/external to the bin stores. Artificial lighting in service corridors/loading bays and access walkways to bin stores will ensure staff and resident safety and decrease antisocial behaviour.
Noise	Noise is minimised through considering the location of the bin stores and collection point and the timing of collections to prevent disruption to occupants or neighbours.
Signage	Visual aids and signage will be provided when the bin stores is operational to ensure that the area works as intended.
Cooking oils	Used cooking oil storage will be banded.

4 Internal transfer



4.1 Chute system

A dual chute system will be installed in the residential apartment tower, including one chute for general waste and one chute for commingled recyclables. The chutes will terminate at the residential bin store (bin store 1) on the ground floor and will discharge general waste (compacted) and recycling (uncompacted) into bins on two conveyors. General waste will be compacted prior to being deposited into the bins. The compaction ratio is 2:1.

The chutes for general waste and recycling, and a 40 L FOGO bin will be contained within a waste room on each level as indicated in Figure 6.

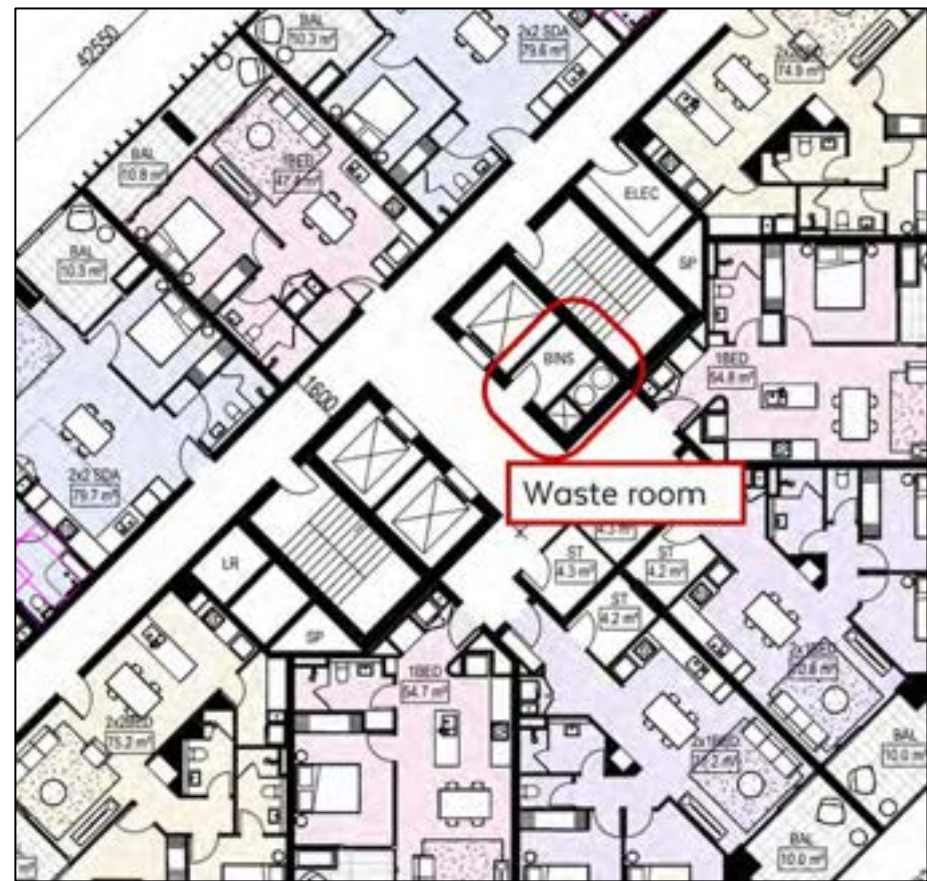


Figure 6. Typical residential floor showing waste room for the general waste and comingled recycling chutes and the inclusion of food organics bins

4.2 Transfer of waste from residential apartments to bin store

Residents will be responsible for storing waste, recyclables and FOGO separately within their apartment and transferring these to the waste room located on their floor.

Residents will be responsible for disposing of waste and recycling down the correct chute by using the chute hatches and FOGO in the 40 L bins on each level as shown in Figure 6. Items not suitable for disposing down the chutes, such as cardboard boxes, bulky waste items and clothing/bedding are to be taken down the lifts to the residential bin store (bin store 1) and placed in the correct bin.

The 40 L FOGO bins adjacent to the chutes on each level will be transferred to the residential bin store with a trolley by the caretaker every 2-3 days and emptied into the 140 L FOGO bins in the bin store. This will mitigate odour and vermin issues on the residential floors.

A charity bin is provided for unwanted clothing and bedding items and is stored in the residential bin store. With the transient nature of people in large multi-unit developments there is a tendency to throw away items of this nature when relocating.

A bulk bin is provided for cardboard boxes that are generated from deliveries and residents who are moving in.

A bulk general waste bin is provided for bulky general waste such as umbrellas, mops and other bulk items not suitable for disposing down the chute.

The communication of the chute system, FOGO and bulk bins will be incorporated into the ongoing communications to residents as part of the education for the successful performance of a chute system for the apartments.

4.3 Transfer of waste from office tower to bin store 2

Office cleaning staff will transfer the bins from the office floors to bin store 2 for collection via the lift.

4.4 Transfer of waste from ground floor commercial tenancies to bin stores 3 and 4

The ground floor tenancies will be allocated to bin store 3 or 4. Staff from the tenancies will manually transfer waste and recyclables to their designated bin store.

Staff from the retail and food and beverage tenancies will manually transfer waste and to their respective bin store. Staff will use service corridors and safely marked out pathways to transfer waste and

recyclables from the tenancies to the bin store within the ground floor ‘back of house’ service area of the development.

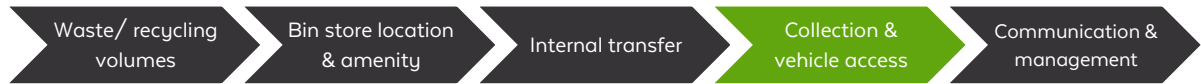
4.5 Bin transfer requirements

All bin transfer routes have been designed to include the following requirements in Table 9.

Table 9: Bin transfer requirements

Bin transfer requirements	
User access route	Waste transfer routes avoid stairs/steps and steep ramps (grade of slope <1:14) and other potential hazards between points of waste generation, storage and collection. Waste transfer routes are designed to ensure that bins (particularly when full) are not moved over any significant distances.
Manual handling	Manual handling of waste in garbage bags is excluded from the waste management systems wherever possible.
Transfer route width	All doors, corridors and lifts on the transfer route are designed to fit the largest bin.
Access for waste collection vehicles	Waste collection vehicles will safely enter, operate and exit the development with minimal reversing or manoeuvring.
Walkways	Safe access to waste collection vehicles have been provided to reduce the risk of accidents.

5 Collection and vehicle access



The City of Melville will service the residential general waste, recycling and FOGO bins. The City will periodically collect residential bulk waste using either a rear loading vehicle or flatbed as coordinated by the body corporate.

Private service providers will undertake the commercial tenancies general waste, recycling and food organics collections. A tanker vehicle will require access to service the grease traps. In addition, a small tanker vehicle will require access to service the used cooking oil storage unit.

On collection days, rear-lift vehicles for general waste, commingled recycling and FOGO, a tanker to empty the grease trap and a tanker for used cooking oil, will enter the building from Wonnul Place. The vehicles will drive in a forwards direction, reverse into the loading bay and stop outside the bin stores on the ground level (refer Figures 7 and 8). The operatives will enter the bin stores to retrieve and service the bins. The operatives will return the empty bins to the bin stores.

A height clearance of 4.1 m is provided to accommodate a range of waste and recycling vehicles entering the building from Wonnul place to access the ground floor.

Access to the grease traps, located on ground level in the shared loading dock, will be from Wonnul Drive as shown in Figure 9.

Swept path analysis for vehicle ingress and egress has been completed by Uloth taking into consideration the City of Melville’s requirements, with a length of 10.5 m and a width of 2.5 m (see Figures 7 and 8). An access width of 4m clearance is provided.

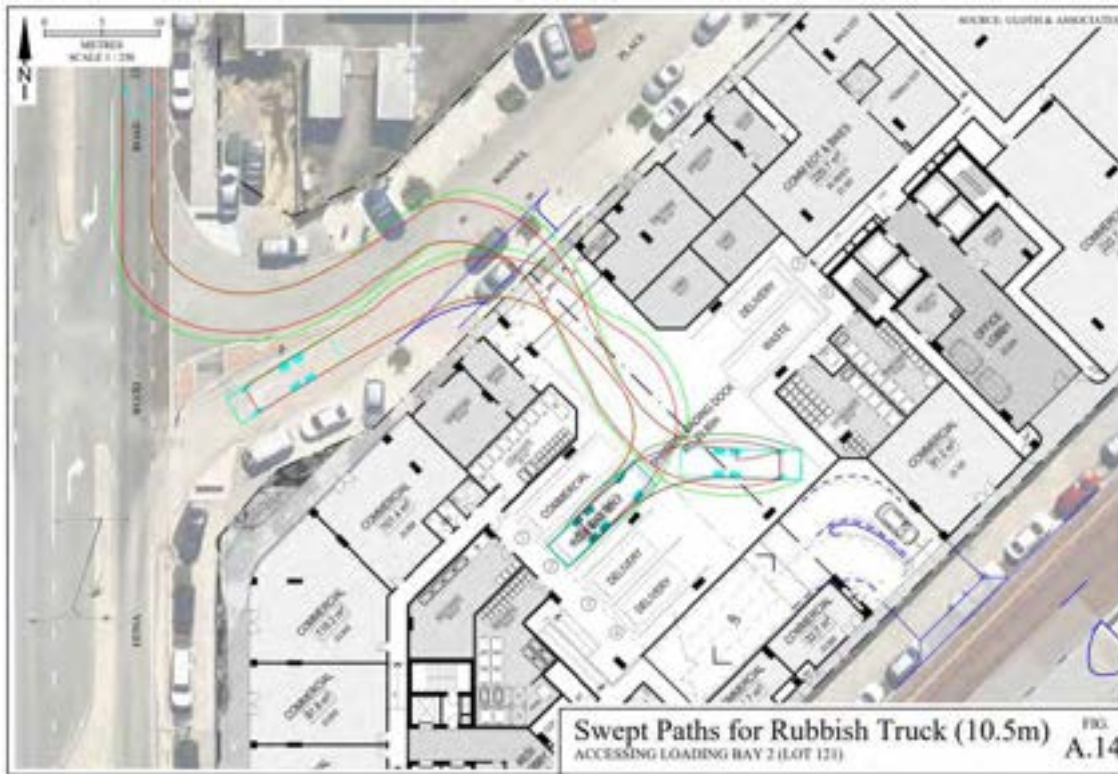


Figure 7: Swept path analysis showing access for waste collection vehicles to lot 121

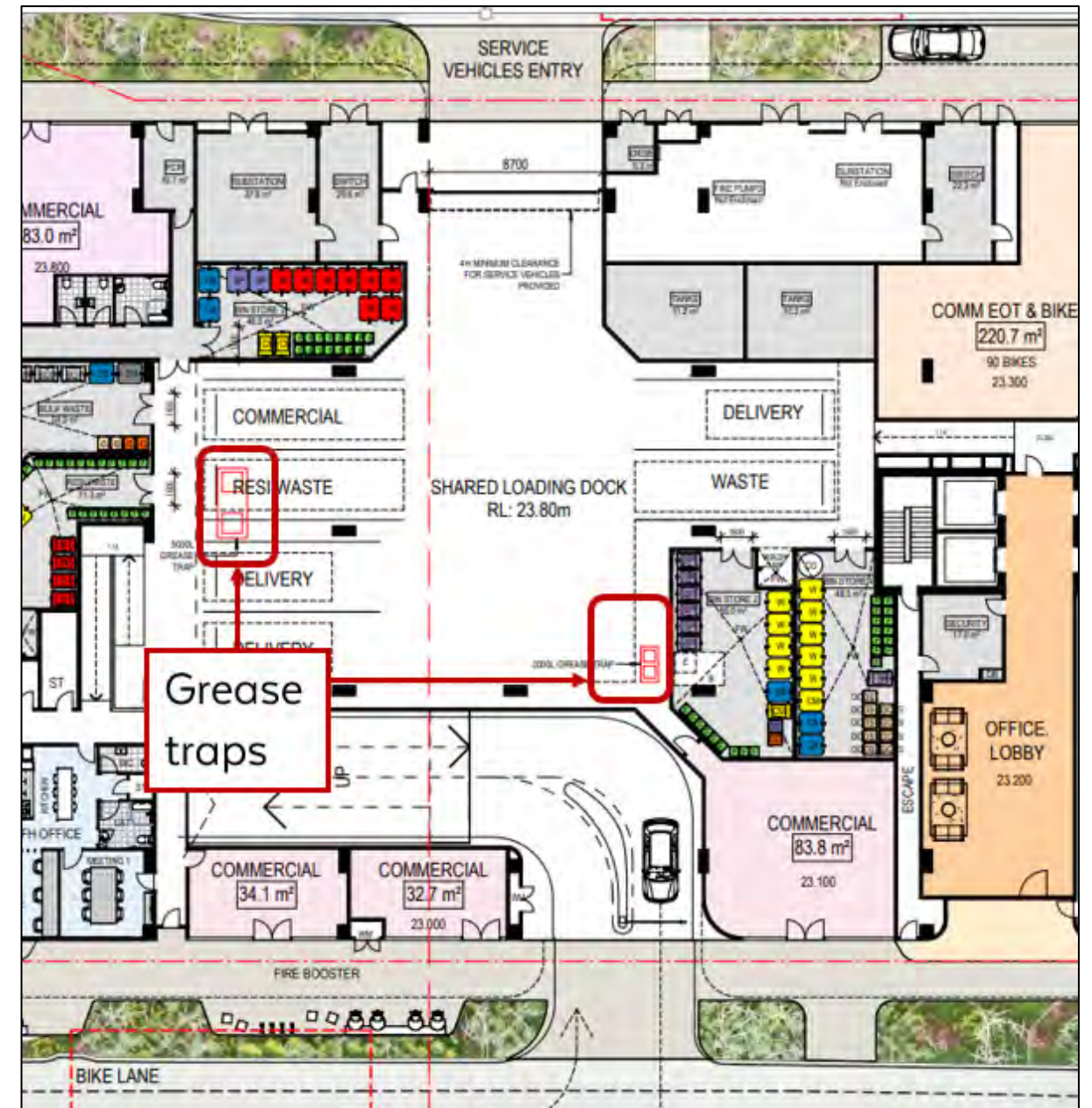


Figure 9: Location of the two grease traps on the ground floor

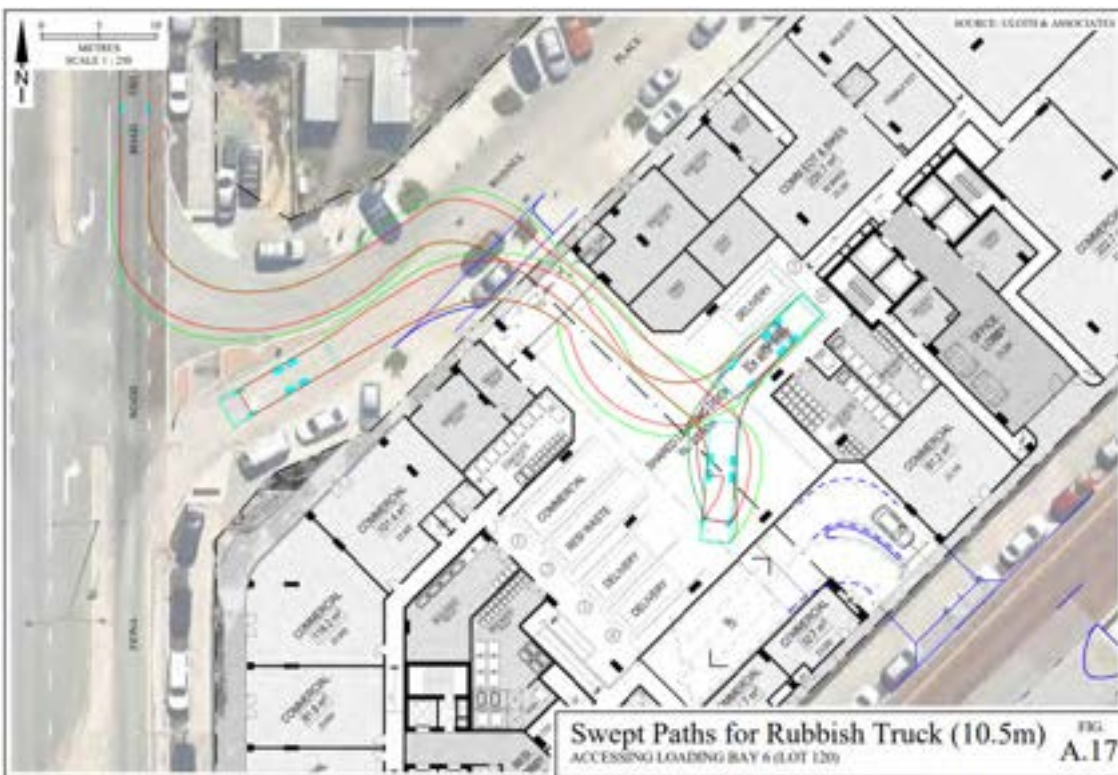
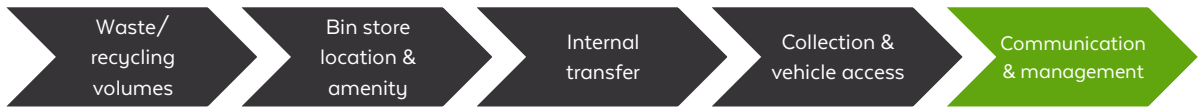


Figure 8: Swept path analysis showing access for waste collection vehicles to lot 120

6 Ongoing communication and management



6.1 Management

The building management team will be responsible for overseeing the waste management systems. The building management team will be trained and informed about their responsibility to work closely with the City of Melville waste collectors and private service providers regarding the schedule for collection and presentation of bins within each bin store. Staff will be responsible for maintaining the bin stores in a clean and tidy condition at all times and ensuring bins are washed regularly. Staff will be responsible for rotating full bins at the base of each chute in bin store 1 with empty bins.

6.2 Communication

All residents and commercial tenants will be made aware through a body corporate document (or equivalent) of the waste and recycling systems and how they should be used. An Operational Waste Management Plan suitable for presenting to buildings users, including how the plan should be communicated will be developed and implemented during both the initial occupation and ongoing management of the building.

Building management will be responsible for the continuing education of residents on correct segregation of waste, recyclables and FOGO and usage of the chutes to ensure successful performance of the dual chute system within the residential component of the building. Communication to residents about correct use of the chute system will be ongoing, using formats such as good signage at the chute hatches and on bins in the bin stores, newsletters, noticeboards, social media, etc.

Appendix A: Glossary of terms and acronyms

Bulk waste	Bulk waste includes old and broken furniture, white goods and large electronic items. Local Governments usually offer residential bulk waste collections up to 3 times per year within the municipality, via verge side collection, verge valet or skip bins. Commercial developments/tenancies are generally responsible for removing bulk waste via skip bins or organising transport to a waste transfer facility or landfill. Bulk waste collection is included in the Waste Management Plan where specified by the Local Government as part of the planning requirements.
Bulky waste storage	An area designed to store any unwanted bulky waste items from residential, retail, commercial or industrial developments.
Chute	In multi-storey buildings, a ‘chute’ is literally a shaft built into the construction that allows waste and/or recyclable material to be easily transported to the ground floor level from upper levels.
Collection point	The permitted area on a footpath, roadway or private property (where applicable) that waste, recyclables and bulky waste are loaded into collection vehicles.
Commingled recycling	Common recyclables, mostly packaging; such as glass, plastics, aluminium, steel, liquid paper board (milk cartons). Commingled recycling may include paper but often, and particularly in offices, paper and cardboard are collected separately.
Container Deposit Scheme (CDS)	Also known as Containers for Change: In Western Australia ‘eligible containers’ (usually for soft and alcoholic drinks) have a 10 cent deposit which can be refunded when the container is redeemed at a refund facility.
Compactor	In commercial buildings, industrial compactors are used to literally ‘compact’ or compress the waste material into a smaller volume to allow for optimal use of space.
E-waste	Discarded electronic appliances such as mobile phones, computers, and televisions.
FOGO	Food Organics Green Organics – a third bin offered to residents for the collection of food waste and garden waste.
Food organics	Waste food in commercial kitchen/food service settings, generated from preparation (peelings etc.), storage (out of date) or service (leftovers) that can be separated from the general waste stream for a more beneficial use.
Garden organics	Separated ‘green’ material (e.g. grass clippings or vegetation prunings).
General waste	Material that is intended for disposal to landfill (or in some States, incineration), normally what remains after the recyclables have been collected separately.

Grease trap	Collection of solid greases and oils in a tanker system to remove this material from water discharged to sewer from commercial kitchens or food processing facilities. Grease trap collection vehicle requirements can be included in the Waste Management Plan where relevant. Encycle are not hydraulics engineers and do not specify or advise on grease trap systems.
Organic waste	Waste derived from material that was once living (excluding petroleum-based materials).
Recyclable	Material that can be collected separately from the general waste and sent for recycling. The precise definition will vary, depending upon location (i.e. systems exist for the recycling of some materials in some areas and not in others).
Recycling	Where a material or product undergoes a form of processing to produce a feedstock suitable for the manufacture of new products.
Reuse	Replacing a 'disposable' or single-use item with one which can be used again (without needing to be processed or dismantled - i.e. 'recycled') e.g. using a washable ceramic coffee mug or travel cup in place of disposable cups.



Revision

Revision	Date	Comment	Prepared By	Approved By
001	25/01/2024	DA Issue 1	FY	AL
002	29/01/2024	DA Issue 2	FY	AL

Disclaimer

- The following qualifications apply to this report:
- Information has been based on our understanding of the proposed buildings and documentation provided, as noted.
 - This report is preliminary, and no modelling has been completed.
 - This report provides high level guidance about feasibility of sustainability initiatives to be included in the project at design stage.
 - No guarantee or warrantee of building performance and operational savings in practice can be based on this preliminary advice.

The conclusions in the report are Stantec’s professional opinion, as of the time of the report, and concerning the scope described in the report. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The report relates solely to the specific project for which Stantec was retained and the stated purpose for which the report was prepared. The report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient’s own risk.

Stantec has assumed all information received from the client and third parties in the preparation of the report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This report is intended solely for use by the client in accordance with Stantec’s contract with the client. While the report may be provided to applicable authorities having jurisdiction and others for whom the client is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec’s discretion.

1.	Executive Summary	2
2.	Introduction	3
2.1	Deliverables	3
3.	Green Star Strategy	4
3.1	Overview of Target	4
3.2	Green Star Overview	4
3.3	Green Star Plan	4
4.	Preliminary 5-Star Pathway	5
4.1	Initiatives Required	5
Appendix A Preliminary 5-Star Green Star Pathway		9

This Sustainability Report has been prepared in support of an application for Development Approval (DA) for the proposed residential and commercial development located at Lot 120 & 121 Murdoch Health & Knowledge Precinct.

- 5 Star Green Star Buildings V1 Rating
 - o Minimum required 35 points, targeting 41 points (6 point buffer)

Nevertheless, it is confirmed the project is committed to complying with the performance requirements.

2. Introduction

This document has been prepared for Hesperia to identify the sustainability initiatives that are being considered for inclusion in the proposed development at Development Application Stage.

Stantec has been engaged as the sustainability consultants for the project and will be responsible for the delivery of the sustainability objectives. The sustainability team will be led by Aida Leon, who is a Sustainability Project Technical Lead and is a Green Star Accredited Professional. It is confirmed that the ESD team has been engaged prior to concept planning stage and will be involved in and contribute until project completion.

A preliminary assessment of the project's potential to achieve a 5-star Green Star rating has been undertaken. Points that are easily achieved or present best value for money have been selected according to previous experience with similar projects, these will be coordinated with other design team members. This points strategy will be revised as design progresses, additional feedback and details become available.

2.1 Deliverables

The specific deliverables/commitments for each milestone are confirmed below:

- **Performance Requirement:**
 - Target a Certified 5-star Green Star Buildings V1 rating performance (i.e. minimum 35 points).
- **Development Application Deliverables:**
 - Preliminary 'Statement of Intent' to be provided by a practicing Green Star Accredited Professional (GSAP) (this document).
 - Green Star Pathway Report.
- **Design Phase Deliverables:**
 - Green Star Design Report to be provided by a practicing Green Star Accredited Professional (GSAP) confirming compliance with above performance requirement.
- **Post Practical Completion Phase Deliverables:**
 - Certification to be provided (Anticipated within 18 months of Practical Completion).
 - Green Star As-Built Report.

3. Green Star Strategy

3.1 Overview of Target

The client's sustainability targets for the site are:

- 5 Star Green Star Buildings V1 rating

3.2 Green Star Overview

The Green Star set of ratings tools have been compiled by the Green Building Council of Australia to assess the level of environmentally sustainable design that may be incorporated into a building. This project will be assessed using the Buildings V1 rating tool which can be used to rate any new building or collection of buildings.

Under the Buildings V1 tool, the following ratings can be achieved:

- 15-34 points = 4 Star rating ("Australian Best Practice")
- **35-69 points = 5 Star rating ("Australian Excellence")**
- Above 70 points = 6 Star rating ("World Leader")

3.3 Green Star Plan

A Green Star feasibility study was undertaken for the project. The objective of the feasibility study was to investigate initiatives for a 5 Star Green Star rating and to create a plan for the most effective points to target.

The total number of points available for each of the categories in the Green Star Buildings V1 Rating tool is:

Table 1: Green Star Category Points

Category	Available Points	Targeted Points 5 Star
Responsible	17	6
Healthy	14	8
Resilient	8	2
Positive	30	16
Places	8	5
People	9	3
Nature	14	0
Leadership	5	1
Total	105	41

4. Preliminary 5 Star Pathway

4.1 Initiatives Required

The targeted strategies align with the Green Star pathway for a 5 Star rating. Below is a description of the targeted credits.

4.1.1 Responsible Category

Credit 1: Industry Development

- The building owner must:
 - o Appoint a Green Star Accredited Professional.
 - o Disclose the cost of sustainable building practices.
 - o Market the buildings sustainability achievements.

Credit 2: Responsible Construction

- The head contractor must provide the following:
 - o Environmental Management System
 - o Environmental Management Plan
 - o Construction and Demolition Waste
 - o Sustainability Training
- At least 90% of construction and demolition waste must be diverted from landfill.

Credit 3: Verification and Handover

- Appropriate metering & monitoring systems are installed.
- Air Permeability design review testing is required.
- Building operations & maintenance information is readily available.
- Involvement of an Independent Commissioning Agent.

Credit 4: Responsible Resource Management

- Separate waste and resource streams.
- Dedicated and adequately sized waste and resource storage area.
- Safe and efficient access to waste and resource storage areas.

Credit 5: Responsible Procurement

- Design and construction procurement process follow ISO 20400 Sustainable Procurement
- Responsible Procurement plan

Credit 6: Responsible Finishes

- The building's internal finishes to be comprised of responsibly manufactured products.

4.1.2 Healthy Category

Credit 10: Clean Air

- Levels of indoor pollutants are maintained at acceptable levels.
- Provision of increased outside air for commercial spaces and residential areas.
- Pollutants entering the building are minimised.
- The building's ventilation systems allow for easy maintenance.

Credit 11: Light Quality

- Lighting comfort – LED lighting, CRI >85, best practice illuminance levels, uniformity, MacAdam Ellipse.
- Glare from light sources must be limited within regularly occupied areas.
- Adequate daylight levels are provided.

Credit 12: Acoustic Comfort

- Acoustic comfort strategy
- The building achieves maximum internal noise levels.
- The building provides acoustic separation.
- The building achieves Impact Noise Transfer

Credit 13: Exposure to Toxins

- The building's paints adhesives, sealants, and carpets are low in TVOC or non-toxic.
- The building's engineered wood products are low in TVOC or non-toxic.
- Occupants are not exposed to banned or highly toxic materials in the building.

Credit 14: Amenity and Comfort

- The building has dedicated amenity room.

4.1.3 Resilient Category

Credit 16: Climate Change Resilience

- The project team develops a project-specific climate change risk and adaptation assessment for the building where extreme and high risks are addressed.

Credit 19: Heat Resilience

- Reduction of heat island effect.

4.1.4 Positive Category

Credit 21: Upfront Carbon Emissions

- Upfront carbon emissions must be reduced through good design and material selection.

Credit 22: Energy Use

- The building has low energy consumption.

- Onsite renewable energy:
 - o Approx. 100 kW Solar PV to Office Tower
 - o Approx. 86kW Solar PV to Residential Tower

Credit 23: Energy Source

- No fossil fuels on site
- Building's energy comes from renewables.

Credit 24: Other Carbon Emissions

- The building's emissions from refrigerants, upfront carbon, and remaining carbon sources are eliminated or offset.

Credit 25: Water Use

- The building installs efficient water fixtures.

Credit 26: Life Cycle Impacts

- The project minimises life cycle impacts when compared to standard practice.

4.1.5 Places Category

Credit 27: Movement and Place

- Changing Facilities (Applicable for Commercial areas) and Bicycle Parking Facilities are provided.
- End of Trip facilities are accessible, inclusive, and located in a safe and protected place.
- Sustainable Transport Plan.
- EV Chargers for car bays.
- Infrastructure planning for EV conversion of all car bays.

Credit 29: Contribution to Place

- Design reviews are held at key points in the development of the design.

4.1.6 People Category

Credit 31: Inclusive Construction Practices

- Provide gender inclusive facilities and PPE.
- Implement policies to address issues of discrimination, racism, and bullying on-site.
- Conduct a Needs Analysis on potential site workers and sub-contractors prior to construction commencing.
- Implement physical and mental health programs.
- Conduct an evaluation of the program's effectiveness.

Credit 34: Design for Inclusion

- The building is design and constructed to be inclusive to a diverse range of people with different needs.

4.1.7 Nature Category

Credit 35: Impacts to Nature

- The building was not built on, or significantly impacted, a site with a high ecological value.
- The building's light pollution has been minimized.
- There is ongoing monitoring, reporting, and management of the site's wetland ecosystem (if applicable).

4.1.8 Leadership Category

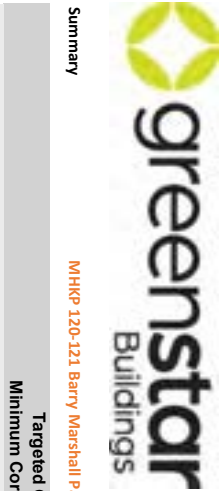
Credit 40: Market Transformation

- High quality leasing such as co-operation and works and management and consumptions.
- Building Owner Contributions such as data sharing.
- Tenant Agreement and feedback opportunities.

4.1.9 Assessment method for Compliance

The above-mentioned strategies are indicative as this stage. These need to be further coordinated with the design team and integrated in the design. A project sustainability design specification will be produced on a later stage and will be included as part of the contract documents to integrate the above deliverables.

The above-mentioned contractual requirements do allow for minor modifications to the specific strategies but maintain the overall scheme amendment sustainability performance objective.



Summary			Risk Level	
MHKP 120-121 Barry Marshall Parade			Low	Points targeted - current design & standard practice
			Medium	Points TBC - minor design considerations and/ or minor uplift in cost
			High	Points TBC - considerable design considerations and/or major uplift in cost

	Targeted Green Star rating	5 Star
	Minimum Core points required	35
	Total points TARGETED	41

Category	Credit	Credit Description	Credit Targeted	Total points available	Points TARGETED	Risk Level	Comments	Responsible Disciplines									
								PM/C	Arch	Head	Mech	Elec	Hydr	Acou	Land	Struc	Civil
1	Resp	Industry Development Credit Achievement (1 point): -The building owner or developer appoints a Green Star Accredited Professional - discloses the cost of sustainable building practices to the GBCA, and - markets the building's sustainability achievements.	Credit Achievement	1	1	Low	Stantec fulfil the GSAP role. Owner / developer to complete a Financial Disclosure Template. Project team to complete the Green Star Case Study Template.										
2	Resp	Responsible Construction Minimum Expectation: - Head Contractor to comply with ISO 14001 & implement EMS on site - Divert at least 80% of construction & demolition waste from landfill - Head Contractor to provide training on sustainability targets of building	Minimum Expectation	-	Required	Required	Minimum expectation considered standard practice.										
3	Resp	Responsible Construction Credit Achievement (1 point) Divert at least 90% of construction & demolition waste from landfill. Waste contractors & facilities to comply with the Green Star Construction and Demolition Waste Reporting Criteria.	Credit Achievement	1	1	Low	90% diversion of construction & demolition waste from landfill is considered an achievable target for this project.										
4	Resp	Verification and Handover Minimum Expectation: - Sub-metering of major uses, provision of a continual monitoring system, validation of meters as per NABERS protocol - Set environmental performance targets, carry out a Services & Maintainability review, commissioning including Air Infiltration testing, 12 month building tuning - O&M manual, building tuning, building user information.	Minimum Expectation	-	Required	Required	The air tightness design review includes facade elements, but also interior separations between conditioned and unconditioned spaces, and integration of HVAC, electrical, communications, and plumbing elements into the system. To be considered: – Constructability and construction sequence – Scope of work and necessary coordination between trades and responsibilities										

\\au2011-vp\ss01.corp.ads\shared_projects\301251707\Project Documentation\Sustainability\Green Star\MHKP 120-121_Green Star Buildings_Master Spreadsheet 002.xlsx

Appendix A Preliminary 5 Star Green Star Pathway

[illegible][illegible]

[illegible]

\\au2011-vpfss01.corp.ads\shared_projects\301251707\Project Documentation\Green Star\HMKP 120-121_Green Star Buildings_Master Spreadsheet 002.xlsx

[illegible]

35	Post	Upfront Carbon Emissions	Credit Achievement (3 points): The building's upfront carbon emissions are at least 20% less than those of a reference building. Demolition works must be offset.	Credit Achievement	3	3	High	Assuming minimum requirement can be met through the following initiatives: - Cement reduction in Concrete - Steel reduction - Dematerialization - Refrigerants - Design for desassembly - Use of low carbon materials-EPDs	#	#	#	#								#
37	Post	Energy Use- Reference building Pathway	Minimum Expectation: The building's energy use is at least 10% less than a reference building. On-site renewable energy generation cannot be used to meet the Minimum Expectation.	Minimum Expectation	-	Required	Required	This should be achieved by the selected Building Services.	!	!	!	!	!	!						!
38	Post	Energy Use- Reference building Pathway	Credit Achievement (3 points): The building's energy use is at least 20% less than a reference building. On-site renewable energy generation can be used to meet this CE.	Credit Achievement	3	3	Low	These credits rely on the provision of at least 100 KW PV System	!	!	!	!	!							!
39	Post	Energy Use- Reference building Pathway	Exceptional Performance (3 points): The building's energy use is at least 30% less than a reference building. On-site renewable energy generation can be used to meet this EP.	Exceptional Performance	3	3	Medium	TBC	!	!	!	!	!							!

\\au2011-vpfss01.corp.ads\shared_projects\301251707\Project Documentation\Sustainability\Green Star\MHKP 120-121_Green Star Buildings_Master Spreadsheet 002.xlsx

28	Resi	Climate Change Resilience	Minimum Expectation: Complete the climate change pre-screening checklist and communicate building's exposure to climate change risk to team.	Minimum Expectation	-	Required	Required	ESD STN to Develop & implement a CCAP	!											!
29	Resi	Climate Change Resilience	Credit Achievement (1 point): Develop a project-specific climate change risk and adaptation assessment for the building and address any extreme and high risks through design and/or operational responses.	Credit Achievement	1	1	Low	ESD STN to Develop & implement a CCAP	!	!	!	!	!	!	!	!	!	!	!	!
31	Resi	Community Resilience	Credit Achievement (1 point): Undertake a needs analysis of the community, identify shocks and stresses that impact the building's ability to service the community, and develop responses to manage these. Undertake at least one community capacity building activity prior to or during construction	TBC	1	0	High	Develop & implement a Community Resilience Plan (subject to additional consultant costs in the order of ~\$10-15k for Building A).	#											#
32	Resi	Heat Resilience	Credit Achievement (1 point): At least 75% of the whole site area comprises of one or a combination of strategies that reduce the heat island effect.	Credit Achievement	1	1	Low	This credit can be targeted through a combination of PVs, light coloured roofing and landscaping. STN ESD to do a Markup to confirm.		!	!					!				!
34	Post	Upfront Carbon Emissions	Minimum Expectation: The building's upfront carbon emissions are at least 10% less than those of a reference building.	Minimum Expectation	-	Required	Required	30 % cement replacement needs to be Green Concrete in all structure. Concrete and steel reduction by using PT structure. EPDs for: - Colorbond - Paint - Plasterboard for walls and ceiling - Carpets	!	!	!	!	!						!	!

\\au2011-vpfss01.corp.ads\shared_projects\301251707\Project Documentation\Sustainability\Green Star\MHKP 120-121_Green Star Buildings_Master Spreadsheet 002.xlsx

49	Post	Other Carbon Emissions	Credit Achievement (2 points): The building owner eliminates or offsets emissions from refrigerants, through either using refrigerants with GWP < 10, or offsetting 100% of carbon emissions from refrigerants.	Credit Achievement	2	2	High	Refrigerant offset to be calculated. Noting under a Climate Active these needs to be offset. Magnitude of cost yet to be determined.	#		#	#							#
51	Post	Water Use	Minimum Expectation: The building installs efficient water fixtures or uses 15% less potable water compared to a reference building. For multi-unit residential buildings (Class 2 and 3), 10%, less.	Minimum Expectation	-	Required	Required	Sanitary Fixture and Appliance Efficiency: Taps = 5 Stars Urinals = 5 Stars Toilets = 4 Stars Showers = 3 Stars Clothes washing machine= 4 star Dishwashers = 5 star		#	#	#	#						#
52	Post	Water Use	Credit Achievement (3 points): For multi-unit residential buildings (Class 2 and 3), the building installs efficient water fixtures AND uses 40% less potable water compared to a reference building as calculated by the GBCA's Water Use calculator . The building must have infrastructure for recycled water in a district or location where local council or water authorities (or similar) have planned for installation of recycled water infrastructure.	TBC	3	0	High	High Risk, to be modelled. ESD to explore Purple pipe ready initiative.		#	#	#	#						#
54	Post	Life Cycle Impacts	Credit Achievement (2 points): The project demonstrates a 30% reduction in life cycle impacts when compared to standard practice.	Credit Achievement	2	2	Low	LCA to be developed by STN ESD.			#	#	#						#
55	Places	Movement and Place	Minimum Expectation: The building includes showers and changing facilities for building occupants that are accessible, inclusive and located in a safe and protected space.	Minimum Expectation	-	Required	Required	Class 2 buildings are exempt from these requirements / Commercial spaces requirements to be coordinated		#	#	#	#						#

\\au2011-vpfss01.corp.ads\shared_projects\301251707\Project Documentation\Sustainability\Green Star\MHKP 120-121_Green Star Buildings_Master Spreadsheet 002.xlsx

46	Posit	Energy Source	Minimum Expectation: The building provides a Zero Carbon Action Plan. The project team must develop a Zero Carbon Action Plan for the building. The plan must be signed off by the building owner or developer and included in any operational documents for the building. The Zero Carbon Action Plan must include a target date by when the building is expected to operate as fossil fuel free. The Zero Carbon Action Plan must cover all energy consumption, procurement, and generation and cannot rely on procuring renewable fuels as its only solution. It must also include infrastructure provided for tenants or future occupants such as gas installations for cooking. The Zero Carbon Action Plan must be done prior to the tender phase of the project.	Minimum Expectation	-	Required	Required	Not required if fully electrified																																																																																								<
----	-------	---------------	---	---------------------	---	----------	----------	-----------------------------------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--

\\au2011-vpfss01.corp.ads\shared_projects\301251707\Project Documentation\Sustainability\Green Star\MHKP 120-121_Green Star Buildings_Master Spreadsheet 002.xlsx

[illegible][illegible]

Ground Floor
226 Adelaide Terrace
Perth WA 6000
Tel +61 8 6222 7000

For more information please visit
www.stantec.com



1/25/2024

120-121 Barry Marshall Parade

69	Nature	Biodiversity Enhancement	Credit Achievement (2 points): -The building's site includes external landscape (horizontal or vertical) either 15% of site area or 1:500 of the GFA, whichever is larger. -The landscaping includes a diversity of species and prioritises the use of climate-resilient and indigenous plants. >60% of plants must be indigenous and site must include at least one significant nesting tree or equivalent habitat provision per 500m2 of landscaped area. -The project team develops a site-specific Biodiversity Management Plan and provides it to the building owner or building owner representative.	TBC	2	0	High	TBC												
73	Nature	Waterway Protection	Credit Achievement (2 points): The development must demonstrate an annual average flow reduction (ML/Yr) of 40% compared to pre-development levels AND meet pollution reduction targets.	TBC	2	0	High	Stormwater will be infiltrated on site. Confirmation required from the GBCA surrounding the wording of the credit requirement.			#									
75	Leadership	Market Transformation-Collaborative Leasing	Credit Achievement (1 point): There is a commitment between landlord and tenant regarding collaboration, resource management and performance reporting. • At least 10% of tenants have signed high quality lease agreements The project must comply with all three of the following criteria: • High Quality Leasing including: - Co-operation & works - Management and consumption - Reporting and Standards • Building Owner Contributions: - Data sharing - Tenant Feedback Opportunities • Tenant Agreement minimum required: Tenant Feedback Opportunities: - 10% of all commercial office tenants - 5% of all retail tenant	Credit Achievement	2	1	High	TBC												



Project: **Murdoch Health and Knowledge Precinct Lots 120 & 121**

Prepared for: **c/o Hesperia Projects Pty Ltd
Level 3
338 Mount Barker Road
Subiaco WA 6008**

Attention: **Jamie Fini**

Report No.: **Rp 002 20230836**

Disclaimer

Reports produced by Marshall Day Acoustics Pty Ltd are based on a specific scope, conditions and limitations, as agreed between Marshall Day Acoustics and the Client. Information and/or report(s) prepared by Marshall Day Acoustics may not be suitable for uses other than the specific project. No parties other than the Client should use any information and/or report(s) without first conferring with Marshall Day Acoustics.

The advice given herein is for acoustic purposes only. Relevant authorities and experts should be consulted with regard to compliance with regulations or requirements governing areas other than acoustics.

Copyright

The concepts and information contained in this document are the property of Marshall Day Acoustics Pty Ltd. Use or copying of this document in whole or in part without the written permission of Marshall Day Acoustics constitutes an infringement of copyright. Information shall not be assigned to a third party without prior consent.

Document Control

Status:	Rev:	Comments:	Date:	Author:	Reviewer:
Issued	-	For submission	23 Jan. 2024	B. Beverley	B. Wilson

TABLE OF CONTENTS

1.0	INTRODUCTION	5
2.0	PROJECT DESCRIPTION	5
2.1	Subject site	6
2.2	Existing noise environment.....	6
2.3	Nearest receivers	8
3.0	RELEVANT GUIDELINES AND LEGISLATION	9
3.1	Green Star	9
3.2	Australian Standard 2107:2016	9
3.3	State Planning Policy 5.4	9
3.4	Australian Standard 1668.1-2015 (Smoke control systems)	9
3.5	Australian Standard 2021:2015 (aircraft noise)	9
3.6	Environmental Protection (Noise) Regulations 1997.....	10
3.7	National Construction Code (NCC)	10
4.0	PROJECT DESIGN CRITERIA	11
4.1	Criteria for external noise levels	11
4.1.1	Noise emissions from the use of the site to neighbouring premises	11
4.1.2	Noise emissions from the use of the site to precinct areas	11
4.1.3	Noise from traffic to outdoor living areas within the site	11
4.2	Criteria for internal noise	12
4.2.1	Average noise levels.....	12
4.2.2	Maximum noise levels – Green Star	12
4.2.3	External sound insulation	12
4.3	Acoustic separation – Green Star	13
4.3.1	Floor sound insulation	13
4.4	NCC Internal sound insulation	13
4.4.1	Minimum NCC internal sound insulation requirements	13
4.4.2	Floor impact isolation performance	14
4.4.3	NCC Discontinuous construction requirements	14
4.5	Reverberation	15
5.0	TRAFFIC NOISE ASSESSMENT (RESIDENTIAL APARTMENTS)	16
5.1	External noise levels	16
5.2	Internal noise levels	16

6.0	PRELIMINARY COMMENTS ON ACOUSTIC DESIGN	17
6.1	Building envelope	17
6.1.1	Preliminary glazing requirements	17
6.2	Internal sound insulation	17
6.2.1	Residential areas	17
6.2.2	Commercial areas.....	17
6.3	Mechanical services noise.....	18
6.3.1	Central plant	18
6.3.2	Ducted AHU systems.....	19
6.3.3	FCUs, VAV/VV boxes, TEFs/EFs	19
6.3.4	Stair pressurisation fans.....	20
6.3.5	Generators	20
6.3.6	Equipment vibration isolation	20
6.3.7	Residential FCUs	20
6.3.8	Natural ventilation	20
6.4	Environmental Noise	21
6.4.1	External mechanical services noise.....	21
6.4.2	Carpark noise	21
6.4.3	Loading dock / deliveries	22
6.4.4	Waste removal	22
6.5	Room acoustics	22
7.0	CONCLUSIONS.....	22

APPENDIX A GLOSSARY OF TERMINOLOGY

APPENDIX B ASSIGNED NOISE LEVEL CRITERIA

1.0 INTRODUCTION

It is proposed to develop two multi-storey buildings for office, residential, retail and carpark use (the Development) at Lots 120 and 121 within the Murdoch Health and Knowledge Precinct (MHKP).

Marshall Day Acoustics (MDA) has been engaged to provide acoustic design and assessment services for the project.

This report provides an outline of the acoustic design criteria and an overview of the acoustic issues associated with the Development, including potential noise impacts from the surrounding area and noise emission from the Development to nearby noise-sensitive receivers. Preliminary advice and guidance are provided to demonstrate possible design solutions to address the acoustic issues. These will be developed as the project progresses in order to meet the project acoustic design criteria.

A glossary of terminology is provided as Appendix A.

2.0 PROJECT DESCRIPTION

Lot 120 is proposed to consist of 24 above-ground levels intended to deliver affordable housing in the form of residential units. Lot 121 comprises a commercial development of 13 above ground levels, delivered to base build only.

The proposed uses for each floor level are summarised in Table 1.

Table 1: Floor level use description

Level	Use – Lot 120	Use – Lot 121
Ground	Residential lobby, commercial, loading dock	Office lobby, commercial, loading dock
Levels 1 - 4	Above-ground carparking	Above-ground carparking
Level 5	Residential, Communal spaces	Office
Levels 6 - 12	Residential	Office
Level 13	Residential	Plant
Levels 14 - 23	Residential	-
Level 24	Plant	-

2.1 Subject site

The subject site is 4,701 m² in area and is located at the corner of Barry Marshall Parade and Fiona Wood Road, Murdoch.

The subject site forms part of a larger complex of developments, including the adjacent Lots 118 and 119. An aerial image of the subject site is provided as Figure 1.

Figure 1: Aerial image of subject site (courtesy of Nearmap)



2.2 Existing noise environment

A site inspection to measure existing ambient noise levels was undertaken on Tuesday 21 November 2023 between 1400 and 1600 hours. Previous measurements of the surrounding area were obtained by MDA in February 2022 and these have also been referenced for our analysis.

The existing noise environment is dominated by traffic on the surrounding roads. During the survey on 21 November 2023, there was one instance of an ambulance passing on South Street, and prior to the survey there were two notably low helicopter passes. The helicopters both appeared to be from Jandakot Airport, which is approximately 4 km southeast of the site.

The site noise levels measured on both occasions (2022 and 2023) have been rationalised and are summarised in Table 2, with the corresponding measurement locations shown in Figure 2.

Table 2: Summary of measured noise levels, dB

Location	Ambient noise level, $L_{Aeq, 15 \text{ min}}$	Maximum noise level, L_{Amax}	Comments
Location 1 - Fiona Wood Road	65	88	High traffic noise due to construction vehicles from nearby sites passing
Location 2 - South Street	70	97	Maximum noise level component L_{Amax} is due to ambulance pass-by (siren on)
Location 3 - Kwinana Freeway	60	70	Measurement position at offramp, approx. 15 m from Fwy carriageway edge

Figure 2: Measurement locations



Observed and modelled traffic data was obtained from Main Roads (MRWA ref. #42780) for the surrounding road network. The data has been reviewed and used to calculate the noise level contributions to the site from the different roads, and to account for potential increases in traffic noise over a 20-year planning horizon, as required by SPP 5.4.

The analysis findings are summarised as follows:

- The measured noise levels nearby Kwinana Freeway are relatively low compared with those at locations 1 and 2. While this can be partially attributed to the measurement distance and the steady flow of the traffic (no acceleration / engine revving noise), it is anticipated that factors such as wind direction, lower than normal traffic flow and local screening may have influenced the results at the measurement point.
- Calculated noise levels based on the Main Roads traffic data have been using the *Calculation of Road Traffic Noise* (CoRTN) prediction method referenced in SPP 5.4. The calculations show that the $L_{Aeq, 16 \text{ hr (Day)}}$ and $L_{Aeq, 8 \text{ hr (Night)}}$ average noise levels assessable under SPP 5.4 would be lower than the 65 dB $L_{Aeq, 15 \text{ min}}$ level measured at the site, including to elevated floor levels.

The forecast increased traffic volumes over a 20-year planning horizon correspond with a 1 dB increase in noise levels. This is to be factored into the design.

Refer to Section 5.0 for further details on the traffic noise assessment.

2.3 Nearest receivers

Noise from the subject site will need to be controlled to satisfy the *Environmental Protection (Noise) Regulations 1997* at all neighbouring receivers. Assigned levels apply at all types of premises, however the nearest noise-sensitive receivers often determine design requirements.

Details of the nearest receivers surrounding the site are provided in Table 3 below. Each location is indicated in the aerial photo mark-up presented in Figure 3.

Table 3: Details of nearest noise receivers

Receiver	Location	Type	Description
1	1 Barry Marshall Parade	Hospice	Existing noise sensitive premises. Murdoch Community Hospice. Single storey care facility.
2	18 Tarrant Way	Residence	Existing noise sensitive premises. Single storey dwelling across from South Street to the north.
3	MHKP Lot 118	Proposed commercial	Proposed commercial premises. Nine storeys comprising ground floor commercial tenancies, above-ground car parking (levels 1-2), office tenancies (levels 3-7), rooftop plant (level 8).
4	MHKP Lot 119	TBC	Details not yet confirmed; however, it is understood that Murdoch University are seeking to develop this lot to be a 'Gateway Innovation Centre'. Expected receiver type is commercial.
5	MHKP Lot 120	Proposed residential	Residential apartments proposed as part of the subject site development. The apartments will be the nearest noise-sensitive receivers for most design considerations.

Figure 3: Aerial photo showing nearest receivers (courtesy of Nearmap)



3.0 RELEVANT GUIDELINES AND LEGISLATION

3.1 Green Star

The project is targeting a 5-star Green Star rating in accordance with the Green Building Council of Australia's *Green Star Buildings Submission Guidelines v1*.

There are 12 credits (2 points) available under 'Acoustic Comfort' in the rating tool.

The following aspects of the acoustic design are relevant to the Green Star assessment of project:

- Maximum internal noise levels
- Acoustic separation
- Impact noise transfer (residential only, not applicable to base build commercial or retail)

3.2 Australian Standard 2107:2016

Australian Standard 2107:2016 *Acoustics - Recommended design sound levels and reverberation times for building interiors* (AS2107) provides recommendations for acceptable internal noise levels and reverberation time in different building and room types.

The noise level recommendations apply to noise ingress from external sources such as traffic and general environmental noise, as well as to noise sources located within the building such as mechanical services.

AS2107 shows both the lower end of the range and the highest recommended internal noise level.

3.3 State Planning Policy 5.4

Western Australian Planning Commission State Planning Policy 5.4 "*Road and Rail Transport Noise and Freight Considerations in Land Use Planning*" (SPP 5.4) recommends traffic noise level objectives that should be used when building new roads or upgrading existing roads. In addition, the policy sets out guidelines for noise mitigation at noise-sensitive developments near major roads.

Kwinana Freeway and South Street are both categorised 'strategic freight or major traffic route' under SPP 5.4. Therefore, noise-sensitive (i.e., residential) aspects of the development should be designed to meet the SPP 5.4 traffic noise level objectives.

3.4 Australian Standard 1668.1-2015 (Smoke control systems)

Noise from the operation of smoke control systems shall achieve the requirements of Australian Standard 1668.1-2015 entitled 'The use of ventilation and air conditioning in buildings Fire and smoke control in buildings' as follows:

'The noise level due in occupied spaces during operation of the smoke control systems (including smoke exhaust fans and air pressurization fans) shall not exceed 65dB(A). Where the internal occupied ambient noise levels exceed 60 dB(A), the smoke control system shall not exceed 5dBA above the internal occupied ambient noise levels to a maximum level of 80dB(A).

Noise levels in fire-isolated exits and car parks, as well as smoke control zones served by hot layer smoke control systems shall not exceed 80dBA.'

3.5 Australian Standard 2021:2015 (aircraft noise)

The project site is located approximately 4 km from Jandakot Airport and is outside the airport's 20 ANEF contour. The development is therefore not subject to specific noise attenuation requirements under *State Planning Policy 5.3: Land Use Planning in the Vicinity of Jandakot Airport*.

However, noise nuisance could still be experienced from light aircraft associated with Jandakot Airport, or from helicopters attending to Fiona Stanley Hospital.

A review of the airport noise event contours (N60 and N70) shows that the daily average number of noise events at the site are:

- <20 daily noise events above 70 dB
- 50 daily noise events above 60 dB

While there would be a significantly lower number of helicopters attending to Fiona Stanley Hospital on a daily basis, the maximum noise levels would be higher than the levels indicated by the Jandakot Airport N60 and N70 contours. The building envelope of the residential tower will need to be designed to meet the maximum noise levels in Section 4.2.2 to satisfy Green Star.

3.6 Environmental Protection (Noise) Regulations 1997

External noise emission is governed by the *Western Australia Environmental Protection (Noise) Regulations 1997* (the Noise Regulations). The Noise Regulations are a "prescribed standard" under the *Environmental Protection Act 1986*.

The assessment of noise emission under the Noise Regulations is based on external noise level limits that apply at a receiver position. The calculation of the noise level limits takes into account the local road network, the land use in the surrounding area and the time of day. These calculated noise level limits are known as 'assigned noise levels.'

Noise emissions from a proposed development site are assessed over an assessment period which can vary between fifteen minutes and four hours. The assessment period must be appropriate for the assessment of the emission and depends on the type and character of the noise source(s).

The assigned noise levels are defined in terms of statistical A-weighted and Slow-weighted sound pressure levels as follows:

- L_{A510} , this is the noise level not to be exceeded for more than 10% of the assessment period
- L_{A51} , this is the noise level not to be exceeded for more than 1% of the assessment period
- L_{A5max} , this is the noise level not to be exceeded at any time.

3.7 National Construction Code (NCC)

The residential component of the project will be subject to the National Construction Code (NCC), which is the applicable legislative document regarding acoustic performance of residential buildings.

It is understood that NCC 2022 will apply to the project.

4.0 PROJECT DESIGN CRITERIA

This section develops specific acoustic design criteria, based on the application of the standards summarised in Section 3.0.

4.1 Criteria for external noise levels

4.1.1 Noise emissions from the use of the site to neighbouring premises

The assigned noise levels applicable to the nearest noise sensitive receivers are presented in Table 4. Further details regarding the assigned noise levels are provided in Appendix B.

Table 4: Assigned noise level criteria for environmental noise emissions

Type of premises receiving noise	Time of day	Assigned noise level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises: highly sensitive area	0700-1900 Monday to Saturday	52	62	72
	0900-1900 Sunday and public holidays	47	57	72
	1900-2200 all days	47	57	62
	2200-0700 Monday to Saturday or 2200-0900 Sunday and public holidays	42	52	62

4.1.2 Noise emissions from the use of the site to precinct areas

Noise emissions from the Development should be controlled to adjacent public realm areas within the MHKP as follows:

- Noise received at the facade of adjacent commercial buildings: L_{A10} 60 dB (assigned noise level)
- Noise received at general transient / public pedestrian areas: L_{Aeq} 55 dB (recommended)
- Noise received at general purpose courtyards or terraced areas: L_{Aeq} 45 dB (recommended)

4.1.3 Noise from traffic to outdoor living areas within the site

SPP 5.4 sets target outdoor noise levels for new noise-sensitive developments that are located within defined trigger distances of existing or proposed road and rail transport corridors.

In situations where the targets are shown to be exceeded, noise mitigation is required to achieve both acceptable indoor noise levels as well as acceptable noise amenity in outdoor living areas.

In regard to outdoor living areas, the objective of the noise targets is to achieve 'A reasonable degree of acoustic amenity for outdoor living areas on each residential lot'.

SPP 5.4 also states that:

'Outdoor targets are to be met at all outdoor areas as far as is reasonable and practical to do so using the various noise mitigation measures outlined in the guidelines.'

The outdoor noise targets are shown in Table 5.

Table 5: SPP 5.4 Outdoor noise targets

Time period (T)	Noise target, dB L _{Aeq,T}
Day (0600 – 2200 hrs)	55
Night (2200 – 0600 hrs)	50

The above criteria should be targeted for the Level 5 communal residential landscape deck, and for private balconies as far as practicable.

4.2 Criteria for internal noise

4.2.1 Average noise levels

For spaces within the Development, internal noise level criteria have been derived from Green Star, AS2107 and SPP 5.4, as shown in Table 6.

To meet the internal noise criteria, cumulative levels from internal building services noise and external noise ingress through the facade must comply with the noise levels in Table 6.

While this report addresses the base building commercial only, the facade design needs to consider the requirements of room types that may be included in future fitouts/tenancies, as these may be located adjacent to the facade.

Table 6: Internal noise criteria, dB L_{Aeq}

Room type	Maximum internal noise levels L _{Aeq} , dB
Bedrooms*	35
Living and work areas*	40
General office areas	45
Corridors and Lobbies	50
Retail / F&B	50
Supermarkets	55
Toilet / change / showers	55
Enclosed carparks	65

**see maximum noise level criteria in Section 4.2.2, which also apply to these spaces*

It is noted that Green Star also requires *minimum* internal noise level criteria to be achieved for commercial fitouts, and this typically requires sound masking systems. Since the commercial areas of the development are being delivered to base build only, minimum internal noise level criteria are not relevant to the Green Star assessment and design. Future fitouts may need to consider the use sound masking if targeting Green Star.

4.2.2 Maximum noise levels – Green Star

To satisfy Green Star, the Sleep Disturbance criteria as defined in the NSW EPA Road Noise Policy 2011 apply to the residential building:

- Up to two noise events per night: maximum internal noise levels below 70 dB L_{Amax}
- All other events: maximum internal noise levels below 55 dB L_{Amax}

4.2.3 External sound insulation

The facade must be designed such that external noise intrusion does not exceed the internal noise level design criteria provided above in Section 4.2.1.

This will primarily be a consideration for the glazing selection but would also apply to roof construction, particularly where it is of lightweight construction and / or roof mounted plant is proposed.

4.3 Acoustic separation – Green Star

The Green Star Acoustic Separation objective is being targeted for the commercial base build project only (Lot 121). This objective is not being targeted for the residential tower (Lot 120).

Green Star’s ‘Sound Insulation’ pathway is expected to allow for greater flexibility than the ‘Privacy’ pathway and is recommended for the Acoustic Separation objective for a commercial base build project.

This recommendation should be acknowledged by the ESD Consultant for the Green Star assessment.

The Green Star Acoustic Separation objective requirements are as follows:

The project must address noise transmission between enclosed spaces within the regularly occupied area.

Where full-height intertenancy walls are being delivered by the Head Contractor to Cold Shell spaces, these walls must comply with the credit requirements and cannot be excluded.

The partition between the spaces should be constructed to achieve a weighted sound reduction index (dB Rw) of:

- *At least 45 for all partitions separating enclosed spaces which are:*
 - *Fixed without a door*
 - *Glazed partitions without a door*
- *At least 40 for all partitions fronting a room (from an open plan area)*
- *At least 35 (in composite with door and partition) for all partition types that contain a door*
- *At least 50 through floors between occupied spaces*

Floorplan mark-ups showing the requirements will be provided in a subsequent report.

4.3.1 Floor sound insulation

The following sound insulation performances are required by Green Star for floors in non-residential spaces:

- Airborne sound insulation R_w 50
- Impact sound insulation $L'_{nT,w}$ 60

Floor and ceiling build-ups will also need to be designed such that the internal noise level criteria are achieved. Particular care will be required for floors separating plant rooms from noise-sensitive spaces. The airborne and impact sound insulation criteria are generally met by typical concrete slab floor and suspended ceiling constructions.

4.4 NCC Internal sound insulation

The National Construction Code (NCC) is the applicable legislative document specifying the minimum internal sound insulation performance required for residential buildings.

As noted above, the Green Star Acoustic Separation objective is not being targeted for the residential tower.

4.4.1 Minimum NCC internal sound insulation requirements

The minimum NCC acoustic requirements for Class 2 inter-tenancy walls and floors are summarised in Table 7.

Table 7: NCC inter-tenancy sound insulation requirements

Inter-Tenancy Partition	Sound Insulation		Notes
	Laboratory	On-Site	
Wall separating habitable rooms	$R_w + C_{tr} \geq 50$	$D_{nT,w} + C_{tr} \geq 45$	Discontinuous construction not required
Wall separating wet areas	$R_w + C_{tr} \geq 50$	$D_{nT,w} + C_{tr} \geq 45$	Discontinuous construction not required
Wall separating a wet area or kitchen and a habitable room	$R_w + C_{tr} \geq 50$	$D_{nT,w} + C_{tr} \geq 45$	Discontinuous construction required
Wall separating a sole-occupancy unit from a stairway, public corridor, public lobby, etc	$R_w \geq 50$	$D_{nT,w} \geq 45$	Discontinuous construction not required
Wall separating a sole-occupancy unit from a plant room or lift shaft	$R_w \geq 50$	$D_{nT,w} \geq 45$	Discontinuous construction required
Floor separating sole-occupancy units	$R_w + C_{tr} \geq 50$ $L_{n,w} \leq 62^*$	$D_{nT,w} + C_{tr} \geq 45$ $L_{nT,w} \leq 62^*$	Floor impact treatment required as part of floor build-up
Floor separating a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like	$R_w + C_{tr} \geq 50$ $L_{n,w} \leq 62^*$	$D_{nT,w} + C_{tr} \geq 45$ $L_{nT,w} \leq 62^*$	Floor impact treatment required as part of floor build-up
Door separating a sole-occupancy unit from a public corridor, public lobby, etc	$R_w \geq 30$	$D_{nT,w} \geq 25$	
Hydraulic service adjacent to a residential habitable room	$R_w + C_{tr} \geq 40$	-	Hydraulic services not to be chased into masonry walls or floors which are acoustically rated e.g. inter-tenancy walls or floors
Hydraulic service adjacent to a residential wet area	$R_w + C_{tr} \geq 25$	-	

**to satisfy Green Star requirements, a floor impact performance of $L'_{nT,w}$ 55 must be achieved. Refer also to Section 4.4.2 below.*

4.4.2 Floor impact isolation performance

The minimum NCC criteria of $L_{n,w}$ 62 for floor impact isolation is very low, and offers poor impact sound insulation performance. The resultant impact noise transferred to apartments below, when hard floor finishes are installed, can subjectively be regarded as intrusive and based on our experience is likely to generate complaints/disputes between the residential units. It is therefore recommended that the impact noise criteria level be improved.

$L'_{nT,w}$ 55 is the nominated floor impact performance criterion to satisfy Green Star and to also achieve an improved acoustic standard relative to the minimum NCC requirement.

4.4.3 NCC Discontinuous construction requirements

It is a requirement of the NCC for certain walls to be of discontinuous construction as a measure for protecting the amenity of occupants from impact sounds. This is defined as a wall having a minimum 20 mm cavity between 2 separate leaves, and

- For masonry, where wall ties are required to connect leaves, the ties are of the resilient type; and
- For other than masonry, there is no mechanical linkage between leaves except at the periphery (i.e. through adjoining walls, floors and ceilings).

4.5 Reverberation

AS2107:2016 provides recommendations for reverberation times within spaces. The reverberation time is a measure of the time taken for sound to decay within the space. The recommended criteria for this project are presented in Table 8.

For Green Star, the reverberation time shall be below the maximum stated in AS2107.

Table 8: Recommended reverberation times

Space	Reverberation time criteria (mid frequency)
General office areas	< 0.6 seconds
Corridors and lobbies (excluding Class 2 or 3)	< 0.8 seconds
Retail areas	Minimise for noise control
Supermarkets	Minimise for noise control

Green Star compliance can be demonstrated by either:

- Installed acoustic absorption, irrespective of quantity or location installed, must result in a reverberation time equivalent to or lower than the reverberation time predicted for treating at least 50% of the combined floor and ceiling area with a material having a noise reduction coefficient (NRC) of at least 0.5.
- Treating 50% of the combined floor and ceiling area with a material having an NRC of at least 0.5.

5.0 TRAFFIC NOISE ASSESSMENT (RESIDENTIAL APARTMENTS)

The estimated future facade noise levels at the residential apartments are based on the L_{Aeq} measured at Fiona Wood Road, adjusted to represent the equivalent level for the day and night periods and the propagation loss due to increased distance from the road. A +1 dB adjustment has been applied to account for potential traffic increases, which is based on observed and modelled traffic data obtained from Main Roads (MRWA ref. #42780).

Table 9 shows the predicted external noise levels at the most-affected residential floor (level 5).

5.1 External noise levels

Table 9: Predicted external noise levels (facade levels), dB L_{Aeq}

Period	Predicted noise level (level 5)	SPP 5.4 Target
Day (0600-2200)	60	60
Night (2200-0600)	51	55

The external noise at the residential tower is predicted to be highest at level 5 and will decrease for floors above level 5 and/or where more shielding is present, including at different facades.

A key objective of SPP 5.4 is to “provide for at least one protected outdoor living area”. Based on our initial analysis, the targets are considered achievable on most residential balconies and on the Level 5 communal residential landscape deck.

Further analysis and review of traffic noise will be undertaken as the design develops.

5.2 Internal noise levels

A preliminary analysis indicates that the internal noise level targets can be achieved with the inclusion of R_w 30 rated glazing and door systems. However, windows and doors for some apartments would need to be closed to meet the targets. In such instances alternative ventilation in the form of attenuated openings and ductwork or “borrowed” ventilation from other facades having a lower noise exposure may be necessary.

Preliminary comments on the facade requirements are provided in Section 6.1.

6.0 PRELIMINARY COMMENTS ON ACOUSTIC DESIGN

The following sections provide preliminary guidance for the acoustic design. Further details will be provided as the design progresses.

6.1 Building envelope

6.1.1 Preliminary glazing requirements

Preliminary external glazing requirements are provided in Table 10. The recommendations are based on achieving the criteria for general office areas and private offices with non-openable windows. Lower rated glazing may be acceptable for less noise-sensitive areas (e.g. retail). Alternative glazing options may also be acceptable, subject to review by an acoustic consultant.

These preliminary recommendations are based on as assumed maximum 1-2 helicopter movements per night to Fiona Stanley Hospital. Should more movements be expected, this will need to be revisited.

Table 10: Preliminary external glazing requirements

Facade	Minimum rating*	Example of complying glass configuration
Commercial	R _w 30	6 mm to 10.38 mm single laminated or 6 mm / 12 mm airgap / 6 mm DGU
Residential	R _w 30	6 mm to 10.38 mm single laminated or 6 mm / 12 mm airgap / 6 mm DGU

**To be met by an acoustic rated glazing system and / or door suite complete with glass, frame, sash, seals, all acoustic rated and certified by the supplier*

Openings in the façades (e.g. where required for natural ventilation) may require acoustic treatment, subject to room types.

6.2 Internal sound insulation

6.2.1 Residential areas

Internal walls must be selected to meet the minimum NCC requirements in Section 4.4.1 and in Table 7. Discontinuous construction will be required in locations required by the NCC, which are also described in Table 7.

6.2.2 Commercial areas

The minimum Green Star requirements are summarised in Table 11.

Table 11: Green Star sound insulation requirements

Partition type	Min. rating	Notes
Between enclosed spaces without a door	R _w 45	Applies to: - Fixed partitions without a door - Glazed partitions without a door Note: Inter-tenancy walls must be full height
Fronting a room (from an open plan area)	R _w 40	Min. R _w 35 in composite with door and partition

Note that high rated acoustic doors and double glazing may be necessary to satisfy these requirements.

6.3 Mechanical services noise

Noise from mechanical services systems must be designed to meet the external criteria outlined in Section 4.1.1 and Section 4.1.2, as well as the internal noise criteria in Section 4.2.1.

The following sections provide preliminary and indicative noise control solutions. Specific requirements will be determined at later design stages once equipment types and locations are finalised.

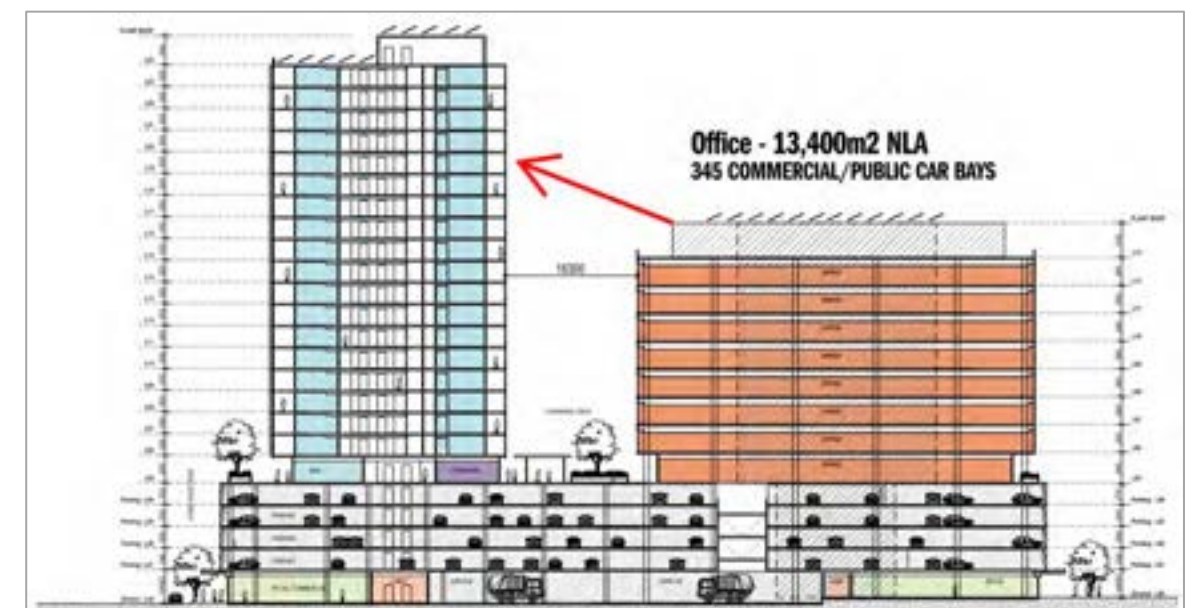
6.3.1 Central plant

The indicative services design strategy includes:

- Lot 120 (residential) roof – lobby relief fan, smoke fans, bin exhaust fan.
- Lot 121 (commercial) roof – cooling towers, chillers, heat pumps, AHUs, exhaust fans, smoke fans, diesel generator.

Careful siting and selection of central plant equipment on the Lot 121 roof will be required, particularly with regard to the apartment balconies. Some balconies will overlook central plant such as on the rooftop of the commercial building (see Figure 4).

Figure 4: Section drawing showing residential tower overlooking commercial rooftop



Significant rooftop plant such as cooling towers, heat pumps or chillers should be enclosed where possible and located as far from residential receivers as possible. It is expected that some engineering noise control solutions will be required as part of the design (duct attenuation, screening, acoustic louvres).

A high-level review of the mechanical services design strategy has been carried out, which indicates that the assigned noise levels can be achieved at the nearest receivers with the provision of some noise controls. Indicative noise control requirements for central rooftop plant are outlined in Table 12. Specific requirements will be determined once equipment types and locations are finalised.

Table 12: Central rooftop plant equipment and indicative acoustic treatment allowances

Plant description	Indicative treatment options
Heat pumps	Located towards northeast, away from Lot 121 apartments. Vibration isolation and 100 mm high concrete plinth.
Chillers	Located within dedicated enclosed plantroom with louvres as required for ventilation. Acoustic louvres may be necessary for openings near to the residential apartments (subject to further review). Minimum 200mm thick concrete slab Vibration isolation and 100 mm high concrete plinth Upgrades to ceiling directly below may be required.
Cooling towers	Located towards northeast, away from Lot 121 apartments. Vibration isolation and 100 mm high concrete plinth
AHUs	Located within dedicated enclosed plantroom with louvres as required for ventilation. Acoustic louvres may be necessary for openings near to the residential apartments (subject to further review). Lined duct and supply/return attenuators as required to meeting noise criteria. Noise control of fresh air intake and exhaust, which may constitute either an attenuator, acoustic ductwork or acoustic louvres. Vibration isolation and 100 mm high concrete plinth.
Supply and exhaust fans	Attenuators for discharge and intake sides, as required to meeting internal and environmental noise criteria.
Diesel generator	See Section 6.3.5 below.

6.3.2 Ducted AHU systems

Down duct treatment requirements for internal spaces have not been reviewed at this stage. It is likely that some or all duct runs will require internally lined ductwork and attenuators.

A high-level review of the services design will be conducted as the design progress. A comprehensive detailed acoustic assessment of each system should be included as part of the mechanical contractors' obligations, particularly since internal noise level credits are included in the ESD rating strategy.

6.3.3 FCUs, VAV/VV boxes, TEFs/EFs

Notwithstanding any treatment shown on the mechanical services specification, schedules and drawings, FCUs will generally require the following acoustic treatment as a minimum (where included in the base building design):

- FCUs and VAVs must not be located in the ceiling void above noise-sensitive areas with design criteria of less than 40 dBA.
- Minimum 2 m length of acoustic flexible duct between all grilles/diffusers and FCUs, VAVs, TEFs and EF's run out ducts.
- Ceiling mounted supply air and return air terminal devices, diffusers and grilles to be located at least 2 m away from the perimeter of FCUs, VAVs/VVs, exhaust fans and return air duct inlets. Do not mount directly over recessed lights.

6.3.4 Stair pressurisation fans

Noise from emergency exhaust systems such as stair pressurisation fans (SPFs) must be designed to achieve AS 1668.1 requirements, as outlined in Section 3.4.

Should any of these systems be required to operate at other times (e.g. for relief air), the systems will also need to achieve the design criteria that apply for normal building operations, as per Section 4.2.1.

Noise breakout from emergency exhaust systems to neighbouring receivers are typically designed to achieve the daytime assigned levels, so that periodic testing of the systems can be carried out in compliance with the Noise Regulations. This does require that system testing is only conducted during daytime hours.

Attenuators should be allowed for both the intake and discharge of the SPFs. These requirements can be reviewed at later design stages.

6.3.5 Generators

A backup generator is proposed for the Lot 121 office rooftop. The generator is a package diesel unit, which would only operate in an emergency or during periodic testing.

Noise breakout from emergency generator systems to neighbouring receivers are typically designed to achieve the daytime assigned levels, so that periodic testing of the systems can be carried out in compliance with the Noise Regulations. This does require that system testing is only conducted during daytime hours. At this stage we recommend that a containerised packaged generator set is nominated with noise specification of L_{Aeq} 70 dB at 1 m, including exhaust.

6.3.6 Equipment vibration isolation

Effective vibration isolation is key to controlling structure borne noise from chillers and other plant. The Builder/Contractor(s) must provide equipment vibration isolation mounts, hangers and associated treatment such as flexible connections in ducts and pipes, etc, selected to achieve compliance with the 2015 ASHRAE requirements.

The vibration isolation should be sourced from a reputable supplier who can assist with proper product selection, taking into account the specifics of the equipment and structure (e.g. Mason Industries or Embelton).

6.3.7 Residential FCUs

Split system AC units are proposed for residential apartments. The outdoor condenser units will be located on the balcony of each apartment it serves. This strategy helps distribute noise around the site; noise from these units to neighbouring premises is expected to meet the assigned levels.

There will, however, be limited noise control options to adjacent apartments and this can sometimes be an issue. Outdoor condenser units should be located in shielded positions and block line of sight relative to neighbouring receivers.

Indoor FCUs should be selected to achieve the internal noise level criteria in Section 4.2.1 as far as practicable. This is a quality objective only, noting the following text from Green Star:

In Class 2 and Class 3 dwellings the internal ambient noise levels can exclude those services under the direct control of the occupant such as split system air-conditioning units and switchable exhaust fans (e.g., toilet, kitchen hoods and laundries).

6.3.8 Natural ventilation

While the Green Star criteria for naturally ventilated buildings apply with windows and doors closed, SPP 5.4 requires:

- *Acoustically rated openings and ductwork to provide a minimum sound reduction performance of R_w 40 dB into sensitive spaces*
- *Evaporative systems require attenuated ceiling air vents to allow closed windows*
- *Refrigerant-based systems need to be designed to achieve National Construction Code fresh air ventilation requirements*
- *Openings such as eaves, vents and air inlets must be acoustically treated, closed or relocated to building sides facing away from the corridor where practicable*

Attenuated air paths such as trickle vents or acoustically lined ductwork may need to be considered for some apartments to satisfy SPP 5.4.

6.4 Environmental Noise

6.4.1 External mechanical services noise

Refer to Section 6.3.

6.4.2 Carpark noise

The above-ground carpark is located on levels 1 to 4 of the development and feature open facades for fresh air. They do not include any mechanical ventilation.

Typical noise sources from car parks include:

- Noise from cars within the carpark including speed bumps and potential wheel squeal
- Doors being opened and closed when cars are parked or prior to departure
- Voices
- Roller doors or boom gates operating

Noise from the carpark will need to comply with the assigned noise levels at the nearest noise sensitive receivers. To control potential noise and vibration from the carpark, the following is recommended:

- The carpark ramp incline should be as low a gradient as possible and should incorporate angled transitions at top and bottom to reduce the impact of vehicles entering and exiting the ramp.
- There should be no speed humps in the carpark.
- There should be no significant surface profiling on the carpark ramp that might increase tyre noise generation.
- Drainage grates must be securely restrained to avoid any “crashing” or “banging” of grates as cars drive over them.
- Expansion joints should not be located in trafficked areas in the carpark.
- The use of a protective floor surface that reduces tyre squeal associated with vehicle movement should be considered, such as those available from Flowcrete or similar.
- Carpark access doors have potential to transmit structure borne noise and vibration into the buildings. The use of hinged panel doors with a soft close mechanism to minimise door impact noise is recommended.
- The motor, hinges and frame of any carpark access doors must be suitably vibration isolated to avoid the transfer of vibration into the building structure.

6.4.3 Loading dock / deliveries

A shared loading dock for deliveries and waste removal is proposed for ground level. The loading dock is enclosed with entry from the north via Wonnul Place. The nearest receiver to the loading dock entry will be the commercial receivers within the nearby Lot 118 development across Wonnul Place.

Based on the sizes of the commercial tenancies proposed for the development, high volumes and large deliveries to the site are not expected. Deliveries are primarily expected to be via small vans and medium rigid vehicles.

Regardless, deliveries should be carried out during daytime hours where possible and in the quietest manner practicable. Should any commercial tenancies require larger truck deliveries to provide regular deliveries during sensitive time periods (e.g., prior to 0700 hours weekdays), the tenants should prepare noise management plans to address deliveries.

Noise and vibration from the loading dock to the buildings within the development will need to be considered in the developing design.

6.4.4 Waste removal

Under Regulation 14A of the Noise Regulations, noise emissions from specified works such as waste collection do not have to meet the assigned levels provided that the works are carried out:

- During daytime hours;
- In the quietest reasonable and practicable manner; and
- Using the quietest equipment reasonably available

A noise management plan should be prepared if any waste collections are proposed for non daytime hours.

6.5 Room acoustics

Control of reverberation is a key acoustic design aspect and helps to create comfortable environments in which to work. Careful selection of room finishes will be required to meet the acoustic and architectural aspirations. The Green Star requirements may limit the range of materials and system that can be used so this will need to be considered when selecting acoustic finishes.

7.0 CONCLUSIONS

Base-building acoustic design criteria have been developed for the proposed Lots 120 & 121, within the Murdoch Health and Knowledge Precinct, taking into consideration the requirements of local noise policies, and relevant Australian Standards and guidelines.

Environmental noise emission must comply with the requirements of the Environmental Protection (Noise) Regulations 1997. Noise control measures will need to be developed as the design progresses in order to achieve the assigned noise levels.

Conceptual stage recommendations have been provided in this report to assist with the initial planning. The conceptual recommendations will be further developed during subsequent design stages such that the necessary acoustic controls can be included within the project documentation.

APPENDIX A GLOSSARY OF TERMINOLOGY

A-weighting	The process by which noise levels are corrected to account for the non-linear frequency response of the human ear.
dB	<u>Decibel</u> The unit of sound level. Expressed as a logarithmic ratio of sound pressure P relative to a reference pressure of $P_r=20 \mu\text{Pa}$ i.e. $\text{dB} = 20 \times \log(P/P_r)$
Frequency	The number of pressure fluctuation cycles per second of a sound wave. Measured in units of Hertz (Hz).
Hertz (Hz)	Hertz is the unit of frequency. One hertz is one cycle per second. One thousand hertz is a kilohertz (kHz).
L_{A1}	The noise level exceeded for 1% of the assessment period, measured in dBA.
L_{A10}	The noise level exceeded for 10% of the assessment period, measured in dBA.
L_{Amax}	The A-weighted maximum noise level, measured in dBA.
Octave band	A range of frequencies where the highest frequency included is twice the lowest frequency. Octave bands are referred to by their logarithmic centre frequencies, these being 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, and 16 kHz for the audible range of sound.
SPL or L_p	<u>Sound Pressure Level</u> A logarithmic ratio of a sound pressure measured at distance, relative to the threshold of hearing (20 μPa RMS) and expressed in decibels.
SWL or L_w	<u>Sound Power Level</u> A logarithmic ratio of the acoustic power output of a source relative to 10^{-12} watts and expressed in decibels. Sound power level is calculated from measured sound pressure levels and represents the level of total sound power radiated by a sound source.

APPENDIX B ASSIGNED NOISE LEVEL CRITERIA

External noise emission from building services plant and other noise sources such as music is governed by the *Western Australia Environmental Protection (Noise) Regulations 1997 (the Regulations)*. The Noise Regulations are a “prescribed standard” under the Environmental Protection Act 1986.

Under the Noise Regulations, noise emissions from one premises when assessed at another must comply with a set of noise limits. The noise limits applicable at a receiver are calculated by adding to a base noise limit an influencing factor, which takes into account the land use and number of significant roads in the surrounding area. These noise limits are known as ‘assigned noise levels’ and apply at the receiving premises, of which there are three kinds: noise sensitive premises (e.g. residences, hotels, schools, aged care, etc.), commercial premises (e.g. offices, retail shops, etc.) and industrial premises. The assigned noise levels depend on the type of receiving premises, the time of day and day of the week.

The noise emissions are assessed over an assessment period which is between fifteen minutes and four hours. The assessment period must be appropriate for the assessment of the emission and depends on the type and character of the noise source(s).

The assigned noise levels are defined in terms of statistical A-weighted and Slow-weighted sound pressure levels and are:

- L_{A10}, this is the noise level not to be exceeded for more than 10% of the assessment period.
- L_{A1}, this is the noise level not to be exceeded for more than 1% of the assessment period.
- L_{Amax}, this is the noise level not to be exceeded at any time.

The determination of the Influencing Factor (IF) which affects the assigned levels applicable at the nearest residential receivers is based on the following:

- The area of commercial and industrial zoned land surrounding the receiver
- The number of major and secondary roads in proximity to the receiver

The procedure defined in the Noise Regulations considers the land use and road types with two circles centred on the receiver location, one of 450m radius, and one of 100m radius.

The land use has been determined from:

- City of Melville Planning Map (Local Planning Scheme No. 6), dated 11 May 2022
- Murdoch Mixed Use Precinct: Activity Centre Structure Plan (rev. 11/023-4), dated 25 August 2016

An extract of the planning map is presented in Figure 5. The circles are centred around the nearest noise-sensitive receiver, which will be the Lot 120 residential apartments, proposed as part of this development.

Figure 5: Planning map used for assigned level calculations



Transport factors of 6 dB and 2 dB apply if there are any Major Roads (a road carrying in excess of 15,000 vpd) within the 100 m and 450 m circles respectively. For each Secondary Road (a road carrying in between 6,000 - 15,000 vpd) within the 100 m circle, a 2 dB transport factor applies. The total transport factor that is included in the Influencing Factor is limited to 6 dB.

Traffic data for the nearby roads obtained from Main Roads is presented in Table 13.

Table 13: Traffic data and classifications for nearby roads (source: Main Roads)

Road	Average weekday traffic volume (VPD)	Classification
South Street	45,306	Major Road
Kwinana Freeway	127,615	Major Road

A summary of the input parameters used to determine the Influencing Factor is presented in Table 14.

Table 14: Influencing Factor calculation parameters

	100 m circle	450 m circle
Industrial %	0%	0%
Commercial %	53%	45%
Major road	no	yes
Secondary roads	no	n/a

Based on the parameters above, the Influencing Factor is calculated to be 7 dB.

The assigned noise levels are presented in Table 15.

Table 15: Summary of assigned noise levels

Type of premises receiving noise	Time of day	Assigned level (dB)		
		LA10	LA1	LAmix
Noise sensitive premises: highly sensitive area	0700-1900 Monday to Saturday	52	62	72
	0900-1900 Sunday and public holidays	47	57	72
	1900-2200 all days	47	57	62
	2200-0700 Monday to Saturday or 2200-0900 Sunday and public holidays	42	52	62
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial premises	All hours	60	75	80

In addition, the noise emissions must be free of annoying characteristics such as: impulsiveness, modulation and tonality. The elimination of annoying characteristics should be a priority in the design process. In cases when annoying characteristics cannot be eliminated, adjustments to measured or calculated levels are applied. These adjustments are presented in Table 16 below.

Table 16: Adjustments for annoying characteristics

Adjustment where noise emission is not music. These adjustments are cumulative to a maximum of 15dB.			Adjustment where noise emission is music	
Where tonality is present	Where modulation is present	Where impulsiveness is present	Where impulsiveness is not present	Where impulsiveness is present
+5dB	+5dB	+10dB	+10dB	+15dB



PEDESTRIAN WIND ENVIRONMENT STATEMENT

LOTS 120 & 121, SOUTH STREET & FIONA WOOD ROAD, MURDOCH

WI207-03F01- WS REPORT
JANUARY 25, 2024

Prepared for:
MHKP 121 ASSET PTY LTD ATF MHKP 121 ASSET TRUST
Level 3, 338 Barker Road, PO Box 782, Subiaco, WA, 6904



WINDTECH CONSULTANTS
www.windtechconsult.com
reception@windtechglobal.com

Sydney | Singapore | London | Melbourne | Mumbai | New York | Hong Kong | Dubai | Miami | Toronto

DOCUMENT CONTROL

Date	Revision History	Issued Revision	Prepared By (initials)	Instructed By (initials)	Reviewed & Authorised by (initials)
25 January, 2024	Initial.	0	LG	SL	TR

The work presented in this document was carried out in accordance with the Windtech Consultants Quality Assurance System, which is based on International Standard ISO 9001.
This document is issued subject to review and authorisation by the Team Leader noted by the initials printed in the last column above. If no initials appear, this document shall be considered as preliminary or draft only and no reliance shall be placed upon it other than for information to be verified later.
This document is prepared for our Client's particular requirements which are based on a specific brief with limitations as agreed to with the Client. It is not intended for and should not be relied upon by a third party and no responsibility is undertaken to any third party without prior consent provided by Windtech Consultants. The information herein should not be reproduced, presented or reviewed except in full. Prior to passing on to a third party, the Client is to fully inform the third party of the specific brief and limitations associated with the commission.

EXECUTIVE SUMMARY

This report presents an opinion on the likely impact of Lots 120 & 121, South Street & Fiona Wood Road, Murdoch development located in Perth, on the local wind environment at the critical outdoor areas within and around the subject site. The effect of wind activity has been examined for the predominant wind directions for the region, namely the Easterly and South-Westerly winds. The analysis of the wind effects relating to the proposed development has been carried out in the context of the local wind climate, building morphology and land topography.

The conclusions of this report are drawn from our extensive experience in this field and are based on an examination of the latest architectural drawings. No wind tunnel testing has been undertaken for the subject development, and hence this report addresses only the general wind effects and any localised effects that are identifiable by visual inspection of the architectural drawings provided (received 22 December 2023 and 15 January 2024). Any recommendations in this report are made only in principle and are based on our extensive experience in the study of wind environmental effects.

The results of this assessment indicate that the development has incorporated several design features and wind mitigating strategies and is expected to be suitable for the intended use for the majority of the outdoor trafficable areas. However, there are some areas that are likely to be exposed to stronger winds. It is expected that the wind effects identified in the report can be ameliorated with the consideration of the following treatment strategies into the design of the development:

- **Ground level trafficable areas:**
 - o Retention of the proposed landscaping, ensuring a minimum height of 1.5m
 - o Retention of 2-3m high densely foliating evergreen trees
 - o Retention of the proposed canopy over the entirety of the perimeter of the development
- **Level 5 Podium Communal areas:**
 - o Retention of the proposed hedges/shrubs, ensuring a minimum height of 1.5m
 - o Inclusion of the proposed impermeable intertenancy partitions, extended to full height
- **Private Balconies on Tower Levels 6-23:**
 - o Inclusion of 1.5m high impermeable balustrades on the southwest and northwest corner apartments
 - o Inclusion of 1.2m high impermeable balustrades for all other apartments

With the inclusion of the abovementioned recommendations in the final design, it is expected that wind conditions for the various trafficable outdoor areas within and around the development will be suitable for their intended uses, and that the wind speeds will satisfy the applicable criteria for pedestrian comfort and safety. Nonetheless, wind tunnel testing is recommended to be undertaken to quantitatively assess the wind conditions and to optimise the size and extent of the treatments required.

CONTENTS

1	Introduction	1
2	Description of Development and Surroundings	2
3	Regional Wind	4
4	Wind Effects on People	4
5	Results and Discussion	6
	5.1 Ground Level Areas	6
	5.2 Communal Open Space	7
	5.3 Private Balconies	7
6	References	11
	Appendix A Wind Effects Glossary	

1 INTRODUCTION

An opinion on the likely impact of the proposed design on the local wind environment affecting pedestrians within the critical outdoor areas within and around the subject development is presented in this report. The analysis of wind effects relating to the proposed development has been carried out in the context of the predominant wind directions for the region, building morphology of the development and nearby buildings, and local land topography. The conclusions of this report are drawn from our extensive experience in the field of wind engineering and studies of wind environment effects.

No wind tunnel testing has been undertaken for this assessment. Hence this report addresses only the general wind effects and any localised effects that are identifiable by visual inspection of the architectural drawings provided (received 22 December 2023 and 15 January 2024 as shown in Table 1), and any recommendations in this report are made only in-principle.

Table 1: List of Architectural Drawings Referenced

Drawing Number	Drawing Title	Revision
SK001	GROUND FLOOR	Rev 0
SK002	LEVEL 01 PARKING	Rev 0
SK003	LEVEL 02 PARKING	Rev 0
SK004	LEVEL 03 PARKING	Rev 0
SK005	LEVEL 04 PARKING	Rev 0
SK006	L05 PODIUM AMENITY	Rev 0
SK007	TYPICAL RESIDENTIAL PLATE + OFFICE	Rev 0
SK008	TYPICAL RESIDENTIAL PLATE_L6-11	Rev 0
SK009	TYPICAL RESIDENTIAL PLATE_L12-23	Rev 0
SK010	RESIDENTIAL - PLANT LEVEL	Rev 0
SK012	RESIDENTIAL – TYPICAL ADAPTIVE REUSE	Rev 0
SK014	SECTION	Rev 0
SK201_5	ELEVATION - BARRY MARSHALL PARADE	Rev 0
SK202_6	ELEVATION - FIONA WOOD ROAD	Rev 0
SK203_7	ELEVATION - WONNUL PLACE	Rev 0
SK204_8	ELEVATION - NORTH EAST P.O.S_	Rev 0

2 DESCRIPTION OF DEVELOPMENT AND SURROUNDINGS

The site is located at Lots 120 & 121, South Street & Fiona Wood Road, Murdoch development located in Perth. It is bounded by Fiona Wood Road to the west, an open plan ground level car park to the east, low rise residential developments and South Street to the north, along with Barry Marshall Parade adjacent to the eastern and southern aspects. The buildings surrounding the subject development are predominately low-rise residential excluding a large-scale hospital to the south west and the Murdoch Square high-rise building to the south.

A survey of the land topography indicates that there are no major elevation changes in the area immediately surrounding the site.

An aerial image of the subject site and the local surroundings is shown in Figure 1, with the frequency and magnitude of the prevailing winds is superimposed for each wind direction.

The existing site consists of an open lot. The proposed development is 24 storeys high.

The critical outdoor trafficable areas associated with the proposed development, which are the focus of this assessment with regards to wind effects, are listed as follows:

- Ground Level areas and pedestrian footpath.
- Communal Open Space on the Level 5 podium.
- Private balconies and terraces.



Figure 1: Aerial Image of the Site Location and Prevailing Wind Directions

3 REGIONAL WIND

The Perth region is governed by two principal wind directions that can potentially affect the subject development. These winds prevail from the east and south-west. These wind directions were determined from an analysis undertaken by Windtech Consultants of recorded directional wind speeds obtained from the meteorological station located at the Perth Airport by the Bureau of Meteorology (recorded from 1985 to 2016). The data has been corrected to represent winds over standard open terrain at a height of 10m above ground level. The results of this analysis are presented in Figure 2 in the form of a directional plot of the annual and 5% exceedance mean winds for the region. The frequency of occurrence of these winds is also shown in Figure 2.

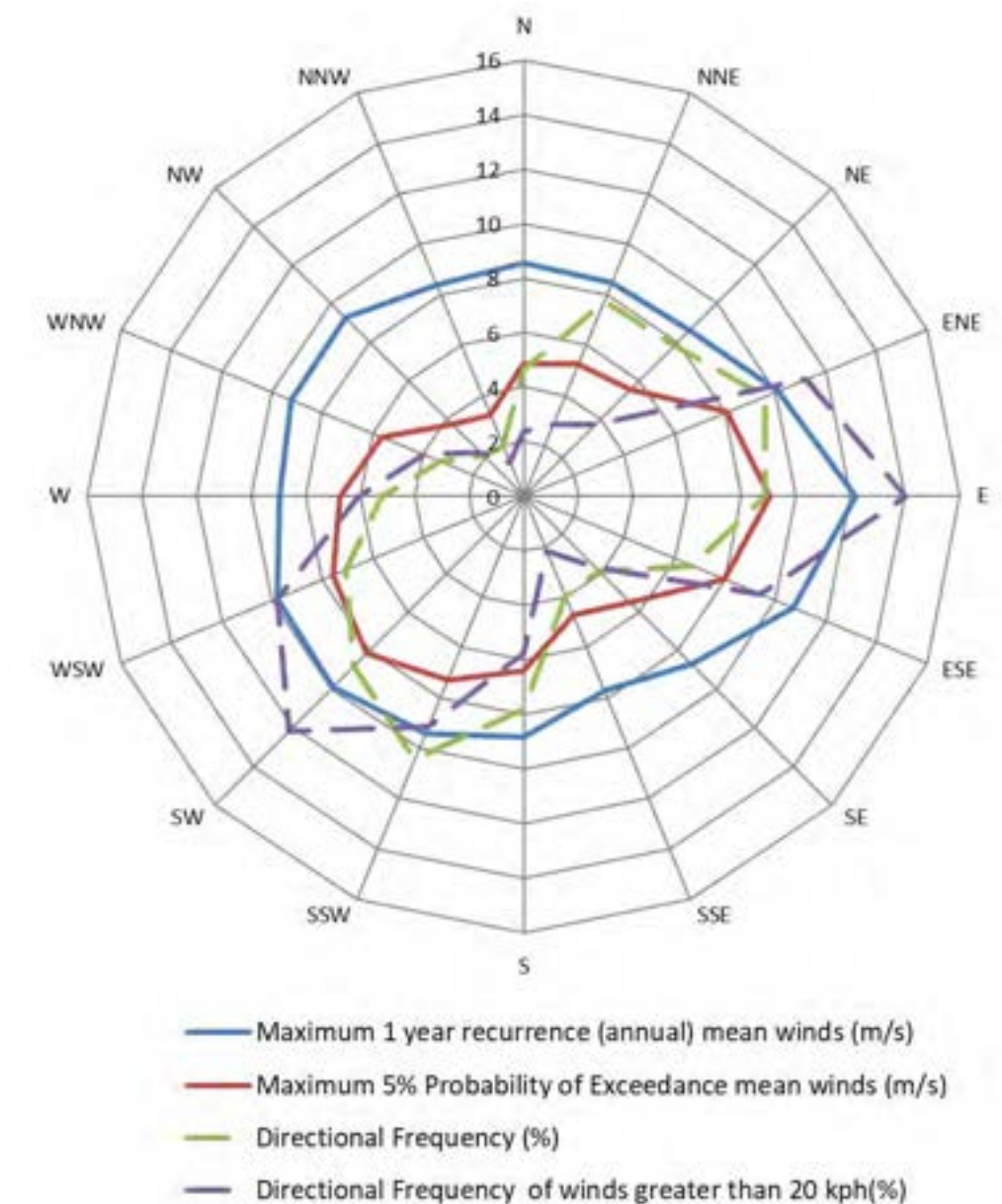


Figure 2: Directional Annual and 5% Exceedance Hourly Mean Wind Speeds (referenced to 10m height in standard open terrain), and Frequencies of Occurrence, for the Perth Region

WIND EFFECTS ON PEOPLE

The acceptability of wind in any area is dependent upon its use. For example, people walking, or window-shopping will tolerate higher wind speeds than those seated at an outdoor restaurant. Various other researchers, such as A.G. Davenport, T.V. Lawson, W.H. Melbourne, and A.D. Penwarden, have published criteria for pedestrian comfort for pedestrians in outdoor spaces for various types of activities. Some Councils and Local Government Authorities have adopted elements of some of these into their planning control requirements.

For example, A.D. Penwarden (1973) developed a modified version of the Beaufort scale which describes the effects of various wind intensities on people. Table 2 presents the modified Beaufort scale. Note that the effects listed in this table refers to wind conditions occurring frequently over the averaging time (a probability of occurrence exceeding 5%). Higher ranges of wind speeds can be tolerated for rarer events.

Table 2: Summary of Wind Effects on People (A.D. Penwarden, 1973)

Type of Winds	Beaufort Number	Mean Wind Speed (m/s)	Effects
Calm	0	Less than 0.3	Negligible.
Calm, light air	1	0.3 – 1.6	No noticeable wind.
Light breeze	2	1.6 – 3.4	Wind felt on face.
Gentle breeze	3	3.4 – 5.5	Hair is disturbed, clothing flaps, newspapers difficult to read.
Moderate breeze	4	5.5 – 8.0	Raises dust, dry soil and loose paper, hair disarranged.
Fresh breeze	5	8.0 – 10.8	Force of wind felt on body, danger of stumbling
Strong breeze	6	10.8 – 13.9	Umbrellas used with difficulty, hair blown straight, difficult to walk steadily, wind noise on ears unpleasant.
Near gale	7	13.9 – 17.2	Inconvenience felt when walking.
Gale	8	17.2 – 20.8	Generally impedes progress, difficulty balancing in gusts.
Strong gale	9	Greater than 20.8	People blown over.

It should be noted that wind speeds affecting this particular development can only be accurately quantified with a wind tunnel study. This assessment addresses only the general wind effects and any localised effects that are identifiable by visual inspection and the acceptability of the conditions for outdoor areas are determined based on their intended use. Any recommendations in this report are made only in-principle and are based on our extensive experience in the study of wind environment effects.

RESULTS AND DISCUSSION

The expected wind conditions affecting the development are discussed in the following sub-sections of this report for the various outdoor areas within and around the subject development. The interaction between the wind and the building morphology in the area is considered and important features taken into account including the distances between the surrounding buildings and the proposed building form, as well as the surrounding landform. Note that only the potentially critical wind effects are discussed in this report. A glossary of the different wind effects described in this report included in Appendix A.

For this assessment, the wind speed criteria for pedestrian comfort that are considered are listed as follows:

- Walking Criterion (8m/s with a 5% probability of exceedance)
for general circulation and pedestrian thoroughfares, e.g. footpaths, private balconies/terraces, through-site links etc.
- Standing (Short Exposure) Criterion (6m/s with a 5% probability of exceedance)
for stationary activities generally less than 15 minutes, e.g. waiting areas, communal terraces, main entries, café seating etc.
- Sitting (Long Exposure) (4m/s with a 5% probability of exceedance)
for stationary activities longer than an hour, e.g. outdoor cinemas, outdoor fine dining etc.

Note that the above wind comfort levels are derived from the Lawson (1975) criteria. Although this assessment is qualitative in nature, the abovementioned criteria for pedestrian comfort are considered when assessing the wind environment impacts. However, all areas are also assessed with consideration to a pedestrian safety criterion of 23m/s for the annual maximum gust.

5.1 Ground Level Areas

The pedestrian footpath along Fiona Wood Road is primarily exposed to the south-westerly prevailing winds accelerating at the SE corner of the development, as well as potential downwash of easterly winds. The development is particularly exposed to the east, with the adjacent carpark, freeway and low-rise residential developments providing little shielding for wind from these directions. To the north there is South St and more low-rise residential developments which will not be expected to provide significant shielding, however the wind climate at the site does not have strong winds from this direction. West and southwest of the proposed development is St John Hospice and Hospital which is expected to slightly aid in shielding the site from adverse wind impacts from these directions at the ground level. To the south there is the newly developed Murdoch Square development, which is a high-rise and may provide some shielding from southerly winds..

Due to the proposed canopy over the pedestrian walkways around the entirety of the development, namely Fiona Wood Road, Wonnul Place and Barry Marshall Parade, as well as the proposed densely foliating vegetation shown in the drawings, it is expected that the wind conditions will meet the walking comfort criterion along the adjacent pedestrian pathways and access ways. In addition, it would be recommended to retain the 2-3m high densely foliating evergreen trees along Wonnul Place. These treatments are shown in Figure 3 below.

5.2 Communal Open Space

The communal terrace is located on the Level 05 podium on all sides of the tower, both residential and office. The terrace is predominantly exposed to winds approaching from the east directly impacting the terrace and channelling between the towers, as well as down-washing from the tower above. Additionally, the south-westerly winds are expected to side-stream along the new Murdoch Square development across Barry Marshall Parade and funnel between the towers, impacting the southern side of the communal terrace area.

We recommend retaining the proposed extensive vegetation within the podium level to help dissipate the incident wind flow and make the space more comfortable for occupants. The inclusion of the proposed impermeable screen partitions, extended to full height along various aspects of the façade would help to stagnate airflow and redirect it away from the outdoor dining and open spaces. The abovementioned treatments are shown in Figure 4 below.

5.3 Private Balconies

Due to the relative height and exposure of the subject development above the surrounding buildings to the east and southwest, the southwest and northwest corner balconies may be exposed to adverse wind conditions. We recommend the inclusion of 1.5m impermeable balustrades to the corner balconies to provide additional shielding from the prevailing winds. All other balustrades can be of standard height.

With the inclusion of these wind treatments, the balconies of the proposed development are expected to be suitable for their intended use due to the overall recessed design, impermeable balustrades, and impermeable intertenancy screens. These features should be retained in the final design for all Levels 6-23, as highlighted in Figure 5 below.

With the inclusion of the abovementioned recommendations in the final design, it is expected that wind conditions for the various trafficable outdoor areas within and around the development will be suitable for their intended uses.



Figure 3: Recommended Treatment for the Ground Level



Figure 4: Recommended Treatment for the L05 Podium Communal Area



Figure 5: Recommended Treatment for the Private Balconies (L6 – L23)

Davenport, A.G., 1972, "An approach to human comfort criteria for environmental conditions". Colloquium on Building Climatology, Stockholm.

Lawson, T.V., 1973, "The wind environment of buildings: a logical approach to the establishment of criteria". Bristol University, Department of Aeronautical Engineering.

Lawson, T.V., 1975, "The determination of the wind environment of a building complex before construction". Bristol University, Department of Aeronautical Engineering.

Lawson, T.V., 1980, "Wind Effects on Buildings - Volume 1, Design Applications". Applied Science Publishers Ltd, Ripple Road, Barking, Essex, England.

Melbourne, W.H., 1978, "Criteria for Environmental Wind Conditions". *Journal of Wind Engineering and Industrial Aerodynamics*, vol. 3, pp241-249.

Penwarden, A.D. (1973). "Acceptable Wind Speeds in Towns", *Building Science*, vol. 8: pp259-267.

Penwarden, A.D., Wise A.F.E., 1975, "Wind Environment Around Buildings". Building Research Establishment Report, London.

APPENDIX A WIND EFFECTS GLOSSARY

A.1 Downwash and Upwash Effects

The downwash wind effect occurs when wind is deflected down the windward face of a building, causing accelerated winds at pedestrian level. This can lead to other adverse effects as corner acceleration as the wind attempts to flow around the building, as seen in Figure A.1.

This can also lead to recirculating flow in the presence of a shorter upstream building, causing local ground level winds to move back into the prevailing wind.

The upwash effect occurs near upper level edge of a building form as the wind flows over the top of the building. This has the potential to cause acceleration of winds near the leading edge, as well as potentially reattaching onto the roof area. This effect causes wind issues particularly near the leading edges of tall building and on the rooftop areas if there is sufficient depth along the wind direction. Upwash is more apparent in taller towers and podiums.

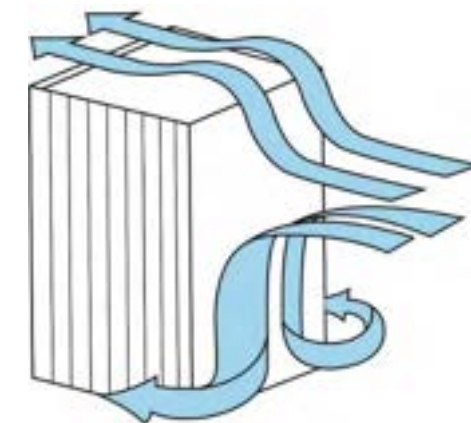


Figure A.1: Downwash Leading to Corner Wind Effect, and Upwash Effects

A.2 Funnelling/Venturi Effect

Funnelling occurs when the wind interacts with two or more buildings which are located adjacent to each other, which results in a bottleneck, as shown in Figure A.2. This causes the wind to be accelerated through the gap between the buildings, resulting in adverse wind conditions and pedestrian discomfort within the constricted space. Funnelling effects are common along pedestrian links and thoroughfares generally located between neighbouring buildings that have moderate gaps between them.

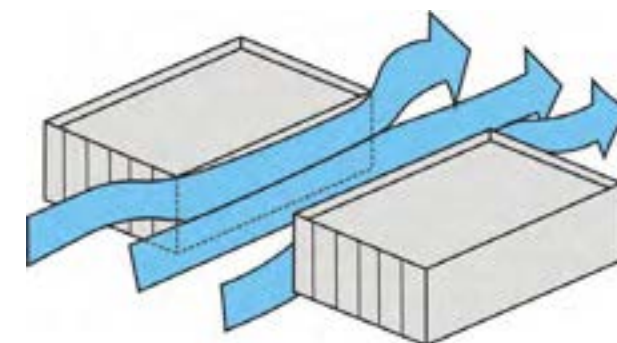


Figure A.2: Funnelling/Venturi Wind Effect

A.3 Gap Effect

The gap effect occurs in small openings in the façade that are open to wind on opposite faces, as seen in Figure A.3. This can involve a combination of funnelling and downwash effects. Presenting a small gap in the façade on the windward aspect as the easiest means through which the wind can flow through can result in wind acceleration through this gap. The pressure difference between the windward façade and the leeward façade also tends to exacerbate the wind flow through this gap.

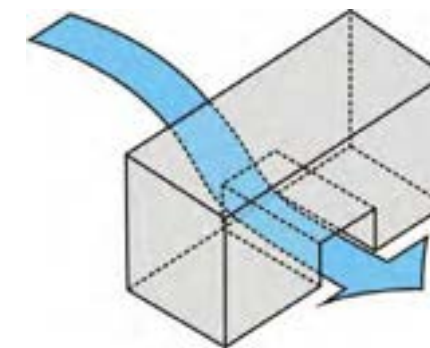


Figure A.3: Gap Wind Effect

A.4 Sidestream and Corner Effects

The sidestream effect is due to a gradual accumulation of wind shearing along the building façade that eventuates in an acceleration corner effect. The flow is parallel to the façade and can be exacerbated by downwash effects as well, or due to corner effect winds reattaching on the façade.

This is shown in Figure A.4. The corner refers to the acceleration of wind at the exterior vertical edge of a building, caused by the interaction of a large building massing with the incident wind, with the flow at the corner being accelerated due to high pressure differentials sets up between the windward façade and the orthogonal aspects. It can be further exacerbated by downwash effects that build up as the flow shears down the façade.

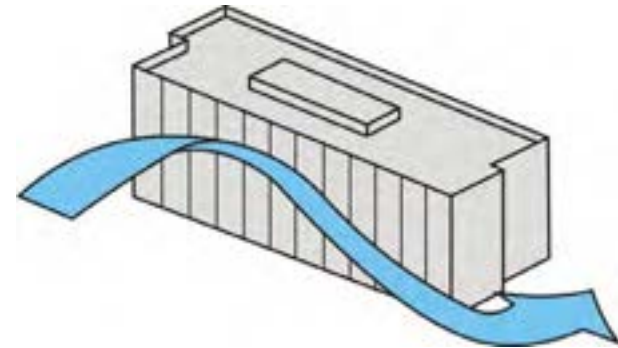


Figure A.4: Sidestream and Corner Wind Effect

A.5 Stagnation

Stagnation in a region refers to an area where the wind velocity is significantly reduced due to the effect of the flow being impeded by the bluff body. For a particular prevailing wind direction, this is typically located near the middle of the windward face of the building form or over a short distance in front of the windward face of a screen or fence. Concave building shapes tend to create an area of stagnation within the cavity, and wind speeds are generally low in these areas.

A close-up photograph of a flower head, likely a Banksia, showing numerous small, yellow, pointed stamens or styles emerging from a dense, reddish-brown, fibrous structure. The image is used as a background for the document.

Hesperia, Murdoch Social & Affordable Housing

Lots 120 + 121 - Preliminary Public Art Plan

encon. HESPERIA

Apparatus

**OUR STUDIOS ARE LOCATED IN BOORLOO AND WOODITJUP
ON WHADJUK AND WADANDI NOONGAR BOODJAR.**

**WE PAY RESPECTS TO ALL FIRST NATION PEOPLE,
THE TRADITIONAL OWNERS OF THIS KWOBIDAK BOODJAR (BEAUTIFUL COUNTRY).**

**WE CELEBRATE THE GIFT OF FIRST NATION CULTURE -
THE OLDEST LIVING KNOWLEDGE SYSTEM ON EARTH.**

ORTHOGRAPHY

The term Noongar is used throughout this document to refer to Aboriginal people of the South-West region of Western Australia. Noongar was originally an oral language. Written recordings offer different spelling types. Apparatus uses the orthography endorsed by the Noongar Language Centre - Noongar Boodjar Language Cultural Aboriginal Corporation (NBLCAC).

COPYRIGHT

Copyright © 2023 Apparatus: public art and cultural services Pty Ltd. No part of this document shall be reproduced in any form without written permission of Apparatus.

IMAGE CREDITS

Cover Photo: Banksia menziesii_Shazzashaw_iStock-184145483
Photos Throughout: Frances Andrijich unless otherwise indicated.

PREPARED FOR:



PREPARED BY:

Apparatus

Public Art +
Cultural Services

www.Apparatus.net.au

Boorloo | Whadjuk Noongar boodjar
Lvl 1, 452 William St, PERTH WA 6000

Wooditjup | Wadandi Noongar boodjar
11 Nixon Crescent, MARGARET RIVER WA 6285

Contact
Helen Curtis, Director
m. 0413 560 413
e. helen@Apparatus.net.au

Project:	Lots 120 & 121 Murdoch Social & Affordable Housing	Our Ref No.:	Q23-41 HES MHKP
Document Type:	Preliminary Public Art Plan	Services:	Art Consultancy
Prepared by:	Helen Curtis <mia@Apparatus.net.au>	Issued On	31.01.2024
Issued To:	Jamie Fini <jamie@hesperia.com.au>		
For:	Hesperia, Level 3/338 Barker Rd, Subiaco WA 6000		

Contents

01 Site Context	6
02 The Process	13
03 Approach	20
04 The Artwork Opportunities	25

Project Information

Property	Lot 121, 5 Fiona Wood Road, Murdoch WA + Lot 120, 55 Barry Marshal Pde, Murdoch WA
Precinct	Murdoch Health & Knowledge Precinct
Planning Authority	City of Melville
Client	Hesperia
Public Art	Apparatus
Cultural Advisors	Brendan Moore + Elder Karen Jacobs
Architect	Hassell
Landscape Architects	Hassell
Acoustic Consultant	Marshall Day
Car Park	Level 5 Design
Electrical, Dry Fire & VT	Best
ESD	Stantec
Fire Engineering	Strategic Fire
Hydraulic & Wet Fire Services	Ionic Design
Mechanical	Link Engineering
Structural and Civil Engineering	Pritchard Francis
Traffic Consultant	Uloth & Associates
Waste Consultant	Encycle Consulting



The site location: Lot 20 + Lot 21

Executive Summary

Overview

This Public Art Plan has been prepared by Apparatus on behalf of Hesperia. This plan presents a high-level proposed approach for the planning of public art for Murdoch Social & Affordable Housing Lots 120 + 121. This plan nominates the way in which the public art contribution will be met for the consideration of the Design Review Panel through the commissioning of public art on-site within the vicinity of the public realm.

Importantly the planning will take into consideration the advice provided by the Whadjuk Cultural Advisors Karen Jacobs and Brendan Moore.

This public art plan takes into consideration the advice provided by the Design Review Panel following an earlier submission in December 2023.

The Panel recommend that further development of the project should focus on improving the facade screening element. Extracts of this feedback includes:

- There is an opportunity to explore different rhythms and spacings of the fins, or alternative means, to create a more appealing and landmark corner element.
- The shape, spacing and artwork treatment to the fins should continue to be developed to provide increased density of screening from various and appropriate angles.
- The proposed fin artwork should be further explored.

Public Art Contribution

The City of Melville requires that all private developments with budgets exceeding \$1 million provide public art to the value of 1% of the development cost. This must comply with the Provision of Public Art in Private Developments (Policy No. LPP1), where “each application for the construction of a multiple dwelling, mixed use or no-residential development will be required to provide public art to the value of 1% of the cost of development”. The proposed public art must be submitted to, and be approved by the City prior to approval of a development application.

Estimated Construction Cost	\$93,000,000
Total Art Project Allocation	\$930,000

The planning of public art has taken into consideration the following documents:

- the feedback from the DRP;
- City of Melville Provision of Public Art in Development Proposals (LPP1);
- City of Melville Public Art Strategy and Masterplan;
- Murdoch Health and Knowledge Precinct Design Guidelines;
- Murdoch Mixed Used Precinct Public Art Strategy;

Stakeholders

External Stakeholders:

- DevelopmentWA
- City of Melville

Internal Stakeholders:

- Foundation Housing (Community Housing Provider)
- Hesperia (Development Manager)

Public Art Opportunities

This public art plan recommends and details three public art opportunities for the commissioning of public art on site within the vicinity of the public realm

- A** Opportunity A: Carpark Facade Treatment
- B** Opportunity B: Ground Plane Activation
- C** Opportunity C: Ground Floor Soffit

These opportunities are described in further detail on pages 25-28.

01

Site Context

Project Overview

Background

Lots 120 and 121, Murdoch, is a transit-oriented development focused on delivering quality social & affordable housing and meeting public car parking demand within the Murdoch Health & Knowledge Precinct (MHKP).

The project's residential component (Lot 121) will deliver high-quality apartments to tenants on the Department of Communities public housing wait list and eligible affordable housing tenants, particularly key workers in the health and education sectors. It will deliver 221 new Social, Affordable and Specialist Disability BTR dwellings operated and managed by Foundation Housing, with Hesperia acting as Development Manager. Lot 121 will be the first significant contributor to the Murdoch Activity Centre's residential target of 1,200 dwellings.

Lot 120 is a new public car park to deliver safe and accessible parking for precinct workers and visitors. Lot 120 will be designed and constructed such that it can accommodate a future commercial/ medical office tower above once a leasing pre-commitment is achieved.

Site Description and Location

Located within the existing Murdoch Health & Knowledge Precinct (MHKP), the subject site is 4,705m² and is bound by Barry Marshall Parade, Fiona Wood Road and Wonnul Place (Subject Site). Multiplex construction workers undertaking the Murdoch Square development currently utilise the site for car parking.

The Subject Site is legally referred to as:

- Lot 120 on Deposited Plan 412855, Volume 2954 and held in Folio 559; and
- Lot 121 on Deposited Plan 412855, Volume 2954 and held in Folio 560.



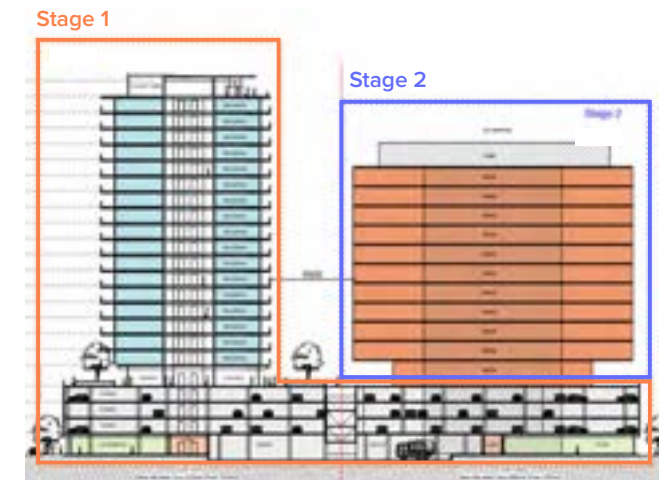
The site location: Lot 20 + Lot 21

Project Staging & Development Approval Strategy

The project will be undertaken in two stages as follows (as shown below):

- Stage 1: Construction of full podium car park across both Lots 120 and 121 (3-4 levels), plus the Lot 121 residential tower; and
- Stage 2: Construction of Lot 120 commercial office tower.

Hesperia will be seeking development approval for the overall massing for the project, including both Stages 1 and 2.



Stage 1 + 2 of the Development

Urban Context

The Murdoch Health and Knowledge Precinct

The proposed site is located within the existing Murdoch Health & Knowledge Precinct (MHKP).

Located 12km south of the Perth CBD, the 9 hectare MHKP masterplan consists of fourteen development sites, which surround a public open space integrated with a central conservation area. All sites are zoned as 'Mixed Use'.

The MHKP is bound by South Street to the north, Kwinana Freeway to the east, Bedbrook Row and Fiona Stanley Hospital to the south, and St John of God Hospital to the west.

DevelopmentWA as the State Government's land developer, has in motion the Murdoch Health and Knowledge Precinct development. A transit-based health and knowledge precinct that provides a range of complementary uses to the surrounding hospitals and education institutions, including; allied health, residential, office, retail and short-stay accommodation.

As technology advances and our population grows more reliant on our health system, the ways in which we live, work, learn and travel will need to grow and adapt.

By 2031, the completed MHKP will be the heart of the Murdoch Activity Centre (MAC), a 754ha area that will fuse together knowledge and health centres, including; Fiona Stanley and St John of God Hospitals, Murdoch University and South Metropolitan TAFE.

Information and diagram cited from [murdoch-health-knowledge-precinct-brochure-20200206.pdf](#) authored by Development WA



Urban Context

Murdoch Square

The proposed site is located adjacent to Murdoch Square is located within the existing Murdoch Health & Knowledge Precinct (MHKP).

Murdoch Square forms the first stage of the large Murdoch Activity Centre (MAC); a State Government 'strategic priority active area.' Located directly adjacent to two of WA's largest tertiary hospitals, and just 13 kilometres from the Perth CBD along the Kwinana Freeway.

Murdoch Square will see the creation of a diverse and fully integrated precinct comprising an aged care facility, medi-hotel, commercial office, specialist medical suites, mental health facility, short stay hospital, hotel, residential apartments and retail space.

Murdoch Square has been designed as a community asset to support tertiary institutions, hospitals and research institutes. When complete, it will be home to a significant onsite population consisting of residents, office workers, medical specialists, patients and visitors and provide a place for the neighbourhood to live, work and play.

Information cited from hesperia.com.au/places/murdoch-square/



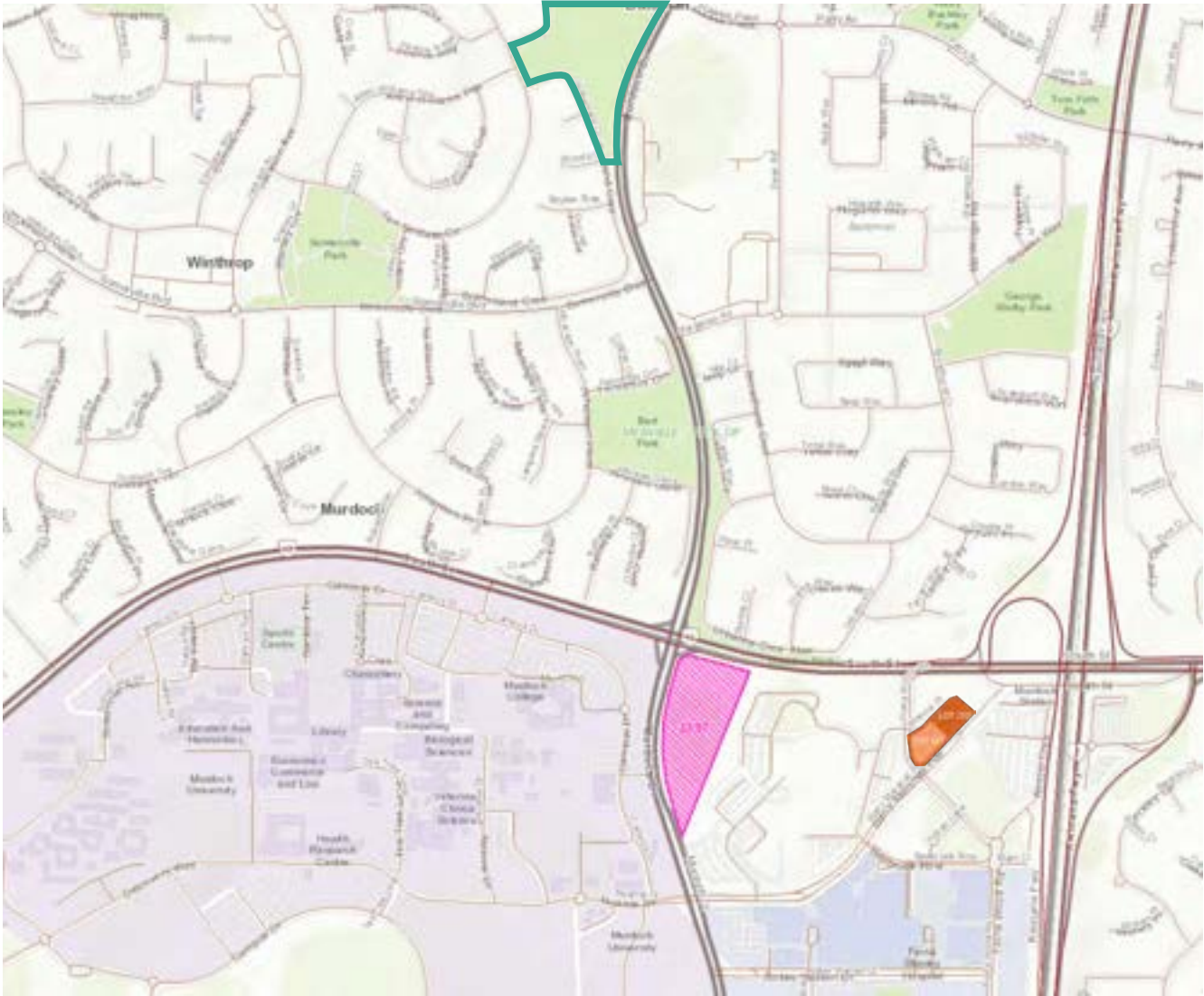
Murdoch Square September 2023

Sites of Aboriginal Cultural Significance

The City of Melville sits within the cultural region of Beeliar, bounded by Melville Waters (Doontanboro) and Derbal Yerrigan (Swan River) on the north, through to Katamordo (Darling Ranges) on the east, the Moomboyet (sea) to the west. A number of sites of cultural significance to the local Whadjuk Noongar people sit within this area. This includes Murdoch Drive Campsite and Piney Lakes, a sacred place for women.

These sites have been describe in more detail in the Lots 120 & 121 Murdoch Social & Affordable Housing - Cultural Context Report.

-  Aboriginal Cultural Heritage (ACH)
Register Place 3397 MURDOCH DRIVE
CAMP.
-  Proposed Development Site
-  Piney Lakes



Map extracted from the Aboriginal Cultural Heritage Inquiry System (ACHIS)

The Building

Lot 121 BTR Residential

The project brief includes:

- 4 levels of resident car parking;
- 216 social, affordable and specialist disability dwellings;
- Ground floor retail and loading dock;
- Associated communal areas;
- Associated administration facilities for community housing provider and specialist disability accommodation manager;
- Store rooms and bicycle parking;
- Electric vehicle charging;
- Podium landscape works;
- Lobby; and
- Vertical transportation.

Lot 120 Public Car Park + Commercial Office

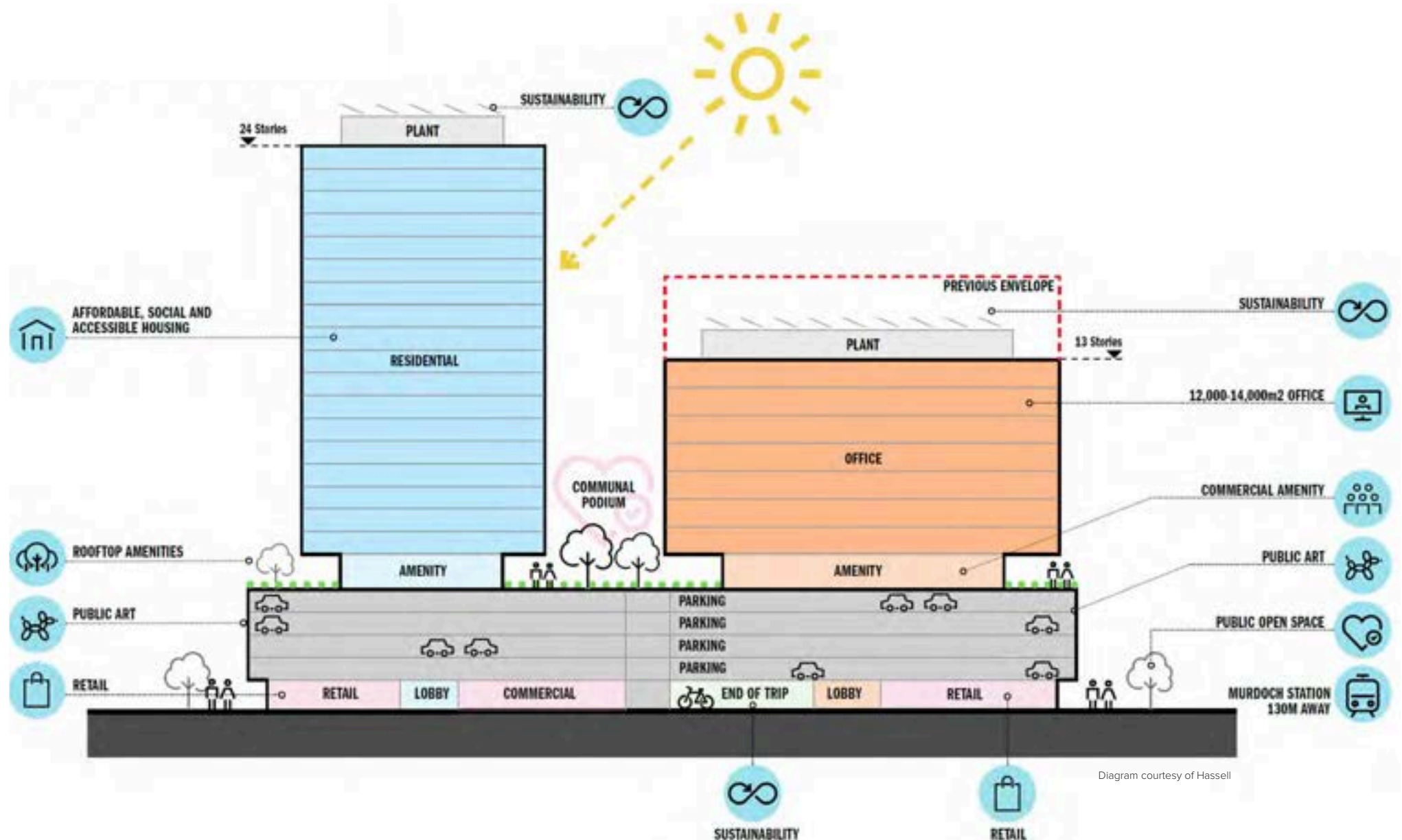
The project brief includes:

- 4 levels of public car parking;
- Provision for future construction of a commercial office tower (14,000 m2 NLA) above the public car park (with the public car park to be fully operational during construction of the commercial tower);
- Associated administration facilities for the car park;
- Ground floor retail tenancies;
- Ground floor end-of-trip-facilities;
- Electric vehicle charging;
- Landscape works;
- Public Lobby; and
- Vertical transportation.



Diagram courtesy of Hassell

The Building



02 The Process

The Project Vision

A Regenerative and Vibrant Urban Community



Place

Our philosophy centers around the idea that the design of social and affordable housing must extend beyond the basic provision of shelter. It should strive to cultivate a deep-seated sense of place, creating a nurturing environment where residents not only discover refuge but also a supportive community that envelops them.

With careful consideration, of green spaces, public art, and cultural amenities the outcome will be a living environment where residents take pride in their surroundings, fostering a sense of place that transcends bricks and mortar and elevates the human spirit, fostering vibrant, resilient communities.



Considered Design

In the world of design, innovation and cost-effectiveness need not be at odds; instead, they can harmoniously coexist to produce truly exceptional results. Considered design, when approached with creativity and ingenuity, can serve as a powerful catalyst for groundbreaking innovations that not only elevate the final product but also save valuable resources.

By challenging traditional norms and embracing cutting-edge technologies, we can unlock novel solutions that are not only more sustainable but also remarkably efficient.



Gardens

Landscape design and community gardens play a pivotal role in enhancing the well-being of residential communities. Beyond their aesthetic appeal, these green spaces offer a myriad of physical, mental, and social benefits to the inhabitants. Access to nature and community gardens provides a sanctuary for relaxation and stress relief, offering residents an opportunity to escape the hustle and bustle of urban life.

The act of tending to a garden or enjoying the serenity of a well-landscaped area can be therapeutic, promoting mental clarity and emotional well-being.



Community

Creating communities is at the heart of what we do. By weaving a strong communal fabric and placing an unwavering focus on social cohesion, our endeavour is to establish vibrant, enduring communities that defy conventional norms and champion principles of equity, connection, and belonging.

In our pursuit of these ideals, we envision buildings and spaces that serve as catalysts for organic interactions among residents. The physical layout and design elements will promote encounters, conversations, and shared experiences, enabling individuals to build bonds and create a sense of unity.



Sustainability

Sustainability is at the centre of all of Hesperia projects. Sustainability stands at the forefront of the future of buildings and urban development. As our world grapples with the challenges of climate change and resource scarcity, the imperative for sustainable practices in construction and city planning becomes increasingly clear. Sustainable buildings, with their energy-efficient designs, renewable energy sources, and eco-friendly materials, not only reduce environmental impact but also result in substantial long-term cost savings. The urban areas of the future must prioritize sustainability to minimize their carbon footprint and create resilient communities that can withstand the growing environmental challenges.

Strategic Alignment

City of Melville (LPP1) Provision of Public Art in Development Proposals

This Local Planning Policy No. LPP 1.4 is for the Provision of Public Art in Development Proposals.

This document details the policy's objectives, definitions, statement, requirements and performance standards that must be met in the planning and commissioning of public art.

For proposals within the Murdoch Mixed Used Precinct the applicants shall also demonstrate that the public art has been designed to take into consideration the relevant public art strategy and structure plan provisions



The City of Melville's Local Planning Policy No. LPP 1.4

City of Melville Public Art Strategy and Masterplan

The Public Art Strategy and Masterplan developed by FORM for the City of Melville in 2017, defines a set of shared principles and a framework to help inform all levels of decision-making related to public art. It provides a curatorial and technical framework for all new commissions, ensuring that the City of Melville's public art collection is cohesive, curated, and surpasses industry best practice standards.

The strategy includes a vision, principals and curatorial themes that should be considered in the planning and commissioning of public art.



The City of Melville's Public Art Strategy and Masterplan.

Murdoch Health and Knowledge Precinct Design Guidelines

These Design Guidelines have been developed by LandCorp (Development WA) to implement the project vision of the MHKP. Developers are expected to meet the aspirations of the project with innovative design responses of significant build quality.

These guidelines contain the objectives, high-level design controls and design guidance to be administered by Development WA with assistance from a Design Review Panel.

The applicant of any Development with the MHKP must demonstrate that the proposal is consistent with the requirements of the LPP and Design Guidelines.



Murdoch Health and Knowledge Precinct Design Guidelines

Murdoch Mixed Used Precinct Public Art Strategy

This strategy provides detailed guidelines to the planning, procurement, delivery and management of Public Art in Murdoch Mixed Used Precinct.

The strategy provides an overview of the public art program and sets out principles and procedures for the procurement, location and management of public art in the Public Open Space.

The strategy also provides guidelines for public art as part of the built form funded through private developments within MUP. This includes the vision and guidelines for the future development of the area surrounding the POS, procurement process, potential sites and themes for artworks.



Murdoch Mixed Used Precinct Public Art Strategy

Development Approval Requirements

The Provision of Public Art in Private Developments Policy

The aim for all public art at Murdoch Mixed Used Precinct is to create a cohesive public art collection that enhances and animates public places and the public realm, through points of interest to create an exciting and rich urban environment.

The following principles are to be applied to the procurement of public art on private developments within MUP. Artworks must:

- Be visible and accessible from the public realm, frame and contribute to the public amenity of the POS
- Aid in way finding around the precinct
- Be created or designed by professional artists
- Be site specific and to be responsive to the site context
- Be designed, constructed with high quality and contextually appropriate materials
- Be considerate of other public art within proximity of other artwork, and
- Innovatively shape MUP in new and unexpected ways, i.e., innovative lighting and projection.

The location and type of artwork will be unique to each site and will be developed in consultation with the artist, developer and the Art Selection Committee.

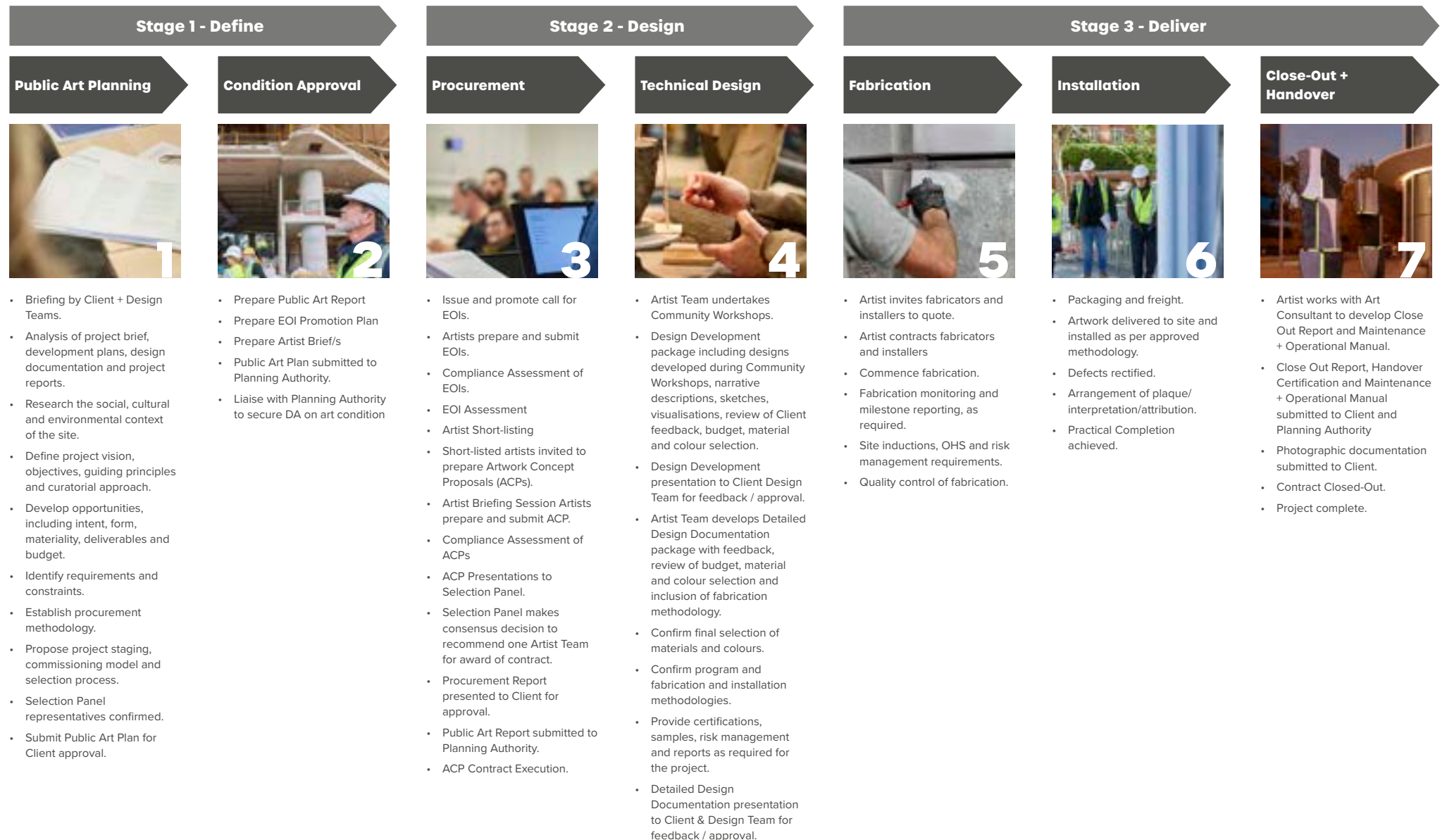
The objectives of the Provision of Public Art in Private Developments policy objectives are:

- To contribute to a sense of place through the provision of public art, which provides an interpretation and expression of the local area's natural, physical, cultural and social values.
- To enhance public enjoyment and understanding of places through the integration of art into developments
- To add to the appearance, vibrancy, character and amenity of developments and their surrounding environment
- To create local landmarks, and
- To provide increased public exposure to, and understanding of, public art.

The City of Melville requires that all public art within development proposals should satisfy all of the following criteria:

- a. Be located where it can be clearly seen from the public realm
- b. Be an original artwork
- c. Be of high aesthetic quality
- d. Be durable, sustainable and easy to maintain
- e. Contribute to an attractive and stimulating environment
- f. Not detract from the amenity or safety of the surrounding area
- g. Where considered appropriate be lit at night by the use of energy efficient lighting but such that there is no adverse amenity impact on the surrounding locality
- h. Be responsive to the site context and reflect the local area's natural, physical, cultural or social values history
- i. Take into account the existing public art in vicinity so to avoid repetition and to ensure the artwork is unique
- j. That the public art be functional where appropriate
- k. Be to the value of no less than 1% of the estimated cost of the development, and
- l. Be as resistant as possible to vandalism.

Methodology - Staged Process - Deliverables



Milestones + Deliverables

Public Art Plan

- Articulates the planned artwork opportunities.
- Details the cultural narrative of the site, capturing the histories, stories, identities, geographical information, with links back to the deeper narratives of the area.
- Detailed alignment with stakeholder strategies and plans.
- Details types and location of artwork, procurement, and implementation methodologies.
- Acts as a guide to ensure that any design decision making aligns with the development design direction.
- Includes a Cost Plan.
- Developed in collaboration with the Project Team.
- Document: Graphic Designed A4 Colour Landscape, Approx. 15 - 20 pages.

Cultural Context Report

- Outlines the local history, physical features and the experiential and/or expressive ways that make a place special or unique.
- This includes consultation with Noongar Elders to ensure that any Whadjuk Noongar is true and appropriate.
- Researched report that will help to inform the public art and may also inform other built form design.
- Document: Graphic Designed A4 Colour Landscape, Approx. 10 - 15 pages.

Public Art Report

- Addresses the statutory requirements of the City's Percent for Art Policy and how the proposed public art plan addresses the planning condition/s.
- Consideration of the strategic planning objectives.
- Document: A4 Colour Landscape, Approx. 5 - 10 pages.

EOI Artist Brief

- High-level detailing of the public art opportunity for an open competition.
- Includes a budget, stakeholder structure, artwork considerations, artist responsibilities, site information, and key program dates.
- Document: Graphic Designed A4 Colour Landscape, Approx. 10 - 15 pages.

ACP Artist Brief

- High-level detailing of the public art opportunity for shortlisted artists.
- Includes a budget, stakeholder structure, artwork considerations, artist responsibilities, site information, and key program dates.
- Document: Graphic Designed A4 Colour Landscape, Approx. 10 - 15 pages.

Artist Agreement

- Contractual agreement to formalise on boarding of the Artist
- Details the artwork opportunity, the reporting hierarchy, scope of services, budget, and entitlements
- Document: A4 Portrait, Approx. 30 pages

Procurement Report

- High-level report detailing panel commentary and decisions leading up to contracting of the selected Artist.
- Document: A4 Portrait, Approx. 5 pages

Design + Delivery Brief

- Details the stages involved, methodology, program and an itemised scope for each collaborator
- Communications protocol outline

Defects Report

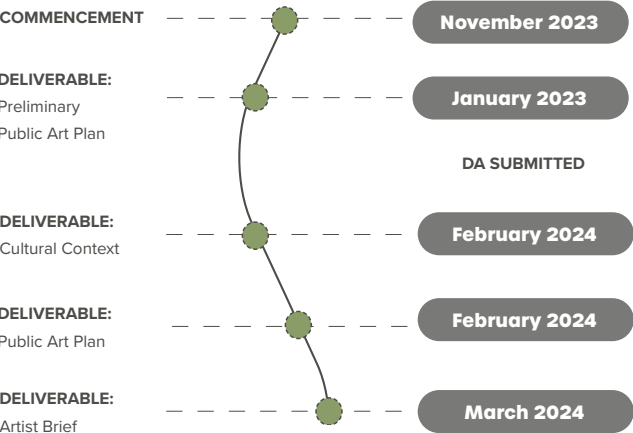
- Identification of any works needing remedying post-installation, with accompanying pictures.
- Document: A4 Portrait, Approx. 5 pages

Close Out Report

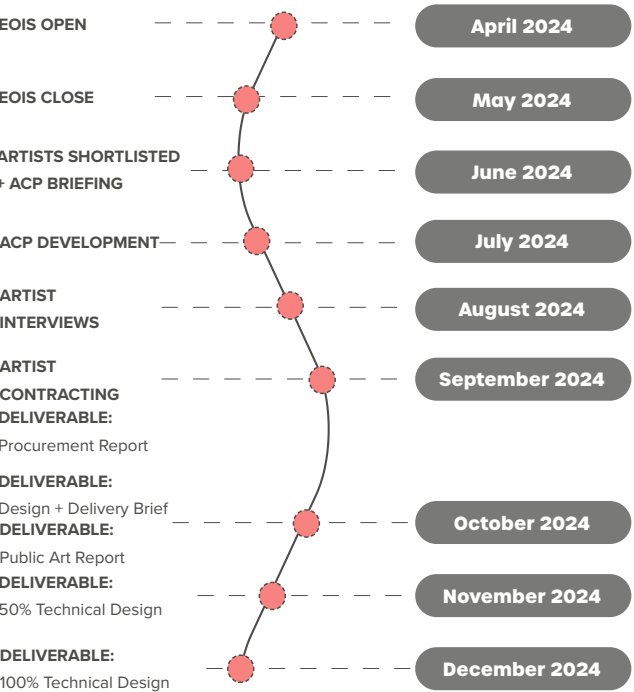
- Details the completed artworks and compliance with DevelopmentWA's Central Perth Redevelopment Area Development Policy 4 Providing Public Art and any planning conditions including SDRP recommendations
- Document: A4 Colour Landscape, Approx. 10 - 15 pages

Indicative Program

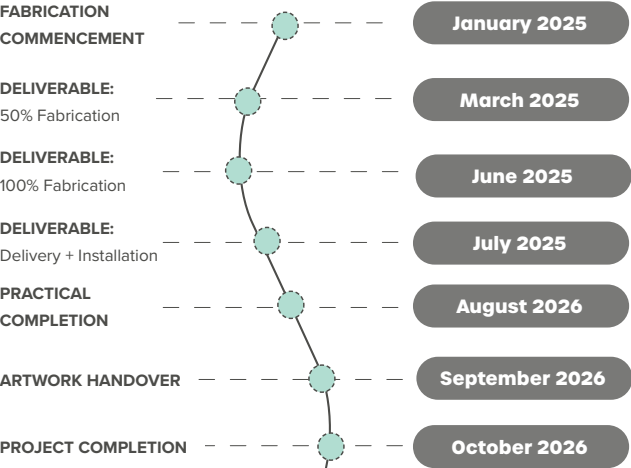
Stage 1: Planning



Stage 2: Design / Procurement



Stage 3: Deliver



03 Approach

Project Partners + Design Team

Hesperia

Hesperia are a leading property development group based in Perth, operating across a diverse range of disciplines within the property and sustainability sectors. They are the developers of the site and the commissioners of the public art component.

hesperia.com.au

Foundation Housing

Foundation Housing is the largest state-based community housing provider in Western Australia. The residential asset located at Lot 121 will be owned and managed by the Foundation.

foundationhousing.org.au

Encon

Encon is a project management business focused on the construction and property industry. They are the project managers for the development site, providing oversight across development, design, construction, programming, and procurement.

encon.com.au

Hassell

Hassell Australia Ltd, are the architects and landscape architects who have designed the proposed development. The design vision has been inspired by Whadjuk Country, the surrounding remnant bushland, sustainability and the intended uses of the building which includes providing a diverse range of accessible and affordable housing for key workers

hassellstudio.com

Design Integration

The architectural and landscape design of the development has been inspired by a connection to Wadjuk Country, and the wider Murdoch Health & Knowledge Precinct with reference to the Banksia/Marri Woodland endemic to the Swan Coastal Plain, specifically Aileen Plant Conservation Reserve which sits immediately to the South East of the site.

The public artworks for the development will be carefully integrated into the architecture and landscape architecture through a close collaboration between the design team, public art and cultural advice teams.

Through the integration of public art and interactive elements along the building facade and street edge, vibrant nodes of activity can be established, fostering community engagement and social interaction. These elements not only contribute to the vitality of the space but also offer flexible areas outside key tenancies, adaptable to various uses and gatherings.

Clear points of entry from the street edge and accessible pathways from Barry Marshall Parade ensure seamless connectivity, enhancing the overall accessibility and functionality of the space.

By aligning spaces with adjacent building uses, the legibility of the area is improved, creating a cohesive and intuitive environment for both visitors and residents alike.

Public Art + Cultural Advice Team

Apparatus

Apparatus is a leading Western Australian creative consultancy established in 2014, and based in Perth. Apparatus has been engaged as the public art consultant to deliver public art for Lots 120 & 121 Murdoch Social & Affordable Housing Development.

Apparatus delivers art and cultural services throughout Perth Metro, regional Western Australia and other parts of Australia, with clients ranging from state and local government to major developers and tertiary institutions.

Apparatus have undertaken numerous projects involving Aboriginal engagement. We believe in the importance of reconciliation and we are committed to developing programs to support Aboriginal artists and creatives, and undertake work with Aboriginal people in a sensitive, collaborative manner.

Apparatus provides a range of services from curating, acquisition and collection management, to strategy and policy, place planning, interpretation and project management. This approach allows clients to be offered a complete project package, minimising risk, focusing on quality and considered from all angles.

The Apparatus Team is made up of multidisciplinary design professionals who are passionate about what they do. At Apparatus you will be working with experienced specialists, providing continuity of support and project management.

Karen Jacobs Whadjuk Cultural Advisor

Karen is a bloodline descendant and a Traditional Owner of Whadjuk Country, within the Noongar Nation.

Karen is the Principal of Indigenous Economic Solutions Pty Ltd, trading as IES Cultural Heritage, IES Enviro Scapes and IES Enviro Clean. Her primary focus is on developing opportunities and encouraging Aboriginal people's involvement in enterprise and business activity.

Karen has an extensive background in business, Aboriginal cultural heritage and practices, environmental planning and management, cultural tourism, education and was a former lecturer at the UWA, School of Social Science in the Foundations to Heritage Management.

Her career has led to the provision of Indigenous Specialist Services, as an expert in the integration of cultural heritage in design and placemaking, and landscapes within the design teams for urban design, construction, and infrastructure projects.

As a company director, her board competencies are; corporate decision making, probity and procurement, compliance, business management, strategic planning & analysis, financial management, marketing and promotion, engagement and participation of Aboriginal people's.

Brendan Moore Whadjuk Cultural Advisor

Whadjuk man Brendan Moore is a respected cultural advisor. He has been engaged to provide cultural advice including the cultural history and narrative of the site and surrounding country.

Brendan was recently elected as the chairperson of the South West Land and Sea Council (SWALSC), he is also the member director for SWALSC's Yued ward. Brendan was born and raised on Yued country and attributes his commitment to social justice to his elders, particularly his grandmother.

Brendan works with the Yunga Foundation, an Aboriginal owned and led business, currently contracted as the Aboriginal Development Managers tasked with engaging local Whadjuk people on the Ocean Reef Marina project. Brendan also works as the Aboriginal Engagement Officer at City of Fremantle.

Brendan has provided advice to many organisations including Boola Baardip (WA Museum), Perth Observatory, Rottnest Island Authority, Department of Parks and Wildlife, Western Australian Local Government Association, Main Roads Western Australia.

Cultural Narrative

Indigenous cultural values are intimately connected to place, deepening and evoking a greater understanding of the unique qualities, values and interconnectedness between the physical and spiritual environment, particularly the importance of water.

Extract from the City of Melville's Public Art Strategy and Masterplan

The City of Melville sits within the cultural region of Beeliar, bounded by Melville Waters (Doontanboro) and Derbal Yerrigan (Swan River) on the north, through to Katamordo (Darling Ranges) on the east, the Moomboyet (sea) to the west.

The suburb of Murdoch was part of the Somerville Pine Plantation which was University of WA Endowment land. The university site is also an Aboriginal site of cultural significance as it was a burial ground with the lower south east corner of the grounds used for men's business relating to burial procedures, whilst the south west corner was designated for women's business during burial ceremonies.

Whadjuk Cultural Advisors, Karen Jacobs and Brandon Moore have recently been engaged to share cultural information unique to the site. This information will form part of the cultural context report (currently in progress) and cultural narrative that will inform the public artwork.

Artwork Aspirations + Themes

Local Character

The suburb of Murdoch is split by South Street and bordered by the Kwinana Freeway to the east. Low density residential north of South Street is in direct contrast to the scale and functionality of the precincts to the south.

Murdoch University, Fiona Stanley and St John of God Hospital are major infrastructural areas for the suburb. These sites each have a large collection of public artworks and development masterplans which are largely independent of the City.

A Structure Plan for the Murdoch Mixed Use Precinct was developed in 2016. The Mixed Use Precinct is intended to provide for a wide variety of uses within a highly integrated development. The objectives of the Mixed Use Precinct are to provide a diversity of land uses and housing types, provide development that contributes to the creation of a high quality public realm and contribute towards a sense of identity and character for the area.

Precinct Artwork Aspirations

Artwork within this area should:

- Create a dynamic, evolving and diverse precinct that encourages exploration and adventure by commissioning artworks that feed the imagination and are open to individual interpretation and collective exchange.
- Consider the existing public art collections within Murdoch University, Fiona Stanley Hospital and St John of God Hospital and aim to draw themes from these places, contributing to a cohesive approach throughout the area;
- Physically enhance public places through artwork that creates points of interest and enjoyment; and
- Consider the existing storylines of the area by providing links to its history, character and rich culture.

Artwork Themes

Public art will enhance the precinct by providing social, economic and environmental benefits, including:

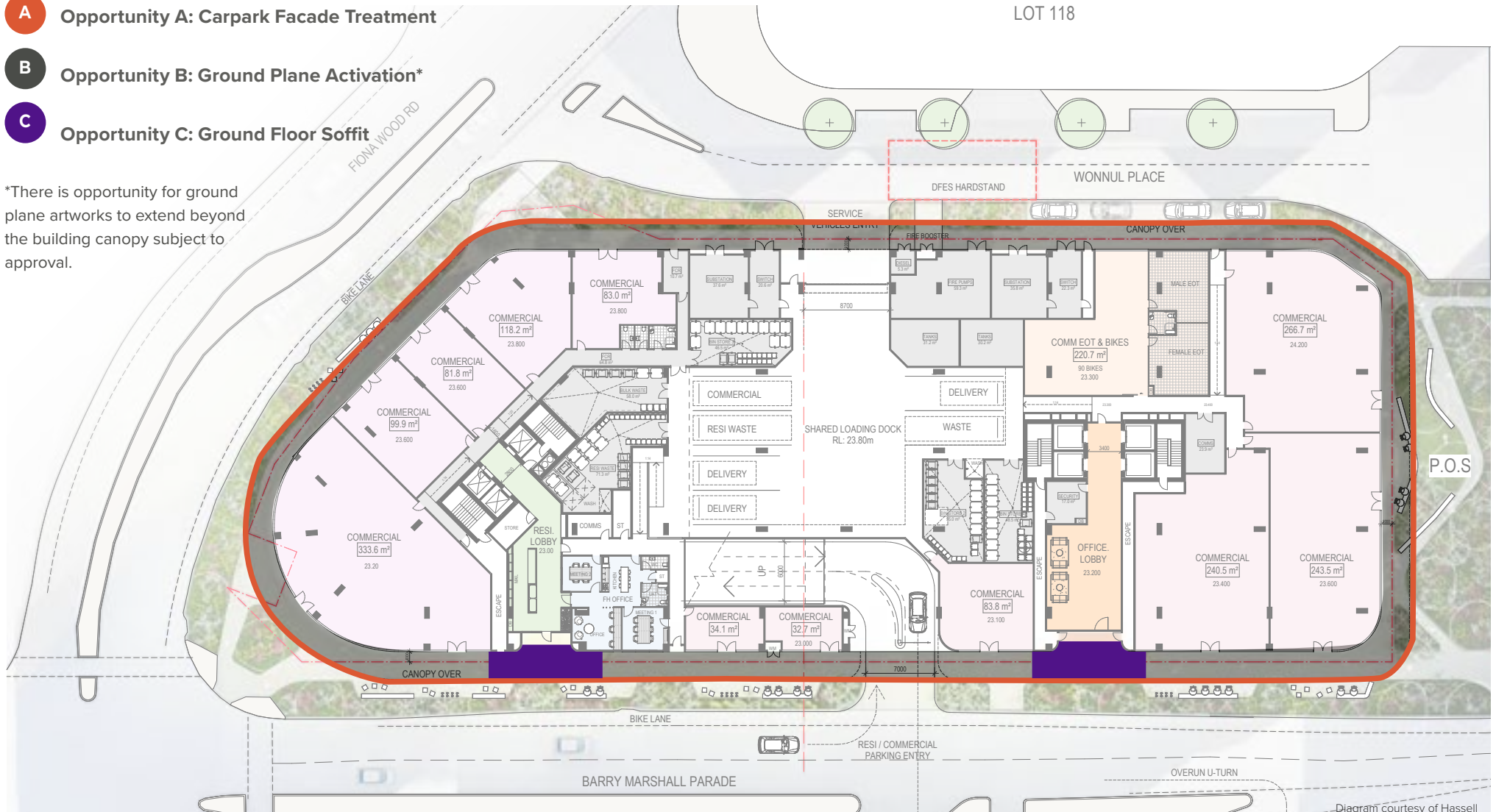
- Physically enhancing public places and realm through points of interest, enjoyment and contributing to 'sense of place' and identity
- Providing meaning, context and interpretations of the precinct by providing links to its history, character and rich culture
- Heritage - acknowledge Aboriginal ownership, connection and history, non-indigenous, place story and aspirations
- Use – anticipated use of the site from culturally diverse demographics
- Ecological – flora and fauna - Conservation Zones' Marri-Banksia -Melaleuca woodland and habitat and food resource for Carnaby's Black Cockatoo
- Reflective and aspirational of today's technology

04 The Artwork Opportunities

Public Artwork Masterplan

- A Opportunity A: Carpark Facade Treatment**
- B Opportunity B: Ground Plane Activation***
- C Opportunity C: Ground Floor Soffit**

*There is opportunity for ground plane artworks to extend beyond the building canopy subject to approval.



Artwork Opportunity A

Carpark Facade Treatment

The profile fins surrounding the car park podium provide an opportunity for an integrated contemporary and sophisticated artwork which would be highly visible from many viewpoints within the public realm. The artworks will respond to the cultural context, artwork themes, and adjacent bushland narratives.

The colour gradient, materiality and finish of the fins would comprise the artwork component and could foresee some interesting opportunities for recycled materials. The artwork would explore a sense of depth and movement created through the exploration of colour gradients, 3D relief, light, shadow, and texture created through negative and positive detailing.

The artwork and colour scheme would travel down to the main entry portals of the ground floor providing wayfinding and clear points of entry from the street edge. The negative off cuts from lasercut detailing could be utilised around the entry portal repurposing otherwise discarded material

The profile fin facade artwork treatment could include:

- A gradient colour scheme
- 3D relief
- Perforated detail (dot pattern artwork)
- Lasercut detail
- Printed artwork (Colourlok™)

Elements of Sustainability

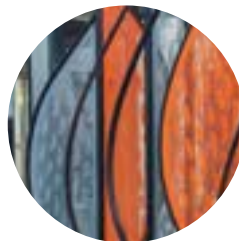
- Cultural
- Social
- Environmental
- Economic



Artwork continues from fin facade to entry portal



Precedent Imagery



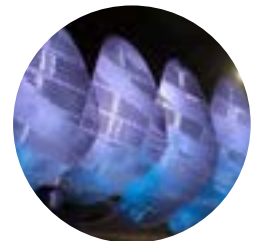
Perforated detail



3D relief



Lasercut detail



Perforated profile fin

Artwork Opportunity B

Ground Plane Activation

The ground plane that surrounds the built form presents an opportunity to deliver a suite of site-specific artworks that promote place activation and improve the user experience for both residents and people visiting the public realm of the new development.

Located in and around the public open space of the ground plane street frontage, the artworks will respond to the cultural context, artwork themes, and adjacent bushland narratives. Artworks should be positioned to create moments of surprise, pause and intrigue.

Specific locations, forms and the materiality of the artworks to be developed in response to the detailed landscape and architecture design, to ensure a collaborative and complementary integration.

Etching into the landscape materials like concrete pavements, retaining walls, and seating, supports a sustainable method of creating art through the integration of existing materials.



Ground plane activation could include:

- Sandblasting into the ground plane
- Inset materials into the ground plane
- Routing into the timber seating
- Sandblasting into concrete seating

Elements of Sustainability

- Cultural
- Social
- Environmental
- Economic

Precedent Imagery



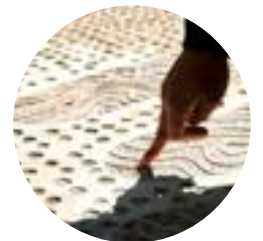
Sandblasted
concrete seating



Routed
timber seating



Ground plane
inserts



Sandblasted
ground plane

Artwork Opportunity C

Ground Floor Soffit

The soffit of the ground floor provides a canvas for an integrated artwork which activates the street frontage of the new development.

The artwork would respond to the material and colour palette of the building, creating a sense of arrival, assisting in wayfinding, and guiding visitors to the entry points of the building.

This artwork opportunity would require a successful and seamless integration of artwork into the building architecture with durable materials and finishes complementary to the landscape and architecture design.

Soffit Artwork could include:

- Direct paint application to the soffit substrate
- Artwork with 3D relief applied to the soffit
- Perforated materials applied to the soffit

Elements of Sustainability

- Cultural
- Social
- Environmental
- Economic



Precedent Imagery



Painted
soffit



Perforated
profile fins



Print to perforated
acoustic panels



Coloured panels
applied to soffit

Artist Procurement

Outlined below are standard procurement processes utilised for public art projects. The recommended procurement option is outlined on each detailed artwork option.

Open Competition

- The public artwork opportunity is advertised through an 'open call' process. Artists will be asked to respond to an artwork brief and submit an Expression of Interest.
- The Expression of Interest submissions will be assessed by the Evaluation Panel and a short-list of preferred artists selected.
- Short listed candidates will be asked to proceed to Stage Two, where they will prepare an Artwork Concept Proposal for a fee.
- One of the Artwork Concept Proposal is selected and the artist is commissioned for the project.

Direct Engagement

- Direct Engagement sees an artist selected based on their existing portfolios.
- Apparatus will provide information to the client as to their capability to deliver the project.
- The client may wish to interview the prospective artist.
- The artist is contracted to deliver the artwork and procurement progresses into concept development and installation of the artworks.

Curated Competition

- A long-list of appropriate artists is prepared and presented by Apparatus to the Evaluation Panel.
- From this list, the Evaluation Panel create a short-list of preferred artists, generally 3-5 artists.
- Short listed candidates are asked to proceed to Stage Two, where they will prepare a Concept Design Proposal for a fee.
- One of the Artwork Concept Proposals is selected and commissioned for the project.

Design Assist

Apparatus have developed a Design Assist program as a method of building capacity within the public art sector of Western Australia. It is designed to build skills, income and employment opportunities for Aboriginal Artists. It is a procurement process designed to deliver artwork projects with artists by developing their project management skills and understanding of the built realm required for public art projects. This is leading to increased income and employment opportunities for Aboriginal artists and increased capacity for self determination.

Indigenous Artist Commission

This public art plan recommends the commissioning of a Noongar artist/s for these public artworks. The procurement method will be determined through consultation with Whadjuk Noongar Cultural Advisors, Karen Jacobs and Brendan Moore.

The City of Melville's Public Art Strategy and Masterplan identifies a number of artwork opportunities for sites of Indigenous significance, with the aim of further highlighting the prominence of these sites to a wider audience to expand collective knowledge of our Indigenous heritage.

Where possible, in the procurement of artwork for the City of Melville, the engagement and commissioning of Indigenous Artists who hold a connection to the area can bring meaningful and intrinsic value to a site. Indigenous artists and advisors can also contribute to projects in alternative capacities, including through the format of mentorship of, or collaboration with other Indigenous or non-Indigenous artists.

Sustainability

" Principle 5: Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes."

State Design Review Panel's 10 Principals For Design Quality Evaluation

The public art team, design, construction and installation teams will be encouraged to consider implications for sustainability and environmental impact as detailed in this plan. All three of the public art opportunities propose the integration of artwork into the existing built materials and surfaces within the architecture and landscape architecture of the development.

All artworks will respond to a detailed artwork brief to be developed in consultation with cultural advisors and the project design team. The artworks will consist of high quality materials, and design, fabrication and installation processes. Location, scale and materiality must be fit for site and purpose. Artworks must be durable and resistant to ongoing maintenance and vandalism.

Procurement of the artwork will be focused on local artists and curated to encourage interaction between residents, visitors and the wider community encouraging positive social and economic outcomes.

Public art for the site will add value to the built form, provide a cultural narrative, create rich human experiences, building cultural capital, and strengthen the community. Public art is an integral component in the making of people-oriented places optimising the amenity for visitors and creating a place for the community to interact, relate, and share, promoting ways for people to connect.

This process should include drawing on the locality's cultural and social identity to help represent, identify and create a future direction and sense of place.

The public art, landscaping design and building architecture teams will work collaboratively together in achieving the public realm objectives; to create a public space that encourages interaction between residents, visitors and the wider community



Artist Kamsani Bin Salleh with Dr Noel Nannup who provided cultural advise and guidance to the public art team in the development of a public artwork for Curtin's new School of Design and the Built Environment (B418)

Design Considerations

The artists and the design, construction and installation teams will be encouraged to consider implications for sustainability and environmental impact as follows:

Materials Selection

All artists, design and construction team members will be required to consider environmentally preferred materials options based on the following primary considerations:

- Proportion of recycled content of the material
- End of life recyclability of the material
- Total Carbon footprint of material
- Longevity of the material
- Sustainable technologies
- Durability and longevity
- Artists and designers are encouraged to consider the potential for incorporating sustainable technology into the artwork. This may include, but not be restricted to:
 - Water: minimisation / storage / recycling; and
 - Energy: efficiency / renewable sources for lighting

Microclimatic Effects

All structures in our environment, large or small, can affect the conditions in their immediate locality. Wind tunnels or screens, light reflection or shadow, radiant heat from surfaces or masses, can all potentially affect human comfort in a space, positively or negatively.

Artists and designers will be encouraged to consider how their designs may affect conditions in the immediate locality of the artwork. This can be summarised as the localised effect on:

- Temperature: heat 'island' absorption and radiation / cooling effect;
- Light: reflection / focusing / penetration / shading;
- Impact on fauna and flora
- Wind: tunnelling / cooling / deflection / turbulence / noise; and
- Water: runoff / catch / storage / absorption / evaporation / humidity.

Construction Phase

The timing of artwork installation will need to fit with the overall construction program. A number of key elements should be considered during the construction phase of the artworks.

All artists, design and construction teams will consider the sustainability of the finished piece. This may include, but not be confined to, the environmental costs associated with light, sound, motion, micro-climate installation, maintenance and lifespan. All sub-contractors will be assessed with respect to their environmental awareness, reputation or credentials

The design and engineering methods will take into consideration the complexity of fabrication and assembly and its carbon emissions impact through energy intensity or efficiency.

Artwork Maintenance

Maintenance is a key factor in the long-term care and quality of public artworks and should be taken into consideration during concept and design development, material selection and fabrication. In addition, the development of a maintenance program will ensure that the benefits generated by public art can be enjoyed over a long period and that maintenance costs can be kept to a minimum.

There are specific climatic conditions of the site that all artists and fabricators must consider during artwork development to ensure the longevity of all artworks. These conditions include UV degradation, salt corrosion, heat, wind, rain, humidity fatigue and potential vandalism.

Artwork Lifespan

Artworks in the public realm are intended to have a life expectancy of 25 years, with the exception of temporary artworks, which will have a short life span agreed at artist briefing stage. Where artworks include technology elements with expected life-spans shorter than 25 years, the future owner of the artwork may choose to conduct a review of the artwork before the intended expectancy is reached.

Material Selection

To withstand the specific climatic conditions of the site artists will be required to ensure their artworks are of a robust nature, incorporate technologies that are easily replaced, if and when need be, and be constructed from materials suitable for long-term exterior installations.

Sculptural components of artworks may be constructed from materials such as:

- Ceramic/mosaics;
- Metals such as aluminium or bronze;
- Concrete;
- Steel designed to limit rusting; and/or;
- Fibreglass.
- Due to the specific river and site conditions, Artists should have the skills to determine properties and materials that enable their artworks to be resistant to salt water corrosion.
- Grade 316 stainless steel (marine grade), and concrete are examples of materials resistant to salt water corrosion. Materials not considered suitable include resins and any materials that are not UV stable.
- Artworks including technology elements, are not recommended for this project.

Maintenance Program

During the development of a public art project, the process will be thoroughly documented to identify the future care and maintenance requirements. This information will be captured in an Artwork Maintenance Manual and include the following:

- Contact details for the fabrication company/companies involved;
- Materials used during construction and supplier details;
- Treatments, after-care works and processes;
- Design and structural drawings;
- Predicted lifespan of components;
- Location of power source, power supply, water supply (if required);
- Cleaning program outlining processes and recommended frequency; and
- Any specific specialist maintenance requirements.



City of Melville Local Planning Policy 4.4
Murdoch Health and Knowledge Precinct



MURDOCH HEALTH AND KNOWLEDGE PRECINCT

November 2016



LANDCORP

TABLE OF CONTENTS

TABLE OF CONTENTS	2		
PART 1 INTRODUCTION	3		
1 INTRODUCTION	4		
1.1 PROJECT VISION	4		
1.2 OBJECTIVES	4		
2 STRUCTURE AND PURPOSE	5	2.2 BUILT FORM CHARACTER	16
2.1 PURPOSE	5	2.2.1 COLONNADE	16
2.2 STRUCTURE	5	2.2.2 PODIUMS	16
2.3 PLANNING AND POLICY	5	2.2.3 TOWERS	16
3 APPROVAL PROCESS	7	2.2.4 FACADES	16
3.1 DESIGN REVIEW – PRE DEVELOPMENT APPLICATION	7	2.3 MATERIALS	17
3.2 DEVELOPMENT APPLICATION SUBMISSION	7	2.4 BUILDING ENTRANCES	17
3.3 DESIGN REVIEW PANEL	7	2.5 ROOF	17
PART 2 DESIGN REQUIREMENTS	9	2.6 OUTDOOR LIVING AREAS	17
1 URBAN DESIGN	10	2.7 BUILDING SERVICES	18
1.1 DIVERSITY AND ACCESSIBILITY	10	2.8 BICYCLE PARKING AND END OF TRIP FACILITIES	19
1.2 LAND USE AND ACTIVE EDGES	10	2.9 SCREENING	20
1.3 PUBLIC ART	11	2.10 ACOUSTICS	20
1.4 SAFETY AND SURVEILLANCE	11	2.11 LIGHTING	20
1.5 ACCESS AND PARKING	12	2.12 CLIMATE RESPONSIVE DESIGN	21
1.6 SIGNAGE	13	2.12.1 SOLAR ACCESS	21
2 BUILT FORM DESIGN	14	2.12.2 WIND	21
2.1 PRIMARY BUILDING CONTROLS	14	3 LANDSCAPE DESIGN	22
2.1.1 SETBACKS	15	3.1 BIODIVERSITY AND HABITAT	22
2.1.2 BUILDING LAYOUT AND ORIENTATION	15	3.2 HARDSCAPING	22
2.1.3 HEIGHT	15	3.3 SOFTSCAPING	22
2.1.4 FLOOR LEVELS	15	3.4 WATER EFFICIENCY AND MAINTENANCE	22
		PART 3 SITE SPECIFIC REQUIREMENTS	23



PART 1 INTRODUCTION

1 INTRODUCTION

1.1 PROJECT VISION

The vision for the Murdoch Health and Knowledge Precinct (MHKP) is to create a transit-based health and knowledge precinct that provides a range of complementary uses to the surrounding hospitals and education institutions, including; allied health, residential, office, retail and short-stay accommodation.

1.2 OBJECTIVES

COMMUNITY WELLBEING

- Create a diverse place of living, employment, amenity and leisure activity
- Provide easy and safe access to the public transport interchange
- Strengthen pedestrian and cycle connectivity to and within the precinct

DESIGN EXCELLENCE

- Create a distinctive community identity and sense of destination
- Create an exemplar Transit Oriented Development

ENVIRONMENTAL RESPONSIBILITY

- Efficiently and innovatively conserve resources on a centre-wide basis
- Protect and enhance existing environmental assets
- Lower car dependency and promote use of public transport

ECONOMIC HEALTH

- Create a vibrant precinct active at day and night, weekdays and weekends
- Provide a variety of complementary activities that support the primary health and education sectors

2 STRUCTURE AND PURPOSE

2.1 PURPOSE

Two separate documents have been prepared to guide development in the MHKP:

- i. This Local Planning Policy (LPP) is prepared in accordance with the Planning and Development (Local Planning Schemes) Regulations 2015 (the Regulations), which contains development controls for key design elements that will be administered by the City of Melville/Responsible Authority; and
- ii. The MHKP Design Guidelines which contain the design objectives, high-level design controls and design guidance to be administered by LandCorp with assistance from a Design Review Panel (DRP).

The applicant is to demonstrate that the proposal is consistent with the requirements of the LPP and Design Guidelines.

2.2 STRUCTURE

The Design Requirements in Part 2 are structured in two parts (Design Objectives and Development Controls) to assist proponents in preparing their designs and applications.

Design Objectives:

The Design Objectives outline the design intent underpinning the development controls. These Design Objectives are consistent across the LPP and Design Guidelines.

Development Controls:

The Development Controls of the LPP shall be met for all development proposals. They will collectively ensure that the Design Objectives are met. Also refer to the MHKP Design Guidelines for additional Design Controls.

Notwithstanding the above, in order to encourage innovation, applicants are also provided the opportunity to meet the objectives through alternative solutions to the satisfaction of the City of Melville, with guidance from the DRP.

2.3 PLANNING AND POLICY

This LPP has been adopted by the City of Melville under the Regulations. In determining any application for Approval to Commence Development (DA), the DRP and CoM/Responsible Authority will utilise this LPP in conjunction with the Design Guidelines, Activity Centre Structure Plan (ACSP), the Scheme and any relevant City Policy.

This LPP (and the associated Design Guidelines) supersede the Murdoch Activity Centre Mixed Use Precinct and Main Street Design Guidelines, prepared for the then Department for Planning and Infrastructure in June 2009. In the event of there being any inconsistency or conflict between any provision, requirement or standard of any Council Policy and the Design Guidelines, the LPP and Design Guidelines shall prevail.

The LPP shall be read in conjunction with:

Murdoch Health and Knowledge Precinct Design Guidelines

The Design Guidelines shall be read in conjunction with the LPP and complement the requirements of the LPP. Where the provisions of the Design Guidelines are in conflict with the LPP, the provisions of the LPP shall prevail.

City of Melville Local Planning Scheme No. 6

The MHKP is zoned 'Development' under the City of Melville Local Planning Scheme No. 6 (the Scheme). Where the provisions of the Design Guidelines are in conflict with the Scheme, the provisions of the Scheme shall prevail.

MURDOCH HEALTH AND KNOWLEDGE PRECINCT LOCAL PLANNING POLICY

Murdoch Specialised Activity Centre Structure Plan

The MHKP is included within the Murdoch Specialised Activity Centre Structure Plan (MSACSP) endorsed by the Western Australian Planning Commission (WAPC) in October 2013. The MSACSP supersedes the Murdoch Activity Centre Plan (Part A – Fiona Stanley Hospital and Health Precinct 2007).

The MSACSP is a strategic planning document to guide future development of the Murdoch Specialised Centre and should be read in conjunction with the Murdoch Mixed Use Precinct (MUP) ACSP. Where the provisions of the MSACSP are in conflict with the LPP, the provisions of the LPP shall prevail.

Murdoch Mixed Use Precinct Activity Centre Structure Plan

In accordance with the Scheme, the MHKP is also subject to the provisions of the Murdoch MUP Activity Centre Structure Plan (ACSP). The Murdoch MUP ACSP outlines the matters to be addressed by the LPP / Design Guidelines. The LPP / Design Guidelines provide greater detail than the ACSP to ensure adequate control over development to achieve quality and desirable built form outcomes.

Residential Design Codes

The requirements of the Residential Design Codes (R-Codes) apply in all respects except where modification is indicated by the LPP.

National Construction Code (NCC)

All construction shall comply with the current Building Code of Australia.

3 APPROVAL PROCESS

The process for a DA relating to all development within the MHKP is summarised in Figure 1 below. Minor modifications or changes of use for existing buildings are not subject to this approval process.

3.1 DESIGN REVIEW – PRE DEVELOPMENT APPLICATION

- Prior to lodgement of a DA, pre-application Design Guidelines review meetings will occur with the DRP. The City of Melville may participate in these meetings, if required.
- Following endorsement of the development plans, a DA can be made to the City of Melville.
- The DRP has the authority to provide endorsement for any variations to the requirements of the Design Guidelines and LPP, with final consideration and approval to be the responsibility of the City of Melville. Variations to the requirements will only be endorsed where such exemptions deliver built form design and sustainability excellence whilst still meeting the MHKP vision and objectives.

- Once the DRP has deemed the plans to substantially achieve ALL the mandatory design criteria or be satisfied with any justified variation, the plans will then be endorsed by the DRP, a final report with approval (or otherwise) letter attached and one full set returned. This written endorsement will be considered by the City of Melville in their assessment.

3.2 DEVELOPMENT APPLICATION SUBMISSION

- The applicant lodges a DA with the City of Melville with the accompanying DRP final report.
- The DA is assessed by the City of Melville (or Development Assessment Panel, if applicable) in the usual manner.

The diagram on the following page outlines the approval process required prior to any development commencing.

3.3 DESIGN REVIEW PANEL

The DRP will be specific to the Murdoch MUP and comprised of representatives from LandCorp, the City of Melville, the Office of the Government Architect, the Project Architect and other members as required. The final membership of the DRP will be determined by City of Melville and LandCorp.

MURDOCH HEALTH AND KNOWLEDGE PRECINCT
LOCAL PLANNING POLICY

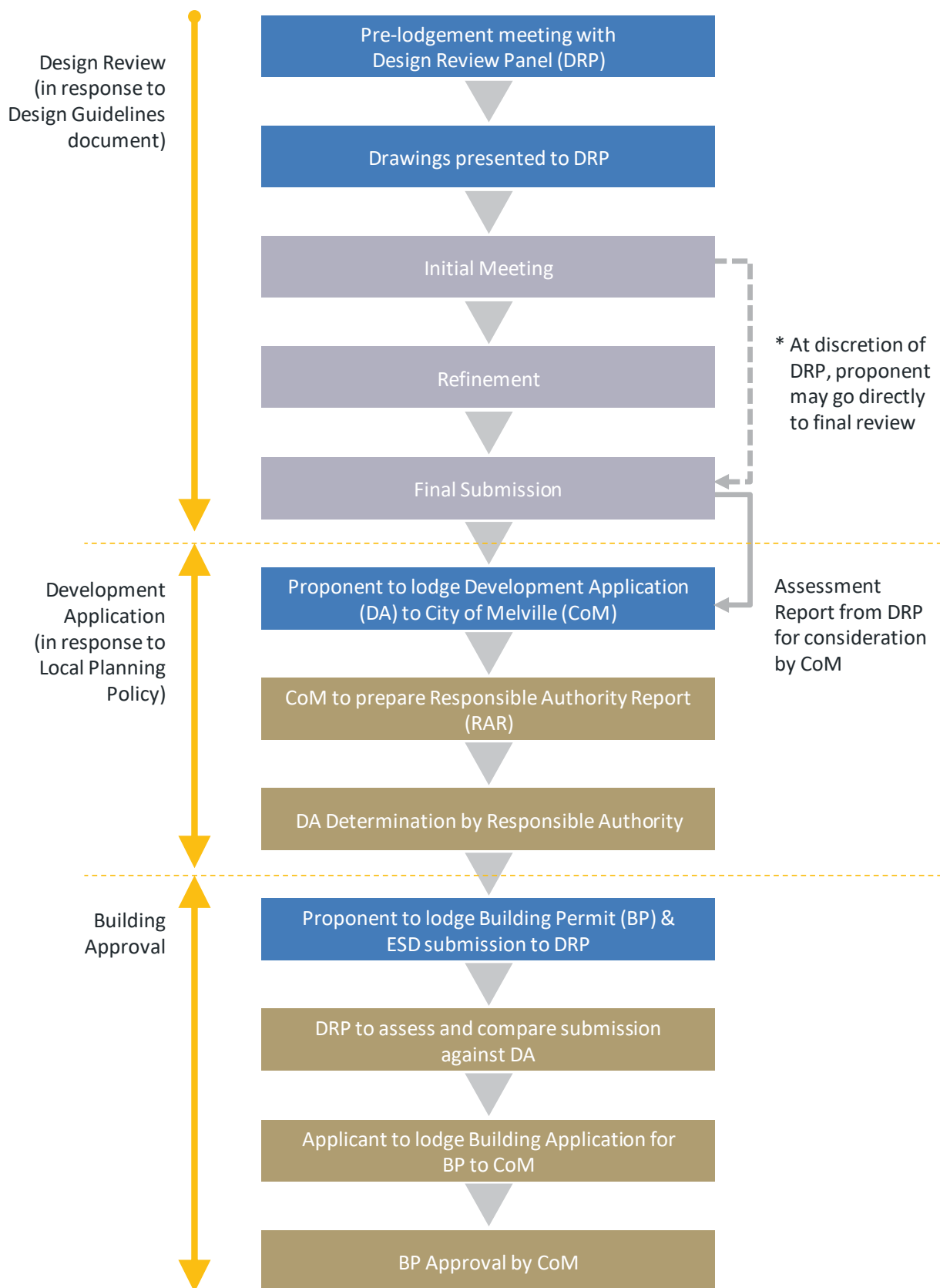


Figure 1: Approval process flowchart

PART 2 DESIGN REQUIREMENTS

1 URBAN DESIGN

1.1 DIVERSITY AND ACCESSIBILITY

Design Objective

To cater for a diverse range of residents, workers, shoppers and visitors to the precinct, with focus on accessibility and convenience.

1.2 LAND USE AND ACTIVE EDGES

The edges of all development sites have been designated as Primary, Secondary or Tertiary frontages according to Figure 2 below.

Design Objective

To create a diverse, vibrant and pedestrian-friendly precinct with a strong sense of identity and character, reinforced by land use and built form.

Development Controls

- Primary Frontages at ground level shall accommodate publicly accessible, 'active' uses as detailed within Part 3 Site Specific Requirements.
- In addition to the Primary Frontages uses, secondary frontages at ground level shall accommodate visibly active uses as detailed within Part 3 Site Specific Requirements.
- Tertiary Frontages at ground level are the only permissible locations for 'inactive' uses as detailed within Part 3 Site Specific Requirements.
- Above ground level, apartments, balconies and breakout spaces shall be located on Primary and Secondary Frontages, allowing activation and passive surveillance of the public realm as well as providing best aspect for residents and workers.

- Above ground level, Secondary and Tertiary Frontages are the only permissible locations for car parking areas and shall be screened from view or sleeved as outlined in 1.4 Access and Parking. On Primary Frontages above ground level, car parking areas shall be sleeved with an active and habitable land use such as residential or commercial.



- Primary frontages
- Secondary frontages
- Tertiary frontages

Figure 2: Development site frontages

1.3 PUBLIC ART

Design Objective

To incorporate public art which is innovative, imaginative, and thought provoking.

Development Controls

- Development proposals shall accord with the City of Melville Local Planning Policy CP-085 Provision of Public Art in Development Proposals.

1.4 SAFETY AND SURVEILLANCE

Design Objective

To maximise safety of the public realm, and create a safe and secure environment for residents, workers and visitors.

Development Controls

- Design of developments shall employ Crime Prevention through Environmental Design (CPTED) principles.
- Built form and land use shall be designed and oriented to promote passive surveillance of the public realm.
- Developments shall provide lighting, activation and surveillance of pedestrian routes at night, especially routes to/from Murdoch Station.

MURDOCH HEALTH AND KNOWLEDGE PRECINCT

LOCAL PLANNING POLICY

1.5 ACCESS AND PARKING

Design Objective

- To provide secure and clearly defined car parking for residents, workers and visitors, with the target of lowering car dependency and encouraging the use of alternative transport.
- To allow for efficient and clearly-defined movement of local, visitor and service vehicles, while minimising the impact of vehicles on the public realm.
- Residential developments shall provide direct pedestrian access to residential car parks from building foyers and individual apartment entrances.
- Vehicle access is permissible only on Tertiary Frontages. Refer to Part 3 for more detail on preferred vehicle access locations.
- A Parking Management Plan shall be submitted as part of the DA to demonstrate that all development proposals comply with the Design Objective.

Development Controls

Car parking bays shall be provided in accordance with the Murdoch MUP ACSP, summarised in the following table, taking into consideration the objectives and principles of the City of Melville Policy CP-079 Car Parking and Access, and the Murdoch Activity Centre Access and Parking Policy:

- Car parking areas shall be located at basement, ground or podium level, and either sleeved with an active and habitable use, or visually screened from view, as outlined in 1.1 Land Use and Active Edges and 2.2.4 Facades.
- Car parking areas shall be designed in accordance with AS-2890.1, to be well lit, safe and secure.
- Car parking areas shall be naturally ventilated.

LAND USE	Parking Supply Rate
Residential Tenants	• 1 & 2 bedroom dwellings - minimum of 1.1 parking spaces per dwelling • 3 bedroom dwellings - minimum 2 parking spaces per dwelling
Residential Visitors	• A minimum additional 5% of the residential tenant parking supply
Commercial and Commercial Health	• A maximum of 1 space per 60m² Gross Floor Area (GFA) • A minimum of 25% of the total permitted parking supply to be designated as public parking*
Hotel Accommodation Employee and Visitor	• A maximum of 1 space per 3 bedrooms • A minimum of 25% of the total permitted parking supply to be designated as public parking*
Large Retail (>1000m ²) Employee and Visitor	• A maximum of 1 space per 35m² GFA to be designated as public parking
Small Retail (<1000m ²) Employee and Visitor	• A maximum of 1 space per 50m² GFA to be designated as public parking
Scooter/motorbike parking bays	• A maximum of 1 space per 10 of the total parking bays
Small cars (as defined by AS-2890.1)	• A minimum of 15% of the total number of car spaces provided

*where more than 6 public parking bays are required

1.6 SIGNAGE

Design Objective

To provide clear and legible wayfinding into and within the precinct with signage that is integrated into built form and the public realm.

Development Controls

- Building and tenancy signage shall be integrated with building facades to avoid cluttering the public realm.
- Fiona Stanley Hospital (FSH) precinct signage shall be integrated into the design of Sites 1D and 7C where outlined in Part 3. Where applicable, FSH signage shall be relocated outside of the development site or integrated into built form, and shall not be retained as standalone signage within the development site. Developers shall liaise with FSH to ensure most up-to-date information.

2 BUILT FORM DESIGN

2.1 PRIMARY BUILDING CONTROLS

Design Objective

To create a sense of diversity across the precinct, to frame the public realm, and create a legible and cohesive urban form.

Development Controls

- Built form shall be oriented to address Primary and Secondary frontages. Where a development site has a Primary Frontage, the tower mass and height shall be aligned with the Primary Frontage, reinforcing the view corridors of the Boulevard and Barry Marshall Parade.
- Landmark sites shall be designed with form and character that appropriately responds to the importance of major view corridors. Landmark sites are identified in Figure 3 below. Refer to Part 3 for further detail on landmark views for each site.
- Developments shall co-ordinate with adjacent sites to create a cohesive built edge to the public realm, especially where a laneway or pedestrian arcade is shared between sites.



Figure 3: Precinct view corridors and landmark sites

2.1.1 SETBACKS

Design Objective

To establish the street proportions, streetscape character and the required separation distance between buildings in order to protect the amenity of adjoining developments and the public realm.

Development Controls

- Developments shall comply with the setback requirements outlined in Part 3.
- Small variations to setbacks to a maximum of 500mm are permitted to allow for architectural articulation of the façade.

2.1.2 BUILDING LAYOUT AND ORIENTATION

Design Objective

To optimise the built environment for occupants through building layout and orientation, considering solar access, shading and glare, ventilation, overlooking, and aspect.

2.1.3 HEIGHT

Design Objective

To create the desired character and proportions of the precinct streets, and provide appropriate density for the precinct.

Development Controls

- Maximum building heights are controlled by the restrictions of the Jandakot Aerodrome/CASA Obstacle Limitation Surface and FSH helipad. The total maximum height of any building (measured from AHD) shall be in accordance with these controls.
- Developments shall comply with minimum and maximum podium heights, and minimum tower heights, as outlined in Part 3.

- Developments on Sites 1C, 1D, 2A, 2B and 4 shall comply with the suggested maximum heights specified in Part 3, in order to achieve mandatory solar access requirements to the Conservation Area. If developers of these sites propose to exceed the suggested maximum heights, refer to 2.12.1 Solar Access for compliance demonstration requirements.

2.1.4 FLOOR LEVELS

Design Objective

To ensure floor levels and entrances to buildings appropriately interface with the ground plane where levels changes occur within sites.

Development Controls

- Ground floor levels shall be at the same level of the public realm on Primary and Secondary Frontages. Refer 1.1 Land Use and Active Edges for frontages diagram.
- Where levels vary around development sites, developments shall provide multiple entry points, split levels, and/or ramped arcades to address different public realm levels.

2.2 BUILT FORM CHARACTER

2.2.1 COLONNADE

Design Objective

To create a cohesive, consistent edge to the public realm, blur the threshold between public realm and built form, and define and frame a wider space for pedestrian movement.

Development Controls

- All Primary Frontages shall provide a colonnade zone as an extension of the public realm. The colonnade zone applies a four metre building setback at ground level and nil building setback to the site boundary at podium level. Refer to Figure 2.
- Alfresco areas, sun and wind protection, and signage shall be integrated into colonnade design to avoid cluttering the public realm.
- Paving and levels within the colonnade zone shall be consistent with the public realm.

2.2.2 PODIUMS

Design Objective

To provide human scale at street levels and above, and to break up the visual mass of development sites.

Development Controls

- Podiums shall have nil setback to the site boundary in order to frame and address the public realm. Refer also to 2.1.1 Setbacks and Part 3 Site-Specific Requirements.
- Podiums shall allow for rooftop breakout space overlooking public realm.
- If adjacent sites are amalgamated, podiums shall be visually distinct along the amalgamated boundary to break up the visual bulk of the development site.

2.2.3 TOWERS

Design Objective

To reinforce the masterplan and view corridors and to frame and address the public realm.

Development Controls

- Where a development site has a Primary Frontage, the tower mass and height shall be aligned with the Primary Frontage.
- Activated zones in towers shall address the public realm, providing activation and passive surveillance as well as allowing for best aspect.
- If adjacent sites are amalgamated, setbacks between towers shall apply as if the sites were not amalgamated, to break up the visual bulk of the development site and maintain view corridors between sites.

2.2.4 FACADES

Design Objective

To create building design of significant quality and architectural merit, that contributes to the immediate public realm and broader precinct as a whole.

Development Controls

- Primary and Secondary frontages at ground level shall be of a fine-grain scale, with multiple, clearly defined building entrances and spaces.
- Facade design shall maximise amenity and activation through provision of balconies, screening, shading, and natural ventilation. Facade screening shall balance privacy for residents with the requirement for visible activity.
- On frontages where it is permissible to locate ground- or podium-level car parking, vehicle access, loading docks and building service areas (refer 1.1 Land Use and Active Edges), these areas shall be visually screened from view, and provide an attractive and engaging interface to the public realm.

2.3 MATERIALS

Design Objective

To utilise materials of a very high quality, which are durable and appropriate to the climate and context.

Development Controls

- Materials and detailing shall be of very high quality. Use of 'faux' materials such as fake timber, stone or astroturf is not permitted.

2.4 BUILDING ENTRANCES

Design Objective

To create a defined address for buildings, which will contribute to the public realm.

Development Controls

- Foyers shall be stand-out, well-lit spaces, and provide visual interest to the public realm whether or not they are publicly accessible.
- Mailboxes, services cupboards and signage shall be fully integrated into the design of building entrances.
- Buildings shall be provided with a clear address onto one street. Provide separate 'addresses' for residential, commercial and retail areas within sites.

2.5 ROOF

Design Objective

To ensure roofs integrate into the overall design, and contribute to the activation of the built form both aesthetically and functionally.

Development Controls

- Building services and sustainability elements shall be incorporated into the roof design and concealed from view.

2.6 OUTDOOR LIVING AREAS

Design Objective

To create outdoor environments that provide amenity, activate the public realm, and add a diversity of spaces to the built form.

Development Controls

- Communal outdoor areas shall be located on Primary and Secondary frontages.
- Residential developments shall provide a communal outdoor garden for residents at a minimum of size of 15% of the lot area, at podium or rooftop level, incorporating deep planting zones (refer to 3.3 Softscaping) shelter, and allowance for a mix of active and passive recreational uses.
- Residential developments shall provide each dwelling with a private outdoor living area accessed directly from a habitable room with a minimum area of 10m² and a minimum dimension of 2.4m.

2.7 BUILDING SERVICES

Design Objective

To ensure services are hidden and integrated into the built form to minimise the impact of services on the public realm.

Development Controls

- Loading areas, service areas and waste storage shall be visually integrated within built form or streetscape, and screened to prevent visual, noise and odour intrusions.
- Services and plant equipment shall not be visible from the public realm or above the roofline of buildings. 'Feature' sustainability initiatives may be considered if proven to enhance the public realm.
- Air-conditioning units or condensers shall not be located on balconies unless screened from view and in addition to balcony minimum dimensional requirements as per 2.6 Outdoor Living Areas.
- An integrated Waste Management Strategy (WMS) shall be prepared in consultation with the City of Melville. The WMS shall address coordination of the movement of service vehicles and the management of service areas and refuse collection to minimise impact on the public realm.
- Waste collection and management shall accord with the City of Melville Local Planning Policy CP-090 Waste and Recyclables Collection for Multiple Dwellings, Mixed Use Developments and Non-Residential Developments.
- Drying areas shall be screened from view.
- Residential developments shall provide each dwelling with an enclosed, lockable storage area accessible from outside the dwelling, with a minimum area of 4m² and a minimum dimension of 1.5m. Storage areas shall not be visible from the public realm.

2.8 BICYCLE PARKING AND END OF TRIP FACILITIES

Design Objective

To encourage use of alternative transport by providing end-of-trip facilities and safe and secure bicycle parking.

Development Controls

- Secure bicycle parking and end-of-trip facilities shall be provided in accordance with the Murdoch Mixed Use Precinct Parking Strategy, summarised in the following table:

Land Use	Minimum Supply
Residential	1 bicycle park per 4 dwellings
Residential visitor	1 space per 18 dwellings
Commercial	1 space per 200m ² of GFA
Large Retail (>1000 m ²)	1 space per 300m ² GFA for employees; and 1 space per 200m ² GFA for visitors
Small Retail (<1000 m ²)	Cafe: 1 space per 25m ² GFA for employees and 2 spaces for visitors Restaurant: 1 space per 100m ² GFA and 2 spaces for visitors Take-away food outlet: 1 space per 100m ² GFA for employees and 1 space per 200m ² GFA for visitors All other small retail: 1 space per 200m ² GFA for employees; and 1 space per 200 square metres GFA for visitors
Hotel Accommodations	1 bicycle park per 40 units
End of Trip Facilities (excludes residential uses)	Developments required to provide 10 or more bicycle parking bays must also provide: - A minimum of one female shower and one male shower, located in separate change rooms - Additional shower facilities at a rate of one female shower and one male shower for every additional 10 bicycle parking bays, to a maximum of 5 female and 5 male showers per development. - A locker for every bicycle parking bay provided.

- Bicycle parking facilities shall be designed, located and constructed in accordance with AS-2890.3 Bicycle Parking Facilities.
- Changing rooms shall be designed as secure lockable facilities, located adjacent to the showers in a well-lit area which is capable of easy passive surveillance.

2.9 SCREENING

Design Objective

To provide screening of significant design and material quality, which contributes to the public realm and precinct and enables surveillance of the public realm.

Development Controls

- Private courtyards for ground-level dwellings along Primary and Secondary Frontages shall be screened with fencing at least 50% visually permeable and no more than 1.5 m high when measured from the public realm level.
- Front fencing shall be designed to complement the built form design.
- Colorbond and super six style fencing is not permitted.

2.10 ACOUSTICS

Design Objective

To minimise the acoustic impact of development on adjacent buildings, and to provide acoustic protection against external noise for occupants.

Development Controls

- Prior to submission of a DA, an acoustic assessment shall be prepared for buildings affected by noise from surrounding roads as identified in Aecom's Noise Assessment (dated 29 October 2012). Refer to Part 3 for more detail.

2.11 LIGHTING

Design Objective

To provide lighting which does not negatively impact on the public realm or adjacent developments.

Development Controls

- All outdoor lighting shall be directed downwards with no light spill above the horizontal plane.
- Front outdoor/security lights shall be operated via a timed sensor with manual over-ride.
- Rear outdoor areas adjacent to laneways shall be well lit and incorporate motion activated light fittings.

2.12 CLIMATE RESPONSIVE DESIGN

Design Objective

To provide high-quality, efficient buildings that achieve the precinct objectives of integrated sustainable development.

Development Controls

- Developments shall achieve a minimum 'Australian Excellence' Green Star rating. This shall be demonstrated at DA stage and post-construction.
- Developments shall integrate environmental sustainability initiatives to create 'Design that is Sustainable, not Sustainable Design'. Alternative proposals for 'feature' sustainability initiatives may be considered if they are proven to enhance the public realm.

2.12.1 SOLAR ACCESS

Design Objective

To minimise the impact of development on solar access to the public realm and development sites, and to achieve mandatory sunlight requirements to the Conservation Area.

Development Controls

- If developments on Sites 1C, 1D, 2A, 2B or 4 are proposed to exceed the suggested maximum heights specified in Part 3, developers shall provide a solar modelling report at DA stage that demonstrates that the additional height does not impact negatively on the Conservation Area. Specifically, the report shall demonstrate that at least 95% of the Conservation Area receives at least 50% of available sunlight at all times of the year, assuming that all undeveloped sites are developed to their suggested maximums.

- Built form shall provide shade to a minimum depth of 2m of the public realm adjacent to Primary and Secondary frontages, at midday in summer months. Shade may be provided by a variety of elements such as colonnades, cantilevers, integrated canopies or balconies.
- Solar access modelling shall be provided at DA stage to assess overshadowing performance of building design proposals.

2.12.2 WIND

Design Objective

To minimise the impact of wind on the public realm and development sites.

Development Controls

- Built form shall be designed to achieve acceptable environmental wind conditions in the public realm in accordance with the following table:

Primary Frontages	Acceptable for stationary long term activities: Primary Peak gust speed during the hourly mean with a Frontages probability of exceedance of 0.1% in any 22.5o wind direction sector does not exceed 10 m/s.
Secondary & Tertiary Frontages	Acceptable for walking: peak gust speed during the hourly mean with a probability of exceedance of 0.1% in any 22.5o wind direction sector does not exceed 23 m/s.

- Built form shall incorporate setbacks, articulation and aerodynamic forms to minimise impact of wind on the public realm and adjacent development sites, especially retail frontages, alfresco areas, private and communal outdoor areas, and rooftop gardens.
- Wind modelling shall be provided at DA stage to assess wind performance of building design proposals.

3 LANDSCAPE DESIGN

Design Objective

To provide functional, sustainable landscape that is cohesive with and enhances the overall precinct, encourages interaction with the natural environment, and increases biodiversity and habitat for native fauna.

3.1 BIODIVERSITY AND HABITAT

Design Objective

To create a landscape that enhances the biodiversity and habitat values of the precinct.

Development Controls

- In accordance with the Environmental Protection and Biodiversity Conservation Act, all soft landscaping (communal and private) shall be planted with at least 70% native species, with at least 50% either species found in the project area or other native species suitable for foraging by Carnaby's Black Cockatoo. This provision excludes turfed areas.

3.2 HARDSCAPING

Design Objective

To create attractive hardscaped areas that present a landscape character that complements the wider public realm aesthetic.

Development Controls

- Hardscaping which is contiguous with the public realm at ground level shall use similar or complementary materials of an equivalent quality.

3.3 SOFTSCAPING

Design Objective

To improve residential amenity, local microclimate and promote management of water and air quality through the growth of healthy trees in deep root zones.

Development Controls

- Residential developments shall incorporate deep planting zones for small trees, located in the communal outdoor garden, at a minimum size of 4% of the lot area and a minimum soil depth of 450mm.
- Deep planting zones shall be located at podium or rooftop level.

3.4 WATER EFFICIENCY AND MAINTENANCE

Design Objective

To maximise opportunities for efficient use of water through best practice design.

Development Controls

- A Landscape and Irrigation Plan shall be provided as part of the Landscape Plan for Building Approval to assess suitability and water efficiency of proposed designs.
- Water efficient in-line drip irrigation shall be installed for all garden beds. Spray irrigation may be used on turf areas only.
- Private water bores are not permitted.

PART 3 SITE SPECIFIC REQUIREMENTS

1 ABOUT THIS SECTION

This section covers specific detail in how Objectives are met. The specific guidelines define the development requirements for each individual site, including land use, setbacks and minimum building height. It is mandatory to meet Specific Building Requirements.



Figure -4: Site Plan showing indicative development sites

SITE SPECIFIC REQUIREMENTS

Site 1A

Development Intent

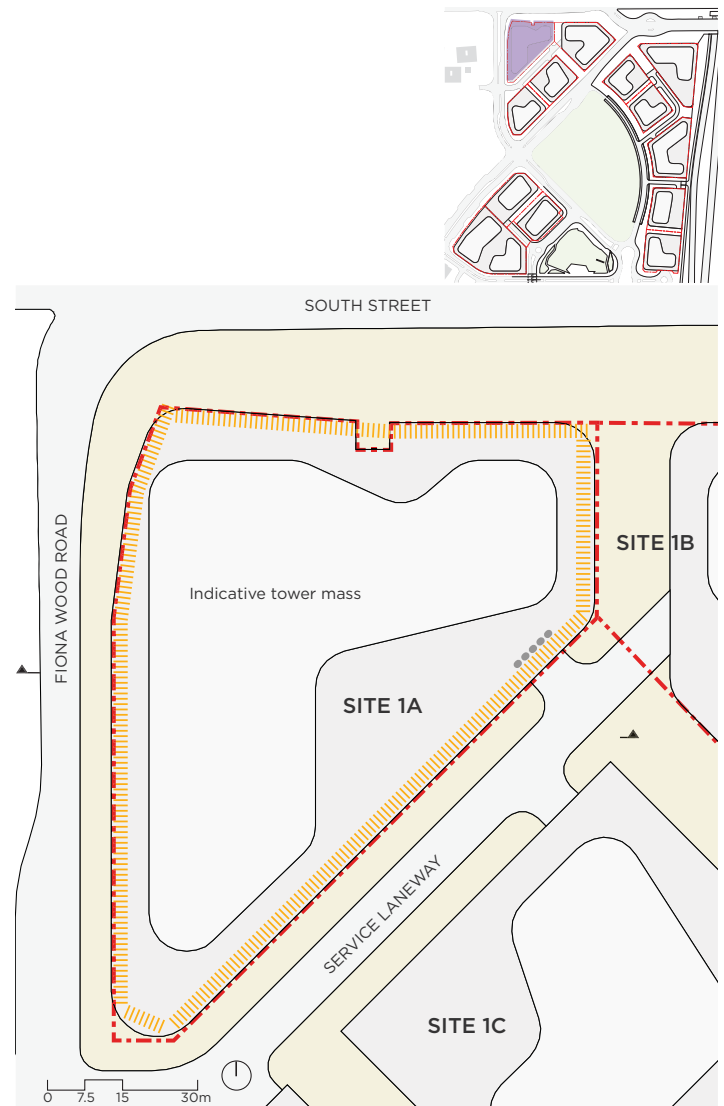
Site 1A is located in the South Street Precinct, at the north-west corner of the MHKP. It may be amalgamated with Site 1B. Site 1A has frontages to South Street to the north, and Fiona Wood Road to the west. Vehicle access is off the service laneway to the south.

Fiona Wood Road North is the main vehicle entry into the MHKP for people arriving from the north and the east. This is also the main route for people accessing Fiona Stanley Hospital and the wider health and education precincts from the north and east. With such high visibility, Site 1A is well suited to a major commercial development.

It is crucial that the design of this development respond appropriately to the importance of this location, and that it reinforces the identity of MHKP as distinct from the buildings of the surrounding area.

Specific Building Requirements

- Landmark design response to precinct entry location.
- Align tower height and mass with South Street and/or Fiona Wood Road North.
- There is the potential for transport noise from South Street to impact on noise levels. If residential development is proposed for this site, 'quiet house' design responses may be required to achieve internal noise levels for north-facing apartments. Development Applications shall be accompanied by an acoustic report addressing all relevant requirements.

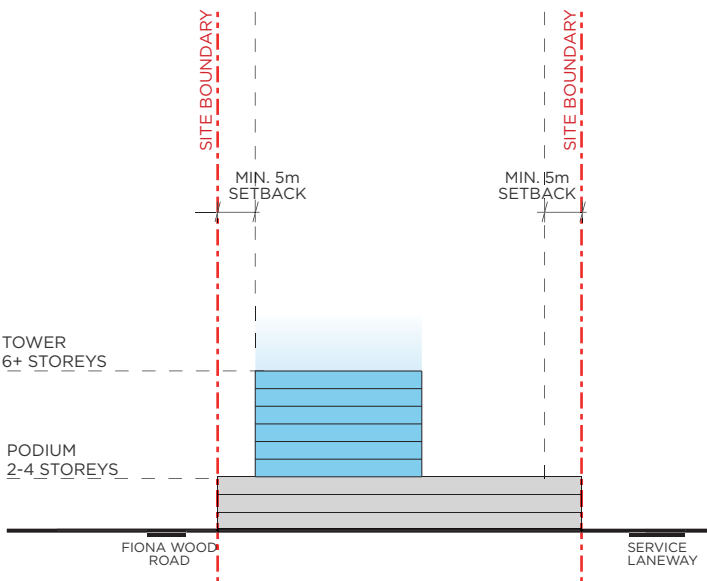


LEGEND

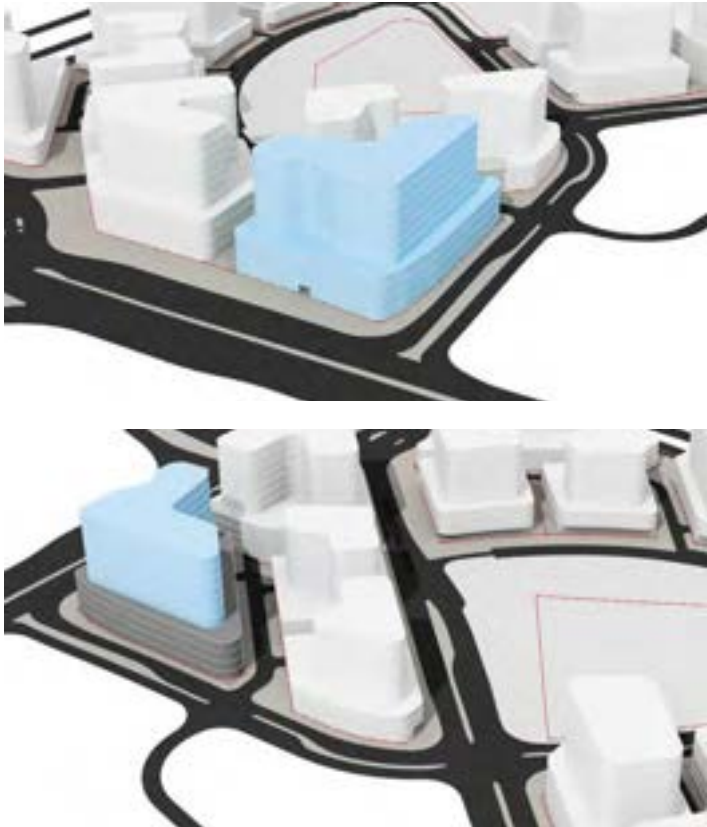
- ||||| Tertiary frontages
- Vehicle access
- .-.- Site boundary

PREFERRED USES

- Office
- Carpark



SECTION THROUGH SITE 1A



Site Area (subject to survey)	3,623 m ² Delivery as 1 site, or amalgamated with Site 1B
Preferred Land Uses, Ground Level	Shops, supermarket, food & beverage, small office, foyers
Preferred Land Uses, Podium Levels	Office, residential, serviced apartments, hotel
Preferred Land Uses, Tower Levels	Office, residential, serviced apartments, hotel
Vehicle and Service Access	Laneway to south
Building Heights, Podium	Minimum 2 storeys Maximum 4 storeys
Building Heights, Tower (including Podium)	Minimum 6 storeys
Setbacks, Ground Level	Mandatory 0-4m setback to all boundaries
Setbacks, Podium Levels	Mandatory 0m setback to all boundaries
Setbacks, Tower Levels	Minimum 5m setback to all boundaries
Minimum Residential Dwellings, Hotel Rooms or Serviced Apartments	0
Minimum Sustainability Rating	‘Australian Excellence’ Green Star

SITE SPECIFIC REQUIREMENTS

Site 1B

Development Intent

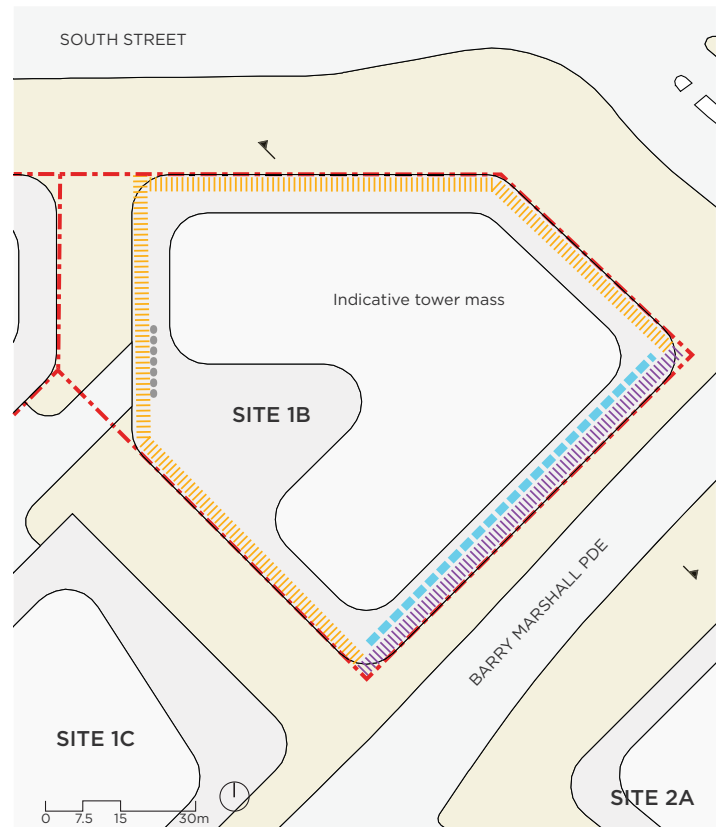
Site 1B is located in the South Street Precinct. It may be amalgamated with Site 1A. Site 1B has frontages to South Street to the north, and the bus-only portion of Barry Marshall Parade to the south-east. Vehicle access is off the service laneway to the west.

Barry Marshall Parade is a major pedestrian route linking Murdoch Station and the wider precinct. The ground floor of Site 1B is a prime location for retail and food & beverage activation on this frontage.

Site 1B is highly visible to people entering the precinct from Murdoch Station, as well as those passing on South Street, making it an ideal location for commercial development. The built form will reinforce the major view corridor of Barry Marshall Parade, and reinforce the identity of MHKP as distinct from the buildings of the surrounding area.

Specific Building Requirements

- Align tower height and mass with Barry Marshall Parade.
- There is the potential for transport noise from South Street and Murdoch Station to impact on noise levels. If residential development is proposed for this site, 'quiet house' design responses may be required to achieve internal noise levels for north-facing apartments. Development Applications shall be accompanied by an acoustic report addressing all relevant requirements.



LEGEND

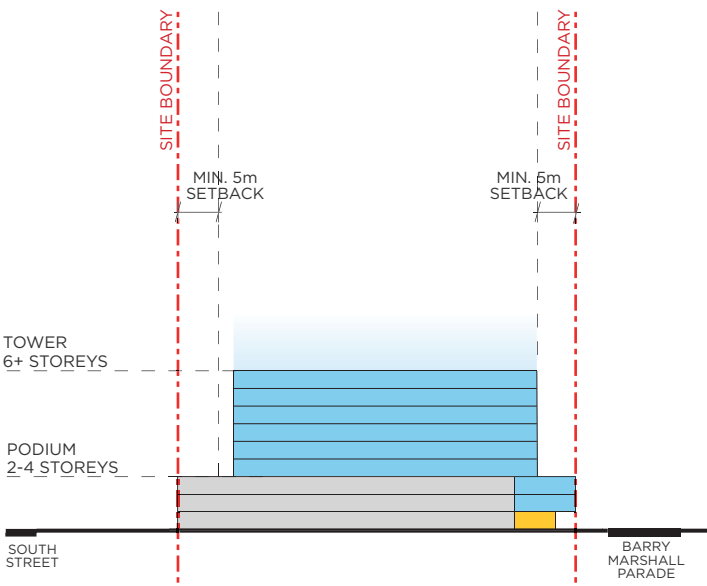
- Secondary frontages
- Tertiary frontages
- Ground level 4m colonnade
- Vehicle access
- Site boundary

PREFERRED USES

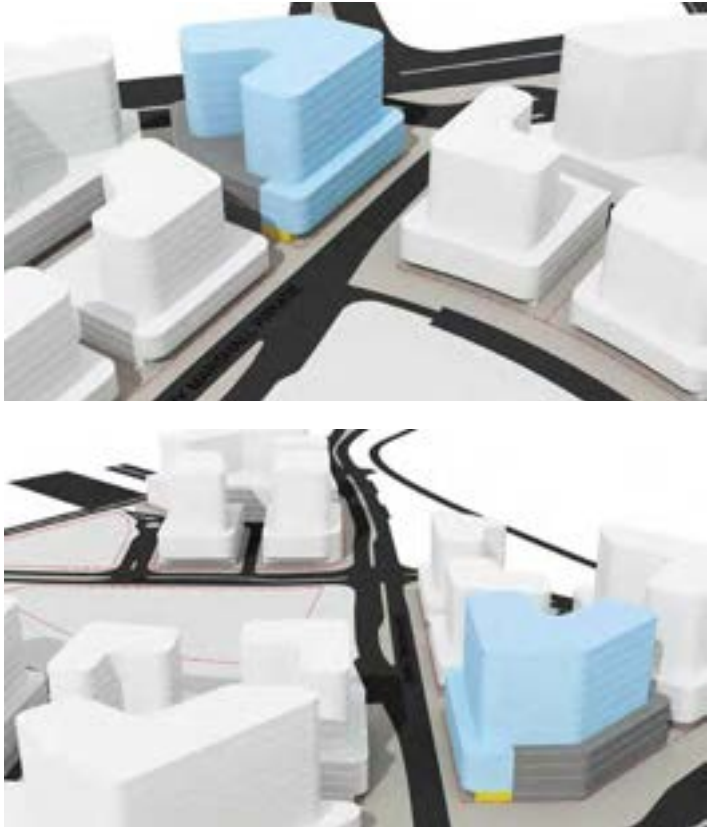
- Shop, Convenience Store, Corner Store, Restaurant
- Office
- Carpark

MURDOCH HEALTH AND KNOWLEDGE PRECINCT

LOCAL PLANNING POLICY



SECTION THROUGH SITE 1B



Site Area (subject to survey)	3,545 m ² Delivery as 1 site, or amalgamated with Site 1A
Preferred Land Uses, Ground Level	Shops, supermarket, food & beverage, small office, foyers
Preferred Land Uses, Podium Levels	Office, residential, serviced apartments, hotel
Preferred Land Uses, Tower Levels	Office, residential, serviced apartments, hotel
Vehicle and Service Access	Laneway to west
Building Heights, Podium	Minimum 2 storeys Maximum 4 storeys
Building Heights, Tower (including Podium)	Minimum 6 storeys
Setbacks, Ground Level	Mandatory 10m setback to west boundary, unless amalgamated with Site 1A Mandatory 0-4m setback to all other boundaries
Setbacks, Podium Levels	Mandatory 10m setback to west boundary, unless amalgamated with Site 1A Mandatory 0m setback to all other boundaries
Setbacks, Tower Levels	Minimum 10m setback to west boundary Minimum 5m setback to all other boundaries
Minimum Residential Dwellings, Hotel Rooms or Serviced Apartments	0
Minimum Sustainability Rating	'Australian Excellence' Green Star

SITE SPECIFIC REQUIREMENTS

Sites 1C & 1D

Development Intent

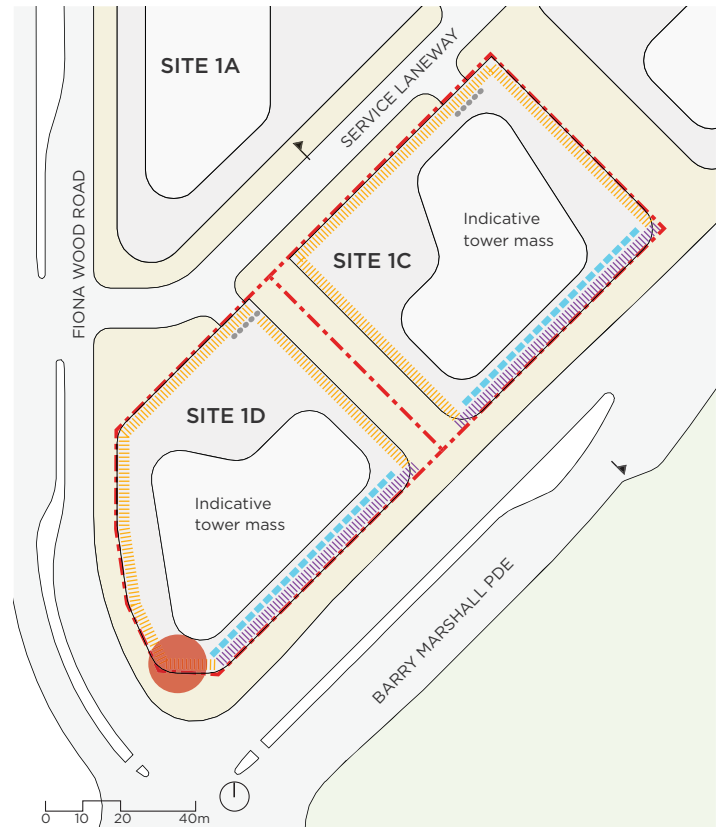
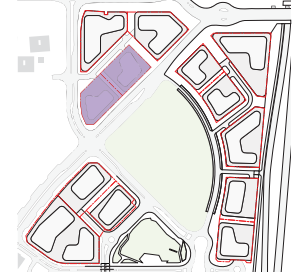
Sites 1C and 1D are located in the South Street Precinct, and may be delivered individually or amalgamated. The sites have frontages to Barry Marshall Parade to the south-east, and Fiona Wood Road North to the west. Vehicle access is off the service laneway to the north-west.

The intersection of Barry Marshall Parade and Fiona Wood Road is a major thoroughfare for people accessing MHKP, Fiona Stanley Hospital, and the wider health and education precincts, whether by car, bus, bicycle or on foot. It is crucial that the design of Site 1D responds appropriately to the importance of this landmark location.

Barry Marshall Parade is a major pedestrian route linking Murdoch Station and the wider precinct. The ground floor of the development will allow for future retail activation on this frontage. The podium and tower above will reinforce the major view corridor of Barry Marshall Parade, while affording maximum views over the POS and conservation area.

Specific Building Requirements

- Landmark design response to major intersection.
- Align tower height and mass with Barry Marshall Parade.
- Relocate or incorporate FSH signage into Site 1D. Refer to 1.6 Signage for more detail.
- If total building height exceeds 39m (measured from natural ground level), a solar modelling report is required at Development Application stage that demonstrates that the additional height does not impact negatively on the Conservation Area, as outlined in 2.12.1 Solar Access.



LEGEND

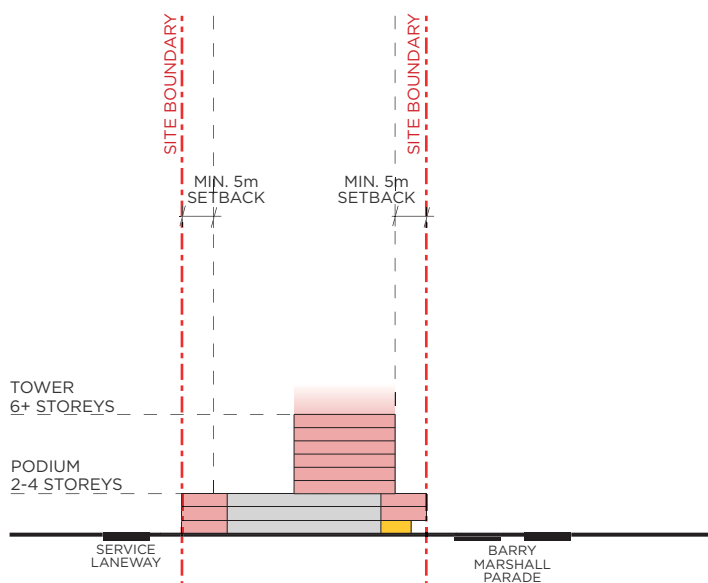
- Secondary frontages
- Tertiary frontages
- Ground level 4m colonnade
- Vehicle access
- Site boundary
- FSH signage

PREFERRED USES

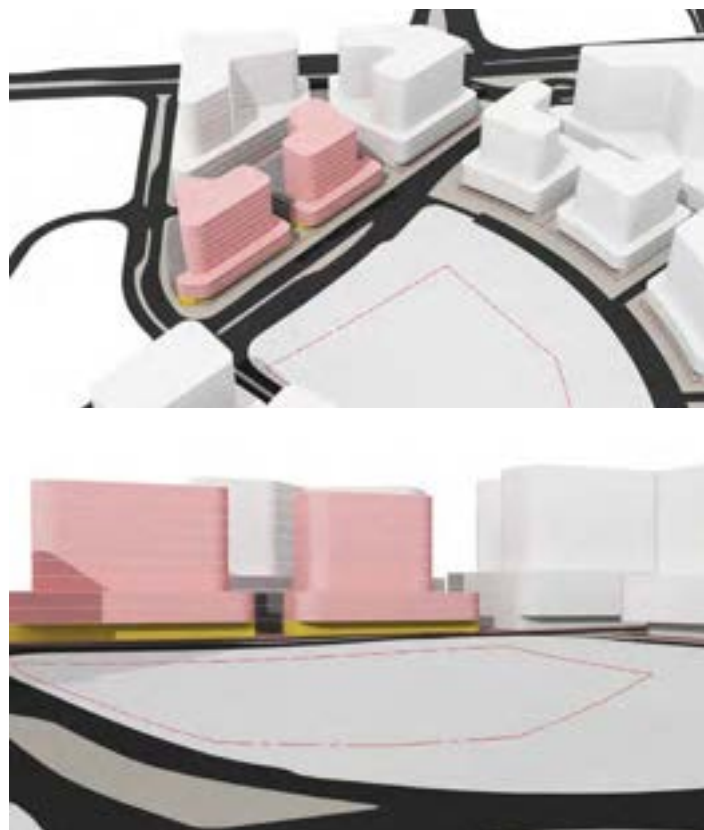
- Residential
- Shop, Convenience Store, Corner Store, Restaurant
- Carpark

MURDOCH HEALTH AND KNOWLEDGE PRECINCT

LOCAL PLANNING POLICY



SECTION THROUGH SITE 1C



Site Area (subject to survey)	Site 1C: 2,383 m ² Site 1D: 2,324m ² Delivery as 1 or 2 separate sites
Preferred Land Uses, Ground Level	Shops, supermarket, food & beverage, small office, foyers, residential
Preferred Land Uses, Podium Levels	Residential, serviced apartments, hotel, office
Preferred Land Uses, Tower Levels	Residential, serviced apartments, hotel, office
Vehicle and Service Access	Laneway to north-west
Building Heights, Podium	Minimum 2 storeys Maximum 4 storeys
Building Heights, Tower (including Podium)	Minimum 6 storeys 39m suggested maximum to avoid overshadowing Conservation Area
Setbacks, Ground Level	Mandatory 5m setback each side of shared boundary, unless amalgamated Mandatory 0-4m setback to all other boundaries
Setbacks, Podium Levels	Mandatory 5m setback each side of shared boundary, unless amalgamated Mandatory 0m setback to all other boundaries.
Setbacks, Tower Levels	Minimum 10m setback to shared boundary Minimum 5m setback to all other boundaries
Minimum Residential Dwellings, Hotel Rooms or Serviced Apartments	Site 1C: 56 Site 1D: 59
Minimum Sustainability Rating	'Australian Excellence' Green Star

SITE SPECIFIC REQUIREMENTS

Sites 7A & 7B

Development Intent

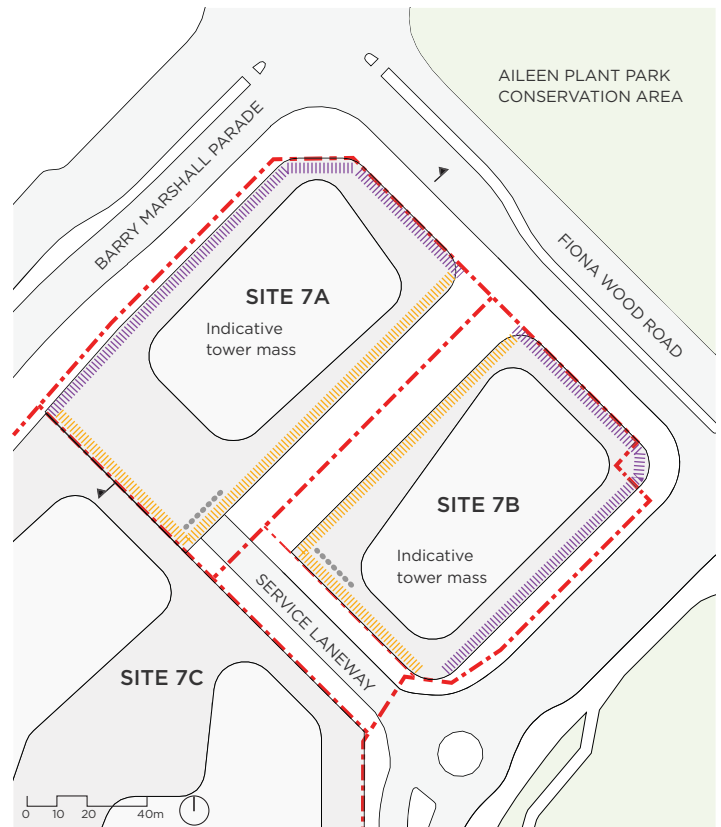
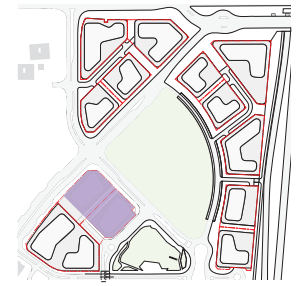
Sites 7A and 7B are located in the Health Precinct, and may be delivered individually, amalgamated, or as part of a Site 7 superlot. The sites have frontages to Barry Marshall Parade to the north-west, Fiona Wood Road to the north-east, and Yubarl Lane to the south-east. Vehicle access is off the service laneway to the south.

The intersection of Barry Marshall Parade and Fiona Wood Road is a major thoroughfare for people accessing MHKP, Fiona Stanley Hospital, and the wider health and education precincts, whether by car, bus, bicycle or on foot. It is crucial that the design of Site 7A responds appropriately to the importance of this landmark location.

Barry Marshall Parade is a major pedestrian route linking Murdoch Station with Fiona Stanley Hospital and the wider precinct. Yubarl Lane runs under Bedbrook Row, and is the main entry to the Fiona Stanley Hospital bicycle store and end-of-trip facilities. Sites 7A and 7B are therefore prime locations for retail, food & beverage, or a small supermarket to attract passing commuters.

Specific Building Requirements

- Landmark design response to major intersection.
- Align tower height and mass with Barry Marshall Parade, Fiona Wood Road and/or Yubarl Lane.



||||| Secondary frontages

||||| Tertiary frontages

●●● Vehicle access

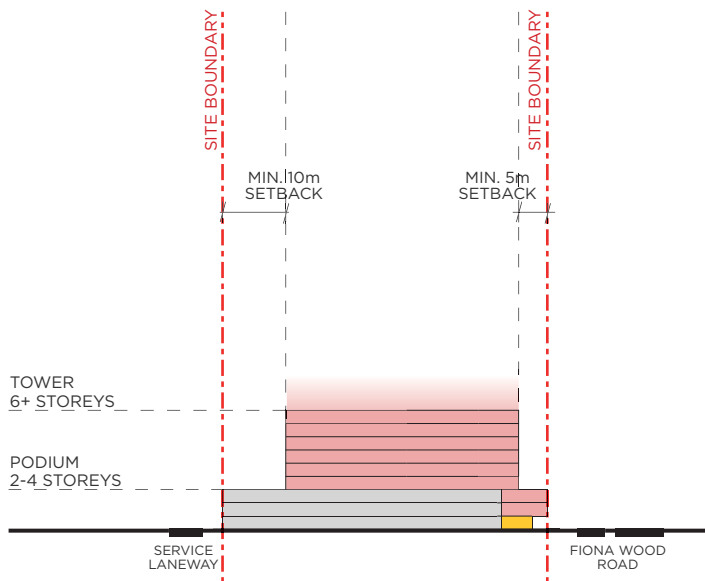
--- Site boundary

PREFERRED USES

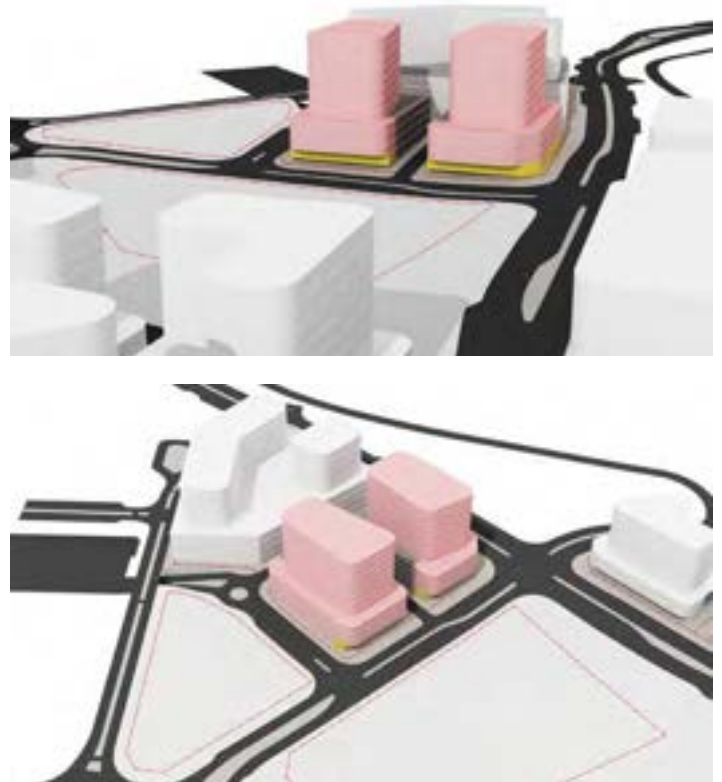
Residential

Shop, Convenience Store, Corner Store, Restaurant

Carpark



SECTION THROUGH SITE 7B



Site Area (subject to survey)	Site 7A: 3,059 m ² Site 7B: 2,965 m ² Delivery as 1 or 2 separate sites, or a Site 7 superlot
Preferred Land Uses, Ground Level	Shops, supermarket, food & beverage, small office, health services, foyers, residential
Preferred Land Uses, Podium Levels	Residential, serviced apartments, hotel, office, health services
Preferred Land Uses, Tower Levels	Residential, serviced apartments, hotel, office, health services
Vehicle and Service Access	Laneway to south
Building Heights, Podium	Minimum 2 storeys Maximum 4 storeys
Building Heights, Tower (including Podium)	Minimum 6 storeys
Setbacks, Ground Level	Mandatory 5m setback each side of shared boundary, unless amalgamated Mandatory 0-4m setback to all other boundaries Note that Site 7C is permitted to develop up to shared boundary with 7A
Setbacks, Podium Levels	Mandatory 5m setback each side of shared boundary, unless amalgamated Mandatory 0m setback to all other boundaries Note that Site 7C is permitted to develop up to shared boundary with 7A
Setbacks, Tower Levels	Minimum 10m setback to shared boundary Minimum 10m setback to Barry Marshall Parade boundary Minimum 5m setback to all other boundaries
Minimum Residential Dwellings, Hotel Rooms or Serviced Apartments	Site 7A: 63 Site 7B: 63
Minimum Sustainability Rating	'Australian Excellence' Green Star

SITE SPECIFIC REQUIREMENTS

Site 7C

Development Intent

Site 7C is located in the Health Precinct, at the south-western corner of MHKP. The sites have frontages to Barry Marshall Parade to the west, Bedbrook Row to the south, and Yubarl Lane to the south-east. Service vehicles access via Yubarl Lane, while all other vehicles access via Bedbrook Row. There is a 5.5m difference in the topography between Bedbrook Row and Yubarl Lane, requiring ramping from the Bedbrook Row entrance to a basement carpark to Site 7C.

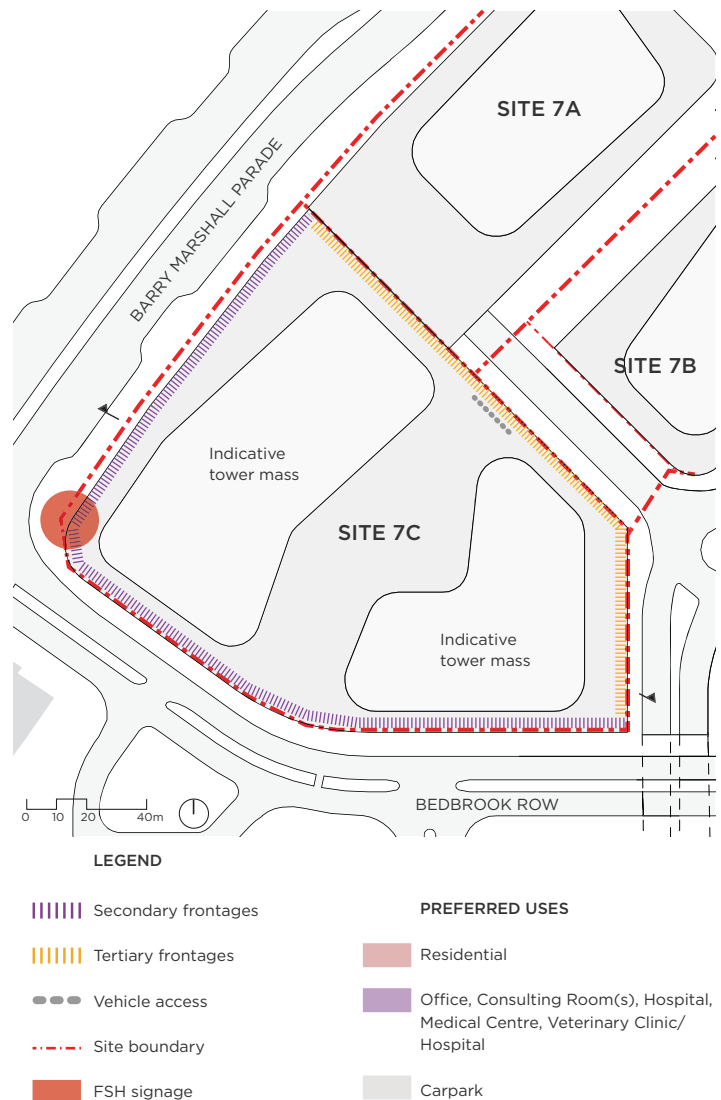
Site 7C is located at the intersection of two major view corridors into the MKHP. The developments will act as landmarks for people entering the precinct from Barry Marshall Parade or Bedbrook Row. It is crucial that the design of this development responds appropriately to the importance of these view corridors.

The site is adjacent to the main entry of Fiona Stanley Hospital (across Bedbrook Row), and the newest wing of St John of God Hospital (across Barry Marshall Parade). The design of the developments must reinforce the identity of MHKP as distinct from the buildings of the hospital precincts.

The adjacency to the two hospitals makes Site 7C an ideal location for health-support services. In addition, they are prime locations for retail, food & beverage, or a small supermarket to attract pedestrians travelling to or from Murdoch Station via Barry Marshall Parade, or cyclists accessing the main entry to Fiona Stanley Hospital bicycle store and end-of-trip facilities off Yubarl Lane.

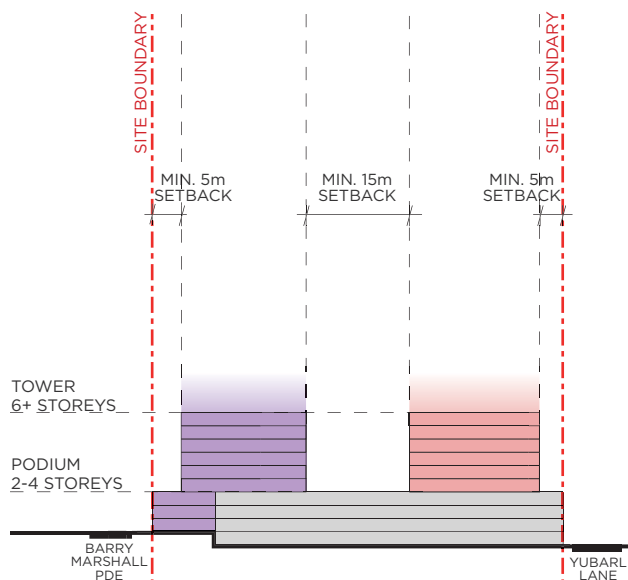
Specific Building Requirements

- Landmark design response to view corridors.
- Align tower height and mass with Barry Marshall Parade and/or Bedbrook Row.
- Relocate or incorporate FSH signage into Site 7C. Refer to 1.6 Signage for more detail.



MURDOCH HEALTH AND KNOWLEDGE PRECINCT

LOCAL PLANNING POLICY



SECTION THROUGH SITE 7C



Site Area (subject to survey)	Site 7C: 5,956 m ² Delivery as 1 site, or a Site 7 superlot
Preferred Land Uses, Ground Level	Shops, supermarket, food & beverage, small office, health services, foyers, residential
Preferred Land Uses, Podium Levels	Residential, serviced apartments, hotel, office, health services
Preferred Land Uses, Tower Levels	Residential, serviced apartments, hotel, office, health services
Vehicle/Service Access	Bedbrook Row/Yubarl Lane
Building Heights, Podium	Minimum 2 storeys Maximum 4 storeys
Building Heights, Tower (inc. Podium)	Minimum 6 storeys
Setbacks, Ground Level	Mandatory 5m setback each side of shared boundary, unless amalgamated Mandatory 0-4m setback to all other boundaries
Setbacks, Podium Levels	Mandatory 5m setback each side of shared boundary, unless amalgamated Mandatory 0m setback to all other boundaries
Setbacks, Tower Levels	Minimum 10m setback to shared boundaries Minimum 10m setback to Barry Marshall Parade boundary Minimum 5m setback to all other boundaries
Minimum Residential Dwellings, Hotel Rooms or Serviced Apartments	79
Minimum Sustainability Rating	'Australian Excellence' Green Star

Tuesday, 30 January 2024

Sean Fairfoul
Director
Lateral Urban Planning
44 King St
Perth WA 6000
ATT: SEAN FAIRFOUL

Gresley Abas Pty Ltd
ABN 68 109 290 842
Perth | 15, 38 William St, Perth WA 6000
PO Box 22165, St Georges Terrace, WA 6831
Melbourne | 10 York St, Richmond, VIC 3121
Telephone 08 9522 5322
www.gresleyabas.com.au

Dear Sean,
RE: LOT 120+121 BARRY MARSHALL PDE – PRELIMINARY DESIGN REVIEW ENDORSEMENT

The Estate Architect as Chair of the Design Review Panel has completed its review and assessment of the proposed designs. This review was undertaken in accordance with the City of Melville Local Planning Policy 4.4 (LPP) and the Murdoch Health and Knowledge Precinct (MHKP) Development Design Guidelines, based upon the presentation materials provided during two design review panel meetings (DRP1 - 14th November 2023, DRP 2-19th December 2023) and subsequent correspondence to the Estate Architect including design changes and comments issued via email on the 25th January 2024 which included:

1. 240125_Podium Facade Development.pdf
2. 016226_RP_240125_DRP-2_Landscape.pdf
3. 240125_Murdoch 120-121_PRE DA DWGS.pdf
4. 231220_Lot 120+121 Murdoch HKP DRP2 Report_DRAFT.docx

Overall, we are of the opinion that the application is of a high quality and will be a positive contribution to the Murdoch Health and Knowledge Precinct. The Panel wishes to acknowledge the responsive attitude to the comments of the panel and the willingness to pursue the aspirations of the Design Guidelines for quality urban places.

With reference to the relevant design controls requirements of the Design Guidelines laid out in the 'Contract of Sale' of the land, the Panel has resolved that the proposal has gained **PRELIMINARY SUPPORT** to proceed to Development Application lodgement with the City of Melville with conditions below which must be met, to the satisfaction of the Estate Architect, **no more than 30 days from time of lodgement of the Development Application**.

These conditions are:

1. The Applicant is to provide additional information on **Materials and Colours** to provide clarification on proposed materials and design elements to meet the requirements of **2.3 Materials** in the Design Guidelines;
2. The Applicant is required to provide a **Public Art Strategy Report** or suitable other information about Public Art which demonstrates compliance with the requirements of **1.3 Public Art** in the Design Guidelines;
3. The Applicant is to provide additional information on the proposed balcony located **clothes drying areas** to demonstrate compliance with **2.7 Building Services** in the Design Guidelines;
4. The Applicant is to provide additional information on the proposed Visitor bicycle parking and its location to demonstrate compliance with **2.8 Bicycle Parking and End of Trip Facilities** in the Design Guidelines;

5. **An Acoustic Report shall be provided to demonstrate that the proposal** shall minimise land use generated noise intrusion and emission in balance with achieving the objectives of a mixed-use precinct, referring to urban acoustic standards to meet the requirements of **2.10 Acoustics** in the Design Guidelines;
6. The Applicant shall provide confirmation that the proposal will achieve a minimum 'Australian Excellence' Green Star rating, or demonstrated equivalent as required under **2.12 Climate Responsive Design** in the Design Guidelines;
7. The Applicant shall demonstrate that at least 95% of the Conservation Area receives at least 50% of available sunlight at all times of the year, assuming that all undeveloped sites are developed to their suggested maximums, as required under **1.12.1 Solar Access** in the Design Guidelines; and
8. **Wind Modelling** shall be provided as required under **1.12.2 Wind** of the LPP presented in a Report or similar to demonstrate that the proposal achieves acceptable environmental wind conditions and minimises impact of wind on the public realm and adjacent development sites, especially retail frontages, alfresco areas, private and communal outdoor areas, and rooftop gardens.

PRELIMINARY SUPPORT is achieved also with other conditions shown in the attached *Pre-Development Application – Design Controls Checklist* for resolution prior to the submission for Building Permit.

Subject to further confirmation of any contractual requirements with DevelopmentWA, the Development Application can now be submitted to City of Melville, along with this letter. Please include this letter, the attached Development Controls Checklist, stamped drawings, and stamped applicant checklist, with your application.

It is important to advise you that as Estate Architects we intend to issue an updated letter of support for development application, once these conditions have been met, during the City's assessment period.

Advisory notes:

- Design endorsement support from the Design Review Panel does not guarantee Development Application approval.
- There are a number of outstanding items listed in the enclosed *Final Design Review Report | Design Controls Checklist* that will need compliance to be demonstrated at Building Permit stage. These items will be included in the review conducted by the Estate Architect at that time.

Kind Regards,



Philip Gresley
Director
per Gresley Abas Pty Ltd | MHKP Estate Architect

ATTACHMENTS:
Stamped and Endorsed Drawings : GA_Stamped_240125_Podium Facade Development.pdf, GA_Stamped_016226_RP_240125_DRP-2_Landscape.pdf, GA_Stamped_240125_Murdoch 120-121_PRE DA DWGS.pdf, GA_Stamped_231220_Lot 120+121 Murdoch HKP DRP2 Report_DRAFT.pdf
Pre-Development Application – Design Controls Checklist - 240130_MURTO_FINAL_Lot 120+121 Design Controls Checklist.pdf

DISTRIBUTION: Hesperia, Hassell, Development WA, City of Melville

OUR REFERENCE:
P:\2201 MURDOCH MURTO\REVIEWS\LOT 120-121\06_POST DRP2\GA REVIEW\240130_MURTO_FINAL_LOT120+121_DESIGN ENDORSEMENT LETTER.DOCX

Pre-Development Application – Design Controls Checklist

Gresley Abas Pty Ltd | Estate Architects + Panel Chair

OUR REFERENCE: P12201 Murdoch MURTO/Reviews/Lot 120-121/06_Post DRP2/GA Review/240130_MURTO_FINAL_Lot 120+121 Design Controls Checklist.docx

FINAL ISSUED 30/1/2024

gresleyabas

Lots 120 +121

Legend

Supported (or Not Applicable)	Supported design outcome based on assessment against the development control and or the associated design objective. This result can sometimes also be given based on the quality of design, on balance, of the entire proposal.
Supported pending further attention.	Supported design outcome based on assessment against the development control and or the associated design objective but conditional on the listed action.
Not Supported	Not supported by the Estate Architect
Additional Information Required	Applicant to provide Additional information .

		Estate Architect Commentary				
Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
1.0 Urban Design			Hassell/Hesperia Scheme	Hassell/Hesperia Scheme	Hassell/Hesperia Scheme 25/1/2023	
1.1 Diversity and Accessibility						
Design Objective: To cater for a diverse range of residents, workers, shoppers and visitors to the precinct, with focus on accessibility and convenience.						
Developments shall provide a diverse and flexible mix of land uses that are consistent with the precinct's categorisation as a specialist centre. Individual development sites shall provide a mix of residential, commercial, retail, entertainment and community/civic uses as outlined in Part 3 of the MHKP LPP.	DG	Supported	Supported	Supported		Compliant.
Developments shall comply with accessibility requirements of the NCC and Australian Standards. 'Above and beyond' approaches are strongly encouraged, to maximise accessibility for patients of the adjacent hospitals.	DG	Additional Information Required	Additional Information Required	Additional Information Required		The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
Residential developments shall provide communal spaces that increase amenity for residents and promote a sustainable community.	DG	Supported	Supported	Supported		Compliant.
Residential developments shall provide a diversity of dwelling types, considering singles, families, students, the elderly, those with limited mobility, and those with low to moderate incomes.	DG	Supported	Supported	Supported		Compliant.
Retail development shall provide multiple tenancies at grade, with a variety of tenancy sizes, price points and opening times.	DG	Not Supported	Supported pending further attention.	Supported pending further attention.		For the purposes of Development Application, the Estate Architect is supportive of the general approach presented in the proposal. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
Residential and commercial ground level ceiling heights and facades shall be designed to allow for future conversion to retail as the precinct develops.	DG	Additional Information Required	Additional Information Required	Supported pending further attention.		For the purposes of Development Application, the Estate Architect is supportive of the general approach presented in the proposal. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
1.2 Land Use and Active Edges						
Design Objective: To create a diverse, vibrant and pedestrian-friendly precinct with a strong sense of identity and character, reinforced by land use and built form.	LPP					

1

		Estate Architect Commentary				
Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
Primary Frontages at ground level shall accommodate publicly accessible, 'active' uses as detailed within Part 3 Site Specific Requirements.	LPP	Not Applicable	Not Applicable	Not Applicable		NA.
In addition to the Primary Frontages uses, Secondary Frontages at ground level shall accommodate visibly active uses as detailed within Part 3 Site Specific Requirements.	LPP	Not Supported	Supported	Supported		Compliant.
Tertiary Frontages at ground level are the only permissible locations for 'inactive' uses as detailed within Part 3 Site Specific Requirements.	LPP	Supported	Supported	Supported		Compliant.
Above ground level, apartments, balconies and breakout spaces shall be located on Primary and Secondary Frontages wherever possible, allowing activation and passive surveillance of the public realm as well as providing best aspect for residents and workers.	LPP	Supported pending further attention	Supported	Supported		Compliant.
Above ground level, Secondary and Tertiary Frontages are the only permissible locations for car parking areas and shall be screened from view or sleeved as outlined in 1.5 Access and Parking. On Primary Frontages above ground level, car parking areas shall be sleeved with an active and habitable land use such as residential or commercial.	LPP	Not Supported	Supported pending further attention	Supported		Podium level parking is permissible, and screening has been provided as required in section 1.5 Access and Parking. On balance the proposal meets the performance requirements of the Design Guidelines.
1.3 Public Art						
Design Objective: To incorporate public art which is innovative, imaginative, and thought-provoking.						
Development proposals shall accord with the City of Melville Local Planning Policy CP-085 Provision of Public Art in Development Proposals.	LPP	Additional Information Required	Additional Information Required	Additional Information Required		A Public Art Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
Public art shall reinforce the urban form and provide activation to the Boulevard and key view lines.	DG	Not Supported	Additional Information Required	Additional Information Required		A Public Art Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
Public art should explore ideas through use of scale, material, construction techniques and overall conceptual approach.	DG	Not Supported	Additional Information Required	Additional Information Required		A Public Art Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
Public art shall address the unique character and identity of the precinct, distinct from the surrounding institutions.	DG	Additional Information Required	Additional Information Required	Additional Information Required		A Public Art Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
1.4 Safety and Surveillance						
Design Objective: To maximise safety of the public realm, and create a safe and secure environment for residents, workers and visitors.						
Design of developments shall employ Crime Prevention through Environmental Design (CPTED) principles.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention		The Estate Architect is supportive of the general approach presented in the proposal, for the purposes of Development Application. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit. The Applicant is to prepare a signage strategy that includes confirmation that no more than 10% of any ground level window will contain any applied signage. The Applicant has confirmed that clear and transparent glazing will be provided to all active frontages on the ground level.
Built form and land use shall be designed and oriented to promote passive surveillance of the public realm.	LPP	Supported pending further attention	Supported	Supported		Compliant.
Developments shall provide lighting, activation and surveillance of pedestrian routes at night, especially routes to/from Murdoch Station.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention		The Estate Architect is supportive of the general approach presented in the proposal, for the purposes of Development Application. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit.

2

		Estate Architect Commentary				
Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
1.5 Access and Parking						
Design Objective: To provide secure and clearly defined car parking for residents, workers and visitors, with the target of lowering car dependency and encouraging the use of alternative transport.			Additional Information Required	Supported pending further attention	Supported pending further attention	- the Applicant's parking management plan being supported by the City of Melville. - the project being considered as a single design outcome, and not the proposed Stage 1 in isolation.
Design Objective: To allow for efficient and clearly-defined movement of local, visitor and service vehicles, while minimising the impact of vehicles on the public realm.			Additional Information Required	Supported pending further attention	Supported pending further attention	the Applicant's traffic/transport assessment being supported by the City of Melville.
Car parking bays shall be provided in accordance with the Murdoch MUP ACSP, summarised in the following table, taking into consideration the objectives and principles of the City of Melville Policy CP-079 Car Parking and Access, and the Murdoch Activity Centre Access and Parking Policy.		LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	- the Applicant's parking management plan being supported by the City of Melville. - the project being considered as a single design outcome, and not the proposed Stage 1 in isolation.
Car parking areas shall be located at basement, ground or podium level, and either sleeved with an active and habitable use, or visually screened from view, as outlined in 1.2 Land Use and Active Edges and 2.2.4 Facades.		LPP	Not Supported	Supported pending further attention	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
Car parking areas shall be designed in accordance with AS-2890.1, to be well lit, safe and secure.		LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
Car parking areas shall be naturally ventilated.		LPP	Supported	Supported	Supported	Compliant.
Residential developments shall provide direct pedestrian access to residential car parks from building foyers and individual apartment entrances.		LPP	Supported	Supported	Supported	Compliant.
Vehicle access is permissible only on Tertiary Frontages. Refer to Part 3 for more detail on preferred vehicle access locations.		LPP	Supported pending further attention	Supported pending further attention	Supported pending further attention	The vehicular access proposed off Barry Marshall Parade is non-compliant with this control. However, there are significant transport and traffic assessments being undertaken by the proponent to demonstrate to the City of Melville and Development WA the changes in traffic patterns and usage since the adoption of the current structure plan. The Estate Architect are supportive conditional on the traffic/transport assessment being supported by the City of Melville.
A Parking Management Plan shall be submitted as part of the Development Approval application to demonstrate that all development proposals comply with the Objective.		LPP	Additional Information Required	Additional Information Required	Supported pending further attention	Parking management plan to be provided at Development Application stage.
Efficient and clearly defined movement of local, visitor and service vehicles shall be allowed for.		DG	Additional Information Required	Supported pending further attention	Supported pending further attention	We are supportive conditional on the traffic/transport assessment being supported by the City of Melville.
1.6 Signage						
Design Objective: To provide clear and legible wayfinding into and within the precinct with signage that is integrated into built form and the public realm.						
Reliance on signage shall be minimised by designing built form that is clear and legible, strengthens urban form and view lines, and creates a cohesive edge to the public realm.		DG	Additional Information Required	Additional Information Required	Additional Information Required	A Signage Strategy is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
Signage design shall consider the clarity and legibility of signage to both pedestrian and vehicle traffic.		DG	Additional Information Required	Additional Information Required	Additional Information Required	A Signage Strategy is required to be provided at the Detailed Design Review, prior to the application for Building Permit.

3

		Estate Architect Commentary				
Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
Building and tenancy signage shall be integrated with building facades to avoid cluttering the public realm.		LPP	Additional Information Required	Additional Information Required	Additional Information Required	A Signage Strategy is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
Fiona Stanley Hospital (FSH) precinct signage shall be integrated into the design of Sites 1D and 7C where outlined in Part 3. Where applicable, FSH signage shall be relocated outside of the development site or integrated into built form, and shall not be retained as standalone signage within the development site. Developers shall liaise with FSH to ensure most up-to-date information.		LPP	Additional Information Required	Additional Information Required	Additional Information Required	A Signage Strategy is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
2.0 Built Form Design						
2.1 Primary Building Controls						
Design Objective: To create a sense of diversity across the precinct, to frame the public realm, and create a legible and cohesive urban form.						
Built form shall be oriented to address Primary and Secondary frontages. Where a development site has a Primary Frontage, the tower mass and height shall be aligned with the Primary Frontage, reinforcing the view corridors of the Boulevard and Barry Marshall Parade.		LPP	Supported	Supported	Supported	Compliant.
Built form shall be recognisable as part of the precinct, to create a sense of distinction from adjacent precincts.		DG	Not Supported	Supported pending further attention	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
Landmark sites shall be designed with form and character that appropriately responds to the importance of major view corridors. Landmark sites are identified in Figure 3 below. Refer to Part 3 for further detail on landmark views for each site.		LPP	Not Supported	Supported pending further attention	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
Developments shall co-ordinate with adjacent sites to create a cohesive built edge to the public realm, especially where a laneway or pedestrian arcade is shared between sites.		LPP	Additional Information Required	Supported	Supported	Compliant.
If a single developer delivers more than one site, the developer shall ensure that each site has a distinct design response and that the overall precinct has a sense of diversity. The use of different architectural firms for each site is encouraged.		DG	Not Supported	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
2.1.1 Setbacks						
Design Objectives: To establish the street proportions, streetscape character and the required separation distance between buildings in order to protect the amenity of adjoining developments and the public realm.				Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
Developments shall comply with the setback requirements outlined in Part 3.		LPP	Not Supported	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
Small variations to setbacks to a maximum of 500mm are permitted to allow for architectural articulation of the facade.		LPP	Additional Information Required	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
2.1.2 Building Layout and Orientation						
Design Objective: To optimise the built environment for occupants through building layout and orientation, considering solar access, shading and glare, ventilation, overlooking, and aspect.						
Developers shall demonstrate how the building layout and orientation deals appropriately with solar access, shading and glare to all internal and external spaces.		DG	Additional Information Required	Supported	Supported	Applicant has demonstrated consideration of a response to climatic context including solar access, shading and glare.

4

		Estate Architect Commentary				
Clause	Requirement	Design Guideline s / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
	Buildings shall incorporate natural cross-ventilation wherever possible. Apartments and tenancies with dual aspect are encouraged.	DG	Additional Information Required	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	Open spaces such as podium roofs shall be designed to provide pleasant aspect for apartments which do not overlook the central POS, and especially to mitigate aspect over the Kwinana Freeway for Sites 3, 4, 5 and 6.	DG	Additional Information Required	Supported pending further attention	Supported pending further attention	A glint and glare assessment shall be provided as part of the detailed design prior to building permit stage to provide surety that there are no negative impacts to the residences from solar panels on the Lot 120 stage 1 podium parking level.
	The design of habitable outdoor spaces shall provide thermal, solar, wind and acoustic comfort to users.	DG	Additional Information Required	Additional Information Required	Additional Information Required	A Wind Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
2.1.3 Height						
Design Objective: To create the desired character and proportions of the precinct streets, and provide appropriate density for the precinct.						
	Maximum building heights are controlled by the restrictions of the Jandakot Aerodrome/CASA Obstacle Limitation Surface and Fiona Stanley Hospital helipad. The total maximum height of any building (measured from AHD) shall be in accordance with these controls.	LPP	Additional Information Required	Supported pending further attention	Supported	Applicant has confirmed this requirement is met.
	Developments shall comply with minimum and maximum podium heights, and minimum tower heights, as outlined in Part 3.	LPP	Not Supported	Supported	Supported	The presented scheme is not compliant. One (1) additional storey to proposed to podium, five (5) storeys total. The Panel has determined that the proposal meets the Objectives of the Design Guidelines.
	Developments on Sites 1C, 1D, 2A, 2B and 4 shall comply with the suggested maximum heights specified in Part 3, in order to achieve mandatory solar access requirements to the Conservation Area. If developers of these sites propose to exceed the suggested maximum heights, refer to 2.12.1 Solar Access for compliance demonstration requirements.	LPP	Additional Information Required	Supported	Supported	Compliant. The proposal exceeds the suggested 39m maximum height prescribed in Part 3 - Specific Building Requirements. Applicant has demonstrated compliance with mandatory solar access requirements to the Conservation Area. See 2.12.1 Solar Access.
2.1.4 Floor Levels						
Design Objective: To ensure floor levels and entrances to buildings appropriately interface with the ground plane where level changes occur within sites.						
	Ground floor levels shall be at the same level of the public realm on Primary and Secondary Frontages. Refer 1.2 Land Use and Active Edges for frontages diagram.	LPP	Additional Information Required	Supported pending further attention	Supported	The presented strategy appears to be generally compliant. Applicant to provide detailed street sections and/or floor levels to confirm compliance with control.
	Where levels vary around development sites, developments shall provide multiple entry points, split levels, and/or ramped arcades to address different public realm levels.	LPP	Additional Information Required	Supported pending further attention	Supported	The presented strategy appears to be generally compliant. Applicant to provide detailed street sections and/or floor levels to confirm compliance with control..
2.2 Built Form Character						
2.2.1 Colonnade						
Design Objective: To create a cohesive, consistent edge to the public realm, blur the threshold between public realm and built form, and define and frame a wider space for pedestrian movement.						
	All Primary Frontages shall provide a colonnade zone as an extension of the public realm. The colonnade zone applies a four metre building setback at ground level and nil building setback to the site boundary at podium level. Refer to 1.2 Land Use and Active Edges for frontages diagram.	LPP	Not Supported	Supported	Supported	A colonnade frontage is required to the Secondary Frontage along Barry Marshall Parade as per the Part 3 - Specific Building Requirements for Lot 1C and 1D. The proposal does not provide the required 'Ground level 4m colonnade' zone along Barry Marshall Parade. The alternate solution, which provides a considered pedestrian canopy with provision of significant landscaping achieves the qualities of a pedestrian-based colonnade space and is supported.

5

		Estate Architect Commentary				
Clause	Requirement	Design Guideline s / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
	Alfresco areas, sun and wind protection, and signage shall be integrated into colonnade design to avoid cluttering the public realm.	LPP	Additional Information Required	Additional Information Required	Supported pending further attention	A Wind Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
	Paving and levels within the colonnade zone shall be consistent with the public realm.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	The presented strategy appears to be generally compliant. Applicant to provide detailed street sections and/or paving levels to confirm compliance with control. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
2.2.2 Podiums						
Design Objective: To provide human scale at street levels and above, and to break up the visual mass of development sites.						
	Podiums shall have nil setback to the site boundary in order to frame and address the public realm. Refer also to 2.1.1 Setbacks and Part 3 Site-Specific Requirements.	LPP	Supported	Supported	Supported	Compliant.
	Podiums shall allow for rooftop breakout space overlooking public realm.	LPP	Supported	Supported	Supported	Compliant.
	If adjacent sites are amalgamated, podiums shall be visually distinct along the amalgamated boundary to break up the visual bulk of the development site.	LPP	Not Supported	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
2.2.3 Towers						
Design Objective: To reinforce the masterplan and view corridors and to frame and address the public realm.						
	Towers shall be positioned within the building envelope to reinforce the masterplan axes and view corridors and frame the public realm.	DG	Supported pending further attention	Supported	Supported	Compliant.
	Where a development site has a Primary Frontage, the tower mass and height shall be aligned with the Primary Frontage.	LPP	Not applicable	Not applicable	Not applicable	NA.
	Activated zones in towers shall address the public realm, providing activation and passive surveillance as well as allowing for best aspect.	LPP	Not Supported	Supported	Supported	Compliant.
	If adjacent sites are amalgamated, setbacks between towers shall apply as if the sites were not amalgamated, to break up the visual bulk of the development site and maintain view corridors between sites.	LPP	Supported pending further attention	Supported	Supported	The proposal meets the objectives of the Design Guidelines.
2.2.4 Facades						
Design Objective: To create building design of significant quality and architectural merit, that contributes to the immediate public realm and broader precinct as a whole.						
	Facade design shall provide a hierarchy of scales, from human scale to wider precinct scale.	DG	Not Supported	Supported pending further attention	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	Primary and Secondary frontages at ground level shall be of a fine-grain scale, with multiple, clearly defined building entrances and spaces.	LPP	Not Supported	Supported	Supported	Compliant.
	Articulation of facades shall be meaningful and responsive to context and to interior uses, so as not to appear superficial.	DG	Not Supported	Supported pending further attention	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.

6

		Estate Architect Commentary				
Clause	Requirement	Design Guideline s / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
	Facade design shall maximise amenity and activation through provision of balconies, screening, shading, and natural ventilation. Facade screening shall balance privacy for residents with the requirement for visible activity.	LPP	Not Supported	Supported pending further attention	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	On frontages where it is permissible to locate ground- or podium-level car parking, vehicle access, loading docks and building service areas (refer 1.2 Land Use and Active Edges), these areas shall be visually screened from view, and provide an attractive and engaging interface to the public realm.	LPP	Not Supported	Supported pending further attention	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	Facades facing on to Kwinana Freeway shall be designed to innovatively and creatively respond to views from people travelling on the Freeway or train line, acting as 'billboards' for the precinct.	DG	Not applicable	Not Applicable	Not Applicable	NA.
2.3 Materials						
Design Objective: To utilise materials of a very high quality, which are durable and appropriate to the climate and context.						
	Materials and detailing shall be of very high quality. Use of 'faux' materials such as fake timber, stone or AstroTurf is not permitted.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Applicant is to provide additional information on Materials and Colours for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period
	Materials shall be durable and minimise maintenance requirements.	DG	Additional Information Required	Additional Information Required	Additional Information Required	The Applicant is to provide additional information on Materials and Colours for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period
	Material selection shall give priority to materials which are locally sourced and contextually/climatically appropriate.	DG	Additional Information Required	Additional Information Required	Additional Information Required	The Applicant is to provide additional information on Materials and Colours for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period
2.4 Building Entrances						
Design Objective: To create a defined address for buildings, which will contribute to the public realm.						
	Foyers shall be stand-out, well-lit spaces, and provide visual interest to the public realm whether or not they are publicly accessible.	LPP	Not Supported	Supported	Supported	Compliant.
	Mailboxes, services cupboards, and signage shall be fully integrated into the design of building entrances.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Buildings shall be provided with a clear address onto one street. Provide separate 'addresses' for residential, commercial and retail areas within sites.	LPP	Not Supported	Supported	Supported	Compliant.
2.5 Roof						
Design Objective: To ensure roofs integrate into the overall design, and contribute to the activation of the built form both aesthetically and functionally.						
	Rooftops shall be functional and accessible where practicable, to provide amenity to building users, and activate the wider public realm. Accessible rooftop spaces may be for private, communal or commercial use. Refer to 2.6 Outdoor Living Areas for more detail.	DG	Additional Information Required	Supported	Supported	Compliant.
	Building services and sustainability elements shall be incorporated into the roof design and concealed from view.	LPP	Additional Information Required	Supported pending further attention	Supported	Compliant. The applicant has confirmed that the Stage 1 carpark deck solar panels will designed to form part of the canopy shade structure, and will be oriented north preventing any glare to residents of Lot 121.

7

		Estate Architect Commentary				
Clause	Requirement	Design Guideline s / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
	Roof design shall be considerate of views from the public realm, towers, and adjacent development sites.	DG	Additional Information Required	Supported pending further attention	Supported	Compliant. The applicant has confirmed that the Stage 1 carpark deck solar panels will designed to form part of the canopy shade structure, and will be oriented north preventing any glare to residents of Lot 121.
2.6 Outdoor Living Areas						
Design Objective: To create outdoor environments that provide amenity, activate the public realm, and add a diversity of spaces to the built form.						
	All developments shall provide a communal outdoor area or areas which are accessible and functional to building residents and tenants, incorporate landscape, and maximise comfort of solar and wind access. Communal outdoor areas may be a mix of courtyards, balconies or rooftop terraces.	DG	Additional Information Required	Supported	Supported	Compliant.
	Communal outdoor areas shall be located on Primary and Secondary frontages.	LPP	Supported	Supported	Supported	Compliant.
	Residential developments shall provide a communal outdoor garden for residents at a minimum size of 15% of the lot area, at podium or rooftop level, incorporating deep planting zones (refer to 3.3 Softscaping), shelter, and allowance for a mix of active and passive recreational uses.	LPP	Additional Information Required	Supported pending further attention	Supported	The applicant has confirmed 25% of the proposed site area is outdoor communal and residential garden space Shelter/shade structures and active zones including furniture and BBQs have been provided.
	Residential developments shall provide each dwelling with a private outdoor living area accessed directly from a habitable room with a minimum area of 10m ² and a minimum dimension of 2.4m.	LPP	Additional Information Required	Supported pending further attention	Supported	The applicant has confirmed balconies have been designed to meet the minimum requirements of 8m ² with Min dimension of 2m for 1 bed apartments and 10m ² with Min dimension of 2.4m for 2 bed Apartments as per the R codes Volume 2. On balance the proposal meets the performance requirements of the Design Guidelines.
2.7 Building Services						
Design Objective: To ensure services are hidden and integrated into the built form to minimise the impact of services on the public realm.						
	Loading areas, service areas and waste storage shall be visually integrated within built form or streetscape, and screened to prevent visual, noise and odour intrusions.	LPP	Supported	Supported pending further attention	Supported	The applicant has confirmed all waste areas are located internally and cannot be seen from the street. Loading docks are hidden from the street with a single access point on Wonnul Place
	Services and plant equipment shall not be visible from the public realm or above the roofline of buildings. 'Feature' sustainability initiatives may be considered if proven to enhance the public realm.	LPP	Additional Information Required	Additional Information Required	Supported pending further attention	The presented strategy appears to be generally compliant. The Estate Architect is satisfied with more detailed information being provided at the Detailed Design Review, prior to the application for Building Permit.
	Air-conditioning units or condensers shall not be located on balconies unless screened from view and in addition to balcony minimum dimensional requirements as per 2.6 Outdoor Living Areas.	LPP	Additional Information Required	Additional Information Required	Supported pending further attention	The presented strategy appears to be generally compliant. The Estate Architect is satisfied with more detailed information being provided at the Detailed Design Review, prior to the application for Building Permit.
	An integrated Waste Management Strategy (WMS) shall be prepared in consultation with the City of Melville. The WMS shall address coordination of the movement of service vehicles and the management of service areas and refuse collection to minimise impact on the public realm.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	This is supported conditionally on the City of Melville receiving the Waste Management Plan at Development Application stage.
	Waste collection and management shall accord with the City of Melville Local Planning Policy CP-090 Waste and Recyclables Collection for Multiple Dwellings, Mixed Use Developments and Non-Residential Developments.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	This is supported conditionally on the City of Melville supporting the Waste Management Plan at Development Application stage.
	Residential developments shall provide clothes-drying areas of an appropriate size for the number of residents.	DG	Additional Information Required	Additional Information Required	Supported	The applicant is proposing a standard wall-mounted clothes-drying line, integrated into the design of each balcony, which is consistent with the outcomes promoted by the R-Codes Volume 2. On balance the proposal meets the performance requirements of the Design Guidelines.

8

		Estate Architect Commentary				
Clause	Requirement	Design Guideline s / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
	Drying areas shall be screened from view.	LPP	Additional Information Required	Additional Information Required	Supported pending further attention	More information is required. This will need to be provided to the Estate Architect no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
	Residential developments shall provide each dwelling with an enclosed, lockable storage area accessible from outside the dwelling, with a minimum area of 4m ² and a minimum dimension of 1.5m. Storage areas shall not be visible from the public realm.	LPP	Additional Information Required	Additional Information Required	Supported	The applicant has advised each apartment will have a store room based on R Code requirements. 3m ² for 1 bed apartments and 4m ² for 2 bed apartments. On balance the proposal meets the performance requirements of the Design Guidelines.
2.8 Bicycle Parking and End of Trip Facilities						
Design Objective: To encourage use of alternative transport by providing end-of-trip facilities and safe and secure bicycle parking.						
	Secure bicycle parking and end-of-trip facilities shall be provided in accordance with the Murdoch Mixed Use Precinct Parking Strategy, summarised in the provided table.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	More information required to demonstrate compliance with the minimum supply requirements of bicycle parking as outlined in the Murdoch Mixed Use Precinct Parking Strategy. Applicant to confirm location and provision of bicycle parking facilities for residents. This will need to be provided to the Estate Architect no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
	Bicycle parking facilities shall be designed, located and constructed in accordance with AS-2890.3 Bicycle Parking Facilities.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Applicant to confirm location and provision of bicycle parking facilities for residents. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Changing rooms shall be designed as secure lockable facilities, located adjacent to the showers in a well-lit area which is capable of easy passive surveillance.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Lockers shall be well ventilated.	DG	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	End-of-trip facilities shall be located as close as possible to the bicycle parking facilities.	DG	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Visitor bicycle parking shall be easily visible, and located close to building entrances.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Applicant to confirm provision of visitor bicycle parking. Bicycle parking is adequately located and accessed from Barry Marshall Parade. This will need to be provided to the Estate Architect no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
2.9 Screening						
Design Objective: To provide screening of significant design and material quality, which contributes to the public realm and precinct and enables surveillance of the public realm.						
	Private courtyards for ground-level dwellings along Primary and Secondary Frontages shall be screened with fencing at least 50% visually permeable and no more than 1.5 m high when measured from the public realm level.	LPP	N/A	N/A		Not Applicable.
	Front fencing shall be designed to complement the built form design.	LPP	N/A	N/A		None provided.
	Colorbond and super six style fencing is not permitted.	LPP	N/A	N/A		None provided.
2.10 Acoustics						

9

		Estate Architect Commentary				
Clause	Requirement	Design Guideline s / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
Design Objective: To minimise the acoustic impact of development on adjacent buildings, and to provide acoustic protection against external noise for occupants.						
	Developments shall minimise land use generated noise intrusion and emission in balance with achieving the objectives of a mixed-use precinct, referring to urban acoustic standards.	DG	Additional Information Required	Additional Information Required	Additional Information Required	An Acoustics Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
	Prior to submission of a DA, an acoustic assessment shall be prepared for buildings affected by noise from surrounding roads as identified in Aecom's Noise Assessment (dated 29 October 2012). Refer to Part 3 for more detail.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	An Acoustics Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
2.11 Lighting						
Design Objective: To provide lighting which does not negatively impact on the public realm or adjacent developments.						
	All outdoor lighting shall be directed downwards with no light spill above the horizontal plane.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Front outdoor/security lights shall be operated via a timed sensor with manual override.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Rear outdoor areas adjacent to laneways shall be well lit and incorporate motion activated light fittings.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
2.12 Climate Responsive Design						
Design Objective: To provide high-quality, efficient buildings that achieve the precinct objectives of integrated sustainable development.						
	Developments shall achieve a minimum 'Australian Excellence' Green Star rating, or demonstrated equivalent. This shall be demonstrated at Development Application stage and post-construction.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Confirmation will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
	Developments shall integrate environmental sustainability initiatives to create 'Design that is Sustainable, not Sustainable Design'. Alternative proposals for 'feature' sustainability initiatives may be considered if they are proven to enhance the public realm.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Confirmation will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
2.12.1 Solar Access						
Design Objective: To minimise the impact of development on solar access to the public realm and development sites, and to achieve mandatory sunlight requirements for the Conservation Area.						
	If developments on Sites 1C, 1D, 2A, 2B or 4 are proposed to exceed the suggested maximum heights specified in Part 3, developers shall provide a solar modelling report at Development Application stage that demonstrates that the additional height does not impact negatively on the Conservation Area. Specifically, the report shall demonstrate that at least 95% of the Conservation Area receives at least 50% of available sunlight at all times of the year, assuming that all undeveloped sites are developed to their suggested maximums.		Additional Information Required	Supported pending further attention	Supported pending further attention	Additional information will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.

10

		Estate Architect Commentary				
Clause	Requirement	Design Guideline s / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
	Built form shall minimise impact on solar access to the public realm and adjacent development sites, especially alfresco areas, private and communal outdoor areas, and rooftop gardens.	DG	Additional Information Required	Supported	Supported	The proposal meets the objectives of the Design Guidelines.
	Built form shall provide shade to a minimum depth of 2m of the public realm adjacent to Primary and Secondary frontages, at midday in summer months. Shade may be provided by a variety of elements such as colonnades, cantilevers, integrated canopies or balconies.	LPP	Additional Information Required	Supported	Supported	Compliant.
	Solar access modelling shall be provided at Development Application stage to assess overshadowing performance of building design proposals.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Some overshadowing diagrams provided. More information is required. This will need to be provided to the Estate Architect no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
2.12.2 Wind						
Design Objective: To minimise the impact of wind on the public realm and development sites.						
	Built form shall be designed to achieve acceptable environmental wind conditions in the public realm in accordance with the provided table.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Wind modelling report to be provided. It is recommended wind modelling be provided to assess the proposals impact on wind conditions to the public realm for Secondary and Tertiary Frontages. A Wind Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
	Built form shall incorporate setbacks, articulation and aerodynamic forms to minimise impact of wind on the public realm and adjacent development sites, especially retail frontages, alfresco areas, private and communal outdoor areas, and rooftop gardens.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Wind modelling report to be provided to enable mitigation measures for any built form impact on wind conditions within the public realm. A Wind Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
	Wind modelling shall be provided at Development Application stage to assess wind performance of building design proposals.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	A Wind Report will be required for Estate Architect to review, no more than 30 days from time of lodgement of the Development Application and achieve support from the Estate Architect prior to the end of the Development Application assessment period.
3.0 Landscape Design						
3.1 Biodiversity and Habitat						
Design Objective: To create a landscape that enhances the biodiversity and habitat values of the precinct.						
	In accordance with the Environmental Protection and Biodiversity Conservation Act, all soft landscaping (communal and private) shall be planted with at least 70% native species, with at least 50% either species found in the project area or other native species suitable for foraging by Carnaby's Black Cockatoo. This provision excludes turfed areas.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Applicant to confirm. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
3.2 Hardscaping						
Design Objective: To create attractive hardscaped areas that present a landscape character that complements the wider public realm aesthetic.						
	Developments shall be designed to minimise the 'heat island effect' by maximising use of planting and materials with low solar reflectance in open spaces and on rooftops.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Additional information required. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Hardscaping which is contiguous with the public realm at ground level shall use similar or complementary materials of an equivalent quality.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Applicant to confirm. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.

		Estate Architect Commentary				
Clause	Requirement	Design Guideline s / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	Condition / Comment
	Damage to public realm works shall be rectified by the developer at the developer's expense to match pre-existing works.	DG	Not Applicable	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
3.3 Softscaping						
Design Objective: To improve residential amenity, local microclimate and promote management of water and air quality through the growth of healthy trees in deep root zones.						
	Residential developments shall incorporate deep planting zones for small trees, located in the communal outdoor garden, at a minimum size of 4% of the lot area and a minimum soil depth of 450mm.	LPP	Additional Information Required	Supported pending further attention	Supported	The Applicant has confirmed all planted areas have a minimum soil depth of 500mm. Planters maximise depth and area to provide adequate soil volume. 4% of the proposed lot area meets minimum requirements.
	Deep planting zones shall be located at podium or rooftop level.	LPP	Additional Information Required	Supported pending further attention	Supported	The Applicant has confirmed Deep planting zones are provided throughout the podium space and to the building perimeter. Planter depths in these areas are 1200mm.
3.4 Water Efficiency and Maintenance						
Design Objective: To maximise opportunities for efficient use of water through best practice design.						
	A Landscape and Irrigation Plan shall be provided as part of the Landscape Plan for Building Approval to assess suitability and water efficiency of proposed designs.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Water efficient in-line drip irrigation shall be installed for all garden beds. Spray irrigation may be used on turf areas only.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Private water bores are not permitted.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.

Development Application – Design Controls Checklist

Gresley Abas Pty Ltd | Estate Architects + Panel Chair

OUR REFERENCE: P:\2201 Murdoch MURTO\Reviews\Lot 120-121\07_Post DA\GA Review\240417_MURTO_FINAL_Lot 120+121 Design Controls Checklist.docx

FINAL ISSUED 17/4/2024



Lots 120 +121

Legend

Supported (or Not Applicable)	Supported design outcome based on assessment against the development control and or the associated design objective. This result can sometimes also be given based on the quality of design, on balance, of the entire proposal.
Supported pending further attention.	Supported design outcome based on assessment against the development control and or the associated design objective but conditional on the listed action.
Not Supported	Not supported by the Estate Architect
Additional Information Required	Applicant to provide Additional information .

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
1.0 Urban Design			Hassell/ Hesperia Scheme	Hassell/ Hesperia Scheme	Hassell/ Hesperia Scheme 25/1/2023	Review of Conditions to Prelim Support 17/4/2024	
1.1 Diversity and Accessibility							
Design Objective: To cater for a diverse range of residents, workers, shoppers and visitors to the precinct, with focus on accessibility and convenience.							
Developments shall provide a diverse and flexible mix of land uses that are consistent with the precinct's categorisation as a specialist centre. Individual development sites shall provide a mix of residential, commercial, retail, entertainment and community/civic uses as outlined in Part 3 of the MHKP LPP.	DG	Supported	Supported	Supported	Supported		Compliant.
Developments shall comply with accessibility requirements of the NCC and Australian Standards. 'Above and beyond' approaches are strongly encouraged, to maximise accessibility for patients of the adjacent hospitals.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required		The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
Residential developments shall provide communal spaces that increase amenity for residents and promote a sustainable community.	DG	Supported	Supported	Supported	Supported		Compliant.
Residential developments shall provide a diversity of dwelling types, considering singles, families, students, the elderly, those with limited mobility, and those with low to moderate incomes.	DG	Supported	Supported	Supported	Supported		Compliant.
Retail development shall provide multiple tenancies at grade, with a variety of tenancy sizes, price points and opening times.	DG	Not Supported	Supported pending further attention.	Supported pending further attention.	Supported pending further attention.		For the purposes of Development Application, the Estate Architect is supportive of the general approach presented in the proposal. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
Residential and commercial ground level ceiling heights and facades shall be designed to allow for future conversion to retail as the precinct develops.	DG	Additional Information Required	Additional Information Required	Supported pending further attention.	Supported pending further attention.		For the purposes of Development Application, the Estate Architect is supportive of the general approach presented in the proposal. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit.

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
1.2 Land Use and Active Edges							
Design Objective: To create a diverse, vibrant and pedestrian-friendly precinct with a strong sense of identity and character, reinforced by land use and built form.		LPP					
Primary Frontages at ground level shall accommodate publicly accessible, 'active' uses as detailed within Part 3 Site Specific Requirements.	LPP	Not Applicable	Not Applicable	Not Applicable	Not Applicable	NA.	
In addition to the Primary Frontages uses, Secondary Frontages at ground level shall accommodate visibly active uses as detailed within Part 3 Site Specific Requirements.	LPP	Not Supported	Supported	Supported	Supported	Compliant.	
Tertiary Frontages at ground level are the only permissible locations for 'inactive' uses as detailed within Part 3 Site Specific Requirements.	LPP	Supported	Supported	Supported	Supported	Compliant.	
Above ground level, apartments, balconies and breakout spaces shall be located on Primary and Secondary Frontages wherever possible, allowing activation and passive surveillance of the public realm as well as providing best aspect for residents and workers.	LPP	Supported pending further attention	Supported	Supported	Supported	Compliant.	
Above ground level, Secondary and Tertiary Frontages are the only permissible locations for car parking areas and shall be screened from view or sleeved as outlined in 1.5 Access and Parking. On Primary Frontages above ground level, car parking areas shall be sleeved with an active and habitable land use such as residential or commercial.	LPP	Not Supported	Supported pending further attention	Supported	Supported	Podium level parking is permissible, and screening has been provided as required in section 1.5 Access and Parking. On balance the proposal meets the performance requirements of the Design Guidelines.	
1.3 Public Art							
Design Objective: To incorporate public art which is innovative, imaginative, and thought-provoking.							
Development proposals shall accord with the City of Melville Local Planning Policy CP-085 Provision of Public Art in Development Proposals.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	The Estate Architect is supportive conditional on the Public Art Strategy Report being supported by the City of Melville.	
Public art shall reinforce the urban form and provide activation to the Boulevard and key view lines.	DG	Not Supported	Additional Information Required	Additional Information Required	Supported pending further attention	For the purposes of Development Application, the Estate Architect is supportive of the general approach presented in the proposal. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit.	
Public art should explore ideas through use of scale, material, construction techniques and overall conceptual approach.	DG	Not Supported	Additional Information Required	Additional Information Required	Supported pending further attention	For the purposes of Development Application, the Estate Architect is supportive of the general approach presented in the proposal. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit.	
Public art shall address the unique character and identity of the precinct, distinct from the surrounding institutions.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	For the purposes of Development Application, the Estate Architect is supportive of the general approach presented in the proposal. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit.	
1.4 Safety and Surveillance							
Design Objective: To maximise safety of the public realm, and create a safe and secure environment for residents, workers and visitors.							
Design of developments shall employ Crime Prevention through Environmental Design (CPTED) principles.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	The Estate Architect is supportive of the general approach presented in the proposal, for the purposes of Development Application. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit. The Applicant is to prepare a signage strategy that includes confirmation that no more than 10% of any ground level window will contain any applied signage. The Applicant has confirmed that clear and transparent glazing will be provided to all active frontages on the ground level.	

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
	Built form and land use shall be designed and oriented to promote passive surveillance of the public realm.	LPP	Supported pending further attention	Supported	Supported	Supported	Compliant.
	Developments shall provide lighting, activation and surveillance of pedestrian routes at night, especially routes to/from Murdoch Station.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	The Estate Architect is supportive of the general approach presented in the proposal, for the purposes of Development Application. More information is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
1.5 Access and Parking							
	Design Objective: To provide secure and clearly defined car parking for residents, workers and visitors, with the target of lowering car dependency and encouraging the use of alternative transport.		Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	This objective is supported conditional on; - the Applicant's parking management plan being supported by the City of Melville. - the project being considered as a single design outcome, and not the proposed Stage 1 in isolation.
	Design Objective: To allow for efficient and clearly-defined movement of local, visitor and service vehicles, while minimising the impact of vehicles on the public realm.		Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	This objective is supported conditional on; the Applicant's traffic/transport assessment being supported by the City of Melville.
	Car parking bays shall be provided in accordance with the Murdoch MUP ACSP, summarised in the following table, taking into consideration the objectives and principles of the City of Melville Policy CP-079 Car Parking and Access, and the Murdoch Activity Centre Access and Parking Policy.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	Supported conditional on; - the Applicant's parking management plan being supported by the City of Melville. - the project being considered as a single design outcome, and not the proposed Stage 1 in isolation.
	Car parking areas shall be located at basement, ground or podium level, and either sleeved with an active and habitable use, or visually screened from view, as outlined in 1.2 Land Use and Active Edges and 2.2.4 Facades.	LPP	Not Supported	Supported pending further attention	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	Car parking areas shall be designed in accordance with AS-2890.1, to be well lit, safe and secure.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Car parking areas shall be naturally ventilated.	LPP	Supported	Supported	Supported	Supported	Compliant.
	Residential developments shall provide direct pedestrian access to residential car parks from building foyers and individual apartment entrances.	LPP	Supported	Supported	Supported	Supported	Compliant.
	Vehicle access is permissible only on Tertiary Frontages. Refer to Part 3 for more detail on preferred vehicle access locations.	LPP	Supported pending further attention	Supported pending further attention	Supported pending further attention	Supported pending further attention	The vehicular access proposed off Barry Marshall Parade is non-compliant with this control. However, there are significant transport and traffic assessments being undertaken by the proponent to demonstrate to the City of Melville and Development WA the changes in traffic patterns and usage since the adoption of the current structure plan. The Estate Architect are supportive conditional on the traffic/transport assessment being supported by the City of Melville.
	A Parking Management Plan shall be submitted as part of the Development Approval application to demonstrate that all development proposals comply with the Objective.	LPP	Additional Information Required	Additional Information Required	Supported pending further attention	Supported pending further attention	Parking management plan to be provided at Development Application stage.
	Efficient and clearly defined movement of local, visitor and service vehicles shall be allowed for.	DG	Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	We are supportive conditional on the traffic/transport assessment being supported by the City of Melville.
1.6 Signage							

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
Design Objective: To provide clear and legible wayfinding into and within the precinct with signage that is integrated into built form and the public realm.							
	Reliance on signage shall be minimised by designing built form that is clear and legible, strengthens urban form and view lines, and creates a cohesive edge to the public realm.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	A Signage Strategy is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
	Signage design shall consider the clarity and legibility of signage to both pedestrian and vehicle traffic.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	A Signage Strategy is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
	Building and tenancy signage shall be integrated with building facades to avoid cluttering the public realm.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	A Signage Strategy is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
	Fiona Stanley Hospital (FSH) precinct signage shall be integrated into the design of Sites 1D and 7C where outlined in Part 3. Where applicable, FSH signage shall be relocated outside of the development site or integrated into built form, and shall not be retained as standalone signage within the development site. Developers shall liaise with FSH to ensure most up-to-date information.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	A Signage Strategy is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
2.0 Built Form Design							
2.1 Primary Building Controls							
Design Objective: To create a sense of diversity across the precinct, to frame the public realm, and create a legible and cohesive urban form.							
	Built form shall be oriented to address Primary and Secondary frontages. Where a development site has a Primary Frontage, the tower mass and height shall be aligned with the Primary Frontage, reinforcing the view corridors of the Boulevard and Barry Marshall Parade.	LPP	Supported	Supported	Supported	Supported	Compliant.
	Built form shall be recognisable as part of the precinct, to create a sense of distinction from adjacent precincts.	DG	Not Supported	Supported pending further attention	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	Landmark sites shall be designed with form and character that appropriately responds to the importance of major view corridors. Landmark sites are identified in Figure 3 below. Refer to Part 3 for further detail on landmark views for each site.	LPP	Not Supported	Supported pending further attention	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	Developments shall co-ordinate with adjacent sites to create a cohesive built edge to the public realm, especially where a laneway or pedestrian arcade is shared between sites.	LPP	Additional Information Required	Supported	Supported	Supported	Compliant.
	If a single developer delivers more than one site, the developer shall ensure that each site has a distinct design response and that the overall precinct has a sense of diversity. The use of different architectural firms for each site is encouraged.	DG	Not Supported	Supported	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
2.1.1 Setbacks							
	Design Objectives: To establish the street proportions, streetscape character and the required separation distance between buildings in order to protect the amenity of adjoining developments and the public realm.			Supported	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
Developments shall comply with the setback requirements outlined in Part 3.	LPP	Not Supported	Supported	Supported	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
Small variations to setbacks to a maximum of 500mm are permitted to allow for architectural articulation of the facade.	LPP	Additional Information Required	Supported	Supported	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
2.1.2 Building Layout and Orientation							
Design Objective: To optimise the built environment for occupants through building layout and orientation, considering solar access, shading and glare, ventilation, overlooking, and aspect.							
Developers shall demonstrate how the building layout and orientation deals appropriately with solar access, shading and glare to all internal and external spaces.	DG	Additional Information Required	Supported	Supported	Supported	Supported	Applicant has demonstrated consideration of a response to climatic context including solar access, shading and glare.
Buildings shall incorporate natural cross-ventilation wherever possible. Apartments and tenancies with dual aspect are encouraged.	DG	Additional Information Required	Supported	Supported	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
Open spaces such as podium roofs shall be designed to provide pleasant aspect for apartments which do not overlook the central POS, and especially to mitigate aspect over the Kwinana Freeway for Sites 3, 4, 5 and 6.	DG	Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	Supported pending further attention	Supported pending further attention
The design of habitable outdoor spaces shall provide thermal, solar, wind and acoustic comfort to users.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Supported	Supported	Compliant.
2.1.3 Height							
Design Objective: To create the desired character and proportions of the precinct streets, and provide appropriate density for the precinct.							
Maximum building heights are controlled by the restrictions of the Jandakot Aerodrome/CASA Obstacle Limitation Surface and Fiona Stanley Hospital helipad. The total maximum height of any building (measured from AHD) shall be in accordance with these controls.	LPP	Additional Information Required	Supported pending further attention	Supported	Supported	Supported	Applicant has confirmed this requirement is met.
Developments shall comply with minimum and maximum podium heights, and minimum tower heights, as outlined in Part 3.	LPP	Not Supported	Supported	Supported	Supported	Supported	The presented scheme is not compliant. One (1) additional storey to proposed to podium, five (5) storeys total. The Panel has determined that the proposal meets the Objectives of the Design Guidelines.
Developments on Sites 1C, 1D, 2A, 2B and 4 shall comply with the suggested maximum heights specified in Part 3, in order to achieve mandatory solar access requirements to the Conservation Area. If developers of these sites propose to exceed the suggested maximum heights, refer to 2.12.1 Solar Access for compliance demonstration requirements.	LPP	Additional Information Required	Supported	Supported	Supported	Supported	Compliant. The proposal exceeds the suggested 39m maximum height prescribed in Part 3 - Specific Building Requirements. Applicant has demonstrated compliance with mandatory solar access requirements to the Conservation Area. See 2.12.1 Solar Access.
2.1.4 Floor Levels							
Design Objective: To ensure floor levels and entrances to buildings appropriately interface with the ground plane where level changes occur within sites.							
Ground floor levels shall be at the same level of the public realm on Primary and Secondary Frontages. Refer 1.2 Land Use and Active Edges for frontages diagram.	LPP	Additional Information Required	Supported pending further attention	Supported	Supported	Supported	The presented strategy appears to be generally compliant. Applicant to provide detailed street sections and/or floor levels to confirm compliance with control.

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
	Where levels vary around development sites, developments shall provide multiple entry points, split levels, and/or ramped arcades to address different public realm levels.	LPP	Additional Information Required	Supported pending further attention	Supported	Supported	The presented strategy appears to be generally compliant. Applicant to provide detailed street sections and/or floor levels to confirm compliance with control.
2.2 Built Form Character							
2.2.1 Colonnade							
Design Objective: To create a cohesive, consistent edge to the public realm, blur the threshold between public realm and built form, and define and frame a wider space for pedestrian movement.							
All Primary Frontages shall provide a colonnade zone as an extension of the public realm. The colonnade zone applies a four metre building setback at ground level and nil building setback to the site boundary at podium level. Refer to 1.2 Land Use and Active Edges for frontages diagram.	LPP	Not Supported	Supported	Supported	Supported		A colonnade frontage is required to the Secondary Frontage along Barry Marshall Parade as per the Part 3 - Specific Building Requirements for Lot 1C and 1D. The proposal does not provide the required 'Ground level 4m colonnade' zone along Barry Marshall Parade. The alternate solution, which provides a considered pedestrian canopy with provision of significant landscaping achieves the qualities of a pedestrian-based colonnade space and is supported.
Alfresco areas, sun and wind protection, and signage shall be integrated into colonnade design to avoid cluttering the public realm.	LPP	Additional Information Required	Additional Information Required	Supported pending further attention	Supported pending further attention		A Signage Strategy for the ground level is required to be provided at the Detailed Design Review, prior to the application for Building Permit.
Paving and levels within the colonnade zone shall be consistent with the public realm.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention		The presented strategy appears to be generally compliant. Applicant to provide detailed street sections and/or paving levels to confirm compliance with control. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
2.2.2 Podiums							
Design Objective: To provide human scale at street levels and above, and to break up the visual mass of development sites.			Not Supported	Supported pending further attention	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
Podiums shall have nil setback to the site boundary in order to frame and address the public realm. Refer also to 2.1.1 Setbacks and Part 3 Site-Specific Requirements.	LPP	Supported	Supported	Supported	Supported		Compliant.
Podiums shall allow for rooftop breakout space overlooking public realm.	LPP	Supported	Supported	Supported	Supported		Compliant.
If adjacent sites are amalgamated, podiums shall be visually distinct along the amalgamated boundary to break up the visual bulk of the development site.	LPP	Not Supported	Supported	Supported	Supported		On balance the proposal meets the performance requirements of the Design Guidelines.
2.2.3 Towers							
Design Objective: To reinforce the masterplan and view corridors and to frame and address the public realm.							
Towers shall be positioned within the building envelope to reinforce the masterplan axes and view corridors and frame the public realm.	DG	Supported pending further attention	Supported	Supported	Supported		Compliant.
Where a development site has a Primary Frontage, the tower mass and height shall be aligned with the Primary Frontage.	LPP	Not applicable	Not applicable	Not applicable	Not applicable		NA.
Activated zones in towers shall address the public realm, providing activation and passive surveillance as well as allowing for best aspect.	LPP	Not Supported	Supported	Supported	Supported		Compliant.

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
	If adjacent sites are amalgamated, setbacks between towers shall apply as if the sites were not amalgamated, to break up the visual bulk of the development site and maintain view corridors between sites.	LPP	Supported pending further attention	Supported	Supported	Supported	The proposal meets the objectives of the Design Guidelines.
2.2.4 Facades							
	Design Objective: To create building design of significant quality and architectural merit, that contributes to the immediate public realm and broader precinct as a whole.						On balance the proposal meets the performance requirements of the Design Guidelines.
	Facade design shall provide a hierarchy of scales, from human scale to wider precinct scale.	DG	Not Supported	Supported pending further attention	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	Primary and Secondary frontages at ground level shall be of a fine-grain scale, with multiple, clearly defined building entrances and spaces.	LPP	Not Supported	Supported	Supported	Supported	Compliant.
	Articulation of facades shall be meaningful and responsive to context and to interior uses, so as not to appear superficial.	DG	Not Supported	Supported pending further attention	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	Facade design shall maximise amenity and activation through provision of balconies, screening, shading, and natural ventilation. Facade screening shall balance privacy for residents with the requirement for visible activity.	LPP	Not Supported	Supported pending further attention	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	On frontages where it is permissible to locate ground- or podium-level car parking, vehicle access, loading docks and building service areas (refer 1.2 Land Use and Active Edges), these areas shall be visually screened from view, and provide an attractive and engaging interface to the public realm.	LPP	Not Supported	Supported pending further attention	Supported	Supported	On balance the proposal meets the performance requirements of the Design Guidelines.
	Facades facing on to Kwinana Freeway shall be designed to innovatively and creatively respond to views from people travelling on the Freeway or train line, acting as 'billboards' for the precinct.	DG	Not applicable	Not Applicable	Not Applicable	Not Applicable	NA.
2.3 Materials							
	Design Objective: To utilise materials of a very high quality, which are durable and appropriate to the climate and context.						
	Materials and detailing shall be of very high quality. Use of 'faux' materials such as fake timber, stone or AstroTurf is not permitted.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	The Materials and Colours for the development seem generally compliant. The Estate Architect is satisfied with additional information being provided at the Detailed Design Review, prior to the application for Building Permit.
	Materials shall be durable and minimise maintenance requirements.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	The Materials and Colours for the development seem generally compliant. The Estate Architect is satisfied with additional information being provided at the Detailed Design Review, prior to the application for Building Permit.
	Material selection shall give priority to materials which are locally sourced and contextually/climactically appropriate.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	The Materials and Colours for the development seem generally compliant. The Estate Architect is satisfied with additional information being provided at the Detailed Design Review, prior to the application for Building Permit.
2.4 Building Entrances							

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
Design Objective: To create a defined address for buildings, which will contribute to the public realm.							
	Foyers shall be stand-out, well-lit spaces, and provide visual interest to the public realm whether or not they are publicly accessible.	LPP	Not Supported	Supported	Supported	Supported	Compliant.
	Mailboxes, services cupboards, and signage shall be fully integrated into the design of building entrances.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Buildings shall be provided with a clear address onto one street. Provide separate 'addresses' for residential, commercial and retail areas within sites.	LPP	Not Supported	Supported	Supported	Supported	Compliant.
2.5 Roof							
Design Objective: To ensure roofs integrate into the overall design, and contribute to the activation of the built form both aesthetically and functionally.							
	Rooftops shall be functional and accessible where practicable, to provide amenity to building users, and activate the wider public realm. Accessible rooftop spaces may be for private, communal or commercial use. Refer to 2.6 Outdoor Living Areas for more detail.	DG	Additional Information Required	Supported	Supported	Supported	Compliant.
	Building services and sustainability elements shall be incorporated into the roof design and concealed from view.	LPP	Additional Information Required	Supported pending further attention	Supported	Supported	Compliant. The applicant has confirmed that the Stage 1 carpark deck solar panels will designed to form part of the canopy shade structure, and will be oriented north preventing any glare to residents of Lot 121.
	Roof design shall be considerate of views from the public realm, towers, and adjacent development sites.	DG	Additional Information Required	Supported pending further attention	Supported	Supported	Compliant. The applicant has confirmed that the Stage 1 carpark deck solar panels will designed to form part of the canopy shade structure, and will be oriented north preventing any glare to residents of Lot 121.
2.6 Outdoor Living Areas							
Design Objective: To create outdoor environments that provide amenity, activate the public realm, and add a diversity of spaces to the built form.							
	All developments shall provide a communal outdoor area or areas which are accessible and functional to building residents and tenants, incorporate landscape, and maximise comfort of solar and wind access. Communal outdoor areas may be a mix of courtyards, balconies or rooftop terraces.	DG	Additional Information Required	Supported	Supported	Supported	Compliant.
	Communal outdoor areas shall be located on Primary and Secondary frontages.	LPP	Supported	Supported	Supported	Supported	Compliant.
	Residential developments shall provide a communal outdoor garden for residents at a minimum size of 15% of the lot area, at podium or rooftop level, incorporating deep planting zones (refer to 3.3 Softscaping), shelter, and allowance for a mix of active and passive recreational uses.	LPP	Additional Information Required	Supported pending further attention	Supported	Supported	The applicant has confirmed 25% of the proposed site area is outdoor communal and residential garden space Shelter/shade structures and active zones including furniture and BBQs have been provided.
	Residential developments shall provide each dwelling with a private outdoor living area accessed directly from a habitable room with a minimum area of 10m² and a minimum dimension of 2.4m.	LPP	Additional Information Required	Supported pending further attention	Supported	Supported	The applicant has confirmed balconies have been designed to meet the minimum requirements of 8m² with Min dimension of 2m for 1 bed apartments and 10m² with Min dimension of 2.4m for 2 bed Apartments as per the R codes Volume 2. On balance the proposal meets the performance requirements of the Design Guidelines.
2.7 Building Services							

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
Design Objective: To ensure services are hidden and integrated into the built form to minimise the impact of services on the public realm.							
	Loading areas, service areas and waste storage shall be visually integrated within built form or streetscape, and screened to prevent visual, noise and odour intrusions.	LPP	Supported	Supported pending further attention	Supported	Supported	The applicant has confirmed all waste areas are located internally and cannot be seen from the street. Loading docks are hidden from the street with a single access point on Wonnul Place
	Services and plant equipment shall not be visible from the public realm or above the roofline of buildings. 'Feature' sustainability initiatives may be considered if proven to enhance the public realm.	LPP	Additional Information Required	Additional Information Required	Supported pending further attention	Supported pending further attention	The presented strategy appears to be generally compliant. The Estate Architect is satisfied with more detailed information being provided at the Detailed Design Review, prior to the application for Building Permit.
	Air-conditioning units or condensers shall not be located on balconies unless screened from view and in addition to balcony minimum dimensional requirements as per 2.6 Outdoor Living Areas.	LPP	Additional Information Required	Additional Information Required	Supported pending further attention	Supported pending further attention	The presented strategy appears to be generally compliant. The Estate Architect is satisfied with more detailed information being provided at the Detailed Design Review, prior to the application for Building Permit.
	An integrated Waste Management Strategy (WMS) shall be prepared in consultation with the City of Melville. The WMS shall address coordination of the movement of service vehicles and the management of service areas and refuse collection to minimise impact on the public realm.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	This is supported conditionally on the City of Melville receiving the Waste Management Plan at Development Application stage.
	Waste collection and management shall accord with the City of Melville Local Planning Policy CP-090 Waste and Recyclables Collection for Multiple Dwellings, Mixed Use Developments and Non-Residential Developments.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	This is supported conditionally on the City of Melville supporting the Waste Management Plan at Development Application stage.
	Residential developments shall provide clothes-drying areas of an appropriate size for the number of residents.	DG	Additional Information Required	Additional Information Required	Supported	Supported	The applicant is proposing a standard wall-mounted clothes-drying line, integrated into the design of each balcony, which is consistent with the outcomes promoted by the R-Codes Volume 2. On balance the proposal meets the performance requirements of the Design Guidelines.
	Drying areas shall be screened from view.	LPP	Additional Information Required	Additional Information Required	Supported pending further attention	Supported pending further attention	The proposal seems largely compliant. The Estate Architect supports this approach conditional on the support of the City of Melville.
	Residential developments shall provide each dwelling with an enclosed, lockable storage area accessible from outside the dwelling, with a minimum area of 4m ² and a minimum dimension of 1.5m. Storage areas shall not be visible from the public realm.	LPP	Additional Information Required	Additional Information Required	Supported	Supported	The applicant has advised each apartment will have a store room based on R Code requirements. 3m ² for 1 bed apartments and 4m ² for 2 bed apartments. On balance the proposal meets the performance requirements of the Design Guidelines.
2.8 Bicycle Parking and End of Trip Facilities							
Design Objective: To encourage use of alternative transport by providing end-of-trip facilities and safe and secure bicycle parking.							
	Secure bicycle parking and end-of-trip facilities shall be provided in accordance with the Murdoch Mixed Use Precinct Parking Strategy, summarised in the provided table.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	More information required to demonstrate compliance with the minimum supply requirements of visitor bicycle parking as outlined in the Murdoch Mixed Use Precinct Parking Strategy. Applicant to confirm provision of visitor bicycle parking facilities. This shall be provided to the Estate Architect prior to the application for Building Permit.
	Bicycle parking facilities shall be designed, located and constructed in accordance with AS-2890.3 Bicycle Parking Facilities.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	Applicant to confirm location and provision of bicycle parking facilities for residents. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
	Changing rooms shall be designed as secure lockable facilities, located adjacent to the showers in a well-lit area which is capable of easy passive surveillance.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Lockers shall be well ventilated.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	End-of-trip facilities shall be located as close as possible to the bicycle parking facilities.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Supported	On Balance this is supported.
	Visitor bicycle parking shall be easily visible, and located close to building entrances.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	Applicant to confirm location of visitor bicycle parking facilities. This shall be provided to the Estate Architect prior to the application for Building Permit.
2.9 Screening							
Design Objective: To provide screening of significant design and material quality, which contributes to the public realm and precinct and enables surveillance of the public realm.							
	Private courtyards for ground-level dwellings along Primary and Secondary Frontages shall be screened with fencing at least 50% visually permeable and no more than 1.5 m high when measured from the public realm level.	LPP	N/A	N/A			Not Applicable.
	Front fencing shall be designed to complement the built form design.	LPP	N/A	N/A			None provided.
	Colorbond and super six style fencing is not permitted.	LPP	N/A	N/A			None provided.
2.10 Acoustics							
Design Objective: To minimise the acoustic impact of development on adjacent buildings, and to provide acoustic protection against external noise for occupants.							
	Developments shall minimise land use generated noise intrusion and emission in balance with achieving the objectives of a mixed-use precinct, referring to urban acoustic standards.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Supported	Compliant.
	Prior to submission of a DA, an acoustic assessment shall be prepared for buildings affected by noise from surrounding roads as identified in Aecom's Noise Assessment (dated 29 October 2012). Refer to Part 3 for more detail.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	Supported conditional on the outcome of the Acoustic Report being supported by the City of Melville.
2.11 Lighting							
Design Objective: To provide lighting which does not negatively impact on the public realm or adjacent developments.							
	All outdoor lighting shall be directed downwards with no light spill above the horizontal plane.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Front outdoor/security lights shall be operated via a timed sensor with manual over-ride.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
	Rear outdoor areas adjacent to laneways shall be well lit and incorporate motion activated light fittings.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
2.12 Climate Responsive Design							
Design Objective: To provide high-quality, efficient buildings that achieve the precinct objectives of integrated sustainable development.							
	Developments shall achieve a minimum 'Australian Excellence' Green Star rating, or demonstrated equivalent. This shall be demonstrated at Development Application stage and post-construction.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported	Compliant.
	Developments shall integrate environmental sustainability initiatives to create 'Design that is Sustainable, not Sustainable Design'. Alternative proposals for 'feature' sustainability initiatives may be considered if they are proven to enhance the public realm.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported	Compliant.
2.12.1 Solar Access							
Design Objective: To minimise the impact of development on solar access to the public realm and development sites, and to achieve mandatory sunlight requirements for the Conservation Area.							
	If developments on Sites 1C, 1D, 2A, 2B or 4 are proposed to exceed the suggested maximum heights specified in Part 3, developers shall provide a solar modelling report at Development Application stage that demonstrates that the additional height does not impact negatively on the Conservation Area. Specifically, the report shall demonstrate that at least 95% of the Conservation Area receives at least 50% of available sunlight at all times of the year, assuming that all undeveloped sites are developed to their suggested maximums.	LPP	Additional Information Required	Supported pending further attention	Supported pending further attention	Supported pending further attention	The proposal seems to be generally compliant. Supported conditional on a detailed report demonstrating that at least 95% of the Conservation Area receives at least 50% of available sunlight at all times of the year is provided to, and supported by the City of Melville during the Development Application phase.
	Built form shall minimise impact on solar access to the public realm and adjacent development sites, especially alfresco areas, private and communal outdoor areas, and rooftop gardens.	DG	Additional Information Required	Supported	Supported	Supported	The proposal meets the objectives of the Design Guidelines.
	Built form shall provide shade to a minimum depth of 2m of the public realm adjacent to Primary and Secondary frontages, at midday in summer months. Shade may be provided by a variety of elements such as colonnades, cantilevers, integrated canopies or balconies.	LPP	Additional Information Required	Supported	Supported	Supported	Compliant.
	Solar access modelling shall be provided at Development Application stage to assess overshadowing performance of building design proposals.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported	Compliant.
2.12.2 Wind							
Design Objective: To minimise the impact of wind on the public realm and development sites.							
	Built form shall be designed to achieve acceptable environmental wind conditions in the public realm in accordance with the provided table.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	A wind modelling report has been provided with mitigation strategies highlighted. This requirement is supported conditional to the satisfaction of the City of Melville at Development Application Stage, and confirmation that all mitigation strategies have been successfully adopted prior to the submission of a Building Permit.
	Built form shall incorporate setbacks, articulation and aerodynamic forms to minimise impact of wind on the public realm and adjacent development sites, especially retail frontages, alfresco areas, private and communal outdoor areas, and rooftop gardens.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported pending further attention	A wind modelling report has been provided with mitigation strategies highlighted. This requirement is supported conditional to the satisfaction of the City of Melville at Development Application Stage, and confirmation that all mitigation strategies have been successfully adopted prior to the submission of a Building Permit.

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
	Wind modelling shall be provided at Development Application stage to assess wind performance of building design proposals.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Supported	Compliant.
3.0 Landscape Design							
3.1 Biodiversity and Habitat							
Design Objective: To create a landscape that enhances the biodiversity and habitat values of the precinct.							
	In accordance with the Environmental Protection and Biodiversity Conservation Act, all soft landscaping (communal and private) shall be planted with at least 70% native species, with at least 50% either species found in the project area or other native species suitable for foraging by Carnaby's Black Cockatoo. This provision excludes turfed areas.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	Applicant to confirm. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
3.2 Hardscaping							
Design Objective: To create attractive hardscaped areas that present a landscape character that complements the wider public realm aesthetic.							
	Developments shall be designed to minimise the 'heat island effect' by maximising use of planting and materials with low solar reflectance in open spaces and on rooftops.	DG	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	Additional information required. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Hardscaping which is contiguous with the public realm at ground level shall use similar or complementary materials of an equivalent quality.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	Applicant to confirm. The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Damage to public realm works shall be rectified by the developer at the developer's expense to match pre-existing works.	DG	Not Applicable	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
3.3 Softscaping							
Design Objective: To improve residential amenity, local microclimate and promote management of water and air quality through the growth of healthy trees in deep root zones.							
	Residential developments shall incorporate deep planting zones for small trees, located in the communal outdoor garden, at a minimum size of 4% of the lot area and a minimum soil depth of 450mm.	LPP	Additional Information Required	Supported pending further attention	Supported	Supported	The Applicant has confirmed all planted areas have a minimum soil depth of 500mm. Planters maximise depth and area to provide adequate soil volume. 4% of the proposed lot area meets minimum requirements.
	Deep planting zones shall be located at podium or rooftop level.	LPP	Additional Information Required	Supported pending further attention	Supported	Supported	The Applicant has confirmed Deep planting zones are provided throughout the podium space and to the building perimeter. Planter depths in these areas are 1200mm.
3.4 Water Efficiency and Maintenance							
Design Objective: To maximise opportunities for efficient use of water through best practice design.							
	A Landscape and Irrigation Plan shall be provided as part of the Landscape Plan for Building Approval to assess suitability and water efficiency of proposed designs.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.

Clause	Requirement	Design Guidelines / Local Planning Policy	DRP#1 Compliance	DRP#2 Compliance	Pre-DA Compliance	DA Compliance	Condition / Comment
	Water efficient in-line drip irrigation shall be installed for all garden beds. Spray irrigation may be used on turf areas only.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.
	Private water bores are not permitted.	LPP	Additional Information Required	Additional Information Required	Additional Information Required	Additional Information Required	The Estate Architect is satisfied with this being provided at the Detailed Design Review, prior to the application for Building Permit.

6 May 2024

Sean Fairfoul,
Lateral Planning
44 King Street
PERTH WA 6000

Dear Sean,

RE: PROPOSED MIXED-USE DEVELOPMENT - LOTS 120 & 121 MURDOCH MIXED USE
PRECINCT – TRANSPORT REPORT ADDENDUM IN RESPONSE TO COMMENTS FROM
PTA AND CITY OF MELVILLE

As agreed at our meeting with Public Transport Authority and City of Melville on 26 April 2024, we have now prepared detailed SIDRA Network analyses for the proposed access driveway off Barry Marshall Parade and the adjacent signalised intersection at Fiona Wood Road, taking into account the existing and proposed future bus movements along Barry Marshall Parade, as well as the “pulsed” timing of buses due to their scheduling to connect with trains.

1. EXISTING SITUATION

- The existing situation adjacent to the proposed development site is shown in the aerial photograph in the attached Figure 1, including the Barry Marshall Parade - Fiona Wood Road signalised intersection and the eastern extension of Barry Marshall Parade towards Murdoch Station.
- Detailed traffic counts were carried out at the Barry Marshall Parade - Fiona Wood Road intersection on Tuesday 28 March 2023, including a breakdown of Heavy Vehicles and Light Vehicles for all turning movements.
- The number of Heavy Vehicles recorded was compared with the number of scheduled buses accessing the Station along Barry Marshall Parade, with the results suggesting that there are also a number of unscheduled buses travelling to/from the Station (or other Heavy Vehicles). The survey also shows that there are significant numbers of other vehicles using Barry Marshall Parade east of Fiona Wood Road (due to the numerous vehicles currently parking along the verges during the construction of nearby projects).
- The attached Figure 2 shows the existing AM and PM peak hour traffic flows at the Barry Marshall Parade - Fiona Wood Road signalised intersection, broken down into ‘Scheduled Buses’, ‘Other Buses or Heavy Vehicles’ and ‘Background Traffic’, while Figure 3 shows the corresponding data for the peak-15-minute periods within each peak hour.

- Table 1 then shows the existing intersection operational (SIDRA) analyses for the AM and PM peak hours, based on the existing traffic flows in Figure 2 and existing traffic signal data obtained from Main Roads WA. It can be seen in Table 1 that the intersection currently operates at an overall Level of Service C during the existing AM and PM peak hours, indicating satisfactory operating conditions with average traffic delays.
- The attached Table 2 then shows the corresponding analyses for the peak-15-minutes operations, based on the traffic flows identified above in Figure 3, but also with the inclusion of peak flow factors (70 percent for Buses and 90 percent for Background traffic) to reflect a peak-5-minute period within the identified peak-15-minutes.
- It can be seen in Table 2 that the intersection continues to operate at an overall Level of Service C during both the AM and PM peak-15-minute periods, with maximum queue lengths of 32 metres and 42 metres, respectively, within the westbound Bus Lane in Barry Marshall Parade east, and queues of 41 metres and 50 metres within Fiona Wood Road north.

2. SHORT TERM SITUATION (WITH PROPOSED DEVELOPMENT)

- Estimated future traffic flows for the proposed development were previously identified within the January 2024 Transport Report, including an overall distribution of daily traffic flows in Figure A.10 of that report, and a more-localised distribution of daily, AM peak hour and PM peak hour traffic flows, in Figure A.11.
- The resulting peak hour development traffic flows at the Barry Marshall Parade - Fiona Wood Road intersection and the adjacent proposed access driveway are shown in the attached Figure 4, while the corresponding short term future peak-15-minute traffic flows (comprising existing traffic flows plus development traffic flows) are shown in Figure 5, which now also includes the proposed access driveway off Barry Marshall Parade.
- Table 3 then shows the short-term AM peak-15-minute intersection operational (SIDRA Network) analyses for the proposed intersections, while Table 4 shows the corresponding SIDRA Network analysis for the PM peak-15-minutes.
- It can be seen in Table 3 that the signalised intersection will continue to operate at an overall Level of Service C during the short term AM peak-15-minutes, confirming satisfactory operating conditions with average traffic delays, but with an increased maximum queue of 77 metres within Fiona Wood Road north of Barry Marshall Parade.
- Table 4 then shows that the intersection will also continue to operate at Level of Service C during the PM peak-15-minutes, with no significant changes from the existing situation.
- It can also be seen in Tables 3 and 4 that the proposed access (Driveway 1) off Barry Marshall Parade will operate at a high Level of Service A during both the AM and PM peak-15-minute periods, indicating very good operating conditions with little or no traffic delays.

3. LONG TERM SITUATION (WITH DEVELOPMENT)

- For the long term (plus 10-years) situation, it is assumed that background traffic flows on Fiona Wood Road and Barry Marshall Parade west could double, as a result of ongoing development within the overall Murdoch Activity Centre. Increased Bus movements have also been identified, in accordance with the advice received from PTA regarding the increase of scheduled buses (with the same growth factors also applied to non-scheduled buses and other Heavy Vehicles).

- The attached Figure 6 shows the resulting long term total traffic flows for both the AM and PM peak-15-minute periods, while the corresponding intersection operational (SIDRA Network) analyses are shown in Tables 5 and 6.
- It can be seen in Tables 5 and 6 that the Barry Marshall Parade - Fiona Wood Road signalised intersection will operate at an overall Level of Service D during both the AM and PM peak-15-minute periods, indicating poor but manageable operating conditions with long traffic delays, while the right turn out of the proposed access (Driveway 1) will operate at Level of Service B during the AM peak period and at Level of Service C during the PM peak period.
- It is important to note, however, that with increased background traffic flows, the analysis also assumes minor phasing modifications for the existing signalised intersection, including a left-turn green arrow for the west-to-north left-turn into Fiona Wood Road, a left-turn green arrow for the north-to-east left-turn from Fiona Wood Road into Barry Marshall Parade east, and a filtered right-turn movement for the north-to-west right-turn from Fiona Wood Road into Barry Marshall Parade west (following after the initial green arrow phase for this same movement). It is also assumed that westbound buses will move out of the bus lane and utilise the adjacent through lane, to improve the efficiency of the overall traffic signal during the AM peak hour, when appropriate.
- It can also be seen, however, that queue lengths within Fiona Wood Road north will still increase significantly towards South Street during the AM peak period.

4. ALTERNATIVE ANALYSIS FOR SUGGESTED ACCESS OFF WONNUL PLACE

- Tables 7 and 8 show an alternative analysis for the Barry Marshall Parade - Fiona Wood Road signalised intersection, if the currently proposed development was forced to provide access only off Wonnul Place (with all exiting traffic then forced to turn left out of Wonnul Place into Fiona Wood Road).
- Table 7 shows the alternative analysis for the Short Term scenario, which should be compared with the previous results in Tables 3 and 4, while Table 8 shows the alternative analysis for the Long Term (+10 years) scenario, which should be compared with Tables 5 and 6.
- It can be seen in Table 7 that the signalised intersection would fall to an overall Level of Service D during the Short Term PM peak period if access for the development was provided off Wonnul Place rather than off Barry Marshall Parade, with significant increases to delays for the east-west Bus movements along Barry Marshall Parade, and increased queuing within Fiona Wood Road north.
- Table 8 then shows that although there would be little difference in operation during the AM peak, the change of access would cause the signalised intersection to fall to an undesirable Level of Service E during the PM peak, with significantly increased delays and queuing for east-west buses along Barry Marshall Parade, and would result in excessive queue lengths in Fiona Wood Road north of Barry Marshall Parade.
- It is therefore clear that the currently proposed access off Barry Marshall Parade provides a more-balanced overall traffic solution, with improved operations both for Buses and background traffic flows at the signalised intersection.

5. RECOMMENDED ROAD LAYOUT

- The recommended road layout for the introduction of the proposed access driveway off Barry Marshall Parade is as shown in the attached Figure 7, including modifications to the existing eastbound Bus Lane along the frontage of the proposed development.

- Figure 8 then shows a possible long term concept plan for the currently planned future access road to the south of Barry Marshall Parade at the eastern end of the proposed development.

I trust that the above analyses and results confirm that the proposed access driveway off Barry Marshall Parade will operate at acceptable Levels of Service during the critical peak periods, and that the proposal also results in a more-balanced overall traffic solution, with improved operations at the Fiona Wood Road signalised intersection.

Please do not hesitate to contact me if you require anything further.

Yours sincerely,



Darren Levey

TABLE 1
OPERATIONAL CHARACTERISTICS FOR SIGNALISED BARRY MARSHALL PARADE -
FIONA WOOD ROAD INTERSECTION – EXISTING AM AND PM PEAK HOURS

ITEMS	OPERATIONAL CHARACTERISTICS											
	AM Peak Hour						PM Peak Hour					
No. of Approach Lanes: N E S W	2 3 2 3						2 3 2 3					
No. of Phases	4						4					
Cycle Time (sec)	60						60					
Max X Value	0.417						0.569					
Avrge Delay (sec)	24.7						26.8					
Level of Service	C						C					
Approach	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.
			Veh.	m					Veh.	m		
Fiona Wood Road - north	LT	0.277	4.1	33	13.5	B	LT	0.106	1.6	12	10.4	B
	R	0.391	2.7	20	30.6	C	R	<u>0.569</u>	6.2	46	28.2	C
Barry Marshall Parade - east	LT	0.238	1.0	15	28.7	C	LT	0.440	1.4	20	33.1	C
	T	0.004	0.0	0	24.8	C	T	0.144	0.8	6	29.5	C
	R	0.035	0.1	1	34.0	C	R	0.017	0.1	1	31.8	C
Fiona Wood Road - south	LT	0.408	2.9	24	28.5	C	LT	0.527	3.5	26	29.6	C
	R	0.017	0.1	1	28.1	C	R	0.047	0.2	3	30.7	C
Barry Marshall Parade - west	LT	0.390	3.0	22	29.7	C	LT	0.328	1.6	13	32.5	C
	T	0.257	1.1	16	26.6	C	T	0.328	1.0	15	30.7	C
	R	<u>0.417</u>	2.2	17	33.0	C	R	0.090	0.5	4	31.3	C

Notes: Level of Service calculations are based on Average Delay.
Underlined X-values denote maximum values.

Source: Uloth and Associates

TABLE 2
OPERATIONAL CHARACTERISTICS FOR SIGNALISED BARRY MARSHALL PARADE -
FIONA WOOD ROAD INTERSECTION – EXISTING AM AND PM PEAK 15-MINS

ITEMS	OPERATIONAL CHARACTERISTICS											
	AM Peak 15-min						PM Peak 15-min					
No. of Approach Lanes: N E S W	2 3 2 3						2 3 2 3					
No. of Phases	4						4					
Cycle Time (sec)	60						60					
Max X Value	0.488						0.666					
Avrge Delay (sec)	25.4						28.0					
Level of Service	C						C					
Approach	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.
			Veh.	m					Veh.	m		
Fiona Wood Rd - north	LT	0.346	5.0	41	14.7	B	LT	0.123	1.8	14	11.8	B
	R	0.456	2.9	21	31.9	C	R	0.641	6.8	50	29.9	C
Barry Marshall Pde - east	LT	0.449	2.1	32	28.9	C	LT	0.666	2.8	42	33.1	C
	T	0.014	0.1	1	24.1	C	T	0.118	0.8	6	27.1	C
	R	0.080	0.2	3	34.5	C	R	0.024	0.1	1	31.9	C
Fiona Wood Rd - south	LT	0.488	3.3	29	29.0	C	LT	0.648	3.9	29	31.8	C
	R	0.018	0.1	1	27.4	C	R	0.053	0.2	3	32.0	C
Barry Marshall Pde - west	LT	0.436	3.4	28	28.7	C	LT	0.419	2.3	23	30.2	C
	T	0.436	2.1	31	26.6	C	T	0.419	1.6	24	28.7	C
	R	0.483	2.5	20	33.4	C	R	0.095	0.5	4	31.3	C

Notes: Level of Service calculations are based on Average Delay.
Underlined X-values denote maximum values.

Source: Uloth and Associates

TABLE 3
 OPERATIONAL CHARACTERISTICS FOR BARRY MARSHALL PARADE INTERSECTIONS
 AT FIONA WOOD ROAD AND PROPOSED DRIVEWAY 1 – SHORT TERM AM PEAK 15-MINS
 EXISTING TRAFFIC PLUS PROPOSED DEVELOPMENT

ITEMS	NETWORK OPERATIONAL CHARACTERISTICS											
	Barry Marshall Parade - Fiona Wood Road					Barry Marshall Parade - Driveway 1						
No. of Approach Lanes: N E S W	2 3 2 3					1 2 - 2						
No. of Phases	4					-						
Cycle Time (sec)	60					-						
Max X Value	0.591					0.179						
Avrge Delay (sec)	26.2					-						
Level of Service	C					-						
Approach	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.
			Veh.	m					Veh.	m		
Fiona Wood Rd/ Driveway 1 - north	LT R	0.591 0.399	9.7 2.8	77 21	19.7 31.5	B C	R -	0.113 -	0.5 -	3 -	8.3 -	A -
Barry Marshall Parade - east	LT T R	0.449 0.189 0.175	2.1 1.6 0.7	32 12 7	28.9 24.1 34.1	C C C	T T -	0.068 0.002 -	0.0 0.0 -	0 0 -	0.0 0.0 -	A A -
Fiona Wood Rd - south	LT R	<u>0.549</u> 0.022	3.4 0.1	30 1	30.4 28.6	C C	- -	- -	- -	- -	- -	- -
Barry Marshall Parade - west	LT T R	0.587 0.587 0.483	4.7 3.9 2.5	39 42 20	29.5 28.5 33.4	C C C	LT T -	<u>0.179</u> 0.036 -	0.0 0.0 -	0 0 -	4.5 0.3 -	A A -

Notes: Level of Service calculations are based on Average Delay.
 Underlined X-values denote maximum values.

Source: Uloth and Associates

TABLE 4

OPERATIONAL CHARACTERISTICS FOR BARRY MARSHALL PARADE INTERSECTIONS
AT FIONA WOOD ROAD AND DRIVEWAY 1 – SHORT TERM PM PEAK 15-MINS
EXISTING TRAFFIC FLOWS PLUS PROPOSED DEVELOPMENT

ITEMS	NETWORK OPERATIONAL CHARACTERISTICS											
	Barry Marshall Parade - Fiona Wood Road					Barry Marshall Parade - Driveway 1						
No. of Approach Lanes: N E S W	2 3 2 3					1 2 - 2						
No. of Phases	4					-						
Cycle Time (sec)	60					-						
Max X Value	0.769					0.382						
Avrge Delay (sec)	28.5					-						
Level of Service	C					-						
Approach	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.
			Veh.	m					Veh.	m		
Fiona Wood Rd/ Driveway 1 - north	LT R	0.237 0.769	3.5 7.4	26 54	15.2 34.2	B C	R -	<u>0.382</u> -	2.2 -	16 -	9.3 -	A -
Barry Marshall Parade - east	LT T R	<u>0.533</u> <u>0.758</u> 0.355	2.6 7.7 2.0	39 57 15	29.2 30.4 33.8	C C C	T T -	0.074 0.018 -	0.0 0.0 -	0 0 -	0.0 0.0 -	A A -
Fiona Wood Rd - south	LT R	0.648 0.055	3.9 0.2	29 3	31.8 32.1	C C	- -	- -	- -	- -	- -	- -
Barry Marshall Parade - west	LT T R	0.404 0.404 0.095	2.8 2.3 0.5	26 28 4	27.6 26.1 31.3	C C C	LT T -	0.110 0.022 -	0.0 0.0 -	0 0 -	3.5 0.3 -	A A -

Notes: Level of Service calculations are based on Average Delay.
Underlined X-values denote maximum values.

Source: Uloth and Associates

TABLE 5

OPERATIONAL CHARACTERISTICS FOR BARRY MARSHALL PARADE INTERSECTIONS
AT FIONA WOOD ROAD AND DRIVEWAY 1 – FUTURE (+10 YEARS) AM PEAK 15-MINS
WITH PROPOSED DEVELOPMENT AND MODIFIED SIGNAL PHASING

ITEMS	NETWORK OPERATIONAL CHARACTERISTICS											
	Barry Marshall Parade - Fiona Wood Road						Barry Marshall Parade - Driveway 1					
No. of Approach Lanes: N E S W	2 3 2 3						1 2 - 2					
No. of Phases	5						-					
Cycle Time (sec)	80						-					
Max X Value	0.826						0.234					
Avrge Delay (sec)	38.8						-					
Level of Service	D						-					
Approach	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.
			Veh.	m					Veh.	m		
Fiona Wood Rd/ Driveway 1 - north	LT R	<u>0.826</u> 0.467	22.8 4.9	184 37	32.6 28.5	C C	R -	0.150 -	0.6 -	4 -	10.7 -	B -
Barry Marshall Parade - east	LT T R	0.769 0.769 0.295	3.7 5.0 1.2	56 55 12	47.4 44.1 46.6	D D D	T T -	0.064 0.064 -	0.0 0.0 -	0 0 -	0.0 0.0 -	A A -
Fiona Wood Rd - south	LT R	0.752 0.036	9.9 0.2	92 3	47.7 48.2	D D	- -	- -	- -	- -	- -	- -
Barry Marshall Parade - west	LT T R	0.803 0.803 0.752	12.8 6.8 7.0	112 80 59	38.0 45.7 47.0	D D D	LT T -	<u>0.234</u> 0.047 -	0.0 0.0 -	0 0 -	3.7 0.7 -	A A -

Notes: Level of Service calculations are based on Average Delay.
Underlined X-values denote maximum values.

Source: Uloth and Associates

TABLE 6

OPERATIONAL CHARACTERISTICS FOR BARRY MARSHALL PARADE INTERSECTIONS
AT FIONA WOOD ROAD AND DRIVEWAY 1 – FUTURE (+10 YEARS) PM PEAK 15-MINS
WITH PROPOSED DEVELOPMENT AND MODIFIED SIGNAL PHASING

ITEMS	NETWORK OPERATIONAL CHARACTERISTICS											
	Barry Marshall Parade - Fiona Wood Road						Barry Marshall Parade - Driveway 1					
No. of Approach Lanes: N E S W	2 3 2 3						1 2 - 2					
No. of Phases	4						-					
Cycle Time (sec)	120						-					
Max X Value	0.896						0.703					
Avrge Delay (sec)	54.1						-					
Level of Service	D						-					
Approach	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.
			Veh.	m					Veh.	m		
Fiona Wood Rd/ Driveway 1 - north	LT R	0.240 0.814	7.4 22.2	56 166	24.3 45.6	C D	R -	<u>0.703</u> -	3.9 -	29 -	15.6 -	C -
Barry Marshall Parade - east	LT T R	<u>0.896</u> 0.722 0.711	8.7 14.2 4.2	131 105 31	67.0 53.5 71.0	E D E	T T -	0.131 0.026 -	1.6 0.0 -	24 0 -	0.1 0.0 -	A A -
Fiona Wood Rd - south	LT R	0.885 0.134	15.7 0.9	116 14	86.5 77.1	F E	- -	- -	- -	- -	- -	- -
Barry Marshall Parade - west	LT T R	0.607 0.607 0.379	9.9 6.4 2.2	96 84 16	49.6 62.2 77.3	D E E	LT T -	0.157 0.031 -	0.0 0.0 -	0 0 -	2.7 0.7 -	A A -

Notes: Level of Service calculations are based on Average Delay.
Underlined X-values denote maximum values.

Source: Uloth and Associates

TABLE 7

OPERATIONAL CHARACTERISTICS FOR SIGNALISED BARRY MARSHALL PARADE -
FIONA WOOD ROAD INTERSECTION – SHORT TERM AM AND PM PEAK 15-MINS
WITH DEVELOPMENT ACCESS FROM WONNUL PLACE

ITEMS	OPERATIONAL CHARACTERISTICS											
	AM Peak Hour						PM Peak Hour					
No. of Approach Lanes: N E S W	2 3 2 3						2 3 2 3					
No. of Phases	4						4					
Cycle Time (sec)	60						80					
Max X Value	0.696						0.814					
Avrge Delay (sec)	27.6						40.6					
Level of Service	C						D					
Approach	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.
			Veh.	m					Veh.	m		
Fiona Wood Road - north	LT	0.346	5.0	41	14.7	B	LT	0.093	1.9	14	19.4	B
	R	0.645	5.3	39	32.6	C	R	<u>0.814</u>	19.7	145	43.5	D
Barry Marshall Parade - east	LT	0.449	2.1	32	28.9	C	LT	0.789	3.9	59	47.0	D
	T	0.014	0.1	1	24.1	C	T	0.140	1.1	8	37.1	D
	R	0.080	0.2	3	34.5	C	R	0.032	0.2	1	43.1	D
Fiona Wood Road - south	LT	0.628	3.6	31	32.2	C	LT	0.741	5.2	39	43.6	D
	R	0.022	0.1	1	29.6	C	R	0.065	0.3	4	42.3	D
Barry Marshall Parade - west	LT	<u>0.696</u>	6.4	47	32.6	C	LT	0.603	4.5	37	43.2	D
	T	0.509	2.5	36	27.1	C	T	0.603	2.8	41	41.2	D
	R	0.483	2.5	20	33.4	C	R	0.126	0.7	5	42.8	D

Notes: Level of Service calculations are based on Average Delay.
Underlined X-values denote maximum values.

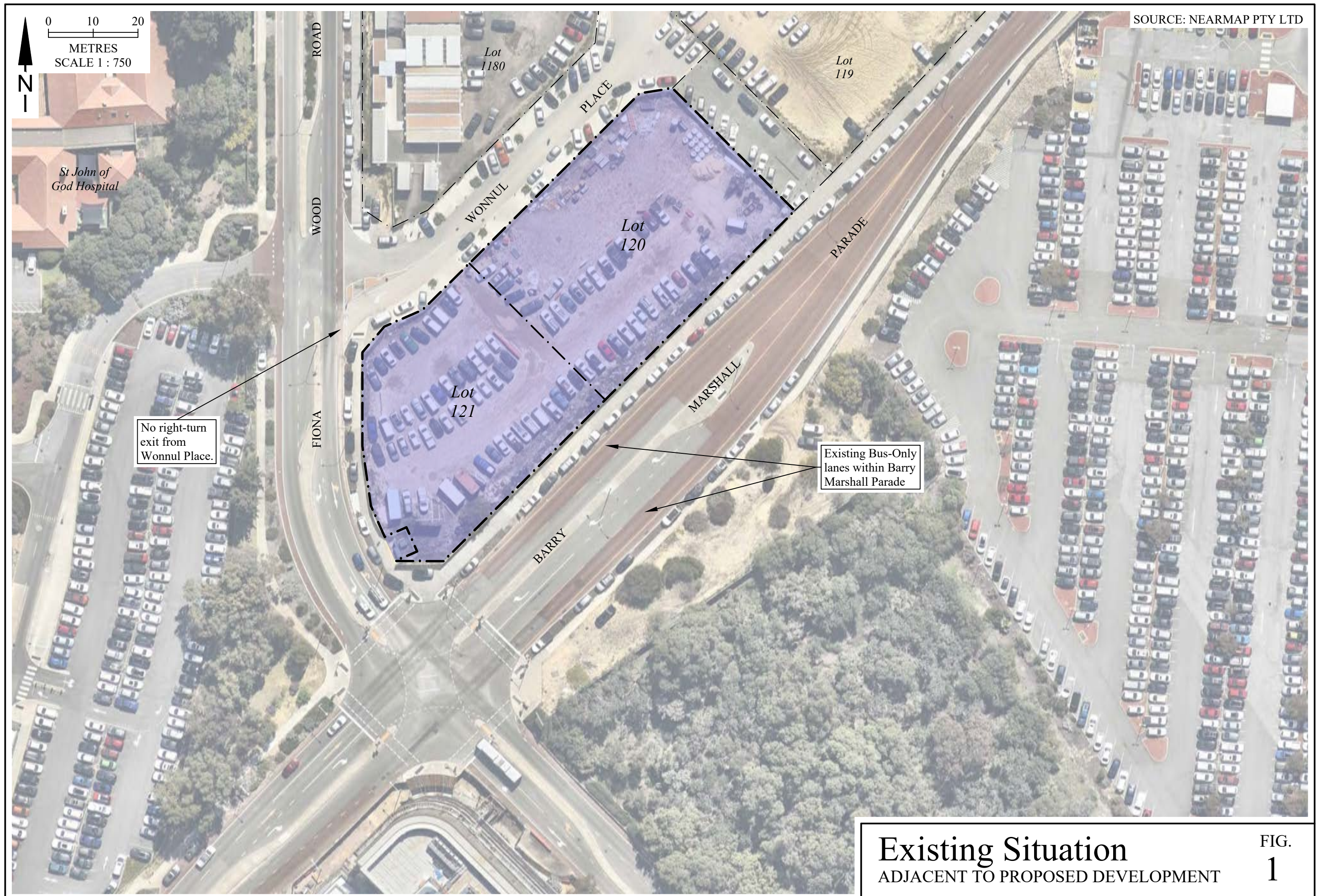
Source: Uloth and Associates

TABLE 8
 OPERATIONAL CHARACTERISTICS FOR SIGNALISED BARRY MARSHALL PARADE -
 FIONA WOOD ROAD INTERSECTION – FUTURE (+10 YEARS) AM AND PM PEAK 15-MINS
 WITH DEVELOPMENT ACCESS FROM WONNUL PLACE

ITEMS	OPERATIONAL CHARACTERISTICS											
	AM Peak Hour						PM Peak Hour					
No. of Approach Lanes: N E S W	2 3 2 3						2 3 2 3					
No. of Phases	5						4					
Cycle Time (sec)	80						150					
Max X Value	0.883						0.998					
Avrge Delay (sec)	37.5						78.8					
Level of Service	D						E					
Approach	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.	Move- ment	X- Value	Max. Queue		Avrge Delay (sec)	Level of Serv.
			Veh.	M					Veh.	m		
Fiona Wood Road - north	LT	0.653	13.6	116	20.7	C	LT	0.151	4.8	37	26.4	C
	R	0.653	7.0	53	26.4	C	R	0.931	50.9	378	62.8	E
Barry Marshall Parade - east	LT	0.800	3.9	58	48.8	D	LT	0.900	8.7	131	86.6	F
	T	0.800	4.0	60	47.1	D	T	0.900	10.0	130	90.2	F
	R	0.215	0.6	9	47.4	D	R	0.059	0.3	2	87.7	F
Fiona Wood Road - south	LT	0.840	11.4	110	54.2	D	LT	0.990	20.5	151	124.0	F
	R	0.030	0.2	3	43.7	D	R	0.175	1.5	22	104.8	F
Barry Marshall Parade - west	LT	0.851	16.4	142	39.0	D	LT	<u>0.998</u>	18.9	187	89.9	F
	T	0.851	5.7	84	48.7	D	T	<u>0.998</u>	9.4	140	125.2	F
	R	<u>0.883</u>	7.9	68	53.0	D	R	0.474	2.7	20	115.8	F

Notes: Level of Service calculations are based on Average Delay.
 Underlined X-values denote maximum values.

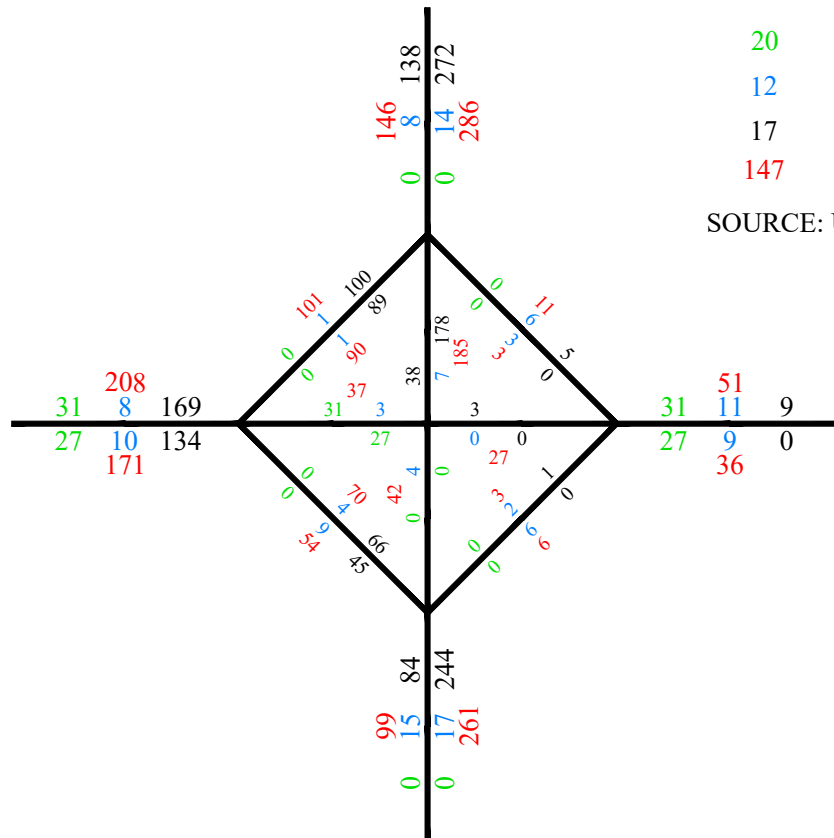
Source: Uloth and Associates



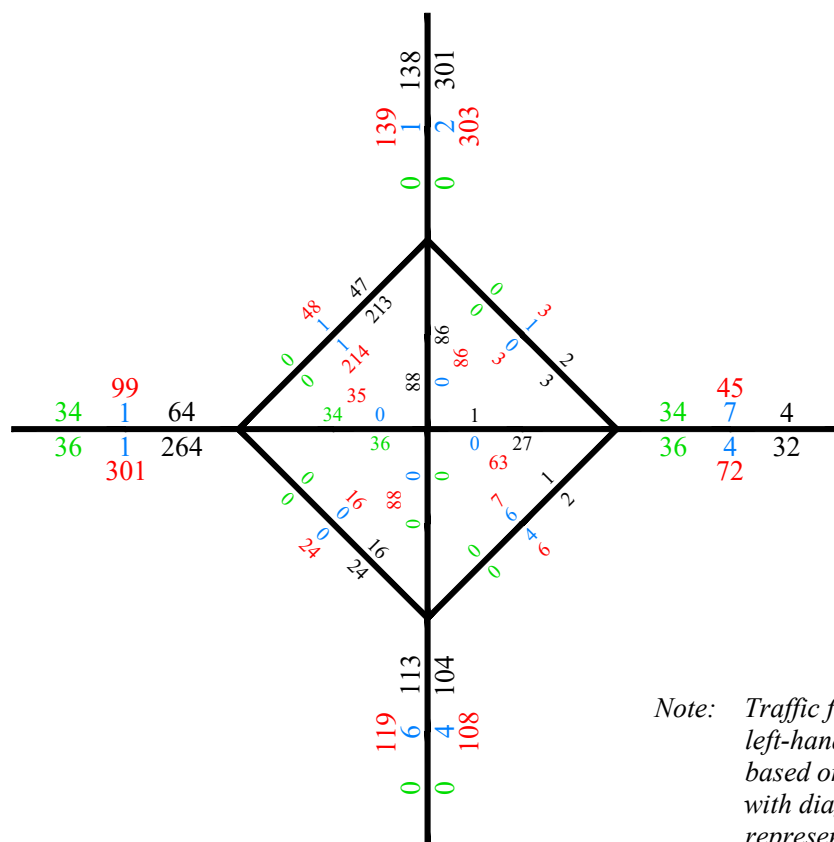
LEGEND

- 20 Scheduled Buses
- 12 Other Buses
- 17 Background Traffic
- 147 Total Traffic

SOURCE: ULOTH & ASSOCIATES



AM PEAK HOUR



PM PEAK HOUR

Note: Traffic flows are shown on the left-hand side of each road section based on the direction of travel, with diagonal lines representing turning movements through the intersection.

Existing Peak Hour Traffic Flows

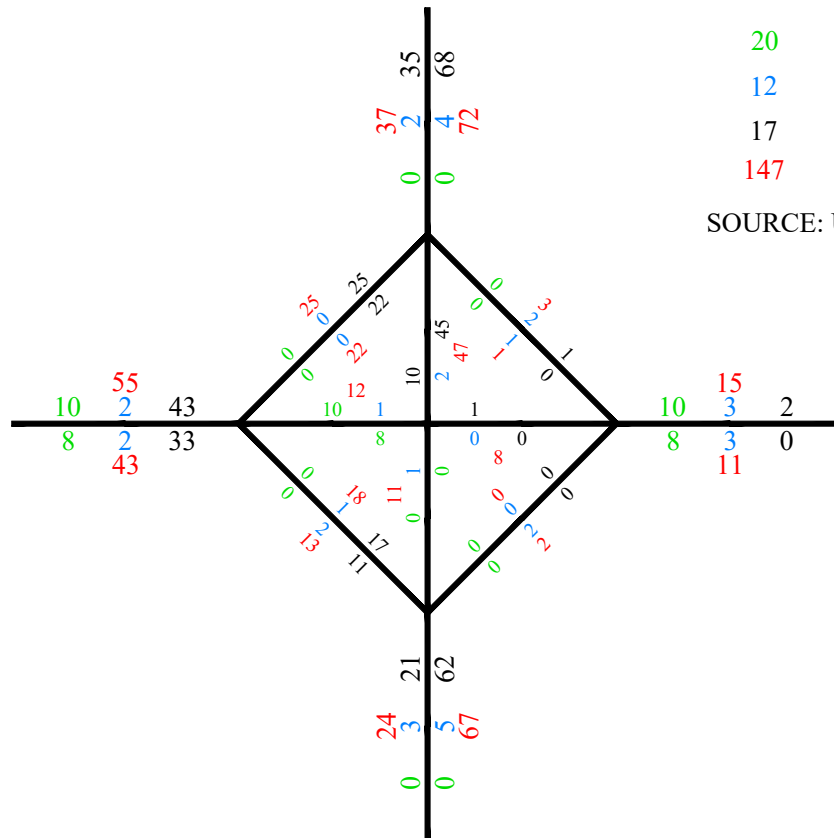
BARRY MARSHALL PARADE - FIONA WOOD ROAD

FIG.
2

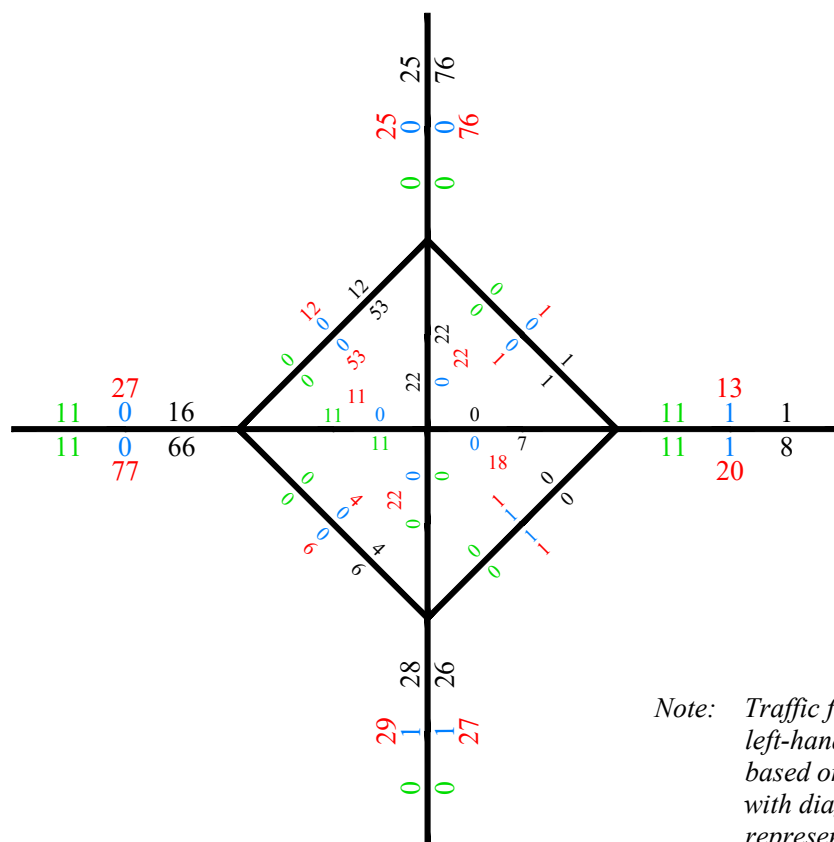
LEGEND

- 20 Scheduled Buses
- 12 Other Buses
- 17 Background Traffic
- 147 Total Traffic

SOURCE: ULOTH & ASSOCIATES



AM PEAK 15-MINS

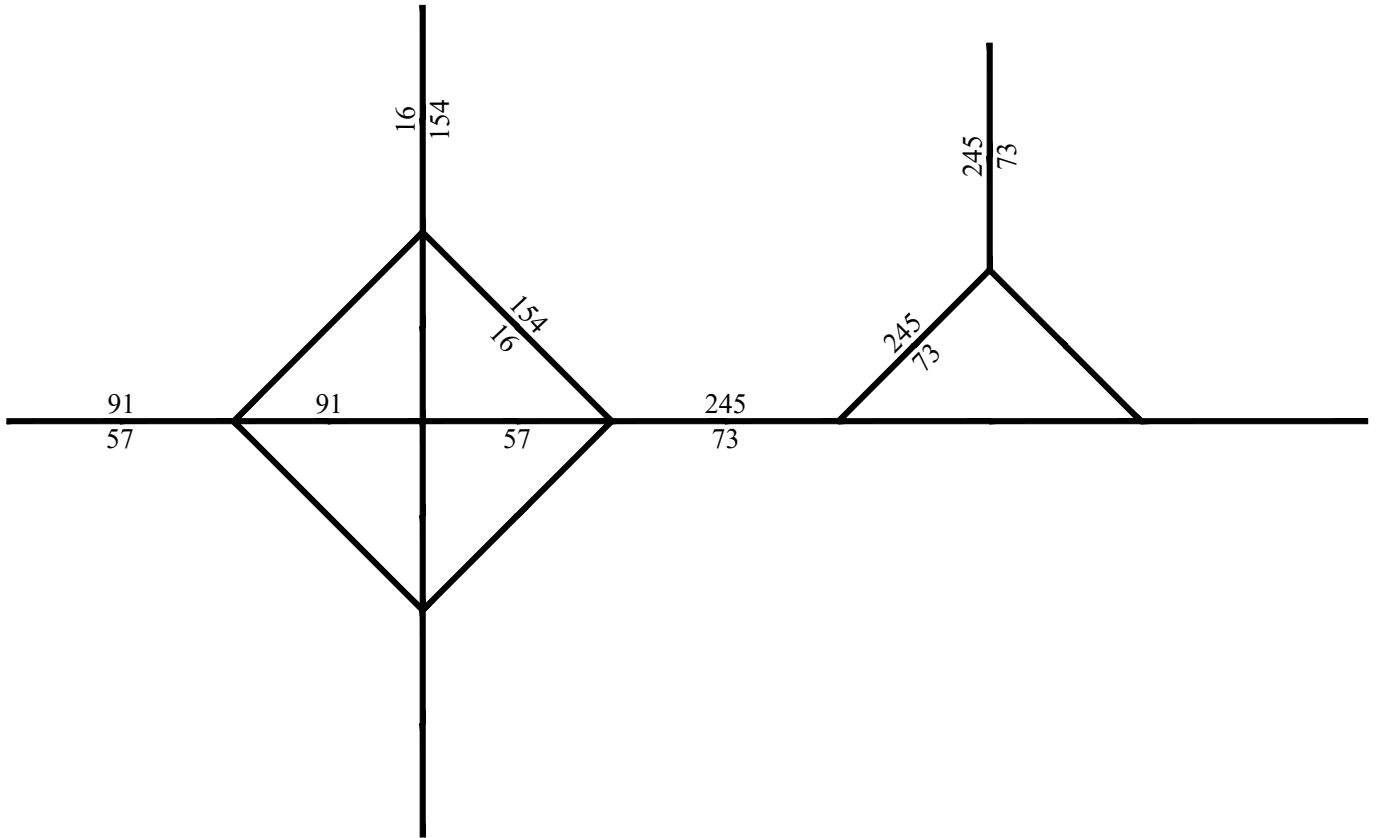


PM PEAK 15-MINS

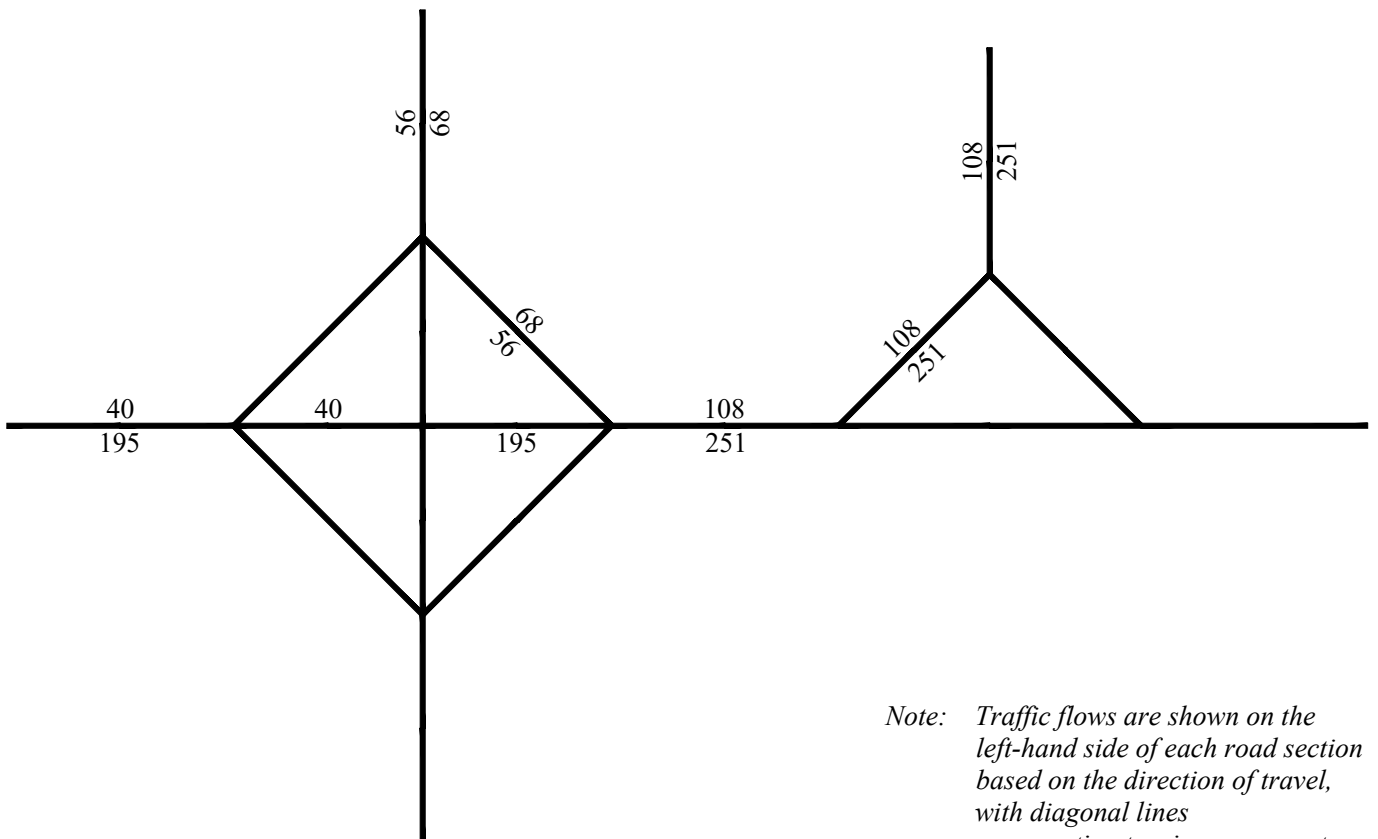
Note: Traffic flows are shown on the left-hand side of each road section based on the direction of travel, with diagonal lines representing turning movements through the intersection.

Existing Peak 15-Min Traffic Flows BARRY MARSHALL PARADE - FIONA WOOD ROAD

FIG.
3



AM PEAK HOUR

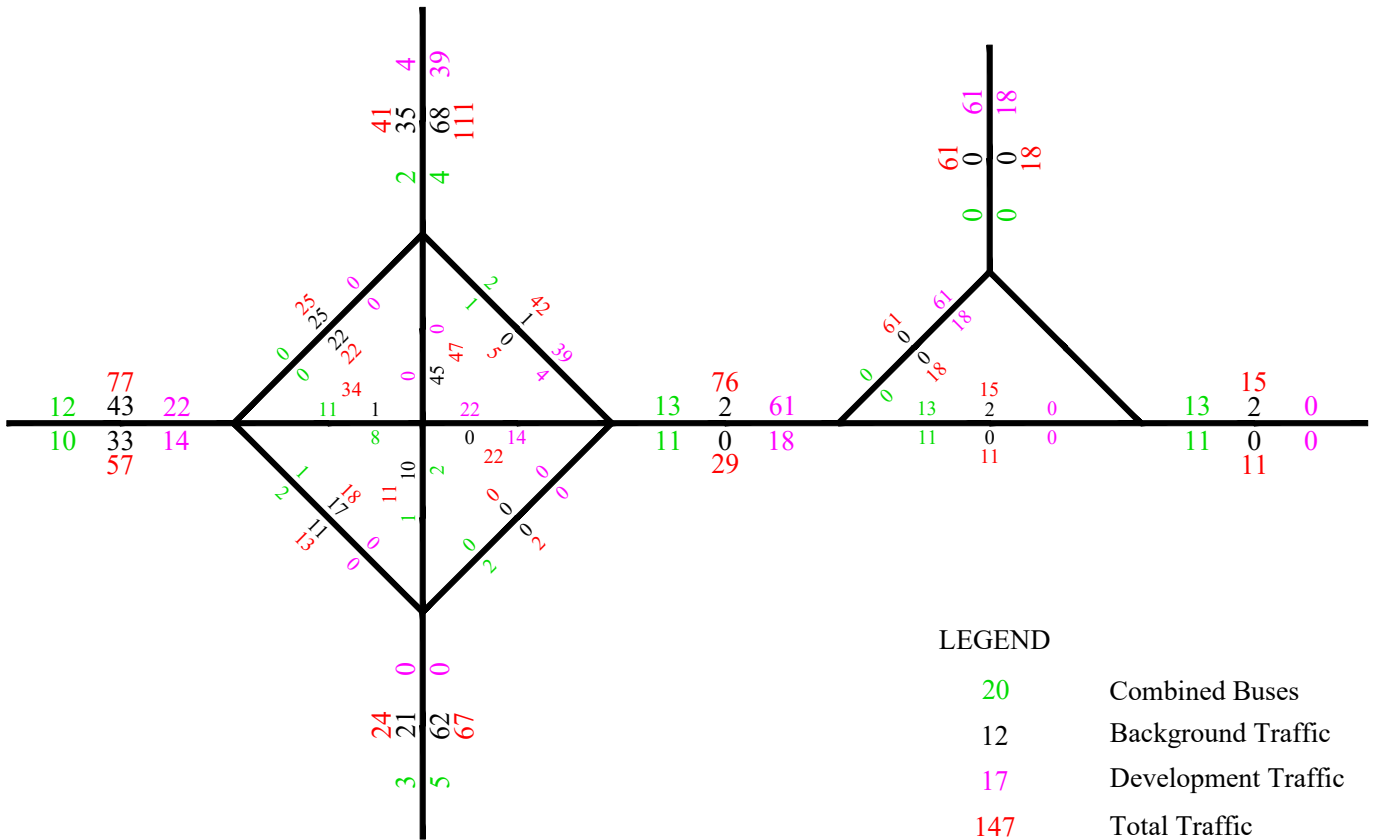


PM PEAK HOUR

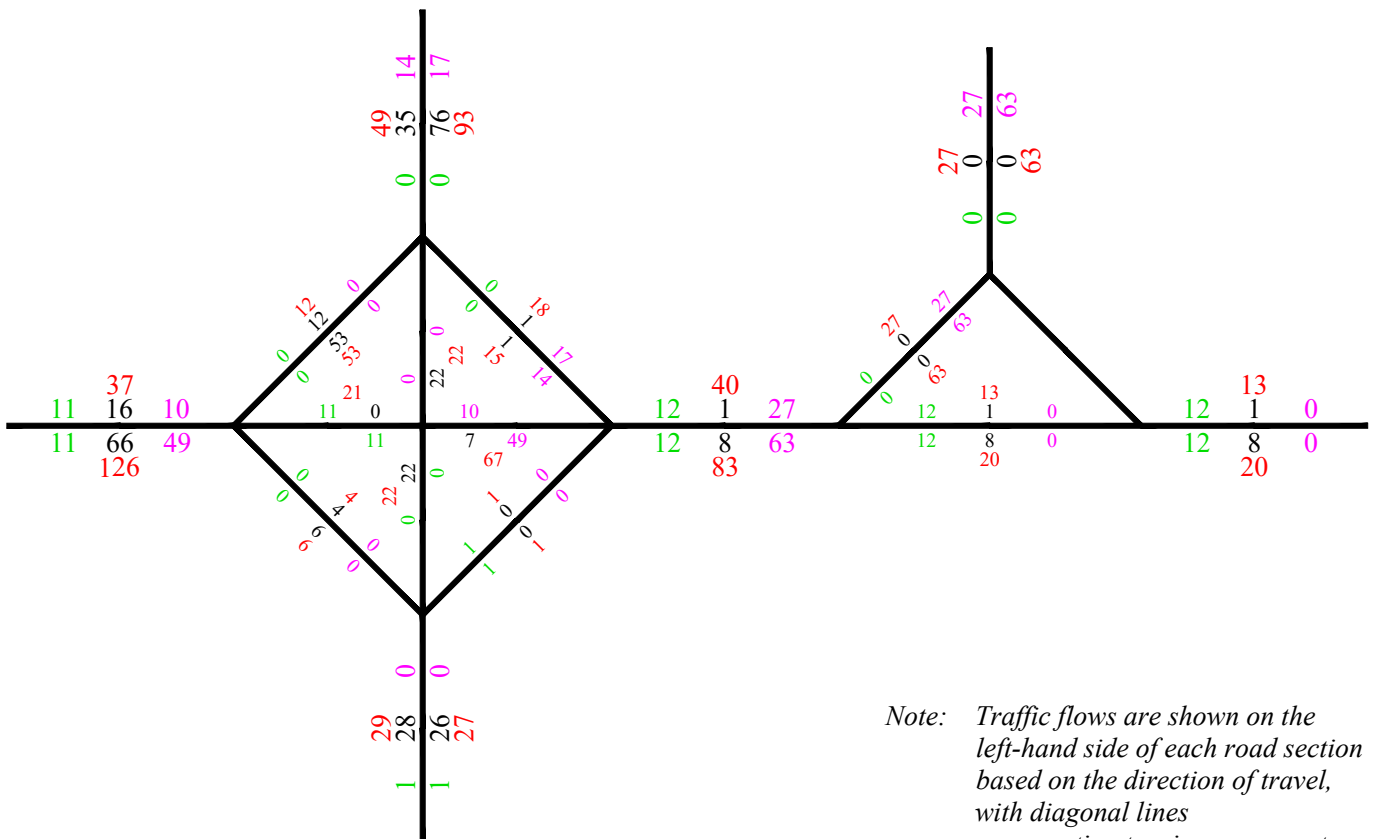
Note: Traffic flows are shown on the left-hand side of each road section based on the direction of travel, with diagonal lines representing turning movements through the intersection.

Proposed Development Traffic Flows

BARRY MARSHALL PARADE - FIONA WOOD ROAD



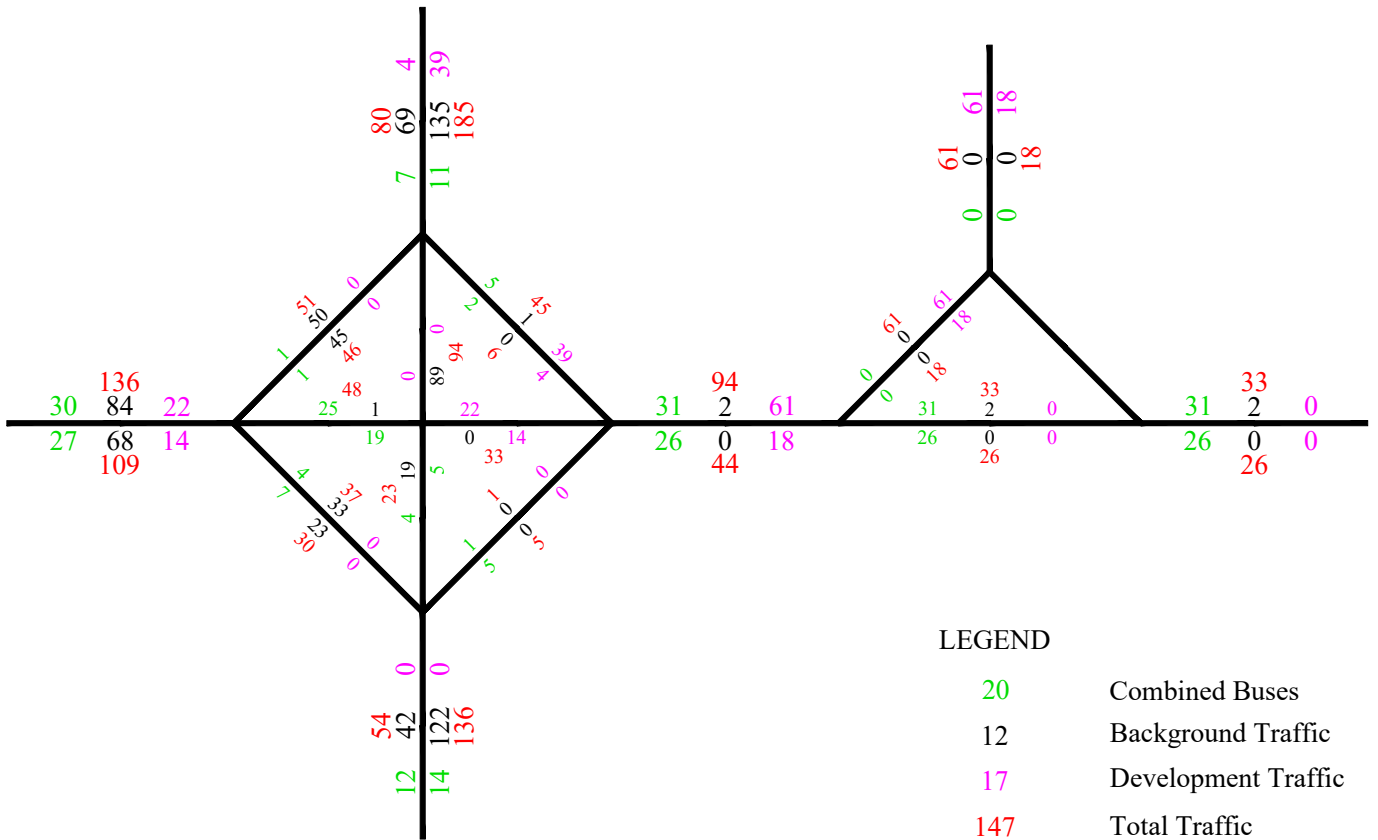
SOURCE: ULOTH & ASSOCIATES



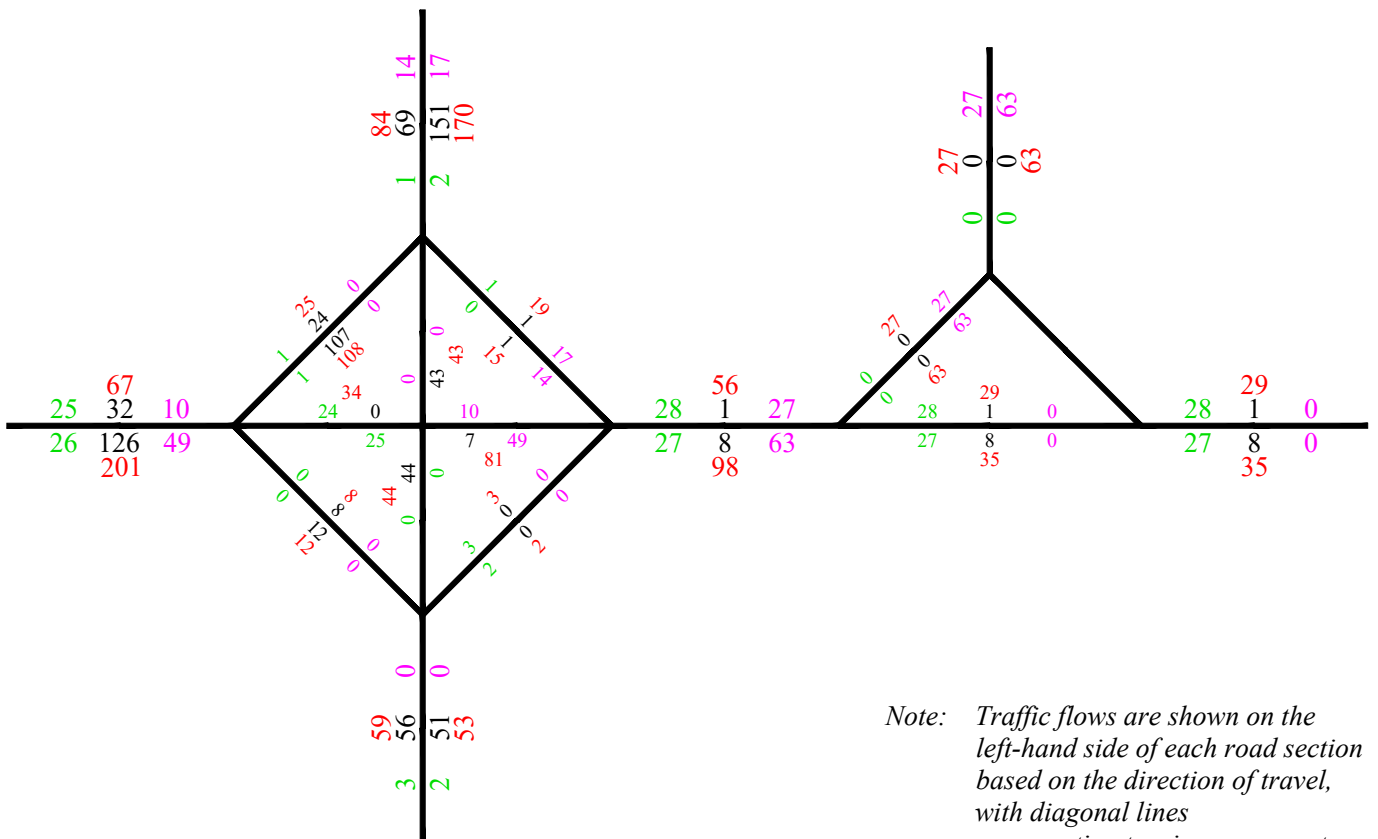
Short Term Total Traffic Flows

EXISTING SITUATION PLUS PROPOSED DEVELOPMENT

FIG.
5



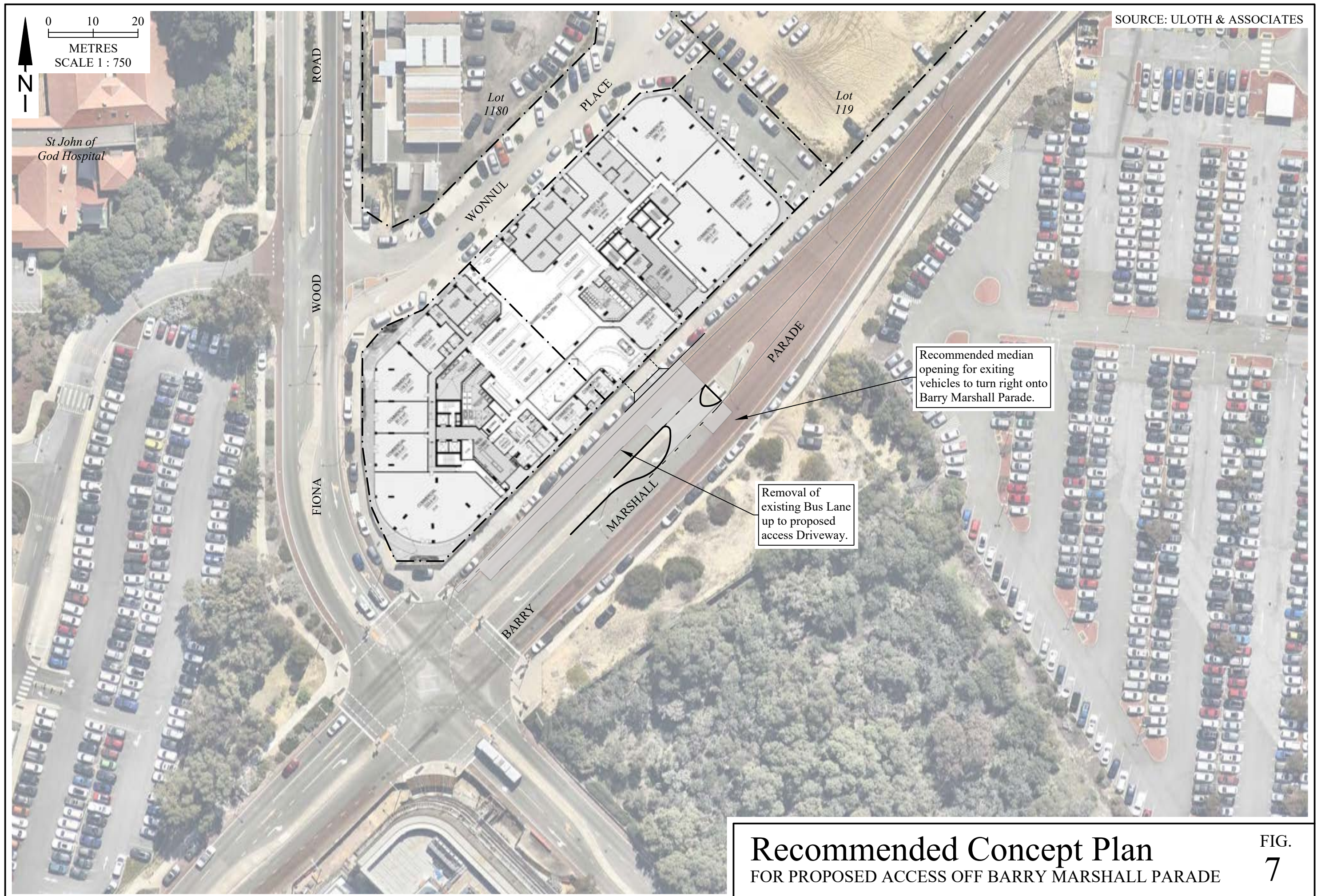
SOURCE: ULOTH & ASSOCIATES

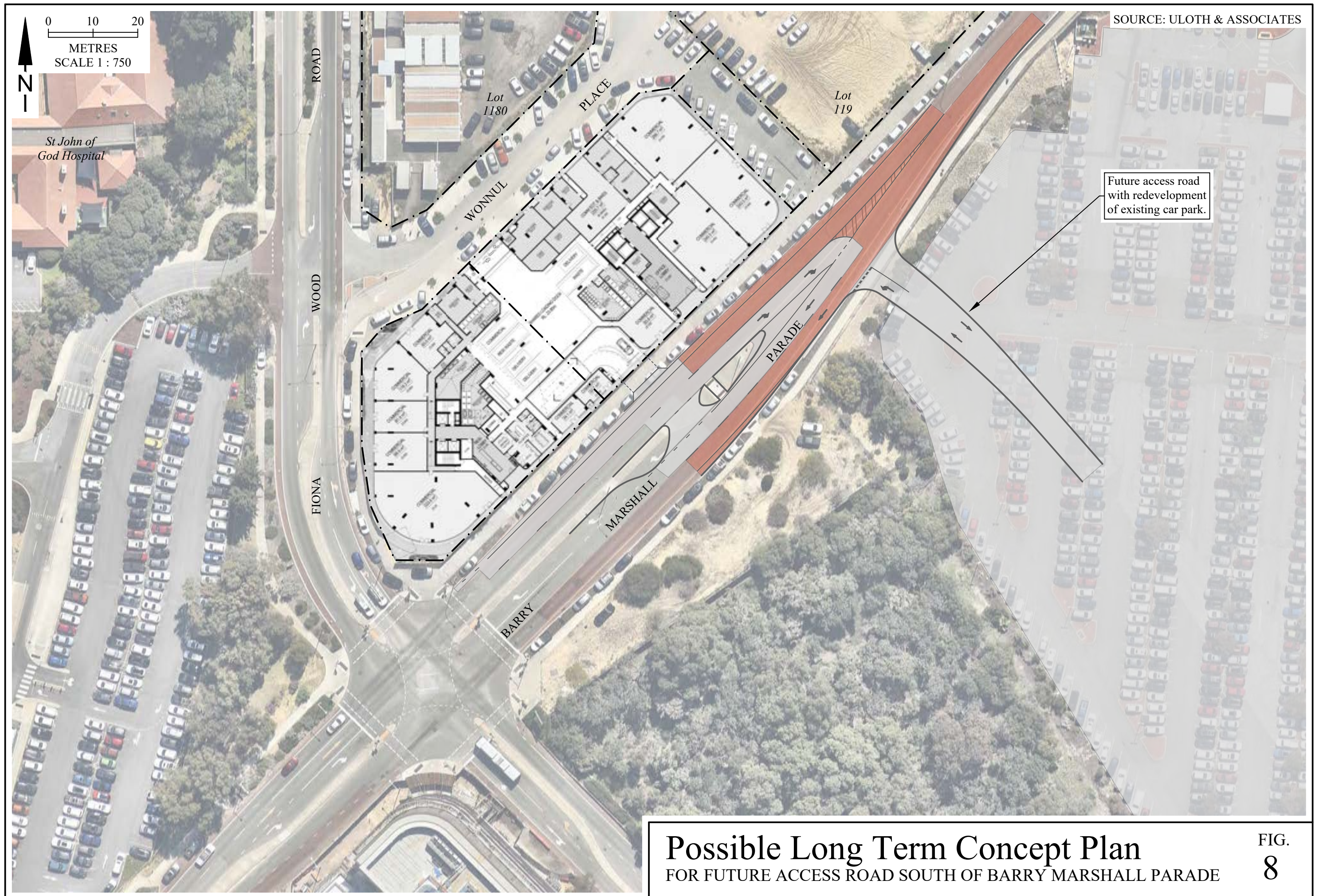


Long Term Total Traffic Flows

WITH FUTURE BUS TRAFFIC & INCREASED BACKGROUND TRAFFIC

FIG.
6





From: [Kiss, Connor](#)
To: [Troy Cappellucci](#)
Cc: [Katsimbardis, Anastasia](#); [Piggott, Lom](#)
Subject: RE: 120/121 Murdoch Drive - Responses to City of Melville and PTA comments
Date: Friday, 17 May 2024 3:09:06 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.jpg](#)
[image004.jpg](#)
[Stage 2 - Master Plan.PNG](#)

This Message Is From an External Sender

This message came from outside your organization, do not click on links or open attachments unless you are expecting them from the sender.

[Report Suspicious](#)

Hi Troy,

Please see our response below:

We recommend investigating and/or consideration of:

- PTA's primary concerns do not relate to intersection performance, our concerns relate to the turning movements and interactions with bus services and their access to the development
- Potential future mid-tier alignment on Barry Marshall Pde with required cross section potentially excluding right turn egress from the development.
- The addition of a roundabout on Fiona Wood on the intersection of Wonnul Place, noting access and egress demands of the future consideration for DA Lot 601.
- Proposed private vehicle access eastbound of the BMP & Fiona Wood Rd intersection is predicated on right turn access into the DevWA cell to the south east. Stage 2 in the Long Term Concept Plan indicates the only left-turn egress from the DevWA site will be provided. See [Stage 2 Strategic Plan](#) (attached). This is not consistent with the layout in the Applicant's Long Term Concept Plan.
- The PTA holds concerns regarding inadvertent private vehicle access past the Lot 120/121 access point and that this would leave no option for drivers other than to enter the bus interchange. Applicant needs to demonstrate mitigation of this scenario.

At the moment the PTA indicates this proposal and **non-favourable**.

NOTE: We have forwarded the addendum transport report to our engaged traffic modellers for review and are awaiting a response. We will provide further comment to the City regarding this.

We are interested in your response to the addendum transport report as well, including the DA for Lot 601.

Thanks,

Connor Kiss (They/Them)

Transport and Land Use Planner | Infrastructure Planning and Land Services
Public Transport Authority of Western Australia

Public Transport Centre, West Parade, Perth, 6000
PO Box 8125, Perth Business Centre, WA, 6849
Tel (08) 9326 5845 | Web: www.pta.wa.gov.au



The Public Transport Authority of Western Australia cannot accept any liability for any loss or damage sustained as a result of software viruses. You must carry out such virus checking as is necessary before opening any attachment to this message. The information in this email and any files transmitted with it may be of a privileged and/or confidential nature and is intended solely for the addressee(s). If you are not an intended addressee please notify the sender immediately, and note that any disclosure, copying or distribution by you is prohibited and may be unlawful. The views expressed in this email are not necessarily the views of the Public Transport Authority.

From: Troy Cappellucci <Troy.Cappellucci@melville.wa.gov.au>
Sent: Friday, May 17, 2024 9:01 AM
To: Kiss, Connor <Connor.Kiss@pta.wa.gov.au>
Cc: Sean Fairfoul <sean@lateralplanning.com.au>
Subject: RE: 120/121 Murdoch Drive - Responses to City of Melville and PTA comments

Hi Connor,

Any update on when PTA's response will be coming?

The RAR is currently due on the 24th of May so we will need to extend the time of the RAR on Monday so would be good to now how long PTA are away from providing their response and if possible, whether you can indicate it will be a favourable recommendation or not.

Regards

Troy Cappellucci
Principal Statutory Planner
08 9364 0603

melvillecity.com.au | [Lodge your application online](#)

The City of Melville acknowledges the Bibbulmun people as the Traditional Owners of the land on which the City stands today and pays its respects to the Whadjuk people, and Elders both past and present | City of Melville nagolik Bibbulmen Nyungar ally-maga milgebar gardukung naga boordjar-il narnga allidja yugow yeye wer ali kaanya Whadjack Nyungar wer netingar quadja wer burdik.

From: Kiss, Connor <Connor.Kiss@pta.wa.gov.au>
Sent: Monday, May 13, 2024 11:51 AM
To: Troy Cappellucci <Troy.Cappellucci@melville.wa.gov.au>
Subject: RE: 120/121 Murdoch Drive - Responses to City of Melville and PTA comments

Hi Troy,

I will get back to you on this, but we aim to send back our comments by COB this Friday.

Regards,

Connor Kiss (They/Them)

Transport and Land Use Planner | Infrastructure Planning and Land Services
Public Transport Authority of Western Australia
Public Transport Centre, West Parade, Perth, 6000
PO Box 8125, Perth Business Centre, WA, 6849
Tel (08) 9326 5845 | Web: www.pta.wa.gov.au



The Public Transport Authority of Western Australia cannot accept any liability for any loss or damage sustained as a result of software viruses. You must carry out such virus checking as is necessary before opening any attachment to this message. The information in this email and any files transmitted with it may be of a privileged and/or confidential nature and is intended solely for the addressee(s). If you are not an intended addressee please notify the sender immediately, and note that any disclosure, copying or distribution by you is prohibited and may be unlawful. The views expressed in this email are not necessarily the views of the Public Transport Authority.

From: Troy Cappellucci <Troy.Cappellucci@melville.wa.gov.au>
Sent: Friday, May 10, 2024 8:11 AM
To: Kiss, Connor <Connor.Kiss@pta.wa.gov.au>
Cc: Sean Fairfoul <sean@lateralplanning.com.au>
Subject: RE: 120/121 Murdoch Drive - Responses to City of Melville and PTA comments

Hi Connor,

The DAP has confirmed that the RAR for this one is due on the 24th of May however I won't be able to get my report done by then obviously so I was just wanting to know when do you think you PTA will be able to provide the City with their response to the amended info provided?

Regards

Troy Cappellucci
Principal Statutory Planner
08 9364 0603
melvillecity.com.au | [Lodge your application online](#)

The City of Melville acknowledges the Bibbulmun people as the Traditional Owners of the land on which the City stands today and pays its respects to the Whadjuk people, and Elders both past and present | City of Melville nagolik Bibbulmen Nyungar ally-maga milgebar gardukung naga boordjar-il narnga allidja yugow yeye wer ali kaanya Whadjack Nyungar wer netingar quadja wer burdik.

From: Sean Fairfoul <sean@lateralplanning.com.au>
Sent: Monday, May 6, 2024 6:05 PM
To: Troy Cappellucci <Troy.Cappellucci@melville.wa.gov.au>; Kiss, Connor <Connor.Kiss@pta.wa.gov.au>
Subject: FW: 120/121 Murdoch Drive - Responses to City of Melville and PTA comments

Hi Troy / Connor,

Please find below and attached the additional work from Uloth and Associates with respect to the proposed development at Lots 120 & 121 Fiona Wood Road / Barry Marshall Parade, Murdoch.

This work has found that from a traffic perspective the proposed configuration is

acceptable and preferable to the alternative access from Wonnul Place, as bus movements would be adversely impacted by the necessary changes to the signals to accommodate the increased movements from Fiona Wood Road.

Let me know if you need anything further.

Regards

Sean Fairfoul
Director



0413 44 11 99
sean@lateralplanning.com.au
44 King Street, Perth WA 6000

lateralplanning.com.au

This e-mail and any attachments are intended only for the use of the individual/s or entities named above and may contain information that is confidential and privileged. If you are not the intended recipient you are notified that disclosing, copying, distributing, or taking any action in reliance on the contents of this information is strictly prohibited. This email and any file attached should be scanned for viruses. If you have received this e-mail in error, please notify us immediately by return e-mail and destroy the original message. Any views expressed in this message are those of the individual sender and may not necessarily reflect the views of SHF Planning Pty Ltd.

From: Darren Levey <darren.levey@uloth.com.au>
Date: Monday, 6 May 2024 at 4:52 PM
To: Sean Fairfoul <sean@lateralplanning.com.au>
Cc: Jamie Fini <jamie@Hesperia.com.au>
Subject: 120/121 Murdoch Drive - Responses to City of Melville and PTA comments

Sean,

As discussed, please refer below for our responses to the various comments received from City of Melville back on 8 March 2024.

Please also find attached a stand-alone Transport Report Addendum addressing the SIDRA Network modelling for Barry Marshall Parade - Fiona Wood Road and the proposed access driveway off Barry Marshall Parade, taking into account the existing and future bus movements along Barry Marshall Parade as per the comments from PTA on 26 March 2024, and as discussed at our recent meeting at PTA on 26 April 2024.

I have also attached the SIDRA model files, for forwarding to both the City and PTA, for their review.

Responses to the City of Melville comments are as follows:

Dedicated Bus Route

- Barry Marshall Parade east of Fiona Wood Road has been constructed with

kerbside Bus Lanes, but with non-specific median lanes and right-turn lane, presumably to account for the future access road planned to connect to the south side of Barry Marshall Parade when the existing station car park is redeveloped. It is therefore not planned as a dedicated bus route.

Trip Generation Rates

The trip generation rates utilised within the Transport Report are considered appropriate for the proposed mixed-use development, located within a well-planned Activity Centre immediately adjacent to a major public transport hub.

- Although some rates are quoted from the ITE 'Trip Generation Manual', they are also consistent with rates from the NSW RMS 'Guide to Traffic Generating Developments - Updated Traffic Surveys' document (for High density residential flat dwellings, and office blocks).

Directional Distributions

- The assumed directional distributions are documented in Figures A.10 and A.11 within the Transport Report, as described in Section 2.5 of the report. The assumptions made and the resulting development traffic flows have been reviewed and are considered to be appropriate.

Access for Pedestrians and Cyclists

The proposed development plans show a Residential Lobby at the western end of the site and an Office Lobby at the eastern end, both accessed directly off Barry Marshall Parade. Cyclist access is provided through the Office Lobby into the Bicycle parking area and End of Trip facilities.

SIDRA Network Analysis

- As agreed at the meeting with PTA and City of Melville on 26 April 2024, SIDRA Network analyses has been carried out for the proposed access driveway off Barry Marshall Parade and the adjacent signalised intersection at Fiona Wood Road, as documented in the attached Transport Report Addendum letter, dated 6 May 2024.

Analysis Scenarios and Outputs

- The various analysis scenarios, assumptions, traffic flows and traffic model outputs are all included within the attached letter referred to above.

Models to be Submitted

- The SIDRA traffic models are attached, for submission to City of Melville and/or PTA as requested.

Roundabout at Wonnul Place

- The proposed development only adds minimal traffic onto Wonnul Place, which are all service vehicles. There is therefore no nexus between the development and any perceived requirements for upgrades at the existing Fiona Wood Road - Wonnul Place intersection.

Corrections to Transport Report

- It is agreed that the Transport Report incorrectly quotes the speed limit for Barry Marshall Parade and Fiona Wood Road. It is also agreed that the walking distance from the development entrances to the South Street bus stops is approximately 450 metres.
- Neither of these corrections have any material impact on the outcomes or recommendations within the report.

The remaining Items 10 to 15 can all be addressed through DA Conditions, if required.

Please let me know if you require anything further.

Regards,

Darren Levey
Managing Director

Uloth & Associates



Suite 164, Level 3,
580 Hay Street, Perth WA 6000
www.uloth.com.au (08) 9321 4841



City of Melville Legal Notice. The contents of this email or its attachments may be private and confidential and may be privileged or otherwise protected from disclosure in the public interest. If you are not the intended recipient of this email please notify the sender, delete the email and attachments from your system and destroy any copies you have taken of the email and attachments. Before taking any action based upon advice and/or information contained in this email you should carefully consider the advice and information and consider obtaining relevant independent advice.



PART C – CITY OF STIRLING

1. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

2. Disclosure of Interests

3. Form 1 DAP Applications

3.1 Mixed use - Residential, Commercial, Office, Retail and Carpark – Child Care Centre – DAP/22/02355

4. Form 2 DAP Applications

Nil.

5. Section 31 SAT Reconsiderations

Nil.

LOT NO. 950 (HOUSE NUMBER 104, 106A AND 106B) MAIN STREET, OSBORNE PARK – CHILD CARE PREMISES

Form 1 – Responsible Authority Report (Regulation 12)

DAP Name:	Metro Inner DAP
Local Government Area:	City of Stirling
Applicant:	Pinnacle Planning
Owner:	Gang Ren
Value of Development:	\$3.2 million ☐ Mandatory (Regulation 5) ☒ Opt In (Regulation 6)
Responsible Authority:	City of Stirling
Authorising Officer:	Giovanna Lumbaca, Acting Director Planning and Development
LG Reference:	DA22/1242
DAP File No:	DAP/22/02355
Application Received Date:	26 October 2022
Report Due Date:	11 June 2024
Application Statutory Process Timeframe:	90 Days, with an additional 594 days agreed between the Applicant and City of Stirling.
Attachment(s):	1. Development Application Plans (received 5 June 2024) 2. Aerial Location Plan 3. Metropolitan Region Scheme Zoning Map 4. City of Stirling Local Planning Scheme No.3 Zoning Map 5. City of Stirling Planning Assessment 6. Applicant's Original Planning Report received 29 September 2022 7. Applicant's Final Submission: a. Applicant's Response to Request for Information received 16 December 2022 and Response to Request for Information received 19 February 2024 b. Amended Transport Impact Statement Report prepared by Kctt received 16 May 2024 c. Amended Noise Management Plan prepared by Herring Storer Acoustics received 20 December 2023 d. Amended Environmental Acoustic Assessment prepared by Herring

	Storer Acoustics received 20 December 2023 e. Applicant's Landscaping Plans prepared by Propagule dated 16 May 2024 f. Waste Management Plan prepared by Pinnacle Planning received 16 May 2024 g. Sustainable Design Assessment Plan prepared by Sustain AbilityWA received 20 December 2023. 8. City of Stirling Design Review Panel (DRP) Report dated 18 January 2024.	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	☐ Yes ☒ N/A	Complete Responsible Authority Recommendation section
	☐ No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

That the Metro Inner-North Development Assessment Panel resolves to:

Approve DAP Application reference DAP/22/02355 and accompanying plans (as listed in Condition 3) in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the City of Stirling Local Planning Scheme No. 3, for the proposed Child Care Premises at Lots 950 House Numbers 104,106A and 106B Main Street Osborne Park, subject to the following conditions:

Conditions

- Pursuant to Clause 26 of the Metropolitan Region Scheme, this approval is deemed to be an approval under Clause 24(1) of the Metropolitan Region Scheme.
- This decision constitutes planning approval only and is valid for a period of four (4) years from the date of approval. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.
- The development is to comply in all respects with the attached approved plans, as dated, marked and stamped, together with any requirements and annotations detailed thereon. The plans approved as part of this application form part of the development approval issued are listed below:

DRAWING TITLE	Revision	Date	Drawn By
3D Render	SK001	May 2024	Meyer Shircore Architects
Existing Site Survey	SK001	May 2024	Meyer Shircore Architects
Ground Floor	SK001	May 2024	Meyer Shircore Architects

First Floor Plan	SK001	May 2024	Meyer Shircore Architects
Roof Plan	SK001	May 2024	Meyer Shircore Architects
Elevations	SK001	May 2024	Meyer Shircore Architects
Section 1	SK001	May 2024	Meyer Shircore Architects

Landscaping

4. Prior to occupation of the development, two (2) Advanced Trees must be planted on-site and maintained thereafter, to the satisfaction of the City of Stirling.
5. All Advanced Trees are to be centrally located within the deep soil area free of buildings, impervious surfaces and other fixed structures, and be open to the air.
6. Prior to occupation of the development, all landscaped areas are to be planted, reticulated and mulched in accordance with the approved landscaping plan prepared by Propagule dated 16 May 2024 and thereafter maintained to the satisfaction of the City of Stirling.
7. Prior to occupation of the development, the significant tree indicated on the approved plans for retention must be retained on site with a minimum nine (9) square metres of soil space at ground level free of intrusions, a minimum dimension of 2 metres around the tree. The tree must be protected during the demolition and construction phase of the development and thereafter maintained. Should the tree die or be removed, it shall be replaced by an advanced tree.

Parking and Access

8. Prior to the occupation of the development, all redundant crossovers shall be removed, and the kerbing and road reserve reinstated at the landowner's expense in accordance with the City of Stirling Local Planning Policy 6.7 – Parking and Access, to the satisfaction of the City of Stirling.
9. The crossover shall be designed and constructed in accordance with the City of Stirling Local Planning Policy 6.7 – Parking and Access, to the satisfaction of the City of Stirling. Crossovers are to be installed prior to occupation of the development.
10. All parking bays, manoeuvring and circulation areas are to comply with Australian Standards AS/NZS2890.1:2004 Amendment 1 and AS2890.2:2018. The number of ACROD car parking bays and their design and layout are to comply with Australian Standards AS/NZS2890.6:2009 (Off-street Parking for People with Disabilities) and the Building Code of Australia (Volume 1 section D3.5) to the satisfaction of the City of Stirling.
11. Prior to the occupation of the development, the turning bay shall be permanently marked, drained and clearly sign posted, to the satisfaction of the City of Stirling.
12. Pedestrian pathways providing wheelchair accessibility to all entries to buildings to public footpath and car parking areas are to comply with Australian Standards AS/NZS1428.3-2009 (Design for access and mobility – General requirements for access – New building work), to the satisfaction of the City of Stirling.

13. Prior to the occupation of the development, 18 car parking bays and one ACROD bay in the areas marked on the development plans shall be constructed.
14. Prior to the occupation of the development, a minimum of six (6) bicycle parking bays shall be provided on site. The design and construction of the bicycle bays shall be in accordance with Australian Standards AS 2890.3:2015 Parking Facilities Part 3: Bicycle Parking, to the satisfaction of the City of Stirling.
15. Prior to the occupation of the development, six short stay bays shall be permanently marked, drained and clearly sign posted, to the satisfaction of the City of Stirling.
16. Prior to the submission of a Building Permit, the column located on the eastern side of the crossover shall not be greater than 350mm x 350mm or located outside of the 2m x 2.5m sightline truncation area, to the satisfaction of the City.

Acoustics and Operation

17. The operational details outlined in the Transport Impact Statement Report prepared by Transcore dated May 2024 Revision 2 (Attachment 7b) which forms part of this approval, shall be implemented for the life of the development, to the satisfaction of the City of Stirling, specifically:
 - a. The Child Care Premises shall be limited to a maximum number of 93 children and 17 staff on-site at any one time.
 - b. The Child Care Premises shall not operate outside of the hours of 6.30am and 6.30pm, Monday to Friday.
 - c. The Child Care Premises shall not operate on Saturdays, Sundays or public holidays.
 - d. The external play areas shall not be made available for use prior to 7.00am during operation of the Child Care Premises.
18. Prior to the occupation of the development, certification from a qualified acoustic consultant is to be submitted to the City of Stirling confirming that the noise amelioration listed in the Noise Management Plan received December 2023 (Attachment 7c), prepared by Herring Storer Acoustics has been implemented, to the satisfaction of the City of Stirling.
19. All construction recommendations provided in the Environmental Acoustic Assessment prepared by Herring Storer Acoustics received December 2023 (Attachment 7d), are to be implemented and compliance with the Environmental Protection (Noise) Regulations 1997.

General

20. A Site Management Plan shall be submitted to and approved by the City of Stirling prior to the commencement of any works. The Site Management Plan shall include specific details on the management of aspects including, but is not limited to, dust, noise, vibration, waste management, storage of materials, traffic, parking, on-site and street tree protection areas and site safety/security. The Site Management Plan is to be complied with for the duration of the construction of the development, to the satisfaction of the City of Stirling.

21. Any future vehicle safety barriers must be installed at the landowner's cost, to the satisfaction of the City.
22. Air conditioning units, ducts and other services shall be screened from view and are to be located away from the street frontages, to the satisfaction of the City of Stirling.
23. External lighting shall be positioned in accordance with Australian Standard AS/NZS 4282:2019, to the satisfaction of the City of Stirling.

Colours and Materials

24. The colours, materials and finishes of the development shall be in accordance with the details and annotations as indicated on the approved plans which forms part of this approval, to the satisfaction of the City of Stirling.

Visual Privacy

25. Prior to the occupation of the development, all upper floor infill panels fronting the northern and eastern residential properties, shall be visually impermeable, to the satisfaction of the City.

Waste Management and Services

26. The development is to comply with the Waste Management Plan prepared by Pinnacle Planning and Development received 16 May 2024 (Attachment 7f), unless otherwise approved by the City of Stirling.
27. All servicing and deliveries to the site, including the loading and unloading of vehicles, is to occur entirely within the lot, and is not to occur within the road reserve.
28. The development is required to be connected to sewer.
29. Stormwater from all roofed and paved areas shall be collected and contained on site. Stormwater must not affect or be allowed to flow onto or into any other property or road reserve.
30. Bulk bins are not permitted to be collected from the road reserve. The City will service 240 litre and 360 litre mobile garbage bins from the road reserve. Mobile garbage bins will be presented and collected from Main Street, unless otherwise agreed by the City's Waste Services, to the satisfaction of the City.

Development Contributions

31. Prior to occupation of the development, a public art proposal for the subject development to the value of 1.0% of the construction value in accordance with City of Stirling Local Planning Policy 6.12 - Public Art on Private Land must be submitted to, and approved by, the City of Stirling.
32. Prior to occupation of the development, the approved public art proposal shall be completed and installed by the developer and maintained thereafter by the

owners of the development, in accordance with City of Stirling Local Planning Policy 6.12 - Public Art on Private Land, to the satisfaction of the City of Stirling.

Road Widening

33. All structures located within the 2.5m road widening shall be removed, at the expense of the land owner, at such a future time when Main Street undergoes widening works. The construction of the development will need to ensure that footings located along the future lot boundary will be installed taking into account future Main Street verge levels. The buildings footings must be fully located within the lot and cannot be located within the future Main Street road widening area, to the satisfaction of the City of Stirling.

Advice Notes

General

1. If an applicant is aggrieved by this determination, there is a right of appeal under Part 14 of the Planning and Development Act 2005. An appeal must be lodged within 28 days of the determination with the State Administrative Tribunal.
2. This is a Development Approval under the City of Stirling Local Planning Scheme No.3 and related policies. It is not a Building Permit or an approval to commence or carry out development under any other law. It is the responsibility of the Applicant to obtain any other necessary approvals, consents and licences required under any other law, and to commence and carry out development in accordance with all relevant laws.
3. This approval is not an authority to ignore any constraint to development of the land, which may exist through statute, regulation, contract or on title, such as an easement or restrictive covenant. It is the responsibility of the Applicant to investigate any such constraints before commencing development. This approval will not necessarily have regard to any such constraint to development, regardless of whether or not it has been drawn to the City of Stirling's attention.
4. The Applicant is responsible for ensuring that all lot boundaries as shown on the approved plans are correct.

Operation

5. Noisy Construction Work outside the period 7.00am to 7.00pm Monday to Saturday and at any time on Sundays and Public Holidays is not permitted unless a Noise Management Plan for the construction site has been approved in writing by the City of Stirling.

Landscaping

6. In reference to the Advanced Trees, an Advanced Tree is defined in Local Planning Policy 6.11 - Trees and Development as: a tree which requires planting in at least a 100 litre container or greater size and which is at least two (2) metres in height and at least two (2) years of age.

Parking and Access

7. The proposed crossover configuration is subject to the approval of the City's Verge Control Business Unit. A "Crossover Installation Application" is required to be submitted and approved prior to the commencement of the crossover installation.

Visual Privacy

8. The infill panels fronting the northern and eastern properties shall be visually impermeable. Visually impermeable screening consists of;
Screening devices such as obscured glazing, timber screens, external blinds, window hoods and shutters are to be at least 1.6m in height, at least 75 per cent obscure, permanently fixed, made of durable material and restrict view in the direction of overlooking into any adjoining property.'

Public Art

9. In relation to the Public Art condition requirement, please refer to the City of Stirling Developer's Guide to Public Art, the City of Stirling Public Art Masterplan and City of Stirling Local Planning Policy 6.12 - Public Art on Private Land.

Based upon the estimated cost of development identified on the development application forms, the 1.0% public art contribution will equate to \$32,000. The public art is to be located on the Main Street and Hector Street corner truncation, to the satisfaction of the City.

Miscellaneous

10. General compliance with Standard 3.3.1 – Food Safety Programs for Food Service to Vulnerable Persons will be applicable. A Food Safety Plan must be submitted to the City of Stirling and have 'Verification' approval prior to starting food service.
11. Compliance in all respects with the Food Act 2008 and Food Standards Codes. Completion and submission of the City of Stirling Food Premises Notification Form prior to commencement of business.
12. The applicant must submit a Food Premises Notification-Registration form.
13. The applicant is to contact the City of Stirling Environmental Health Team to arrange a final inspection, prior to commencement of commercial food operations.
14. Plans are to be submitted to Environmental Health Team for assessment of the kitchen fit out. The following details will be required to support the application:
 - i. Two copies of scaled floor plans showing the position of all fixtures and equipment (scale 1:50);
 - ii. Two copies of scaled sectional elevation plans showing the position of all fixtures and equipment;
 - iii. Finishes of every wall, floor and ceiling;
 - iv. Indication of hot and cold water supply and waste water services;
 - v. Location of all sinks including hand washbasin; and

- vi. Provide details of ventilation and exhaust system servicing the premises.

Signage

15. All signage is to be in strict accordance with the City of Stirling Local Planning Policy - 6.1 Advertising Signs unless further development approval is obtained.

Details: outline of development application

Region Scheme	Metropolitan Region Scheme (MRS)
Region Scheme - Zone/Reserve	Urban
Local Planning Scheme	City of Stirling Local Planning Scheme No.3 (LPS3)
Local Planning Scheme - Zone/Reserve	Development Zone
Structure Plan/Precinct Plan	Draft Herdsman Glendalough Structure Plan
Structure Plan/Precinct Plan - Land Use Designation	Mixed Use with Mandatory Residential Use Area
Use Class and permissibility:	Child Care Premises – 'A' use. 'A' means that the use is not permitted unless the Council, or in this instance the Metro Inner DAP, has exercised its discretion by granting planning approval.
Lot Size:	1,375m ²
Existing Land Use:	Residential
State Heritage Register	No
Local Heritage	☒ N/A ☐ Heritage List ☐ Heritage Area
Design Review	☐ N/A ☒ Local Design Review Panel ☐ State Design Review Panel ☐ Other
Bushfire Prone Area	No
Swan River Trust Area	No

Proposal:

The key components of the proposed development are summarised as follows:

- A two storey Child Care Premises development with:
 - o A maximum capacity for 93 children and 17 staff;
 - o Proposed operation hours of 6:30am to 6:30pm weekdays only (Monday to Friday);
 - o The provision of 18 on-site car parking bays and one ACROD bay;
 - o Vehicle access and egress from Hector Street; and
 - o Pedestrian Entry to the premises is provided from Hector Street.
- Ground Floor:

- o Two Play Rooms;
- o Laundry, Reception, Storerooms, Cot room, Office and Foyer; and
- o A total of 242.0m² of external playscape area.
- Upper Floor:
 - o Two Play Rooms;
 - o Balcony, Laundry, Nutrition Room, Staff Facilities and Planning area; and
 - o A total of 386.6m² of external playscape area.

Proposed Land Use	Child Care Premises
Proposed Gross Floor Area	838.6m ² of Gross Floor Area Gross Floor Area means the total floor area within a building measured over the enclosing walls (including the portion of any common or party wall forming part of the building) exclusive of parking facilities sited within the building.
Proposed No. Storeys	Two storeys

Background

The subject site is located within the north-eastern area of Osborne Park, approximately 200m south of Main Street Plaza. The site is zoned 'Urban' under the Metropolitan Region Scheme (MRS) (Attachment 3) and is zoned 'Development' under the City's Local Planning Scheme No.3 (LPS3) (Attachment 4).

Given its corner location, the site has a frontage to both Main Street and Hector Street. Main Street is identified as 'District Distributor A' as per the City's Functional Road Hierarchy. Single and double storey Grouped Dwellings and Single Houses characterise the adjoining area.

The application site currently contains a single-story house with undercroft garage at Lot 950, 104 Main Street, Osborne Park and two single story duplex houses at Lot 373, 106A & 106B Main Street, Osborne Park. All existing development is proposed for demolition.

The site is impacted by a proposed road widening of Main Street. This widening is required for the provision of transit lanes, cycling, wider footpaths, street trees and landscaping. To safeguard this, a condition of development approval is proposed to be imposed which will advise that all proposed structures located within the 2.5m road widening will need to be removed at the expense of the landowner including any modifications to the building.

Development Application

The development application was submitted to the City on 29 September 2022 and accepted for assessment by the City on 26 October 2022. Since then, the applicant has provided amended plans to the City on 20 February 2024 and 16 May 2024, the latest of these being received by the City on 5 June 2024.

Legislation and Policy:

The following legislation is applicable to the proposed development.

Legislation

- *Planning and Development Act 2005*
- *Planning and Development (Development Assessment Panels) Regulations 2011*
- *Planning and Development (Local Planning Schemes) Regulations 2015*
- Metropolitan Region Scheme (MRS)
- City of Stirling Local Planning Scheme No. 3 (LPS3)

State Planning Policies

- State Planning Policy 5.4 – Road and Rail Noise (SPP5.4)
- State Planning Policy 7.0 – Design of the Built Environment (SPP7.0)

Structure Plans and Activity Centre Plans

LPS3 Scheme Amendment No.39

In August 2018, AMD39 introduced the Herdsman Glendalough Special Control Area (HGSCA) into LPS3 and changed the zoning of the subject site from 'Residential Zone' to 'Development Zone'.

Draft Herdsman Glendalough Structure Plan

In August 2021, the HGSP was adopted by Council. The Structure Plan has not been endorsed by the Western Australian Planning Commission (WAPC) and as such remains in draft form.

Scheme Amendment 114 (AMD114)

In August 2021, Council resolved to recommend approval to WAPC. AMD 114 includes the introduction of a land use table, and the rezoning of the subject site from 'Development Zone' to 'Mixed Use'. It is noted that AMD 114 is not gazetted and is pending a WAPC decision.

Local Planning Scheme No 4

The City has commenced the process to review and replace LPS3. Draft LPS4 document sets out planning and land use intentions for the City of Stirling, including the subject site which under the draft Scheme provisions would be rezoned Residential R80. It is noted that the Draft HGSP would be modified in conjunction with the LPS4 process, to exclude the subject site in this case from the HGSP area.

A summary of the status of the HGSCA local planning framework is provided in the table at Attachment 5.

Local Development Plans

- Herdsman Glendalough Local Development Plan (LDP)

An assessment of the proposed development against the LDP is contained later in this report.

Local Planning Policies

The following Local Planning Policies are applicable to the proposed development.

- Local Planning Policy 4.2 – Mixed Use Design Guidelines (LPP4.2)
- Local Planning Policy 5.8 - Stirling City Centre Parking (LPP5.8)
- Local Planning Policy 6.1 – Advertising Signs (LPP6.1)
- Local Planning Policy 6.4 - Child Care Premises (LPP6.4)
- Local Planning Policy 6.6 - Landscaping (LPP6.6)
- Local Planning Policy 6.7 - Parking and Access (LPP6.7)
- Local Planning Policy 6.11 - Trees and Development (LPP6.11)
- Local Planning Policy 6.12 - Public Art on Private Land (LPP6.12)
- Local Planning Policy 6.18 - Public Consultation (LPP6.18)

Consultation:

Public Consultation

The proposed development was advertised for a period of 28 days in accordance with the 'Complex Application' requirements of Clause 64(3) and (6)(a) of *the Planning and Development (Local Planning Schemes) Regulations 2015*. Owners and occupiers within 200m radius of the subject site were notified of the proposal. A notice was placed on the City of Stirling's website, an advertising sign was placed on-site and relevant Ward Councillors were notified.

The consultation period commenced on 2 November 2022 and concluded on 2 December 2022. During the consultation period a total of four submissions were received, comprising three objections and one letter of support. The submissions received during the consultation period and their relative locations are tabled below.

Submissions Received	Within 200m Radius	Greater than 200m Radius	Number of Submissions
SUPPORT	0 (0%)	1 (100%)	1 (25%)
OBJECT	2 (66.6%)	1 (33.3%)	3 (75%)
OTHER (Comment)	0%	0%	0 (0%)

All matters raised in submissions received during the advertising period are summarised in the table below, and the City's response to the matters raised by the submissions is also provided.

Public Consultation Submissions		
Submission Number	Submission Details	Officer Comment
1	Excessive noise from the proposed development. Concerns relating to privacy and overlooking from upper floors.	The Applicant submitted an Environmental Acoustic Assessment (Attachment 7d) in support of the proposal. The Applicant's Environmental Acoustic Assessment has been reviewed by the City. The recommendations of the report are supported as an appropriate means of achieving compliance with the <i>Environmental Protection (Noise) Regulations 1997</i> .

Public Consultation Submissions		
Submission Number	Submission Details	Officer Comment
	Concerns of an excessive number of Child Care Premises in the locality.	The upper floor openings of the development have been sufficiently setback and the upper floor play areas screened by obscure balustrade screening. The application has been reviewed by the City with no concerns raised in relation to overlooking and visual privacy. A Child Care Premises use is an 'A' use within the Mixed-Use zone. The use is permitted where Council has exercised its discretion after advertising has been undertaken. The suitability of the use has been considered later in this report. It is noted that the number and distribution of Child Care Centres within a locality is not a material planning consideration.
2	Concerns of an excessive number of Child Care Premises in the locality. Concerns relating to traffic and congestion.	As outlined above, the number and distribution of Child Care Centres within a locality is not a planning consideration. The Traffic Impact Statement (TIS) submitted in support of the proposed development prepared by Transcore dated May 2024 (Attachment 7b) has been reviewed by the City. It is concluded that the development can take place and operate without prejudice to the effective functioning of the adjoining road network. Further comments are provided under Section 5 of the Planning Assessment section of this RAR.
3	Traffic safety concerns for drivers and pedestrians.	As stated above, the TIS has been reviewed by the City and is supported.

Consultation with Government/Service Agencies

The proposed development was referred to the following external agencies:

- Water Corporation; and
- Public Transport Authority of Western Australia.

The Water Corporation and Public Transport Authority of Western Australia have no objections to the proposed development.

Internal Referrals

Internal referrals to the City's Waste Services Business Unit, Parks and Environment Business Unit, Environmental Health Team, Engineering Services Business Unit and Development Services Engineer were undertaken as a part of the City's assessment. The relevant comments are contained later in this report, within the relevant sections of the planning assessment.

Planning Assessment:

An assessment of the proposed development against LPS3, the LDP and relevant State and local planning policies has been undertaken. LPS3 provides guidance with respect to zoning and objectives of zones, with specific development standards provided in the LDP, State and local planning policies. For the purposes of this assessment, and in order to guide discretion, the City places reliance on the provisions of Scheme Amendment 114, (noting that this is yet to be gazetted) and Draft LPS4 (noting this has been endorsed for advertising by Council). The following matters have been identified as key considerations in the assessment of this application.

1. Proposed Land Use:
 - a. Child Care Premises Permissibility
 - b. Mandatory Residential Requirements
2. Built Form:
 - a. Herdsman Glendalough Local Development Plan
 - b. Mixed Use Guidelines
3. Child Care Premises
4. Landscaping and Trees
5. Parking and Access:
 - a. Car Parking
 - b. Delivery Bay
 - c. Traffic Volumes
6. Noise and Acoustics:
 - a. Road Noise and Noise from Development
7. Advertising Signs
8. Public Art
9. City of Stirling Design Review Panel (DRP)

1. Proposed Land Use

1a. Child Care Premises Permissibility

The table below summarises the zoning permissibility of the proposed land use, as set out in Table 6.4.5 Herdsman Glendalough Special Control Area Land Use Permissibility Table of LPS3 Amendment No.114:

USE		LPS 3 ZONING PERMISSIBILITY
Child Care Premises	A	'A' means that the use is not permitted unless the Council, in this instance the Metro Inner DAP, has exercised its discretion by granting planning approval after giving special notice in accordance with Clause 9.4.

The subject site is zoned Development under LPS3, with a proposed zoning of 'Mixed Use' as per LPS3 AMD No. 114 and the LDP.

Table 6.4.5 – Herdsman Glendalough Special Control Area Land Use Permissibility	
Use Classifications/Zone	Mixed Use
Child Care Premises	A

Under the draft provisions of AMD 114 to LPS3, a Child Care use in the Mixed-Use zone is an 'A' discretionary use on the ground and upper floors. Notwithstanding the above, the City has provided a brief summary of the key modifications proposed to the subject site and surrounding area as per draft LPS4 for contextual purposes. The development site will have a Residential zoning with a residential density coding of R80 as per the draft LPS4 with the surrounding properties to the north, east, west south zoned Residential with a residential density coding of R40 and R80, respectively.

Child Care Premises are consistent with the objectives of the Mixed-Use zone, as they provide services that are conveniently located and accessible to the community. The details of the development, including management of traffic, waste, noise, and operational hours, have been assessed by technical officers of the City and are supported. Where required, appropriate conditions of approval have been recommended to mitigate potential impacts to adjacent properties.

The scale and intensity of the proposed Child Care Premises is compatible with the existing character and future context of the locality. The development is two storeys in height, which is consistent with existing one and two storey developments in the area. The proposed building is finished in a variety of colours and materials which are contemporary and reflect the material palette used locally. In addition, the setbacks provided, and the level and quality of landscaping onsite combine to ameliorate any adverse impacts that might otherwise have resulted.

1b. Mandatory Residential Requirements

Clause 6.4.7 of LPS3 AMD No.114 requires that development on this site includes a residential component equivalent to a minimum of at least 15% of the plot ratio area. A residential component has not been included in this proposal. Clause 6.4.3 b.ii) of LPS3 AMD No.114 does not allow the use of discretion under Clause 5.5.1 in relation to a mandatory residential component for a WAPC approved Precinct Structure Plan. In this regard, the HGSP has not received WAPC approval and the City's draft LPS4 removes the mandatory residential component. As such, the City considers that the absence of a residential component is acceptable on its merit.

2. Built Form

2a. Herdsman Glendalough Local Development Plan

The LDP provisions apply to all subdivision and development applications within the Herdsman Glendalough Precinct. The development site is located within Street Character Type 6. The LDP provides design requirements in respect of matters such as glazing, sill heights, and the provision of awnings. These requirements are aimed at more mixed-use development outcomes, with both commercial and residential elements. Given the nature of the subject development, with a single non-residential

Child Care Premises development proposed, strict application of the LDP provisions is not considered to be necessary to achieve an appropriate built form outcome. As such, the City has considered, and is supportive of, several areas of discretion sought to the provisions of the LDP, with assessment of these components contained in Attachment 5.

- The ground floor provides no glazing to a minimum of 75% of the street frontage – Discretion sought;
- No minimum window head height of 3.0m– Discretion sought;
- Windowsills to a maximum height of 600mm above ground level – Discretion sought;
- Proposed awning non-continuous along Main Street and Hector Street – Discretion sought;
- Proposed canopy 1.4m in lieu of 2.5m in length – Discretion sought;
- Proposed carparking setback at a distance of 6m in lieu of 8m– Discretion sought;
- No continuous canopy and weather protection providing over vehicle access – Discretion sought;
- Proposed crossover width 7.0 metres – Discretion sought; and
- Bin storage area providing on the ground floor front Main Street – Discretion sought.

The development addresses the specific Objectives of the Herdsman Glendalough LDP and is supported. An assessment against the Objectives of the LDP and Objectives of the Special Control area is provided in Attachment 5.

2b. Mixed Use Design Guidelines

The below list identifies where discretion is sought to the development standards of LPP 4.2.

- The proposed finished ground level of the development is 26.7 which is poses a level difference of 1.47m. The ground floor level is different to the level of the footpath along Main Street - Discretion Sought.

The development addresses the Objectives of LPP 4.2 and is supported. An assessment against the Objectives of LPP4.2 is provided in Attachment 5.

3. Child Care Premises

The proposed Child Care Premises has been assessed against the provisions of LPP 6.4. Discretion is sought in respect of:

- The proposed operating hours (from 6:30am to 6:30pm on weekdays only with staff arrival from 6:30am) .
- The erection of solid front fencing along Main Street and Hector Street proposed at 2.3m solid in lieu of 1.2m .
- The proposed bin storage area is visible from the street and directly abuts a residential property along the eastern boundary.

Despite this, it is considered that the development satisfactorily addresses the Objectives of the LPP6.4 and is supported on that basis. An assessment against the Objectives of LPP6.4 is provided in Attachment 5.

4. Landscaping and Trees

The proposed development has been assessed against the landscape provisions of the LDP. Whilst discretion is sought in respect of the setback to the street tree and the width of landscape strips to the north and east, they are not considered to compromise the objectives of the LDP in respect of landscaping. The proposed landscaping is therefore supported on that basis. An assessment against the specific Objectives of Clause 3.2.3 of the LDP is provided in Attachment 5.

5. Parking and Access

Under the provisions of LPS3, the Herdsman Glendalough LDP, and LPP 5.8, the proposed Child Care Premises requires a maximum of 20 off-street car parking bays of which six are required to be dedicated for visitors. In addition, LPP 6.7, requires that one car parking bay be set aside for deliveries, service, and courier vehicles.

The TIS submitted in support of the parking arrangements based on the nature of the use, plus the fact that staffing ratios, and demand for visitor parking will vary at different times throughout the operational day. Whilst it is acknowledged that there will be a morning and afternoon peak for customers, drop offs and pickups are in practice dispersed throughout the day. In respect of the need for a dedicated delivery type bay, this is not considered to be necessary in the context of the subject use, with such needs capable of being accommodated within the proposed parking areas.

5a. Car Parking

Car parking is calculated as per LPP 5.8 and Clause 6.11.17 of LPS3, which are specific to developments within the Stirling City Centre Special Control Area.

Car parking assessment				
	Size of Development	Maximum Total On-site Parking Provision	Minimum Required Public Parking	Minimum Short Stay Parking
Provision	Development with a plot ratio of 1.0 or less of non-residential floorspace	2.5 bays / 100m ² of non-residential floorspace	1.25 bays / 100m ² of non-residential floorspace	60%
Requirement	N/A	21 bays *	10 bays	6 bays
Provided	Current non-residential floorspace = 836.8m ²	20 bays	19 bays	6 bays
* All parking requirements for non-residential development are to be calculated by rounding to the nearest whole number as per LPP 5.8.				

As outlined above, the development addresses the provisions of Clause 6.11.17 of LPS3 and Local Planning Policy 5.8 – Stirling City Centre Parking and is supported.

5b. Delivery Bay

The proposed development has been assessed against the parking provisions of the LPP 6.7. Please see below which identifies where discretion is sought.

- No specific purpose bay proposed in lieu of one shall be permanently set aside and marked for the exclusive use of delivery and service, and courier vehicles – Discretion Sought.

The development addresses the Objectives of Local Planning Policy 6.7 – Parking and Access and is supported. An assessment against the Objectives of LPP 6.7 is provided in Attachment 5.

5c. Traffic Volumes

Vehicle access to the development is solely provided using a one-way crossover onto Hector Street, located adjacent to the eastern side lot boundary. The TIS estimates that the development will generate an additional 326 daily vehicular trips, including 70 vehicle trips in the morning peak period (8.00am – 9.00am) and 46 vehicle trips in the afternoon peak period (4.30pm - 5.30pm). The proposed development provides sufficient parking bays during peak periods as outlined in the Applicant's TIS to cater for staff and visitors. During the development' peak period (8.00am - 9.00pm and 4.30pm – 5.30pm) 5 staff bays are required. The development site provides 19 parking bays, including 13 staff bays, five visitor bays and an ACROD Bay which accounts for parking requirements for the operation of the development.

The Applicant's TIS provides justification that the quantity of visitors onsite is the required amount during the peak operating hours, stating a maximum of six visitor bays will be required during the operation of the Child Care Premises at any one given time. The Applicant's TIS provides justification that six visitors bays will be required given the assumed dwell time of 10 minutes per vehicle, equating to the requirement for six visitor bays.

The City's Engineering Services Business Unit has confirmed that the traffic volumes generated from this development can be accommodated by the existing road network.

6. Noise and Acoustics

6a. Road Noise and Noise from the Development

Main Street is identified as an 'Other Significant Freight/Traffic Route' under SPP 5.4. As such, the requirements of SPP 5.4 apply to the proposed development which is classified as a 'Noise Sensitive Land Use'.

The Applicant submitted a Noise Management Plan and Environmental Acoustic Assessment prepared by Herring Storer Acoustics received 20 December 2023 in support of the proposed development. The Applicant's NMP and EAA identifies recommendations relating to the construction, operation and mechanical services to minimise and mitigate potential noise issues.

The City has reviewed the submitted NMP and EAA and supports the recommendations. Although the plans in the NP and EAA are dated December 2023, the City is satisfied with the reports are consistent with the latest plans. The City

recommends that a condition be included for the development to comply with the submitted Noise Management Plan and Environmental Acoustic Assessment prepared by Herring Storer Acoustics and Environmental Protection (Noise) Regulations 1997.

With the implementation of the acoustic measures into the constructed building, the City considers that the development satisfies SPP5.4

7. Advertising Signs

The proposed development has been assessed against the signage provisions of the LPP 6.1. Discretion is sought for the below components.

- Three wall signs proposed in lieu of maximum two signs permitted on the lot.

The City considers that the development addresses the objectives of LPP 6.1 and is supportive of the proposed signage. An assessment against the Objectives of LPP 6.1 is provided in Attachment 5.

8. Public Art

LPP 6.12 exists to guide the inclusion of public art in those development proposals with a value in excess of \$2million.

The truncation area at the corner of Main Street and Odin Road is identified as the location for public art. Conditions have been recommended in relation to this requirement, and details of the public art proposed will be provided as part of the conditions clearance process.

9. City of Stirling Design Review Panel (DRP)

The proposed development was reviewed by the City's Design Review Panel (DRP) on two occasions. The DRP report is contained in Attachment 8.

At the second DRP meeting on 18 January 2024, the DRP advised that they are supportive of the development against 8 of the Design Principles of SPP 7.0. Revised plans received by the applicant on 5 June 2024 were not referred to the DRP for a further review as the revised plans included changes and areas of improvement to address the DRP comments.

Conclusion:

The application seeks approval for a two storey Child Care Premises with a maximum capacity of 93 children and 17 staff. The proposed development is located within the Mixed-Use zone of the Herdsman Glendalough Special Control Area.

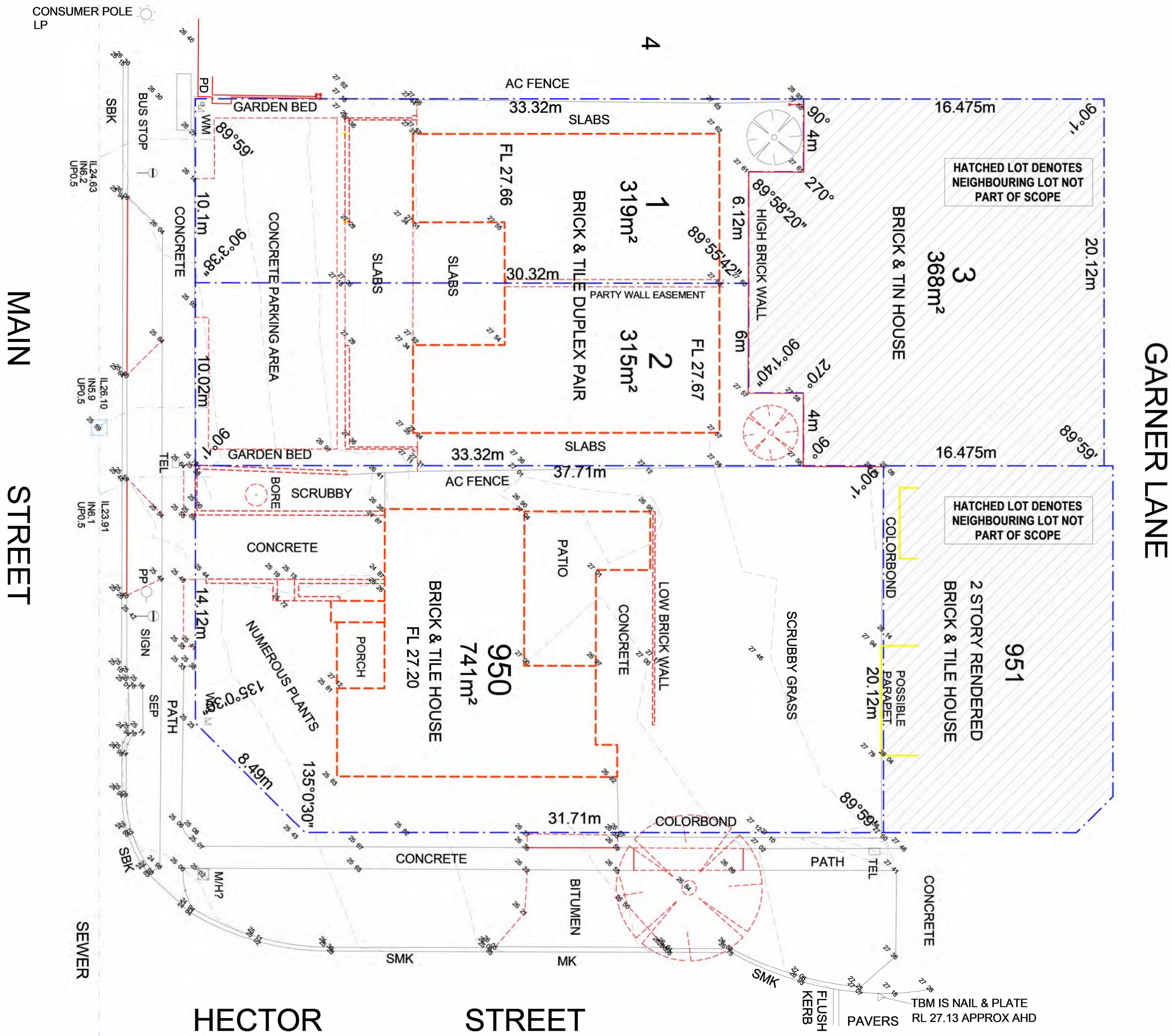
The proposed built form generally satisfies the applicable primary controls of the LDP. The design is contemporary and the built form is generally consistent with both the existing context of one and two storey Single and Grouped Dwelling developments, and with the future development context, which allows for buildings up to four storeys in height.

The Child Care Premises is appropriate in the locality and will provide an essential service for both the current and future community.

Accordingly, the application is recommended for approval subject to conditions.



PRELIMINARY



LEGENDS:

- SITE BOUNDARY
- TO BE DEMOLISHED
- TO BE DEMOLISHED
- HATCHED LOT DENOTES NEIGHBOURING LOT NOT PART OF SCOPE

NOTE:

1. THIS CONCEPT PLAN IS INTENDED FOR PLANNING APPLICATION ONLY AND NOT FOR CONSTRUCTION. ALL SETBACKS, SITE COVERAGE, CAR PARKING NUMBERS, LANDSCAPING AREAS AND THE LIKE ARE SUBJECT TO STATUTORY APPROVAL.

2. NO ASSURANCE IS GIVEN TO THE ACCURACY OF ANYTHING SHOWN OR DISCLOSED IN THIS PLAN



SITE CRITERIA

1. Site Area		
a. Site Area		1,374m²
2. Landscaping		
a. Required 10% of Site Area		137m²
b. Provided		757m² (55%)
3. Floor Area (GFA)		
a. Ground Floor		317m²
b. First Floor		380m²
Total		697m²
4. Carparking		
i. Bays Required		
a. Childcare Centre	1:1 Staff 1:7 Kids	16 Staff Bays 12.5 Visitors Bays 28.5 Carbays
Total Bays required		
ii. Cars Provided		
a. Staff		13 Car Bays
b. Visitors		6 Car Bays
Total		19 Car bays

CHILD CARE CRITERIA

1. Centre Capacity		
a. Number of Places		93 places
2. Landscaping		
a. Landscaping Required 7m²:1 Child		616 m²
b. Landscaping Provided		
Ground Floor		318m²
First Floor		420m²
Total		738m²
Total m² provided per child		8.39 m²
3. Floor Area (GFA)		
a. Area Required 3.25m²:1 Child		286 m²
4. Rooms Distribution		
a. Room 0-24m		
Number of Places		16 Places
Staff Required	1:4 Staff	
Staff Provided		4 Staff
b. Room 0-24m		
Number of Places		12 Places
Staff Required	1:4 Staff	
Staff Provided		3 Staff
c. Room 24-36m		
Number of Places		35 Places
Staff Required	1:5 Staff	
Staff Provided		7 Staff
d. Room +3y		
Number of Places		30 Places
Staff Required	1:10 Staff	
Staff Provided		3 Staff
Total Places		93 places
Total Staff		17 Staff

Landscaping
A. Soft Landscaping
Defined as vegetative landscaping.
Gross Floor Area: GFA
A. All Floor Areas on this plan are shown as GROSS FLOOR AREA.
Unless otherwise noted as Net Floor Area
B. Definition of Gross Floor Area is defined as:
i. GROSS FLOOR AREA OF TENANCY:
Gross Floor Area of an individual Tenancy is defined as the area contained between the centre line of common tenancy walls and the outside edge of external walls.
ii. GROSS FLOOR AREA OF A BUILDING:
Gross Floor Area of a Building is defined as the total area contained between the outside edge of external walls

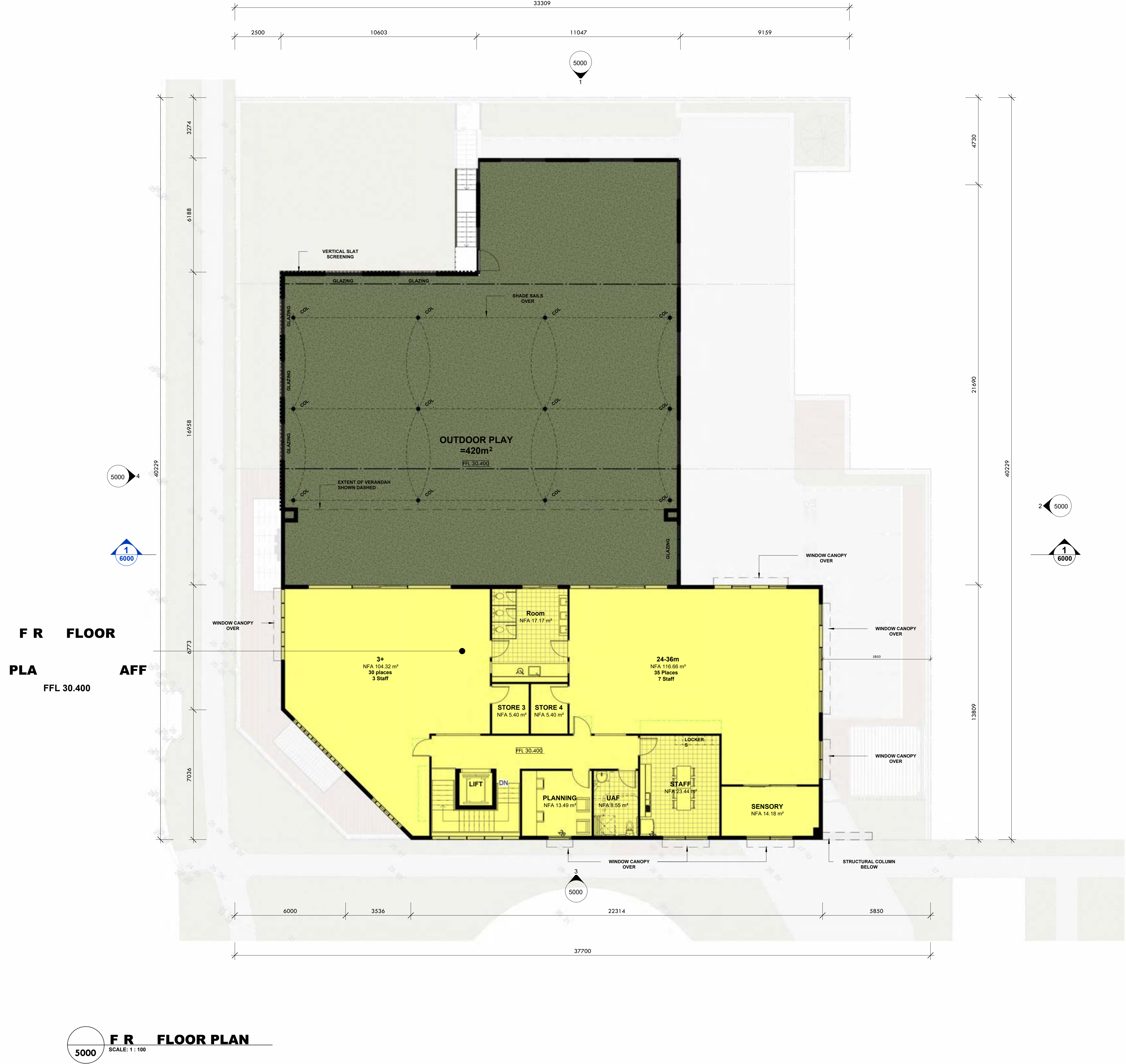
Net Floor Area: NFA
A. Net Floor Area of a Tenancy on this plan is defined as the area between external or tenancy dividing walls.
B. This area is inclusive of toilets if the toilets are exclusive to the Tenancy.

SITE DESIGN CHECKLIST

- ☐ 1. SEWER MAINS LOCATION TO BE DETERMINED
- ☐ 2. FIRE MAINS PRESSURE TEST REQUIRED
- ☐ 3. FIRE TANKS OR PUMPS TO BE DETERMINED
- ☐ 4. WESTERN POWER TRANSFORMER LOCATION TO BE DETERMINED
- ☐ 5. CROSSOVER & ACCESS TO STREET TO BE DETERMINED BY LOCAL AUTHORITY
- ☐ 6. FULL FEATURE SITE SURVEY REQUIRED
- ☐ 7. DIAL BEFORE YOU DIG REQUIRED
- ☐ 8. BUSHFIRE ATTACK LEVEL (BAL) TO BE DETERMINED
- ☐ 9. STREET POWER POLES TO BE DETERMINED
- ☐ 10. SITE ZONING & USE TO BE DETERMINED

NOTE: Any of the following items that do not have an 'X' in the provided square require determination.

PRELIMINARY



MATERIALS



WEATHERBOARD CLADDING. DULUX
'SURF WASH' (TURQUOISE) PAINT FINISH



FIBRE CEMENT SHEET
CLADDING WITH EXPRESSED JOINTS



FIBRE CEMENT SHEET CLADDING
DULUX 'VIVID WHITE'
DULUX 'WHITE CLOAK QUARTER'
DULUX 'FEATHER SOFT'



METAL ROOF SHEETING
COLORBOND 'DOVER WHITE'



WINDOWS / DOORS FRAMES
DULUX POWDERCOAT 'BASALT'
GLAZING TO ACOUSTIC / ENERGY
EFFICIENCY SPECIALIST REQ'T



WINDOW HOOD SUN SHADE DEVICE
DULUX POWDERCOAT 'VIVID WHITE'



ALUMINIUM FRAMED AWNING WINDOW
DULUX POWDERCOAT 'BASALT' CHILD
SAFETY FALL PREVENTION
DEVICE



MASONRY FACE BRICK



VERTICAL ALUMINIUM SLATS.
TIMBER LOOK FINISH



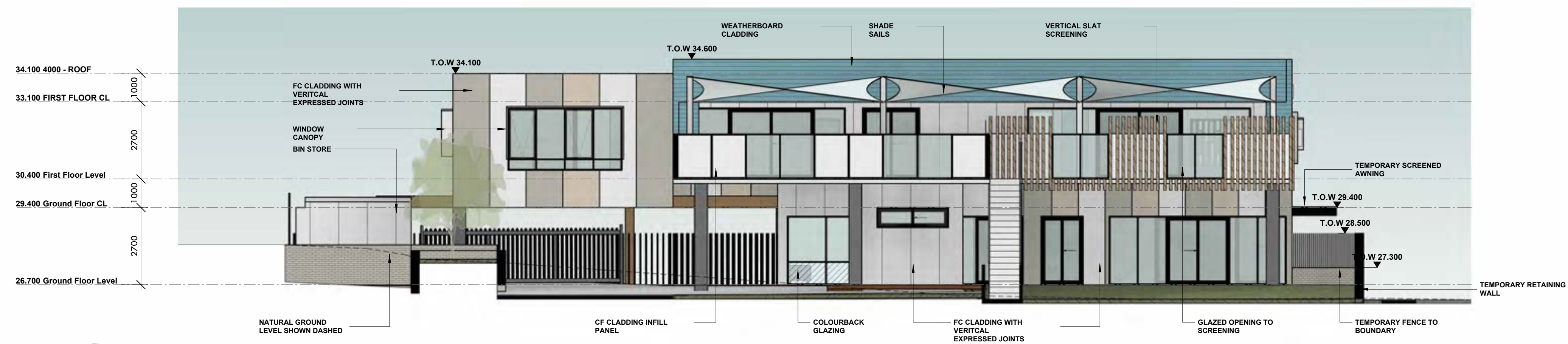
SHADE SAIL COVERS



GLAZED INFILL
DULUX POWDERCOAT
'RECKLESS GREY'



GARRISON METAL FENCING
DULUX POWDERCOAT
'RECKLESS GREY'



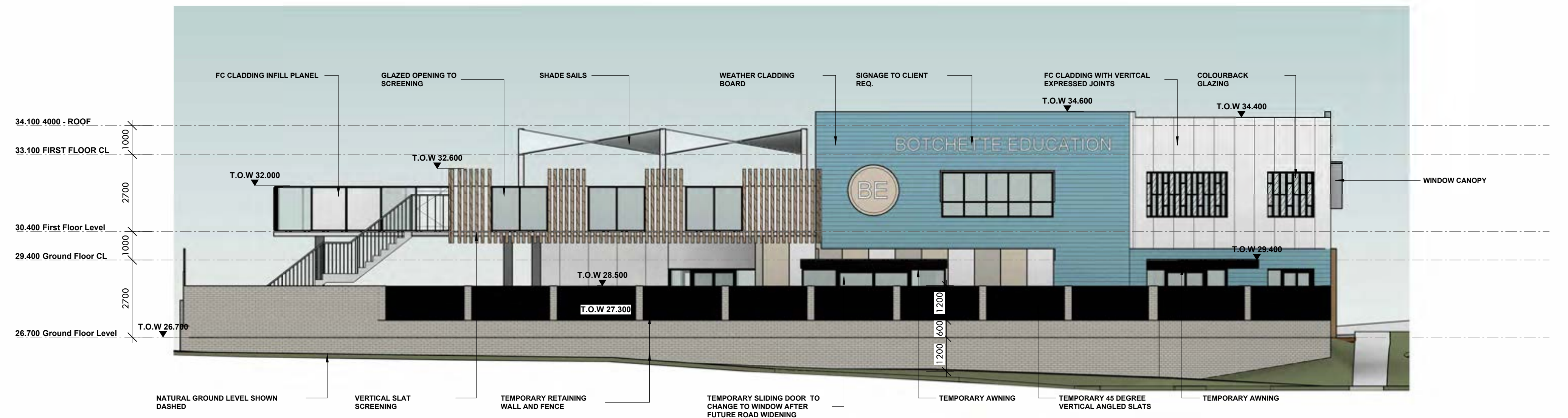
NOR
1001
SCALE: 1 : 100



E
1001
SCALE: 1 : 100



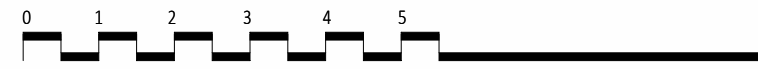
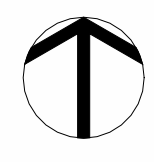
S
1001
SCALE: 1 : 100



W
1001
SCALE: 1 : 100

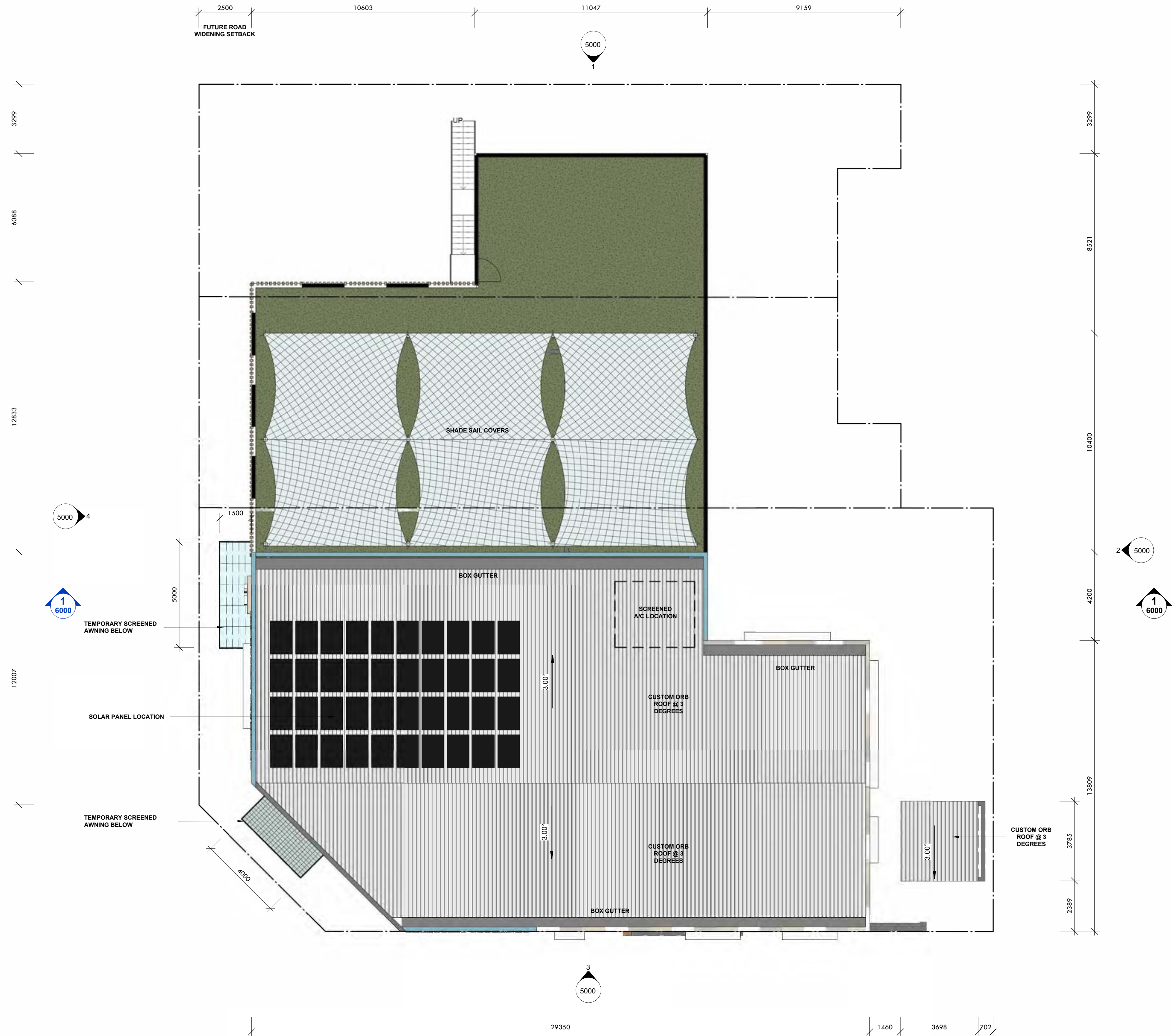
PRELIMINARY

DATE: MAY 2024 PROJECT NUMBER
REVISION: SK002 24-9350
SHEET: 5000
SCALE: 1 : 100





1001 SCALE: 1 : 50



ROOF PLAN
SCALE: 1 : 100







Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

Herdsman Glendalough Planning Framework		
Planning Instrument	Purpose	Current Status
Local Planning Scheme No.3 Amendment 39.	To re-zone land within the HGSCA from 'Industry Zone' to 'Development Zone'.	Gazetted and in effect in LPS3 adopted on 21 August 2018.
Local Planning Scheme No.3 Amendment 114.	To re-zone land within the HGSCA from 'Development Zone' to the applicable zone identified in the HGSP.	Council resolved to recommend WAPC approves Amendment 114. Pending WAPC decision.
Draft Herdsman Glendalough Structure Plan.	To provide a higher order local planning framework for the HGSCA that provides direction for development control and land use permissions.	Adopted by Council on 21 August 2018. Council resolved to recommend WAPC approves the HGSP. Pending WAPC decision.
Herdsman Glendalough Local Development Plan.	To provide built form controls for development within the HGSCA.	Adopted by Council on 23 June 2020. Noted not to be operational until gazettal of Amendment 114.
Local Planning Policy 5.8 – Stirling City Centre and Herdsman Glendalough Parking.	To provide specific development control for car parking within the HGSCA.	Adopted by Council on 23 June 2020. Noted not to be operational until gazettal of Amendment 114.

Herdsman Glendalough LDP General Provisions	
Provision	Officer Comment
Active Building Edges on Ground Level	
Non-residential built form on the ground floor shall incorporate glazing to a minimum of 75% of the street frontage, with a minimum window head height of 3.0m and window sills to a maximum height of 600mm above ground level.	The ground floor provides no glazing to a minimum of 75% of the street frontage, with a minimum head height of 2.4m and window sills to a maximum height of 600mm above ground level – Discretion sought.
Weather Protection	
Buildings abutting a street shall provide a continuous, opaque solid and impermeable weather protection canopy.	Proposed awning non-continuous along Main Street and Hector Street – Discretion sought.
Weather protection canopies shall extend from the edge of the building into the public domain to a minimum of 2.5 metres from the lot boundary, without a break between the building and the canopy.	Proposed canopy extends 1.4m in lieu of 2.5m from the edge of the building – Discretion sought.

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

Parking	
Where fronting a street or Right of Way parking shall be sleeved to a minimum distance of 8.0 metres.	Proposed carparking setback at a distance of 6m in lieu of 8m from the street – Discretion sought.
Vehicle Access and Crossover	
Vehicle access shall be incorporated into the design treatment of the public domain interface and maintain a continuous canopy for weather protection.	No continuous canopy and weather protection providing over vehicle access – Discretion sought.
Driveways and crossovers for non-residential development, and residential or mixed-use development with over 15 dwellings, are to be a maximum width of 6.0 metres	Proposed crossover width 7.0 metres – Discretion sought.
Bin Storage Areas and Collection	
Bin storage areas shall not be located fronting a street.	Bin storage area provided on the ground floor fronting Main Street – Discretion sought.
Herdsman Glendalough LDP General Provisions	
Objective	Officer Comment
Clause 3.2.1 Active Building Edges on Ground Level <i>To encourage day and night active uses where Active Building Edges are required.</i> <i>To ensure that active edges on the ground floor a visually interesting and have fine grained architectural elements</i>	The proposed development is a Child Care Premises with operation hours during weekdays between 6.30AM to 6.30 PM Monday to Friday. The proposed development includes several large openings on each elevation so as to break up overall bulk and uses alternating materials and colours to provide visual interest. These elements articulate the building and reduces the overall bulk providing visual interest. The design of the building has been refined and improved in response to the Design Review Panel's comments within the context of the relevant planning framework. On the basis of the above, the development addresses the specific objectives of the LDP and is supported.
Clause 3.2.4 Weather Protection <i>To ensure buildings abutting footpaths integrate continuous</i>	The proposed development incorporates an awning and portico over the entry of the development. The portico over the entry provides weather protection canopies effectively sheltering and screen pedestrians from sun, rain and wind.

<i>weather protection canopies to extend over footpaths.</i> <i>To ensure that continuous weather protection canopies effectively shelter and screen pedestrians from sun, rain and wind.</i> <i>To ensure weather protection canopies are designed as an integral component of the building, and where necessary, consider integration with weather protection canopies on adjacent buildings, to form a sense of coherence rather than discord in the streetscape.</i>	The proposed Child Care Premises provides no continuous weather protection canopies over the footpath along Main Street and Hector Street. However, there are no adjacent developments which have existing awnings that this development could interface with. As such, this does not detract from the continuation of an existing weather protection canopy. On the basis of the above, the development does not address the specific objectives of the LDP with consideration required against the overall objectives of the LDP.
Clause 3.3.1 Parking <i>To ensure that car parking structures are not visible day and night from the public realm.</i> <i>To ensure that all car parking is sleeved with non-residential and / or residential uses facing a street.</i> <i>To ensure that all car parking is sleeved with non-residential and / or residential uses facing a Non-Residential or Residential Right of Way.</i> <i>To ensure that all elevated basement parking is not visible from the street.</i>	The development proposes car parking bays setback 6.8m in lieu of 8m from the street. The 19 residential car parking bays are located behind the predominant building line, providing some level of screening the car parking area from the street and reducing its impact on the public realm. The visitor parking bays being partially visible from the street provides visitors legible access, ensuring safety of drivers in terms of access and egress. The development proposes one crossover, ensuring the impact on the street is minimised, and provides a clear access point for visitors to the site. The Child Care Premises parking bays will be visible from the street. On the basis of the above, the development does not address the specific objectives of the LDP with consideration required against the overall objectives of the LDP.
Clause 3.3.2 Vehicle Access and Crossover <i>To ensure that the number of crossovers and vehicle access points are minimised to limit vehicle conflicts with pedestrians and cyclists.</i> <i>To increase the pedestrian and cyclist continuous experience.</i>	The Applicant's TIS confirms that the development will not adversely impact safety of the local road network. Pedestrian access to the site is provided via an existing pedestrian footpath running along the Hector Street boundary of the development site. The proposal has been designed to meet the specific needs of a Child Care Premises and provides clear access for essential services that are necessary to the operation of a Child Care Premises such as outdoor storage, car parking areas and outdoor play areas. The safety of drivers and pedestrians in terms of access and egress to the site is supported by the City. Sufficient

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

<i>To minimise the width of vehicle access points and crossovers.</i> <i>To ensure that vehicle access is from Rights of Way where available.</i> <i>To limit vehicle access points and crossovers from Scarborough Beach Road, John Sanders Drive and Main Street to ensure a continuous Active Building Edge with weather protection canopies.</i>	visual sight lines have been provided for entry and egress to Hector Street. The crossover is proposed at a width of 7m in order to support the tapered angle of the crossover and driveway, which is designed to protect the existing street tree. Only one crossover is proposed, which minimises impact on the streetscape. On the basis of the above, the development addresses the specific objectives of the LDP and is supported.
Clause 3.3.4 Bin Storage Areas and Collection <i>To provide dedicated storage for bins on site.</i> <i>To ensure that the impact of bin storage areas upon the streetscape is minimised.</i> <i>To ensure that collection areas are minimised to limit the impact upon on-street parking, landscaping and street trees.</i> <i>To ensure that bin pick up frequencies are suitable to minimise collection areas on the street.</i>	The proposed developments bin storage area meets the required total bin store area requirements on-site. The impact of bin storage areas will be minimised as the bins are enclosed in a 2.7m bin storage enclosure. The bin storage enclosure is of the same material palette as the development, minimising the impact on the streetscape. The Applicant's WMP has been reviewed by the City, who have no concerns regarding the collection of waste impacting parking, landscaping and street trees. The WMP details the arrangement for the storage and collection of waste with the pick-up times to be arranged to minimise conflict with visitors. On the basis of the above, the development addresses the specific objectives of the LDP and is supported.

Herdsman Glendalough Special Control Area	
Objective	Officer Comment
<i>To provide a strategy for the integrated development of public and private land to facilitate the creation of a safe, vibrant mixed-use environment based on main street design principles;</i>	<i>Not applicable.</i>
<i>To enable the provision of an effective, efficient integrated and safe transport network which is accessible to pedestrians, cyclists, public transport users and motorists;</i>	<i>Not applicable.</i>
<i>To ensure greater utilisation of Glendalough Train Station through increased density of both residential and commercial uses;</i>	The proposed land use is complementary to the Residential Zone, as a Child Care Premises provides a service that is conveniently located and accessible to the community.
<i>To ensure the development of a diverse range of housing types;</i>	The development is not proposing residential development. The scale of the development is

Herdsman Glendalough Special Control Area	
Objective	Officer Comment
	consistent with the future vision for the Herdsman Glendalough Special Control Area. The proposed development is consistent with the desired character of the area which envisages residential buildings between two to five storeys.
<i>To ensure the development of a convenient network of public open space;</i>	The scale and intensity of the proposed Child Care Premises is compatible with the existing development and future context of the locality. The development is two storeys in height, which is consistent with the one and two storey developments in the locality and is finished in a variety of colours and materials which are modern and reflective of the material palette seen in the existing locality. Additionally, the large setbacks provided to the development and proportion of landscaping onsite serves to ameliorate any possible impacts as a result of the built form in the locality.
<i>To ensure the development of a range of commercial uses that will contribute towards economic development, local employment and the viability of the area;</i>	The proposed development will increase the range of commercial uses within the immediate area creating local employment opportunities, reducing the need for travel outside of the area.
<i>To ensure the development of a range of community facilities</i>	<i>Not applicable.</i>
<i>To create a more permeable transport network through the provision of additional road connections</i>	<i>Not applicable.</i>
<i>To ensure the conservation and appropriate use of natural resources; and</i>	<i>Not applicable.</i>
<i>To enable developer contributions to help fund key infrastructure.</i>	<i>Not applicable.</i>

On the basis of the above, the development addresses the objectives of the Herdsman Glendalough Special Control Area and is therefore able to be supported.

Local Planning Policy 4.2 – Provisions	
Development Provisions	Officer Comment
4.2 Streetscape Relationship	
<u>Levels</u> There shall be no level difference between the finished ground floor level and the footpath level of a building to ensure pedestrian access.	The proposed finished ground level of the development is 26.700, which results in a level difference of 1.47m. The ground floor level is different to the level of the footpath along Main Street.

The above variations are to be considered against the LPP4.2 objectives, as follows:

Local Planning Policy 4.2 – Policy Objectives	
Objective	Officer Comment

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

<i>To ensure that building setbacks provide streetscape continuity and a suitable transition between land uses.</i>	The building setback of the development is consistent with the future vision for the Herdsman Glendalough Special Control Area. The proposed development is consistent with the desired character of the area which envisages nil street setbacks, providing a transition zone between the existing residential properties along Main Street and medium commercial tenancies to the south.
<i>To improve the visual appeal of development and provide landscaping to increase tree canopy cover.</i>	The proposed development provides for substantial on-site landscaping with 12 Medium /Small Trees with a total landscape area of 138m² (10.2%) proposed. The proposed landscaping will provide shade and green relief to both the subject site and the locality and represents a substantial improvement to the landscaping on-site. The proposed landscaping includes a mix of natural lawn and mulched and landscaped areas, which softens the appearance of the development. The landscaping and external play spaces proposed to the northern boundary of the development also provides a buffer to the adjacent northern properties.
<i>To ensure the height of buildings does not adversely impact on the street-scape and amenity of adjoining residents by minimising building bulk and maintained daylight and solar access.</i>	The proposed development is consistent with the desired building height of the area which envisages Mixed Use buildings between two to five storeys, providing a transition zone between the existing low rise residential built form and future high rise. As the development primarily abuts established single storey residential dwellings to the north and east. The height of the development has been stepped, with large setbacks provided to minimise building bulk to the established dwellings to the north and east. The use of varied colours, materials and openings on every orientation breaks up the overall impacts of bulk and provides visual interest to the built form. Due to the site's orientation, the proposed development does not result in adverse overshadowing on residential properties as it will directly fall south on the Hector Street Road Reserve.
<i>To ensure car parking areas do not detract from the amenity of the streetscape.</i>	The 19 parking bays are located behind a solid wall on Main Street and visually permeable fence and garage door on Hector Street. The residential parking bays will be visible from the street.

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

	The visitor parking bays being visible from the street provides visitors legible access, ensuring safety of drivers in terms of access and egress. The development proposes one crossover, ensuring the impact on the street is reduced and minimised, providing a clear access point for residents and visitors.
<i>To ensure sufficient space is provided for the delivery of goods and the removal of waste materials. These areas are to be located to minimise the impacts of service and waste areas on residential properties.</i>	The submitted TIS details the arrangement for the delivery of goods and collection of waste, with the pick-up times to be arranged to minimise conflict with visitors, and as such is supported.
<i>To ensure outdoor public spaces are safe, secure and enable community interaction and reduce opportunities for concealment or entrapment.</i>	Not applicable.
<i>To ensure that buildings provide an active, safe and sheltered frontage / façade.</i>	The built form of the proposed Child Care Premises is largely square in design, with articulation provided throughout. The building is located central to the site, with large setbacks to the northern and eastern boundaries. As observed from the street or sides, this will ensure there are large setbacks around the built form. Although the development does not meet the prescribed levels where it interfaces with the verge, the built form is articulated, in particular by way of the cut-out corner designs, which reduces overall impacts of bulk by softening the built form. Additionally, the use of varied colours, materials and openings on every façade breaks up the overall impacts of bulk and provides visual interest to the built form.
<i>To ensure buildings provide architectural interest and positively contribute to streetscape.</i>	The scale and intensity of the proposed Child Care Premises is compatible with the existing development and future context of the locality. The development is two storeys in height, which is consistent with the one and two storey developments in the locality and is finished in a variety of colours and materials which are modern and reflective of the material palette seen in the existing locality. Additionally, the large setbacks provided to the development and proportion of landscaping onsite serves to ameliorate any possible impacts as a result of the built form in the locality.

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

On the basis of the above, the development addresses the objectives of LPP 4.2 and is therefore able to be supported.

Herdsmen Glendalough LDP Clause 3.2.3 - Landscaping Objectives	
Objective	Officer Comment
<i>Compliance with the City's Local Planning Policy 6.11 Trees and Development and the City's Local Planning Policy 6.6 Landscaping is required.</i>	Proposed 1.5m street tree setback in lieu of 3m – Discretion Sought. Proposed northern landscaping strip of 0.8m - 3.8m – Discretion Sought. Proposed eastern landscaping strip of Nil - 3m – Discretion Sought.

The above variations are to be considered against Clause 3.2.3 - Landscaping objectives, as follows:

Herdsmen Glendalough LDP Clause 3.2.3 - Landscaping Objectives	
Objective	Officer Comment
<i>To ensure that verges are heavily planted with tree species that are of an appropriate scale in relation to the height of the building.</i>	The landscaping proposed will enhance the existing streetscape by providing 12 trees within the street setback area abutting Main Street and the addition of two trees within the Hector Street setback area. The proposed development represents a significant improvement to canopy cover on-site. The proposed landscaping provides amenity to future occupants and complements the appearance of the built form. The addition of 12 Medium and Small trees at ground level will provide shade and green relief to both the subject site and the locality.
<i>To ensure that street trees provide continuous shade along footpaths to enhance pedestrian amenity</i>	The landscaping proposed will enhance the pedestrian amenity by providing 12 trees within the street setback area abutting Main Street and the addition of two trees within the Hector Street setback. The entry point of the development has been clearly defined through the use of a pathway, contrasting renders and a portico with an associated awning overhang. The portico overhang to provide an additional design feature and ensure the pedestrian amenity.
<i>To ensure that private open spaces, rooftops and at-grade parking areas are heavily planted to soften the dominance of built form and hardscapes.</i>	The overall provision of landscaping, at 10.3%, is in excess of the required 10%. A mix of new trees, new grass, astroturf, and mulched garden bed areas with landscaping are provided.

Herdsmen Glendalough LDP Clause 3.2.3 - Landscaping Objectives	
Objective	Officer Comment
	Overall, the development proposes a high level and variety of landscaped areas, which will both serve as a practical use due landscaping provided within the external play areas and will overall provide an improved landscaping outcome for the development site and locality. The planted landscaping is predominantly located to the northern boundary, providing a buffer from Main Street and the adjoining properties improving the visual appeal of the development. The provided deep soil area, breaks up the overall impact of paved and hardstand areas, and screens service areas from the street. The addition of two Advanced Trees, one retained tree and 12 small/medium sized trees at ground level and 65sqm of landscaped area on the First Floor will provide shade and green relief to both the subject site and the locality.

On the basis of the above, the development addresses the objectives of Clause 3.2.3 of the LDP and is therefore able to be supported.

LPP 6.4 – Policy Objectives	
Objective	Officer Comment
<i>Prioritise the location of Child Care Premises close to activity centres and along urban corridors.</i>	The subject site is located on a District Distributor A category road as per the City's Functional Road Hierarchy and is located within the Herdsmen Glendalough precinct, which is identified as a District Activity Centre as per State Planning Policy 4.2 – Activity Centres.
<i>Ensure new buildings respect the existing or future built form, scale and character of the area.</i>	The proposed development integrates well with both the existing and future context of the locality by way of the two-storey scale, modern design, and setbacks to the street, side and rear boundaries. The use of colours and, materials and articulation break up the overall bulk of the built form and decreases the potential impacts of amenity on the adjacent properties.
<i>Provide landscaping to mitigate development impacts on the amenity of the surrounding area.</i>	The overall provision of landscaping is in excess of the required 10% (10.3%). The proposed landscaping is predominantly located to the northern and eastern boundaries, providing a buffer from the development to the adjoining properties improving the visual appeal of the development. The provided deep soil area in excess of the required 10% (10.3%), breaks up the overall

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

	impact of paved and hardstand areas, and screens service areas from the street. The addition of two Advanced Trees, one retained tree and 13 small/medium sized trees at ground level and landscaping in planters proposed on the First Floor will provide shade and green relief to both the subject site and the locality.
<i>Ensure developments in residential areas are located along roads that can carry anticipated traffic volumes and minimises the impact on the function and safety of the local road network.</i>	The City considers that the traffic volumes outlined in the TIS will not unduly affect the function and safety of the local road network and can accommodate peak demand periods. Further detailed commentary is contained in the Parking and Access section of this report.
<i>Ensure Child Care Premises operate in a manner that mitigates the impacts of amenity on people living in nearby dwellings with regard to intensity of use, hours of operation, noise, traffic impacts, light spill, waste management and the provision of facilities.</i>	The proposed Child Care Premises seeks discretion to the operational hours, with proposed operational hours from 6.30am to 7.00pm. The submitted Environmental Acoustic Assessment (EAA) outlines that the Child Care Premises is able to achieve compliance with the noise regulations. The EAA outlines measures to reduce potential noise impacts to the neighbouring dwellings. These measures include: • The use of the 1m continuous solid balustrade to the upper floor play space and as indicated on the architectural drawings. • Restricting the use of outdoor play spaces until after 7.00am. • Reduced noise in outdoor play spaces by playing amplified music. • Car Bays 1-5 are restricted (no parking) during night time period. In relation to lighting, the City to recommends a condition requiring external lighting to be positioned so as not to adversely affect the amenity of the locality in accordance with Australian Standard AS/NZ 4282-2019 to minimise light spill. In relation to parking, the tandem staff parking bays are located at the rear of the car park, mitigating potential impacts to adjoining landowners. The applicant's WMP prepared by Pinnacle Planning details the arrangement for the storage and collection of waste with the pick-up times to be arranged to minimise conflict with visitors.

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

<i>Require buildings to be designed in a way which minimises the impacts of noise, overlooking, overshadowing, traffic, car parking and access.</i>	The Applicant's EAA has been reviewed by the City. The recommendations of the report are supported as an appropriate means of achieving compliance with the Environmental Protection (Noise) Regulations 1997. The northern and eastern boundary setbacks satisfy the requirements of the LDP. The orientation of the development will cast a shadow to fall south over the Hector Street Road Reserve. The building design will not overshadow any portion of the abutting properties outdoor living areas or major openings to habitable rooms. The development The Applicant's TIS confirms that the development will not adversely impact the safety of the local road network. The safety of drivers and pedestrians in terms of access and egress is supported by the City. Sufficient visual sight lines have been provided to Hector Street. The City has reviewed the provided TIS and has determined the parking bays proposed on-site can accommodate the traffic movements generated by the development.
<i>Provide a safe and connected environment for pedestrians both on and around the site.</i>	The proposed development provides a safe and connected environment at ground level, with an awning feature structure along the ground floor frontage and pedestrian footpath around the entire development. The development provides a front gate at all entrances to provide additional security on the site during and outside of operating hours. The inclusion of the footpath, front gate, awning and pedestrian footpath provides a safe and connected environment for pedestrians.

On the basis of the above, the development addresses the objectives of LPP6.4 and is therefore able to be supported.

Clause 6.11.17 LPS3 – Parking for Non-Residential Development	
Objective	Officer Comment
<i>To facilitate the provision of adequate car, bicycle and motorcycle parking facilities within the policy area.</i>	The proposed development provides for 18 car parking bays and ACROD bay. The Applicant's TIS provides justification that the quantity of visitors onsite is the required amount during the peak operating hours, stating a maximum of six visitor bays will be required during the operation of the Child Care Premises at any one given time. The Applicant's TIS provides justification that six visitors bays will be required given the assumed

Clause 6.11.17 LPS3 – Parking for Non-Residential Development	
Objective	Officer Comment
	dwell time of 10 minutes per vehicle, equating to the requirement for six visitor bays. The City has reviewed the submitted TIA with the outcomes supported, with the proposed parking allocation acceptable. The development provides 18 car parking bays, an ACROD bay and six bicycle bays. End of trip facilities are provided, as there is a shower and lockers onsite, which ensures that the option to cycle to the site is facilitated. providing adequate parking facilities as required per LPP 5.8.
<i>To prioritise access to the city centre by public transport, walking and cycling.</i>	The subject site abuts a bus stop and is located on a high frequency public transport route being Main Street. There are six bicycle racks provided onsite, and provision for end-of-trip facilities within the building. Child Care Premises are not land uses which generally benefit from alternative modes of transport, however the site is well located and provides the appropriate facilities for staff and customers as needed.
<i>To ensure that parking is provided for various services, facilities and developments at a rate that is appropriate for an inner city environment, and to efficiently manage parking supply and demand.</i>	The development provides car parking for staff and visitors on site. The submitted TIS demonstrates the proposed parking is sufficient to accommodate the peak traffic movements and is appropriate for the development.
<i>To ensure that the number of parking bays and the resultant traffic does not exceed the capacity of the road network.</i>	The Applicant's TIS has been reviewed by the City and the proposed development is not considered to have an unacceptable impact on the local road network. The existing road network can accommodate the increased traffic from this development. The proposed development is consistent with the maximum number of bays permitted for the site.
<i>To assist in the funding of the necessary upgrade of the parking facilities and public transport network associated with the redevelopment of Stirling City Centre.</i>	Not applicable.

On the basis of the above, the development addresses the objectives of Clause 6.11.17 LPS3 and is therefore able to be supported.

Local Planning Policy 6.7 – Parking and Access Clause 5.1.1 – Delivery Bay Ratio	
Objective	Officer Comment
<i>In non-residential developments with over 500m² of GFA, a minimum of one</i>	No specific purpose bay is proposed in lieu of one shall be permanently set aside and marked for

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

<i>bay shall be permanently set aside and marked for the exclusive use of delivery, service, and courier vehicles;</i>	the exclusive use of delivery and service, and courier vehicles – Discretion Sought.
--	--

The above variations are to be considered against LPP 6.7 objectives, as follows:

Local Planning Policy 6.7 – Parking and Access	
Objective	Officer Comment
<i>To ensure development provides an appropriate level of car parking, reflecting supply and demand so that a major parking problem is unlikely to occur;</i>	The development provides 18 car bays, an ACROD bay and six bicycle bays ensuring an appropriate level of car parking is provided on-site. The Applicant's TIS has been reviewed by the City and the proposed development is not considered to provide a major parking problem on-site.
<i>To ensure safe, convenient, and efficient access for pedestrians, cyclists, and motorists;</i>	The submitted TIS has been reviewed by the City with no concerns raised regarding safety and accessibility for the proposed parking arrangements and use of development. The proposed development provides sufficient vehicle access from Hector Street with the car parking and accessway designed to allow vehicles to enter the street in forward gear ensuring safe access and egress.
<i>To prioritise access by public transport, walking and cycling;</i>	The proposed development is accessible via high frequency public transport bus routes on Main Street, with the closest bus stop located directly across from the front boundary of the subject property. There are six bicycle racks provided onsite, providing another form of alternative transport.
<i>To facilitate the provision of adequate bicycle parking and end of trip facilities;</i>	The development provides bicycle parking bays in accordance with LPP6.7. End of trip facilities are provided, as there is a shower and lockers onsite, which ensures that the option to cycle to the site is facilitated.
<i>To provide a balanced parking supply that does not exceed the capacity of the road network, with sufficient publicly accessible parking;</i>	The development provides car parking for staff and visitors on site. The submitted TIS demonstrates the proposed parking is sufficient to accommodate a balanced parking supply. The existing road network can accommodate the increased traffic from this development. The proposed development is consistent with the maximum number of bays permitted for the site. The City's assessment considers that the amount of traffic estimated to be generated from this

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

	proposal will have an acceptable impact on the road system and the locality.
<i>To ensure that an oversupply of parking does not occur that discourages alternative forms of transport; and</i>	The Applicant's TIS has been reviewed by the City and the proposed development is not considered to have an oversupply of parking.
<i>To ensure the amount of parking is not detrimental to the urban design and character of the locality.</i>	The amount of parking will not have an adverse impact on the urban design of the locality as the built form is in keeping with the surrounding Residential and Business properties due to the articulated design, variety of colours and materials, large setbacks to the adjacent properties, and on-site landscaping. The 19 residential parking bays are located behind a visually permeable sliding gate. The visitor parking bays being visible from the street, provides visitors legible access, ensuring safety of drivers in terms of access and egress. The development proposes one crossover ensuring the impact on the street is reduced and minimised, providing a clear access point for residents and visitors.

On the basis of the above, the development addresses the objectives of LPP6.7 and is therefore able to be supported.

Local Planning Policy 6.1 – Advertising Signs Clause 4.3.3.4 – Wall Sign	
Objective	Officer Comment
<i>Wall Signs (except within the Residential Zone and Suburban Residential Category) are: (i) limited to a maximum two signs per tenancy on a lot; and</i>	Three wall signs proposed in lieu of maximum two signs permitted on the lot – Discretion Sought.

The above variations are to be considered against LPP 6.1 objectives, as follows:

Local Planning Policy 6.1 – Advertising Signs	
Objective	Officer Comment
<i>To ensure advertising signs do not pose a safety threat and do not prevent passive surveillance;</i>	The proposed signage does not pose a safety threat for users of the development. The signage is located on the façade of the development to prevent any passive surveillance issues on the ground floor.
<i>To ensure businesses can display advertising signs without, in certain circumstances, the need to obtain development approval;</i>	Not applicable.
<i>To ensure that the display of advertising signs does not adversely impact on the</i>	The proposed signage consists of the business name on contrasting background. The signage is

Attachment 5 – Planning Assessment - Child Care Premises - 104 Main Street, Osborne Park

<i>amenity of surrounding land and streetscapes;</i>	legible and easy to read and relates directly to the business. The overall display of signage is rationalised over the built form facade and is not considered to have a detrimental impact on the streetscape. The window signage will not have any impact to the street due to the size of it having limited visibility. The wayfinding signage to the side of the building will not be directly visible to the street. The proposed display of signage is a significant improvement on the previous state of signage on the site.
<i>To ensure advertising signs are appropriately scaled for their setting;</i>	The display of signage is rationalised to the development with the proposed signage consistent with the materials of the development. The signage proposed is informative and is not strictly advertising signage.
<i>To avoid the proliferation of advertising signs on individual sites and buildings to minimise visual clutter;</i>	There will be no proliferation of signage as a result, all signage is respectful to the scale of the development to which it relates, is fixed directly to the building and is minimised to ensure no repetition of signage. The site does not have any additional pylon or monolith signage presenting directly to the street. The overall area of signage will be less than currently exists on site and will replace existing signage from the previous business.
<i>To encourage the incorporation of advertising signs into the design consideration of buildings and avoid obscuring or detracting from prominent architectural features;</i>	The proposed wall signs are incorporated into the design of the building. The colours and materials match the colours and materials of the Child Care facade. The wall signs are integrated within the development avoiding the wall signs to obscure or detract from the prominent architectural features.
<i>To ensure advertising signs only relate to services and products available on the site, and</i>	The signage contains only the name and logo of the business.
<i>To ensure the content of advertising signs meets community expectations and is not discriminatory or offensive.</i>	The signage is not discriminatory or offensive. The signage contains only the name of the business and information relating to the business.

On the basis of the above, the development addresses the objectives of LPP6.1 and is therefore able to be supported.

Development Application

Proposed Child Care Centre

Lots 950, 1 and 2 (No. 104, 106A and 106B)

Main Street, Osborne Park

SUPERSEDED



CONTENTS

1.0	INTRODUCTION	3
2.0	DESCRIPTION OF PROPOSAL.....	4
3.0	STATEMENT OF TOWN PLANNING COMPLIANCE	5
	3.1.1 Metropolitan Region Scheme.....	5
	3.1.2 City of Stirling Local Planning Scheme No. 3	5
	3.1.3 City of Stirling Herdsman Glendalough Structure Plan	5
	3.1.4 City of Stirling Herdsman Glendalough Local Development Plan	6
	3.1.5 City of Stirling Local Planning Policy 6.4 - Child Care Premises.....	10
	3.1.6 City of Stirling Local Planning Policy 5.8 - Stirling City Centre Parking.....	10
	3.1.7 City of Stirling Local Planning Policy 6.6 - Landscaping	10
	3.1.8 City of Stirling Local Planning Policy 6.3 - Bin Storage Areas	11
	3.1.9 State Planning Policy 7.0 - Design of the Built Environment	11
	3.1.10 SPP 7.0 - 10 Design Principles Statement.....	12
4.0	TRAFFIC IMPACT STATEMENT	16
5.0	LANDSCAPE ARCHITECTURE	16
6.0	ACOUSTIC CONSIDERATIONS	16
7.0	WASTE MANAGEMENT CONSIDERATIONS	17
8.0	AMENITY IMPACT STATEMENT	17
9.0	CONCLUSION.....	19

SUPERSEDED

Appendix 1 - Certificate of Title

Appendix 2 - Plans and Elevations

Appendix 3 - Traffic Impact Statement

Appendix 4 - Landscape Concept Design

Appendix 5 - Acoustic Report

Appendix 6 - Waste Management Plant

1.0 INTRODUCTION

Pinnacle Planning acts on behalf of the owners of Lots 950, 1 and 2 (No.s 104, 106A and 106B) Main Street, Osborne Park (subject site), who is seeking approval for the subject proposal.

The subject site is located in the locality of Osborne Park, and is legally described as:

Lot Number	Street Number	Plan/Diagram	Volume	Folio
1	106b	65291	2800	874
2	106a	65291	2800	875
950	104	61487	2702	63

Please refer to **Appendix 1** - Certificate of Title.

The site has an area of 1.375m².

The proposal is for the redevelopment of the subject site, for the purpose of a medium scale Child Care Centre.

The proposal has been architecturally designed, taking into account the requirement for national standards relating to child care centre proposals, mitigation of all required amenity impact considerations, and technical matters, such as parking and access.

The proposal is conceived on the basis of providing further options for parents seeking Child Care facilities in the locality.

The proposal has regard for the prevailing planning framework, and is in all respects, a bespoke proposal tailored to the built form outcomes sought for the locality.

SUPERSEDED



2.0 DESCRIPTION OF PROPOSAL

The proposal consists of a child care centre, incorporating built form, car parking and associated landscaping.

The centre proposal is based on the following key components:

- 84 children, ranging from 0-5 years of age;
- 18 staff;
- Two storey building;
- 18 car parking bays;
- Three (3) Bicycle bays;
- At and above ground play areas for various use of children within the centre.

Noting the centre is located in a Development zone, with a high number of contemporary office developments to the north, the design, location of various functionality on site, parking access and compliance, are all predicated on the centre being capable of existing into the future without causing any offsite amenity impacts, and fitting neatly within its setting, from a built form and aesthetic perspective.

The centre is proposed to operate from 6.30am in the morning, to 6.30pm in the evening Monday to Friday.

In particular, the use of built form elements more akin to commercial buildings, such as commercial cladding, along with the use of flat roof forms are proposed to ensure the proposal is compatible with its setting. Notwithstanding, the use of colour contrast screening elements to the upper-level façade speak to the playful nature of children, and signify the use as a child care centre, whilst keeping a commercial appearance.

With respect to traffic and access, the proposal has been conceived to ensure that the site incorporates both adequate and compliant parking, but also provides circulation in and out of the site in forward gear. The circulation within the site, and access/egress sequence also is based on screened and sleeved parking, to ensure that parking does not dominate the streetscape appearance of the building.

With respect to acoustic mitigation, the major outdoor play spaces are located to the street setback areas, farthest from nearby residences.

The proposal takes into account the need to provide quality landscape, and shows onsite outdoor play, outdoor breakout space landscape, and the use of street trees to assist with shading of the development, and the public realm abutting the development.

*Please refer to **Appendix 2** - Plans and Elevations, for further detail.*

SUPERSEDED

3.0 STATEMENT OF TOWN PLANNING COMPLIANCE

3.1 Town Planning Framework

3.1.1 Metropolitan Region Scheme

Under the provisions of the Metropolitan Region Scheme (MRS), the subject site is zoned 'Urban'.

The proposal is consistent with the Urban zoning established through the MRS.

3.1.2 City of Stirling Local Planning Scheme No. 3

Under the City of Stirling Local Planning Scheme No. 3 (LPS3) the subject site is zoned 'Development'.

With respect to development within the Development zone, LPS 3 notes the following broad objectives:

- *"To provide for coordinated development through the application of a comprehensive structure plan to guide subdivision and development.*
- *To avoid the development of land for purposes likely to compromise its future development for purposes, or in a manner likely to detract from the amenity of the locality."*

The proposal, and its level of congruence with the prevailing Structure and Local Development Plans, is discussed further below, which serves to confirm the proposal's level of accordance with the objectives of the Development Zone, as set out above.

3.1.3 City of Stirling Herdsman Glendalough Structure Plan

The City's Herdsman Glendalough Structure Plan (Structure Plan) provides high level of strategic planning guidance for the development of large portions of Osborne Park. The objectives of the document look to increase housing density, provide additional commercial centres, diversify land use away from industrial uses, increasing green canopy cover, consolidating access away from activity corridors, amalgamation of landholdings to develop suitable uses, which all ultimately serve to develop precincts within the Structure Plan area as genuine centres within an overall area.

In relation to Section 5.2 of the Structure Plan, we confirm the proposal incorporates a 2.5 metre road widening, to assist with the development of an improved streetscape to Main Street, under the Structure Plan.

Section 5.3 sets out that the subject site is located within a mixed use area. A child care premises is appropriate in the mixed use area.

Section 6.2.5 of the Structure Plan sets out the intent for Main Street to be developed with residential and non residential uses, of which the proposal delivers.

Further more detailed design requirements are contained within the applicable local development plan, and we note that the proposal has regard for the intent of the Structure Plan, as the proposal contributes to the redevelopment of Main Street generally, and provides a use that contributes to the local community, and assists with the development of a sense of place.

SUPERSEDED

3.0 STATEMENT OF TOWN PLANNING COMPLIANCE Cont...

SUPERSEDED

3.1.4 City of Stirling Herdsman Glendalough Local Development Plan

The City's Herdsman Glendalough Local Development Plan (LDP) provides further built form guidance to sites within the Structure Plan area. The following table provides a summary of the relevant built form standards, how they apply to the proposal, and how the proposal responds to built form requirements under the LDP.

LDP Section	Matter	Acceptable Development	Proposal Response	Compliance
3.1.1	Architectural Expression	Provide 4 of the following: major openings to street, awnings over windows, balconies, indentations and different colours materials and textures. Articulated facades, no blank walls.	The proposal includes windows to both street frontages to ground and upper floor. The proposal incorporates an awning to Main Street. The building is also indented to both facades to break up the building mass, and includes a combination of glazing, cladding, feature screening access gates and landscape. The street elevations are devoid of blank walls, and are sufficiently articulated.	Y
3.1.2	Corner Sites	Each street façade to have major openings to the street, no blank walls facing the street.	The proposal incorporates a myriad of openings to both Main and Hector Street, which are expressed through glazing and cladding elements and are devoid of blank walls.	Y
3.1.3	Roof Form	Building towers contributing to streetscapes.	Not applicable to the proposal, as there is no tower being proposed.	N/A
3.1.4	Colours and Materials	Incorporating materials that are durable, a variety of materials, reflect the urban character, sparing use of bright colours.	The design utilises a mix of exterior walls, commercial grade cladding, glazing and coloured metal screening to provide visual interest and detail. The design takes cues from surrounding modern commercial buildings located further north on Main Street, and uses a restrained palette for the majority of the building, whilst utilising sporadic coloured cladding to signify the use as a child care premises, and expressing the playful nature of children generally.	Y
3.1.5	Rights of Way	N/A	N/A as the proposal is not located on a right of way	N/A
3.2.1	Active Building Edges on Ground Level	Buildings to include a nil setback to the ground floor, 75% glazing, include a variety of materials, transparent glazing, window sills no more than 600mm above ground level, avoidance of blank walls, minimisation of visibility of booster and other infrastructure, breaks in glazing every 10m.	The design does not present blank walls to the street, and provides sections of full height glazing, breaks in the glaze sections through feature wall portions, areas of partial glazing, the entrance door, parking garage door, and further glazing to the office. This design approach is also supported by breaks in the roof form, different colours, avoidance of blank walls, to ensure the development addresses, engages and has an appropriate public realm interface.	Y
3.2.2	Entry Points	Directly face the street, be at ground level, provide entry signage, use different materials to the entry door.	The proposal has direct, street level access facing Main Street. The secure nature of a child care centre means that the balance of the façade is devoid of doors, so the use of this building material clearly shows the entrance. The cladding of the awning is thick enough to support signage for the entrance.	Y
3.2.3	Landscape	Landscape plan to be submitted, in accordance with local planning policy for landscape, and also provide street trees.	The proposal includes a full landscape concept plan, that is in accordance with the requirements of the City's Local Planning Policy for Landscape. Further, the proposal incorporates street trees to Main Street.	Y
3.2.4	Weather Protection	Buildings facing the street to provide a canopy, that is not separated from the edge of other building, with a minimum height of 3m.	The proposal includes a suitable awning to the façade of the building, with adequate minimum underneath clearance, that is set to the edge of the building without separation.	Y
3.2.5	Water Sensitive Urban Design	Drainage to be contained in site.	Drainage is to be contained on site.	Y
3.3.1	Parking	Parking to be sleeved from the street, at least 8m behind the street setback line if not provided in a basement, parking to comply with relevant parking standards.	The proposal includes sleeved parking provision, that is setback 8m from the Main Street frontage. The provision of parking is in accordance with the Stirling City Centre Local Planning Policy.	Y

3.0 STATEMENT OF TOWN PLANNING COMPLIANCE Cont...

LDP Section	Matter	Acceptable Development	Proposal Response	Compliance
3.3.2	Vehicle Access and Crossovers	One crossover per lot, 6m width, no access to Main Street permitted, vehicles able to enter and exit in forward gear.	The proposal includes a 6.2m wide crossover, which represents a small departure from the requirements. The proposal however proposes crossover consolidation, does not diminish the pedestrian experience abutting the site, removes access from Main Street, and minimises the use of crossovers generally.	Proposal meets both acceptable development criteria, and objectives, with respect to small crossover width variation.
3.3.3	Service Vehicles Access and Facilities	Onsite servicing catering.	Waste management advice confirms internal waste collection is possible, if desired by the City and Applicant. Service and goods deliveries can occur in parking area also off the street.	Y
3.3.4	Bin Storage Areas and Collection	Located in accordance with local planning policy, not front a street, enable verge collection if possible.	The proposal as a suitably sized bin store, that is screened from the street and does not interface with the internal use. The proposal is supported by a waste management plan, and caters to verge, or internal collection.	Y
3.3.5	Pedestrian Access	Developments to provide a pedestrian path from footpath, linked from internal parking area, new footpaths required on boundary abutting development, takes into account road widening.	The proposal includes key site planning considerations such as the 2.5m road widening to Main Street, and provides a footpath inside the lot boundary, which will be ceded as part of the development. This footpath network established through the proposal links directly to the access to the use, and is located adjacent to the parking area access.	Y
3.3.6	Other Policy Considerations	LPP 6.3 - Bin Stores LPP 5.8 - Stirling City Centre Parking LPP 6.6 - Landscaping	Proposal has regard for these policies, set out further below.	Y
4.1.2	Plot Ratio	Street character type 6 sets out a plot ratio of 2.5, 1without any development bonuses.	The proposal incorporates a plot ratio of 0.73:1, and is therefore compliant.	Y
4.1.3	Building Heights	Base height limit of 3 stories to the street.	The proposal is based on a two storey budling height, which is compliant with the acceptable development criteria of the LDP for this location.	Y
4.1.4	Setbacks	Setbacks to be in accordance with Street character type 6, which means a nil setback to the street, 3m to the side and rear.	The proposal provides nil front setbacks, nil to the northern boundary, and in excess of the 3m rear setback. With respect to the northern setback variation, we note that this responds to not only the nil setback requirement to Main Street, which the abutting site to the north can utilise and reciprocate to, but also, recognises that a two storey building does not require a full 3m setback. Furthermore, the continuity of the streetscape and development front is likely to mean that a commercial use on the ground floor of the northern site will utilise and take advantage of the nil setback established, and if need be, can set residential units, or elevated offices on upper levels off the boundary.	Proposal satisfies a combination of objectives and acceptable development criteria.
4.1.5	Development Bonuses	N/A	No development bonuses sought.	N/A
4.1.6	Key Location Bonuses	N/A	Site is not a key location, and no key location bonuses are sought.	N/A

SUPERSEDED

3.0 STATEMENT OF TOWN PLANNING COMPLIANCE Cont...

3.1.5 City of Stirling Local Planning Policy 6.4 – Child Care Premises

The City's Child Care Premises Local Planning Policy 6.4 (LPP 6.4) contains a range of locational, built form and operational standards, relevant to the conception of an appropriate child care premises within the municipality.

The objectives of LPP 6.4 are as follows:

- *To promote the establishment of Child Care Premises in proximity to activity centres and along activity corridors;*
- *To avoid potential land use conflicts by ensuring the development of Child Care Premises integrates with its surrounding areas;*
- *To minimise the adverse impacts of the bulk and scale of Child Care Premises on neighbouring properties and the streetscape, and that buildings are consistent with the built form of an area, including future character;*
- *To locate noise-generating activities such as outdoor play areas, vehicle access ways, car parking areas and any plant and equipment away from noise-sensitive land uses (such as residential dwellings); and*
- *To minimise the impact of traffic associated with Child Care Premises on the function and safety of the local road network."*

The conception of the design of the proposal, has had high regard for the provisions of LPP 6.4 , and to ensure broad compliance with the LPP. Of note, the location of the proposal is on an activity corridor, is located on a site that is larger than 1000m² in area, the provision of parking is off the secondary street and is screened from view of the street, the design provides compliant height, and addresses both street frontages.

The use is proposed to commence from 6.30am in the morning. We note that this represents a 30 minute variation to the hours of operation noted in LPP 6.4.

To support this minor variation, we note the following justification.

The location of the site, on Main Street, is appropriate, and preferable under the LPP. This is on the basis that the level of ambient noise, and trip generation is higher as compared with Residential locations and zones. This is supported by the acoustic impact statement, that concludes the proposal is capable of achieving compliance with environmental noise regulations.

Furthermore, the traffic impact statement notes that the proposal, will not have a significant impact on the surrounding road network, of which this comment is attributed to the total daily trip generation.

We also note the careful design of the building places play spaces away from abutting residents to the north and east, rather, locating them adjacent to the Main Street and Hector Street frontages. Due to this design approach, acoustic emissions are to the street frontages, not surrounding lots.

Based on the above, the proposal is considered to be appropriate, and suitable for the location, noting the physical locational criteria, and the design response applied.

3.1.6 City of Stirling Local Planning Policy 5.8 – Stirling City Centre Parking

The City's Local Planning Policy 5.8 - Stirling City Centre Parking (LPP 5.8) is applicable to the subject proposal, consistent with the provisions of the City's LPP, Clause 3.3.1 (e).

Table 1 of LPP 5.8 requires that the proposal provides 1.25 bays per 100m². This equates to a required 18 bays, of which the subject proposal provides in totality.

3.1.7 City of Stirling Local Planning Policy 6.6 – Landscaping

The City's Local Planning Policy 6.6 - Landscaping (LPP 6.6), provides guidance to assist with increased quality of landscape design, increased shade, visual appeal of developments, and to assist with buffering and screening of developments generally.

To assist with the landscape requirements, a landscape architect has been appointed to propose a high quality landscape design that enhances the amenity for occupants of the child care centre.

LPP 6.6 requires a minimum 10% of the site area, which the proposal exceeds, in providing 13.2% deep soil area. The requirement to provide a landscape buffer is provided to the eastern setback area, but not to Main Street, given the need to provide a canopy cover to the widening area (and footpath below the canopy) under the City's applicable LPP.

The proposal demonstrates compliance with LPP 6.6 in this regard.

3.0 STATEMENT OF TOWN PLANNING COMPLIANCE Cont...

3.1.8 City of Stirling Local Planning Policy 6.3 – Bin Storage Areas

The City's Local Planning Policy 6.3 – Bin Storage Areas (LPP 6.3) seeks to required that the provision of bin storage areas for commercial projects is both screened from the street, integrated into the form of the building, and suitably sized, to cater to the demands of commercial waste storage.

We confirm a suitably sized bin store, 10m² in area, is located, screened from the street, adjacent to the parking area, which has been a result of the collaboration between the project Architect and the Waste Management Consultant.

This presents convenient, but screened storage for waste, and enables ease of access for the City's waste services for internal collection, or close proximity to the verge for verge collection.

Therefore, the proposal satisfies the requirements of LPP 6.3.

3.1.9 State Planning Policy 7.0 – Design of the Built Environment

State Planning Policy 7.0 Design of the Built Environment (SPP7.0) contains a range of guiding principles for various planning processes and applications, including development applications for infill development of varying kinds.

Given the subject proposal will be the subject of design review processes during the assessment, we provide a design principles assessment to aid in the consideration of the proposal.

Schedule 1 – Design Principles of the SPP 7.0 are required to be addressed through infill development.

Further details are provided on the following page with respect to the compliance with SPP 7.0.

SUPERSEDED



3.0 STATEMENT OF TOWN PLANNING COMPLIANCE Cont...

SUPERSEDED

3.1.10 SPP 7.0 – 10 Design Principles Statement

Please see below statement with respect to the proposal, and its high level of congruence with SPP 7.0.

Design Principle	Requirements	Applicable to the Proposal	Proposal Response	Principle Addressed
Context and Character	Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place	The site is located within an existing activity corridor locality, with the predominant built form examples being single and two storey residential and commercial buildings.	The proposal was conceived on the basis of seeking to better integrate a child care centre within a commercial high street and redevelopment zone context. The prevailing design cues that have been taken for the inspiration for the design relate to commercial built form, particularly existing examples to the north and south of the subject site on Main Street. Elements such as commercial cladding, street awnings, flat roof elements provide a level of visual and aesthetic congruency with existing built form examples, particularly to the north of Cape Steet, along Main Street.	Y
Landscape Quality	Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.	Provision of a range of hard and soft landscaping, interact with built form, provide tree canopy cover.	As the proposal is required to meet both a high street/activity corridor built form aesthetic, but also cater to hard and softscape outcomes for a child care centre, the design revolves around the inclusion of a large central tree, that provides aspect to the ground and upper floor play spaces. The use of feature plantings, and a large internal central tree, integrates with a nature play space, appropriate to the use being sought. The western setback area is utilised to bolster deep soil area, which not only assists with tree canopy cover increase, it also helps provide a buffer to the existing residential dwellings to the east of the subject site.	Y
Built Form and Scale	Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.	Building heights and setbacks that are consistent with the prevailing planning framework requirements, but also sit within the context of surrounding development in the locality, which is to a 1-2 storey scale, and of residential and commercial construction. Intensity of use is also to be appropriate to the setting.	The subject proposal is consistent with both height and setback requirements for both childcare centres generally, along with residential, commercial and mixed use buildings pursuant to the prevailing planning framework. Careful attention has been paid to restrict the centre to a manageable redevelopment of the parent lots, which manages the scale of the proposal, to an existing acceptable interface of residential dwellings located to the east and west of Main Street, with 1-2 storey commercial buildings on Main Street. The proposal sits comfortably within its setting in this regard, and will make a positive contribution on this basis.	Y
Functionality and Build Quality	Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.	Design for functional use as a child care centre, with mandated internal and external space requirements, required amenities for the use, building is architecturally designed.	The proposal has been designed in accordance with national standards for child care centre developments. Specifically, the proposal both internally and externally has conventional separation of different age groups and corresponding play spaces, and provides amenities easily accessible to the ground floor, along with lift access to the upper level.	Y
Sustainability	Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes	Provide a range of sensible design measures to reduce reliance on technology for climate comfort, increased ventilation, shading.	The proposal is provided with a high level of shade due to the use of roof and cladding elements to the western portion of the building, along with the use of the large feature tree. The proposal reduces where possible eastern facing glazing to minimise summer sun exposure and reduces early heat gain, and corresponding cooling costs.	Y

3.0 STATEMENT OF TOWN PLANNING COMPLIANCE Cont...

SUPERSEDED

Design Principle	Requirements	Applicable to the Proposal	Proposal Response	Principle Addressed
Amenity	Good design provides successful places that offer a variety of uses and activities while optimising internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.	Mitigation of negative offsite design impacts such as parking and access, acoustic emissions, and built form bulk and scale. Proposal should also be making a positive contribution to the streetscape.	The proposal is designed to ensure minimal (if any) impact to the surrounding locality, given parking is compliant and screened from the street, access is contained to accessing the site directly without seeking access through higher order road networks, and is in all respects, sited appropriately for a redevelopment locality. The building presents in a visually compatible manner with the abutting residential environment, whilst being appropriate for a redevelopment zone, and does not present as an out of context, over-scaled commercial development.	Y
Legibility	Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.	Building legible for its use, prioritise pedestrian movement, logical use of the building.	Proposal presents a demarcation between pedestrian and vehicle access. The design does not provide any visual elements to the Main Street frontage which could be construed to provide vehicle or primary access, with only an emergency exit to the edge of the building provided to Main Street. The development, based on regular attendees, shows clearly where and how to access via a vehicle, and the Main Entrance to the centre, which would be controlled with a punch code, consistent with safety requirements for child care centres. The access sequence is clear and logical, and located adjacent the parking area, so it is clear where to go to access the centre.	Y
Safety	Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.	Safe vehicle access points, separated pedestrian access, suitable methods of ensuring safe retention of children to the site.	Design separates pedestrian and vehicle access, and provides a level of traffic calming given the access/egress sequence. The front entrance is to be locked and accessed via security measures, and the outdoor space is provided with permeable fencing to a height ensuring retention of children safely inside the centre at all times. The proposal does not take access or egress from Main Street, and favours the lower traffic volume and intensity Hector Street, reducing the propensity for traffic conflict, and safer access and egress movements for patrons of the proposal.	Y
Community	Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.	Provides a proposal that is visually akin to development in the locality, provides a complimentary use to the surrounding locality.	As the proposal is located within close proximity to an existing residential locality, and childcare is a service utilised by many families, the proposal will be a great land use addition to the surrounding area. It will also encourage pedestrian trips, and incidental interaction of families within the neighbourhood.	Y
Aesthetics	Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.	Takes into account technical and compliance matters, and balances with design quality, arrangement of built form.	The proposal balances compliance with built form and parking requirements, to provide a building located within a commercial high street setting, that is visually interesting. The two storey built form, and commercial and flat roof elements and commercial style external cladding, interspersed with colourful cladding, speaking to the playful nature of children, all assist with a pleasant and compatible aesthetic for the proposal.	Y

4.0 TRAFFIC IMPACT STATEMENT

Transcore have been appointed at the early concept design stage of the project to provide advice on trip generation, access/egress design, parking requirements, and overall swept path analysis considerations.

To this end, Transcore have provided a traffic impact statement, which fully supports the proposal, as submitted.

The access arrangements provided to the site, are confirmed as suitable from Hector Street. Pre-lodgement engagement with the City confirms that this location is preferred.

With respect to trip generation and traffic impact, Transcore have calculated that the proposal would generate a maximum of 300 trips, accounting for all movements in and out of the site, and that this sits comfortably within the design and functionality of the road network servicing the subject site, and is not considered to contribute a load to the existing traffic network that would have an impact.

Transcore conclude by confirming that from a traffic and road safety perspective, the proposal is considered to have no material impact on the surrounding road network or residential amenity of the locality.

*Please Refer **Appendix 3** - Traffic Impact Statement for further details.*

5.0 LANDSCAPE ARCHITECTURE

Propagule have been appointed to assist with detailing the various landscape components for the proposal.

The initial desire, given the urbanised nature of the site, on a major road network, and the nature of child care centres needing to provide outdoor shaded spaces, was for the integration of landscape and play spaces that soften the commercial nature of child care centres.

Specifically, the landscape set provides details of the play space in the setback area, based on the inclusion of a large tree, surrounded by smaller plantings, sand pit spaces and artificial turf, with this approach being continued on the upper level play spaces.

The eastern portion of the site is treated with both trees and smaller planted species, to soften and provide further acoustic mitigation measures with the eastern residential interface.

The set also provides an indicative planting plan for the entire site, providing confirmation that the proposal will sit within a suitably landscaped setting.

*Please refer **Appendix 4**- Landscape Architecture Set for further details of the total landscape proposal.*

6.0 ACOUSTIC CONSIDERATIONS

Gabriels Hearne Farrell have assisted the Applicant throughout the conception of this proposal through to the final lodgement package.

We confirm that a detailed and thorough assessment of the design of the centre has occurred, with respect to ambient noise levels, hours of operation, location and design of internal and external play spaces, parking area, and plant/equipment for the proposal.

The assessment and investigations of Gabriels Hearne Farrell have confirmed that the proposal is capable of complying with ambient noise levels in the locality, and have recommended a number of operational management measures, to assist with acoustic mitigation, such as staggered numbers of children from early operation periods, utilising indoor play at earlier times of operation, and taking unsettled children straight inside.

We note that the general operation of child care centres is for a staggered arrival between opening, and 9am, therefore, is it not considered that there will be large influxes of children being presented at opening, which is consistent with the recommendations of Gabriels Hearne Farrell.

*Please refer **Appendix 6** - Environmental Noise Assessment for further technical details.*

SUPERSEDED

7.0 WASTE MANAGEMENT CONSIDERATIONS

Dallywater Consulting were appointed to provide a waste management plan in relation to the waste servicing of the proposed child care centre.

In the first instance, the report confirms acceptability and suitability of the site and design for both internal, and verge presentation, and suitability of the bin store designed to cater to waste storage.

The report specifies that staff are responsible for bin presentation to the street if that option is proceeded with, and that the City can also access the parking und4rcroft, and circulate in forward gear to exit, should internal collection be more desirable.

*Please refer **Appendix 6** - Waste Management Plan for further technical details on the waste management protocols proposed for the site.*

8.0 AMENITY IMPACT STATEMENT

8.1 Current Amenity

The subject site and immediate locality is best described as being located on an activity corridor, with a mix of newer and older commercial buildings, sporadic residential dwellings, and dwellings converted to commercial uses.

Dwellings in the locality are single or two storeys in built form presentation, and present as aged dwellings stock, in need of redevelopment.

Sites in the locality do not present as over-developed, and are generally contained to 1-2 stories in height.

In the immediate locality, the subject site and abutting properties contain residential dwellings, but are zoned for Development. Again, the dwelling stock condition in the locality is not of high quality, and it is anticipated that the development front, located further north to Cape Street, will progress further along Main Street, given the zoning of the locality.

8.2 The Proposal

The proposed child care centre, as detailed earlier in this report, has been designed as a multi-lot redevelopment, which fits comfortably within the context of a Development locality.

In relation to the assessment of the amenity of the locality, and the impact of the proposal, we consider the following components relevant, particularly as they relate to the proposal:

- Built Form and Scale;
- Land Use Intensity;
- Design and Functionality;
- Amelioration of offsite impacts.

Built Form and Scale

As identified, the design sits within the prevailing height requirements of the Local Planning framework, and visually, is akin to a two storey commercial building. The built form proposed on site also is set within a landscaped setting, and provides more landscaping than the base requirements in the planning framework.

Accordingly, the proposal is consistent with the established visual amenity of the locality.

Land Use Intensity

The proposal is for a multi-site redevelopment of run down residential dwellings to a child care centre. Due to this, aspects such as trip generation, parking provision (visual intensity of parking), noise generation are all limited to what a compliant parking design can afford, with respect to children numbers.

In this way, the limitation of the redevelopment contains the land use intensity to a level that ensures trip generation is contained within functional road hierarchy limits, and parking compliance generally.

Therefore, the land use intensity is at a level that does not impact on the amenity of the locality.

SUPERSEDED

8.0 AMENITY IMPACT STATEMENT Cont...

Design and Functionality

Child care centres, if not designed correctly can create impacts to the surrounding locality. Specifically, the design of outdoor play spaces, parking access and provision, and internal spaces can provides varying results to the eventual outcome of the proposal, and its corresponding impact.

In relation to the subject proposal, the major outdoor play space is situated away from other residences facing Main Street, with the outdoor upstairs play terrace being enclosed for acoustic mitigation.

The access/egress sequence is designed to ensure there are no traffic conflicts, specifically along Main Street. We also have ensured at all times that parking remains compliant, so there is no reliance on impromptu verge parking, further discouraged by the crossover location, and use of verge trees.

Finally, the centre is designed to be capable of being serviced via either internal or verger waste collection, hence there is the ability to mitigate impact on the collection sequence to nearby residents.

These matters all combine to ensure the design, along with the intensity all assist with the comfortable operation of the centre, to minimise any potential impacts from arising.

Amelioration of Offsite Impacts

The primary off-site impacts associated with child care centres are a result of limited consideration of impacts at the planning and design stage, and pursuit of variations to framework and design aspects, which leave uncertainty to the operation, and provide the opportunity for issues to arise.

The primary offsite impacts mitigated against with this proposal are built form interface, traffic impacts, and acoustic emissions.

In simple terms, if the proposal provides functional access, does not rely on verge parking, sits comfortably within acceptable ambient noise levels, and has the appearance consistent to a single dwelling in a landscaped setting, then it is clear that offsite impacts are ameliorated through the design and various supporting experts.

8.3 Resultant Amenity

Taking the established amenity, and the proposal into account, it is clear that the proposal is capable of being assigned as having little to no amenity impact. Again, we reiterate, if the site provides functional and compliant access, does not reduce parking provision and create parking pressures on surrounding streets or verges, does not exceed ambient noise levels, or delivers a built form outcome that is inconsistent with the locality, then it is an established position that the proposal is considerate to its surroundings, and would be a compatible development.

With the various aspects taken into consideration, we consider the proposal adequately satisfies locational criteria within redevelopment locality, and is capable of approval, given the negligible amenity impacts anticipated to be generated from the proposal.

SUPERSEDED

9.0 CONCLUSION

Given the above, the following conclusions are evident:

- The built form is of a high standard, and architecturally-designed;
- The proposed use and built form presentation are of a scale and landscaped presentation making them consistent with built form in the locality;
- The proposal is generally in accordance with the provisions of the prevailing planning framework with respect to child care centres;
- The proposal is supported by a full suite of technical information by a range of experts, which all service to confirm the acceptability of the proposal, both from a design and technical stand point;
- The proposal will not constitute an amenity impact from a traffic perspective;
- The proposal will not constitute an amenity impact from an acoustic perspective;
- The proposal is functional, and caters to onsite and verge presentation waste collection modalities;
- The proposal is not incongruent with the established character of the locality; and
- The proposal will make a positive contribution to the amenity of the locality, and provide a service associated with residential localities, that will benefit the surrounding community.

Ultimately, we seek that the City of Stirling recommend approval of the proposal, to the Metro Inner North Development Assessment Panel, for the reasons contained within the above and attached aspects of this report.

SUPERSEDED



25 January 2024

Chief Executive Officer
City of Stirling
Via Email: Michael.Italiano@stirling.wa.gov.au

Attention: Mr Michael Italiano – Senior Planning Officer

Dear Sir

**Proposed Childcare Centre
104 Main Street, Osborne Park**

Pinnacle Planning notes the City of Stirling (City) Request for Information (RFI) dated 16 December 2022 with respect to a range of modifications sought to the proposed development at 104 Main Street, Osborne Park (subject site).

We also refer to the Meeting Minutes from the first Design Review Panel Meeting with respect to this project.

Project Update

We note that the application has remained on hold for some time, and thank the City for their patience in this regard. Since the release of the RFI, the project has been the subject of a migration to a new architect, with a focus on responding to the critical design and planning feedback, and seeking assistance from the wider consultant team to document the rest of the materials to support the updated design.

As a result, the proposal, as amended provides a more responsive design that appropriately addresses the issues raised.

Summary of Amended Submission

The amended submission includes the following materials and supporting information:

- Updated architectural design of the centre, featuring:
 - o Increased setback to northern boundary;
 - o Use of road widening area for outdoor play spaces and additional light and ventilation;
 - o Redesign of roof cover to assist with solar amenity to the development;
 - o Redesign of façade treatment;
 - o Redesign of landscape spaces;
 - o Rationalise internal space;
 - o Reconfiguration of outdoor parking spaces;
- Updated landscape concept design;
- New acoustic impact statement and State Planning Policy 5.4 Assessment;

- New waste management plan;
- Updated traffic impact statement;
- Preliminary sustainable design assessment;
- Design review panel presentation for the second meeting; and
- Planning submission.

Update on Planning Framework

At the time of resubmission of this Development Application, the City staff have advised that the subject site is to be rezoned, in the draft Local Planning Scheme No. 4 (LPS4), to Residential, with a density coding of R80.

Based on this, the City have advised that the proposal ought to take into account the draft LPS 4 as a seriously entertained planning document, and specifically, the residential character of the area moving forward.

At Residential R80, the subject site can still accommodate as a discretionary land use, a child care centre. Further, the amended design takes into account the following primary controls with respect to site planning and development compliance:

- 4 storey height limit;
- 2 storey boundary wall height limit;
- 2 metre primary and secondary street setback;
- 3 metre side setback; and
- 3 metre rear setback.

As the subject site remains an engaging site and corner treatment, and is not a residential land use, the introduction of rear and side setbacks that comply with the primary controls has occurred, with the use of a nil setback to Hector Street, the primary entrance to the building, and a complaint setback to Main Street, which assists with providing outdoor play spaces and suitable landscaping.

This balances the aspirations of the current planning framework in terms of engaging with the street, but notes the site will be removed from the current structure plan based planning framework, and become residential.

As such, the design direction of the project is to now provide an engaging two storey child care centre, akin to many other recent successful treatments of sites along activity corridors and major road networks.

Response to RFI Considerations

Lot Boundary Setbacks

The RFI notes a lack of support for the initial design's northern boundary wall. To assist with compliance with setback requirements, and to assist with natural light and ventilation access, and high amenity north facing play spaces, the building has been adjusted to pull back from the northern boundary, with the upper floor setback 4.7-11.9 metres from the northern boundary.

This issue is now resolved.

Draft Herdsman Glendalough Structure Plan – Mandatory Residential Areas

We note the City's request for the provision of a minimum 15% plot ratio floor area for residential land use under the prevailing planning framework.

As the subject site is to be rezoned to Residential, we understand the contemplated future planning framework will not require this of the proponent. Further, we note a child care centre, and residential, on the same site is a land use conflict, with aspects of noise mitigation, and residential amenity a common issue to overcome between sites, such that child care centres do not incorporate residential land uses, even in more compact urban environments.

We consider therefore there is no benefit to the proposal to include a residential portion, and note that the surrounding locality is capable under the incoming zoning and density to deliver additional housing.

Herdsmen Glendalough Local Development Plan

Active Building Edge

The plans have been updated to provide clear glazing to ground and upper floor levels to assist with passive surveillance, and activation as requested.

Weather Protection

As the subject site is going to be removed from a high street, urban centre style structure plan area, and be zoned Residential, the amended design is not providing an awning to the street. Awnings to child care centres are not a typical design inclusion for centres in Residential zones, as buildings are setback from boundary fencing to provide suitable play spaces, which the amended design delivers.

Vehicle Access and Crossovers

The plans have been amended to incorporate a 6 metre wide crossover as requested.

Pedestrian Access

The plans have been amended to include pedestrian paths both internal of the parking area, and also a separate entrance off the street, enhancing pedestrian amenity internal of the site, and on approach from the surrounding locality.

Local Planning Policy 6.1 – Advertising Signs

The amended plan set shows full signage to both the Main Street and Hector Street.

Local Planning Policy 6.2 – Bicycle Parking

Bicycle parking is shown on the amended plans adjacent to the parking entrance, away from vehicle parking to assist with safety bicycle parking to the site.

Local Planning Policy 6.4 – Child Care Premises

As requested, the amended plans reflect an updated crossover with a maximum width of six (6) metres.

Local Planning Policy 6.6 and 6.11 – Landscaping and Trees and Development

We note the proposal has been updated, and includes a substantial landscaping design to accompany the amended design.

In the first instance, the proposal exceeds the 10% landscaping requirement, providing 13.2% deep soil area, as shown on the deep soil calculations on the amended landscape concept design.

The amended design now incorporates landscaping buffers to the northern and eastern boundaries, to assist with the interface with abutting properties.

We note that the width of the plantings to the northern and eastern boundaries is not a continuous 1.5 metre width. In this regard, the landscape architect has specified plants that can thrive with the reduced widths, and located trees in areas where there is suitable width, and soil profile to facilitate appropriate growth.

In this regard, we note the landscape design provides details of soil planting areas, and species for each of the tree zones, and other low/medium height plantings.

Finally, we note the plans show the ground and first floor landscape elements, and provide a technical streetscape render, show externally visible landscape elements, both within the subject site, and those planted in the public realm within the property verge.

This now resolves all matters relating to landscaping.

Local Planning Policy 6.7 – Parking and Access

We refer to the provision of an updated traffic report for the proposed development.

We confirm for the purpose of both the amended plans, and the calculation of all traffic and trip generations, that the office component was previously never for external use, and that all office zones within the amended plans are solely for the internal use of the operator.

That is to say, there is no provision for office space for sub lease that would generate separate vehicle trip generation, hence the amended traffic submission focuses solely on the single land use being sought and applied for in this application.

With respect to the number of children and staff, the car parking area provides six (6) dedicated staff bays, and 12 visitor bays.

Dealing first with the trip generation analysis for the proposal, Transcore have calculated 66 trips in the morning peak hour, and 43 in the evening. Transcore note that the split of incoming/outgoing trips is included within this, therefore, the actual arrival at the proposed centre is 34 vehicles in the morning peak hour, and 19 in the afternoon hour.

Transcore further note that the proposed centre is seeking to operate from 630am, to 630pm, whilst the modelling they have utilised is between 7am-6pm, hence the analysis they have utilised is conservative for the purpose of the application, given the [proposed centre seeks to operate an hour more each day as compared to the modelling hours of operation (and trips are further spread out).

A general child care drop off by a parent/guardian takes 5-10 minutes.

Taking all of the above into consideration, and relying on a conservative 10 minute drop off timeframe per child, the visitor parking area, consisting of 12 bays can accommodate 72 incoming movements during the peak morning and afternoon hour.

The modelling based on the number of children confirms that there will be 34 incoming movements in the morning, and 19 in the afternoon.

This confirms that the parking area has suitable capacity for arrival for pick up, exit, and turnover for other users to collect their children.

Transcore further note that child care centres operate differently to schools, on the basis that the drop off and collection of children are more staggered, thus spreading vehicle movements out further than discrete critical drop off and pick up timeframes.

With respect to staff, the proposal provides for parking for six (6) staff. This can be utilised for various staff, noting the use of shifts, and longer hours of operation. It enables at any one point in time one third of the staff to have access to onsite parking.

The subject site was specifically chosen by our client, as it has excellent access to public transport, which is the preferred method of transport for many of their staff. The site has a bus stop adjacent to the site, which links to the Glendalough Train Station, and has a multitude of other bus routes stopping along Main Street.

It is not common for private workforces to provide onsite car parking for every single staff member. Further, we note the proposal promotes sustainability, by making use of the excellent public transport options available, and by not providing excessive private vehicle parking, encourages the use of public transport options.

Based on the above, and the amended traffic report, the proposed provision of parking is demonstrated to be sufficient, and appropriate.

Internal Business Unit Referrals

Development Services Engineer

With respect to internal parking design, the proposal has been amended to incorporate the following changes, in conjunction with other redesign aspects of the building:

- Built form separated from parking areas with a foot path to avoid the requirement to provide truncations;
- Minimum headroom requirements provided;
- Disabled access bay moved adjacent to entrance;
- Inclusion of reversing bay after staff bays before visitor bays;
- No parking bays to be conflicting with landscaping overhangs;
- Built form removed from within the 2.5 metre visual truncation request to the right side of the crossover; and
- Overhead air conditioning units removed from parking area.

With respect to the parking area, it will be open from 630am at the commencement of operation until close, daily, and will be otherwise closed, other than to facilitate access for servicing, such as private waste collection.

In terms of delivery vehicles, standard delivery accessing residential properties will access the site, and will attend outside of peak movement times. The reassignment of parking means that delivery drivers can proceed to the staff parking area for any drop offs and not interfere with visitor parking.

The above addresses the development services engineer critical feedback.

Verge Control

The amended plans and landscape plan take into account the critical feedback from the verge control business unit.

This can be further addressed through a condition being placed on the determination requiring final details to be confirmed prior to the submission of a building permit.

We further note that through review from the Traffic Consultant appointed on the project, the crossover location is fixed, as the crossover needs to achieve maximum separation from the abutting intersection, whilst also enabling access to compliant parking bays with adequate depth dimensions.

In addition to the above, we note that the City have at no time provided the option to seek access from Main Street (to which our client agrees is not suitable for access), which further reduces options to avoid removing the conflicting street tree.

In this regard, it is shown as unfortunate, but necessary to remove the conflicting verge tree.

Parks and Sustainability

The building has been amended to not conflict with the provision of awnings, and enables street tree planting to Hector and Main Streets.

The amended landscaping plan shows provision for street trees to both verges, and for landscaping around the street trees.

Engineering Services

The amended package of information provides updated traffic volumes in the amended traffic report.

With respect to safe intersection sight distance, all landscaping to the verge is to be low lying to assist with the provision of view corridors and not obstructing sight lines at the intersection of Mani and Hector Streets.

This can be further addressed through a suitable condition of the determination to ensure species selection, and maintenance is undertaken to ensure landscaping is appropriate, and not overgrown.

Design Review Panel

The City has also been provided with a comprehensive 10 design principles assessment, and statement of how the amended proposal addresses the critical feedback from the first design review panel meeting.

The supporting material is considered to address all design review aspects, and resolve all matters raised at design review.

Conclusion

The above and attached reflects a significant modification to the proposal, and supporting material, that substantively addresses the matters raised by the City, and demonstrates an ability to support the proposal, as amended. Should you wish to discuss the above in further detail, please do not hesitate to contact the undersigned.

Yours Faithfully,

PINNACLE PLANNING



BEN CARTER

Encl.

City of Stirling
29 January 2024
RECEIVED



14 May 2024

Chief Executive Officer
City of Stirling
Via Email: Michael.Italiano@stirling.wa.gov.au

Attention: Mr Michael Italiano – Senior Planning Officer

Dear Sir

**Proposed Childcare Centre - Request for Information Response
104 Main Street, Osborne Park**

Pinnacle Planning notes the City of Stirling (City) Request for Information (RFI) dated 19 February 2024 with respect to a range of modifications sought to the proposed development at 104 Main Street, Osborne Park (subject site).

Project Update

The RFI dated 19 February 2024 contained information requests that were required to be satisfied in order for the application to be capable of being supported, which included:

- Redesign of building adjacent to street tree to avoid it's removal;
- Re design of building to assist with removal of built form in potential road widening area;
- Addressing traffic and access considerations associated with future cul de sac road works adjacent to the site; and
- Updates to waste management considerations.

Following further discussions with the City, the following outcomes were agreed with the City:

- The City seeks the retention of the abutting street tree to Hector Street, and will enable a setback to the edge of the trunk of the tree to the future crossover of 1.5 metres to facilitate this;
- The City will accept a non-conventional crossover, to facilitate avoidance of street tree removal;
- The City will accept, if required, subject to favourable trip generation analysis, the reduction of onsite parking as a result of amendments to the amended crossover design;
- The City will support the use of small waste receptacles if verge collection is proposed, on the basis that travel distance for verge presentation (for private collection) is shorter, and that bulk bins are not used.

Summary of Amended Submission

Taking the above into account, the proposal has been amended to focus solely on resolving the remaining issues identified by the City, whilst avoiding removal of aspects of support with respect to the design. Specifically, the positive aspects remarked upon by the design review panel at the second design review meeting remain within the design

The amended submission includes the following materials and supporting information:

- Revised architectural design of the centre, featuring:
 - Realignment of access crossover to Hector Street to avoid removal of street tree;
 - Movement of structural columns to eastern setback area to avoid conflict with newly aligned crossover;
 - Re-configuration of proposed building adjacent to corner truncation to take into account road widening area of 2.5 metres to both Main Street, and the corner truncation;
 - Revision of upper floor spaces to incorporate redundant balcony to consolidate into a play space, resulting in 93 spaces and 17 staff now being accommodated on site;
 - Revision of parking area as a result of modified crossover to provide 19 car parking bays, a net increase of two bays;
 - Relocation of bin store adjacent to the front setback area for ease of access and presentation;
 - Relocation of bike racks for internal users to area adjacent to parking area to the eastern boundary;
 - Update to landscape design catering to internal modifications and confirmation of 10% of site dedicated to landscape;
 - Update to verge landscaping to show further street trees and other landscape free of conflict with future cul se sac, and simplified verge landscape to the Main Street verge area;
- Updated landscape concept design;
- Updated waste management plan;
- Updated traffic impact statement; and
- Planning submission.

Street Tree Removal

The amended design achieves the required 1.5 metre setback from the edge of the existing tree trunk. On this basis, the existing street tree to the hector street road frontage is capable of being retained, and we confirm this issue is therefore resolved through the provision of amended plans.

Traffic Engineering

We note the City has sought advice with respect to the ability for lower order surrounding roads to cater to the traffic demand for the proposed development.

In this regard, Transcore have provided an updated Traffic Impact Statement (TIS) confirming all surrounding roads can adequately cater to the proposed development.

The amended plans also show 13 staff parking bays, with the balance being dedicated to visitor parking, as requested by the City, on the basis of a high proportion of the overall parking bays on site being dedicated to staff parking.

The updated TIS also addresses the revised children places and staff numbers, relative to the provision of 19 car parking bays on site, as observed in the amended design, and reflects that the parking provision is adequate for the proposal, as amended.

Further, the TIS reviews and supports the composition of staff and visitor parking on the amended plans, on the basis it adequately caters to both visitor, and staff trip and parking demand.

Finally, the TIS addresses the newly created access, and confirms through revised swept path analysis that the amended access configuration is both functional and safe.

All traffic and parking issues are accordingly satisfied.

Road Widening

The City has sought the Applicant to provide a 2.5 metre road widening area to the edge of the proposed buildings on the subject site. The City had identified the road widening did not accurately follow the intersection of Main and Hector Streets, and follow the truncation line.

To this end, the amended plans reflect this accurate depiction of the road widening area.

We further note that this road widening area is unclear as to whether it will be actually required, noting the cul de sac road works being undertaken in the next financial year by the City, and further note the City has enabled the Applicant to utilise this area as outdoor play spaces and landscape in the interim, until the land is required.

In addition, the updated drawing set includes a section to demonstrate that all improvements within the road widening area as separate to the retaining to the underside of the proposed building, and are capable of being removed in the future, should the need arise.

This matter is therefore addressed.

Waste Collection

The proposed development does not cater to internal waste collection, as the development can easily accommodate verge collection. The two-storey nature of the build means that clearance heights for internal waste collection, and compact nature of the parking area all combine to confirm internal collection as impractical.

To overcome this, the bin store has been moved to the front setback area, and has been made larger, to accommodate 10 240L bins, five each for general waste and recycling.

As the City is undertaking future roadworks adjacent to the subject site, the exact location of the collection point cannot be determined, however, the cul de sac head design provided by the City shows there is suitable space for a collection zone.

In addition, we note that the proposal includes private collection, to be undertaken at off peak times, therefore, it is not anticipated there will be any issues associated with bin presentation and collection, and generally note that private collection services generally include presentation, and re storing of emptied waste receptables.

This matter is therefore addressed.

AMENDED PLAN

Conclusion

The above and attached represents the final minor details being refined, in order for the City to provide a favourable recommendation to the Metro Inner North Joint Development Assessment Panel, and confirms the resolution of these issues through the various technical documents provided .

Should you wish to discuss the above in further detail, please do not hesitate to contact the undersigned.

Yours Faithfully,

PINNACLE PLANNING



BEN CARTER

Encl.

AMENDED PLAN

9/473 Beach Road, Duncraig, Western Australia 6023
0430 388 942 | ben.carter@pinnacleplanning.com.au
pinnacleplanning.com.au

ABN 37 159 462 218

**City of Stirling
16 May 2024
RECEIVED**



Engineering a better future for over 20 years!

City of Stirling
16 May 2024
RECEIVED

AMENDED PLAN

Proposed Childcare Centre

104 Main Street, Osborne Park

Revised Transport Impact Statement

PREPARED FOR:
Botchette Pty Ltd

May 2024

Document history and status

Author	Revision	Approved by	Date approved	Revision type
M Rasouli	r01	B Bordbar	27/04/2022	Draft
M Rasouli	r02	B Bordbar	27/06/2022	Final
Roger Bajwa	r03	B Bordbar	23/11/2023	1 st Revision
Roger Bajwa	r04	B Bordbar	14/05/2024	2 nd Revision

File name: t22.014.rb.r04

Author: Roger Bajwa

Project manager: Behnam Bordbar

Client: Botchette Pty Ltd

Project: Proposed Child Care Centre

Document revision: r04

Project number: t22.014

AMENDED PLAN

2024 Copyright in all drawings, reports, specifications, calculations and other documents provided by the Consultant in connection with the Project shall remain the property of the Consultant.

The Client alone shall have a license to use the documents referred to above for the purpose of completing the Project, but the Client shall not use, or make copies of, such documents in connection with any work not included in the Project, unless written approval is obtained from the Consultant or otherwise agreed through a separate contract.

TABLE OF CONTENTS

1	INTRODUCTION.....	1
2	PROPOSED DEVELOPMENT	3
3	VEHICLE ACCESS AND PARKING.....	4
3.1	ACCESS.....	4
3.2	PARKING SUPPLY AND DEMAND.....	5
4	PROVISION FOR SERVICE VEHICLES	6
5	HOURS OF OPERATION	7
6	DAILY TRAFFIC VOLUMES AND VEHICLE TYPES	8
6.1	PROPOSED DEVELOPMENT TRIP GENERATION	8
6.2	TRAFFIC FLOW	9
6.3	IMPACT ON SURROUNDING ROADS.....	10
7	TRAFFIC MANAGEMENT ON THE FRONTAGE STREETS.....	11
8	PUBLIC TRANSPORT ACCESS.....	13
9	PEDESTRIAN ACCESS.....	14
10	CYCLE ACCESS	15
11	SITE SPECIFIC ISSUES	16
12	SAFETY ISSUES.....	17
13	CONCLUSIONS.....	18

APPENDIX A: PROPOSED DEVELOPMENT PLAN

APPENDIX B: TURN PATH PLANS

APPENDIX C: FUTURE INTERSECTION TREATMENT OF MAIN STREET AND
HECTOR STREET

AMENDED PLAN

City of Stirling
16 May 2024
RECEIVED

REPORT FIGURES

Figure 1: Location of the subject site 1

Figure 2: Proposed development crossover4

Figure 3: Estimated traffic movements for the subject site10

Figure 4: Northbound view along Main Street11

Figure 5: Westbound view along Hector Street.....12

Figure 6: Public transport services (Transperth Maps)13

Figure 7: Extract from Perth Bicycle Network (Department of Transport)15

AMENDED PLAN

City of Stirling
16 May 2024
RECEIVED

1 Introduction

This Revised Transport Impact Statement (RTIS) has been prepared by Transcore on behalf of Botchette Pty Ltd with regard to a proposed childcare centre (CCC) to be located at 104 Main Street in Osborne Park.

Transcore originally prepared a TIS in November 2023. However as a result of the proposed changes to Hector Street by the City of Stirling and creation of a cul-de-sacs at either end of Main Street, minor changes to the development plans and increases to the number of children and staff proposed for the centre, the preparation of this RTIS was necessary.

The subject site is located at the northeastern corner of the intersection of Main Street and Hector Street. The subject site is currently occupied by two residential buildings as shown in **Figure 1**. The existing buildings will be demolished and replaced by the proposed CCC.



Figure 1: Location of the subject site

The Transport Impact Assessment Guidelines (WAPC, Vol 4 – Individual Developments, August 2016) states: “A Transport Impact Statement is required for those developments that would be likely to generate moderate volumes of traffic¹ and

¹ Between 10 and 100 vehicular trips per hour

AMENDED PLAN

therefore would have a moderate overall impact on the surrounding land uses and transport networks”.

Section 6.1 of Transcore’s report provides details of the estimated trip generation for the proposed development. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a Transport Impact Statement is deemed appropriate for this development.

Key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, access and egress movement patterns and parking demand and supply.

AMENDED PLAN

City of Stirling
16 May 2024
RECEIVED



2 Proposed Development

The development proposal is for a childcare centre. The proposed CCC has been designed to accommodate up to 93 children and 17 staff.

According to the development plan provided in **Appendix A**, the proposed development provides a total of 19 car bays on site inclusive of one ACROD bay. In order to ensure efficient vehicular circulation within the car park, one turn-around bay is provided within the western section of the car parking area.

As part of the development proposal, the existing two full-movement crossovers on Main Street will be closed. Vehicular access to the subject site will be provided via the full-movement crossover on Hector Street that leads directly to the car parking area via a driveway which would be controlled by a sliding gate. The existing full-movement crossover on Hector Street will be relocated further to the east and widened to 6.2m to facilitate the access/ egress to/ from the proposed development. The proposed development crossover will be located just to the east of the proposed cul-de-sac on Hector Street.

A bin store is provided eastern section of the parking area. Rubbish bins will be wheeled out from the bin store to Hector Street for kerbside waste collection on the designated collection day.

A copy of the proposed development plan is included in **Appendix A**.

AMENDED PLAN

3 Vehicle Access and Parking

3.1 Access

As shown in **Figure 2**, vehicular access and egress to the subject site would be via the full-movement crossover on Hector Street. The existing full-movement crossover on Hector Street will be relocated further east and widened to 6.2m to facilitate access/egress to/ from the proposed development.

As per the information provided by the City, Hector Street's connections with Main Street will be closed in the near future and will be converted into cul-de-sacs. A copy of the City of Stirling proposal for Hector Street is provided in **Appendix C**.



Figure 2: Proposed development crossover

AMENDED PLAN

3.2 Parking Supply and Demand

According to the Local Planning Scheme No 3 - Amendment no. 114 the parking provision applicable to the proposed CCC (non-residential development) is:

- 125 bays per net site ha.

The site area of the proposed CCC is about 1,374m². Accordingly, and based on Local Planning Scheme No 3 - Amendment no. 114 a total of 18 bays ($1,374 \times 125/10000 = 18$) should be provided for the proposed CCC.

The proposed development provides a total of 19 bays (inclusive of one ACROD bay and one turning bay) for the proposed CCC which meets and exceeds the requirements of the Local Planning Scheme No 3 - Amendment no. 114.

Section 6.1 of this report details the anticipated peak hour traffic generation of the proposed childcare centre. It is established that the calculated morning peak hour trip generation of the proposed childcare centre is 36 vehicles in and 34 vehicles out of the car park (PM peak hour is estimated to generate fewer trips).

Conservatively assuming that the length of stay for pick-up/drop-off parking for the proposed childcare centre is 10 minutes, it is calculated that each parking bay can accommodate a turnover of up to 6 vehicles per hour.

It is therefore established that at least 6 bays (i.e. $36/6 = 6$) be reserved for pick-up and drop-off activities during peak hour periods and the remaining 13 bays should be for staff. The bays are marked accordingly in the plans and the tandem bays are allocated to staff.

AMENDED PLAN

4 Provision for Service Vehicles

A bin store is provided at the eastern section of the CCC parking area as shown in the development plan in **Appendix A**.

It is anticipated that the rubbish bins will be wheeled out to the verge of Hector Street on the designated collection day and collected by an 8.8m service vehicle. It is proposed that servicing will be conducted outside road network peak hours to mitigate impacts on local traffic movements during peak traffic hours.

The service vehicle will approach the site via Hectore Street and turn around using the subject site crossover. The turn path plans for the 8.8m service vehicle are shown in **Appendix B**. As evident, the service vehicle can turn around satisfactorily and is not impacted by the closure of the Hector Street / Main Street intersection.

It is anticipated that the proposed development will generate a small volume of service vehicle traffic, primarily associated with deliveries for the childcare centre. It is recommended that smaller vehicles such as vans be used for deliveries. Delivery vehicles may park for a short time within the car park for loading and unloading activities. Any such service vehicle should access the site outside the peak operating conditions.

AMENDED PLAN

5 Hours of Operation

The childcare centre is proposed to operate during weekdays between 6:30AM to 6:30PM Monday to Friday.

AMENDED PLAN

6 Daily Traffic Volumes and Vehicle Types

6.1 Proposed Development Trip Generation

In order to establish an accurate traffic generation rate for the proposed childcare centre, traffic count surveys undertaken by Transcore at similar centres in the Perth metropolitan area were sourced.

Discussions with the respective centre managers revealed that the peak drop-offs and pick-ups for each of these centres occur between the hours of 7:00AM– 10:00AM and 3:00PM–6:00PM.

From the total number of children at each of the centres on the surveyed days, the following average generation rates were established for the morning and afternoon surveyed periods:

- ✚ 7:00AM–10:00AM: 1.58 trips per child (52% in / 48% out); and,
- ✚ 3:00PM–6:00PM: 1.67 trips per child (47% in / 53% out).

From this information, the traffic generation rate for the combined period of 7:00AM–10:00AM and 3:00PM–6:00PM was calculated as 3.25 trips per child. To convert this figure to a daily generation rate, this figure was increased to 3.5 trips per child to account for any trips outside of the surveyed times. It was assumed that the daily in and out split for vehicle trips was 50/50.

AMENDED PLAN

Furthermore, the following peak hour generation rates were established from the surveys for the Childcare Centres:

- ✚ AM peak hour: 8:00AM – 9:00AM: 0.75 trips per child (52% in / 48% out); and,
- ✚ PM peak hour: 4:30PM – 5:30PM: 0.49 trips per child (43% in/ 57% out);

A comparison of the six-hour generation rates and the peak-hour generation rates confirms that the distribution of traffic from these centres is spread over the peak periods and that full concentration of traffic does not occur in the peak hour. The AM peak hour represents 47% of the 3-hour AM peak period traffic generation and the typical school PM and road network PM peak hours represent 36% and 29% of the 3-hour PM peak period traffic generation, respectively. As such, childcare centres operate quite differently from schools as their peak period is spread out.

Accordingly, the following number of trips was estimated for the proposed childcare centre, assuming a maximum scenario of 93 children being present (i.e., centre at full capacity):

- ✚ AM peak hour: 70 trips generated (36 in / 34 out);
- ✚ PM peak hour: 46 trips generated (20 in / 26 out); and,
- ✚ Daily traffic generation: 326 trips generated (163 in / 163 out).

It should be noted that the subject site currently entails two residential dwellings which will be demolished and would be replaced by the proposed CCC. Therefore, the net traffic increase as a result of the proposal would be less than the above numbers.

6.2 Traffic Flow

Considering that Hector Street will be converted to a cul-de-sac and all access to the site is available via Hector Street crossover, it is apparent that all the estimated development-generated traffic would arrive/depart to and from the site via Hector Street. As with similar centres, an overwhelming majority of patrons would originate from within the local area with only a marginal number of patrons arriving from afar.

Hence, based on the general spatial distribution of existing and future residential developments in the immediate area, permeability of the local road network and considering that the intersection of Main Street/ Hector Street will be closed in the near future, the childcare centre's traffic distribution adopted for this analysis at the crossover of the proposed development is as follows:

- ✚ 100% to/from Hector Street East.

At the intersection of Waterloo Street and Hector Street, the traffic distribution is expected to be as follows:

- ✚ 40% to/from Hector Street East;
- ✚ 30% to/from Waterloo Street North; and,
- ✚ 30% to/from Waterloo Street South.

Figure 3 illustrates trip generation and traffic distribution over the local road network for the proposed centre.

AMENDED PLAN



Figure 3: Estimated traffic movements for the subject site

6.3 Impact on Surrounding Roads

The WAPC Transport Impact Assessment Guidelines (2016) provides guidance on the assessment of traffic impacts:

“As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 per cent may. All sections of road with an increase greater than 10 per cent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 per cent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis.”

The proposed development will not increase traffic flows anywhere near the quoted WAPC threshold to warrant further detailed analysis. As detailed in **Section 6.1**, the proposed development will not increase traffic on any lanes on the surrounding road network by more than 100vph, therefore the impact on the surrounding road network is not significant.

AMENDED PLAN

City of Stirling
 16 May 2024
 RECEIVED

7 Traffic Management on the Frontage Streets

Main Street, west of the subject site, is constructed as a dual carriageway with a solid median at the intersection with Hector Street featuring pedestrian footpaths on both sides of the road as shown in **Figure 4**.

According to the latest traffic counts obtained from the Main Roads WA, Main Street (south of Royal Street) carried an average weekday traffic volume of 17,768 vpd in 2021/2022 with typical morning (7:30AM – 8:30AM) and afternoon (3:45PM – 4:45PM) weekday peak hour traffic volumes of 1,700vph and 1,500vph respectively.



Figure 4: Northbound view along Main Street

Hector Street, south of the subject site, is constructed as an 8.2m wide, two-lane road with pedestrian paths on the northern side of the road as shown in **Figure 5**.

Hector Street is classified as an Access Road in Main Roads WA Functional Road Hierarchy and operates under the default built-up area speed limit of 50km/h.

As per the information provided by the City, Hector Street's connections with Main Street will be closed in the near future and will be converted into a cul-de-sacs.

Hector Street currently carries approximately 853 vehicles per day. However, it should be noted that after the closure of the Main Street / Hector Street intersection, this number is expected to decrease.

AMENDED PLAN

City of Stirling
16 May 2024
RECEIVED



Figure 5: Westbound view along Hector Street

AMENDED PLAN

City of Stirling
16 May 2024
RECEIVED

8 Public Transport Access

The existing public transport services within the vicinity of the subject site are shown in **Figure 6**.

The nearest bus services are Transperth bus routes 402 and 414 which operate along Main Street to the west of the subject site. These bus routes provide service between Stirling and Glendalough train stations which provide access to the greater rail network.

The nearest bus stop is located on Main Street approximately 100m walking distance from the proposed development to the north of Hector Street.



Figure 6: Public transport services (Transperth Maps)

City of Stirling
16 May 2024
RECEIVED

9 Pedestrian Access

Pedestrian paths are available on the northern side of Hector Street fronting the subject site which connects to the existing pedestrian paths on both sides of Main Street in this vicinity.

City of Stirling
16 May 2024
RECEIVED

AMENDED PLAN

11 Site Specific Issues

The intersections of Hector Street with Main Street are proposed to be closed in the near future by the City of Stirling and converted to cul-de-sacs. No other site-specific issues have been identified for this proposed development.

City of Stirling
16 May 2024
RECEIVED

AMENDED PLAN

12 Safety Issues

No particular safety issues have been identified for the proposed development.

City of Stirling
16 May 2024
RECEIVED

AMENDED PLAN

13 Conclusions

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Botchette Pty Ltd with regard to a proposed childcare centre (CCC) to be located at 104 Main Street in Osborne Park.

As part of the development proposal the existing two full-movement crossovers on Main Street will be closed. Vehicular access to the subject site will be provided via the full-movement crossover on Hector Street that leads directly to the car parking area via a driveway which would be controlled by a sliding gate. The existing full-movement crossover on Hector Street will be relocated further to the east and widened to 6.2m to facilitate the access/ egress to/ from the proposed development. As per the information provided by the City, Hector Street's connections with Main Street will be closed in the near future and will be converted into cul-de-sacs.

The site area of the proposed CCC is about 1,374m². Accordingly, and based on Local Planning Scheme No 3 - Amendment no. 114 a total of 18 bays should be provided for the proposed CCC. The proposed development provides a total of 19 bays (inclusive of one ACROD bay and one turning bay) for the proposed CCC which meets the requirements of the Local Planning Scheme No 3 - Amendment no. 114.

The traffic analysis undertaken in this report shows that the traffic generation of the proposed development is estimated at about 326 daily trips with 70 AM and 46 PM peak hour trips (total of inbound and outbound movements) respectively. Accordingly, the traffic generation of the proposed development is relatively low and as such would not have a significant impact on the surrounding road network.

Waste collection will take place on the verge of Hector Street by bins being wheeled out by the staff on the designated collection day and collected by an 8.8m service vehicle. The service vehicle will approach the site via Hector Street and turn around using the subject site crossover. It is proposed that servicing will be conducted outside road network peak hours to mitigate impacts on local traffic movements during peak traffic hours.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed development.

City of Stirling
16 May 2024
RECEIVED

AMENDED PLAN

Appendix A

PROPOSED DEVELOPMENT PLAN

AMENDED PLAN

City of Stirling
16 May 2024
RECEIVED



SITE CRITERIA

1. Site Area		
a. Site Area		1,374m²
2. Landscaping		
a. Required 10% of Site Area		137m²
b. Provided		757m² (55%)
3. Floor Area (GFA)		
a. Ground Floor		317m²
b. First Floor		380m²
Total		697m²
4. Carparking		
i. Bays Required		
a. Childcare Centre	1:1 Staff	16 Staff Bays
	1:7 Kids	12.5 Visitors Bays
Total Bays required		28.5 Carbays
ii. Cars Provided		
a. Staff		13 Car Bays
b. Visitors		6 Car Bays
Total		19 Car bays

CHILD CARE CRITERIA

1. Centre Capacity		
a. Number of Places		88 places
2. Landscaping		
a. Landscaping Required 7m²:1 Child		616 m²
b. Landscaping Provided		318m²
Ground Floor		420m²
First Floor		
Total		738m²
Total m² provided per child		8.39 m²
3. Floor Area (GFA)		
a. Area Required 3.25m²:1 Child		286 m²
4. Rooms Distribution		
a. Room 0-24m		
Number of Places		16 Places
Staff Required	1:4 Staff	4 Staff
Staff Provided		12 Places
b. Room 0-24m		
Number of Places		3 Staff
Staff Required	1:4 Staff	
Staff Provided		30 Places
c. Room 24-36m		
Number of Places		6 Staff
Staff Required	1:5 Staff	
Staff Provided		30 Places
d. Room +3y		
Number of Places		3 Staff
Staff Required	1:10 Staff	
Staff Provided		
Total Places		88 places
Total Staff		16 Staff

City of Stirling
16 May 2024
RECEIVED

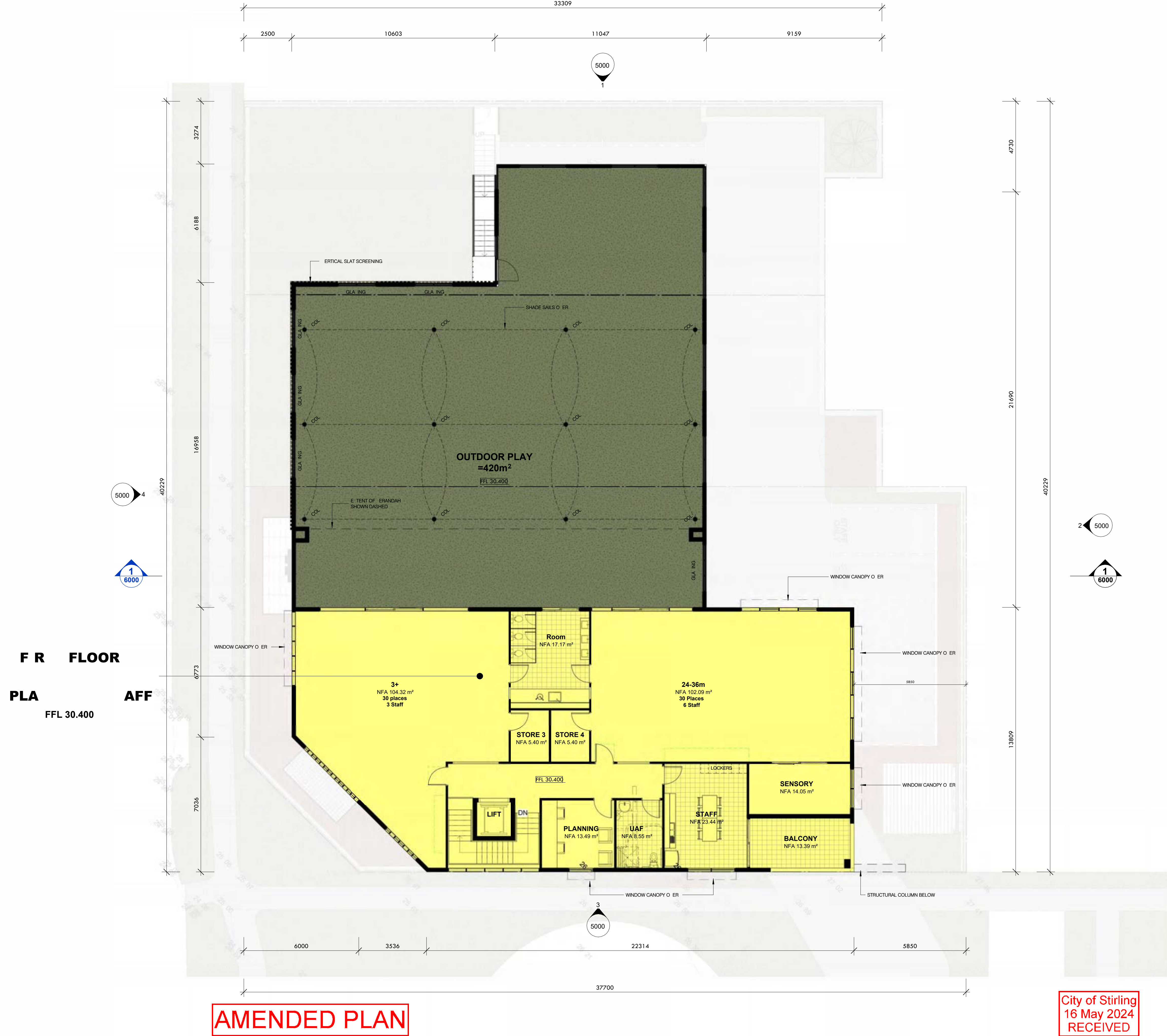
Landscaping
A. Soft Landscaping
Defined as vegetative landscaping.
Gross Floor Area: GFA
A. All Floor Areas on this plan are shown as GROSS FLOOR AREA.
Unless otherwise noted as Net Floor Area
B. Definition of Gross Floor Area is defined as:
i. GROSS FLOOR AREA OF TENANCY:
Gross Floor Area of an individual Tenancy is defined as the area contained between the centre line of common tenancy walls and the outside edge of external walls.
ii. GROSS FLOOR AREA OF A BUILDING:
Gross Floor Area of a Building is defined as the total area contained between the outside edge of external walls
Net Floor Area: NFA
A. Net Floor Area of a Tenancy on this plan is defined as the areabetween external or tenancy dividing walls
B. This area is inclusive of toilets if the toilets are exclusive to the Tenancy.

SITE DESIGN CHECKLIST

- ☐ 1. SEWER MAINS LOCATION TO BE DETERMINED
- ☐ 2. FIRE MAINS PRESSURE TEST REQUIRED
- ☐ 3. FIRE TANKS OR PUMPS TO BE DETERMINED
- ☐ 4. WESTERN POWER TRANSFORMER LOCATION TO BE DETERMINED
- ☐ 5. CROSSOVER & ACCESS TO STREET TO BE DETERMINED BY LOCAL AUTHORITY
- ☐ 6. FULL FEATURE SITE SURVEY REQUIRED
- ☐ 7. DIAL BEFORE YOU DIG REQUIRED
- ☐ 8. BUSHFIRE ATTACK LEVEL (BAL) TO BE DETERMINED
- ☐ 9. STREET POWER POLES TO BE DETERMINED
- ☐ 10. SITE ZONING & USE TO BE DETERMINED

NOTE: Any of the following items that do not have an 'X' in the provided square require determination.

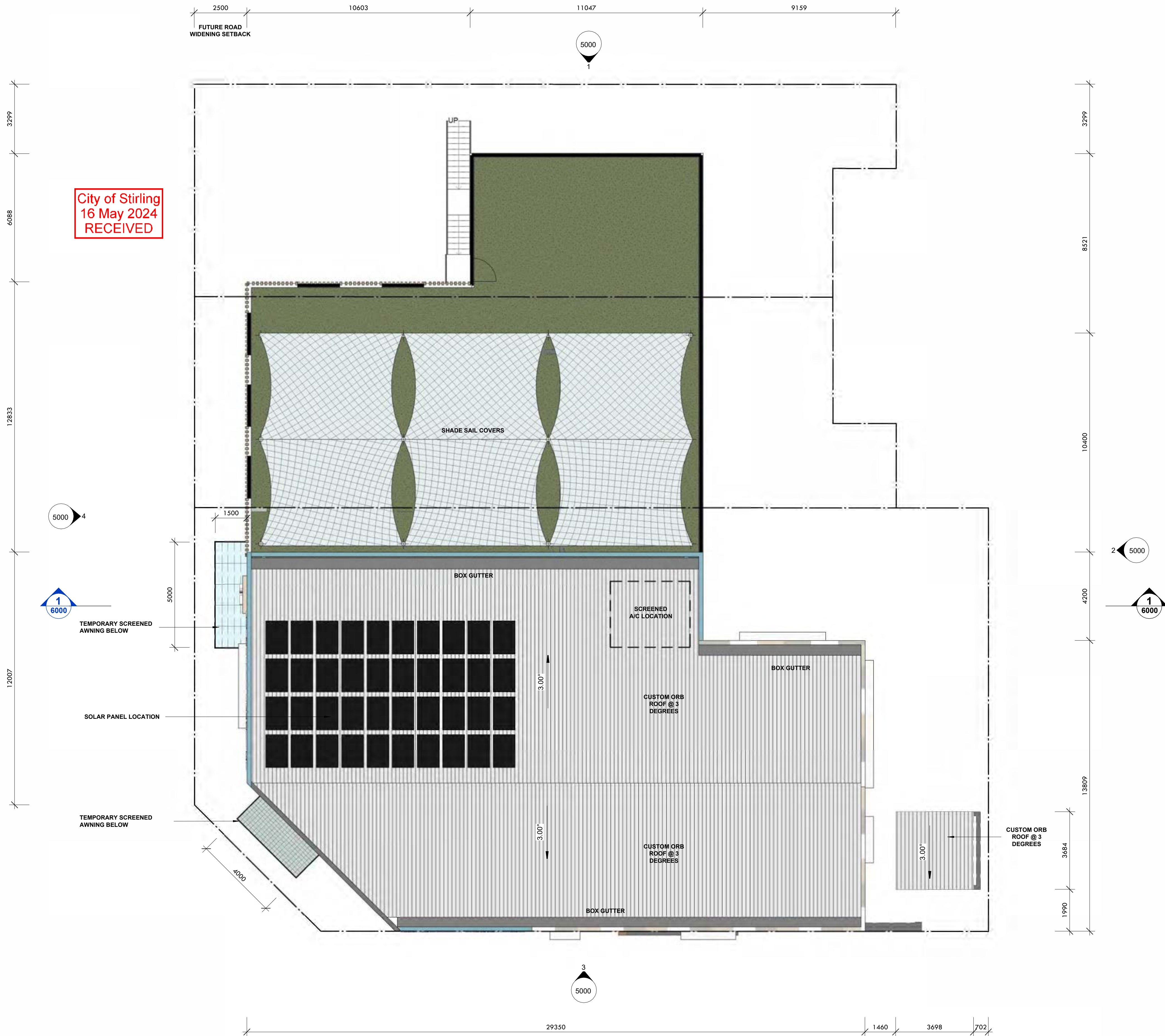
PRELIMINARY



F R FLOOR PLAN
SCALE: 1:100

PRELIMINARY

AMENDED PLAN



ROOF PLAN

SCALE: 1:100

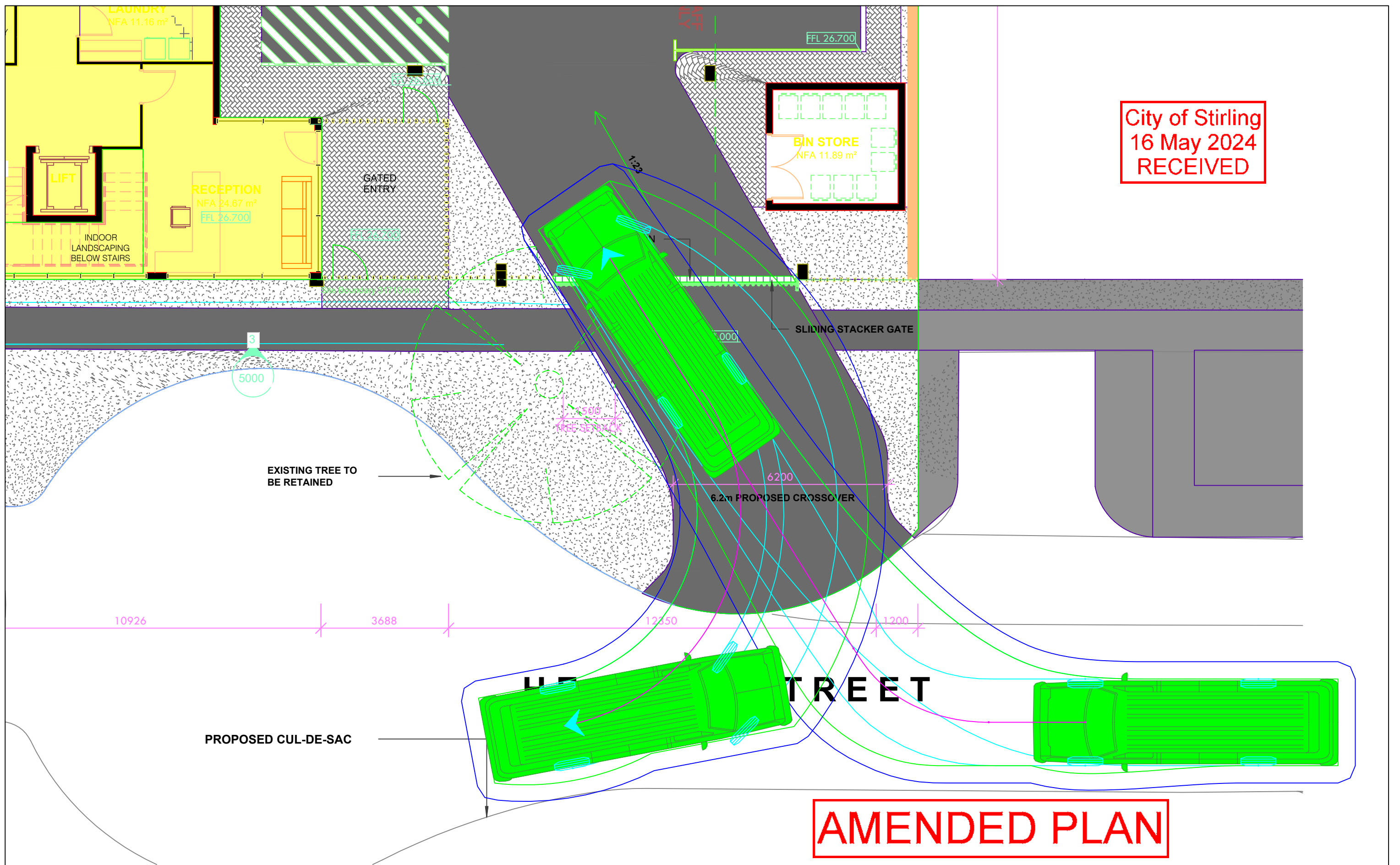
PRELIMINARY

Appendix B

TURN PATH PLAN

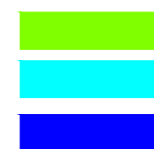
AMENDED PLAN

City of Stirling
16 May 2024
RECEIVED



104 Main Street, Osborne Park
Austroads 2023: 8.8m Service Vehicle
Service vehicle turn around at the crossover

LEGEND
Vehicle Body
Wheel Path
500mm Clearance



t22.014.sk06a
15/05/2024
Scale: 1:100 @ A3



Appendix C

FUTURE INTERSECTION TREATMENT OF MAIN STREET
AND HECTOR STREET

AMENDED PLAN

City of Stirling
16 May 2024
RECEIVED



**PROPOSED CHILD CARE CENTRE
PINNACLE PLANNING**

**104-106 MAIN STREET
OSBORNE PARK**

**STATE PLANNING POLICY 5.4
NOISE MANAGEMENT PLAN**

DECEMBER 2023

OUR REFERENCE: 32003-1-23385



DOCUMENT CONTROL PAGE

SPP 5.4 – NOISE MANAGEMENT PLAN
CHILD CARE CENTRE – OSBORNE PARK

Job No: 23384

Document Reference: 32003-1-23385

FOR

PINNACLE PLANNING

DOCUMENT INFORMATION				
Author:	Geoffrey Harris	Checked By:	Tim Reynolds	
Date of Issue:	13 December 2023			
REVISION HISTORY				
Revision	Description	Date	Author	Checked
DOCUMENT DISTRIBUTION				
Copy No.	Version No.	Destination	Hard Copy	Electronic Copy
1	1	Pinnacle Planning Attn: Ben Carter Email: ben.carter@pinnacleplanning.com.au		✓

City of Stirling
20 December 2023
RECEIVED

City of Stirling
20 December 2023
RECEIVED

CONTENTS

1.	INTRODUCTION	1
2.	SUMMARY	1
3.	CRITERIA	1
4.	MEASUREMENTS AND OBSERVATIONS	2
5.	MODELLING	2
6.	TRAFFIC NOISE ASSESSMENT	3
7.	CONCLUSION	3

APPENDICIES

A	Child Care Plans
B	Acoustic Requirements
C	MRWA Traffic Flow Data
D	Noise Contours

1. INTRODUCTION

Herring Storer Acoustics was commissioned to undertake an acoustic assessment for the proposed child care centre, located at 104-106 Main Street, Osborne Park with regards to vehicles travelling along Main Street. The acoustic assessment is to comply with the requirement of State Planning Policy 5.4 *“Road and Rail Transport Noise”* (SPP5.4). As part of this assessment, the following was carried out:

- Determine by modelling, the noise that would be received at child care centre from vehicles travelling on Main Street.
- Assess the predicted noise levels for compliance with the appropriate criteria.
- If exceedances are predicted, comment on possible noise amelioration options for compliance with the appropriate criteria.

For information, plans for the child care centre are attached in Appendix A.

2. SUMMARY

It is noted that the child care centre is only occupied during the day period, thus under State Planning Policy 5.4 *“Road and Rail Transport Noise”* only the criteria for the day period is applicable.

The results of the acoustic assessment indicate that noise received at the development from future traffic, exceed external noise level criteria. Therefore, noise amelioration listed in Appendix B, are required.

Although under the Policy, there are no requirements with regards to the outdoor play areas, noise received within these areas does need to be considered to provide at practicable level external noise level. There are outdoor play areas on the opposite side of the development to the road have a noise level of 52 dB $L_{Aeq}(Day)$, and as a result, this criteria is met.

3. CRITERIA

Road traffic noise received at a sensitive premise needs to comply with the requirements of State Planning Policy 5.4 *“Road and Rail Transport Noise”*. Under this policy, for non-residential noise sensitive premises, internal noise levels should meet the design sound levels as listed in Table 1 of AS/NZ 2107:2000 *“Acoustics – Recommended design sound levels and reverberation times for building interiors”*. Under AS 2017, the internal criteria would:

Sleep Rooms	-	$L_{Aeq}(Day)$ of 35 dB(A).
Play/Group Rooms	-	$L_{Aeq}(Day)$ of 40 dB(A).
Staff Room	-	$L_{Aeq}(Day)$ of 45 dB(A).
Office	-	$L_{Aeq}(Day)$ of 40 dB(A).
Reception	-	$L_{Aeq}(Day)$ of 45 dB(A).
Work areas (eg: Laundry)	-	$L_{Aeq}(Day)$ of 50 dB(A).

City of Stirling
20 December 2023
RECEIVED

We also note that additional to the above, under Section 6.1 of the Policy, “a reasonable degree of acoustic amenity for outdoor living areas on each residential lot.” Under the Policy, an outdoor living area is as defined in the State Planning Policy 3.1 Residential Design Codes. The definition for an outdoor living area is as per below:

Outdoor living area

The area external to a **single house, grouped or multiple dwelling** to be used in conjunction with that **dwelling** such that it is capable of active or passive use and is readily accessible from the dwelling.

However, the Policy also states that “For non-residential noise-sensitive developments, for example schools and child care centres the design of outdoor areas should take into consideration the noise targets.”

Finally, it is also noted that under the Policy, “It is recognized that in some instances, it may not be reasonable and/or practicable to meet the outdoor noise targets”. Thus, for child care centres, compliance with the “Target” noise levels within the outdoor play areas is not a requirement under the Policy, however, noise received at within the outdoor area still need to be considered.

4. MEASUREMENTS AND OBSERVATIONS

The noise measurements were conducted on 30 November 2023 for Main Street for a short term period during peak hour to determine the L_{A10} noise level. Utilising this measurement, reference to the DEFRA publication has been sought and the difference between the $L_{A10,18hr}$ and the $L_{Aeq,8hr}$ and the $L_{Aeq,16hr}$ has been calculated. The results of the measurement and the determination of the $L_{Aeq(Day)}$ and $L_{Aeq(Night)}$ are shown in Table 3.1.

Noise measurements were conducted with a Larson Davis 831 Sound Level Meter. The Sound Level Meter was calibrated prior to and after use with a Bruel and Kjaer 4230 Calibrator. All equipment used is currently NATA laboratory calibrated. Calibration certificates are available on request.

TABLE 4.1 – MEASURED NOISE LEVELS

Description	L_{A10} dB	L_{Aeq} dB
Main Street	71.3	67.7

5. MODELLING

To determine the noise levels from traffic on Main Street, acoustic modelling was carried out using Sound Plan, using the Calculation of Road Traffic Noise (CoRTN)¹ algorithms.

The input data for the model included:

- Topographical and cadastral data supplied by client (Shown in Appendix A).
- Traffic data as per Table 5.1 (Based on available information on MRWA Traffic Map, Attached in Appendix C).
- Adjustments as listed in Table 5.2.

City of Stirling
20 December 2023
RECEIVED

¹ Calculation of Road Traffic Noise UK Department of Transport 1987

TABLE 5.1 - NOISE MODELLING INPUT DATA

Parameter	Main Street (Current 2021)	Main Street (Future 2043)
Traffic Volumes	17,768	27,450 vpd
Percentage Traffic 0600 – 2400 hours (assumed)	94%	94%
Heavy Vehicles (%)	6.2%	6.2%
Speed (km/hr)	60 km/hr	60 km/hr
Road Surface	Chip Seal	Dense Graded Asphalt

TABLE 5.2 – ADJUSTMENTS FOR NOISE MODELLING

Description	Value
Façade Reflection Adjustment	+2.5 dB
Conversion from L_{A10} (18 hour) to L_{Aeq} (16 hour) (Day)	-3.6 dB

Conversion from $L_{A10}(18 \text{ hour})$ to $L_{Aeq}(16 \text{ hour})$ was conducted with the method detailed in the DEFRA publication – “*Method for Converting the UK Road Traffic Noise $L_{A10,18h}$ to the EU Noise Indices for Road Noise Mapping, ref: st/05/91/AGG04442*”

The future road traffic volumes were based on information provided by the MRWA traffic maps and by the MRWA ROM Department.

6. TRAFFIC NOISE ASSESSMENT

Using the data contained in Tables 3.1, 4.1 and 4.2 and the adjustments noted above, modelling was carried out under existing conditions for calibration. The Sound Plan model for the site has been set up for the 2043 scenario as defined in Table 4.1.

The noise requirements based on the above have been listed in Appendix B.

It is noted that these requirements pertain to acoustic requirements only, with regard to *State Planning Policy 5.4*, and may be superseded by other requirements (BAL, Thermal, etc).

7. CONCLUSION

In accordance with the WAPC Planning Policy 5.4, an assessment of the noise that would be received within the development of 104-106 Main Street, Osborne Park, from vehicles travelling on Main Street has been undertaken.

In accordance with the Policy, the following would be the internal acoustic criteria applicable to this project:

Sleep Rooms	-	$L_{Aeq}(\text{Day})$ of 35 dB(A).
Play/Group Rooms	-	$L_{Aeq}(\text{Day})$ of 40 dB(A).
Staff Room	-	$L_{Aeq}(\text{Day})$ of 45 dB(A).
Office	-	$L_{Aeq}(\text{Day})$ of 40 dB(A).
Reception	-	$L_{Aeq}(\text{Day})$ of 45 dB(A).
Work areas (eg: Laundry)	-	$L_{Aeq}(\text{Day})$ of 50 dB(A).

City of Stirling
20 December 2023
RECEIVED

The results of the acoustic assessment indicate that noise received at the development from future traffic, exceed external noise level criteria. Therefore, noise amelioration listed in Appendix B, are required.

Although under the Policy, there are no requirements with regards to the outdoor play areas, noise received within these areas does need to be considered to provide at practicable level external noise level. There are outdoor play areas on the opposite side of the development to the road, that have a noise level of 52 dB $L_{Aeq}(\text{Day})$, and as a result, this criteria is met.

APPENDIX A

PLAN

BPV32 Logo+QLE Logo with Address_Editor.mxd



CHILD/ AREA CALCULATIONS

ROOM	AGE (YRS)	QTY	STAFF	AREA
PLAYROOM 1	0-2	12	3	42.0m ²
PLAYROOM 2	0-2	16	4	51.0m ²
PLAYROOM 3	3-5	35	4	114.4 m ²
PLAYROOM 4	2-3	25	5	89.0m ²
PIAZZA				33.5m ²

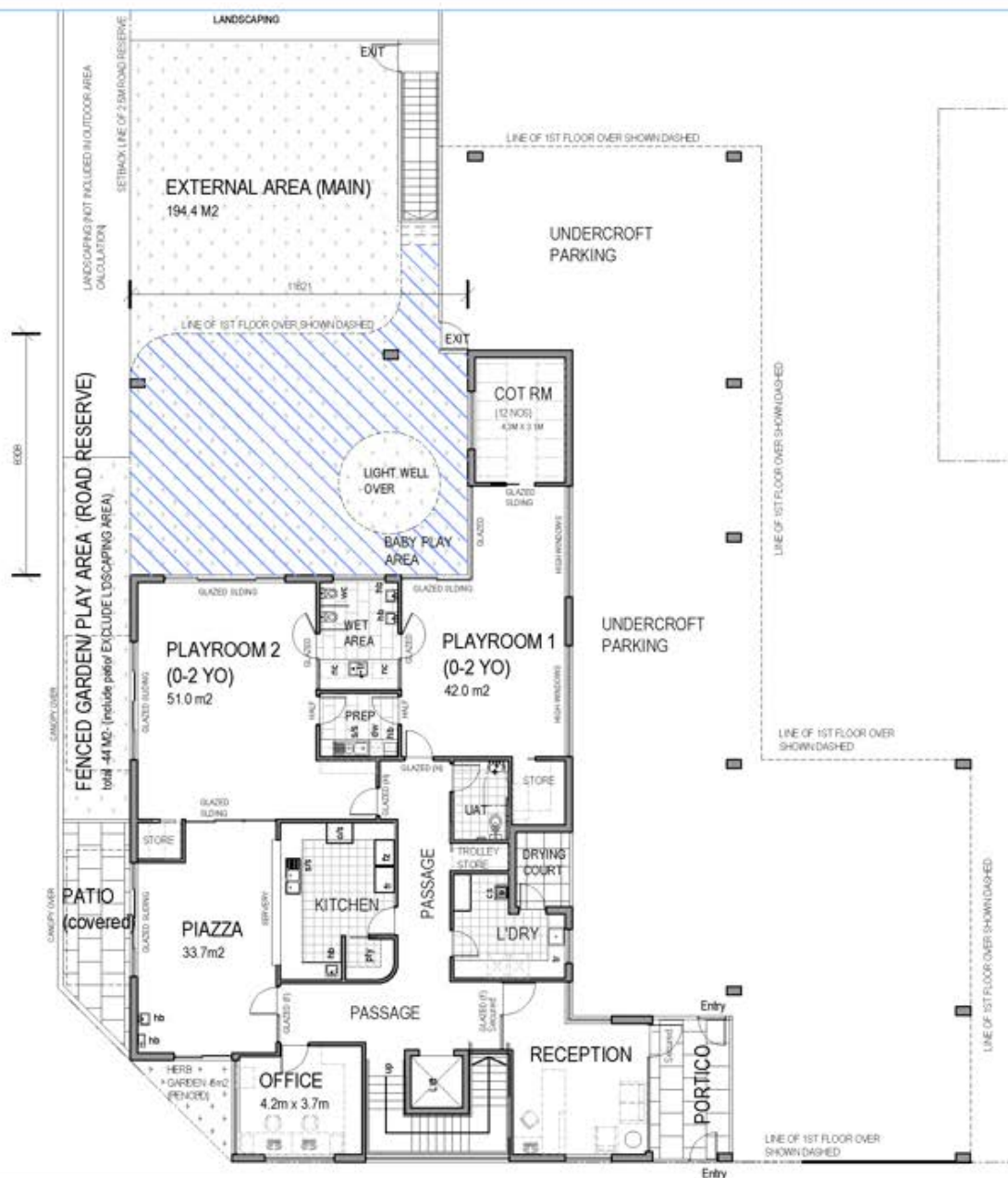
INDOOR PLAY AREA (TOTAL) 88 286.0 m² (required)
(MIN 3.25M² PER CHILD) 329.9 m² (provided)

OUTDOOR PLAY AREA (TOTAL) 616.0 m² (required)
(MIN 7M² PER CHILD) 625.0 m² (provided)

STAFF (TOTAL) - 16

City of Stirling
20 December 2023
RECEIVED

PRELIMINARY



PROPOSED CHILDCARE CENTRE ON MAIN STREET OSBORNE PARK
GROUND FLOOR PLAN (REV D)_05-11-23



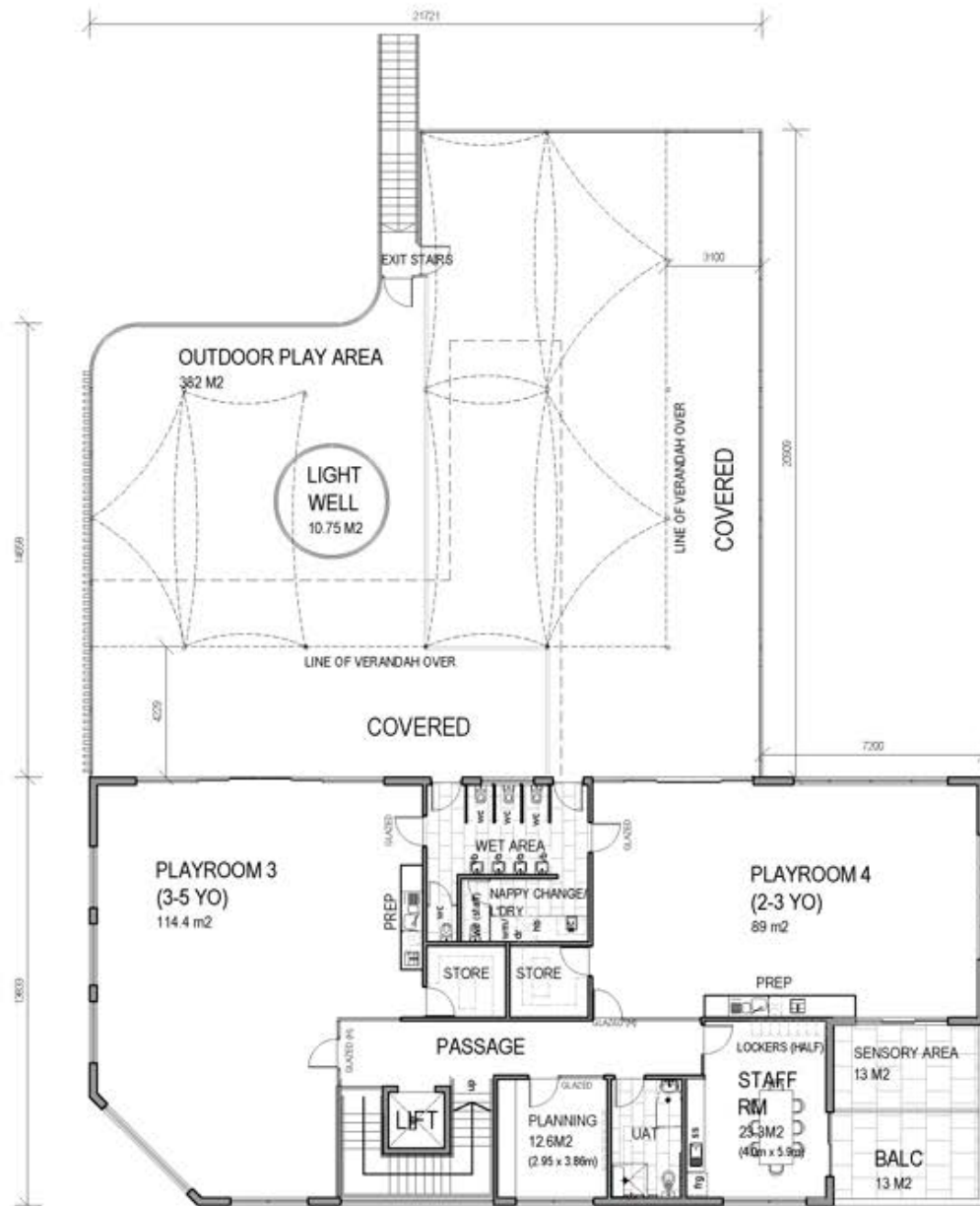
CHILD/ AREA CALCULATIONS

ROOM	AGE (YRS)	QTY	STAFF	AREA
PLAYROOM 1	0-2	12	3	42.0m ²
PLAYROOM 2	0-2	16	4	51.0m ²
PLAYROOM 3	3-5	35	4	114.4 m ²
PLAYROOM 4	2-3	25	5	89.0m ²
PIAZZA				33.5m ²

INDOOR PLAY AREA (TOTAL) 88 286.0 m² (required)
(MIN 3.25M² PER CHILD) 329.9 m² (provided)

OUTDOOR PLAY AREA (TOTAL) 616.0 m² (required)
(MIN 7M² PER CHILD) 625.0 m² (provided)

STAFF (TOTAL) - 16



City of Stirling
20 December 2023
RECEIVED

PRELIMINARY

PROPOSED CHILDCARE CENTRE ON MAIN STREET, OSBORNE PARK
FIRST FLOOR (REV D) - 05/11/23

APPENDIX B

GLAZING REQUIREMENTS

Calculated Noise Levels and Required R_w and C_{tr} Ratings			Example Construction
Location	Level	$R_w + C_{tr}^*$	
OFFICE	65	30	6.38mm Laminate
PIAZZA	68	30	6.38mm Laminate
PLANNING	61	26	6mm Monolithic
PLAYROOM 1	59	30	6.38mm Laminate
PLAYROOM 2	68	30	6.38mm Laminate
PLAYROOM 3	69	30	6.38mm Laminate
PLAYROOM 4	50	23	4mm Monolithic
RECEPTIONS	59	23	4mm Monolithic
STAFF	59	23	4mm Monolithic
WET AREA	52	23	4mm Monolithic
Walls	69	50	-
Roof/Ceiling	61	40	-

Notes: The required R_w rating can be reduced by reducing the area of glazing.
All non-listed locations would meet requirements given standard construction (4mm Monolithic windows, 6mm monolithic doors)
Requirements pertain to only acoustic advice in regard to *State Planning Policy 5.4* and may be superceded by other requirements (BAL, Thermal, etc).

APPENDIX C

MRWA TRAFFIC FLOW DATA

Hourly Volume

Main St (1250067)

2021/22
Monday to Friday

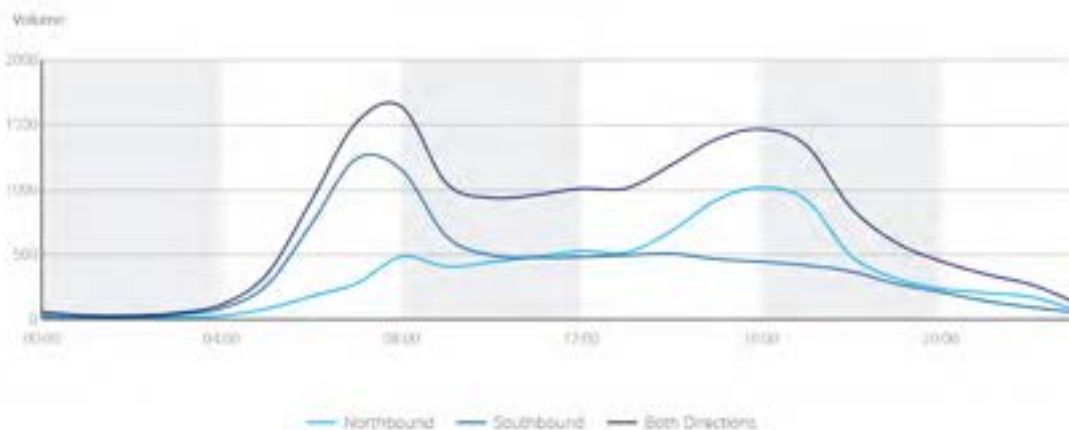
South of Royal St (SLK 1.82)

	All Vehicles			Heavy Vehicles				%
	NB	SB	Both	NB	SB	Both		
00:00	36	24	60	2	0	2		3.3
01:00	13	16	32	0	1	1		3.1
02:00	14	17	31	0	2	2		6.5
03:00	14	38	52	1	4	5		9.6
04:00	23	88	117	4	7	10		8.5
05:00	84	260	349	7	22	29		8.3
06:00	181	741	922	22	67	89		9.7
07:00	280	1281	1521	26	87	93		6.1
08:00	487	1155	1642	35	65	100		6.1
09:00	410	642	1052	38	52	90		8.6
10:00	434	497	941	43	40	80		8.5
11:00	484	470	963	43	39	79		8.2
12:00	530	483	1013	43	37	78		7.7
13:00	516	487	1015	40	33	73		7.2
14:00	663	506	1192	51	37	80		6.9
15:00	923	868	1391	63	35	85		6.1
16:00	1021	447	1468	48	22	70		4.8
17:00	924	819	1343	34	20	54		4.0
18:00	493	372	865	14	14	28		3.2
19:00	317	278	595	11	9	20		3.4
20:00	230	212	451	8	5	11		2.4
21:00	796	144	350	7	4	11		3.1
22:00	175	90	271	0	3	3		3.0
23:00	78	56	132	3	2	5		3.8
TOTAL	8581	9187	17768	534	531	1105		6.2



Peak Statistics

AM	TIME	11:45	07:15	07:45	09:15	09:30	09:30
	VOL	525	1385	1689	48	81	106
PM	TIME	16:30	14:00	16:30	15:15	12:00	14:45
	VOL	1025	505	1466	61	37	87





City of Stirling
20 December 2023
RECEIVED

**PROPOSED CHILDCARE CENTRE
104-106 MAIN STREET
OSBORNE PARK**

ENVIRONMENTAL ACOUSTIC ASSESSMENT

DECEMBER 2023

OUR REFERENCE: 32004-1-23385



DOCUMENT CONTROL PAGE

ENVIRONMENTAL ACOUSTIC ASSESSMENT
PROPOSED CHILD CARE CENTRE
OSBORNE PARK

Job No: 23385

Document Reference: 32004-1-23385

FOR

PINNACLE PLANNING

DOCUMENT INFORMATION				
Author:	Geoff Harris	Checked By:	Tim Reynolds	
Date of Issue:	13/12/2023			
REVISION HISTORY				
Revision	Description	Date	Author	Checked
DOCUMENT DISTRIBUTION				
Copy No.	Version No.	Destination	Hard Copy	Electronic Copy
1	1	Pinnacle Planning Attn: Ben Carter Email: ben.carter@pinnacleplanning.com.au		✓

This report has been prepared in accordance with the scope of services and on the basis of information and documents provided to Herring Storer Acoustics by the client. To the extent that this report relies on data and measurements taken at or under the times and conditions specified within the report and any findings, conclusions or recommendations only apply to those circumstances and no greater reliance should be assumed. The client acknowledges and agrees that the reports or presentations are provided by Herring Storer Acoustics to assist the client to conduct its own independent assessment.

City of Stirling
20 December 2023
RECEIVED

CONTENTS

1.	INTRODUCTION	1
2.	SUMMARY	1
3.	CRITERIA	2
4.	PROPOSAL	4
5.	MODELLING	4
6.	ASSESSMENT	5
7.	CONCLUSION	8

APPENDICIES

A	PLANS
---	-------

1. INTRODUCTION

Herring Storer Acoustics were commissioned by Pinnacle Planning to undertake an acoustic assessment of noise emissions associated with the proposed child care centre to be located at 104-106 Main Street, Osborne Park.

The report considers noise received at the neighbouring premises from the proposed development for compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997*. This report considers noise emissions from:

- Children playing within the outside play areas of the centre.
- Mechanical Plant

We note that from information received from DWER, the bitumised area would be considered as a road, thus noise relating to motor vehicles is exempt from the *Environmental Protection (Noise) Regulations 1997*. We note that these noise sources are rarely critical in the determination of compliance. However, as requested by council and for completeness, they have been included in the assessment, for information purposes only.

For information, a plan of the proposed development is attached in Appendix A.

2. SUMMARY

Noise received at the neighbouring residences from the outdoor play areas would comply with the requirements of the *Environmental Protection (Noise) Regulations 1997*, provided outdoor play is limited to the day period (ie after 7am).

Noise from the mechanical services has also been assessed to comply with the relevant criteria given the implementation of a barrier. However, as the design of the mechanical services has not been undertaken at this stage of the project, it is recommended that the mechanical services design be reviewed for compliance with the Regulatory requirements.

It is noted that noise associated with cars movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors is not strictly exempt from the Regulations. Noise received at the existing neighbouring residences from these noise sources would comply with the Regulatory requirements, at all times given the conditions listed below.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation, with the inclusion of the following:

- 1 Although the proposed facility would open before 7 am (ie during the night period), the outdoor play area would not be used until after 7am. Thus, noise received at the neighbouring existing residences from the outdoor play area needs to comply with the assigned day period noise level.
- 2 No specialist acoustic fencing required for ground floor outdoor play areas.
- 3 First floor play areas to have a 1000mm solid continuous balustrade.
- 4 Mechanical plant would need to be barriered by a barrier at least 500mm above the top of the plant.
- 5 Car Bays 1-5 would need to be restricted (no parking) during the night time period.

3. CRITERIA

The allowable noise level at the surrounding locales is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 & 8 stipulate maximum allowable external noise levels. For highly sensitive area of a noise sensitive premises this is determined by the calculation of an influencing factor, which is then added to the base levels shown below in Table 3.1. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. For other areas within a noise sensitive premises, the assigned noise levels are fixed throughout the day, as listed in Table 3.1.

TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF
Commercial Premises	All Hours	60	75	80
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.
IF is the influencing factor.

Under the Regulations, a highly sensitive area means that area (if any) of noise sensitive premises comprising –

- (a) A building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
- (b) Any other part of the premises within 15 m of that building or that part of the building.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

“impulsiveness” means a variation in the emission of a noise where the difference between L_{Apeak} and L_{Amax(Slow)} is more than 15 dB when determined for a single representative event;

“modulation” means a variation in the emission of noise that –

- (a) is more than 3 dB L_{Afast} or is more than 3 dB L_{Afast} in any one-third octave band;
- (b) is present for more at least 10% of the representative assessment period; and
- (c) is regular, cyclic and audible;

City of Stirling
20 December 2023
RECEIVED

“tonality”

means the presence in the noise emission of tonal characteristics where the difference between –

- (a) the A-weighted sound pressure level in any one-third octave band; and
- (b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as L_{ASlow} levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 3.2 below.

TABLE 3.2 - ADJUSTMENTS TO MEASURED LEVELS

Where tonality is present	Where modulation is present	Where impulsiveness is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

The neighbouring locations have been identified as

- R1 – 110 Main Street (North), Residential
- R2 – 115 Garner Lane (North East), Residential
- R3 – 211 Hector Street (East), Residential
- R4 – Residents to the South of Hector Street, East of Main Street
- R5 – Residents to the South of Hector Street, West of Main Street
- R6 – Residents to the East of Main Street, North of Hector Street

All locations would have an influencing factor of +6 dB due to proximity to Main Street (17,700 vpd; 2022)

TABLE 3.3 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
R1-R7	0700 - 1900 hours Monday to Saturday (Day)	51	61	71
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	46	56	71
	1900 - 2200 hours all days (Evening)	46	56	61
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	41	51	61

Note: L_{A10} is the noise level exceeded for 10% of the time.
 L_{A1} is the noise level exceeded for 1% of the time.
 L_{Amax} is the maximum noise level.

City of Stirling
20 December 2023
RECEIVED

4. PROPOSAL

From information supplied, we understand that the child care centre normal hours of operations would likely be between 0630 and 1800 hours, Monday to Friday (closed on public holidays). It is understood that the proposed childcare centre will cater for 88 children.

It is noted that although the proposed child care centre would open before 7 am (ie during the night period), the outdoor play area would not be intended to be used until after 7am.

Similarly, mechanical plant would possibly operate all hours of the day.

5. MODELLING

To assess the noise received at the neighbouring premises from the proposed development, noise modelling was undertaken using the noise modelling program SoundPlan.

Calculations were carried out using the DWER's weather conditions, which relate to worst case noise propagation, as stated in the Department of Environment Regulation "*Draft Guidance on Environmental Noise for Prescribed Premises*". These conditions include winds blowing from sources to the receiver(s).

Calculations were based on the sound power levels used in the calculations are listed in Table 5.1, as well as plans and contours provided by the client.

TABLE 5.1 – SOUND POWER LEVELS

Item	Sound Power Level, dB(A)
Children Playing	<24 months 78 (per 10 children) Between 24 and 36 months 85 (per 10 children) >36 months 87 (per 10 children)
Car Moving in Car Park	79
Car Starting	85
Door Closing	87
Air conditioning condensing Unit	71 each

Notes:

- 1 Acoustic modelling of outdoor play noise was made, based on 88 children within the outdoor play area (ie worst case scenario) broken down as follows:
0-2 years – 28 places
2-3 years – 25 places
3+ years – 35 places
- 2 The noise level for the mechanical plant has been based on the sound power levels used for previous assessment of child care centres. From other studies, we understand that the noise associated with the condensing units would be conservative.
- 3 For this child care centre, the mechanical plant units have been considered roof mounted with a barrier at least 500mm above top of units.
- 4 No specialist acoustic fencing required for ground level outdoor play area.
- 5 First floor play areas to have a 1000mm solid continuous balustrade.
- 6 To determine the restriction to the parking, a point noise source was located in each car bay.

City of Stirling
20 December 2023
RECEIVED

- 7 Modelling shows that noise received at the neighbouring residences from car doors closing would comply with the assigned noise level for both day period.
- 8 To achieve compliance during the night period, no car parking would be allowed in bays 1 to 5 before 7am.
- 9 With only staff arriving before 7am, there would be no car starts before 7am.
- 10 Calculations were undertaken for the receivers at 1.5 metres above the ground level.
- 11 Noise modelling was undertaken to a number of different receiver locations for each of the neighbouring residences. However, to simplify the assessment, only the noise level in the worst case location (ie highest noise level), have been listed.

6. ASSESSMENT

The tables below show the assessment of noise emissions of concern from the operation. Standard building construction will be sufficient to ensure that noise from inside the building will meet the regulations.

The resultant noise levels at the neighbouring residence from children playing outdoors and mechanical plant are tabulated in Table 6.1.

From previous measurements, noise emissions from children playing does not contain any annoying characteristics, however mechanical plant emissions would be considered tonal and attract a +5 dB(A) Penalty. Noise emissions from outdoor play needs to comply with the assigned L_{A10} noise levels.

**TABLE 6.1 - ACOUSTIC MODELLING RESULTS FOR L_{A10} CRITERIA
OUTDOOR PLAY AREAS AND MECHANICAL PLANT**

Neighbouring Premises	Calculated Noise Level (dB(A))	
	Children Playing	Mechanical Plant
R1 Residential	50	25 (30)
R2 Residential	33	33 (38)
R3 Residential	20	25 (30)
R4 Residential	22	24 (29)
R5 Residential	36	24 (29)
R6 Residential	47	28 (33)

() Includes +5 dB(A) penalty for tonality

With regards to noise associated with cars within the parking area, resultant noise levels are tabulated in Tables 6.2 and 6.3. It is noted that noise emissions from a moving car being an L_{A1} noise level, with noise emissions from cars starting and doors closing being an L_{Amax} noise level.

Based on the definitions of tonality, noise emissions from car movements and car starts, being an L_{A1} and L_{Amax} respectively, being present for less than 10% of the time, would not be considered tonal. Thus, no penalties would be applicable, and the assessment would be as listed in Table 6.2 (Car Moving) and Table 6.3 (Car Starting). However, noise emissions from car doors closing could be impulsive, hence the +10dB penalty has been included in the assessment.

City of Stirling
20 December 2023
RECEIVED

TABLE 6.2 - ACOUSTIC MODELLING RESULTS L_{A1} CRITERIA

CAR MOVING

Neighbouring Premises	Calculated Noise Level (dB(A))
R1 Residential	50
R2 Residential	51
R3 Residential	44
R4 Residential	45
R5 Residential	23
R6 Residential	38

TABLE 6.3 - ACOUSTIC MODELLING RESULTS L_{Amax} CRITERIA

CAR STARTING / DOOR CLOSING

Neighbouring Premises	Calculated Noise Level (dB(A))			
	Car Start		Car Door	
	Day Period	Night Period	Day Period	Night Period
R1 Residential	49	N/A	43 [53]	43 [53]
R2 Residential	49	N/A	58 [68]	43 [53]
R3 Residential	52	N/A	61 [71]	33 [43]
R4 Residential	47	N/A	53 [63]	26 [36]
R5 Residential	23	N/A	31 [41]	11 [21]
R6 Residential	44	N/A	32 [42]	17 [27]

[] Includes +10 dB(A) penalty for impulsiveness.

Tables 6.4 to 6.9 summarise the applicable Assigned Noise Levels, and assessable noise level emissions for each identified noise.

TABLE 6.4 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS

OUTDOOR PLAY (DAY PERIOD)

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	50	51	Complies
R2 Residential	33	51	Complies
R3 Residential	20	51	Complies
R4 Residential	22	51	Complies
R5 Residential	36	51	Complies
R6 Residential	47	51	Complies

TABLE 6.5 – ASSESSMENT OF L_{A10} NIGHT PERIOD NOISE LEVEL EMISSIONS

MECHANICAL PLANT

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	30	41	Complies
R2 Residential	38	41	Complies
R3 Residential	30	41	Complies
R4 Residential	29	41	Complies
R5 Residential	29	41	Complies
R6 Residential	33	41	Complies

City of Stirling
20 December 2023
RECEIVED

TABLE 6.6 – ASSESSMENT OF L_{A1} NIGHT PERIOD NOISE LEVEL EMISSIONS

CAR MOVEMENTS

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	50	51	Complies
R2 Residential	51	51	Complies
R3 Residential	44	51	Complies
R4 Residential	45	51	Complies
R5 Residential	23	51	Complies
R6 Residential	38	51	Complies

TABLE 6.7 – ASSESSMENT OF L_{Amax} DAY PERIOD NOISE LEVEL EMISSIONS

CAR STARTING

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	49	71	Complies
R2 Residential	49	71	Complies
R3 Residential	52	71	Complies
R4 Residential	47	71	Complies
R5 Residential	23	71	Complies
R6 Residential	44	71	Complies

TABLE 6.8 – ASSESSMENT OF L_{Amax} DAY PERIOD NOISE LEVEL EMISSIONS

CAR DOOR

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	53	71	Complies
R2 Residential	68	71	Complies
R3 Residential	71	71	Complies
R4 Residential	63	71	Complies
R5 Residential	41	71	Complies
R6 Residential	42	71	Complies

TABLE 6.9 – ASSESSMENT OF L_{Amax} NIGHT PERIOD NOISE LEVEL EMISSIONS

CAR DOOR

Location	Assessable Noise Level dB(A)	Applicable Assigned Noise Level (dB(A))	Exceedance to Assigned Noise Level
R1 Residential	53	61	Complies
R2 Residential	53	61	Complies
R3 Residential	43	61	Complies
R4 Residential	36	61	Complies
R5 Residential	21	61	Complies
R6 Residential	27	61	Complies

City of Stirling
20 December 2023
RECEIVED

7. CONCLUSION

Noise received at the neighbouring residences from the outdoor play area would comply during the day period, thus, outdoor play would be limited to the day period (ie – after 7am).

Noise received at the neighbouring residences from the mechanical plant would comply at all hours.

Noise received at the neighbouring residences from noise associated with vehicles would also comply at all hours, provided car bays 1 – 5 are only used during the day period.

Thus, noise emissions from the proposed development, would be deemed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* for the proposed hours of operation, with the inclusion of the following:

- 1 No specialist acoustic fencing required for ground floor outdoor play areas.
- 2 First floor play areas to have a 1000mm solid continuous balustrade.
- 3 Mechanical plant would need to be barriered by a barrier at least 500mm above the top of the plant.
- 4 Car Bays 1-5 would need to be restricted (no parking) during the night time period.

Finally, it is recommended to adopt best practices in managing a child care centre to reduce noise, including but not limited to no amplified music to be played outside, and favouring soft finishes in the outdoor play area.

APPENDIX A

PLANS

City of Stirling
20 December 2023
RECEIVED



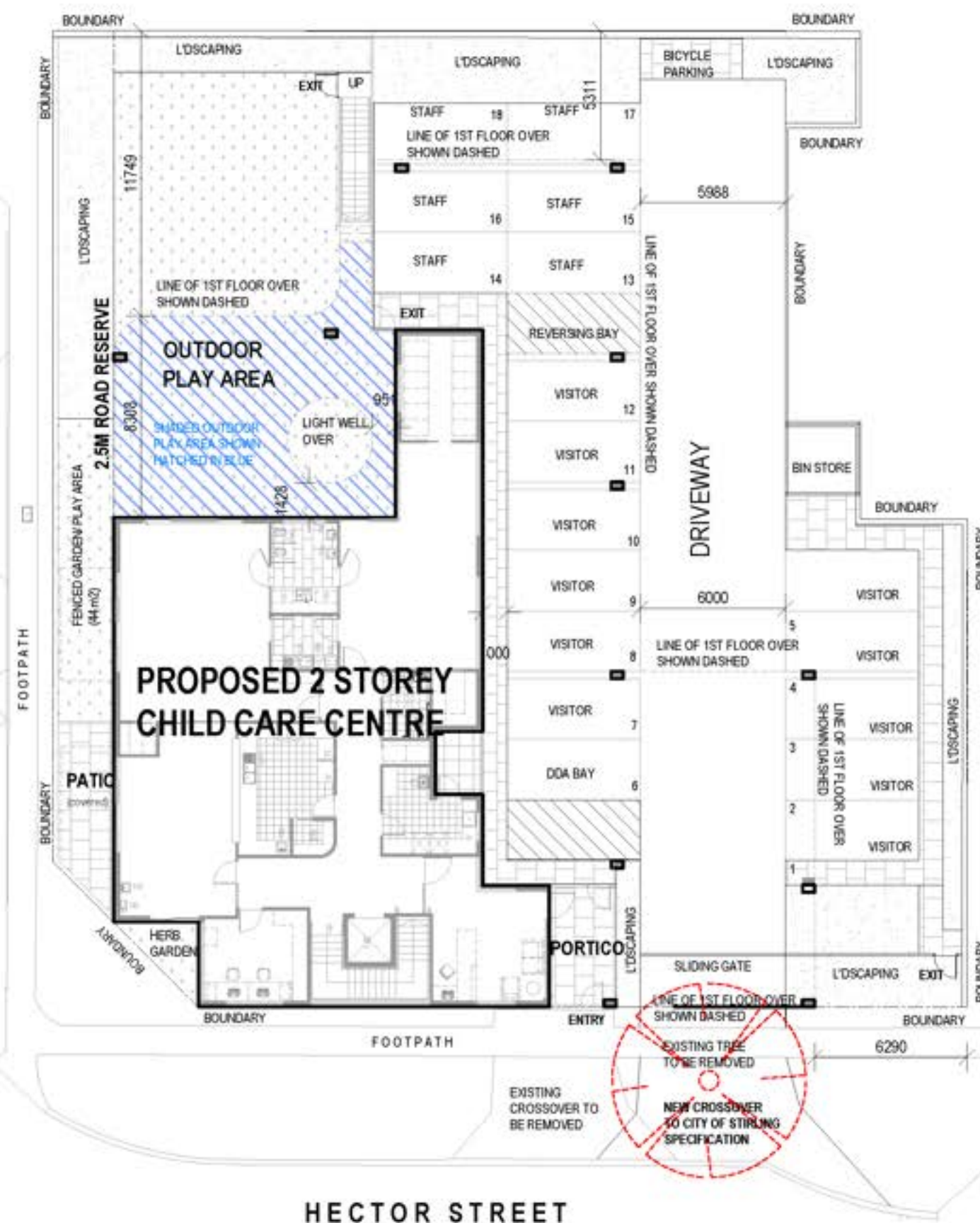
LANDSCAPING

TOTAL SITE AREA - 1374.74M²

LANDSCAPING REQUIRED 10% - 137.5M²

LANDSCAPING PROVIDED - 137.5M²

MAIN STREET



City of Stirling
20 December 2023
RECEIVED

PRELIMINARY

PROPOSED CHILDCARE CENTRE ON MAIN STREET OSBORNE PARK
SITE PLAN (REV C) - 5/11/23



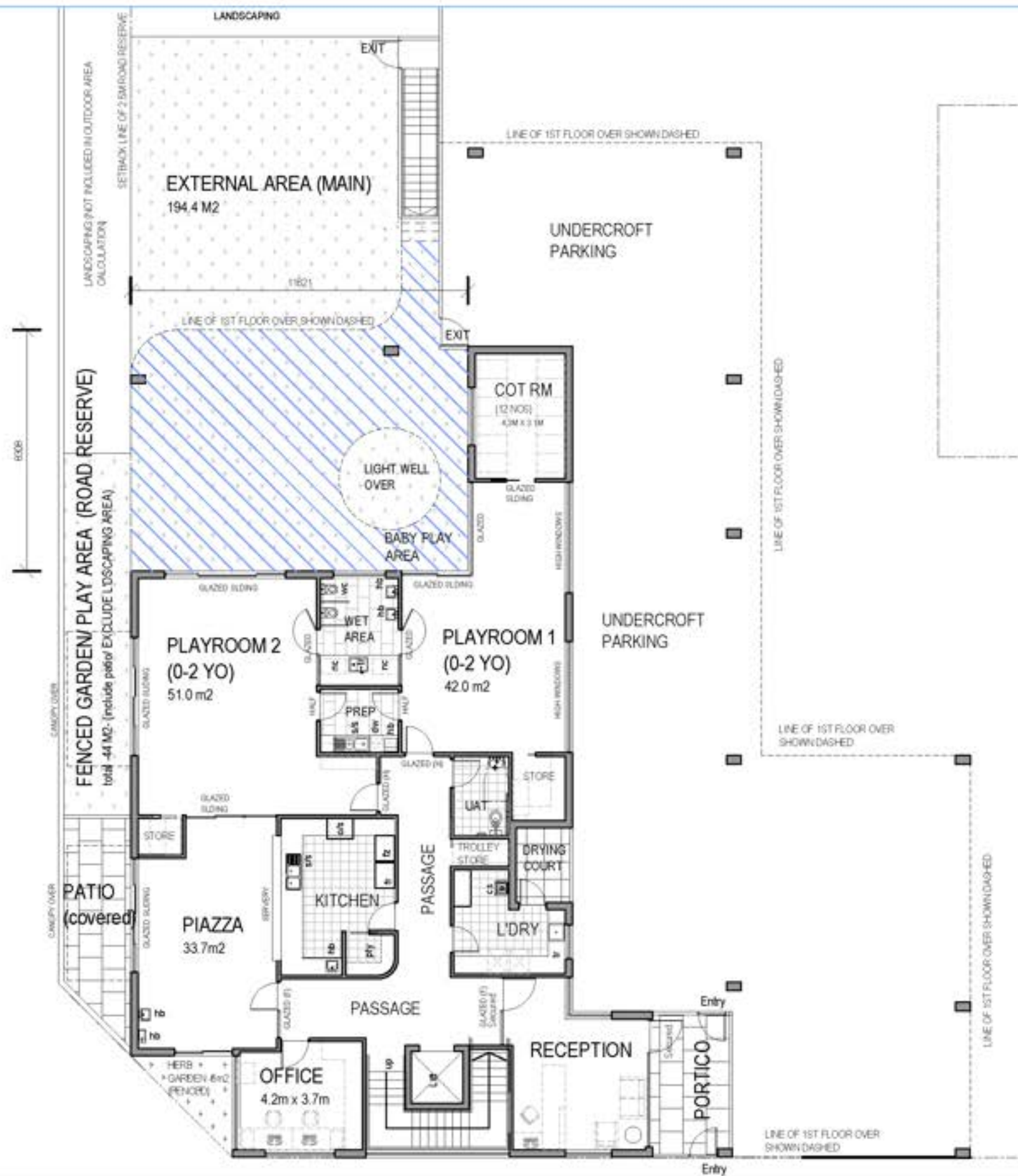
CHILD/ AREA CALCULATIONS

ROOM	AGE (YRS)	QTY	STAFF	AREA
PLAYROOM 1	0-2	12	3	42.0m ²
PLAYROOM 2	0-2	16	4	51.0m ²
PLAYROOM 3	3-5	35	4	114.4 m ²
PLAYROOM 4	2-3	25	5	89.0m ²
PIAZZA				33.5m ²

INDOOR PLAY AREA (TOTAL) 88 286.0 m² (required)
(MIN 3.25M² PER CHILD) 329.9 m² (provided)

OUTDOOR PLAY AREA (TOTAL) 616.0 m² (required)
(MIN 7M² PER CHILD) 625.0 m² (provided)

STAFF (TOTAL) - 16



City of Stirling
20 December 2023
RECEIVED

PRELIMINARY

PROPOSED CHILDCARE CENTRE ON MAIN STREET OSBORNE PARK
GROUND FLOOR PLAN (REV D)_05-11-23



CHILD/ AREA CALCULATIONS

ROOM	AGE (YRS)	QTY	STAFF	AREA
PLAYROOM 1	0-2	12	3	42.0m ²
PLAYROOM 2	0-2	16	4	51.0m ²
PLAYROOM 3	3-5	35	4	114.4 m ²
PLAYROOM 4	2-3	25	5	89.0m ²
PIAZZA				33.5m ²

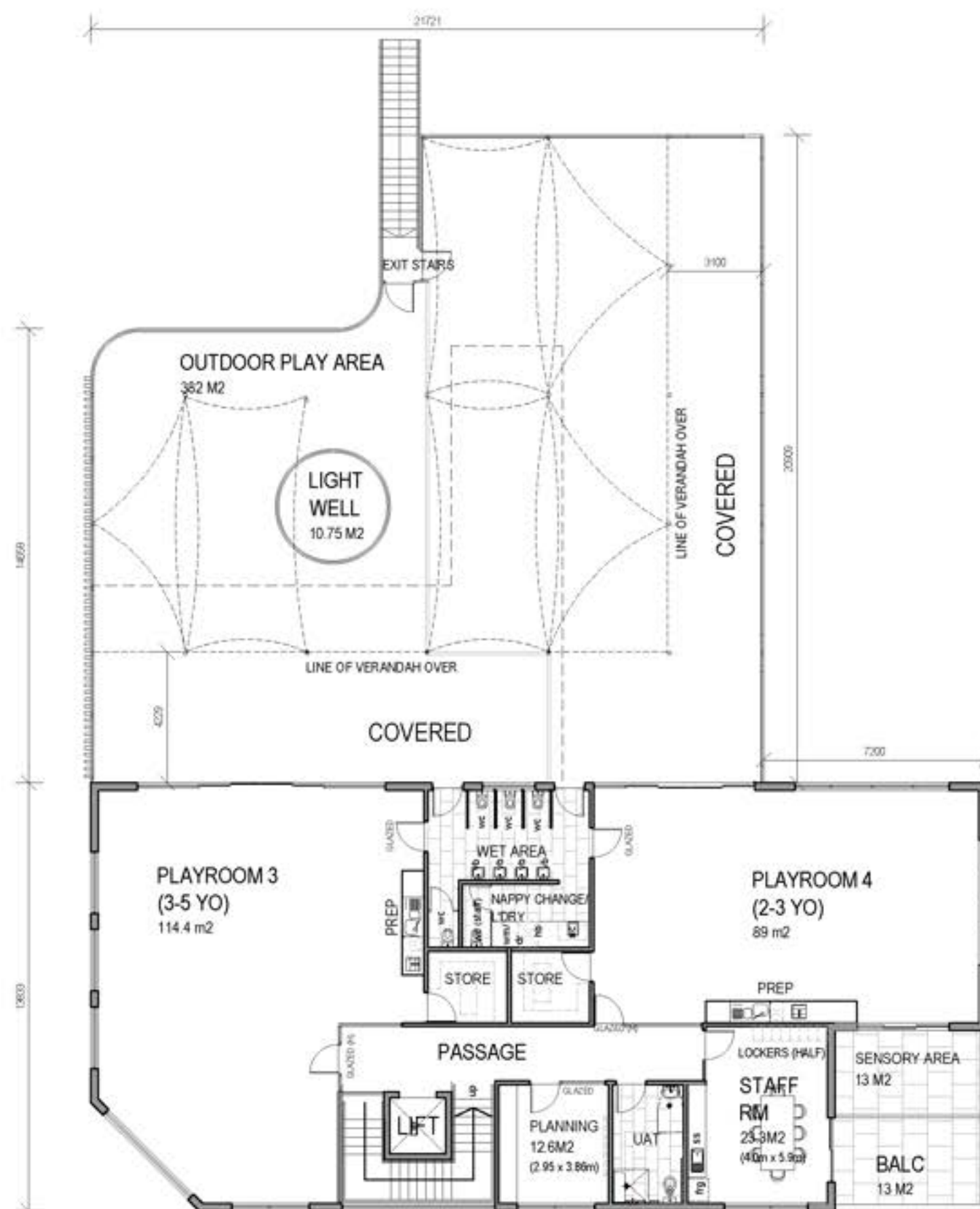
INDOOR PLAY AREA (TOTAL)
(MIN 3.25M² PER CHILD)

88	286.0 m ² (required)
	329.9 m ² (provided)

OUTDOOR PLAY AREA (TOTAL)
(MIN 7M² PER CHILD)

	616.0 m ² (required)
	625.0 m ² (provided)

STAFF (TOTAL) - 16

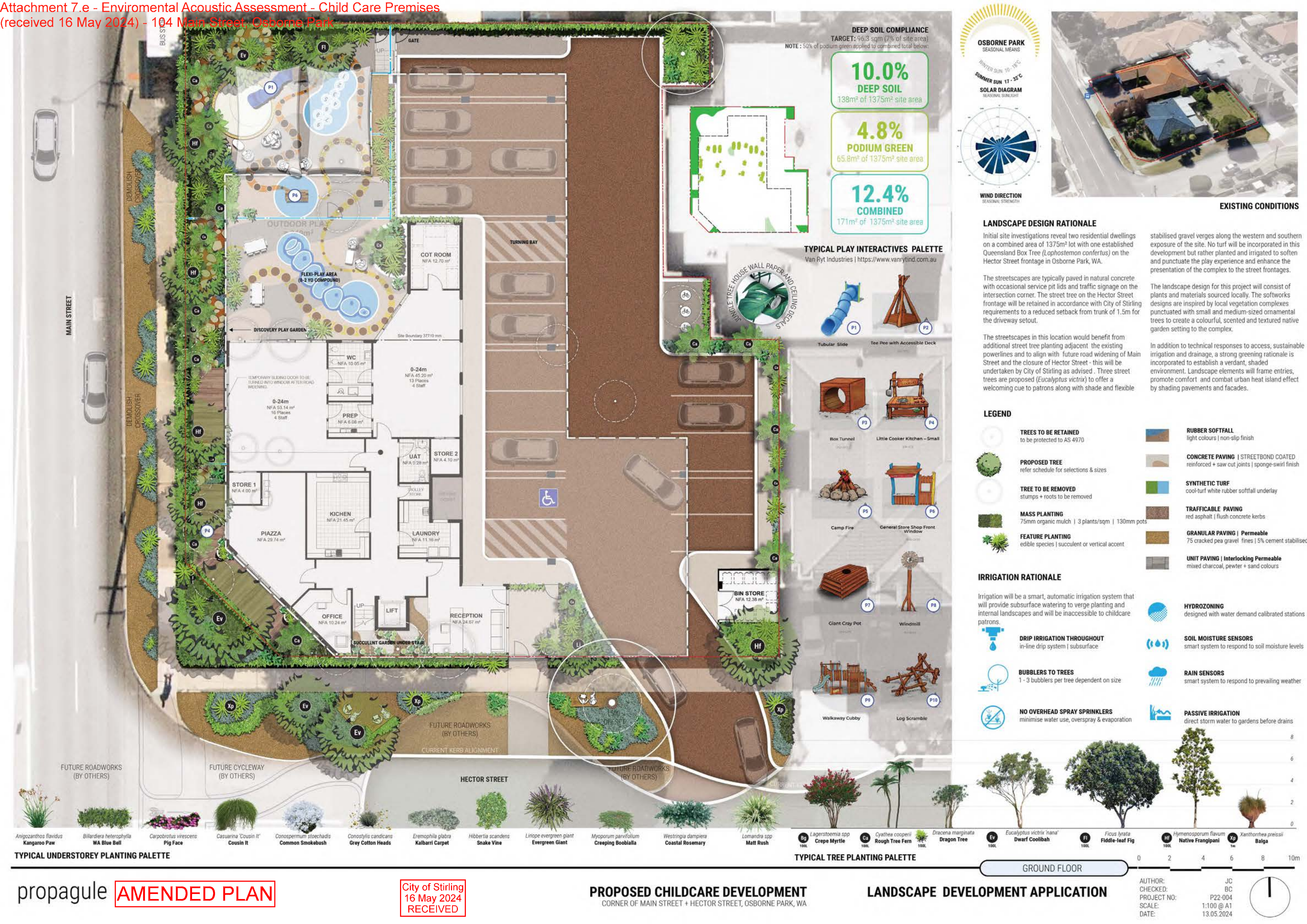


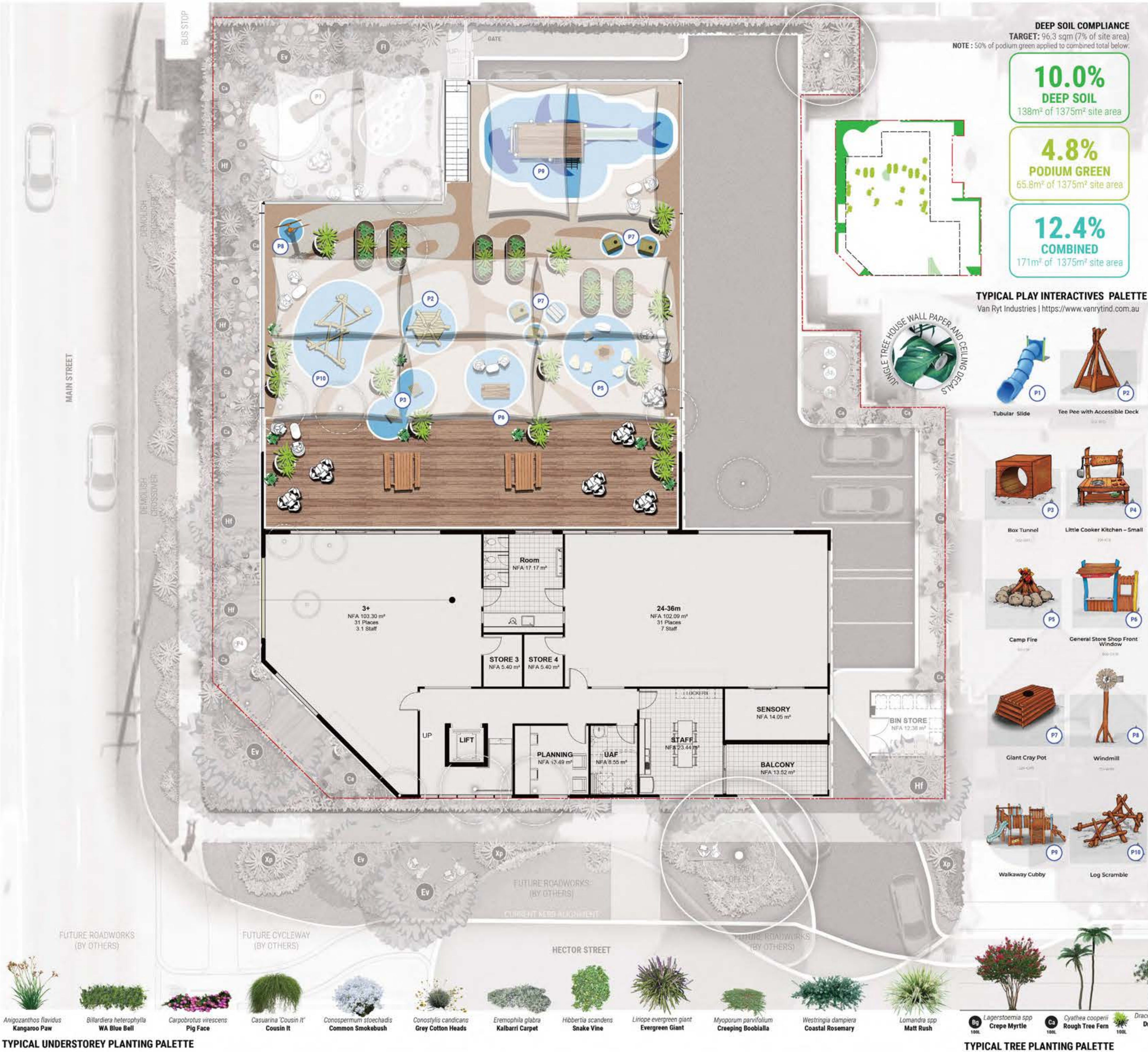
City of Stirling
20 December 2023
RECEIVED

PRELIMINARY

PROPOSED CHILDCARE CENTRE ON MAIN STREET, OSBORNE PARK

FIRST FLOOR (REV D) - 05/11/23





DEEP SOIL COMPLIANCE
TARGET: 96.3 sqm (7% of site area)
NOTE: 50% of podium green applied to combined total below.

10.0% DEEP SOIL
138m² of 1375m² site area

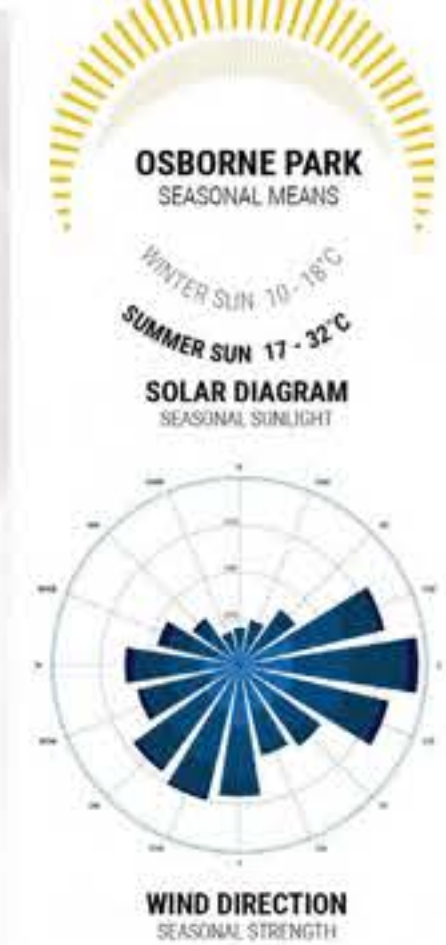
4.8% PODIUM GREEN
65.8m² of 1375m² site area

12.4% COMBINED
171m² of 1375m² site area

TYPICAL PLAY INTERACTIVES PALETTE
Van Ryt Industries | <https://www.vanrytind.com.au>

JUNGLE TREE HOUSE WALL PAPER AND DECAL DECALS

- Tubular Slide (P1)
- Tee Pee with Accessible Deck (P2)
- Box Tunnel (P3)
- Little Cooker Kitchen - Small (P4)
- Camp Fire (P5)
- General Store Shop Front Window (P6)
- Giant Cray Pot (P7)
- Windmill (P8)
- Walkway Cubby (P9)
- Log Scramble (P10)



LANDSCAPE DESIGN RATIONALE

Initial site investigations reveal two residential dwellings on a combined area of 1375m² lot with one established Queensland Box Tree (*Lophostemon confertus*) on the Hector Street frontage in Osborne Park, WA.

The streetscapes are typically paved in natural concrete with occasional service pit lids and traffic signage on the intersection corner. The street tree on the Hector Street frontage will be retained in accordance with City of Stirling requirements to a reduced setback from trunk of 1.5m for the driveway setout.

The streetscapes in this location would benefit from additional street tree planting adjacent the existing powerlines and to align with future road widening of Main Street and the closure of Hector Street - this will be undertaken by City of Stirling as advised. Three street trees are proposed (*Eucalyptus vixtrix*) to offer a welcoming cue to patrons along with shade and flexible

stabilised gravel verges along the western and southern exposure of the site. No turf will be incorporated in this development but rather planted and irrigated to soften and punctuate the play experience and enhance the presentation of the complex to the street frontages.

The landscape design for this project will consist of plants and materials sourced locally. The softworks designs are inspired by local vegetation complexes punctuated with small and medium-sized ornamental trees to create a colourful, scented and textured native garden setting to the complex.

In addition to technical responses to access, sustainable irrigation and drainage, a strong greening rationale is incorporated to establish a verdant, shaded environment. Landscape elements will frame entries, promote comfort and combat urban heat island effect by shading pavements and facades.

LEGEND

- TREES TO BE RETAINED**
to be protected to AS 4970
- PROPOSED TREE**
refer schedule for selections & sizes
- TREE TO BE REMOVED**
stumps + roots to be removed
- MASS PLANTING**
75mm organic mulch | 3 plants/sqm | 130mm pots
- FEATURE PLANTING**
edible species | succulent or vertical accent
- RUBBER SOFTFALL**
light colours | non-slip finish
- CONCRETE PAVING | STREETBOND COATED**
reinforced + saw cut joints | sponge-swirl finish
- SYNTHETIC TURF**
cool-turf white rubber softfall underlay
- TRAFFICABLE PAVING**
red asphalt | flush concrete kerbs
- GRANULAR PAVING | Permeable**
75 cracked pea gravel | fines | 5% cement stabilised
- UNIT PAVING | Interlocking Permeable**
mixed charcoal, pewter + sand colours

IRRIGATION RATIONALE

- Irrigation will be a smart, automatic irrigation system that will provide subsurface watering to verge planting and internal landscapes and will be inaccessible to childcare patrons.
- DRIP IRRIGATION THROUGHOUT**
in-line drip system | subsurface
 - BUBBLERS TO TREES**
1 - 3 bubblers per tree dependent on size
 - NO OVERHEAD SPRAY SPRINKLERS**
minimise water use, overspray & evaporation
 - HYDROZONING**
designed with water demand calibrated stations
 - SOIL MOISTURE SENSORS**
smart system to respond to soil moisture levels
 - RAIN SENSORS**
smart system to respond to prevailing weather
 - PASSIVE IRRIGATION**
direct storm water to gardens before drains



TYPICAL UNDERSTOREY PLANTING PALETTE



TYPICAL TREE PLANTING PALETTE

UPPER FLOOR

AMENDED PLAN

City of Stirling
16 May 2024
RECEIVED

WASTE MANAGEMENT PLAN

Proposed Child Care Premises
104 Main Street, Osborne Park

PINNACLE
PLANNING

1.0 Introduction

This waste management plan (WMP) assists and supports a Child Care Centre to be located at 104 Main Street, Osborne Park, as part of a Development Application before the City of Stirling for assessment and determination.

The WMP has been developed on the basis of review of amended plans, the spatial layouts of the development, and the other supporting materials, such the as the amended plans, and traffic report, and advice from the City with respect to suitability of bin sizes for the development.

As the site is generally flat and has a bin store adjacent to the parking area, the use of 240L bins has been specified, as they are readily moved, by private contractors.

In this regard, and given the proposal does not cater to internal waste servicing, the use of 240L bins are suitable for presentation for private contractor collection several times weekly.

The methodology and approach of this report ensures the building can cater to the waste demands for the approved use, have a functional and adequate bin store, and have a method of collection that is appropriate to the operation of the building.

The WMP is based on the WALGA Guidelines for Waste Management and ensures the use of appropriate calculation rates, to supply suitable volumes of capacity for waste storage for the amenity of users of the development.

2.0 SUMMARY OF DEVELOPMENT

The proposal is for an approved child care centre that caters to 93 children places and 17 staff, with a gross floor area of 697m², based on the amended plans provided.

2.1 Location of Development

The development is located on Main Street, Osborne Park, within the municipality of the City of Stirling.

The subject site is located in an area that includes zonings facilitating redevelopment activity.

2.2 Number of Floors

The proposal consists of a two storey built form, with internal space, play spaces and parking across a single level.

2.3 Number of Dwelling Units by Size

The proposal does not contain any residential units, and is purely a commercial development.

2.4 Size of Each Commercial Unit

The approved child care centre has a single commercial tenancy on the site, that is approved as a child care centre. For the purpose of this waste management plan, the gross floor area of 697m² is utilised, which correctly takes into account all internal and external floorspaces, based on the updated plan set.

2.5 Details of the Intended Use of the Development

The development is designed and proposed to be a child care premises, serviced with a ground floor parking area, accessed via the Hector Street frontage, and functions as a child care center only.

3.0 WASTE GENERATION RATES

The WALGA Guidelines for Waste Management have been utilised for the purpose of deriving waste generation rates for the proposal.

As this proposal relates to commercial waste generation rates only, the rates applied are strictly for commercial projects only.

Waste Calculation Rates

The following table details the gross waste generation rates for the development.

Commercial Waste Rate	Refuse (L/week)	Recycling (L/week)
Childcare (per 100m ² /week)	240	240
Gross waste generation	1,680	1,680

3.1.1 Refuse

The proposal has a generation of 1,680 litres of general refuse. To be stored in the central bin store, described in detail below.

3.1.2 Recycling

The proposal has a generation of 1,680 litres of co-mingled recycling per week, and will be stored in the central bin store, described in detail below.

4.0 BIN STORAGE AREA

The proposal caters to the whole development through a central bin store located adjacent to the front parking area.

The amended architectural plan package sets out the central bin store location.

4.1 Waste Disposal

Staff of the child care centre and service contractors attending the site will be required to present waste to the central bin store.

4.2 Bin Storage Area Size

The bin store for each individual unit is based on the following generation rates and storage capacity, based on twice weekly collection:

Commercial Waste Rate	Refuse (L/week)	Recycling (L/week)
Childcare (per 100m ² /week)	240	240
Gross waster generation	1,680	1,680
50% requirement (for twice weekly collection frequency)	840/3.5 bins (4 bins)	840/3.5 bins (4 bins)

This leads to the central bin store being required to cater to eight (8) 240L bins, to which the proposed bin store is designed to cater to 10 240L bins, providing surplus capacity for the development, and enabling the operator to negotiate a suitable number of bins based on the desired frequency.

The amended architectural plan set, as amended adequately caters to the bin sizes for the waste requirements of the development.

4.3 Bin Storage Area Layout

The central bin store layout shows that 10 bins are capable of being set out in the bin store, with ample space for presentation and wash down, and maneuverability.

4.4 Alternative Waste

Any alternative waste such as hard, bulk or hazardous waste is to be coordinated for separate removal through residents and tenants alike coordinating with local municipal verge valet or other bulk waste removal services as appropriate.

4.5 Ventilation

Ventilation is to be achieved via the bin store having an open top to the sky, enabling suitable ventilation.

4.6 Vermin Protection

The bin stores and garages for the units are to be treated with vermin proof solutions, with final detailing to occur at building permit stage of the project.

4.7 Noise Reduction

As the bin stores do not include any mechanical infrastructure by way of compactors, the noise emanating from each bin store is limited to opening and closing of bins, which is a minimal acoustic impact.

4.8 Stormwater Ingress Prevention

All garage bin stores are to be suitably protected against stormwater entering the bin store.

AMENDED PLAN

5.0 COLLECTION METHOD AND FREQUENCY

5.1 Collection Vehicle to be Utilised

The proposal is to be serviced via private collection. Accordingly, the private contractor will assess the requirements as to the appropriate vehicle for collection.

5.2 Movement of Collection Vehicles/Swept Path Analysis

The proposal is not required, and does not provide for internal waste collection.

As private waste vehicles will use gazetted roads, there is no requirement for swept path analysis as part of this WMP.

5.3 Collection Location

All bins will be collected from the verge abutting the development site. The updated architectural plan set shows that the verge has ample space for the presentation of all bins for twice weekly verge collection via private contractor service, with space for ease of side arm collection operation.

5.4 Transfer of Waste to the Collection Vehicle

With respect to the transfer of waste to the collection vehicle, the bins will be transferred via conventional collection for verge collection by either centre staff or private contractor staff as part of the servicing arrangement.

5.5 Frequency of Collection

The provision of waste receptacles for the development is based on twice weekly private collection.

As the service is via private contractor, the change of frequency is able to be adjusted to suit the ongoing operational needs of the centre.

5.6 Chutes

The proposal only caters to at grade waste disposal, and does not include any provisions for a bin chute.

5.7 Compactor

The proposal is shown to adequately cater to the waste generation rates through the various selection of bin types and sizes nominated in this report. Accordingly, there is no requirement for a compactor in the development, and the avoidance of such infrastructure reduces acoustic impacts on site and to abutting residents.

5.8 Bin Lifter

The development is serviced with individual bins. Accordingly, there is no requirement or need

to be providing bin lifters, as the residents of the development will not be expected to utilise small bins, and lift into larger bins, given the waste approach for the development does not propose such methods of waste double handling.

AMENDED PLAN

6.0 WASTE PROVIDER

The proposal has been designed to cater for the provision of private contractor based waste collection services in accordance with the WALGA Guidelines.

AMENDED PLAN

7.0 EDUCATION

The education of staff within the centre by the responsible onsite manager will be required, to confirm the obligations of staff with respect to waste management presentation to the central bin store.

The bins are to remain behind setback lines, and be kept clear from the view of the street at all times, along with being kept wholly in the bin store, and free of the common property driveway and pedestrian access, so as not to create impediments to the movement of vehicles and/or pedestrians accessing the site.

This is especially important, as the bin store is adjacent to the parking area, and must, at all times, ensure that waste infrastructure, waste bags and bins do not impede vehicles accessing the centre.

Staff of the centre are to be appraised of these requirements through strata management, and other staff are encouraged to report any infractions on this requirement not being followed, to ensure optimized waste storage on the property and to comply with the future development approval for the project, and general requirements.

AMENDED PLAN

8.0 ONGOING MANAGEMENT

In accordance with the proposed plans of the development, the ongoing management and coordination of the waste management approach for the development will be the responsibility of the Centre Manager to coordinate, and Centre staff to implement and execute, with respect to the appropriate use of the central bin store.

Centre staff will therefore be tasked with the appropriate use of the bin store, which includes upholding the requirements of staff to appropriately dispose of waste and exercise appropriate waste separation when presenting bins to the central bin store at all times.

Similarly, staff are also required to attend to the good and regular functioning of waste services at the property, including:

- Regular checking of the bin store room;
- Regular and consistent use of the correct bin streams;
- Reporting any issues to strata management;
- Ensuring bins are kept to the approved bin store location at all times; and
- Coordination of other incidental waste collection, such as bulk or hazardous waste.

Incidental waste collection such as bulk or hard waste, or building materials waste is to be coordinated between the centre management and the local authority.

AMENDED PLAN

Attachment 7.g - Sustainable Design Assessment - Child Care
Premises (received 20 December 2023) - 104 Main Street, Osborne
Park

Address:

71 Allnutt Street Mandurah WA 6210

Postal:

PO Box 4160 Mandurah North WA 6210



Sustainable Design Assessment – DA Stage

Date: 6 December 2023

Our Reference: 23-16630

Project Address: Lot 950 (#104) Main Street, Osborne
Park

BCA Climate Zone: 5

Building Class: 9b

Report Commissioned By: Pinnacle Planning

Report Details		
Report Author: Nathan Peart	GBCA Acc. No.: 49264	Signature: 
Revision Date: -	Reason for Revision	



City of Stirling
20 December 2023
RECEIVED

Phone: 08 9555 9444 FAX: 08 9200 5654 Email: rate@s-wa.com.au Web: www.s-wa.com.au

Your energy efficiency partners

ABN: 84 132 000054



Address:
71 Allnutt Street Mandurah WA 6210
Postal:
PO Box 4160 Mandurah North WA 6210



Contents

1	Project Information	3
2	Sustainability overview	4
2.1	Construction And Building Management	4
2.2	Indoor Environment Quality	4
2.3	Energy Efficiency	5
2.4	Passive Solar Design	5
2.4.1	Solar and Daylight Access	5
2.4.2	Natural Ventilation	5
2.4.3	Shading	6
2.4.4	Thermal Mass	6
2.5	Renewable Energy	6
2.6	Water Efficiency	6
3	Conclusion	6
4	Appendices	7

City of Stirling
20 December 2023
RECEIVED

Phone: 08 9555 9444 **FAX:** 08 9200 5654 **Email:** rate@s-wa.com.au **Web:** www.s-wa.com.au

Your energy efficiency partners

ABN: 84 132 000054



Address:
71 Allnutt Street Mandurah WA 6210
Postal:
PO Box 4160 Mandurah North WA 6210



1 Project Information

This report has been commissioned to detail the sustainability commitment for the proposal at Lot 950 (#104) Main Street, Osborne Park as detailed section 2. The proposal is on an existing developed site, over three lots with a land area of 741m². The proposed development contains a double storey childcare centre.



Figure 1: Site Location

City of Stirling
20 December 2023
RECEIVED

Phone: 08 9555 9444 **FAX:** 08 9200 5654 **Email:** rate@s-wa.com.au **Web:** www.s-wa.com.au

Your energy efficiency partners

ABN: 84 132 000054

Address:
71 Allnutt Street Mandurah WA 6210
Postal:
PO Box 4160 Mandurah North WA 6210



2 Sustainability overview

While no specific sustainability criteria have been identified within the planning policies for this location, we have carefully considered and incorporated various sustainability criteria into the development to ensure a positive environmental impact.

In the absence of predefined sustainability criteria, the following key sustainability considerations have been taken into account for the project:

2.1 Construction And Building Management

To minimize construction waste and its impact on the environment, a commitment to cap construction waste going to landfill at 15 kg per m² GFA has been made.

A commitment to purchase and design internal fixtures to have the durability to ensure lifespan of 10+ years;

2.2 Indoor Environment Quality

To ensure a healthy and comfortable indoor environment, outdoor pollutants are mitigated; the ventilation system will be designed for ease of maintenance and cleaning; and the system will be cleaned prior to occupation and use.

Sufficient outdoor air to ensure levels of indoor pollutants are maintained at acceptable levels. Pollutants, such as those arising from printing equipment, cooking processes and equipment, and vehicle exhaust, will be limited by either removing the source of pollutants from the nominated area, or exhausting the pollutants directly to the outside

Commitment to ensure at least 95% of all internally applied paints, adhesives, sealants and carpets meet stipulated 'Total VOC Limits'. At least 95% of all engineered wood products used meet stipulated formaldehyde limits as per limits in Appendix A, B, and C.

City of Stirling
20 December 2023
RECEIVED

Phone: 08 9555 9444 **FAX:** 08 9200 5654 **Email:** rate@s-wa.com.au **Web:** www.s-wa.com.au

Your energy efficiency partners

ABN: 84 132 000054



2.3 Energy Efficiency

Increased energy efficiency has been achieved through the following commitments:

- The roof and ceiling, walls, and flooring construction achieves a 15% increase on the minimum required R-values specified in J1.3, J1.5 and J1.6.
- The total energy for the facade is not greater than 85% of the total allowance according to the Australian Building Codes Board glazing calculator.
- If a JV3 assessment pathway is used in lieu of the Deemed To Satisfy Pathway, a commitment to ensure a minimum 5% reduction in greenhouse gas emissions when compared to the allowance indicated in the current NCC.

2.4 Passive Solar Design

The development incorporates passive solar design principles, ensuring optimal solar and daylight access, natural ventilation, effective shading, and the use of thermal mass for passive heating and cooling.

2.4.1 Solar and Daylight Access

The development has been designed to optimise solar and daylight access for dwellings by:

- All areas have significant windows allowing daylight access.
- Windows are visible from the majority of a habitable room and minimising the amount of obscure glazing.
- Stairwell glazing allows natural lighting to internal corridors and walkway.
- West facing glazing has shading over and/or minimised.
- All glazing has shade hoods.

2.4.2 Natural Ventilation

The optimisation of natural ventilation has been addressed in the development by:

- The use of openings to assist the capture and use of prevailing breezes. All habitable areas to be used for childcare have at least two openings to allow for good cross ventilation. Office and administration areas are of a size that does not allow for multiple windows.
- Providing a combination of louvre, casement, and awning windows as well as sliding windows for improved breeze control.

City of Stirling
20 December 2023
RECEIVED



Address:
71 Allnutt Street Mandurah WA 6210
Postal:
PO Box 4160 Mandurah North WA 6210



2.4.3 Shading

Effective shading from the summer sun has been achieved in the development through the:

- Provision of window hoods, pergolas, verandahs and awnings.

2.4.4 Thermal Mass

The design has integrated concrete floors to harness thermal mass for passive heating and cooling.

2.5 Renewable Energy

An on-site Photo Voltaic system will be installed that reduces the peak electricity demand by at least 15%.

2.6 Water Efficiency

The following water efficient initiatives that exceed current minimum practice have been committed to in the development:

- All fixtures are within one star of the following WELS rating:
 - Taps: 6 Star
 - Urinals: 6 Star
 - Toilet: 5 Star
 - Showers: 3 Star (> 4.5 but ≤ 6.0)
 - Clothes Washing Machines: 5 Star
 - Dishwashers: 6 Star
- The landscaping and associated irrigation systems will be designed to reduce the consumption of potable water required for irrigation through the installation of drought resistant plants, drip irrigation and rain sensor controls.

3 Conclusion

In summary, the sustainability measures detailed in this report allow Lot 950 (#104) Main Street, Osborne Park to surpass 'business as usual' energy efficiency benchmarks and minimum requirements of the National Construction Code. The design not only responds to the surrounding environment but also ensures a high standard of sustainability and energy efficiency, leading to a building with a positive environmental footprint.

We are confident that these measures will contribute to a greener and more sustainable future for the proposal and set a commendable example for future developments in the area.

City of Stirling
20 December 2023
RECEIVED

Phone: 08 9555 9444 **FAX:** 08 9200 5654 **Email:** rate@s-wa.com.au **Web:** www.s-wa.com.au

Your energy efficiency partners

ABN: 84 132 000054



Address:
71 Allnutt Street Mandurah WA 6210
Postal:
PO Box 4160 Mandurah North WA 6210



4 Appendices

Appendix A: Table 13.1.1: Maximum TVOC Limits for Paints, Adhesives and Sealants

Product Category	Max TVOC content in grams per litre (g/L) of ready to use product.
General purpose adhesives and sealants	50
Interior wall and ceiling paint, all sheen levels	16
Trim, varnishes and wood stains	75
Primers, sealers and prep coats	65
One and two pack performance coatings for floors	140
Acoustic sealants, architectural sealant, waterproofing membranes and sealant, fire retardant sealants and adhesives	250
Structural glazing adhesive, wood flooring and laminate adhesives and sealants	100

Appendix B: Carpet Test Standards and TVOC Emissions Limits

Compliance option	Test Protocol	Limit
ASTM D5116	ASTM D5116 - Total VOC limit*	0.5mg/m2 per hour
	ASTM D5116 - 4-PC (4-Phenylcyclohexene)*	0.5mg/m2 per hour
ISO 16000 / EN 13419	ISO 16000 / EN 13419 - TVOC at three days	0.5mg/m2 per hour
ISO 10580 / ISO/TC 219 (Document N238)	ISO 10580 / ISO/TC 219 (Document N238) - TVOC at 24 hours	0.5mg/m2 per hour

*Both limits should be met when testing against ASTM D5116

City of Stirling
20 December 2023
RECEIVED

Phone: 08 9555 9444 FAX: 08 9200 5654 Email: rate@s-wa.com.au Web: www.s-wa.com.au

Your energy efficiency partners

ABN: 84 132 000054

Appendix C: Table 13.2B: Formaldehyde Emission Limit Values for Engineered Wood Products

Test Protocol	Emission Limit/Unit of Measurement
AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood	≤1mg/ L
AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1.5 mg/L
AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1mg/ L
AS/NZS 4357.4 - Laminated Veneer Lumber (LVL)	≤1mg/ L
Japanese Agricultural Standard MAFF Notification No.701 Appendix Clause 3 (11) - LVL	≤1mg/ L
JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	≤1mg/ L
JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	≤1mg/ L
JIS A1901 (not applicable to Plywood, applicable to high pressure laminates and compact laminates)	≤0.1 mg/m ² hr
ASTM D5116 (applicable to high pressure laminates and compact laminates)	≤0.1 mg/m ² hr
ISO 16000 part 9, 10 and 11 (also known as EN 13419), applicable to high pressure laminates and compact laminates	≤0.1 mg/m ² hr (at 3 days)
ASTM D6007	≤0.12mg/m ³ **
ASTM E1333	≤0.12mg/m ³ ***
EN 717-1 (also known as DIN EN 717-1)	≤0.12mg/m ³
EN 717-1 (also known as DIN EN 717-2)	≤0.12mg/m ³

*mg/m²hr may also be represented as mg/m²/hr.

**The test report must confirm that the conditions of Table 3 comply for the particular wood product type, the final results must be presented in EN 717-1 equivalent (as presented in the table) using the correlation ratio of 0.98.

***The final results must be presented in EN 717-1 equivalent (as presented in the table), using the correlation ratio of 0.98.

City of Stirling
 20 December 2023
 RECEIVED





Design Review Report – Item 2

Local government:	City of Stirling	
Item no.:	Item 2 – DA22/1242 – 104, 106A and 106B Main Street, Osborne Park – Development Assessment Panel – Form 1 – Child Care Premise	
Chairperson:	Philip Gresley	
Panel members:	Peter Ciemitis Tony Blackwell Anthony Duckworth	
Local government officers:	Dean Williams Karina Bowater Michael Italiano Kelly Douglas	Coordinator Planning Acting Coordinator Planning Acting Senior Planning Officer Acting DRP Support Officer
Observers	Gareth Glanville Olivia Abbonizio	Coordinator City Future Projects Senior Strategic Planning Officer
Date:	18 January 2024	Time: 3pm
Venue:	City of Stirling – Challenger Room	

Proponent/s		
	Ben Carter	Pinnacle Planning (<i>Applicant</i>)
	Yan Ham	Olk and Associates
	Julian Croudace	Propagule
	Chris Bosco	Botchette Education
	Owners	Botchette Pty Ltd
Observer/s		

Briefings		
Development assessment overview	Michael Italiano	Acting Senior Planning Officer
Technical issues	Michael Italiano	Acting Senior Planning Officer
Design Review		
Proposed development	Item 2 – DA22/1242 – 104, 106A and 106B Main Street, Osborne Park – Development Assessment Panel – Form 1 – Child Care Premise	
Property address	104, 106A and 106B Main Street, Osborne Park	
Background	This is the second review of the proposal. The proponent has significantly amended the design since DRP1. This includes the replacement of the architect from DRP1 with a fresh approach which includes the consideration / adoption of most of the Panel's commentary.	
Proposal		

Applicant or applicant's representative address to the design review panel	Ben Carter Yan Ham Julian Croudace	Pinnacle Planning Olk and Associates Propagule
Key issues / recommendations	The applicant is applauded for the commitment to improving the design which has included a wholesale redesign to address the Panel comments from DRP1. The Panel is now supportive of the proposal and believes that the outcome will be a positive addition to the community of Osborne Park. The Panel has made some further minor (but important) suggestions for improvement which the City can review internally through the Development Application process. Another review is not required. Refer to attached Design Quality Evaluation Report.	
Chairperson signature		

Design quality evaluation Item 2 – DA22/1242 – 104, 106A and 106B Main Street, Osborne Park - Development Assessment Panel – Form 1 – Child Care premise DRP Meeting – Thursday 18 January 2024		
	S	<i>Design Principle satisfied</i>
	P	<i>Design Principle pending further attention</i>
	N	<i>Design Principle not satisfied</i>
Principle 1 Context and character		<i>Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.</i>
	S	1a. This design principle is satisfied.
Principle 2 Landscape quality		<i>Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.</i>
	S	2a. This design principle is satisfied. 2b. The Panel does not support the use of artificial turf. 2c. The Panel supports the landscape design with this this is well integrated with the overall design of the childcare centre. 2d. The Panel supports the landscape design to the Main Street fence line elevation. The Panel emphasised to the Applicant the need to ensure the landscaping of this area is sufficient in terms of deep soil and irrigation for the landscaping to thrive. 2e. The street tree removal is supported by the Panel based on the balance of what has been provided back into the development and subject to city authorisation.
Principle 3 Built form and scale		<i>Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.</i>
	S	3a. This design principle is satisfied.
Principle 4 Functionality and build quality		<i>Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.</i>
	P	4a. The Panel commented the elevation to the northern half of Main Street seems open and cluttered in comparison to the fairly resolved built form for the remainder of the development. The Panel recommends the northern part of the elevation should be simplified by increasing landscaping to help to unify this area. The Panel also recommended bringing screening elements down to the ground and suggested to flip the cot room to the street side. 4b. The Panel advised the fencing design addresses permeability and security issues. The Panel was supportive of the vines being incorporated into the landscaping. Comment was made by the Panel for the Applicant to have further thought if solid fencing is required and for acoustic considerations to be considered. 4c. The Panel supports the signage and how it integrates with the development. 4d. The Panel advised the Applicant to consider the width of the pedestrian walkway as is a little narrow and the functionality of this area could be compromised.
Principle 5 Sustainability		<i>Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.</i>
	P	5a. The Panel noted an ESD consultant has been engaged. The Panel encouraged the Applicant where possible to demonstrate more evidence and commitment to the sustainability initiatives relating to the development. 5b. The Panel noted the shading on the upper floor is north and west facing and recommends the Applicant ensure the shade sails are functional from a sustainability and amenity point of view.
Principle 6 Amenity		<i>Good design optimises internal and external amenity for occupants, visitors and neighbours providing environments that are comfortable, productive and healthy.</i>

	S	6a. This design principle is satisfied. 6b. The Panel requested further clarification regarding waste pick up and the location of a bin pad is provided.
Principle 7 Legibility		<i>Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.</i>
	S	7a. This design principle is satisfied. 7b. The Panel advised there is potential to improve the legibility and experience for the pedestrian entry off Hector Street.
Principle 8 Safety		<i>Good design optimises safety and security, minimising the risk of personal harm and supporting safe behavior and use.</i>
	S	8a. This design principle is satisfied.
Principle 9 Community		<i>Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.</i>
	S	9a. This design principle is satisfied. 9b. The Panel recommended the Applicant to consider additional ways to enhance the community interaction to the front area such as creating break out spaces for informal stops and community interaction.
Principle 10 Aesthetics		<i>Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.</i>
	S	10a. This design principle is satisfied. 10b. The Panel supports the signage and how it integrates with the development.

Design Review progress Item 2 – DA22/1242 – 104, 106A and 106B Main Street, Osborne Park - Development Assessment Panel – Form 1 – Child Care premise DRP Meeting – Thursday 18 January 2024 and 10 November 2022			
S	<i>Design Principle satisfied</i>		
P	<i>Design Principle pending further attention</i>		
N	<i>Design Principle not satisfied</i>		
	DR1 10/11/2022	DR2 18/1/2024	DR3
Principle 1 - Context and character		S	
Principle 2 - Landscape quality		S	
Principle 3 - Built form and scale		S	
Principle 4 - Functionality and build quality		P	
Principle 5 - Sustainability		P	
Principle 6 - Amenity		S	
Principle 7 - Legibility		S	
Principle 8 - Safety		S	
Principle 9 - Community		S	
Principle 10 - Aesthetics		S	

Recommendations Summary
Item 1 – DA22/1242 – 104, 106A and 106B Main Street, Osborne Park

DR1 – DRP Recommendations DRP Meeting – 10/11/2022	DR2 – Applicant Response DRP Meeting – 10/11/2022	DR2 DRP Recommendations DRP Meeting – 18/1/2024	DR2 – Applicant Response DRP Meeting – 18/1/2024
1a. The Panel stated it would be beneficial to see an urban design study and a context analysis undertaken by the Applicant to understand their reading of the current and future context of the surrounding area. 1b. The Panel commented that there is an opportunity to undertake an analysis of the area that will assist in understanding the fine grain of the area, the materiality and the opportunity of interface at street level.	1. Main Street locality to be removed from Structure Plan area, zoned residential. Context for the project now pivots to a child care in residential area, on a main arterial. Character of the area will now also pivot to residential style projects. Design now uses residential elements such as lightweight cladding and residential style fencing. Building still addresses with and engages the street. Design approach proceeded with now is akin to established styles of appropriate child care in residential areas.		
2b. The Panel urged the Applicant to enter into a dialogue with the city to ensure the verge trees can be planted as proposed. These are considered important to the interface of the building within the context. 2c. It was recommended by the Panel information around the garden beds on the upper levels could be included into the design and shown on the drawings. 2e. It would be beneficial for the Panel to see the intent of the landscape play experience and its interconnection with the broader design. There is opportunity for play spaces to be inviting and attractive.	2. Focus on balance of upper and ground floor play spaces. Change to site planning enables less covered play space. Critical feedback on minimum 30% uncovered landscaping. Retention of road widening area to boost onsite landscaping. Maintain rectangular footpath alignment and provide further verge landscaping. Play space zones identified.	2d. The Panel supports the landscape design to the Main Street fence line elevation. The Panel emphasised to the Applicant the need to ensure the landscaping of this area is sufficient in terms of deep soil and irrigation for the landscaping to thrive.	

2f.	Comment was made by the Panel the truncation of the footpath is not required and the footpath could be maintained on a rectangular alignment and create an opportunity for further landscaping.		
3a.	The Panel support the scale of the development and the way that it addresses the corner site location. Comment was made that there is considerable opportunity to further develop the bulk of the built form to maximise and improve amenity for children.	3.	Two storey form that was supported has been retained. Key site planning redistribution enables opening up of the northern aspect. Transition to a residentially based childcare form opens up play spaces. Fencing to streetscape balances security requirements and engagement with street. Western side of building accesses afternoon sun to paired back upper level, and open ground floor play zones. Building has transitioned from closed, hemmed in commercial/office aesthetic to open engaging built form.
3b.	Comment was made by the Panel there is opportunity to relocate the oculus closer to the building to allow more light into the play spaces and activity rooms that will struggle to get any meaningful natural light or ventilation with the current proposal.		
3c.	It was suggested by the Panel the configuration of the bathrooms on the lower level could be altered to minimize the negative impact they are having on surveillance and natural light penetration.		
3d.	The Panel commented on the need to consider ways in which the porosity of the ground floor interface with the street can be improved through a considered and nuanced response. The current interface with Main Street is not considered adequate in terms of visual amenity and activation.		
4b.	It was mentioned by the Panel the staff parking could be further away and parent drop off could be closer to the entry point. The Panel commented on the opportunities to consider the reallocation of tandem parking to assist in the redistribution of deep soil areas for the benefit of many rather than the few.	4.	Fundamental change to the building to enable it to open up and function appropriately. Accessible parking bay moved adjacent to entrance to centre. Redistribution of staff and drop off bay allocation to the centre, placing visitor and drop off parking closer to entrance.
		4a.	The Panel commented the elevation to the northern half of Main Street seems open and cluttered in comparison to the fairly resolved built form for the remainder of the development. The Panel recommends the northern part of the elevation should be simplified by increasing landscaping to help to unify this

	Use of tandem bays remains appropriate in conjunction with other site planning redistributions, to boost deep soil and uncovered play zones. Confirmation from the City verge collection for council private waste appropriate, waste vehicles do not need to enter the site.	area. The Panel also recommended bringing screening elements down to the ground and suggested to flip the cot room to the street side. 4b. The Panel advised the fencing design addresses permeability and security issues. The Panel was supportive of the vines being incorporated into the landscaping. Comment was made by the Panel for the Applicant to have further thought if solid fencing is required and for acoustic considerations to be considered. 4d. The Panel advised the Applicant to consider the width of the pedestrian walkway as is a little narrow and the functionality of this area could be compromised	
5a. It was stated by the Panel the sustainability principle has not been adequately addressed and requires further thought and development. 5b. The Applicant was encouraged by the Panel to explore options and make a commitment to sustainability initiatives and provide further information in the way of a sustainability strategy. 5c. The Panel commented on the inability for natural light and ventilation to penetrate the ground floor playroom and recommended reviewing this playroom. 5d. The Panel questioned why the upper-level outdoor areas are fully roofed. The guidance around this is 30% direct sunlight. This could be tested and amended. 5e. Comment was made by the Panel light in all rooms is questionable and recommended demonstrating the natural light penetration into the rooms.	5. Building has been re-designed to move away from heavily covered/closed in play and indoor spaces. 30% open play space minimum achieved to upper and lower play spaces as requested. Use of road widening area enables western façade to open up to light and ventilation. Combination of better access to light from western and eastern facades, plus shorter play space distance improves light to the centre in all respects. Sustainability WA engaged to provide ESD assessment.	5a. The Panel noted an ESD consultant has been engaged. The Panel encouraged the Applicant where possible to demonstrate more evidence and commitment to the sustainability initiatives relating to the development. 5b. The Panel noted the shading on the upper floor is north and west facing and recommends the Applicant ensure the shade sails are functional from a sustainability and amenity point of view	

5f.	There is opportunity for further thought and development in relation to cross ventilation throughout the design.		
	6. Nappy changing facilities shown on the plans and integrated into ground floor wet areas. The cot room has been amended to include a window to the outdoor play space, balancing ability to access moderate light, and darkness to facilitate sleeping. Redesign and changes to site planning greatly enhances internal and external amenity for the building.	6b. The Panel requested further clarification regarding waste pick up and the location of a bin pad is provided	
7a. The Panel commented that the legibility of the front door could be more prominent to the footpath and improve activation to the street. 7b. The Panel stated there is no information on signage noted on the drawings and request more information in this regard.	7. Simplified aesthetic to the building supports greater legibility. Fencing to Main Street ensures there is no confusing access sequence. Vehicle and pedestrian access points clearly legible to the Hector Street frontage. Signage above entrance to centre to further reinforce a logical access sequence, along with signage approach to both street facades.	7b. The Panel advised there is potential to improve the legibility and experience for the pedestrian entry off Hector Street	
8c.	The Panel commented there is opportunity to look for separation between vehicles and pedestrians. 8. Safety audit of the design has been undertaken in light of DRP comments. Reversing bay added to the car park area adjacent to terminating point of visitor and drop off bays. Footpath provided to all of the parking area on both sides of the drive aisle to effectively separate pedestrians from vehicles through the site.		

	The requirement to sleeve and screen parking behind the building balances the need to walk to the centre safely. Community can easily access the front of the centre without accessing the carpark through the dual access portico arrangement.		
9a. The Applicant was encouraged to think about the edge conditions on the ground floor façade in relation to the pedestrian experience. The Panel do not support the proposed blank façade and suggest consideration be given to reportioning the windows thus enabling the sightline to be higher and not into the floor area. This would enable a safe and respectful interaction with pedestrians without compromising the security of the children.	9. Transition from attempts to match a high street and commercial building to a more conventional residential based child care centre. Ground floor experience balanced safety, the building addressing the street, but also opening to the street, and engaging with it. The open play spaces enable light and ventilation, and for the community to hear children playing, and walk past a landscaped play space, a vast improvement over a closed façade from DRP 1.	9b. The Panel recommended the Applicant to consider additional ways to enhance the community interaction to the front area such as creating break out spaces for informal stops and community interaction.	
10a. The Panel commented there is opportunity for further development in the Applicants' approach to screening and stated the square motive feels heavy handed. 10b. It was suggested by the Panel it would be beneficial to connect the project materiality and detailing to the findings of the context and character study. 10c. Comment was made by the Panel there is opportunity for more tactility around the ground floor materiality.	10. The benefit of the site being rezoned to residential has enabled a study of residentially based and located child care in Perth. Enabled a simplified aesthetic to be delivered, focusing on the function of the building. Removal of heavy commercial materiality, and transition to residential style materiality. The design as amended is clearly identifiable as a child care centre, and consistent with accepted and appropriate childcare design.		



PART D – OTHER BUSINESS

1. State Administrative Tribunal Applications and Supreme Court Appeals

The DAP notes the status of the following State Administrative Tribunal Applications and Supreme Court Appeals:

Current SAT Applications				
File No. & SAT DR No.	LG Name	Property Location	Application Description	Date Lodged
DAP/22/02364 DR75/2023	City of Bayswater	504A & 504-508 (Lot 30,4) Guildford Road, Bayswater	Proposed service station, fast food outlet and showroom development	23/05/2023
DAP/22/02317 DR81/2023	City of Vincent	41-43 and 45 Angove Street, North Perth	Proposed Service Station	31/05/2023
DAP/23/02480 DR184/2023	City of Vincent	Lot 3 (37-43) Stuart Street, Perth	Proposed Unlisted Use (Community Purpose) & Alterations & Additions	
DAP/22/02259 DR166/2023	City of South Perth	Lots 253 & 50 (4-8) Charles Street, South Perth	Mixed use development	03/11/2023
DAP/23/02550 DR196/2023	City of Belmont	Lots 2, 606, 608 and 609 (No. 97-107) Great Eastern Hwy and Lots 302, 304, 305 (No.2) Acton Ave, Rivervale	Warehouse (Self Storage Facility)	21/12/2023

2. General Business

3. Meeting Closure

In accordance with Section 7.3 of the DAP Standing Orders 2024 a DAP member must not publicly comment on any action or determination of a DAP.