PART C – TOWN OF CLAREMONT

1. Declarations of Due Consideration

2. Disclosure of Interests

3. Form 1 DAP Applications

3.1 Lot No.508 (3) Shenton Road, Claremont – 8-storey multiple dwellings development – DAP/26/03123

4. Form 2 DAP Applications

Nil

5. Section 31 SAT Reconsiderations

Nil

PART C – ITEM 3.1 - LOT NO.508 (3) SHENTON ROAD, CLAREMONT

DAP Name:	Metro Inner Development Assessment Panel
DAP File No:	DAP/26/03123
LG Reference:	01PEA/26/5758 | DA26-050
Proposed Development:	8 – storey multiple dwellings development
Value of Development:	$67 million
Owner:	Claremont Devco Pty Ltd
Applicant:	Christian Parker, SLR Consulting Australia Pty Ltd
Local Government Area:	Claremont
Responsible Authority:	Town of Claremont
Authorising Officer:	Ashwin Nair
Application Acceptance Date:	25 May 2026

LOCATION PLAN

Figure 1: Location of the Subject Site shown in red

RESPONSIBLE AUTHORITY RECOMMENDATION

That the Metro Inner DAP resolves to **REFUSE** DAP Application reference DAP/26/03123 at Lot 508 (NO.3) Shenton Road, Claremont 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 Town of Claremont Planning Scheme No. 3, for the following reasons:

1. Having regard to clauses 67(2)(h) and 67(2)(s) of the Deemed Provisions, the proposed vehicle access from Tiger Way has not been demonstrated to provide safe and adequate access to and egress from the site, having regard to the unresolved sight-distance constraints, proximity to the pedestrian ramp and the opposing vehicle access. These matters are not considered capable of satisfactory resolution through a condition of approval without material redesign of the proposal.
2. Having regard to clauses 67(2)(h) and 67(2)(m) of the Deemed Provisions, the proposed eight-storey development is inconsistent with the site-specific building height framework for Lot 508 and does not maintain the intended variation and articulation of building height around the Claremont Oval edge. The proposal is therefore not considered to achieve clause 5.1.2 of the North East Precinct Design Guidelines or adequately achieve Element Objective O2.2.1 of the R-Codes Volume 2.
3. Having regard to clause 67(2)(p) of the Deemed Provisions, the proposal does not make adequate provision for landscaping, having regard to the substantial shortfalls in deep soil area and compensatory planting on structure. The proposal has not demonstrated sufficient soil area, soil volume and planting infrastructure to sustain healthy long-term plant and tree growth and is therefore not considered to achieve Element Objective O3.3.3 of the R-Codes Volume 2.

PROPOSAL:

Development approval is sought for an eight-storey multiple dwelling development forming Stage 2 of the Claremont Terraces development on the eastern portion of Lot 508 (No. 3) Shenton Road, Claremont.

The proposal comprises:

- 61 apartments;
- a total of 109 vehicle parking bays, comprising single bays and tandem bays
- 61 bicycle parking spaces;
- A primary pedestrian entrance from Shenton Road;
- Vehicle access from Tiger Way;
- Communal open space at Level 1 and rooftop level; and
- Shared waste collection arrangements using the existing Stage 1 Claremont Terraces waste collection area.

SUBJECT SITE AND SURROUNDS:

The subject site comprises the eastern portion of Lot 508 (No. 3) Shenton Road, Claremont. It has an area of approximately 2,000m² and forms part of the broader Claremont North East Precinct and the staged Claremont Terraces development.

The site is the last remaining vacant development site immediately surrounding Claremont Oval within the North East Precinct Structure Plan area. Development surrounding the oval generally comprises five to six storey multiple-dwelling developments, with some mixed-use components located along Shenton Road and at the southern end of Davies Road. The surrounding built form generally incorporates transitions in building height, particularly toward adjoining streets.

The site's principal interfaces are as follows:

- **South:** Shenton Road and the Perth–Fremantle railway corridor;
- **West:** Stage 1 of the Claremont Terraces development, occupying the western portion of Lot 508;
- **East:** Tiger Way and adjoining aged-care and childcare facilities; and
- **North:** Claremont Oval and the surrounding public open-space network.

The site is generally cleared and does not contain any structures or established vegetation. It is currently used as a site office, construction access ramp and vehicle-access point associated with Stage 1 of the development. Street trees are located within the Shenton Road verge and Tiger Way.

Figure 2: Aerial view of subject site and surrounding built form context

BACKGROUND:

The subject site forms part of Lot 508 within the Claremont North East Precinct and is subject to the Claremont North East Precinct Structure Plan (NEPSP) and the Detailed Area Plan applicable to Lot 508.

Under the Town of Claremont Local Planning Scheme No. 3 (LPS3), the subject site is zoned 'Development'. The site is designated for residential development under the NEPSP.

Development controls for the site are principally contained within the NEPSP, the North East Precinct Design Guidelines (NEP Design Guidelines) and the applicable Detailed Area Plan. The Residential Design Codes Volume 2 – Apartments (R-Codes) also apply to the development, together with the relevant State and local planning policies.

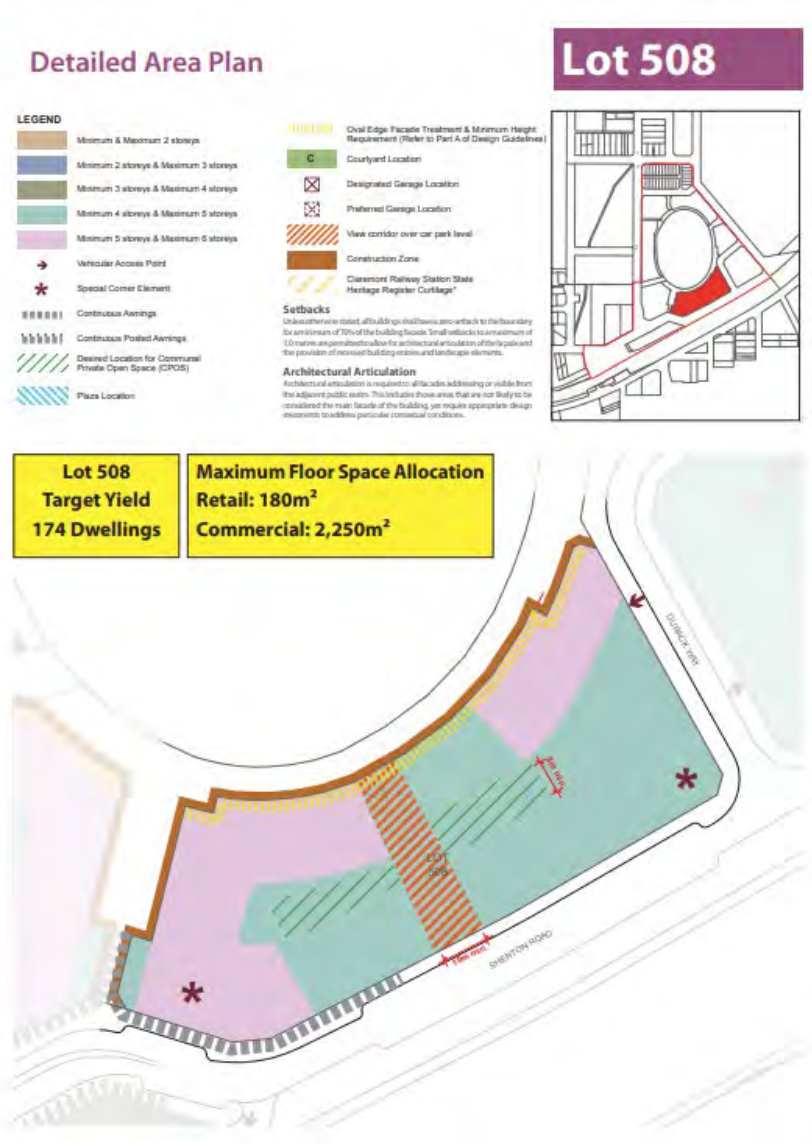

Figure 3: Detailed Area Plan for Lot 508 (No.3) Shenton Road, Claremont

The broader site was originally identified as Lot 508 and has subsequently been developed and subdivided in stages.

Stage 1 Approval History
Stage 1 of "The Terraces" development relates to the western portion of Lot 508.

The original application was lodged in 2018 and proposed an eight-storey mixed-use development comprising multiple dwellings, ground-floor commercial tenancies and associated car parking.

The development included a number of departures from the planning framework originally established for Lot 508, including in relation to building height, the location and configuration of the view corridor, and the vehicle access arrangement.

The proposal was initially refused by the Metro West Joint Development Assessment Panel (JDAP). The applicant subsequently lodged an application for review with the State Administrative Tribunal (SAT).

Revised plans were subsequently submitted and, pursuant to section 31 of the State Administrative Tribunal Act 2004, the matter was referred back to the JDAP for reconsideration. The JDAP again refused the amended proposal.

Following the SAT review process and further amendments to the proposal, a seven-storey Stage 1 development was ultimately approved. The most significant of changes through this SAT process was the reduction in height of the overall buildings.

Subdivision History
The Western Australian Planning Commission (WAPC) subsequently approved the subdivision of Lot 508 into two side-by-side lots comprising:

- A western lot of approximately 5,418m², containing the Stage 1 development; and
- An eastern lot of approximately 2,000m², forming the subject of the current Stage 2 application.

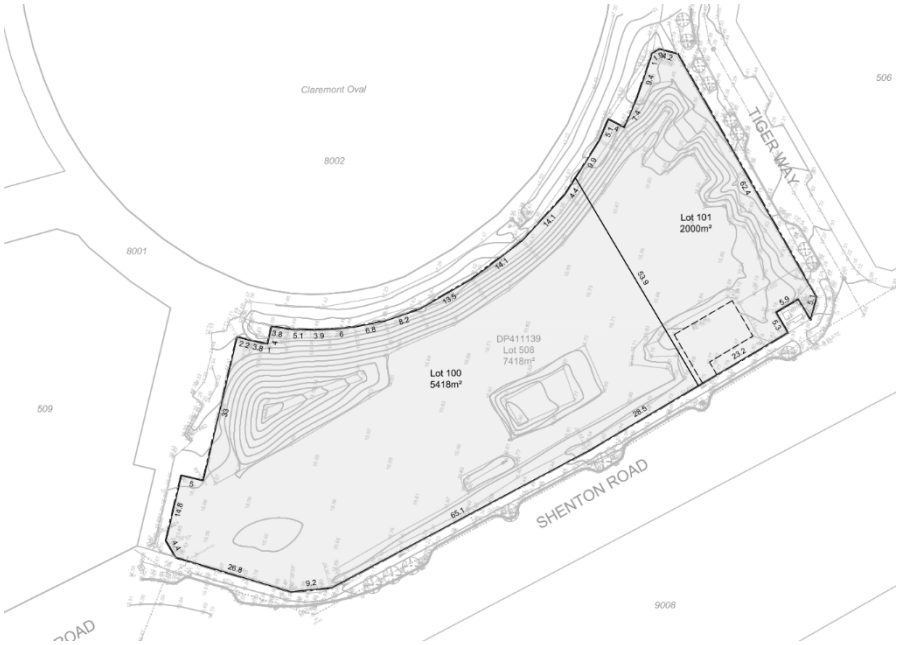

Figure 4: Approved Subdivision Plan

The Town considered the subdivision on two occasions and did not support the proposal, as it conflicted with the NEPSP's intended single-site development, view corridor and vehicle access arrangements. The subdivision was ultimately approved by WAPC.

Together with the SAT approved Stage 1 development, the subdivision approval materially altered the anticipated layout and development pattern of the broader site. In particular, it:

- Created two separate development sites;
- Altered the location and function of the view corridor originally anticipated through the site; and
- Established separate vehicle access arrangements for the two development sites.

The subdivision clearance application has recently been submitted to the Town but has not yet been cleared. Accordingly, the subdivision approval forms part of the relevant planning context, although the approved lots have not yet been formally created at the time of this assessment.

LEGISLATION AND PLANNING FRAMEWORK

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
- Town of Claremont Local Planning Scheme No. 3

State Planning Policies and Codes
- State Planning Policy 5.4 – Road and Rail Noise
- Residential Design Codes Volume 2 – Apartments

Structure Plan and Detailed Planning Framework
- Claremont North East Precinct Structure Plan
- Detailed Area Plan applicable to Lot 508

Local Planning Policies
- Local Planning Policy 128 – North East Precinct Design Guidelines
- Local Planning Policy 207 – Public Art

PLANNING ASSESSMENT:

PLANNING FRAMEWORK	
Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Urban
Local Planning Scheme	Town of Claremont
Local Planning Scheme - Zone	Development
Structure Plan/Precinct Plan	North East Precinct Structure Plan
Structure Plan/Precinct Plan - Land Use Designation	Residential
Lot Size	2000sqm
Existing Land Use	Vacant Land
Heritage Status	☒ N/A ☐ State Register of Heritage Places ☐ Local Heritage List ☐ Local Heritage Area
Bushfire Prone Area	No

The proposal has been assessed against the Scheme, State and Local Planning Policies, NEPSP and NEP Design Guidelines as well as Detailed Area Plan applicable to Lot 508. The following matters have been identified as key considerations for the determination of this application:

1) Vehicle Access
2) Building Height
3) Deep Soil Areas and Planting on Structure
4) Car Parking
5) Visitor Parking
6) Waste Management
7) Public Art

These key matters are outlined and discussed below.

Vehicle Access:

The proposal provides a single two way vehicle access from Tiger Way. The location and design of the vehicle access are assessed against the Detailed Area Plan applicable to Lot 508, the NEP Design Guidelines and Element 3.8 of the R-Codes.

Provision	Requirement	Proposal	Assessment
Detailed Area Plan applicable to Lot 508	Vehicle access to Lot 508 is identified from Tiger Way at a nominated location.	A single two-way vehicle crossover is proposed from Tiger Way at a location different from the access point identified on Figure 3 – Detailed Area Plan.	The proposal does not accord with the nominated access arrangement and is not considered to adequately achieve O3.8.1. Refer to discussion below.
R-Codes Volume 2 Element Objectives O3.8.1	Vehicle access points are designed and located to provide safe access and egress for vehicles and to avoid conflict with pedestrians, cyclists and other vehicles.	The proposed crossover is located adjacent to the existing pedestrian ramp and opposite the existing Queenslea vehicle access. A 1.5m × 1.5m pedestrian sightline area is provided on the northern side of the crossover only.	

The Detailed Area Plan was prepared on the basis of Lot 508 being developed as an integrated site and identifies vehicle access from Tiger Way at a nominated location. Stage 1, on the western portion of Lot 508, subsequently progressed separately and was ultimately approved following SAT review with vehicle access from Shenton Road. The access arrangement now applying across Lot 508 therefore differs from that originally contemplated by the Detailed Area Plan.

Stage 2 continues to take vehicle access from Tiger Way but proposes the crossover at a different location from that identified in the Detailed Area Plan. The departure from the nominated crossover location is not, in isolation, considered sufficient reason to withhold support. An alternative location could be acceptable where it is demonstrated to provide a safe and appropriate access arrangement having regard to the geometry of Tiger Way, pedestrian movements, adjoining vehicle accesses and on-street parking.

The applicant considers the proposed location to provide a preferable design response having regard to site levels, ramp length and the built-form implications of relocating the access further south. The amended Transport Impact Assessment submitted by the applicant also identifies on-street parking as affecting sightlines at both locations and considers the proposed crossover to provide the better sight-distance outcome.

Notwithstanding the applicant's justification, the proposed access arrangement has been reviewed by the Town and is not supported. The primary concern is the available sight distance for vehicles exiting the development.

The amended Transport Impact Assessment identifies a 35m sightline at the proposed crossover. The Town has advised that the assessment appears to rely on a straight-line measurement and does not demonstrate the actual available sight distance along the road alignment against the applicable sight-distance requirements.

The Town is not satisfied that a driver exiting the subject site would have sufficient visibility to identify and respond to approaching traffic before manoeuvring onto Tiger Way. This is particularly important given that the crossover would serve as the principal vehicle access for the Stage 2 development and would generate regular two-way vehicle movements across the footpath and verge.

The applicant has also referred to a possible 15-minute parking restriction adjacent to the crossover. Short-term parking controls may reduce the duration for which parked vehicles obstruct visibility, but they would not ensure that the required sightline remains unobstructed. No confirmed parking control arrangement has been submitted demonstrating the extent of the restriction or how the required visibility would be maintained. Any alteration to existing on-street parking controls would need to have regard to operation of Tiger Way and surrounding parking demand.

The sight-distance concern is compounded by the physical location of the proposed crossover and a concentration of conflict points within a relatively short section of Tiger Way. The crossover is immediately adjacent to an existing pedestrian ramp and directly opposite the existing vehicle access serving The Queenslea development. Consequently, vehicles entering and exiting the Stage 2 development would interact with:

- Pedestrians using the existing pedestrian ramp and footpath;
- Vehicles entering and exiting The Queenslea;
- Existing on-street parking bays along Tiger Way;
- Through traffic travelling along Tiger Way; and
- Vehicles manoeuvring across the proposed crossover, including vehicles entering and exiting the site simultaneously.

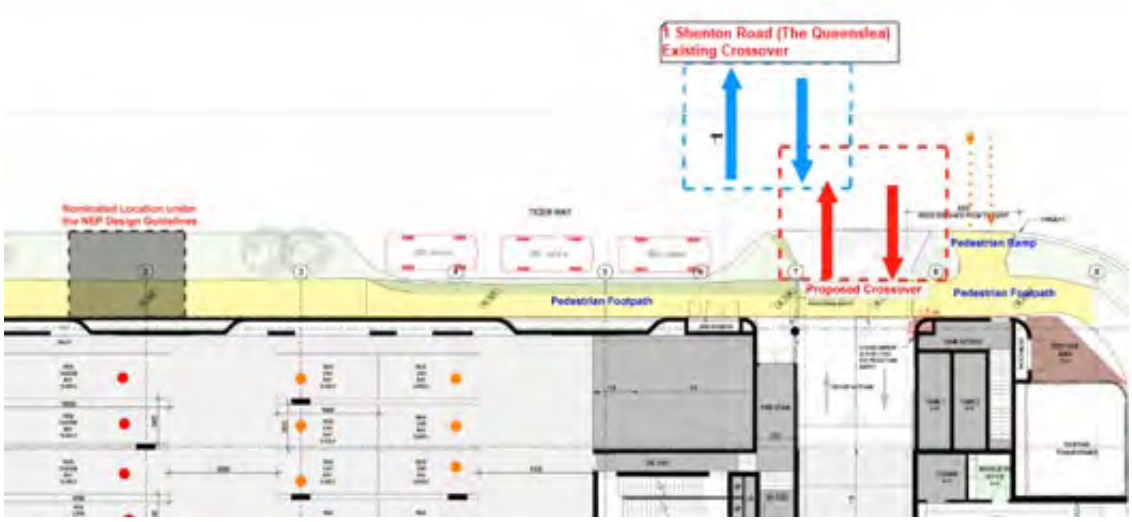

Figure 5: Proposed Crossover and Sightline Constraints

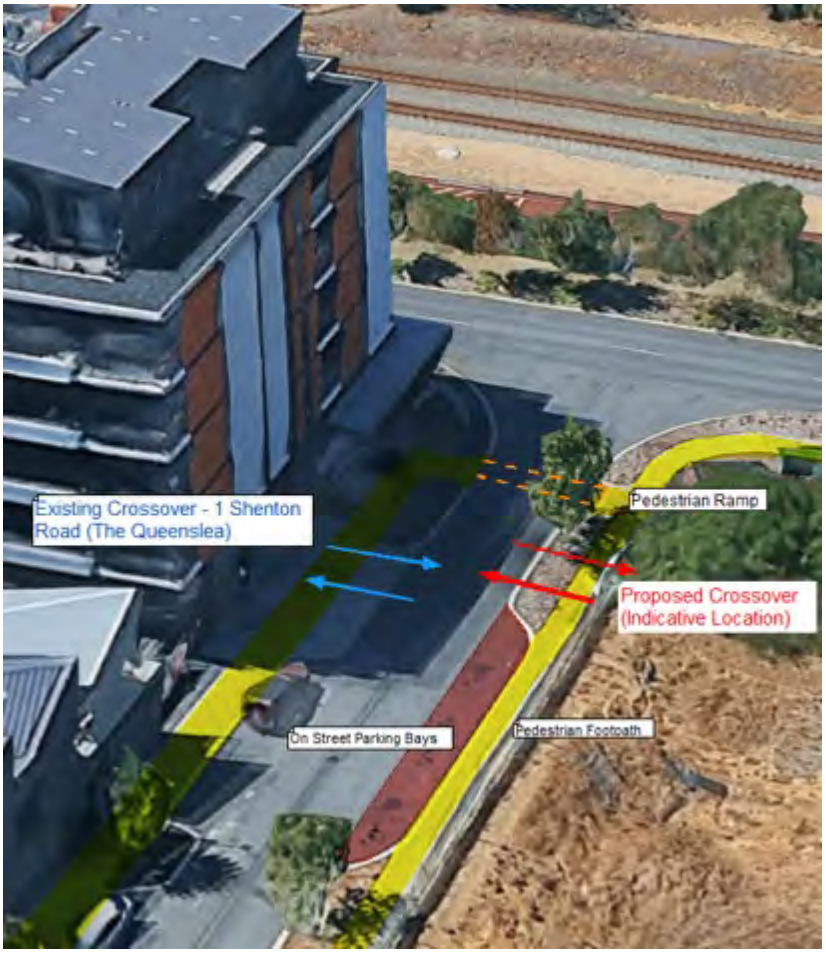

Figure 6: Tiger Way Streetscape and Crossover Context

These overlapping movements create a concentration of pedestrian and vehicle conflict points at the proposed access. Where sight distance is constrained, the ability of drivers to identify and respond to these movements is reduced. The concern is therefore not limited to whether a vehicle can physically enter or leave the site, but whether the access can operate safely when the various movements occur concurrently under normal day-to-day conditions.

A separate issue relates to pedestrian sightlines where vehicles cross the footpath. The submitted plans provide a 1.5m x 1.5m unobstructed pedestrian sightline area on the northern side of the crossover only. The applicant advises that the two-way crossover would operate with line marking and directional arrows intended to separate these movements.

The Town does not support this approach. The proposed line marking and directional arrows are driver-compliance measures rather than physical controls and do not prevent an exiting vehicle from using the southern side of the crossover. The southern side of the crossover does not provide an unobstructed sightline area, with the adjoining wall restricting visibility between an exiting driver and pedestrians using the footpath. The proposed convex mirror does not remove the physical obstruction or provide an equivalent direct and unobstructed sightline between vehicles and pedestrians.

The Town considers that the proposed access cannot reasonably rely on future parking restrictions, signage, line marking or driver behaviour as the primary means of addressing a fundamental sight distance deficiency. Such measures may provide some operational mitigation, but they do not remove the underlying physical conflict between the crossover, pedestrian ramp, opposing Queenslea access and traffic movements along Tiger Way.

On the information currently before the Town, relocation of the crossover is the only identified means of satisfactorily addressing the fundamental access safety concerns. Relocation would have consequential implications for the internal access ramp, parking layout, vehicle manoeuvring, landscaping and potentially verge infrastructure. It would therefore involve a material redesign of the proposal rather than a minor modification that could appropriately be resolved through a condition of approval. This was discussed with the applicant through the assessment process.

Having regard to the failure to demonstrate adequate vehicle sight distance along Tiger Way, the unresolved pedestrian sightline provision on the southern side of the crossover, the concentration of vehicle and pedestrian conflict points, and the reliance on operational measures that do not remove the underlying physical conflicts, the proposal has not demonstrated that the Tiger Way crossover would provide a safe and adequate means of vehicle access and egress.

The proposed vehicle access therefore does not adequately achieve R-Codes Volume 2 Element Objective O3.8.1. Accordingly, the proposed vehicle access arrangement is not supported.

Building Height

The proposal comprises an eight-storey multiple dwelling development with a maximum height of approximately 29m. The principal residential building form extends to approximately RL 43.51m, with a setback rooftop communal area and associated structures extending to a maximum level of approximately RL 46.77m.

The NEPSP establishes a low to medium rise built form character, comprising predominantly four to five storey multiple dwellings, with taller development occurring in selected locations. The Detailed Area Plan translates this broader precinct intent into site specific controls for Lot 508, providing a maximum height of five storeys over the southern portion of the site and six storeys over the northern portion.

The height framework is an important component of the broader built form strategy for the North East Precinct. The numerical height controls are not intended to operate in isolation, but to provide for a considered transition between areas of increased density and the surrounding established urban context. In this regard, taller built form is intended to be appropriately located and articulated with lower building forms and setbacks assisting in managing the visual scale and prominence of development at sensitive interfaces.

This is particularly important around Claremont Oval. The broader vision for the Precinct places particular emphasis on the relationship between development and the oval, with the core design principles seeking a coordinated relationship between development, the oval and the surrounding public realm. Buildings surrounding the oval collectively form its built edge and influence its perceived scale, enclosure and visual composition. The height controls established through the Detailed Area Plan therefore form part of a coordinated response to the oval edge and are more important in maintaining an appropriate density and built form.

The assessment of the proposal against the height provisions of the NEPSP and the relevant R-Codes Volume 2 Element Objectives is listed below.

Provision	Requirement	Proposal	Assessment
NEPSP Design Guidelines 5.1.2 – Heights	Buildings are to conform to the maximum and minimum height controls prescribed by the applicable Detailed Area Plan, being five storeys within the southern portion of the site and six storeys within the northern portion. The provisions also seek to maintain the character envisaged for the Claremont NEP	The proposal comprises eight storeys, exceeding the maximum DAP height by up to three storeys within the southern portion and two storeys within the northern portion.	The proposed height materially departs from the site-specific height framework established for Lot 508 and would increase the scale and prominence of built form along this section of the Oval edge. The proposal seeks a variation to the applicable height control. The resulting built form is **not supported**.

	and require articulation of building height to promote height variation around the Oval edge and throughout the precinct.		Refer to discussion below.
R-Codes Volume 2 Element Objectives O2.2.1	The height of development responds to the desired future scale and character of the street and local area, including existing buildings that are unlikely to change.	The proposal comprises eight storeys, with rooftop communal facilities and associated structures extending above the principal residential roofline.	The proposed building height is not considered to adequately achieve O2.2.1. Refer to discussion below.

The proposal represents a departure from the planned height framework for Lot 508. At eight storeys, it exceeds the maximum height identified by the Detailed Area Plan by up to three storeys within the southern portion of the site and two storeys within the northern portion.

The approved Stage 1 development forms an important part of the existing context and has already introduced taller built form than originally contemplated for Lot 508. The principal residential roof level of the proposed Stage 2 development at approximately RL 43.51m is broadly comparable with the highest roof level of Stage 1 top at approximately RL 43.6m. It is also broadly comparable with the retirement living development across Tiger Way, at approximately RL 42.9m.

Figure 7: Height Comparison Between Stage 1, Stage 2 and The Queenslea

Stage 2 would however continue the taller built form established by Stage 1 across a greater proportion of the Lot 508 frontage to the Oval. The setback rooftop communal area and associated structures extend above the principal residential roofline to approximately RL 46.77m. Although recessed and less visually prominent than the main residential floors, this upper built form remains visible within the overall building bulk and increases the prominence of the development when viewed from the Oval and surrounding public realm.

When Stages 1 and 2 are considered together, the completed development would create a substantial and relatively continuous area of taller built form along this section of the oval edge. This would alter the balance between the individual buildings defining the oval edge and increase the visual prominence of development on Lot 508 within the broader built form composition.

The Town acknowledges that the site's proximity to Claremont Train Station, Claremont Quarter and other services supports density residential development. The NEPSP has recognised this strategic role and sought to accommodate increased density through a coordinated arrangement of density, building height and built form across the precinct. The ability to accommodate density within the NEP does not, however, remove the importance of managing building height at sensitive interfaces. Rather, the concentration and graduation of height are fundamental to achieving the intended relationship between higher-density development and established areas.

In this context, the DAP height controls provide an important transition between the higher-density development anticipated within the NEP and the lower-scale built form and open space interfaces surrounding it. Allowing an additional two to three storeys above the prescribed height would weaken this transition and establish a greater concentration of taller built form along an important section of the oval edge. The cumulative effect is therefore relevant.

The issue is consequently not whether the additional storeys can be accommodated on the site, but whether the resulting height and built form remain consistent with the planned distribution and articulation of height across the NEP and the intended character of the oval edge. In this instance, the extent of the variation, when considered in conjunction with the approved Stage 1 development, would result in a built form outcome that is different from that contemplated by the NEPSP and the NEP Design Guidelines.

This is also relevant when considering the dwelling yield contemplated for lot 508. The Detailed Area Plan identifies a minimum target dwelling yield of 174 dwellings. The approved Stage 1 development comprises 137 dwellings and the proposed Stage 2 development provides a further 61 dwellings, resulting in an overall yield of approximately 189 dwellings. The applicable minimum target dwelling yield would therefore be exceeded.

The dwelling yield establishes the level of residential development sought within the sub-precinct, while the DAP height controls separately establish the intended distribution and scale of that development. In this instance, the minimum dwelling yield can be achieved without relying on the additional two to three storeys proposed above the DAP height controls.

Having regard to the extent of the height variation, the cumulative relationship between Stages 1 and 2, and the resulting concentration of taller built form along this section of the Oval edge, the proposal is considered to result in a built form outcome different from that contemplated for Lot 508.

The proposal is therefore not considered to adequately satisfy clause 5.1.2 of the NEP Design Guidelines and is not considered adequately achieve Element Objective O2.2.1 of the R-Codes Volume 2.

Deep Soil Areas and Planting on Structure

The proposal does not achieve the Acceptable Outcomes of Element 3.3 of the R-Codes in relation to deep soil area, tree provision and planting on structure.

Provision	Requirement	Proposal	Assessment
R-Codes Volume 2 – Acceptable Outcomes A3.3.4	A site greater than 1000m^2 is to provide deep soil area equivalent to 10% of the site area. Based on a site area of 2000 m^2, 200m^2 is required.	The proposal provides 42m^2 deep soil area.	This aspect of the proposal seeks to vary this provision and **is not supported**. Refer to discussion below.
R-Codes Volume 2 – Acceptable Outcomes A3.3.5	Landscaping is to include the prescribed combination of large and medium trees, or large trees, together with small trees to suite the site area.	The landscape plan identified 19 small trees with an indicative mature canopy area of approximately 532 m^2.	This aspect of the proposal seeks to vary this provision and **is not supported**. Refer to discussion below.
R-Codes Volume 2 – Acceptable Outcomes A3.3.7	Where the required deep soil area can not be provided due to site restrictions, planting on structure equivalent to twice the deep soil shortfall is to be provided. Based on a 158 m^2 shortfall, 316 m^2 of planting on structure is required.	The proposal provided 237.5 m^{2}planting on structure.	This aspect of the proposal seeks to vary this provision and **is not supported**. Refer to discussion below.

A minimum of 200m² of deep soil area is required for the site, whereas 42m² is proposed. This represents approximately 21% of the required provision and results in a substantial shortfall of 158m².

It is acknowledged that the configuration and intensity of the development constrain opportunities to provide deep soil area. However, the R-Codes specifically contemplate circumstances where the required deep soil area cannot be achieved due to site restrictions. In these circumstances, A3.3.7 provides an alternative response through planting on structure equivalent to twice the deep soil shortfall.

In this case, the 158m² deep soil shortfall generates a requirement for approximately 316m² of planting on structure. The proposal provides 237.5m², leaving a further shortfall of 78.5m². Accordingly, the proposal not only falls substantially short of the primary deep soil requirement, but also does not achieve the alternative planting response specifically contemplated by the R-Codes to compensate for that shortfall.

The proposal also does not achieve the tree provision contemplated by A3.3.5 and Table 3.3a. The landscape plan identifies 19 small trees with an indicative mature canopy area of approximately 532m². This canopy contribution is acknowledged. However, A3.3.5 does not rely solely on total canopy area and also contemplates a mix of tree sizes capable of providing larger canopy trees appropriate to the scale of the development. No large or medium trees are proposed in the combination contemplated by Table 3.3a.

While the proposed small trees would make a positive contribution to landscaping and canopy cover, the indicative mature canopy area does not demonstrate that the development provides sufficient soil area, soil volume and planting infrastructure to support the scale and diversity of long-term planting contemplated by Element 3.3.

The landscape response relies concurrently on a substantially reduced deep soil area, a reduced compensatory planting-on-structure provision and a tree-size composition that differs from that contemplated by the R-Codes.

As such, the proposed landscape response is not considered appropriate with the scale and intensity of the development and has not demonstrated that sufficient soil area and volume would be available to sustain healthy long-term plant and tree growth.

Accordingly, the proposal is not considered to adequately satisfy Element Objectives O3.3.3, and the variation is not supported.

Car Parking

The proposal provides car parking through a combination of 39 conventional parking bays, 35 tandem parking arrangements. Collectively, these arrangements are capable of accommodating up to 109 vehicles.

Provision	Requirement	Proposal	Assessment
NEPSP Section 9.5	Residential car parking is limited to a maximum of 1.2 bays per apartment.	109 vehicle spaces, comprising 39 conventional parking spaces and 35 tandem parking arrangements.	This aspect of the proposal seeks a variation to the maximum car parking provision and is considered **capable of support**. Refer to the discussion below.

The provision exceeds the NEP maximum by 36 spaces. However, it remains below the maximum of 119.5 spaces established by Acceptable Outcome A3.9.3 of the R-Codes Volume 2. While this does not displace the applicable NEP requirement, it provides relevant context by demonstrating that the overall parking capacity remains within the upper limit contemplated by the State planning framework.

Of the 109 vehicle spaces, 35 are secondary positions created through the tandem arrangements. They provide additional vehicle storage but do not offer the same level of convenience or operational independence as an equivalent number of conventional parking bays.

The tandem spaces are intended to be allocated together with their corresponding primary spaces to the same dwelling. This will allow the secondary spaces to accommodate additional household vehicles without creating access conflicts between different residents.

The maximum parking rate of 1.2 bays per dwelling was established as part of the planning framework prepared for the NEP. While the requirement remains relevant, its application should also have regard to the nature of the development now proposed.

The dwelling mix predominantly comprises two and three bedroom apartments, which may reasonably accommodate households with more than 1 vehicle. Providing secondary spaces within the development offers flexibility for these households and assists in containing resident parking demand on site rather than transferring that demand to surrounding streets and public parking areas.

The additional parking capacity does not result in a corresponding adverse impact on the public realm. All parking is contained within the building and is not visible from the street. The proposal also provides bicycle parking and benefits from convenient access to public transport, ensuring that alternative transport modes remain available and supported.

Having regard to the above, the variation sought is considered capable of support.

Visitor Parking

Provision		Requirement	Proposal	Assessment

R Codes A3.9.2		10 visitor parking bays	6 visitor parking bays	This aspect of the proposal seeks to vary this provision and **is not supported**. Refer to discussion below.

The R-Codes requires 10 visitor parking bays to be provided, while the proposal provides 6 bays, resulting in a shortfall of 4 visitor bays.

The applicant considers the reduced provision to be acceptable having regard to the site's proximity to Claremont Quarter, public transport services and the availability of nine on-street parking bays within the vicinity of the site. While the site's accessibility and availability of alternative transport modes are acknowledged, it does not demonstrate that there is sufficient available on-street to accommodate the shortfall.

This is particularly relevant having regard to Design Guidance DG3.9.3, which contemplates a reduction in visitor parking where adequate on-street or public parking is available in the near vicinity of the development.

Further, the applicant has identified the introduction of 15-minute parking restrictions to nearby on-street bays as a potential measure to address the safety and sightline issues associated with the proposed vehicle access. This would mean the ability of those bays to accommodate residential visitors for typical visit durations would be substantially limited. Reliance on those same bays to justify the visitor parking shortfall is therefore not considered robust.

Notwithstanding the above, any changes to street parking will be subject to a separate independent process by the Town. Therefore, Officer considered that any restrictions proposed should not be contemplated when considering the merits of this application.

More broadly, the surrounding on-street parking is subject to competing demand from existing surrounding uses, including the nearby childcare centre and the retirement living development. The applicant has not demonstrated that sufficient spare parking capacity would remain available to accommodate the additional visitor demand generated by the development.

Accordingly, while the site's proximity to public transport and other facilities is acknowledged, the proposed visitor parking shortfall has not been adequately justified against Element Objective O3.9.2 and the relevant Design Guidance. The variation is not supported

Additional Variations

In addition to the key matters discussed above, the proposal involves a number of additional variations under the applicable planning framework. These matters are summarised and assessed below.

Provision	Requirement	Proposal	Assessment
NEP Design	Residential buildings are	The proposal has a maximum building	The increased depth occurs within a C-shaped building

Guidelines 5.1.1 – Building Depth	to have a maximum building depth of 20m, measured glass line to glass line.	depth of approximately 24.61m for the northern wing and 24.09m for the eastern wing.	configuration rather than a continuous deep floorplate. The central courtyard provides additional building frontage and opportunities for daylight, ventilation and outlook. Apartments do not generally extend across the full depth of the eastern wing, while apartments affected by the greater depth within the northern wing include openings and balconies to opposing elevations and achieve dual-aspect arrangements. The submitted daylight assessment also demonstrates acceptable internal amenity outcomes. The proposal is considered to achieve the objectives of the building depth provisions and is therefore **capable of support.**
NEP Design Guidelines 4.2 and 4.6 – Public Domain Interface / Active Frontage	Buildings are to appropriately address the public domain. Active uses are to occupy at least 80% of ground-level frontages to streets and public open space, with no more than 20% comprising walls without openings, screened parking, car park entrances	Approximately 13% of the Tiger Way frontage comprises active uses, with approximately 87% comprising vehicle access, screened parking and other non active elements.	The departure is influenced by the site topography and the relationship between the building floor levels and Tiger Way, which results in the lower parking level presenting to part of the frontage. The NEP framework does not require commercial uses along Tiger Way. In this residential context, activation is also provided by Level 1 dwellings, windows and balconies overlooking the Tiger Way. The parking frontage is screened and integrated into the architectural and landscape treatment of the building.

	or service areas.		Having regard to the residential nature of the development, site circumstances and overall public domain response, this aspect of the proposal seeks to vary the active frontage provision and is considered **capable of support.**
NEP Design Guidelines 5.2.3 – Oval Edge Interface Zone	The finished floor level of the first residential level is to be between 0.9m and 1.5m above the proposed finished landscape level at the lot boundary, with a maximum average difference of 1.2m.	The proposed finished floor level ranges from approximately 0.99m to 1.68m above the adjoining finished landscape level, exceeding the 1.5m maximum in limited locations.	The exceedance is limited in extent, with the maximum departure being approximately 0.18m. The departure principally results from the slope and level transition across the site. Having regard to the relatively minor extent of the departure and the proposed landscape and built-form treatment along the interface, it is not considered to materially affect the relationship between the development and Claremont Oval. This variation is considered **capable of support.**
NEP Design Guidelines 5.2.2 – Facades and 5.3.3 – Screens and Awnings (Oval Edge Façade Treatment)	The Lot 508 DAP identifies an Oval Edge Façade Treatment. The Design Guidelines seek to manage impacts associated with Claremont Football Club and Showgrounds activities, including noise, projectiles and excessive light, while	Dedicated extensive fixed screening is not proposed to the balconies facing Claremont Oval. The Oval facing façade is angled and articulated, with balconies oriented towards the Oval.	The Design Guidelines also contemplate an open inward-facing relationship with the Oval which takes advantage of views and provides passive surveillance or “eyes on the park”. While the proposal does not provide the screening treatment contemplated by clause 5.3.3, the façade design is considered in the context of the broader intent of the Guidelines, including the open inward-facing relationship sought under clause 5.2.2. The angled orientation of the façade, together with the building articulation and balcony

	providing an appropriate response to the relationship with the Oval.		treatment, provides a site-specific response while retaining outlook and passive surveillance of the Oval. Extensive fixed screening across the Oval-facing façade is not considered necessary in this instance to achieve an acceptable overall façade outcome. The proposed façade response is considered to appropriately balance the intended relationship with the Oval, and is considered **capable of support.**
NEP Design Guidelines 5.3.1 – Solar Access	A minimum of 70% of dwellings are to have outdoor living areas that benefit from a northerly aspect. A minimum of 70% of apartments are also to receive two hours of direct sunlight to major living rooms and private open space between 9am and 3pm in mid winter.	Approximately 34% of apartments provide outdoor areas with a northerly aspect. The submitted solar analysis demonstrates that 45 of the 61 dwellings, approximately 74%, receive at least two hours of direct sunlight during mid-winter, with five dwellings receiving no direct sunlight.	The orientation and configuration of the site limit the extent of building frontage capable of achieving a direct northerly aspect. While the proposal does not achieve the prescribed proportion of northerly oriented outdoor living areas, the submitted solar analysis demonstrates that a substantial majority of dwellings achieve direct winter sunlight. This indicates that the building layout achieves an acceptable solar access outcome notwithstanding the site constraints and the numerical departure from the northerly aspect requirement. This aspect of the proposal seeks to vary the northerly aspect provision and is considered **capable of support.**
NEP Design Guidelines 5.5.2 - Drying Areas	Each dwelling shall be provided with an individual drying area or provided with easy	Each dwelling is provided with an individual laundry. Specific details of clothes drying facilities and screening from	The matter is capable of being appropriately addressed through a condition of approval.

	access to a communal drying area. Drying areas are to be concealed from public view, adequately ventilated and located to minimise impact to adjoining residences.	public view have not been identified on the plans.	
R-Codes Volume 2 – A2.7.1 Building Separation	Within the site boundary, a minimum separation of 18m is required between opposing habitable rooms and/or balconies for building portions between five and eight storeys	At Levels 5 to 7, the separation between the Stage 1 and Stage 2 buildings ranges from approximately 16m to 18.3m. The rooftop level comprises communal open space and does not form part of the relevant habitable room/balcony interface for the purposes of this assessment. Portions of Levels 5 to 7 therefore fall below the 18m separation requirement.	The reduced separation is confined to relatively small sections of the buildings, principally between opposing balcony areas, while the majority of the interface achieves 18m or greater. Major habitable room openings are not directly opposed at the closest points. Having regard to the limited extent of the departure and the overall relationship between the buildings, an acceptable level of residential amenity is maintained. The variation is considered **capable of support.**
R-Codes Volume 2 – A4.3.4 Size and Layout of Dwellings	The length of a single-aspect open-plan living area is to be no greater than three times the ceiling height. Where the kitchen is located furthest from the window, an additional 1.8m may be	The single-aspect open-plan living areas within the D1 and SPH3 dwelling types have a maximum depth of approximately 10.14m, exceeding the 9m maximum by approximately 1.14m. Other applicable dwelling layouts satisfy the room-depth requirement	The departure is confined to a small number of dwelling layouts. The affected apartments otherwise provide appropriate room dimensions and ceiling heights, and the development demonstrates acceptable daylight and natural ventilation outcomes. The additional room depth is not considered to materially compromise the functionality

	provided, to a maximum overall length of 9m.		or internal amenity of the affected dwellings. The variation is considered **capable of support.**

Other Planning Matters

Visual Privacy

Visual privacy has been considered having regard to the relationship between balconies and major openings within the proposed development and the adjoining Stage 1 development.

Within the central courtyard, a number of balconies within Stage 2 directly face balconies within Stage 1. However, the separation between these opposing balconies is more than 21m. Given the substantial separation provided, this facing relationship is not considered to result in unreasonable direct overlooking or unacceptable visual privacy impacts.

Elsewhere, balconies and major openings are generally offset from opposing habitable rooms and private outdoor living areas.

On this basis, the proposal is considered to provide an acceptable visual privacy outcome and additional privacy screening is not considered necessary.

Waste Management

The applicant has confirmed that waste servicing for Stage 2 will utilise the Stage 1 loading and waste collection area, including the platform lift, with the Facility Manager responsible for coordinating waste collection and implementing contingency arrangements should the shared waste servicing infrastructure be temporarily unavailable.

The Town has reviewed the proposed arrangements and raised no objection, subject to the waste management responsibilities and contingency arrangements being appropriately implemented during operation.

As the Stage 2 waste servicing arrangements rely on infrastructure located within Stage 1, should the application be supported, conditions are recommended requiring the approved Waste Management Plan to be implemented and maintained for the life of the development.

Evidence would also be required demonstrating legally enforceable arrangements securing ongoing access to and use of the Stage 1 loading area, waste collection area, platform lift and associated waste transfer route. These arrangements are to address the ongoing access, operation, maintenance, repair and availability of the shared infrastructure, together with appropriate contingency arrangements should any component be temporarily unavailable.

Transport Impact Assessment

The Town has identified a several number of outstanding matters within the submitted Transport Impact Assessment relating to traffic assignment and the modelled performance of the surrounding road network, including level of service and queue lengths. The submitted information has not fully resolved these matters or identified any mitigation measures that may be required as a result of the development.

These matters are considered capable of further technical resolution. Should the application be approved, it can be addressed through a condition requiring an amended Transport Impact Assessment prior to the issue of a Building Permit, to the satisfaction of the Town.

Public Art

As the application has a development value of approximately $67 million, the proposal is subject to Local Planning Policy 207 – Public Art. The Policy requires a public art contribution equivalent to 1% of the development value, capped at $500,000. Accordingly, the applicable public art contribution for the development is $500,000.

The applicant has identified two potential locations for public art, being the corner of Tiger Way and Shenton Road, and the pedestrian environment along Tiger Way between the proposed development and Claremont Oval.

The Town considers that the public art requirement can be appropriately addressed through a condition of approval requiring the preparation and implementation of a Public Art Strategy to the satisfaction of the Town.

CONSULTATION:

PUBLIC CONSULTATION

The application was advertised for a period of 14 days in accordance with the R-Codes and clause 64 of the deemed provisions in Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015*. Advertising commenced on 30 June 2026 and concluded on 15 July 2026.

Consultation was undertaken through the following methods:

- advertising letters were distributed by email to strata managers of surrounding developments;
- three signs were erected on the subject site, being along Shenton Road, along Tiger Way; and facing the adjoining oval; and
- the application was published on the Town's community consultation webpage.

A total of 16 submissions were received, all objecting to the proposal. A response to the schedule of submissions can be seen in Attachment 11.

Comment/Matter Raised	Responsible Authority response
Building bulk and scale	Concerns regarding building bulk and scale are acknowledged.

	The proposed eight-storey height exceeds the five- to six-storey height framework applicable to Lot 508 and is not considered consistent with the intended built-form scale and character of the precinct. This matter forms part of the Responsible Authority's recommendation for refusal.
Precinct consistency and cumulative built form	The relationship of the proposal to the established and approved built-form context has been considered. While Stage 1 has altered the immediate development context, it does not amend the applicable planning framework or establish the proposed eight-storey scale as the desired future character for the remainder of Lot 508.
Residential amenity	Residential amenity has been assessed against the relevant R-Codes provisions. A number of key variations are considered acceptable where the relevant Element Objectives are achieved; however, this does not overcome the separate concerns identified elsewhere in the assessment.
Density, site capacity and infrastructure	The proposed dwelling yield has been considered in the context of the strategic intent for additional housing within the North East Precinct. The dwelling yield itself is not considered determinative. Greater weight has been given to whether the proposed development can be accommodated within an appropriate built form and without unacceptable impacts on access, parking, landscaping, servicing and amenity.
Traffic, vehicle access and road safety	Concerns regarding vehicle access and road safety are supported by the Town. The proposed crossover location has not been demonstrated to provide an acceptable vehicle and pedestrian safety outcome, having regard to sight distance, the adjacent pedestrian ramp, the opposing vehicle access and on-street parking. This matter forms part of the Responsible Authority's recommendation for refusal.
Construction activity, pedestrian access and temporary impacts	Construction related impacts would be managed through an approved Construction Management Plan and relevant conditions should the application be approved.

Planning precedent, community expectations, equity and public benefit	Each application is assessed on its individual merits against the applicable planning framework. Approval of a development does not establish an entitlement for equivalent development on other sites. Community views have been considered together with the relevant statutory and strategic planning considerations.
Strategic planning, design quality and overall planning outcome	The architectural and design qualities of the proposal are acknowledged. However, design quality must be considered together with consistency with the applicable strategic and statutory planning framework. In this instance, the identified concerns relating particularly to building height, vehicle access and landscaping outcomes are not considered to be outweighed by the broader design merits of the proposal.
Property values and neighbourhood desirability	Property values are not a relevant planning consideration. Matters relating to neighbourhood character and amenity have instead been considered through the applicable planning controls and objectives.
Site identification and assessment process	The application has been assessed against the planning controls applicable to the subject land and the development proposed. Matters raised regarding the description or identification of the site do not alter the substantive planning assessment of the proposal.

REFERRALS/CONSULTATION WITH GOVERNMENT/SERVICE AGENCIES

The subject site is located within 100 metres of land owned by or vested in the Public Transport Authority (PTA), being the Perth–Fremantle railway corridor. The application was therefore referred to the Public Transport Authority for comment.

The Public Transport Authority raised no objection to the proposal, subject to recommended Advice Notes relating to railway-interface approvals, transport noise, drainage, and the protection of railway infrastructure and operations.

The PTA's initial referral response, together with its subsequent response to the applicant's further information are included in Attachment 13.

CLAREMONT ON THE PARK ARCHITECT ADVICE

The application was not referred to a Design Review Panel, as development within the North East Precinct is subject to review by the Claremont on the Park Estate Architect.

The applicant engaged with the Claremont on the Park Estate Architect on three occasions during the development of the proposal. The latest advice, included at Attachment 10, reflects the outcome of this iterative design review process.

The Estate Architect acknowledged that the proposal had significantly improved through the review process and considered that the development would make a positive contribution to Claremont on the Park. The Estate Architect also considered that the overall approach adopted by the applicant was consistent with, and would deliver, the intent of the NEP Design Guidelines.

Formal Estate Architect endorsement was not provided, as a number of aspects of the proposal remained inconsistent with the requirements of the Design Guidelines or required further design resolution.

Matters identified for further review included public art, the crossover, lighting, mechanical and hydraulic design, signage, materials and finishes, and the roof design associated with the upper levels and rooftop amenities.

The Estate Architect's advice has been given due regard in the assessment of the application. The advice is generally positive in relation to the overall architectural and design response, while the specific planning variations and technical matters identified in this report have been separately assessed against the applicable Detailed Area Plan, NEP Design Guidelines, R-Codes Volume 2 and relevant technical advice.

ALTERNATIVE TO RESPONSIBLE AUTHORITY RECOMMENDATION

Notwithstanding the Responsible Authority's recommendation to refuse the application, the without prejudice conditions are provided if DAP determines that the application should be approved. Full list of conditions and advice notes are provided in Attachment 14.

CONCLUSION:

The application seeks development approval for Stage 2 of the residential development at Lot 508 (No. 3) Shenton Road, comprising 61 multiple dwellings within an eight storey building adjoining the approved Stage 1 development and Claremont Oval. The application has been assessed against the relevant provisions of Local Planning Scheme No. 3, the North East Precinct Structure Plan, the North East Precinct Design Guidelines, the applicable Detailed Area Plan and the R-Codes Volume 2.

The assessment has identified three principal matters relevant to the determination of the application: vehicle access, building height and deep soil and landscaping provision.

The proposed vehicle access from Tiger Way has not been demonstrated to provide a safe and adequate access and egress arrangement. In particular, adequate vehicle sight distance along Tiger Way has not been demonstrated and the pedestrian sightline provision on the southern side of the crossover remains unresolved. These concerns are compounded by the proximity of the existing pedestrian ramp, the crossover directly opposite the Queenslea vehicle access and the resulting concentration of vehicle and pedestrian conflict points. Resolution of these matters would likely require relocation or material redesign of the access

arrangement, with consequential changes to the internal access and parking layout, and is not considered capable of being appropriately addressed through a standard condition of approval.

The proposed eight-storey development exceeds the site-specific five to six-storey height framework established for Lot 508. While the principal residential roof level is broadly comparable with surrounding development, the proposal would extend taller built form across a greater proportion of the site and, when considered together with Stage 1, is not considered to maintain the intended distribution and articulation of building height along the Claremont Oval edge.

The proposed landscape response involves substantial shortfalls in deep soil area and compensatory planting on structure. While the proposed landscaping would provide a contribution to future tree canopy, the extent of the deep soil and planting-on-structure shortfalls is not considered to provide sufficient planting infrastructure to adequately achieve the relevant landscaping objectives of the R-Codes Volume 2.

The proposal provides 6 visitor parking bays in lieu of the 10 bays required by the R-Codes Volume 2, resulting in a shortfall of 4 bays. While the proposed visitor bays are appropriately located and accessible within the development, the information provided does not demonstrate that the reduced provision would adequately cater for visitor parking demand associated with the development. The variation is therefore not supported. However, the visitor parking shortfall is considered secondary to the principal matters identified above.

Having regard to the above, the proposal is not considered to adequately satisfy the relevant vehicle access, building height and landscaping objectives and requirements of the applicable planning framework.

On balance, the outstanding matters are considered sufficiently significant that the proposal, in its current form, does not represent an acceptable planning outcome. Refusal of the application is therefore recommended

ATTACHMENTS

1. Location Plan
2. Development Plans received 10 September 2026
3. Applicant's Planning Report received 18 May 2026
4. Transport Impact Assessment received 10 September 2026
5. Landscape Concept received 10 September 2026
6. Applicant's Architectural Report received 18 May 2026
7. Sustainable Design Assessment received 10 September 2026
8. Waste Management Plan received 18 May 2026
9. Acoustic Report received 18 May 2026
10. Estate Architect Endorsement Letter received 18 May 2026
11. Applicant's Response to Submissions received 10 September 2026
12. Applicants Response to Request for Further Information received 10 September 2026

13. Public Transport Authority's Referral Comments
14. Alternative to Responsible Authority Recommendation

Attachment 1 - Location Plan

Town of Claremont

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1 : 1,994 at A4
02-Oct-2026
View map online

Legend

Profile
All

General

Property Info

Property Boundaries

Admin Boundaries

Town of Claremont Boundary

Planning

Zones and Reserves

TPS3 Zones

- Development
- Educational
- Highway
- Light industrial
- Local centre
- Local reserves - recreation
- Local road
- No zone
- Residential
- Special zone - restricted use
- Town centre

TOWN of CLAREMONT

Town of Claremont

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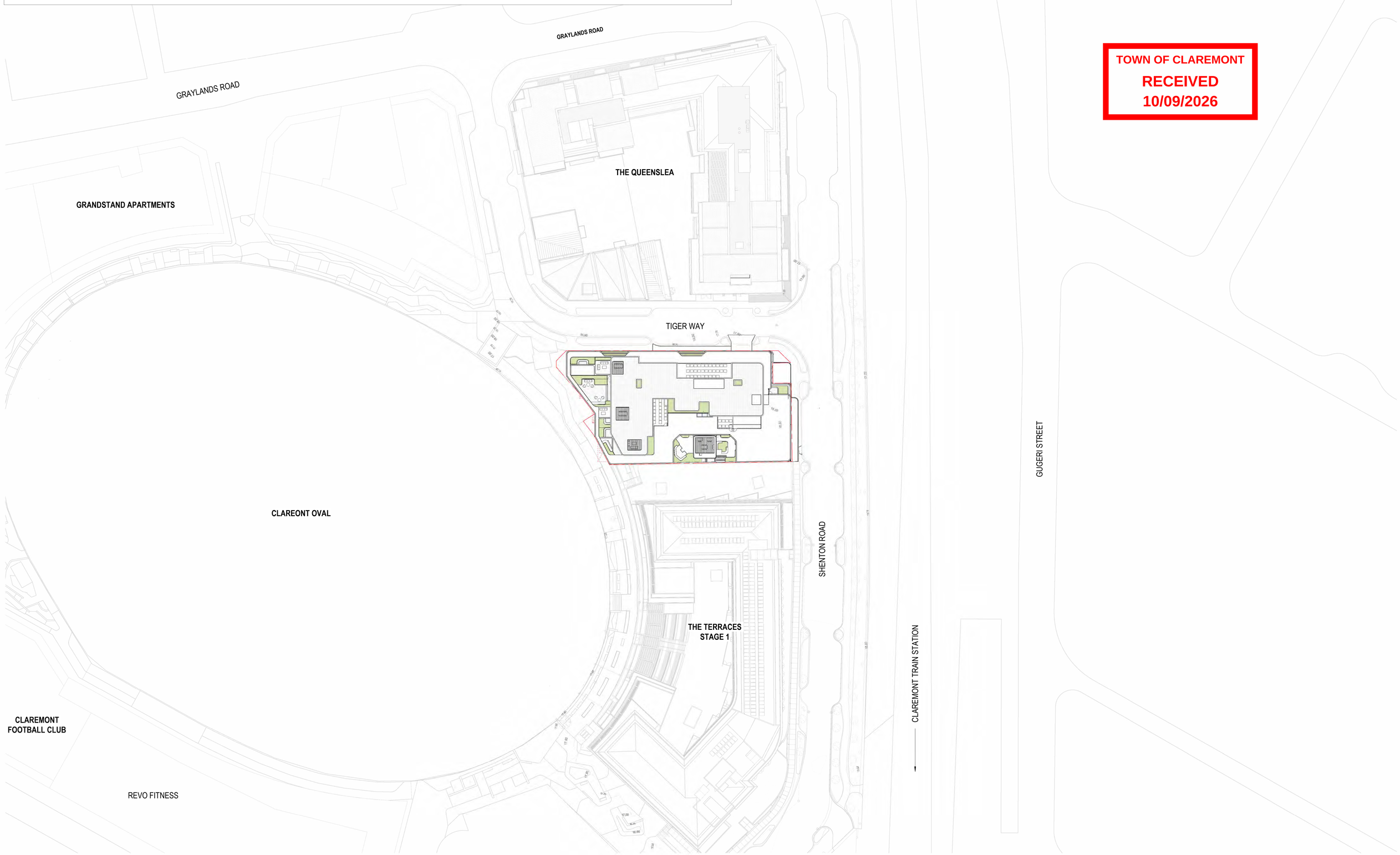
1 : 1,994 at A4

View map online

Attachment 2 - Development Plan



TOWN OF CLAREMONT
RECEIVED
10/09/2026

CLAREMONT TERRACES
STAGE 2
LOT 508 3 SHENTON ROAD, CLAREMONT
NORUP PTY LTD

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SCALE @ A1
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PROJECT NO.
2509

REV	DATE	ISSUED	DESCRIPTION
7	24.08.2026	RS	Response to Request for Information
6	14.08.2026	RS	Response to Request for Information
5	30.04.2026	AJ	Development Application
4	21.04.2026	AJ	Development Application
3	20.03.2026	AJ	Development Application

DRAWING TITLE
SITE LOCATION

DRAWING NO.
SK01-00

REV
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CLAREMONT TERRACES
STAGE 2

LOT 508 3 SHENTON ROAD, CLAREMONT
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2	24.02.2026	AJ	Consultant Coordination
1	12.02.2026	ES	Consultant Coordination Issue

DRAWING TITLE
BASEMENT PLAN

DRAWING NO.
SK01-01

REV
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CLAREMONT TERRACES
STAGE 2

LOT 508 3 SHENTON ROAD, CLAREMONT
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1	12.02.2026	ES	Consultant Coordination Issue

DRAWING TITLE
GROUND FLOOR PLAN

DRAWING NO.
SK01-02

REV
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CLAREMONT TERRACES
STAGE 2
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DRAWING TITLE
LEVEL 1 PLAN

DRAWING NO.
SK01-03

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DRAWING TITLE
LEVEL 2 PLAN (TYPICAL)

DRAWING NO.
SK01-04

REV
6

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CLAREMONT TERRACES
STAGE 2
LOT 508 3 SHENTON ROAD, CLAREMONT
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DRAWING TITLE
LEVEL 3 PLAN

DRAWING NO.
SK01-05

REV
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DRAWING TITLE
LEVEL 4 PLAN

DRAWING NO.
SK01-06

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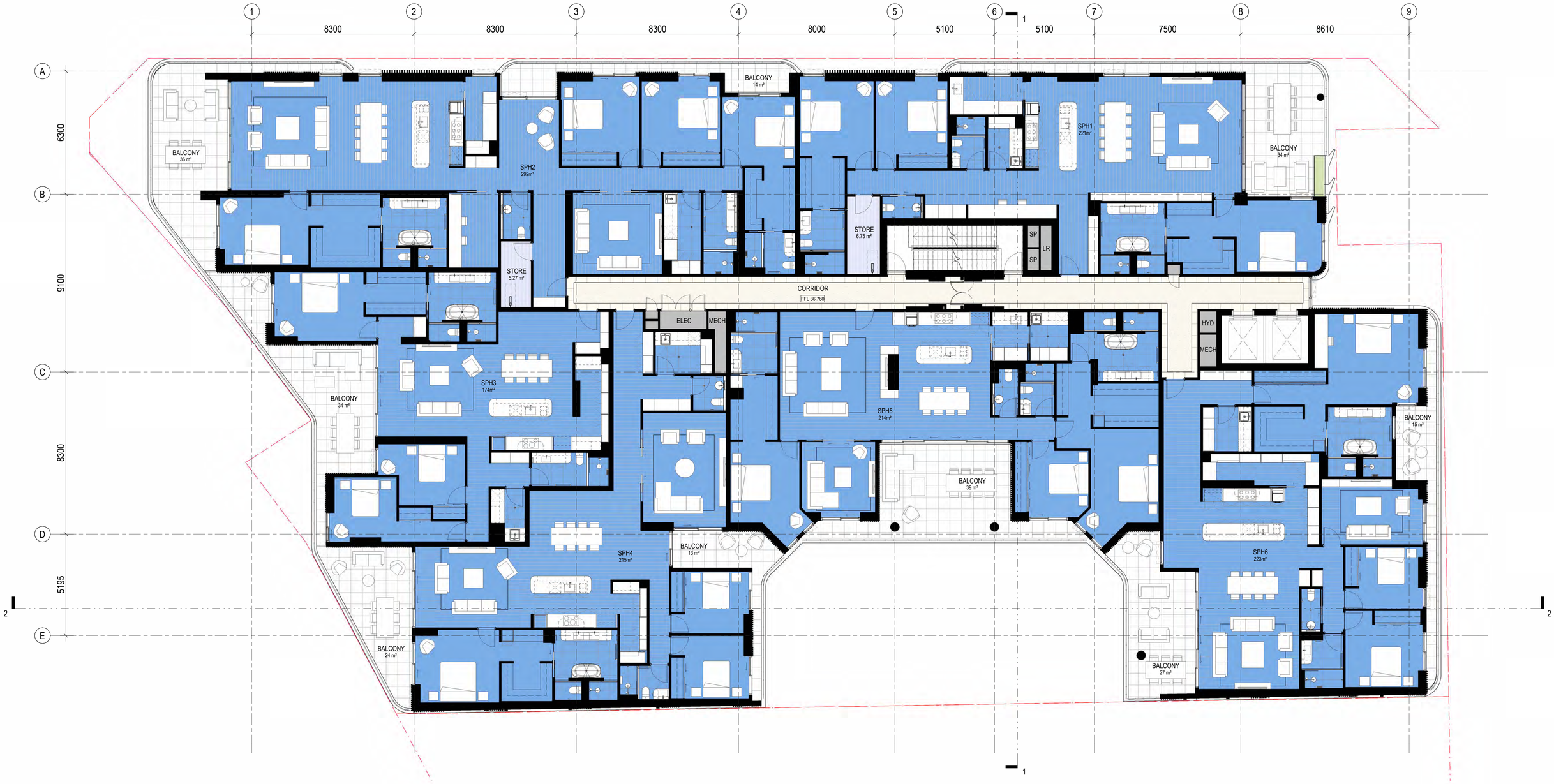

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DRAWING TITLE
LEVEL 6 PLAN
(SUB-PENTHOUSE)

DRAWING NO.
SK01-08

REV
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CLAREMONT TERRACES
STAGE 2
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DRAWING TITLE
LEVEL 7 PLAN
(PENTHOUSE)

DRAWING NO.
SK01-09

REV
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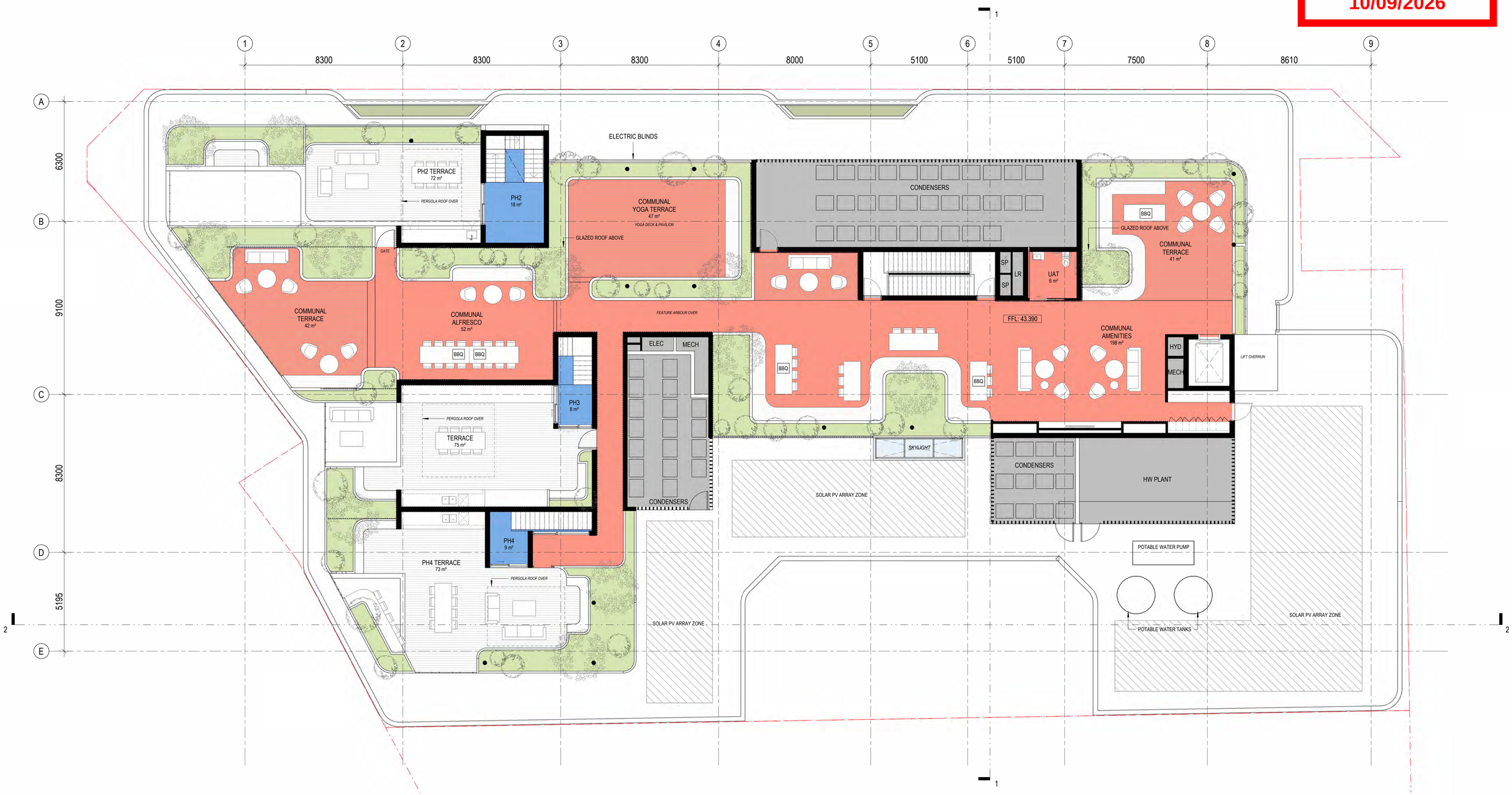
TOWN OF CLAREMONT
RECEIVED
10/09/2026



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STAGE 2
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DRAWING TITLE
ROOF AMENITY PLAN

DRAWING NO.
SK01-10

REV
7

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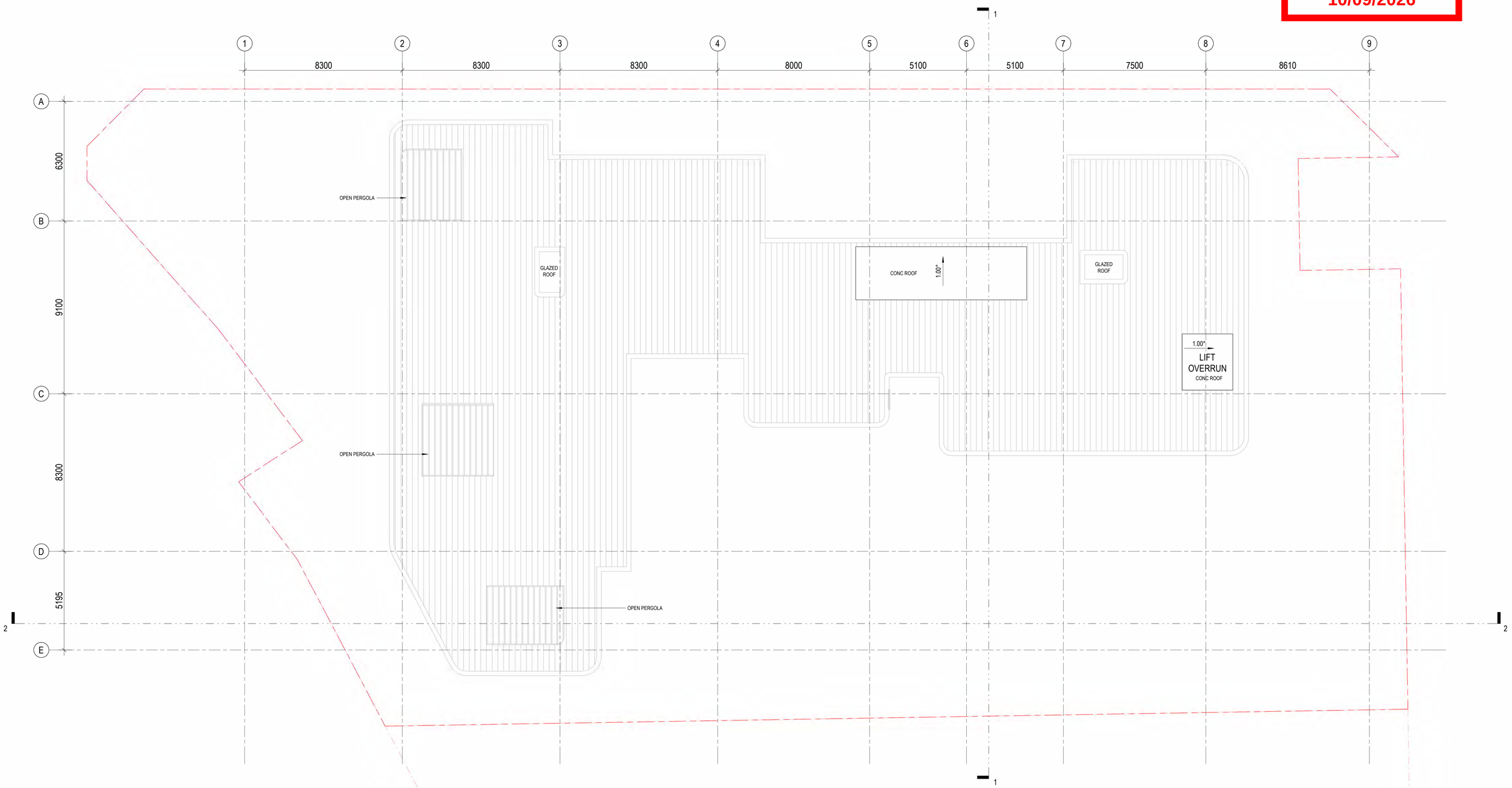

CLAREMONT TERRACES
STAGE 2
LOT 508 3 SHENTON ROAD, CLAREMONT
NORUP PTY LTD

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SCALE @ A1
1 : 100
0 1 2 3 4 m

PROJECT NO.
2509

REV	DATE	ISSUED	DESCRIPTION
7	24.08.2026	RS	Response to Request for Information
6	14.08.2026	RS	Response to Request for Information
5	30.04.2026	AJ	Development Application
4	21.04.2026	AJ	Development Application
3	20.03.2026	AJ	Development Application
1	12.02.2026	ES	Consultant Coordination Issue

DRAWING TITLE
ROOF PLAN

DRAWING NO.
SK01-11

REV
7

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CLAREMONT TERRACES
STAGE 2
LOT 508 3 SHENTON ROAD, CLAREMONT
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3	20.03.2026	AJ	Development Application

DRAWING TITLE
SECTION 01 EAST-WEST

DRAWING NO.
SK01-12

REV
7

TOWN OF CLAREMONT
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CLAREMONT TERRACES
STAGE 2
LOT 508 3 SHENTON ROAD, CLAREMONT
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DRAWING TITLE
SECTION 02 NORTH-SOUTH

DRAWING NO.
SK01-13

REV
7

TOWN OF CLAREMONT
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1 Elevation - East
1 : 100

CLAREMONT TERRACES
STAGE 2
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SCALE @ A1
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0 1 2 3 4 m

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DRAWING TITLE
ELEVATION - EAST

DRAWING NO.
SK01-14

REV
7

TOWN OF CLAREMONT
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10/09/2026

1 Elevation - South
1 : 100

CLAREMONT TERRACES
STAGE 2
LOT 508 3 SHENTON ROAD, CLAREMONT
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DRAWING TITLE
ELEVATION - SOUTH

DRAWING NO.
SK01-15

REV
7

TOWN OF CLAREMONT
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1 Elevation - North
1 : 100

CLAREMONT TERRACES
STAGE 2
LOT 508 3 SHENTON ROAD, CLAREMONT
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SCALE @ A1
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DRAWING TITLE
ELEVATION - NORTH

DRAWING NO.
SK01-16

REV.
7

TOWN OF CLAREMONT
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1 Elevation - West
1 : 100

CLAREMONT TERRACES
STAGE 2
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DRAWING TITLE
ELEVATION - WEST

DRAWING NO.
SK01-17

REV
7

Planning and Development (Local Planning Schemes) Regulations 2015

Clause 67(2) of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* (the Deemed Provisions) specifies matters which are to be given due regard when determining applications for approval.

An assessment of the proposal against the relevant matters outlined in Clause 67(2) of the Deemed Provisions has been undertaken. A summary of the assessment is provided in the following Table.

Table 1: Clause 67(2) assessment

Provision	Applicant response
(a) the aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area	The proposal is consistent with the aims and provisions of the Town of Claremont Local Planning Scheme 3 (LPS3) as it: • contributes to the delivery of a diversity of dwelling styles and densities in a location well serviced by public transport networks; and • contributes to the development of Claremont North East Precinct, providing critical mass to support its growth and designated functions.
(b) the requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the local government is seriously considering adopting or approving	It is not publicly known that the Town is preparing to adopt any new Local Planning Scheme or Local Planning Policies which relate to the subject site.
(c) any approved State planning policy	The proposal has been considered against the relevant provisions of the following State Planning Policy – • SPP5.4 Road and Rail Noise • SPP7.0 Design of the Built Environment • SPP7.3 Residential Design Codes Volume 2 – Apartments
(fa) any local planning strategy for this Scheme endorsed by the Commission	The proposal is consistent with the aims and provisions of the City's *Local Planning Strategy (2024)* as it – • provides additional dwellings in a location well-connected to public transport infrastructure and public open space networks • increases the diversity of housing options for a greater diversity of residents and households • responds to the established character within the immediate locality
(g) any local planning policy for the Scheme area	The proposal has been considered against the relevant provisions of the following Local Planning Policy – • LPP 128 - NEP Design Guidelines • LPP 207 – Public Art

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Provision	Applicant response
(h) any structure plan or local development plan that relates to the development	The proposal has been considered against the relevant provisions of the *North East Precinct Structure Plan*.
(m) the compatibility of the development with its setting, including – *(i) the compatibility of the development with the desired future character of its setting; and* *(ii) the relationship of the development to development on adjoining land or on other land in the locality, but not limited to, the likely effect of the height, bulk, scale orientation and appearance of the development.*	The relationship of the proposed building with its setting and local context has been detailed throughout this development application.
(n) the amenity of the locality including the following – *(i) environmental impacts of the development* *(ii) the character of the locality* *(iii) social impacts of the development*	The amenity of the proposed apartment building within its locality has been considered throughout this development application.
(p) whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved	The landscape strategy for the subject site provides deep soil areas of 39m^2 on ground level for tree planting, 253m^2 of on-structure landscaping and the planting of 23 small trees. The landscaping response to the subject site will deliver an improved urban outcome. Refer to *Appendix B – Landscape Plan*
(s) the adequacy of – *(i) the proposed means of access and egress from the site; and* *(j) arrangements for the loading, unloading, manoeuvring and parking of vehicles*	Refer to *Appendix F – Transport Impact Assessment*
(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	Refer to *Appendix F – Transport Impact Assessment*

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Provision	Applicant response
(u) the availability and adequacy for the development of the following – *(i) public transport services* *(ii) public utility services* *(iii) storage, management and collection of waste* *(iv) access for pedestrians and cyclists (including end of trip storage, toilets and shower facilities)* *(v) access by older people and people with disability*	Refer to *R-Code Vol. 2 Assessment* and *Appendix F – Transport Impact Assessment*
(x) the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals	The proposal will deliver necessary housing diversity and affordable housing for the locality, consistent with the zoning and density coding of the land.
(y) Any submissions received on the application.	To be confirmed through the development application process.
(z) The comments or submissions received from any authority consulted under clause 66.	To be confirmed through the development application process.

State Planning Policy 5.4 Road and Rail Noise

The WAPC's *State Planning Policy 5.4 Road and Rail Noise* (SPP5.4) applies where noise sensitive land uses are located within a specified distance of a transport corridor. As the subject site is within the trigger distance of a 'Metropolitan Passenger Railway (i.e., the Fremantle rail line) the provisions of this policy apply.

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Figure 1 – Significant Freight Route Trigger Distance

An assessment of the proposal against the requirements of SPP5.4 has been undertaken and has been appended to this Planning Report.

The future noise assessment predicts that most apartments will experience incident levels above LAeq,day 58 dB, with the highest at 64 dB, placing them in Noise Exposure Category C under SPP 5.4. Compliance is achievable through enhanced façade treatments, including upgraded wall, window, and door constructions to meet required sound reduction performance.

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Refer to Appendix H – Acoustic Report.

State Planning Policy 7.0 Design of the Built Environment

The Western Australian Planning Commission's (WAPC's) State Planning Policy 7.0 Design of the Built Environment (SPP7.0) is the lead policy that elevates the importance of design quality across the whole built environment. This Policy includes 10 principles for good design and establishes the framework for integrating design review as part of the evaluation process.

Responses to each of the 10 principles for good design have been provided to accompany this application. A response to each of the design principles is provided in the following Table.

Table 2: Principles of good design

Principle	Applicant response
Context and character *Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.*	The proposed development responds to the established context of Claremont Oval with a well designed, carefully crafted building that sits politely but confidently at the junction between Shenton Rd and Tiger Way.
Landscape quality *Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.*	The broader precinct of Claremont Oval has extensive, high quality landscaped public realm. This proposal has been designed to sit well within this setting, with perimeter planting at strategic locations at the ground floor interface. This is supplemented with extensive on structure landscaping at level 1 and rooftop amenity.
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.*	The built form has been carefully crafted in response to the existing and emerging scale of the precinct. In particular, the proposed development of stage 2 responds to the height of the approved stage 1 development immediately to the west.
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.*	All apartments have been carefully planned to deliver a high-quality living environment, featuring efficient and functional layouts, generous balconies, a well-considered communal courtyard, and a diverse range of rooftop shared spaces.
Sustainability *Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.*	Sustainability starts with well-designed apartments, most of which benefit from natural cross ventilation. Extensive roof top solar panels help offset the energy requirements of the common areas and help to reduce the running costs for residents. EV charging ready infrastructure will help future proof the development.
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,*	Generous levels of amenity are afforded to future residents of the development, which starts with a flexible use space at ground level. Extensive outdoor amenities at level 1 and rooftop level are complemented by generous private apartment balconies and terraces throughout.

Principle	Applicant response
providing environments that are comfortable, productive and healthy.	
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.*	A highly legible ground floor entry to the development reinforces the development's main address on Shenton Rd and provides a welcoming arrival experience for residents and visitors alike. The overall articulation and formal expression of the building is kept deliberately simple. Expressed balcony edges with subtle curves reference those of the oval.
Safety *Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.*	Extensive active edges and "eyes on the street" are the basic of good design and promote the wellbeing of residents and the broader community.
Community *Good design responds to local community needs as well as the wider social context, providing environments that mitigate negative impacts on pedestrian amenity.*	The local community of the oval will benefit from another high-quality development within the precinct, which will complete the oval edge built form composition. The residents of the proposed stage 2 development will not only benefit from the extensive amenities within the building but those of the broader context.
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.*	The building has been carefully crafted to complement the existing built form of Claremont Oval. A simple, restrained palette of high quality materials are part of a refined composition. The horizontal banding is accentuated by a darker facade material, whilst "special moments" like the double height curved entry make a statement at street level.

State Planning Policy 7.3 Residential Design Codes Volume 2 – Apartments

The WAPC State Planning *Policy 7.3 Residential Design Codes Volume 2 – Apartments* (R-Codes Vol. 2) is a policy for apartments (multiple dwellings) in high density coded areas (R80 and above and R-AC).

Under R-Codes Vol. 2, development proposals must demonstrate that the design achieves the objectives of each design element. While addressing the Acceptable Outcomes is likely to achieve the Objectives, they are not a deemed-to-comply pathway and the proposal will be assessed in context of the entire design solution to ensure the Objectives are achieved. Proposals may also satisfy the Objectives via alternative means or solutions.

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ELEMENT 2.2	BUILDING HEIGHT	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O2.2.1 – The height of development responds to the desired future scale and character of the street and local area, including existing buildings that are unlikely to change.	Refer to **NEP Design Guidelines Assessment (5.1.2 - Heights)**.	
O2.2.2 – The height of buildings within a development responds to changes in topography.		
O2.2.3 – Development incorporates articulated roof design and/or roof top communal open space where appropriate.		
O2.2.4 – The height of development recognises the need for daylight and solar access to adjoining and nearby residential development, communal open space and in some cases, public spaces.		
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A2.2.1 – Development complies with the building height limit (storeys) set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the building height limit set out in the applicable local planning instrument.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment (5.1.2 - Heights)**.	

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ELEMENT 2.3	STREET SETBACKS	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O2.3.1 – The setback of the development from the street reinforces and/or complements the existing or proposed landscape character of the street.	Refer to **NEP Design Guidelines Assessment (DAP Lot 508)**.	
O2.3.2 – The street setback provides a clear transition between the public and private realm.		
O2.3.3 – The street setback assists in achieving visual privacy to apartments from the street.		
O2.3.4 – The setback of the development enables passive surveillance and outlook to the street.		
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A3.2.1 – Development complies with the street setback set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the street setback set out in the applicable local planning instrument (4) Minimum secondary street setback 1.5m (5) Nil setback applicable if commercial use at ground floor		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	The DAP within the Town's NEP states: *Unless otherwise stated, all buildings shall have a zero setback to the boundary for a minimum of 70% of the building facade. Small setbacks to a maximum of 3.0 metres are permitted to allow for architectural articulation of the façade and the provision of recessed building entries and landscape elements.*	

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ELEMENT 2.4	SIDE AND REAR SETBACKS	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O2.4.1 – Building boundary setbacks provide for adequate separation between neighbouring properties.	Refer to **NEP Design Guidelines Assessment (DAP Lot 508)**.	
O2.4.2 – Building boundary setbacks are consistent with the existing streetscape pattern or the desired streetscape character**.**		
O2.4.3 – The setback of development from side and rear boundaries enables retention of existing trees and provision of deep soil areas that reinforce the landscape character of the area, support tree canopy and assist with stormwater management.		
O2.4.4 –The setback of development from side and rear boundaries provides a transition between sites with different land uses or intensity of development.		

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A2.4.1 - Development complies with the side and rear setbacks set out in Table 2.1, except where:

a) modified by the local planning framework, in which case development complies with the side and rear setbacks set out in the applicable local planning instrument

AND /OR

b) a greater setback is required to address *3.5 Visual privacy*.

(1) Wall may be built up to a lot boundary, where it abuts an existing or simultaneously constructed wall of equal or greater proportions

(2) Where the subject site and an affected adjoining site are subject to different density codes, the length and height of any boundary wall on the boundary between them is determined by reference to the lower density code

(3) Boundary wall only permitted on one boundary, and shall not exceed 2/3 length.

(6) Boundary setbacks will also be determined by provisions for building separation and visual privacy within this SPP and building separation provisions of the NCC.

A2.4.2 – Development is setback from the boundary in order to achieve the Objectives outlined in *2.7 Building separation*, *3.3 Tree canopy and deep soil areas*, *3.5 Visual privacy* and *4.1 Solar and daylight access*.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	The DAP within the Town's NEP states: *Unless otherwise stated, all buildings shall have a zero setback to the boundary for a minimum of 70% of the building facade. Small setbacks to a maximum of 3.0 metres are permitted to allow for architectural articulation of the façade and the provision of recessed building entries and landscape elements.*

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ELEMENT 2.5	PLOT RATIO	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O2.5.1 – The overall bulk and scale of development is appropriate for the existing or planned character of the area.	The Town's NEP does not prescribe a maximum plot ratio for the site; however, the DAP identifies a target yield of 174 dwellings for Lot 508. The current application proposes 61 dwellings, in addition to the previously approved 137 dwellings on the western portion of the site. In aggregate, the development will deliver 198 dwellings across the site, thereby achieving the DAP's target yield.	
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A2.5.1 – Development complies with the plot ratio requirements set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the plot ratio set out in the applicable local planning instrument. (6) Refer to Definitions for calculation of plot ratio		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	The Town's Detailed Area Plan states that the target yield for the Lot 508 is 174 dwellings.	

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ELEMENT 2.6	BUILDING DEPTH	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O2.6.1 – Building depth supports apartment layouts that optimise daylight and solar access and natural ventilation.	Refer to **NEP Design Guidelines Assessment (5.1.1 – Building Depth)**.	
O2.6.2 – Articulation of building form to allow adequate access to daylight and natural ventilation where greater building depths are proposed.		
O2.6.3 – Room depths and / or ceiling heights optimise daylight and solar access and natural ventilation.		
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A2.6.1 – Developments that comprise single aspect apartments on each side of a central circulation corridor shall have a maximum building depth of 20m. All other proposals will be assessed on their merits with particular consideration to *4.1 Solar and daylight access* and *4.2 Natural ventilation*.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment (5.1.1 – Building Depth)**.	

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ELEMENT 2.7	BUILDING SEPARATION	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O2.7.1 – New development supports the desired future streetscape character with spaces between buildings.	Stage 1 and Stage 2 of the development is separated from each other by 11.8m from level 1 and above and is consistent with the building separation provided in other residential developments within the precinct.	
O2.7.2 – Building separation is in proportion to building height.	The proposed 11.8m (20m including Stage 2 Courtyard) separation is appropriate and exceeds the minimum 10m wide view corridor outlined in the DAP. This additional building separation has been designed due to slightly greater building height compared to what was envisioned with the DAP.	
O2.7.3 – Buildings are separated sufficiently to provide for residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook.	The proposed separation of 11.8m-20m is adequate to allow for natural ventilation and solar access to apartments.	
O2.7.4 – Suitable areas are provided for communal and private open space, deep soil areas and landscaping between buildings	The separation between Stage 1 and Stage 2 of the development establishes a well-defined communal open space for residents, and incorporates seating amenities and landscaping.	

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A2.7.1 – Development complies with the separation requirements set out in Table 2.7.

Table 2.7 Building separation

	Separation between:	Building height		
		≤ 4 storeys (up to 15m)	5-8 storeys (up to 28m)	≥ 9 storeys (over 28m)
Within site boundary	Habitable rooms/balconies	12m	18m	24m
	Habitable and non-habitable rooms	7.5m	12m	18m
	Non-habitable rooms	4.5m	6m	9m
To adjoining property boundaries	Habitable rooms/balconies and boundary	Refer *2.4 Side and rear setbacks* (Table 2.1) and *3.5 Visual privacy* (Table 3.5)	9m	12m

Distances apply from major openings of rooms, or the inside of balustrading of balconies.
Average dimensions may be applied subject to major openings meeting other requirements for privacy, daylight and the like.

LOCAL PLANNING FRAMEWORK	REQUIREMENT

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Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A

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ELEMENT 3.2	ORIENTATION	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O3.2.1 – Building layouts respond to the streetscape, topography and site attributes while optimising solar and daylight access within the development.	Refer to **NEP Design Guidelines Assessment (5.3.6 – Energy Efficiency & 5.3.1 – Solar Access)**.	
O3.2.2 – Building form and orientation minimises overshadowing of the habitable rooms, open space and solar collectors of neighbouring properties during mid-winter.		

ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*
A3.2.1 – Buildings on street or public realm frontages are oriented to face the public realm and incorporate direct access from the street.
A3.2.2 – Buildings that do not have frontages to streets or public realm are oriented to maximise northern solar access to living areas.
A3.2.3 – Development in climate zones 4, 5 and 6 shall be designed such that the shadow cast at midday on 21st June onto any adjoining property does not exceed: – adjoining properties coded R25 and lower – 25% of the site area[1] – adjoining properties coded R30 – R40 - 35% of the site area[1] – adjoining properties coded R50 – R60 – 50% of the site area[1] – adjoining properties coded R80 or higher – Nil requirements. (1) Where a development site shares its southern boundary with a lot, and that lot is bound to the north by other lot(s), the limit of shading at A3.2.3 shall be reduced proportionally to the percentage of the affected properties northern boundary that abuts the development site. (Refer to Figure A7.2 in Appendix 7)
A3.2.4– Where adjoining sites are coded R40 or less, buildings are oriented to maintain 4 hours per day solar access on 21 June for existing solar collectors on neighbouring sites.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment (5.3.6 – Energy Efficiency & 5.3.1 – Solar Access)**.

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ELEMENT 3.3	TREE CANOPY AND DEEP SOIL AREAS	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O3.3.1 – Site planning maximises retention of existing healthy and appropriate and protects the viability of adjoining trees.	There are no existing trees on-site for retention as the land has been cleared for development.	
O3.3.2 – Adequate measures are taken to improve tree canopy (long term) or to offset reduction of tree canopy from pre-development condition.	The proposal includes the planting of 19 small trees within the development site which will enhance tree canopy overtime.	
O3.3.3 – Development includes deep soil areas, or other infrastructure to support planting on structures, with sufficient area and volume to sustain healthy plant and tree growth.	The proposal includes 39m^2 of deep soil area at ground level, complemented by 233.5m^2 of on-structure landscaping. Together with a substantial 532m^2 of tree canopy cover, these landscaped areas will deliver a multi-layered green network that contributes positively to the character of the locality.	

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A3.3.1 – Retention of existing trees on the site that meet the following criteria:

- healthy specimens with ongoing viability **AND**
- species is not included on a State or local area weed register **AND**
- height of at least 4m **AND/OR**
- trunk diameter of at least 160mm, measured 1m from the ground **AND/OR**
- average canopy diameter of at least 4m.

A3.3.2 – The removal of existing trees that meet any of the criteria at A3.3.1 is supported by an arboriculture report.

A3.3.3 – The development is sited and planned to have no detrimental impacts on, and to minimise canopy loss of adjoining trees.

A3.3.4 – Deep soil areas are provided in accordance with Table 3.3a. Deep soil areas are to be co-located with existing trees for retention and/or adjoining trees, or alternatively provided in a location that is conducive to tree growth and suitable for communal open space.

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Table 3.3a Minimum deep soil area and tree provision requirements

Site Area	Minimum deep soil area	Minimum requirement for trees [1]
Less than 700m²	10% **OR** 7% if existing tree(s) retained on site (% site area)	1 medium tree and small trees to suit area
700 – 1,000m²		2 medium trees **OR** 1 large tree and small trees to suit area
› 1,000m²		1 large tree and 1 medium tree for each additional 400m² in excess of 1000m² **OR** 1 large tree for each additional 900m² in excess of 1000m² and small trees to suit area

[1] Minimum requirement for trees includes retained or new trees
Refer Table 3.3b for tree sizes

A3.3.5 – Landscaping includes existing and new trees with shade producing canopies in accordance with Tables 3.3a and 3.3b.

Table 3.3b Tree sizes

Tree size	Indicative canopy diameter at maturity	Nominal height at maturity	Required DSA per tree	Recommended minimum DSA width	Minimum DSA width where additional rootable soil zone (RSZ) width provided[1] (min 1m depth)	Indicative pot size at planting
Small	4-6m	4-8m	9m²	2m	1m (DSA) + 1m (RSZ)	100L
Medium	6-9m	8-12m	36m²	3m	2m (DSA) + 1m (RSZ)	200L
Large	›9m	›12m	64m²	6m	4.5m (DSA) + 1.5m (RSZ)	500L

[1] Rootable areas are for the purposes of determining minimum width only and do not have the effect of reducing the required DSA.

A3.3.6 – The extent of permeable paving or decking within a deep soil area does not exceed 20 per cent of its area and does not inhibit the planting and growth of trees.

A3.3.7 – Where the required deep soil areas cannot be provided due to site restrictions, planting on structure with an area equivalent to two times the shortfall in deep soil area provision is provided.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A

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ELEMENT 3.4	COMMUNAL OPEN SPACE	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O3.4.1 – Provision of quality communal open space that enhances resident amenity and provides opportunities for landscaping, tree retention and deep soil areas.	Refer to **NEP Design Guidelines Assessment (5.4.2 – Communal Outdoor Space)**.	
O3.4.2 – Communal open space is safe, universally accessible and provides a high level of amenity for residents.		
O3.4.3 – Communal open space is designed and oriented to minimise impacts on the habitable rooms and private open space within the site and of neighbouring properties.		

ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*
A3.4.1 – Developments include communal open space in accordance with Table 3.4
A3.4.2 – Communal open space located on the ground floor or on floors serviced by lifts must be accessible from the primary street entry of the development.
A3.4.3 – There is 50 per cent direct sunlight to at least one communal open space area for a minimum of two hours between 9am and 3pm on 21 June.
A3.4.4– Communal open space is co-located with deep soil areas and/or planting on structure areas and/ or co-indoor communal spaces.
A3.4.5 – Communal open space is separated or screened from adverse amenity impacts such as bins, vents, condenser units, noise sources and vehicle circulation areas.
A3.4.6 – Communal open space is well-lit, minimises places for concealment and is open to passive surveillance from adjoining dwellings and/or the public realm.
A3.4.7 – Communal open space is designed and oriented to minimise the impacts of noise, odour, light-spill and overlooking on the habitable rooms and private open spaces within the site and of neighbouring properties.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment (5.4.2 – Communal Outdoor Space)**.

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ELEMENT 3.5	VISUAL PRIVACY	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O3.5.1 – The orientation and design of buildings, windows and balconies minimises direct overlooking of habitable rooms and private outdoor living areas within the site and of neighbouring properties, while maintaining daylight and solar access, ventilation and the external outlook of habitable rooms.	The proposed development is designed and oriented to minimise visual privacy and overlooking impacts to all residential dwellings, whilst still maintaining solar access and natural ventilation outcomes. To the neighbouring Stage 1 development there is a minimum setback of 11m above ground floor to the stage 1 development with only minor windows facing towards the neighbouring development and balconies orientated towards the internal courtyard. Landscaping will further assist with providing adequate separation to neighbouring dwellings a part of the stage 1 development. Within the development, most of the dwellings face outwards towards the public realm (Shenton Road, Tiger Way, Claremont Oval) and are considered to meet the element objective. Up to 4 dwellings per level also face inwards around the internal courtyard. These internal facing dwellings have been designed to orientate their view corridors towards the internal landscaped courtyard, rather than towards each other. Strategically placed fixed screen along with varied height landscape design will further mitigate any potential views across the courtyard.	

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A3.5.1 – Visual privacy setbacks to side and rear boundaries are provided in accordance with Table 3.5.

Table 3.5 Required privacy setback to adjoining sites

Cone of vision from unscreened:	First 4 storeys		5th storey and above
	Adjoining sites coded R50 or lower	Adjoining sites coded higher than R50	
Major opening to bedroom, study and open access walkways	4.5m	3m	Refer Table 2.7
Major openings to habitable rooms other than bedrooms and studies	6m	4.5m	
Unenclosed private outdoor spaces	7.5m	6m	

A3.5.2 – Balconies are unscreened for at least 25 per cent of their perimeter (including edges abutting a building).

A3.5.3 - Living rooms have an external outlook from at least one major opening that is not obscured by a screen.

A3.5.4 – Windows and balconies are sited, oriented, offset or articulated to restrict direct overlooking, without excessive reliance on high sill levels or permanent screening of windows and balconies.

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LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A

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ELEMENT 3.6	PUBLIC DOMAIN INTERFACE	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O3.6.1 – The transition between the private and public domain enhances the privacy and safety of residents.	Refer to **NEP Design Guidelines Assessment (4.2 – Interface to the Public Domain & 5.2.3 – Oval's Edge Interface Zone)**.	
O3.6.2 – Street facing development and landscape design retains and enhances the amenity and safety of the adjoining public domain, including the provision of shade.		

ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*
A3.6.1 – The majority of ground floor dwellings fronting onto a street or public open space have direct access by way of a private terrace, balcony or courtyard.
A3.6.2 – Car-parking is not located within the primary street setback; and where car parking is located at ground level behind the street setback it is designed to integrate with landscaping and the building façade (where part of the building).
A3.6.3 – Upper level balconies and/or windows overlook the street and public domain areas.
A3.6.4 – Balustrading includes a mix of visually opaque and visually permeable materials to provide residents with privacy while maintaining casual surveillance of adjoining public domain areas.
A3.6.5 – Changes in level between private terraces, front gardens and the ground floor level of the building and the street level average less than 1m and do not exceed 1.2m.
A3.6.6 – Front fencing includes visually permeable materials above 1.2m and the average height of solid walls or fences to the street does not exceed 1.2m.
A3.6.7 – Fencing, landscaping and other elements on the frontage are designed to eliminate opportunities for concealment.
A3.6.8 – Bins are not located within the primary street setback or in locations visible from the primary street.
A3.6.9 – Services and utilities that are located in the primary street setback are integrated into the design of the development and do not detract from the amenity and visual appearance of the street frontage.[1] (1) Firefighting and access to services such as power and water meters require careful consideration in the design of the front façade. Consult early with relevant authorities to resolve functional requirements in an integrated design solution.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment (4.2 – Interface to the Public Domain & 5.2.3 – Oval's Edge Interface Zone)**.

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ELEMENT 3.7	PEDESTRIAN ACCESS AND ENTRIES	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O3.7.1 – Entries and pathways are universally accessible, easy to identify and safe for residents and visitors.	Refer to **NEP Design Guidelines Assessment (5.2.7 – Building Entrances, 5.3.5 – Street Overhangs and Shading & 5.3.8 - Lighting)**.	
O3.7.2 – Entries to the development connect to and address the public domain with an attractive street presence.		
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A3.7.1 – Pedestrian entries are connected via a legible, well-defined, continuous path of travel to building access areas such as lift lobbies, stairs, accessways and individual dwelling entries.		
A3.7.2 – Pedestrian entries are protected from the weather.		
A3.7.3 – Pedestrian entries are well-lit for safety and amenity, visible from the public domain without opportunity for concealment, and designed to enable casual surveillance of the entry from within the site.		
A3.7.4 – Where pedestrian access is via a shared zone with vehicles, the pedestrian path is clearly delineated and/or measures are incorporated to prioritise the pedestrian and constrain vehicle speed.		
A3.7.5 – Services and utilities that are located at the pedestrian entry are integrated into the design and do not detract from the amenity of the entry.		
A3.7.6 – Bins are not located at the primary pedestrian entry.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment (5.2.7 – Building Entrances, 5.3.5 – Street Overhangs and Shading & 5.3.8 - Lighting)**.	

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ELEMENT 3.8	VEHICLE ACCESS	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O3.8.1 – Vehicle access points are designed and located to provide safe access and egress for vehicles and to avoid conflict with pedestrians, cyclists and other vehicles.	Refer to **NEP Design Guidelines Assessment (4.9.1 – Vehicular Access)**.	
O3.8.2 – Vehicle access points are designed and located to reduce visual impact on the streetscape.		

ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*
A3.8.1 – Vehicle access is limited to one opening per 20m street frontage that is visible from the street.
A3.8.2 – Vehicle entries are identifiable from the street, while being integrated with the overall façade design and/ or located behind the primary building line.
A3.8.3 – Vehicle entries have adequate separation from street intersections.
A3.8.4 – Vehicle circulation areas avoid headlights shining into habitable rooms within the development and adjoining properties.
A3.8.5 – Driveway width is kept to a functional minimum, relative to the traffic volumes and entry/egress requirements.
A3.8.6 – Driveways designed for two way access to allow for vehicles to enter the street in forward gear where: – the driveway serves more than 10 dwellings – the distance from an on-site car parking to the street is 15m or more **OR** – the public street to which it connects is designated as a primary distributor, district distributor or integrated arterial road.
A3.8.7 – Walls, fences and other structures truncated or reduced to no higher than 0.75m within 1.5m of where walls, fences, other structures adjoin vehicle access points where a driveway meets a public street and where two streets intersect (refer Figure 3.8a).

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment (4.9.1 – Vehicular Access)**.

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ELEMENT 3.9	CAR AND BICYCLE PARKING	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O3.9.1 – Parking and facilities are provided for cyclists and other modes of transport.	Refer to **NEP Design Guidelines Assessment – Vehicle Parking & End of Trip Facilities (4.9.2 & 5.5.5)**.	
O3.9.2 – Car parking provision is appropriate to the location, with reduced provision possible in areas that are highly walkable and/or have good public transport or cycle networks and/or are close to employment centres.		
O3.9.3 – Car parking is designed to be safe and accessible.		
O3.9.4 – The design and location of car parking minimises negative visual and environmental impacts on amenity and the streetscape.		

ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*
A3.9.1 – Secure, undercover bicycle parking is provided in accordance with Table 3.9 and accessed via a continuous path of travel from the vehicle or cycle entry point.
A3.9.2 – Parking is provided for cars and motorcycles in accordance with Table 3.9.
A3.9.3 – Maximum parking provision does not exceed double the minimum number of bays specified in Table 3.9
A3.9.4 – Car parking and vehicle circulation areas are designed in accordance with AS2890.1 (as amended) or the requirements of applicable local planning instruments.
A3.9.5 – Car parking areas are not located within the street setback and are not visually prominent from the street.
A3.9.6 – Car parking is designed, landscaped or screened to mitigate visual impacts when viewed from dwellings and private outdoor spaces.
A3.9.7 – Visitor parking is clearly visible from the driveway, is signed 'Visitor Parking' and is accessible from the primary entry or entries.
A3.9.8 – Parking shade structures, where used, integrate with and complement the overall building design and site aesthetics and have a low reflectance to avoid glare into apartments.
A3.9.9 – Uncovered at-grade parking is planted with trees at a minimum rate of one tree per four bays.
A3.9.10 – Basement parking does not protrude more than 1m above ground, and where it protrudes above ground is designed or screened to prevent negative visual impact on the streetscape.

LOCAL PLANNING FRAMEWORK	**REQUIREMENT**
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Vehicle Parking & End of Trip Facilities (4.9.2 & 5.5.5)**.

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ELEMENT 4.1	SOLAR AND DAYLIGHT ACCESS	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.1.1 – In climate zones 4, 5 and 6: the development is sited and designed to optimise the number of dwellings receiving winter sunlight to private open space and via windows to habitable rooms.	Refer to **NEP Design Guidelines Assessment – Solar Access (5.3.1).**	
O4.1.2 – Windows are designed and positioned to optimise daylight access for habitable rooms.		
O4.1.3 – The development incorporates shading and glare control to minimise heat gain and glare: – from mid-spring to autumn in climate zones 4, 5 and 6 **AND** – year-round in climate zones 1 and 3.		

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A4.1.1 – In climate zones 4, 5 and 6 only:

a) Dwellings with a northern aspect are maximised, with a minimum of 70 per cent of dwellings having living rooms and private open space that obtain at least 2 hours direct sunlight between 9am and 3pm on 21 June **AND**

b) A maximum of 15 per cent of dwellings in a building receiving no direct sunlight between 9am and 3pm on 21 June.

A4.1.2 – Every habitable room has at least one window in an external wall, visible from all parts of the room, with a glazed area not less than 10 per cent of the floor area and comprising a minimum of 50 per cent of clear glazing.

A4.1.3 – Lightwells and/or skylights do not form the primary source of daylight to any habitable room.

A4.1.4 – The building is oriented and incorporates external shading devices in order to:

- minimise direct sunlight to habitable rooms:
  - between late September and early March in climate zones 4, 5 and 6 only **AND**
  - in all seasons in climate zones 1 and 3
- permit winter sun to habitable rooms in accordance with A 4.1.1 (a).

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Solar Access (5.3.1).**

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ELEMENT 4.2	NATURAL VENTILATION	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.2.1 – Development maximises the number of apartments with natural ventilation.	Refer to **NEP Design Guidelines Assessment – Openings and Ventilation (5.3.2).**	
O4.2.2 – Individual dwellings are designed to optimise natural ventilation of habitable rooms.		
O4.2.3 – Single aspect apartments are designed to maximise and benefit from natural ventilation.		

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A4.2.1 – Habitable rooms have openings on at least two walls with a straight line distance between the centre of the openings of at least 2.1m.

A4.2.2 –

- **(a)** A minimum 60 per cent of dwellings are, or are capable of, being naturally cross ventilated in the first nine storeys of the building
- **(b)** Single aspect apartments included within the 60 per cent minimum at (a) above must have:
  - ventilation openings oriented between 45° – 90° of the prevailing cooling wind direction **AND**
  - room depth no greater than 3 × ceiling height
- **(c)** For dwellings located at the 10th storey or above, balconies incorporate high and low level ventilation openings.

A4.2.3 – The depth of cross-over and cross-through apartments with openings at either end and no openings on side walls does not exceed 20m.

A4.2.4 – No habitable room relies on lightwells as the primary source of fresh-air.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Openings and Ventilation (5.3.2).**

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ELEMENT 4.3	SIZE AND LAYOUT OF DWELLINGS	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.3.1 – The internal size and layout of dwellings is functional with the ability to flexibly accommodate furniture settings and personal goods, appropriate to the expected household size.	The proposal represents a high-quality residential development with apartment units exceeding the minimum internal floor area requirements. See below:	
O4.3.2 – Ceiling heights and room dimensions provide for well-proportioned spaces that facilitate good natural ventilation and daylight access.		

Dwelling type	Minimum internal floor area proposed
1x1 bed	77sqm
2x2 bed	112sqm
3x2 bed	186sqm
4x3 bed	287sqm

Habitable room type	Minimum internal floor area proposed	Minimum internal dimension proposed
Master bedroom	12sqm	3.5m
Other bedrooms	11sqm	3.1m
Living room – studio and 1 bed apartments	N/A	4.5m
Living room – other dwelling types	N/A	4.2m

The proposed dwellings meet the minimum internal floor area and dimension as set out in Table 4.3a and Table 4.3b.

The application incorporates ceiling heights of no less than 3 metres, which, together with the spacious floor layouts and expansive window openings, enhances natural ventilation and optimises daylight penetration throughout the apartments.

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A4.3.1 – Dwellings have a minimum internal floor area in accordance with Table 4.3a.

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Table 4.3a Minimum floor areas for dwelling types

Dwelling type	Minimum internal floor area
Studio	37m²
1 bed	47m²
2 bed × 1 bath[1]	67m²
3 bed × 1 bath[1]	90m²

[1] An additional 3m² shall be provided for designs that include a second or separate toilet, and 5m² for designs that include a second bathroom.

A4.3.2 – Habitable rooms have minimum floor areas and dimensions in accordance with Table 4.3b.

Table 4.3b Minimum floor areas and dimensions for habitable rooms

Habitable room type	Minimum internal floor area	Minimum internal dimension
Master bedroom	10m²	[1]3m
Other bedrooms	9m²	[1]3m
Living room – studio and 1 bed apartments	N/A	3.6m
Living room – other dwelling types	N/A	4m

[1] Excluding robes

A4.3.3 – Measured from the finished floor level to finished ceiling level, minimum ceiling heights are:

- Habitable rooms – 2.7m
- Non-habitable rooms – 2.4m
- All other ceilings meet or exceed the requirements of the NCC.

A4.3.4 – The length of a single aspect open plan living area is equal to or less than 3 x the ceiling height. An additional 1.8m length may be provided for a kitchen, where the kitchen is the furthest point from the window in an open plan living area provided that the maximum length does not exceed 9m.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A

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ELEMENT 4.4	PRIVATE OPEN SPACE AND BALCONIES	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.4.1 – Dwellings have good access to appropriately sized private open space that enhances residential amenity.	Refer to **NEP Design Guidelines Assessment – Private Outdoor Space (5.4.1).**	
O4.4.2 – Private open space is sited, oriented and designed to enhance liveability for residents.		
O4.4.3 – Private open space and balconies are integrated into the overall architectural form and detail of the building.		

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A4.4.1 – Each dwelling has private open space accessed directly from a habitable room with dimensions in accordance with Table 4.4.

Table 4.4 Private open space requirements

Dwelling type	Minimum Area[1]	Minimum Dimension[1]
Studio apartment + 1 bedroom	8m²	2.0m
2 bedroom	10m²	2.4m
3 bedroom	12m²	2.4m
Ground floor / apartment with a terrace	15m²	3m

[1] Services and fixtures located within private open space, including but not limited to air-conditioner units and clothes drying, are not visible from the street and/or are integrated into the building design.

A4.4.2 – Where private open space requires screening to achieve visual privacy requirements, the entire open space is not screened and any screening is designed such that it does not obscure the outlook from adjacent living rooms.

A4.4.3 – Design detailing, materiality and landscaping of the private open space is integrated with or complements the overall building design.

A4.4.4 – Services and fixtures located within private open space, including but not limited to air-conditioner units and clothes drying, are not visible from the street and/or are integrated into the building design.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Private Outdoor Space (5.4.1).**

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ELEMENT 4.5	CIRCULATION AND COMMON SPACES	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.5.1 – Circulation spaces have adequate size and capacity to provide safe and convenient access for all residents and visitors.	All circulation corridors (with the exception of the rooftop connection between PH4 and the communal amenity area) are greater than 1.5m in width.	
O4.5.2 – Circulation and common spaces are attractive, have good amenity and support opportunities for social interaction between residents.	The PH4 rooftop connection is a minimum of 1m wide. As this walkway only serves 1 dwelling and is not its primary access route, this is considered acceptable. Circulation and common spaces have excellent surveillance to/from the public street, neighbouring developments and internal residents. All communal areas, while balancing privacy for users, still always allow for passive surveillance. This is achieved using privacy screening rather than any solid walls bocking major vision corridors. All communal areas are universally accessible via lifts.	

ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*
A4.5.1 – Circulation corridors are a minimum 1.5m in width.
A4.5.2 – Circulation and common spaces are designed for universal access.
A4.5.3 – Circulation and common spaces are capable of passive surveillance, include good sightlines and avoid opportunities for concealment.
A4.5.4 – Circulation and common spaces can be illuminated at night without creating light spill into the habitable rooms of adjacent dwellings.
A4.5.5 – Bedroom windows and major openings to living rooms do not open directly onto circulation or common spaces and are designed to ensure visual privacy and manage noise intrusion.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A

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ELEMENT 4.6	STORAGE	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.6.1 – Well-designed, functional and conveniently located storage is provided for each dwelling.	Refer to **NEP Design Guidelines Assessment – Storage (5.5.4).**	
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A4.6.1 – Each dwelling has exclusive use of a separate, ventilated, weatherproof, bulky goods storage area. This can be located either internally or externally to the dwelling with dimensions in accordance with Table 4.6.		
A4.6.2 – Bulky good stores that are not directly accessible from the dwelling/private open space are located in areas that are convenient, safe, well-lit, secure and subject to passive surveillance.		
A4.6.3 – Storage provided separately from dwellings or within or adjacent to private open space[1], is integrated into the design of the building or open space and is not readily visible from the public domain. (1) Storage on/adjacent to private open space is additional to required open space area and dimensions.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Storage (5.5.4).**	

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ELEMENT 4.7	MANAGING THE IMPACT OF NOISE	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.7.1 – The siting and layout of development minimises the impact of external noise sources and provides appropriate acoustic privacy to dwellings and on-site open space.	All potential internal noise sources, such as the driveway, service areas and waste storage are designed and located in a manner that minimises the impact of noise.	
O4.7.2 – Acoustic treatments are used to reduce sound transfer within and between dwellings and to reduce noise transmission from external noise sources.	Appropriate design measures have been incorporated to the proposed development under SPP5.4 to mitigate any negative externalities of being situated in proximity to the Fremantle train line. Refer to **Appendix H – Acoustic Report.**	
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A4.7.1 – Dwellings exceed the minimum requirements of the NCC, such as a rating under the AAAC Guideline for Apartment and Townhouse Acoustic Rating (or equivalent).		
A4.7.2 – Potential noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open space and refuse bins are not located adjacent to the external wall of habitable rooms or within 3m of a window to a bedroom.		
A4.7.3 – Major openings to habitable rooms are oriented away or shielded from external noise sources.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A	

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ELEMENT 4.8 DWELLING MIX

ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	APPLICANT COMMENT	ASSESSOR COMMENT
	Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.	
O4.8.1 – A range of dwelling types, sizes and configurations is provided that caters for diverse household types and changing community demographics.	The proposal provides a diverse mix of one- to four-bedroom apartments, catering to a wide range of household types and community needs. It offers an increase in residential density in a locality envisioned for higher density development. The proposed dwellings are also located in close proximity to public transport and commercial uses which support their viability.	

Type	# dwellings	%
1 Bed	5	8%
2 Bed	24	39%
3 Bed	30	49%
4 Bed	2	3%

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A4.8.1 –

- **a)** Dwelling mix is provided in accordance with the objectives, proportions or targets specified in a local housing strategy or relevant local planning instrument **OR**
- **b)** Where there is no local housing strategy, developments of greater than 10 dwellings include at least 20 per cent of apartments of differing bedroom numbers.

A4.8.2 – Different dwelling types are well distributed throughout the development, including a mix of dwelling types on each floor.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A

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ELEMENT 4.9	UNIVERSAL DESIGN	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.9.1 – Development includes dwellings with universal design features providing dwelling options for people living with disabilities or limited mobility and/or to facilitate ageing in place.	The development has been designed to ensure universal access is provided to all dwellings. This includes sufficient corridor widths and the provision of accessible and functional dwelling configurations.	
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A4.9.1 – **a)** 20 per cent of all dwellings, across a range of dwelling sizes, meet Silver Level requirements as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia) **OR** **b)** 5 per cent of dwellings are designed to Platinum Level as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia).		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A	

Commented [CP1]: Query to client - can we achieve one of these as they will likely get conditioned.

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ELEMENT 4.10	FAÇADE DESIGN	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.10.1 – Building façades incorporate proportions, materials and design elements that respect and reference the character of the local area.	Refer to **NEP Design Guidelines Assessment – Facades (5.2.2).**	
O4.10.2 – Building façades express internal functions and provide visual interest when viewed from the public realm.		

ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*
A4.10.1 – Façade design includes: – scaling, articulation, materiality and detailing at lower levels that reflect the scale, character and function of the public realm – rhythm and visual interest achieved by a combination of building articulation, the composition of different elements and changes in texture, material and colour.
A4.10.2 – In buildings with height greater than four storeys, façades include a defined base, middle and top for the building.
A4.10.3 – The façade includes design elements that relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights.
A4.10.4 – Building services fixtures are integrated in the design of the façade and are not visually intrusive from the public realm.
A4.10.5 – Development with a primary setback of 1m or less to the street includes awnings that: – define and provide weather protection to entries – are integrated into the façade design – are consistent with the streetscape character.
A4.10.6 – Where provided, signage is integrated into the façade design and is consistent with the desired streetscape character.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Facades (5.2.2).**

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ELEMENT 4.11	ROOF DESIGN	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.11.1 – Roof forms are well integrated into the building design and respond positively to the street.	Refer to **NEP Design Guidelines Assessment – Roof Forms (5.2.5).**	
O4.11.2 – Where possible, roof spaces are utilised to add open space, amenity, solar energy generation or other benefits to the development.		
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A4.11.1 – The roof form or top of building complements the façade design and desired streetscape character.		
A4.11.2 – Building services located on the roof are not visually obtrusive when viewed from the street.		
A4.11.3 – Useable roof space is safe for users and minimises overlooking and noise impacts on private open space and habitable rooms within the development and on adjoining sites.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Roof Forms (5.2.5).**	

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ELEMENT 4.12	LANDSCAPE DESIGN	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.12.1 – Landscape design enhances streetscape and pedestrian amenity; improves the visual appeal and comfort of open space areas; and provides an attractive outlook for habitable rooms.	Refer to **NEP Design Guidelines Assessment – Landscape Design (6.1).**	
O4.12.2 – Plant selection is appropriate to the orientation, exposure and site conditions and is suitable for the adjoining uses.		
O4.12.3 – Landscape design includes water efficient irrigation systems and where appropriate incorporates water harvesting or water re-use technologies.		
O4.12.4 – Landscape design is integrated with the design intent of the architecture including its built form, materiality, key functional areas and sustainability strategies.		

ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*
A4.12.1 – Submission of a landscape plan prepared by a competent landscape designer. This is to include a species list and irrigation plan demonstrating achievement of Waterwise design principles.
A4.12.2 – Landscaped areas are located and designed to support mature, shade-providing trees to open space and the public realm, and to improve the outlook and amenity to habitable rooms and open space areas.
A4.12.3 – Planting on building structures meets the requirements of Table 4.12.
A4.12.4 – Building services fixtures are integrated in the design of the landscaping and are not visually intrusive.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Landscape Design (6.1).**

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ELEMENT 4.13	ADAPTIVE REUSE	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.13.1 – New additions to existing buildings are contemporary and complementary and do not detract from the character and scale of the existing building.	N/A	
O4.13.2 – Residential dwellings within an adapted building provide good amenity for residents, generally in accordance with the requirements of this policy.		
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A4.13.1 – New additions to buildings that have heritage value do not mimic the existing form and are clearly identifiable from the original building.		
A4.13.2 – New additions complement the existing building by referencing and interpreting the scale, rhythm and materiality of the building.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A	

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ELEMENT 4.14	MIXED USE	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.14.1 – Mixed use development enhances the streetscape and activates the street.	N/A	
O4.14.2 – A safe and secure living environment for residents is maintained through the design and management of the impacts of non-residential uses such as noise, light, odour, traffic and waste.		
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A4.14.1 – Where development is located within a mixed use area designated within the local planning framework, ground floor units are designed for future adaption to non-residential uses.		
A4.14.2 – Ground floor uses including non-commercial uses, such as communal open space, habitable rooms, verandahs and courtyards associated with ground floor dwellings, address, enhance and activate the street.		
A4.14.3 – Non-residential space in mixed use development is accessed via the street frontage and/or primary entry as applicable.		
A4.14.4 – Non-residential floor areas provided in mixed use development has sufficient provision for parking, waste management, and amenities to accommodate a range of retail and commercial uses in accordance with the requirements		
A4.14.5 – Mixed use development is designed to mitigate the impacts of non-residential uses on residential dwellings, and to maintain a secure environment for residents.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	N/A	

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ELEMENT 4.15	ENERGY EFFICIENCY	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.15.1 – Reduce energy consumption and greenhouse gas emissions from the development.	Refer to **NEP Design Guidelines Assessment – Energy Efficiency (5.3.6) and Appendix J – Sustainability Design Assessment Report.**	

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A4.15.1 –

a) Incorporate at least one significant energy efficiency initiative within the development that exceeds minimum practice (refer Design Guidance) **OR**

b) All dwellings exceed the minimum NATHERS requirement for apartments by 0.5 stars.[1]

Compliance with the NCC requires that development shall achieve an average star-rating across all dwellings that meets or exceeds a nominated benchmark, and that each unit meets or exceeds a slightly lower benchmark. Compliance with this Acceptable Outcome requires that each unit exceeds that lower benchmark by at least half a star.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Energy Efficiency (5.3.6).**

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ELEMENT 4.16	WATER MANAGEMENT AND CONSERVATION	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.16.1 – Minimise potable water consumption throughout the development.	Refer to **NEP Design Guidelines Assessment – Water Saving (5.3.7) Stormwater Management (5.3.9), and Appendix J – Sustainability Design Assessment Report.**	
O4.16.2 – Stormwater runoff from small rainfall events is managed on-site, wherever practical.		
O4.16.3 – Reduce the risk of flooding so that the likely impacts of major rainfall events will be minimal.		
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A4.16.1 – Dwellings are individually metered for water usage.		
A4.16.2 – Stormwater runoff generated from small rainfall events is managed on-site.		
A4.16.3 – Provision of an overland flow path for safe conveyance of runoff from major rainfall events to the local stormwater drainage system.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Water Saving (5.3.7) and Stormwater Management (5.3.9)**	

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ELEMENT 4.17	WASTE MANAGEMENT	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.17.1 – Waste storage facilities minimise negative impacts on the streetscape, building entries and the amenity of residents.	Waste generated by the proposed development will be collected from the designated waste collection point located within Stage 1 of the development. Appropriately sized bins will be provided within the bin enclosure of the subject site and transported to the Stage 1 collection area for disposal. Refer to **Appendix G – Waste Management Plan.**	
O4.17.2 – Waste to landfill is minimised by providing safe and convenient bins and information for the separation and recycling of waste.		
ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*		
A4.17.1 – Waste storage facilities are provided in accordance with the Better Practice considerations of the *WALGA Multiple Dwelling Waste Management Plan Guidelines* (or local government requirements where applicable).		
A4.17.2 – A Level 1 Waste Management Plan (Design Phase) is provided in accordance with the *WALGA Multiple Dwelling Waste Management Plan Guidelines* - Appendix 4A (or equivalent local government requirements).		
A4.17.3 – Sufficient area is provided to accommodate the required number of bins for the separate storage of green waste, recycling and general waste in accordance with the *WALGA Multiple Dwelling Waste Management Plan Guidelines* - Level 1 Waste Management Plan (Design Phase) (or local government requirements where applicable).		
A4.17.4 – Communal waste storage is sited and designed to be screened from view from the street, open space and private dwellings.		
LOCAL PLANNING FRAMEWORK	**REQUIREMENT**	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Waste Management (5.5.1)**	

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ELEMENT 4.18	UTILITIES	
ELEMENT OBJECTIVES *Development is to achieve the following Element Objectives*	**APPLICANT COMMENT** *Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.*	**ASSESSOR COMMENT**
O4.18.1 –The site is serviced with power, water, gas (where available), wastewater, fire services and telecommunications/broadband services that are fit for purpose and meet current performance and access requirements of service providers.	The site is serviced with all necessary urban services, fit for purpose and capable of meeting the needs of residents. All utilities are in accessible locations to allow for convenient maintenance, and do not restrict safe movement. All utilities are integrated into the building design and are not visually obtrusive. All air conditioning units have been centrally located on the roof to avoid any noise or air quality on individual unit balcony. Refer to **NEP Design Guidelines Assessment – Mechanical Services (5.5.3).**	
O4.18.2 – All utilities are located such that they are accessible for maintenance and do not restrict safe movement of vehicles or pedestrians.		
O4.18.3 – Utilities, such as distribution boxes, power and water meters are integrated into design of buildings and landscape so that they are not visually obtrusive from the street or open space within the development.		
O4.18.4 – Utilities within individual dwellings are of a functional size and layout and located to minimise noise or air quality impacts on habitable rooms and balconies.		

ACCEPTABLE OUTCOMES *Acceptable Outcome pathway may not be applicable where a performance solution is provided*
A4.18.1 – Utilities that must be located within the front setback, adjacent to the building entry or on visible parts of the roof are integrated into the design of the building, landscape and/or fencing such that they are accessible for servicing requirements but not visually obtrusive.
A4.18.2 – Developments are fibre-to-premises ready, including provision for installation of fibre throughout the site and to every dwelling.
A4.18.3 – Hot water units, air-conditioning condenser units and clotheslines are located such that they can be safely maintained, are not visually obtrusive from the street and do not impact on functionality of outdoor living areas or internal storage.
A4.18.4 – Laundries are designed and located to be convenient to use, secure, weather-protected and well-vented; and are of an overall size and dimension that is appropriate to the size of the dwelling.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:	Refer to **NEP Design Guidelines Assessment – Mechanical Services (5.5.3)**

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Development Control Policy 1.6 Planning to Support Transit Use and Development

The WAPC's *Development Control Policy 1.6 Planning to Support Transit Use and Development* (DCP1.6) seeks to ensure that consideration has been given to the opportunities created through the provision and availability of public transport. This policy applies throughout the State within transit-oriented precincts, which the policy defines as areas within –

- *about 10-15 minutes walking time, or an 800 metre distance, for rail stations, transit interchanges or major bus transfer stations or terminals; or*
- *about 5-7 minutes walking time, or a 400 metre distance, for bus stops located on bus routes with multiple bus services that are high-frequency of 15 minutes or less during peak periods.*

As the subject site is within 800 metres (i.e., 240 metres) of Claremont Train Station, it is within a 'transit-oriented precinct'. DCP1.6 establishes the following objectives, of which the proposal is considered to permeate:

Objective	Response
To promote and facilitate the use of public transport as a more sustainable alternative to the private car for personal travel, to enhance community accessibility to services and facilities including employment opportunities, community services and recreational facilities, and to improve equity in accessibility for those who do not own or have access to a car.	The site is located within 240 metres walking distance of Claremont Train Station, which provides high-frequency train services to major employment, entertainment and activity hubs including Perth CBD, Fremantle and Perth Airport. Further, a bus stop on Gugeri Street is situated within 400 metres walking distance of the site, providing services to Perth CBD, Fremantle and the Perth Busport, which connects to the wider metropolitan bus network. This strategic proximity facilitates a high level of mobility for residents without reliance on private car use, enhances community access to services and employment opportunities, and promotes equity in accessibility for those who do not own or have access to a car.
To encourage balanced public transport rider-ship along transit corridors by creating places that are destinations as well as points of departure.	The site is located near Claremont Quarter, a major activity hub in the area that attracts visitors from neighbouring suburbs for shopping and recreation. Alongside with excellent connection to the wider metropolitan region, the development encourages people to both start and end their journeys using nearby public transport, helping to create a balanced and well-used transit network.

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To ensure the optimal use of land within transit-oriented precincts by encouraging the development of uses and activities that will benefit from their proximity and accessibility to public transport, and which will in-turn generate a demand for the use of transit infrastructure and services.	The proposed development represents an optimal use of land within a transit-oriented precinct by locating residential use in close proximity to Claremont Train Station and local bus services. This ensures that the site benefits directly from its accessibility to public transport which generates increased demand for nearby transit infrastructure and services.
To promote and facilitate walking and cycling within transit-oriented precincts by establishing and maintaining high levels of amenity, safety and permeability in the urban form, and to promote and facilitate opportunities for integrating transport modes by creating opportunities for convenient, safe and secure mode interchange.	The site is within walking distance of various local amenities including the Claremont Quarter and Lake Claremont. The pedestrian bridge connecting Gugeri Street and Shenton Road provides safe access across the train line to Claremont Quarter. Additionally, commercial tenancies along Davies Road and Shenton Road – including a supermarket, restaurant, gym and pilates studio - offer day-to-day services within a short walk of the development. These features encourage residents to walk or cycle for daily activities, supporting the objective of creating safe, accessible, and connected transit-oriented precincts. The proposed development includes dedicated bike storage for residents within their basement storerooms as well as shared storage and visitor bike parking in the basement.

North East Precinct Structure Plan

The North East Precinct Design Guidelines (NEP) guides development in the precinct surrounding the Claremont Oval. As the subject site is within this area, the provisions of the NEP apply. The NEP establishes the following objectives, of which the proposal is considered to permeate:

Objective	Response
Emphasise the oval as a key feature of the site by providing a strong, framed building edge and sense of containment to the oval.	The proposed building recognises the oval as the central feature of the NEP and includes a building edge that wraps around it to create a sense of containment and framing of the open space. By incorporating balconies and major openings oriented toward the oval, the design capitalises on the northernly view of the oval while activating the interface with the open space.

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	This design approach delivers a strong, defined building edge, reinforces the prominence of the oval within the precinct.
Respond to the local character allowing for a contemporary interpretation and a distinctive architectural response to the existing urban character with high quality design, materials and finishes.	The proposed built form aligns with the established NEP character through its flat roof profile and generous balconies oriented toward the Oval, reinforcing the precinct's design language. A distinctive colour palette, curated material selection, and considered articulation further elevate the visual experience at street level, enhancing pedestrian engagement and contributing to a cohesive yet contemporary local character.
Establish a diverse, lively and attractive mixed use development that promotes a high level of integration between buildings and the adjacent public realm.	Apartments have been orientated to face both street frontages and the Claremont Oval interface, creating a visual connection between the public realm and private spaces. A central courtyard has been created on Level 1 with pedestrian connections between Stage 1 and Stage 2.
Create pedestrian-friendly streets through the ground level activation and detailing of buildings along with natural surveillance of the public realm on all levels.	The proposal includes an awning to the residential amenities area which adds to the established walkable neighbourhood. The Shenton Road façade of the development presents as a visually engaging frontage with clear glazing, building articulation and residential entry that maintain a strong relationship with the street. On the upper floors, the proposal includes balconies and major openings on all street frontages to facilitate passive surveillance of the public realm.
Promote climate responsive design through well considered orientation of buildings to allow access to and protection from sun and prevailing breezes as appropriate.	All of the proposed apartment units include generous private open spaces through a sliding door from the primary living space and have adequate solar access. Where possible, major openings and balconies have been shaded to minimise direct summer midday sun entering the apartments.
Promote housing diversity by creating a new housing offer that meets changing needs but retains a sense of being a 'home' that is private, comfortable all year round and grows in value.	The proposal includes apartment units from one to four bedrooms which promotes housing diversity to meet community demands. Coupled with its high-quality architectural outcomes and strong liveability attributes within a sought-after locality,

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	the offering is positioned to retain long-term residential appeal.
Establish an architectural response that recognises and promotes the value of each building's contribution to the life and meaning of the place.	The proposal delivers a considered architectural response that actively contributes to the broader identity of the precinct, leveraging high-quality materiality, refined façade articulation, and a built form that meaningfully engages with significant landscape features in the immediate locality. The proposal reinforces the prevailing local character and urban fabric.
Encourage greater physical activity by promoting the use of active transport modes such as walking and cycling.	The proposed development has bike storage contained within each dwelling's storage room and a visitor bike parking area within the basement. This encourages residents and visitors site has easy access to Claremont Train Station which promotes the use of public transport. In addition, the site is in close proximity to Lake Claremont which provides opportunities for the residents' outdoor pursuits and promotes physical activity.

North East Precinct Design Guidelines

The North East Precinct Design Guidelines are separated into two parts, Part A - Design Guidelines which addresses design elements in relation to 4.0 – Urban Design, 5.0 - Built Form Design and 6.0 - Landscape Design and Part B - Detailed Area Plans (DAPs) which outlines the mandatory fundamental development controls to address specific requirements of different development sites within the NEP area and its unique local context.

The following assessment lists out the relevant 'Objectives', 'Development Controls' and 'Design Guidance' of each design element and provides comments on each element.

Design Element

4.1 – Climate + Site

Objectives	Applicant Response
To ensure buildings are designed to respond to their environment	The proposal provides generous balconies to all north-facing units to capitalise on northernly views to the oval and maximise solar access. The proposal includes three dwellings on each floor to maximise northern sunlight. The site benefits from the abundance of open space in the surrounding area which improves the site's general access to sunlight and ventilation.
To provide an amendable micro-climate for habitation	75% of the apartments proposed are capable of facilitating cross-ventilation with all habitable spaces having access to major openings, which allow residents to regulate airflow and provide

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	an amendable micro-climate

Development Controls	Applicant Response
Buildings must demonstrate best practice passive, climatically responsive design.	The design achieves effective cross ventilation in 75% of dwellings and provides at least two hours of direct sunlight (9am – 3pm, 21 June) to 70.5% of dwellings. These outcomes exceed Design WA's requirements and represents a climate responsive design.
Buildings shall be designed in accordance with solar passive design principles.	The design maximises the number of units with north-facing windows/balconies to optimise solar access throughout the year.
Solar protection shall be provided to all east and west facing glazing.	The 8-storey residential development located on the western side of the site provides afternoon sun protection for the subject development, while east-facing glazing is proposed to be shaded by the awnings.

4.2 – Interface to the Public Domain

Objectives	Applicant Response
Ensure buildings provide an appropriate response to the adjacent public realm that correlates to the overall character and sense of place.	The proposed development features flat roof contemporary design which is consistent with other residential developments within the NEP. The oval facing balconies correlate with the overall precinct design and respond to the adjacent public open space appropriately.
Provide amenity and outlook to development.	The proposed development has been carefully designed and is of high-quality which contributes to the visual amenity of the precinct.
Enhance the perceived sense of safety of public spaces through positive passive surveillance.	The proposed ground floor includes a residential amenities area that features clear glazing fronting Shenton Road and facilitates passive surveillance. Further, all of the proposed units include balconies/windows facing the public realm and provide a high-level of passive surveillance.
Establish a sense of shared ownership and accessibility of public spaces.	The proposal maximises the number of units with balconies facing the Claremont Oval which promotes a sense of shared ownership of the public space. Additionally, the Claremont Oval can be easily and universally accessed via the access point off Shenton Road and the outdoor terrace located on Level 1.

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Development Controls	Applicant Response
Buildings shall address the public domain generally. Blank walls to the public domain interface are not permitted.	The street facing façades incorporate landscaping where 'dead space' is proposed to ensure that the building interacts with the public realm. The design also demonstrates a diverse selection of construction materials, building articulation and glazing to maintain a high level of street activation and promote visual interest. A public art opportunity has been identified at ground level, along Tiger Way and the interface with Claremont Oval.
The applicant shall liaise with the Claremont on the Park Architect in the early planning and design stages to identify potential opportunities to achieve a cohesive built form outcome between neighbouring or abutting properties and public realm.	Prior to the finalisation of the architectural drawings, the applicant consulted with the Claremont on the Park Architect and the Town of Claremont to ensure that the subject development is consistent with the desired built form outcome and the surrounding development.

4.3 – Precinct Context

Objectives	Applicant Response
Whilst maintaining individual design elements and expression, where appropriate, ensure that development complements and corresponds to neighbouring or abutting built form through consideration of form, detail and application of materials.	Extensive consideration has also been given to the site's context and surrounding built form to ensure that the development is consistent with the desired built form outcome and established character of the precinct.
Provide a cohesive approach to development throughout the precinct.	The proposed contemporary design largely correlates with the established built form character of the broader precinct.

Development Controls	Applicant Response
The applicant shall liaise with the Claremont on the Park Architect in the early planning and design stages to identify potential opportunities to achieve a cohesive built form outcome between neighbouring or abutting properties.	As above, the Estate Architect has confirmed that the proposed design is consistent with the desired built form outcome for the precinct.

4.4 – Discovery

Objectives	Applicant Response
Create a quality visual experience at the pedestrian scale and highlight the sense of discovery throughout the precinct.	The proposed ground floor plan includes a residential amenities area which features clear glazing and visually connect the development and the adjacent public realm. Alongside the diverse selection of construction materials and building articulations, the proposed development provides for a quality visual experience at eye level.

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Maximise legibility and visual linkages with engaging lines of sight between activity points and buildings.	The proposal has clearly definable pedestrian and vehicle access points which demonstrate a high-level of legibility. The building articulations and façade treatment facilitate a visually engaging street frontage that connects the development with the surrounding public realm.
To best share amenity views within the overall development.	Maximising the number of apartment units with direct line of sight to the adjoining Claremont Oval was a main objective during the design process of the subject development. Communal rooftop open space is provide so all residents gain access to views of the Claremont Oval with glimpses of the Perth CBD and Swan River possible from this level.

Development Controls	Applicant Response
Where nominated on the DAP for Lot 508, the view corridor between buildings must be addressed by facades containing major openings.	While a view corridor has not been provided in the exact location as per the DAP for Lot 508, a 11m wide view corridor is provided between the subject development and the approved development on the western side of the site. The subject development proposes balconies and windows on each floor facing this view corridor to capitalise on the south-westerly breeze and view of the open space.
Where certain view corridors have been terminated for aesthetic and architectural purposes, the terminating building element shall be appropriately designed and detailed so as to provide clear way finding and a high level of architectural interest. Refer Figure 2.	N/A

4.5.1 Commercial / Retail Diversity

Objectives	Applicant Response
Establish a precinct that includes activities that are complementary to the existing Claremont Town Centre.	The proposed development is a solely residential development. However, the proposal provides housing supply and facilitates population growth which adds to the vibrancy of the Claremont Town Centre.
Encourage a variety of business opportunities that will activate the precinct during daytime and evening hours.	N/A
Focus non-residential activity within close proximity to the train station.	N/A
Allow for services to be provided locally.	N/A

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Development Controls	Applicant Response
Ground floor non-residential land uses shall be located in accordance with Figure 1 - Illustrative Master Plan.	N/A

4.5.2 - Residential Diversity

Objectives	Applicant Response
Provide a range and variety of dwelling sizes and types to cater for a diverse range of housing types and income levels.	The proposed development comprises apartment units ranging from one to four bedrooms, offering a diverse housing mix that accommodates families of varying sizes and socioeconomic backgrounds.

Development Controls	Applicant Response
As per R-Codes.	Refer to assessment on R-Codes – 4.8 – Dwelling Mix.

4.6 – Active Edges

Objectives	Applicant Response
Ensure building design in commercial and retail areas facilitates street level activity and visual connections between internal areas of buildings and pedestrians to reinforce pedestrian comfort.	While the proposed development does not include a commercial component at street level, the residential amenity floor area features a clear glazing window facing Shenton Road that provides visual connections between the internal floor area and the public realm. Public art is proposed to wrap the building at ground level along Tiger Way and the Claremont Oval façade.
Create interesting, attractive and safe streets and public places for residents and visitors.	
Maximise the view across the public realm from residences.	The proposed development maximises apartments with balconies facing the Claremont Oval to enhance visual amenities from the residences. For apartment units facing other streets, the design includes balconies and windows oriented towards the public realm to optimise views across the public realm.
Orient the areas of greatest activity and interest such as commercial/ retail tenancies and residential living spaces toward the street front.	The proposal includes a residential amenities area located on the ground floor of the development fronting Shenton Road. This floor area has full ceiling height clear glazing windows and will facilitate visual connectivity from the public realm into the internal floor space.
Contribute to a sense of liveliness and safety throughout the Claremont NEP.	The proposed development includes a highly permeable ground-level interface, private open spaces for each dwelling and well-defined access points all of which collectively enhance

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	passive surveillance and safety across the immediate surrounds. The introduction of active residential amenities facing Shenton Road – functioning in a manner consistent with mixed-use activation principles – creates day-to-day movement, visibility and engagement with the public realm, reinforcing a lively streetscape character.

Development Controls	Applicant Response
Buildings must adhere to the building setbacks of the DAP and address streets and public places.	The proposed development complies with the requirement for a minimum of 70% of the building façade to be setback nil from lot boundaries as per the DAP.
Buildings must include active uses (i.e. retail or residential pedestrian entrances and apertures) to a minimum of 80% of their ground level frontage to streets and POS/ PAW, with a corresponding maximum of 20% of that frontage occupied by appropriately detailed walls with no openings, screened car parking, car park entrances and service areas.	Ground floor activation has been provided along Shenton Road where the site's topography and essential services permit.
The design of building facades shall maximise the relationship between the building and adjacent street or public realm.	The proposed building façade includes clear glazing windows, articulated massing and a diversified material palette that collectively strengthen visual permeability and engagement at ground and upper levels.
A minimum of 70% of the street frontage for a commercial or retail tenancy shall be clear glazing.	N/A

4.7 – Public Art

Objectives	Applicant Response
Foster a strong sense of character and identity within the Claremont NEP.	The proposal incorporates two potential opportunities for public art: one at the corner of Tiger Way and Shenton Road, and another along the Tiger Way/Claremont Oval ground floor elevation. These installations will help establish a distinct sense of character and identity within the NEP.
Ensure public art is an integral part of all buildings through excellence of design, integration of artwork or stand alone installations.	The opportunity for public art on the corner façade will be integrated into the wall and form part of the character of the development.
Enhance and expand the quality of the built environment and public facilities and improve the amenity and accessibility of public spaces.	The public art will enhance the NEP's built environment and create visual interest for pedestrians and passersby.

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Development Controls	Applicant Response
Developments other than a single dwelling shall contribute some form of public art to the public realm on or adjacent to their lot to the value of 1% of total construction cost.	The proposal highlights opportunities to incorporate public art within the building façades. However, the specific contribution to public art at the subject site will require further consultation with the Town at a later stage. A condition of development approval is considered appropriate to facilitate this.
DevelopmentWA will be provided with 25% (or 0.25% of total construction cost) of the abovementioned contribution, which will be retained within a consolidated fund and utilised to deliver precinct-wide communal public art and arts activation events. DevelopmentWA will transfer 0.25% of this portion of the communal contribution to the Town for arts activation events. The remaining 75% (or 0.75% of total construction cost) will remain as the public art contribution for implementation by the Developer.	As above, future contribution to public art requires further liaison with the relevant government agencies and a condition of development approval is considered appropriate.
Public art elements shall be submitted for the approval of the Claremont on the Park Architect along with application for Design Guidelines approval. The 0.25% of public art funds provided by Development WA to the Town will be spent on arts activation events within the Claremont on the park development at the total discretion of the Town.	As above, future contribution to public art requires further liaison with the relevant government agencies and a condition of development approval is considered appropriate.

4.8 – Safety and Surveillance

Objectives	Applicant Response
Promote safety and security for occupants and visitors through architectural and urban design initiatives.	The proposed development includes clearly defined entries, extensive glazing to support passive surveillance, activated interfaces overlooking key movement corridors which promote safety and security for occupants and visitors.
Encourage 'natural surveillance' of the public realm.	The proposed development maximises natural surveillance through extensive glazing, balconies, and openings oriented toward street and public spaces, enabling continuous visual oversight and passive monitoring of the public realm.
Maintain a clear distinction between the public, semi private and private realm.	The proposal maintains a clear hierarchy of spaces, with defined pedestrian access off Shenton Road, private communal areas on Level 1 and the rooftop, and fully private apartment interiors and balconies, ensuring appropriate separation and privacy while supporting interaction where intended.
Provide open sight lines.	Public entrances and communal spaces all provide clear open sight lines to maximise safety of residents and visitors.

Development Controls	Applicant Response

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Opportunities for casual surveillance shall be demonstrated to have been provided from internal living spaces to the public realm.	The design includes major opening for habitable rooms overlooking the surrounding open spaces which promote casual surveillance from the residences.
Any building entry or exit shall be clearly visible from adjacent buildings and the public realm.	The pedestrian and vehicular entry points are clearly articulated and distinguished through materials selections and façade treatments, ensuring that are legible from the public realm.
Crime Prevention Through Environmental Design (CPTED) analysis shall be included within the Application for Guidelines Approval for all development.	The proposal adopts the principles of CPTED through natural/passive surveillance, natural access control and territorial reinforcement.
Buildings and boundaries must be adequately secured from unwanted intruders.	The internal floor area of the proposed development is not accessible for the general public and is secured for the occupants exclusive access.
Windows, balcony openings and other major openings shall be designed to provide for natural surveillance of the public realm.	The proposed balcony openings and windows are not obscured and facilitate visual connectivity between the residences and the public realm for natural surveillance.
Additional lighting shall be provided where street lighting will be limited or screened (e.g. laneways, building entrances and footpaths under awnings).	The development incorporates suitable lighting at building entrances, and internal accessways to ensure safe, well-illuminated circulation around the site. Details in relation to lighting are to be provided at building permit stage.
Movement sensor lighting is encouraged but shall not be set off by movement beyond the site or lead to glare in public or neighbouring spaces.	All lighting is carefully sited and directed to prevent glare or adverse impact on adjoining properties. Further details on the proposed lighting are to be proposed at building permit stage.

4.9.1 – Vehicular Access

Objectives	Applicant Response
Establishing a fair balance between pedestrian and vehicle movement to provide for pedestrian safety and the effectiveness of vehicle access.	The development proposes pedestrian access off Shenton Road and vehicular access off Tiger Way, and maintains balanced pedestrian and vehicle circulation.
Provide for the safe and efficient movement of vehicles access and egress.	Adequate sightlines have been incorporated to ensure safe vehicle access and egress. Vehicular access is proposed from Tiger Way, a lower-traffic street compared to Shenton Road, providing a safe and more efficient point of access.
Provide convenient, efficient, safe access and parking for deliveries, vehicles, pedestrians and cyclists.	The existing street parking in the vicinity and proposed visitor parking allow for efficient access for deliveries. The established streetscape of the locality facilitates convenient and safe access for vehicles, pedestrians and cyclists.

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Development Controls	Applicant Response
Footpaths shall be maintained as the priority movement, with crossovers and driveways terminating at the footpath.	The proposed driveway does not protrude into the footpath to prioritise pedestrian movement. Safety measures will be implemented to ensure safe access.
Consideration shall be given for emergency vehicle access to lots.	The existing street parking and the two-level carpark allow for emergency vehicle access as required. Lifts and stairwells are conveniently accessible directly from the car parking areas.
Vehicle entrances shall be designed to minimise the need for signage.	The vehicle entrance is emphasised through building articulation and is prominently visible, positioned near the corner of Shenton Road and Tiger Way.
Vehicle access points to basement parking where through a public access way, must match or complement the hardscape finish within that access way.	N/A
Where on site vehicle parking is at grade or above ground appropriate screening is required to reduce visibility of vehicles from adjacent lots or the public realm whilst maintaining CPTED principles.	Portions of the carpark are partially above ground level due to the sloping nature of the site. Where above ground this will be screened.
Where vehicle crossovers are permitted by a DAP along a key pedestrian route, appropriate measures to promote pedestrian safety shall be included.	N/A
Service vehicle access shall be provided for commercial and retail tenancies shall be designed to minimise visibility from the public realm and adverse impacts on pedestrian safety.	N/A
Asphalt crossovers are not permitted.	The material of the crossover will be subject to a future crossover application and will not be asphalt.

4.9.2 – Vehicle Parking

Objectives	Applicant Response
Provide sufficient and safe car parking.	The application proposes a total of 72, single or tandem, car bays which meets the maximum= 73 bays. The carparking spaces are designed in accordance with the Australian Standards and can provide sufficient carparking for the development.
Ensure that on site vehicle parking and access are appropriately located to ensure functionality and to minimise	All carparking spaces are concealed within the basement and ground level carparking area and will not be visible from the

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adverse visual impacts on the streetscape.	public realm and have no adverse impact on the streetscape.

Development Controls	Applicant Response
Car parking shall be provided in accordance with the Claremont North East Precinct Structure Plan and the Town of Claremont Town Planning Scheme No. 3, where applicable (refer to table 1 below for structure plan car parking provisions).	The application proposes a total of 72, single or tandem, car bays which meets the maximum= 73 bays.
Where on site vehicle parking is at grade or above ground appropriate screening is required to reduce visibility to vehicles from adjacent lots or the public realm whilst maintaining CPTED principles.	Portions of the carpark are partially above ground level due to the sloping nature of the site. Where above ground this will be screened.
Alternative vehicle access points other than those outlined within the DAP may be approved by the Town of Claremont and the Claremont on the Park Architect.	The proposed vehicle access point off Tiger Way was raised during our early prelodgement discussions with the Town of Claremont. A vehicle access point was discussed from Shenton Road and it was agreed this is not appropriate. No concerns have been raised by the Town of Claremont on the proposed vehicle access point from Tiger Way during subsequent prelodgement meetings.
The maximum width of car parking and basement access is 6.5 metres.	The proposed vehicle access point is measured to be 6.1m wide.
Underground or concealed decked parking is required for all development and shall not be visible from the street or public realm.	The proposed car parking areas are concealed from the street and public realm
No at grade parking is permitted between the street front and the building line.	All carparking spaces proposed are contained within the development.
Enclosed at grade or upper level decked parking may be acceptable as part of a mixed use development on confined sites provided that the car park is sleeved with lettable floorspace or otherwise, adequately screened.	N/A

4.10 – Signage

Objectives	Applicant Response
Ensure signage is integrated into building design and improves the overall appearance and legibility of the public realm.	The details of the proposed signage will be determined at a later stage a condition of approval is considered appropriate that allows detailed signage plans to be to the satisfaction of the Town of Claremont.

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Promote well designed commercial signage that is complementary to the business and its location.	N/A
Balance the commercial and way finding needs of tenants and visitors whilst maintaining visual quality throughout the development.	N/A

Development Controls	Applicant Response
Signage must be limited to being located on a maximum of one wall for each commercial tenancy within a building, except where a tenancy, or building has more than one street frontage.	None proposed.
All signage must meet criteria noted in current Local Town Planning Scheme and relevant bylaws.	None proposed.
Each development must have an approved signage strategy (for signage on walls and in windows) in place prior to placement of any signage or advertising.	None proposed.
All signage must be relative to the activity/use of the building to a scale and design character that complements the pedestrian experience, rather than relating to views from passing traffic	None proposed.
Signage of all types must relate to the architectural composition of the building it serves, without obscuring any of the building's architectural features.	None proposed.
Pole/ pylon signs are prohibited.	None proposed.

5.1.1 – Building Depth

Objectives	Applicant Response
Ensure the bulk of development is in scale with the desired future character and vision for Claremont NEP.	The design uses a central courtyard to minimise building bulk and reduce the overall building depth. This courtyard design if common for many of the other developments with the NEP.
Provide sufficient access to sun and ventilation for building occupants.	The design features generous balconies and windows that allow for excellent sun penetration and sufficient ventilation.
Provide a dual aspect for apartments wherever possible.	Dual aspect is incorporated wherever feasible, particularly in larger apartment units, to promote effective cross-ventilation.

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Development Controls	Applicant Response
Residential buildings shall be no deeper than 20m (glass line to glass line).	All habitable rooms are within 10m of a major opening ensuring adequate sunlight to these rooms.

5.1.2 – Heights

Objectives	Applicant Response
To provide sufficient access to sun, breezes, views and privacy.	The development has been carefully designed to ensure that all apartment units have sufficient access to sunlight, ventilation and privacy.
Maintain the character envisaged for the Claremont NEP.	Similar to other residential developments within the NEP, the proposal incorporates generous balconies overlooking the Claremont Oval. The northern façade is articulated to respond to the curvature of the Oval and reinforce a strong architectural relationship with the other developments within the NEP.

Development Controls	Applicant Response
Buildings must conform to the maximum and minimum height controls prescribed in the Detailed Area Plan.	While the proposed development exceeds the maximum building height specified in the DAP, its bulk and scale is consistent with the approved eight-storey development on the western side of the subject site.
Architectural features (not habitable space) can exceed maximum building heights to a maximum of 5m.	None proposed.
Lift machinery rooms and other plant areas are exempted from the prescribed maximum building heights but shall be designed or screened in an appropriate manner to ensure they contribute to the visual quality of the development.	All roof top servicing has been setback from the public realm and screened
Articulation of building height is required to promote height variances around the oval edge and throughout the precinct.	With each dwelling incorporating at least one balcony, the proposed development delivers strong building articulation that helps mitigates visual bulk when viewed from the street.

5.1.3 – Floor Levels

Objectives	Applicant Response
Respond appropriately to level changes across development sites.	The ground floor pedestrian entry, located on Shenton Road, sits at grade with the adjacent footpath level. Due to the sloping nature of the site's boundary, the carparking area on this level is able to be partially underground minimising any impact on

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	the public realm.
Ensure that all buildings adequately address the public realm at ground level.	Ground floor/level 1 apartments feature several balconies and major opening that face onto the public realm. On the Shenton Road side there is a residential amenity area with clear glazing looking out onto Shenton Road.
Ensure floor levels and entrances to buildings meet appropriately with the ground plane.	The proposed pedestrian entrance is level with the verge level on Shenton Road.
Ensure appropriate activation and natural surveillance of the ground plane.	The residential amenities area features clear glazing windows and promotes street activation and passive surveillance.
Suitable built form design shall accommodate the changes in level.	The changes in level has been accommodated into the buildings design, ensuring the pedestrian entry is at the footpath level, and allowing the car parking on ground level to be naturally screened as the terrain increase towards Claremont Oval.

Development Controls	Applicant Response
Floor to floor heights on the ground floor commercial tenancies shall be a minimum of 4.0 metres. This may only be varied to meet site specific level constraints.	N/A
Residential ground floors shall be a maximum of 1.5m and a maximum average of 1.2m above adjacent street level. Some discretion may be permitted on significantly sloping sites.	The proposal does not include residential use on ground level with direct access to the public realm.
Commercial ground floors may be raised a maximum of 0.6 metres above the Natural Ground Level (NGL) at the property boundary.	N/A
Car park venting/service lids and other utility infrastructure shall be dressed, hidden or screened in an appropriate manner to ensure they do not detract from the visual quality of the development.	The proposed utility infrastructure is integrated into the building design and landscaping, and do not detract from the visual quality of the development.

5.2.1 – Building Character and Proportions

Objectives	Applicant Response
Re-interpret the traditional Claremont character through a focus on fine grained design elements while introducing appropriately scaled and articulated commercial and apartment buildings.	The proposed development is well articulated to address the Oval frontage and complement the established character of the precinct.

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Provide a contemporary architectural response to local character.	The proposal delivers a contemporary architectural response that respects local character through refined detailing, articulated façades, and a balanced material palette. This approach ensures modern design expression while maintaining compatibility with the established streetscape and precinct identity.
The form and height of the buildings should reflect both their use and location.	The proposed built form and height are consistent with other residential development within the precinct.
Provide active edges at ground level and articulated facades above.	Where possible, active frontages have been incorporated at ground level. Where not possible, the ground level has a mix of articulation, landscaping, and public art opportunities. Upper-level development is well articulated to reduce building bulk and achieve a balanced, well-proportioned built form.
Facilitate natural ventilation and naturally lit interiors.	The development provides generous openings that allow for adequate ventilation and access to sunlight.
Encourage innovative and imaginative developments appropriate for a town centre location with finer grained design streetscape interest.	The subject site is not within a town centre.
Incorporate architectural features that promote a cohesive urban form to define public streets and edge the oval.	The proposal integrates articulated façades and continuous street edges to establish a cohesive urban form. Additionally, it provides an active frontage along the Oval, enhancing visual connectivity and reinforcing alignment with the broader precinct character.

5.2.2 – Façades

Objectives	Applicant Response
Promote character and composition of buildings to respond to the various locations and zones within the precinct.	The proposed development responds to the different zones and locations within the precinct by employing distinct façade treatments that balance privacy, outlook, and urban presence.
Ensure the architecture of streets and public spaces is of high quality, forming a rich character and strong urban edges.	The proposed development is of high architectural quality and utilises material variation and building articulation to establish well-defined urban edges.
Provide delight through an appropriate response to the specific qualities of each street and varying environmental conditions.	The proposed façades respond to their corresponding environmental conditions in accordance with Diagram 2 : Façade Treatments.

Development Controls	Applicant Response

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The character and composition of the building elevations and the building form shall respond to the various locations and zones within the precinct. Four distinct elevation types shall be reflected as indicated in Diagram 2 : Facade Treatments, outlined as follows: • Solid Protective - provides enclosure and privacy from the urban environment, Westerly sun, and road and railway noise, and creates a formal urban edge. • Open Protective - provides a sense of privacy without dominating the surrounding residential form. • Open Inward - takes advantage of the internal views of the oval, creates a sense of ownership, and provides "eyes on the park" security. • Open Inward with Shading - same as above, with additional screening from the Westerly sun.	The proposed northern façade incorporates 'Open Inward' façade treatments by including glazing, balconies, and articulated setbacks to engage the pedestrian realm, provide passive surveillance, and capitalise on the views toward Claremont Oval. And for the southern façade which is exposed to the adjacent railway, the façade is designed in accordance with 'Solid Protective' typology, minimising major openings and balconies to mitigate road and railway noise and ensure privacy from the urban environment.
The composition of the facades must respond to the building's use.	The proposed façade treatments consider the residential use of the development to maximise residential amenities.
Facades at street level must address the pedestrian realm by way of scale, shading and fine grain detail.	The development includes an awning to the residential amenity floor area which provides shading for the pedestrians. At ground level, façades incorporate fine-grain detailing, transparent glazing, and landscaping to enrich the streetscape and ensure a human-scaled, activated interface with the public realm.
Facades shall be designed with a variety of materials, textures and articulation to produce a contemporary architectural response that creates a greater sense depth and visual diversity.	The proposed residential building incorporates a mixture of materials, texture and articulation and presents as a contemporary design to respond to the established streetscape of the locality. Refer to section 10.2 – Material Finishes of Hillam's DA report and the elevation plans.

5.2.3 – Oval's Edge Interface Zone

Objectives	Applicant Response
Address the oval edge in a way which engages with the public domain and also provides a good level of privacy for the private domain.	The proposal includes balconies on the northern elevation and creates an active frontage facing the Oval without compromising privacy.
Ensure that development interfaces appropriately with the variety of landscape conditions around the oval's edge.	The development includes a variety of active edge treatments, such as landscaping and material transitions that complement the oval's character.

Development Controls	Applicant Response
The finished floor level of the first residential level is to be a minimum of 0.9m and a maximum of 1.5m (maximum average	The proposed finished floor level of the first residential level is a maximum of 1.5m above the finished planter box levels on the

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of 1.2m) above the proposed finished landscape level at the development lot boundary.	site boundary. This applies to the western side of the northern elevation, where NGLs are lower. Given the slope of the site, it is not warranted to step the entire development to address this localised variation.
The junction between the oval edge interface zone and proposed floor level is to be appropriately designed and not to rely entirely on the landscape to be concealed.	The proposed finished floor levels are elevated above ground level and create separation from the public realm.
Private stairways to service each ground floor dwelling are to be located entirely within the lot boundary.	N/A

5.2.4 – Building Corners

Objectives	Applicant Response
Address and activate street corners and to create landmarks that assist in defining local character, helping people to navigate easily through the place.	The proposal delivers articulated corner element that establishes a visual landmark, activating the interface and reinforcing local character to support intuitive wayfinding.
Enable people to navigate easily through the place.	Clear glazing, active frontages and a pronounced corner expression improve legibility for pedestrians, making the building an identifiable reference point within the precinct.
Provide a visual 'hinge' between the character of individual streets.	The corner design forms a strong transitional element, mediating between the Shenton Road and Tiger Way through coordinated materiality to respond to their unique urban settings.
Promote architectural excellence, quality and beauty including appropriate detailing, materials, and built form scale.	The proposal incorporates a wide variety of materials, high-quality detailing and a balanced built form character to deliver a premium architectural outcome.

Development Controls	Applicant Response
Buildings on corners must address both frontages to the street and/or public realm.	Both Shenton Road and Tiger Way frontages are addressed through active façades, openings and pedestrian-oriented design features.
Buildings on corners must include strong architectural expression.	The corner is accentuated as a defining architectural element, presenting a visually engaging expression consistent with its position.

5.2.5 – Roof Forms

Objectives	Applicant Response

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Promote visual integration across the Claremont NEP.	The proposed development adopts a flat roof form consistent with neighbouring developments, ensuring alignment with the established architectural language of the NEP and strengthening overall precinct coherence.
Enhance the character and expression of individual buildings through the design and articulation of roof forms.	The stepped and recessed terrace introduces articulation that elevates the building's architectural expression while maintaining a refined and contemporary roof profile.

Development Controls	Applicant Response
The roof area above the permitted number of storeys shall be non-habitable and contained within the building envelope.	The roof top amenity level is setback so as to have limited visibility from the surrounding streetscape and oval. This level has been designed to remain unenclosed, reduce its perceived bulk.
Design consideration shall be given to the view of the roof from adjacent streets and taller buildings and the greater public realm.	The proposed roof is recessed and has a smaller footprint when compared to the building footprint which reduces the visual bulk of the roof form when viewed from the public realm.
Roof structures shall be designed to enable the concealment of roof plant and equipment from view from adjacent streets, taller buildings and the greater public realm.	The roof design facilitates integration and screening of equipment storage, ensuring these elements are not visible from the public realm.

5.2.6 – Materials and Colour

Objectives	Applicant Response
Promote visual interest and diversity through the use of a variety of materials and textures that relate to the various facade conditions within the Claremont NEP.	The proposal incorporates various construction materials which promote visual interest.
Express design qualities within an urban environment and accentuating form and detail of building.	The proposal incorporates a variety of high-quality building materials and façade treatments that align with the character of other residential developments within the NEP.
Select materials for their durability, robustness and ability to retain their integrity at a mature stage of the development.	High-quality materials have been selected for their proven durability and ability to maintain structural and aesthetic integrity over time. Robust finishes, such as brickwork and powder-coated metal elements, ensure minimal maintenance and resistance to weathering, supporting the development's premium appearance at maturity.
Convey a contemporary and high quality urban aesthetic.	The design adopts a contemporary architectural language characterised by clean lines, refined detailing, and a premium material palette.

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Development Controls	Applicant Response
Building products shall be durable, structurally robust, able to retain their integrity at a mature stage of the development and be constructed in accordance with any technical requirements for local conditions.	All building products have been selected for their durability and structural robustness, ensuring they retain integrity throughout the life of the development. Materials comply with technical standards for local conditions, including thermal performance and weather resistance, supporting a high-quality and sustainable built outcome
Fine grained materials are to be applied to the ground floor facade treatments.	The proposed ground floor includes textured finish, clear glazing, tiles, feature cladding and aluminium cladding.
Concrete tilt-up panel (or other similar modular preformed construction materials) to be embellished to a high visual quality finish, which may include the provision of polished/ ground concrete; cladding materials; or post-form or pre-form design features.	The proposed material palette combines textured brickwork with feature cladding to deliver a refined and high-quality architectural outcome.

5.2.7 – Building Entrances

Objectives	Applicant Response
Provide entrances that read intuitively as the public interface of a building and describe to the particular use or activity to which the entrance leads.	The Shenton Road entry is strategically positioned and architecturally distinguished to function as the primary public interface, clearly signalling its role and use to residents and visitors.
Provide well-designed access and entrances to buildings enable pedestrians to 'read' visual cues and intuitively understand the intended purpose and function of each building component.	Targeted façade treatments, material differentiation, and refined detailing establish strong visual cues, enabling users to intuitively navigate the arrival sequence and understand the function of each component.

Development Controls	Applicant Response
Pedestrian and vehicle entry points must be separate and well defined.	Pedestrian access is consolidated along Shenton Road, while vehicular access is allocated to Tiger Way, ensuring operational separation and mitigating conflict between users.
Commercial and residential entries must be separate and well defined.	N/A
Where long ramps are required to any public street frontage, they should be provided wholly or partially within the building rather than externally to reduce their visual impact and assist in achieving a strong built edge to the street boundary.	The design avoids external ramping along the street interface, with vertical circulation and access infrastructure integrated within the built form to maintain a cohesive and robust street edge.

5.2.8 – Balustrades and Fencing

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Objectives	Applicant Response
Promote fencing of minimum height to undertake their intended role (eg: security / safety / screening).	The application does not include security fencing.
Enhance the visual quality of the public realm.	The proposed glass balustrades to the balconies which promotes visual connectivity with the public realm.
Establish security and demarcation between the public and private realm and the creation of defensible private space.	The design establishes a clear demarcation between public and private realms through controlled access points. Further, the proposed active frontages promote natural surveillance and safety.
Provide articulation and expression of the architecture and character of a building.	The building design achieves articulation and character through a combination of varied depths, contrasting materials, and refined detailing that reflects a contemporary architectural identity.
Maintain an appropriate visual relationship between private and public space.	The design maintains a balanced visual relationship between public and private spaces through active frontage and façade treatments.
Ensure that the levels of screening and transparency ensures an appropriate balance between privacy, access to views/ outlook and surveillance of the public realm is achieved.	The proposed balconies offer the residents access to views and also provide buffers between the public realm and the more sensitive primary living areas which enhances privacy.

Development Controls	Applicant Response
Balustrades and fences in front of built form should be 1000mm high to allow interaction between residents, neighbours and the public realm. This may increase to a maximum of 1200mm high in justifiable situations and locations.	The proposed balcony balustrades are 1.1m high
Closable louvre-style balustrades are not permitted abutting the street or public realm at ground level.	None proposed.
All ground level balustrades addressing the street or POS must be at least 60% visually permeable by area.	All balustrades are clear glass with aluminium top rail.
All fencing between private open space and the street must be at least 60% visually permeable by area, except where this is contrary to the practical function of the fence.	None proposed.
At ground floor level, balustrades/fences shall not detract from the close relationship between public and private space.	None proposed.

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5.3.1 – Solar Access

Objectives	Applicant Response
Reduce energy consumption within a building over the course of its lifetime.	Where possible, the design incorporates two aspect apartment units that allow for cross-ventilation and improved climate regulation which can assist in reducing energy consumption in the long run.
Ensure that the built form is conceived in a way that allows good solar access to the public realm and adjacent buildings.	The proposed development is situated south of the Claremont Oval and does not negatively impact the Oval's access to sunlight. A 11m separation + internal courtyard for part of the building separates it from the adjoining western development.
Ensure that the design of buildings creates comfortable internal and external environments for its occupants.	The proposal includes generous balconies and windows to allow for sufficient sun penetration to create a comfortable internal environment for the occupants. The subject development also shares the 6m wide view corridor that includes seating amenities for the occupants outside of the development site.
Incorporate passive solar design principles to optimise cross ventilation, solar gain in winter and protection from heat gain in summer.	The proposal maximises the number of apartment units with balconies/windows facing north to leverage the abundant sunlight afforded to the site.

Development Controls	Applicant Response
Access of summer sun into openings and private open space shall be controllable through the use of high quality design elements (e.g. full height and moveable balcony screens with adjustable louvres).	The buildings articulation allows for controlled access to summer sun.
Reduce heat gain to all east and west facing walls through, for example, appropriate material and colour selections and shading to openings.	On the eastern elevation, the proposed awnings project 0.5m beyond the glazing to provide midday shade to the apartments, while on the western side, Stage 1 of the development offers additional solar protection from the afternoon sun.
In multi-residential developments, at least 70% of dwellings must have outdoor areas that benefit from a Northerly aspect.	Of the 61 proposed apartments, 28 are located on the northern elevation and feature north-facing balconies. With only 5 apartments to have solely southerly-facing balconies, the design maximises solar access for the majority of dwellings, while appropriately balancing the constrained width of the northern lot boundary and market demand for larger apartments in the premium Claremont area.
A minimum of 70% of all residential apartments must receive 2 hours direct sunlight to major living rooms and private open space between 9am and 3pm mid winter.	70% of the proposed apartments have access to 2 or more hours of direct sunlight between 9am and 3pm on the 21st of June.

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5.3.2 – Openings and Ventilation

Objectives	Applicant Response
Minimise barriers to breeze paths and air flow through dwellings.	The internal layouts prioritise unobstructed breeze paths, with major openings arranged to optimise uninterrupted airflow throughout habitable spaces.
Take advantage of summer breezes to passively cool dwellings and reduce the need for mechanical cooling.	Dual-aspect configurations and strategically positioned openings enable effective capture of prevailing summer breezes, materially reducing reliance on mechanical cooling.
Promote energy efficiency through sustainable means.	The ventilation strategy leverages passive design principles to enhance thermal performance and support broader sustainability outcomes.

Development Controls	Applicant Response
Residential dwellings must be designed to maximise cross ventilation by providing direct breeze paths for cooling and air circulation.	75% of the proposed dwellings achieve cross-ventilation through openings on multiple façades, ensuring direct airflow paths across the units.
Open plan living areas must ensure adequate ventilation to each functional area.	All dwellings incorporate major openings to every habitable space, with balconies directly accessed from primary living areas to reinforce consistent airflow across functional zones.
A minimum of 60% of dwellings shall be capable of natural cross ventilation (i.e. with openings on more than one side) to capture of cooling breezes.	The proposal exceeds this benchmark, delivering 88.5% naturally ventilated apartments.
Glazing systems shall be installed with draught seals/weather stripping.	Glazing systems will be sealed to enhance thermal performance and support effective climate control. See ***Appendix J – Sustainability Design Assessment Report.***

5.3.3 – Screens and Awnings

Objectives	Applicant Response
Establish efficient and climate responsive architecture.	The proposal demonstrates optimised solar orientation and integrated shading devices that align with sustainability principles.
Provide a means to control solar access and privacy.	The proposal incorporates design strategies to manage solar access and privacy through the use of deep façade reveals and carefully positioned balconies. These elements provide flexibility for residents while ensuring comfort, shading, and visual

	separation in a manner consistent with the overall architectural intent.
Add to the visual quality and inform the architectural character through response to local environmental conditions.	The design enhances visual quality by integrating materials, textures, and forms that harmonize with the surrounding landscape and built context.
Mitigate impacts and minimise disturbance to residents arising from Claremont Football Club activities and occasional lighting of the oval.	Bedrooms located adjacent to Claremont Oval have been setback and protected from light spill from the oval through overhanging balconys. Claremont Football Club activities are expected to conclude at a reasonable hour to mitigate any impact on the surrounding residential area.

Development Controls	Applicant Response
Where indicated on the DAP special 'Oval Edge Facade Treatments' are required to manage impacts of Claremont Football Club and Showgrounds activity. Screens should provide protection from noise, projectiles (footballs) and excessive light.	While the proposal does not include balcony screening, this approach is consistent with other approved developments within the precinct, which omit such treatments. Maintaining open facades supports visual connection and activation, aligning with the precinct's design intent.
Glazed windows and doors shall be protected by shading, verandahs or awning structures where appropriate.	The proposed development includes fixed awnings over balconies and glazed windows which offer solar protection.

5.3.5 – Street Overhangs and Shading

Objectives	Applicant Response
Provide a comfortable, shaded and attractive pedestrian environment that encourages an intuitive response to movement throughout the precinct.	The proposal incorporates an awning along the Shenton Road façade, providing shade and comfort over the residential amenities area and near the entrance, creating an attractive and intuitive pedestrian environment.
Encourage walking and participation in public life.	The proposed development is within walking distance of public open spaces, activity centres, and local shops which encourages pedestrian movement.

Development Controls	Applicant Response
Continuous shading or awnings shall be provided to footpaths in accordance with the DAPs.	The DAP does not require awnings to be provided within the subject development site.
Street level awnings with minimum width of 2.0m must be included at min 2.7m and max 3.5m above footpath for all buildings with commercial functions at ground level.	N/A

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Shade structures and awnings shall be robust, easily maintained, promote appropriate integration with planting.	The proposed canopy is constructed of powder-coated aluminium, a durable material that is low-maintenance and long-lasting.

5.3.6 – Energy Efficiency

Objectives	Applicant Response
Minimise energy consumption through best design practice, including a focus on orientation, ventilation and appliance selections.	The proposal incorporates a number of initiatives to enhance energy efficiency. Refer Appendix J – Sustainability Design Assessment Report.

Development Controls	Applicant Response
Where possible, all building development shall be designed to achieve a "plus1" energy rating standard. However, Council may support development at the prevailing energy rating standards where it can satisfactorily be demonstrated that the higher standard is impractical or detrimental to other design outcomes for the development.	The Sustainability Report demonstrates that the development a 7.23 NatHERS Rating Refer Appendix J – Sustainability Design Assessment Report.
Where supplied and where possible, 5 star rated energy efficient appliances shall be installed.	This has not been selected as part of the development application. A condition of approval may be considered appropriate if necessary.
A demonstrated highly energy efficient hot water system shall be installed (e.g. gas or solar boosted gas centralised or local hot water system).	This has not been selected as part of the development application. A condition of approval may be considered appropriate if necessary.
A "Building/Dwelling Management Manual", or similar user-friendly document, shall be produced to assist occupants to understand the intended performance of the building and specific operational requirements.	During the sale of the dwellings, potential purchases have the opportunity to discuss this with the agent.

5.3.7 – Water Saving

Objectives	Applicant Response
Ensure the most water efficient facilities and fixtures are installed for maximum water conservation.	The proposed water arrangement is consistent with WaterWise principles and minimises water consumption.
Reduce reliance on potable water supplies.	The development aims to achieve a 20% reduction in potable water consumption compared to established benchmarks.

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Development Controls	Applicant Response
Tap ware and showers should exceed NCC requirements for WELS star ratings by one star per fixture.	This has not been selected as part of the development application. A condition of approval may be considered appropriate if necessary.

5.3.8 - Lighting

Objectives	Applicant Response
Integrate lighting into buildings to create a safe, interesting, attractive and ambient night time environment.	Lighting is integrated into façade treatments, entrances, and communal areas to enhance visual interest and create an engaging nighttime streetscape.
Reduce energy consumption through the use of energy efficient and innovative lighting technologies.	All lighting is specified with energy-efficient technology and controlled to minimise consumption.
Provide appropriate levels of lighting for both the private and public realm for safety and security.	External pathways, entry points and communal spaces are appropriately illuminated to ensure safety and visibility for residents and pedestrians.

Development Controls	Applicant Response
Motion sensors shall be used for lighting in all common areas as appropriate.	Common areas, including corridors, stairwells, and internal accessways, can be fitted with motion-senor lighting to optimise energy efficiency without compromising safety.
Lighting shall be provided under awnings to illuminate the footpath below for effect and security.	Footpaths and entrances beneath awnings will be equipped with strategically placed lighting to enhance pedestrian security. Further detail on lighting to be provided at building permit stage.

5.3.9 – Stormwater Management

Objectives	Applicant Response
To ensure stormwater events are managed appropriately within lots.	Stormwater management will continue the same strategy as implemented within the Stage 1 development.

Development Controls	Applicant Response
All stormwater is to be retained within the lot.	Stormwater management will continue the same strategy as implemented within the Stage 1 development.

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5.4.1 – Private Outdoor Space

Objectives	Applicant Response
For all residential units to have access to functional and useable private open space that is suitable for the purposes of relaxation and entertaining.	All proposed apartments provide access to at least one private outdoor space in the form of a balcony, with selected units featuring a secondary balcony.
Provide an appropriate balance between the requirement for privacy and optimisation of the views into the public realm.	The proposed balconies include screenings where necessary to restrict overlooking within the development. The balconies facing the Oval are not screened but is consistent with other residential developments within the precinct.
Contribute to the form, articulation and identity of buildings.	With generous balcony space to each dwelling, the development matches with the identity of the established residential precinct.

Development Controls	Applicant Response
One primary balcony with a minimum dimension of 2.4m and a minimum area of 10m2 must be included per upper level dwelling, located adjacent to the main living area.	Each primary balcony meets the minimum dimension requirement of 2.4m and a 10sqm footprint, providing functional areas for relaxation and entertaining.
The building's primary balconies should have an average area of at least 15m2, measured across all apartments, recognising that larger apartments may require a greater area of private open space than smaller apartments.	The average size of primary balconies is 21 sqm, exceeding the minimum average requirement of 15sqm.
Adequate usable balcony space is to be provided for every unit. No air-conditioning or other service equipment may be located on the balcony so as to impact on the comfortable use of the balcony area. All air-conditioning equipment (whether on balconies or not) is to be located so as to not blow directly onto the main usable space of the balcony.	All aircon units are located on the roof and screen from communal spaces
Where air conditioning units are located on balconies, these should be appropriately screened and concealed from view.	No air conditioning units proposed within balcony areas.
Overlooking between balconies and adjoining residences should be carefully considered and privacy screening provided where necessary.	Screenings are provided where necessary to restrict overlooking within the development.

5.4.2 – Communal Outdoor Space

Objectives	Applicant Response
To ensure that developments incorporate plazas, terraces and other public spaces that provide public areas for people to	The proposed development includes a communal area with seating spaces on Level 1 and a roof terrace with residential

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recreate.	amenities for residents to recreate.

Development Controls	Applicant Response
Non-residential buildings must provide access to open space for workers.	N/A
Where provided, Communal Private Open Space (CPOS) shall remain the responsibility of the developer or assigned to the subsequent building management body as may be created by the developer.	The Strata Company will be responsible for future maintenance and upkeeping of the proposed communal areas
Irrigation is to be from lot allocated water and where possible collect on-lot water (roof/ paving run-off) within tanks for irrigation purposes.	The landscape area will follow water sensitive urban design principles and use drip irrigation systems in order to minimise water use.
Continuity of materials, finishes, landscape elements etc is required between public and private realms to diffuse the boundary between the two.	Ground-level landscaping, façade treatments, and material selections are coordinated with the adjacent public realm to create visual transition and reinforce a cohesive streetscape and oval experience.
Where CPOS is provided, this shall generally be in the location outlined within the relevant DAPs.	The DAP does not outline any CPOS locations on the subject site.

5.5.1 – Waste Management

Objectives	Applicant Response
Minimise the impact of the creation, collection and transfer of refuse within the Claremont NEP.	Waste is stored in communal bins with the ground floor parking area and is screen from public view. Collection is done through the existing Stage 1 development by transferring bins on collection days through an internal connection. This reduces the waste truck movements within the NEP.
Ensure efficient storage and collection of waste that promotes separation of recyclable materials at the source.	Recycling bins are proposed within the basement and ground level of the development.
Providing well-located recycling facilities within buildings.	Recycling bins are proposed within the ground level of the development.

Development Controls	Applicant Response
A Waste Management Strategy shall be prepared in consultation with the Town of Claremont.	A waste management plan has been prepared and submitted as part of the application.

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Bin storage areas shall be located within the building confines.	Bin storage areas are proposed within the development.
Waste storage facilities shall be designed to allow collection of waste from within the site.	Waste is to be transported to Stage 1 of the development and collected on-site.
Waste storage and collection for single dwelling lots shall be in accordance with the Town's standard requirements for single residential developments.	N/A
Paving to vehicle access ways shall be of an equivalent quality to paving used within public open space (POS) and public access ways (PAW), while meeting the requirements of heavy vehicles.	Access for waste trucks are through the Stage 1 crossover only.

5.5.2 – Drying Areas

Objectives	Applicant Response
Provide occupants with the opportunity to passively dry washing.	Each apartment includes sufficient outdoor space for passive clothes drying.
Minimise the use of mechanical clothes dryers.	The provision of well-ventilated, deeper than minimum required, shaded outdoor spaces encourages natural drying, reducing reliance on mechanical dryers and promoting energy efficiency.

Development Controls	Applicant Response
Each dwelling shall be provided with an individual drying area or provided with easy access to a communal drying area.	Every dwelling has its own private drying space integrated with its balcony, ensuring convenient and exclusive use for residents. The balcony have been designed larger than minimum requirements to accommodate this drying space.
Clothes drying areas shall be concealed from public view but well ventilated.	The large balcony sizes allow drying spaces to be positioned to be screened from the street and neighbouring properties while remaining open to breezes, optimising functionality without impacting visual amenity.
Clothes drying areas shall be located to minimise the impact on adjoining residences.	The proposed drying areas are contained within the development.

5.5.3 – Mechanical Services

Objectives	Applicant Response

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Provide efficient and effective building servicing.	The majority of services are located on ground, basement and rooftop levels. Smaller services cupboards are located on each floor The proposed development will be serviced by utilities expected within a high-quality contemporary residential development.
Minimise the visual or acoustic impact of ancillary items.	All ancillary items are secured within screened spaces to minimise visual or acoustic impact on the residents.

Development Controls	Applicant Response
All services must be concealed from view on all elevations.	All utilities are located within secured areas and not visible from the public realm/ communal areas.
All service, including air-conditioning units, must be located to minimise visual, acoustic or other impacts on the public or private realm.	All utilities are located within secured areas and not visible from the public realm/ communal areas.
Plant must not be visible from the street and must not be visible above the roof line of buildings with street facing elevations.	All utilities are located within secured areas and not visible from the public realm/ communal areas.
Meters must be contained within development lots, screened and integrated into the overall development.	All utilities are located within secured areas and not visible from the public realm/ communal areas.
Air conditioning systems shall have a minimum energy rating of 4 stars and be sized to match the conditioned space.	The proposed air conditioning systems have a minimum energy rating of 4 stars and are detailed within the Sustainable Design Assessment Report.
The type and location of air conditioning systems shall be considered at the early stages of the design process to ensure that the system or units are integrated with the building design and appropriately screened from the public realm.	Air conditioning systems have been carefully designed, located and screened from the public realm.
Where it is appropriate to locate plant on or adjacent to balconies, for example in the provision of local hot water systems, this must be screened in such a way as to be integrated into the building form.	All utilities are screened from the public realm.
Plant shall not be located on external walls that are visible from the adjacent public or private realm.	All utilities are screened from the public realm.
Service doors and other utilitarian features shall be located away from street fronts and treated to reduce their visual	All utilities are screened from the public realm.

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presence.	
Storage areas, service areas and any ancillary equipment shall be screened from public view.	All storage areas and utilities are screened from the public realm.

5.5.4 – Storage

Objectives	Applicant Response
Ensure that dwellings are provided with functional and accessible storage areas in addition to bicycle parking facilities.	The proposal provides one storage for each apartment unit with a minimum internal dimension of 1.5m within the basement and ground floor area. Bicycle parking is contained within the storage rooms, however, these have been designed to accommodate the bike storage without compromising the store rooms usability. Additoinaly, the dwellings larger areas will allow for more personal items to be stored within apartments themselves.

Development Controls	Applicant Response
Separate lockable storage for each dwelling must be provided with a minimum internal dimension of 1.5m.	Each apartment unit has access to one 4sqm lockable storage area which meets the minimum 1.5m internal dimension requirement within the two levels of parking.
Buildings must provide a water tap adjacent to any storage area.	Water taps specifically for storage areas have not been provided next to storage areas as this would unnecessarily increase water usage of the building.

5.5.5 – End of Trip Facilities

Objectives	Applicant Response
Promote active transport modes such as cycling and walking for non-residential components of buildings.	N/A
Promote access to existing cycle networks and footpaths through the provision of appropriate end of trip facilities for cyclists, walkers and runners.	The subject site is well-serviced by the established cycle network of the locality and includes a variety of end of trip facilities on-site including a visitor bike storage area.
Ensure that residential components of buildings are provided with adequate storage facilities for bicycles that are integrated with the car parks of buildings.	The proposal includes one storage area for each dwelling located within the carparking area. Visitors have access to a shared bicycle storage area.
Provide appropriate facilities in commercial and retail buildings to support active modes of travel such as running, walking and cycling.	The proposal does not include a non-residential component.

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Development Controls	Applicant Response
Secure bicycle storage is to be provided based on the following rates (refer to Claremont North East Precinct Structure Plan for additional detail): • Residential: 1 cycle bay per apartment. • Commercial/ office tenant: 1 cycle bay per 200m2 GFA. • Commercial/ office visitor: 1 cycle bay per 500m2 GFA. • Retail: 1 cycle bay per 200m2 GFA.	Bicycles are proposed to be stored within the storage area afforded to each apartment unit. Smaller storage rooms instead utilised a shared bike storage area. Communal visitor bike storage is also provided for within the ground floor parking area.
For Commercial/ office and Retail floor space, there shall be an allocation of one locker per bicycle storage space and one shower for every 10 bicycle storage spaces.	N/A
For Commercial/ office and Retail floor space, facilities for cycling and other active forms of transport shall be provided for both staff and visitors and shall include showers, change rooms and storage areas.	N/A
All end of trip facilities shall be designed with convenience and safety of the user in mind to encourage cycling for residents and workers.	The development includes a bike storage area for both the residents and visitor which encourages cycling.
Facilities shall be designed in accordance with CPTED design principles.	Visitor bike storage is located close to the lobby within the ground floor carpark. This encourages passive surveillance of the space.

6.1 – Landscape Design

Objectives	Applicant Response
Integrate with the character and intent of the Landscape Concept Master Plan to encourage unity of character to the whole of project.	The proposed landscaping intends to not detract from the established NEP landscaped style.
Reflect character of the Claremont NEP through appropriate hard and soft material selection.	The proposal reflects the character of Claremont NEP by selecting hard and soft materials that complement the precinct's established palette, ensuring cohesion with its natural and built environment.
Promote a sense of place through commonality of material, colour, texture and form to the public realm and its immediate interfaces.	The project adopts a harmonised suite of materials, colours and textural treatments to deliver a consistent visual language across the public realm and adjoining built form interfaces, reinforcing a distinctive and cohesive sense of place.

Encourage the future built form to also complement the public realm and vice versa.	The development framework positions the built form and public realm as mutually reinforcing assets, ensuring that architectural expression, spatial configuration and landscape initiatives operate in an integrated, complementary manner that elevates overall precinct performance.
Provide an inviting and comfortable external environment that is well connected to the built form.	The external realm is curated to optimise pedestrian comfort, amenity and environmental quality, with clear connectivity pathways and seamless transitions that enable intuitive engagement between outdoor spaces and the adjoining built form.
Promote comfortable human scale and attention to detail to the high visibility ground plane interface.	Design emphasis is placed on human-scaled proportions, refined detailing and high-quality ground-plane treatments to ensure an accessible, visually engaging and people-oriented interface in areas of elevated visibility.
Promote occupancy uses which preference activation of the built form edge.	The land-use strategy prioritises tenancies and interface conditions that catalyse activation along the building edge, enabling continuous engagement, enhanced street vibrancy and increased utilisation of adjacent public spaces.
Avoid additional expense, materials waste and reworking to the public and private realm interface.	The delivery methodology embeds early coordination across public and private realm interfaces to mitigate rework, eliminate unnecessary material expenditure and drive efficient capital deployment.
Minimise ongoing maintenance costs to the project and Town of Claremont.	Material selection, detailing and landscape treatments are structured around durability, lifecycle optimisation and operational efficiency to minimise long-term maintenance obligations for both the project team and the Town of Claremont.

Development Controls	Applicant Response
Access (including ramps and stairs) and interface elements shall be in accordance with all relevant industry standards and codes.	The proposed access will meet the relevant NCC requirements.
Interface areas between public and private areas shall be smooth, even and logical inclusive of suitable sightlines and security considerations.	Transition zones will be strategically designed to achieve logical connectivity between public and private domains, incorporating unobstructed sightlines, passive surveillance opportunities, and intuitive wayfinding.
Setbacks shall be landscaped in a manner that promotes activation and matches or complements the adjacent public open space, public access way or streetscape.	Where the building is setback from lot boundaries, landscaping is proposed that integrates with the adjacent public realm.
Pedestrian entries, external foyer spaces and ground floor	All public-facing elements will incorporate complementary

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setback areas that are accessible to the public shall be treated with materials and colours matching that used in the adjacent public realm. This may include but not be limited to paving, edging, walling, balustrades, handrails, steps, fencing, plant species, furniture, lighting and signage.	finishes, including paving, walling, handrails, balustrades, fencing, lighting, furniture, and signage, ensuring a consistent colour strategy that enhances integration with the existing streetscape.
Vehicular surfaces that are accessible to the public shall be treated with materials and colours matching that used in the adjacent public realm.	All vehicle-accessible zones will utilize surface treatments consistent with adjacent public realm materials and colour schemes, ensuring aesthetic continuity and an integrated urban environment.
Street furniture that is located on the lot but are accessible to the public shall be selected to match that used in the adjacent public realm, including colours.	Publicly accessible site furniture will be harmonised with the local streetscape, including selection of complementary materials, finishes, and colours.
Any and all damage to public realm works shall be rectified by the developer at the developers expense to match pre-existing works.	The developer assumes full accountability for restoration of any public realm elements impacted during construction, ensuring all remediation works are executed to match pre-existing conditions, thereby safeguarding the integrity, quality, and visual consistency of the public environment.

Local Planning Policy 207 – Public Art

Refer The Town's Local Planning Policy 207 - Public Art (LPP 207) applies to proposed development within the Town with a value of $1 million or more. As the cost of the subject development exceeds $1 million, the provisions and objectives of this policy apply.

Potential public art locations are shown on the development plans and is generally located on the corner of Shenton Road and Tiger Way, and located on the ground level façade that wraps around the building from Tiger Way to the Claremont Oval.

The Public art will meet the minimum cost of 1% of the estimated cost of the development up to $500,000.

A condition of development approval is considered appropriate to allow the detail of the public art to be finalised as part of the detailed design process.

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Proposed Mixed-Use Development - Lot 508 Shenton Road, Claremont Terraces - Stage 2, Town of Claremont

Transport Impact Assessment

Stantec

Prepared for:
Norup Pty Ltd

Prepared by:
Sophie Gittins

Date:
03 September 2026

Project/File:
301252508

Stantec Australia Pty Ltd

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Revision Schedule

Revision No.	Date	Description	Prepared by	Quality Reviewer	Independent Reviewer	Project Manager Final Approval
01	05/12/2025	DRAFT	SG	DH	RI	DH
02	12/12/2025	FINAL	SG	PM	RI	DH
03	03/09/2026	UPDATE	SG	PM	RI	DH

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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.

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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.

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1 Introduction

Stantec has been commissioned by Norup Pty Ltd ("the client") to prepare a Transport Impact Assessment (TIA) for Stage 2 of the proposed residential development located at Lot 508 Shenton Road, Claremont within the Town of Claremont (the "Site").

A Traffic Impact Assessment (TIA) report was previously prepared for the Stage 1 development, which included 137 apartments combined with commercial and retail tenancies. This TIA focuses on assessing the impacts associated with the Stage 2 development comprising 61 apartment units with 36sqm of residential amenity and 6sqm manager's office space at the ground level.

This Traffic Impact Assessment report was prepared in accordance with the *WAPC TIA Guidelines Volume 4 – Individual Developments (2016),* with the checklist attached in **Appendix A**.

1.1 Study Area

The Site is located in the suburb of Claremont within the Town of Claremont. The Site is bounded by Claremont Football Oval to the north, Shenton Road to the south, Tiger Way to the east and other mixed-use development to the west. The location of the Stage 1 and Stage 2 development is outlined in **Figure 1-1**.

Figure 1-1. Site Location

Source: Metromap 2025

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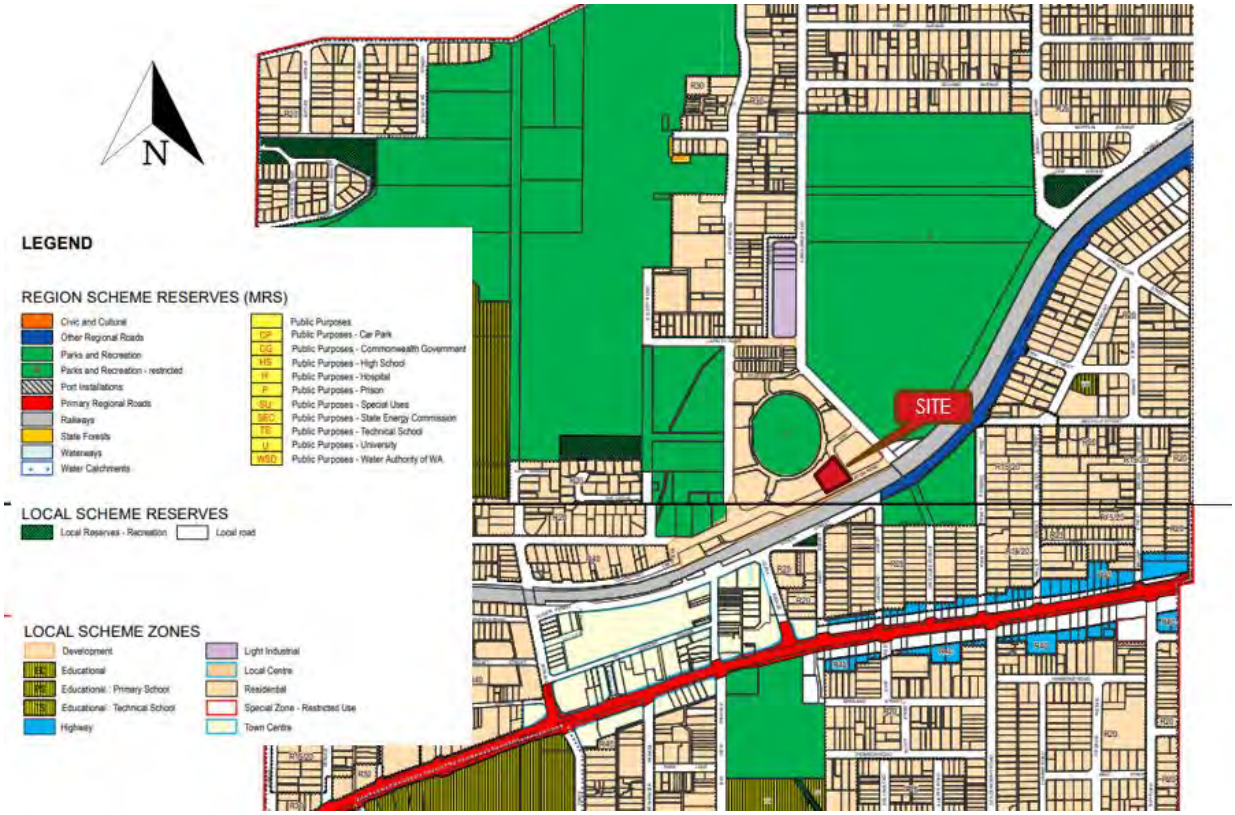
2 Existing Situation

2.1 Surrounding Land Uses

Based on the Town of Claremont Town Planning Scheme No.3, the Site is zoned as 'Development' as shown in **Figure 2-1**. The surrounding land uses include residential developments to the south, Metropolitan Region Scheme (MRS) reserved 'Parks and Recreation' and 'Rural' site to the north and east.

The Claremont *North East Precinct (NEP) Structure Plan – Addendum* provides a detailed zoning map which is included in **Figure 2-2** and indicates that the Stage 1 development is zoned as 'Mixed Use' and Stage 2 is zoned as 'Residential'.

Figure 2-1. Existing Zoning



Source: Claremont Town Planning Scheme No. 3 (2020)

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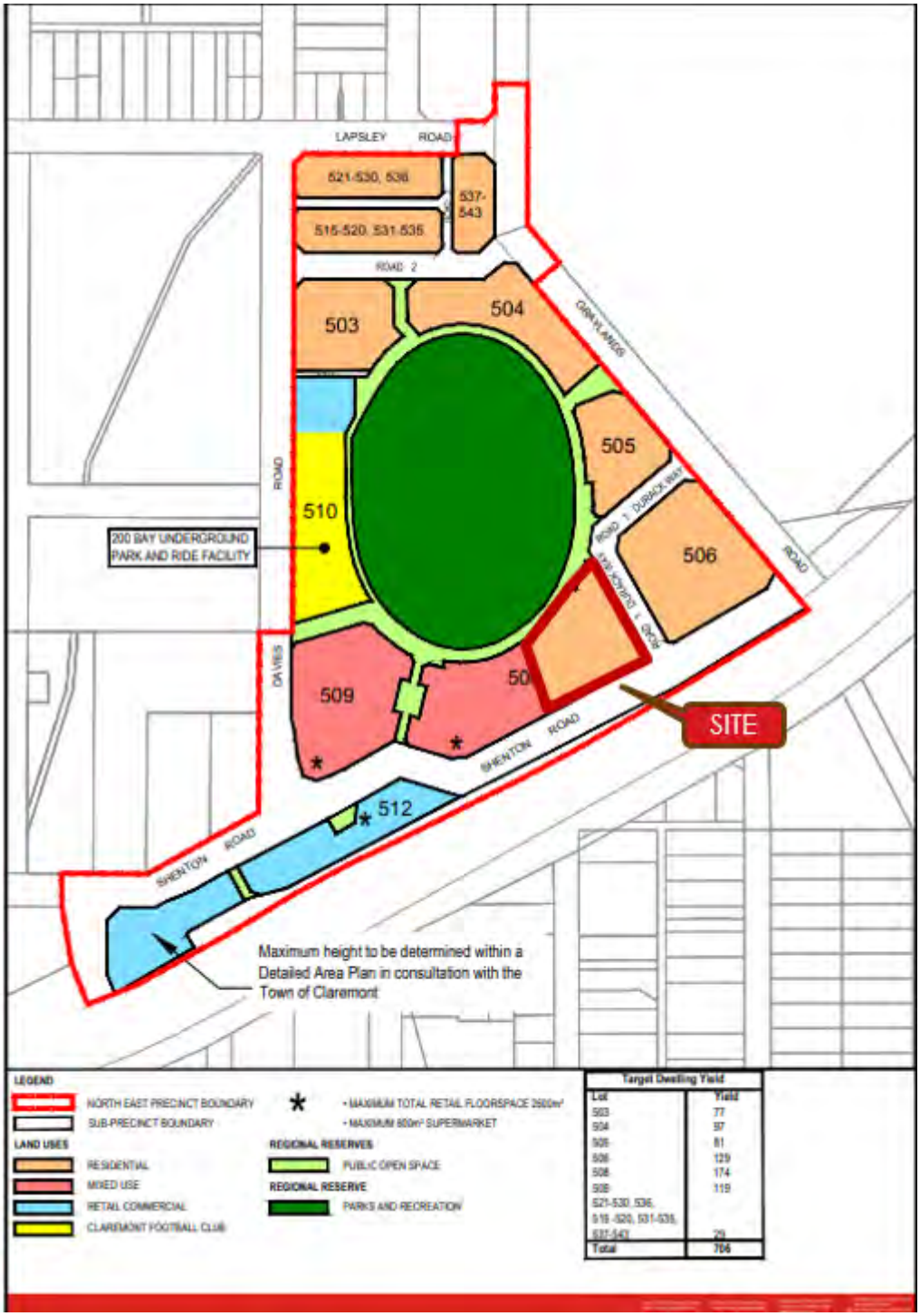
Figure 2-2. Claremont Northeast Precinct (NEP) Structure Plan - Addendum



Source: Claremont NEP Structure Plan – Addendum (2014)

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2.2 Existing Road Network

Road classifications are defined in the Main Roads Functional Hierarchy as follows:

- **Primary Distributors (light blue):** Form the regional and inter-regional grid of Main Roads WA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes, and all are National or State Roads WA.
- **Regional Distributors (red):** Roads that are not Primary Distributors, but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by Local Government.
- **District Distributor A (green):** These carry traffic between industrial, commercial and residential areas and connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining properties. They are managed by Local Government.
- **Distributor B (dark blue):** Perform a similar function to District Distributor A but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
- **Local Distributors (orange):** Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. They are managed by Local Government.
- **Access Roads (grey):** Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by Local Government.

The surrounding road network is further described in **Table 2.1** which describes the existing characteristics, whilst **Figure 2-3** shows a map of the road hierarchy as per the Main Roads WA Road Information Mapping System.

Table 2.1. Road Network Classification

Road Names	Road Hierarchy	Jurisdiction	No. of Lanes (2-way)	No. of Footpaths	Approximate Width (m)	Posted Speed Limit (km/h)
Shenton Road	Distributor B	Local Government	2	2	12.4m (including on-street parking on both sides)	50
Davies Road	Distributor B	Local Government	2	2	9.8m (including on-street parking on eastern side)	50
Graylands Road	Access Road	Local Government	2	2	10.4m (including on-street parking on western side)	50
Gugeri St	Distributor A	Local Government	2	1	8.6m	50
Leura Avenue	Distributor B	Local Government	2	1	11.4m (including median)	50

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Figure 2-3. Existing Road Hierarchy Map

Source: MRWA Road Information Mapping System (2025)

2.3 Existing Key Intersections

The following describes the intersections in the vicinity of the Site:

Shenton Road / Davies Road Intersection is located to the southwest of the Site. The intersection is a three-way signalised as illustrated in **Figure 2-4.** The configuration of the intersection is as follows:

- Northern approach: Two (2) approach lanes (for left and right turn movements) and one (1) departure lane.
- Eastern approach: Two (2) approach lanes (for right turn and through movements) and one (1) departure lane.
- Western approach: Two (2) approach lanes (for left turn and through movements) and one (1) departure lane.

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Figure 2-4. Shenton Road / Davies Road Intersection

Source: Metromap (2025)

Shenton Road / Graylands Road Intersection is located to the east of the Site. The intersection is three-way stop priority-controlled intersection as shown in **Figure 2-5**. The configuration of the intersection is as follows:

- North-western approach: Two (2) approach lanes (for left and right turn movements) and one (1) departure lane.
- North-eastern approach: Two (2) approach lanes (for right turn and through movements) and one (1) departure lane.
- South-western approach: One (1) approach lane and one (1) departure lane.

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Figure 2-5. Shenton Road / Graylands Road Intersection

Source: Metromap (2025)

Shenton Road / Gugeri Street Intersection is located to the east of the Site. The intersection is three-way stop priority-controlled intersection as shown in **Figure 2-6**. The configuration of the intersection is as follows:

- North-western approach: One (1) approach lane (for right turn movements) and one (1) departure lane. Left turning vehicles will turn left at the split approximately 60m prior to the approach which merges into Gugeri Street.
- North-eastern approach: Two (2) approach lanes (for right turn and through movements) and one (1) departure lane.
- South-western approach: One (1) approach lane and one (1) departure lane.

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Figure 2-6. Shenton Road / Gugeri Street Intersection

Source: Metromap (2025)

2.4 Existing Traffic Volumes

The existing traffic volumes for the surrounding roads in the vicinity of the Site have been obtained from the Main Roads Traffic Map and from the from the previously prepared TIA report for Stage 1 of the development which were obtained from the Town of Claremont and summarised in **Table 2.2**.

Table 2.2. Existing Traffic Volumes

Road Name	Source	Year	Average Daily Traffic Volume (weekday)	Average AM Peak Traffic Volume	Average PM Peak Traffic Volume
Gugeri St Off Ramp to Shenton Rd	Town of Claremont	2024	3,933	412	453
Davies Rd / Shenton Rd (SCATS)	MRWA	2023	11,527	1,178	909
Shenton Rd (east of Graylands Rd)	Town of Claremont	2016	4,244	405	374
Shenton Rd (east of Davies Rd)	Town of Claremont	2016	3,332	361	338
Graylands Rd (north of Shenton Rd)	Town of Claremont	2016	4,311	349	407
Davies Rd (south of Second Av)	Town of Claremont	2016	3,207	333	272

Vehicle movement counts were undertaken by the client on the 27th and 28th August 2026 for the AM and PM peak periods at the Tiger Way / Shenton Road and the Tiger Way / Graylands Road intersections. This data has been reflected in the analysis of the surrounding road network.

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2.5 Existing Pedestrian / Cycling Networks

The existing pedestrian/cycle networks in the area surrounding the development site are illustrated in **Figure 2-7.** The site is located within close proximity to the Fremantle Railway Principal Shared Path (PSP).

Footpaths are available on both sides of the road for Shenton Road, Davies Road, and Graylands Road. The nearest access across the rail line is available via the pedestrian overpass at Claremont Station or level crossings located 50m to the west and to the east of the Station.

Overall, the Site has excellent access to the existing pedestrian and cycling network with multiple safe crossing points across the railway line.

Figure 2-7. Existing Pedestrian and Cycling Facilities

Source: Department of Transport (Perth, Fremantle and Stirling Map)

2.6 Existing Public Transport Services

Train and bus services are located within close proximity of the Site as shown in the Transperth map. The closest bus stops are located on Shenton Road and Davies Road, approximately 150m southwest of the Site. The bus stops are currently being serviced by Bus Routes 27 and 28 from Claremont Station to Perth Busport and vice versa. The access to Fremantle train line service is extremely convenient, with Claremont station located 200m south-west of the Site. **Figure 2-8** and **Figure 2-9** illustrate the location and route map of the existing public transport services with **Table 2.3** summarises the existing bus frequency and **Table 2.4** summarises the existing train service frequency.

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Figure 2-8. Existing Public Transport

Source: Metromap (2025)

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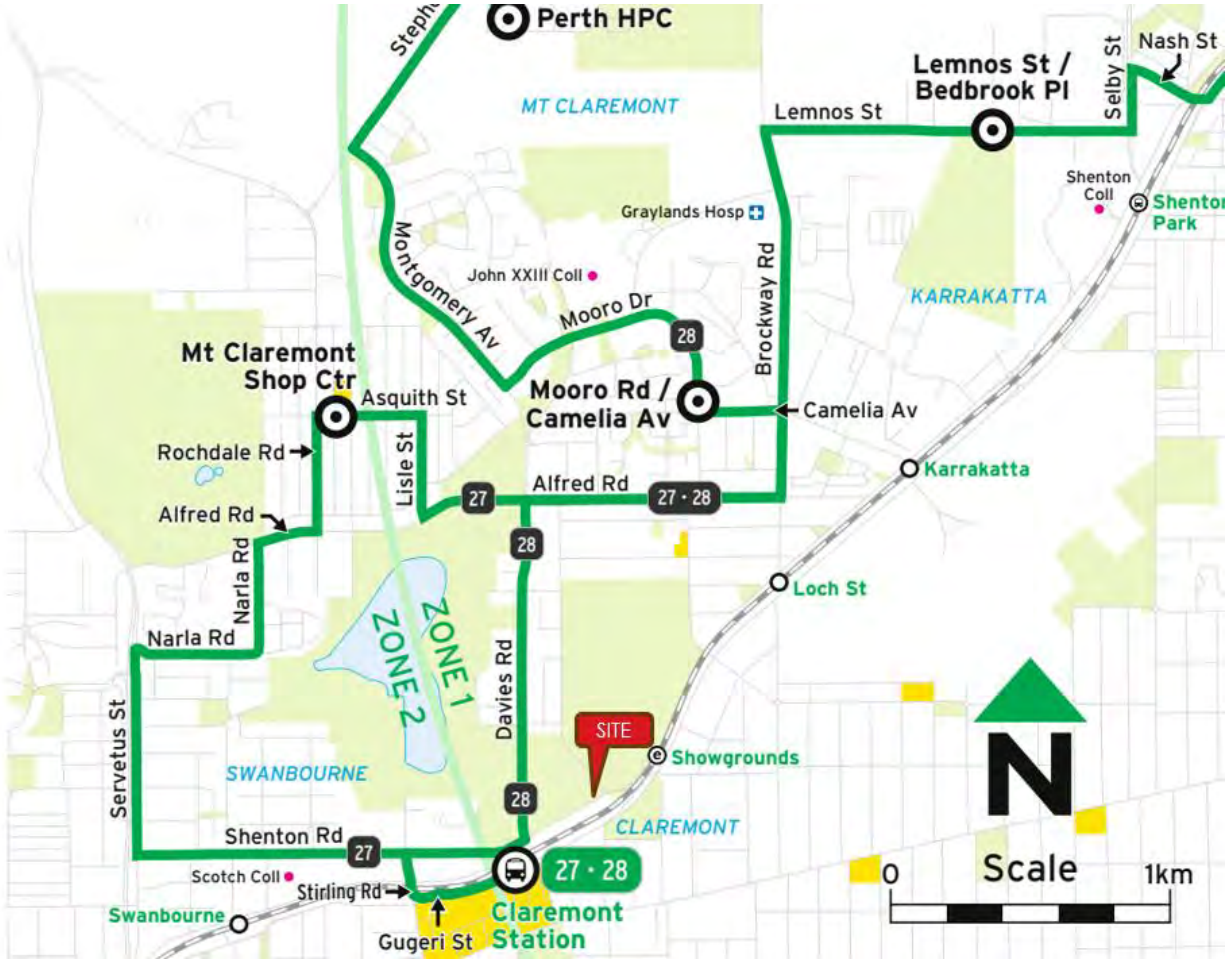
Figure 2-9. Surrounding Public Transport



Source: Transperth (2026)

Table 2.3. Bus Service Frequency

Bus Service	Route Description	Weekday Peak Period	Saturday	Sunday and Public Holidays
27	Perth Bus port to Claremont Station	Every 10 to 20 minutes, reducing to every 30 to 60 minutes during the middle of the day/evenings	60 mins	60mins
28	Perth Bus port to Claremont Station	30-60 mins	60 mins	60mins

Source: Transperth

Table 2.4. Train Service Frequency

Route Description	Weekday Peak Period	Weekday Off Peak Period	Saturday	Sunday and Public Holidays
Fremantle Line	10-15 mins	30 mins	15-30 mins	15-30 mins

Source: Transperth

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2.7 Crash Assessment

The crash data has been extracted from the Main Roads WA Reporting Centre for all the midblock and intersection crashes in the vicinity of the Site from 1 January 2021 to 31 December 2025.

The crash data has been extracted for the following roads in the surrounding area:

- Shenton Road
- Tiger Way
- Davies Road
- Graylands Road
- Lapsley Road
- Kyle Way
- Kitson Way

These are summarised in **Table 2.5** through to **Table 2.7** and the location and severity of the crashes are illustrated in **Figure 2-10** and **Figure 2-11.**

Table 2.5. Total Crashes

Type of Crash (RUM Code)	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Right Angle	-	-	2	6	2	**10**
Sideswipe Same Direction	-	-	-	2	-	**2**
Rear End	-	-	2	3	4	**9**
Right Turn Thru	-	-	-	2	1	**3**
Hit Object	-	-	-	-	-	**-**
Non-Collision	-	-	-	-	-	**-**
Unspecified	-	-	2	1	-	**3**
Total	**-**	**-**	**6**	**14**	**7**	**27**

Table 2.6. Intersection Crashes

Intersection Name	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Graylands Rd / Lapsley Rd	-	-	-	1	-	**1**
Shenton Rd / Graylands Rd	-	-	-	1	-	**1**
Shenton Rd / Davies Rd	-	-	-	1	2	**3**
Davies Rd / Kitson Wy	-	-	-	-	1	**1**
Davies Rd / Lapsley Rd	-	-	-	4	1	**5**
Total	**-**	**-**	**-**	**7**	**4**	**11**

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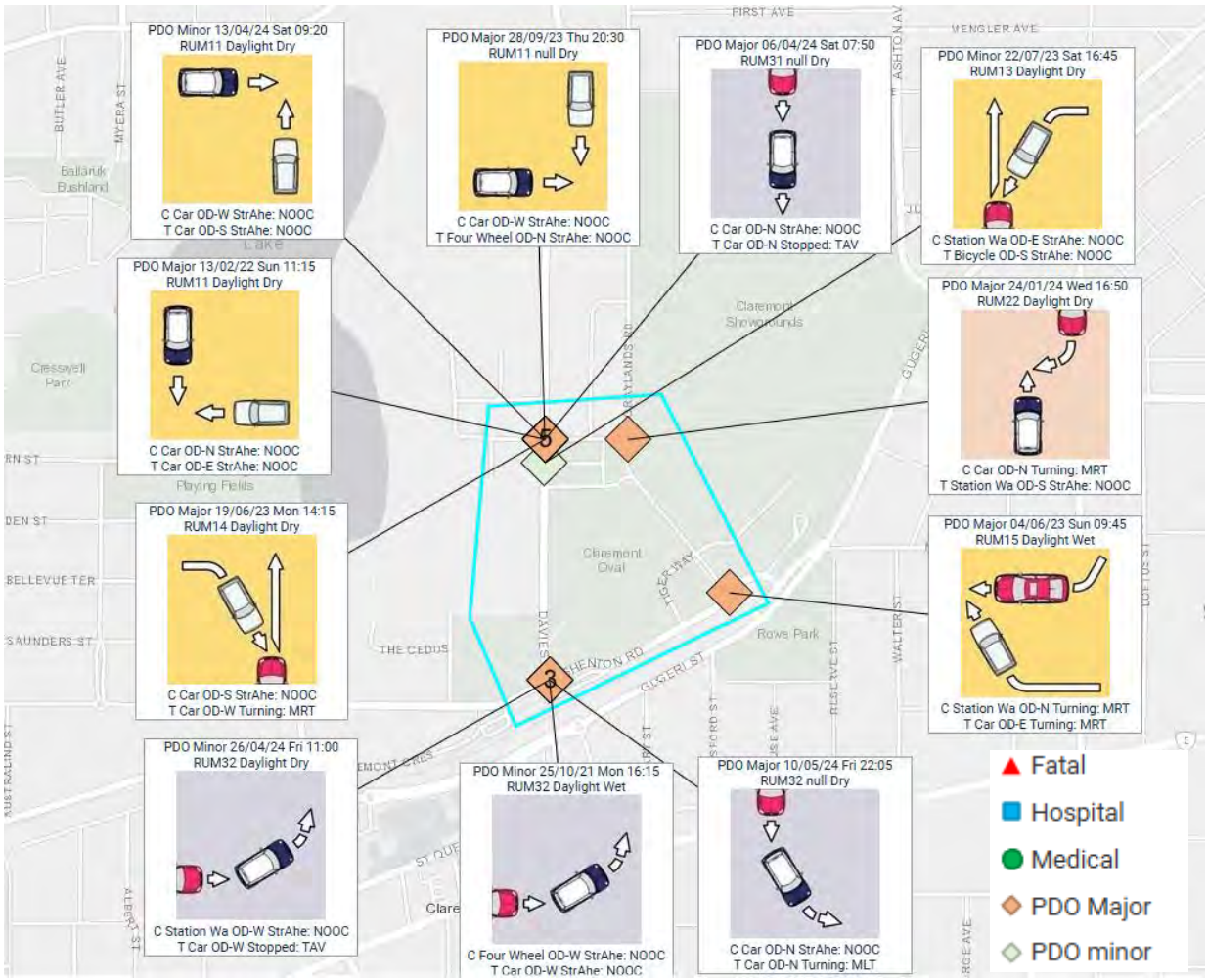
Table 2.7. Midblock Crashes

Road Name	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Shenton Rd	-	-	1	2		**3**
Davies Rd	-	-	3		3	**6**
Graylands Rd	-	-	2	2		**4**
Kyle Way	-	-		2		**2**
Lapsley Rd				1		**1**
Total	**-**	**-**	**6**	**7**	**3**	**16**

Figure 2-10. Intersection Crash Locations



Source: MRWA Crashmap 2025

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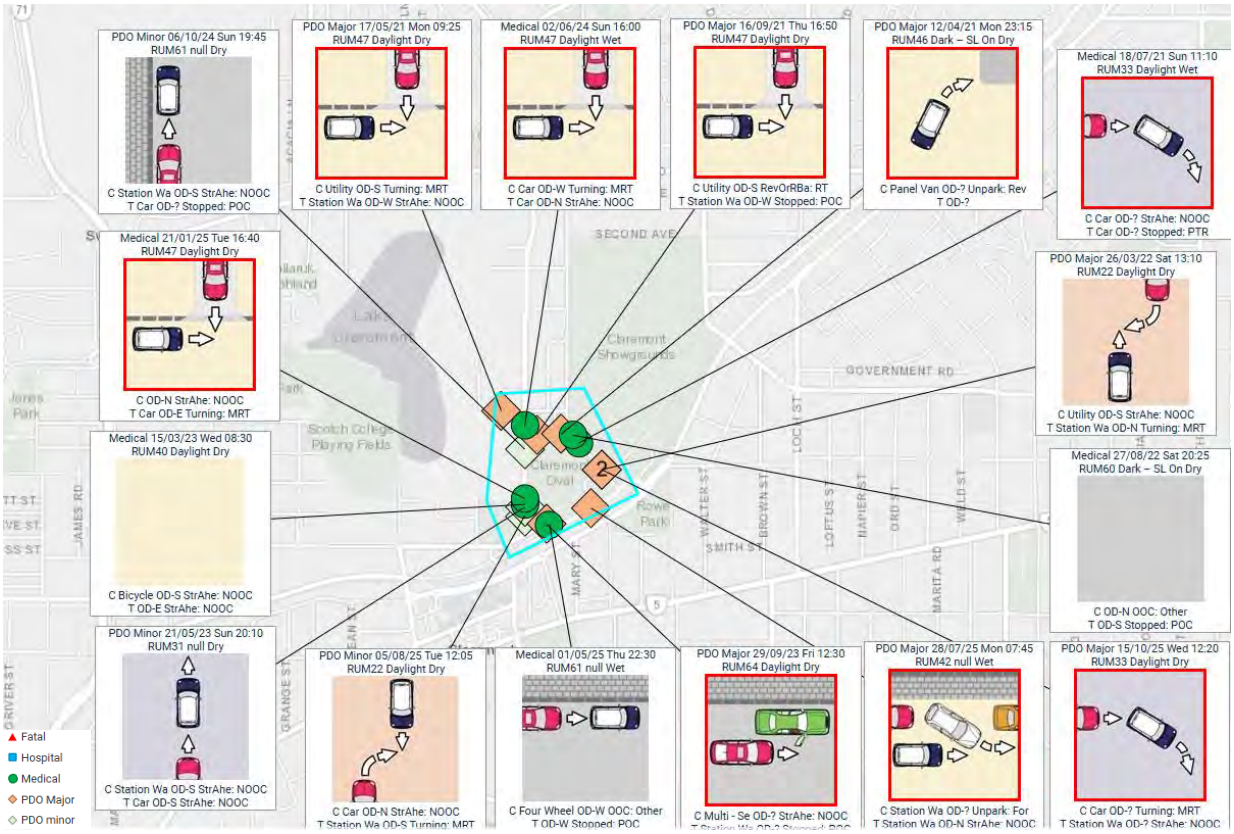
Figure 2-11. Midblock Crash Locations



Source: MRWA Crashmap (2025)

A summary of the crash data is as follows:

- A total of twenty-seven (27) crashes were recorded in the surrounding road network of the subject Site, with no fatalities or hospitalisations recorded.
- Six (6) crashes recorded required medical attention.
- Seven (7) midblock crashes and seven (7) intersection crashes recorded resulted in major property damage.
- Majority of the recorded crashes occurred along Davies Road and at the Davies Road / Lapsley Road intersection resulting in medical attention, major and minor property damage.

Overall, it is not expected that the Site will have any material impact on the overall safety and operations of the surrounding road network.

3 Development Proposal

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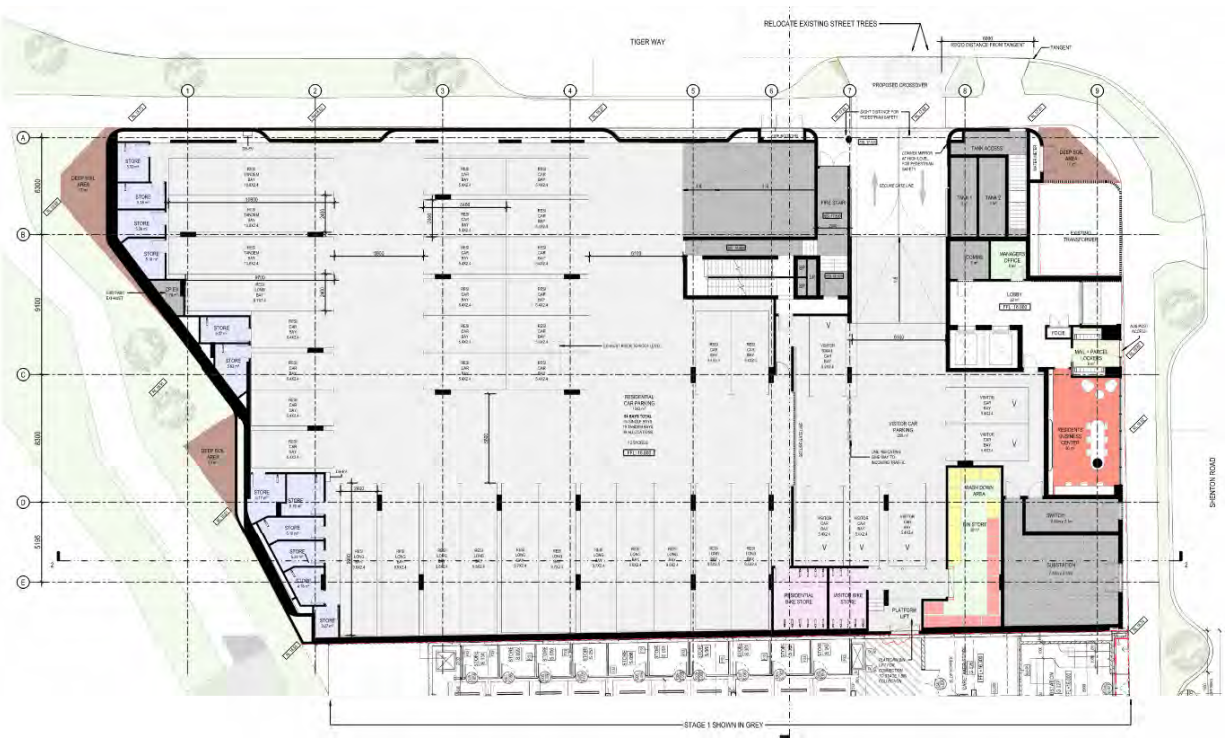
3.1 Proposed Land Uses

Table 3.1 summarises the proposed land use yields and **Figure 3-1** illustrates the proposed ground floor site development plan. Larger scaled site layout drawings are included in **Table 3.1**.

Table 3.1. Proposed Land Use Mix

Type	Development Yield
Residential (Units)	61 apartment units
1 bed	5
2x2	24
3x2	30
4x3	2
Residential Amenity (GFA) (ground floor)	36 sq. m.
Manager's Office (GFA)	6 sq. m

Figure 3-1. Proposed Site Plan



Source: Hillam Architects (2026)

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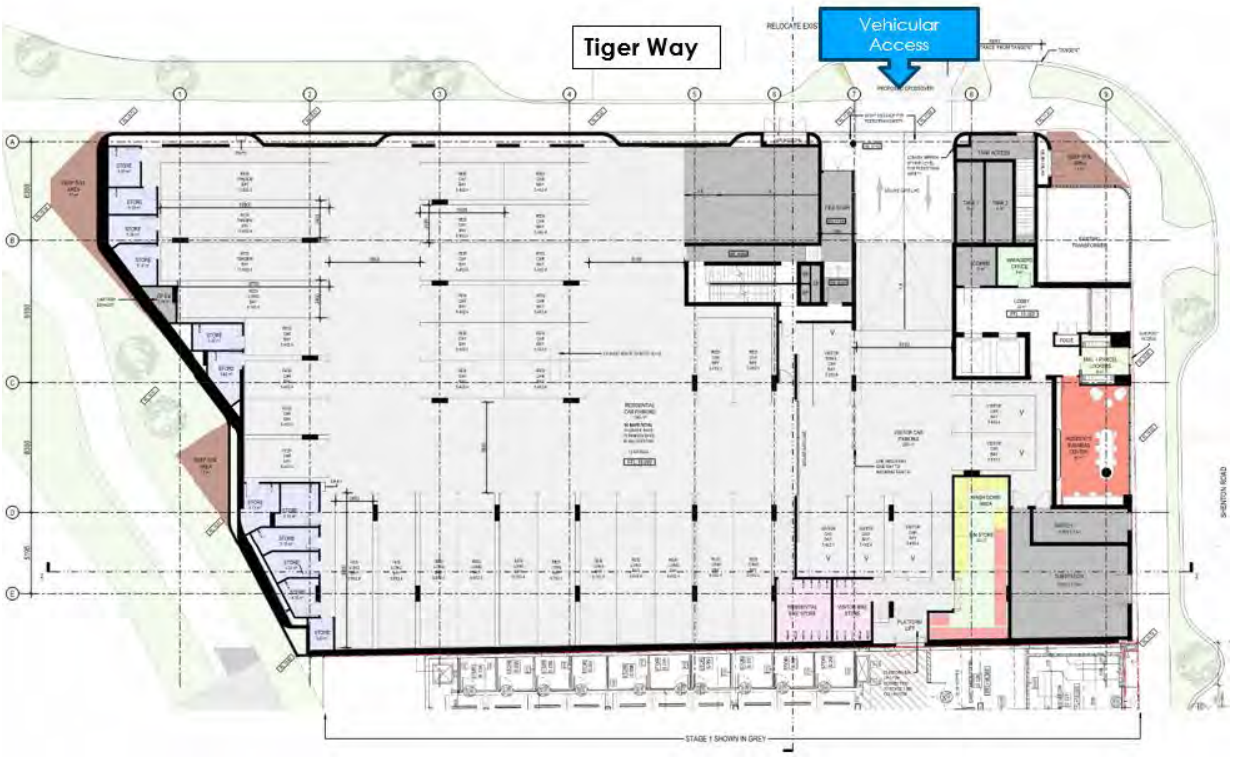
3.2 Proposed Site Access Arrangements

Vehicular access to the Site is proposed to be located along Tiger Way with an access gate as shown in **Figure 3-2**. Full movement access/egress is proposed for this access with a two-way lane configuration.

The use of number plate recognition technology is proposed to be implemented at the access gate in order to reduce the time taken for vehicles to enter/exit the car park. In addition, it is also proposed that a double-hinged gate be used to reduce the time spent waiting for the gate to open to enter/exit the car park. The gate is appropriately positioned to accommodate a vehicle to store within the site boundary without encroaching into the pedestrian path or hindering vehicular traffic on Tiger Way as shown in **Figure 3-3**.

Figure 3-2. Tiger Way Site Access



Source: Hillam Architects (2026)

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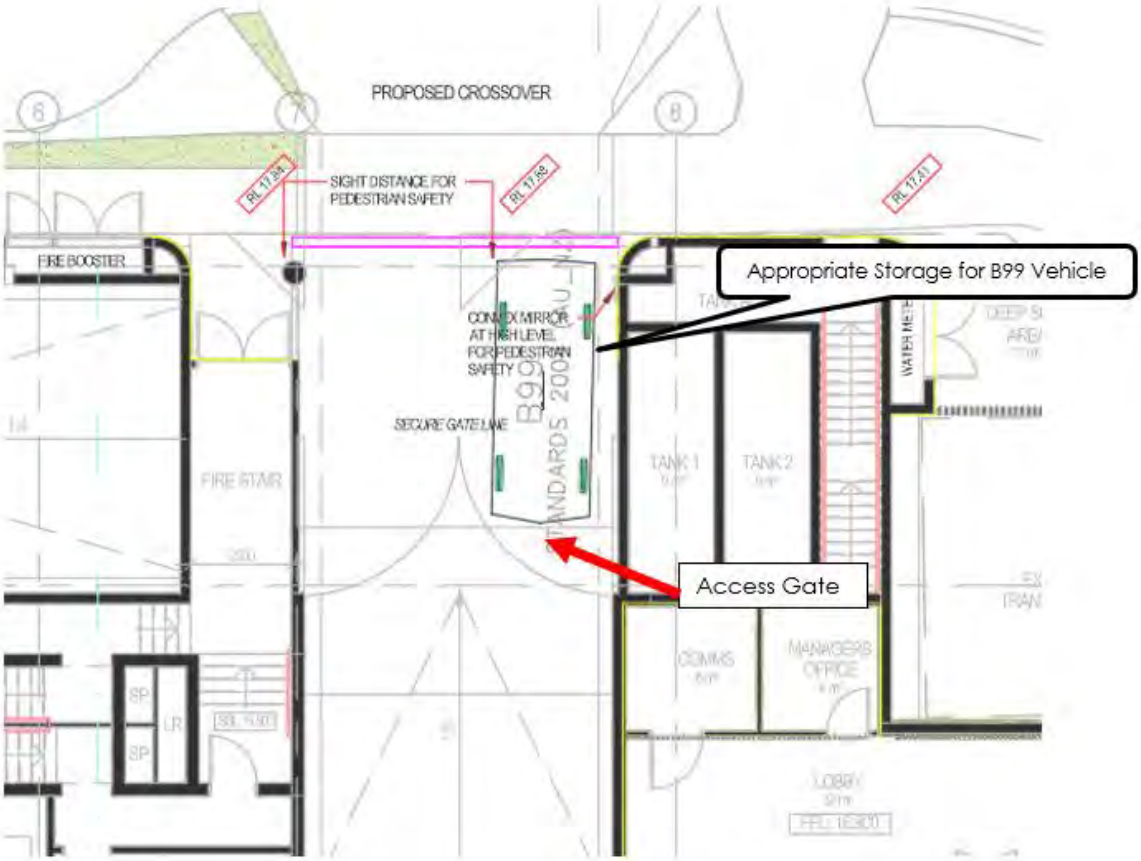
Figure 3-3. Vehicle Storage Space at Site Access



3.3 Sight Line Assessment

3.3.1 Vehicular Sight Lines

As assessment has been undertaken to determine the access sight line requirements. AS2890.1 specifies a minimum Safe Sight Distance (SSD) of 35 m for a frontage road speed of 40 km/h.

The assessment indicates that the existing parking embayment north of the access encroaches into the SSD envelope. The current parking restrictions allow permit holders to be exempt, therefore there is a risk of permanent obstruction to sight lines if parked in this location all day as illustrated in **Figure 3-4**. It is recommended that the Town of Claremont consider converting these parking bays to 15-minute parking which would reduce the likelihood of a permanent obstruction.

An assessment has also been undertaken to determine the access sight line requirements of the crossover nominated by the Detailed Area Plan located to the west of the proposed access. The current on-street parking along Tiger Way would also encroach the sight lines envelope as shown **Figure 3-5** below.

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It could be argued that the proposed crossover position is located in a better location than utlising the NEP designated existing crossover in terms of visibility, since the sight lines for the critical right-turn movement exiting the site is not restricted by parked vehicles along Tiger Way.

Figure 3-4. Sight Line Assessment – Proposed Crossover

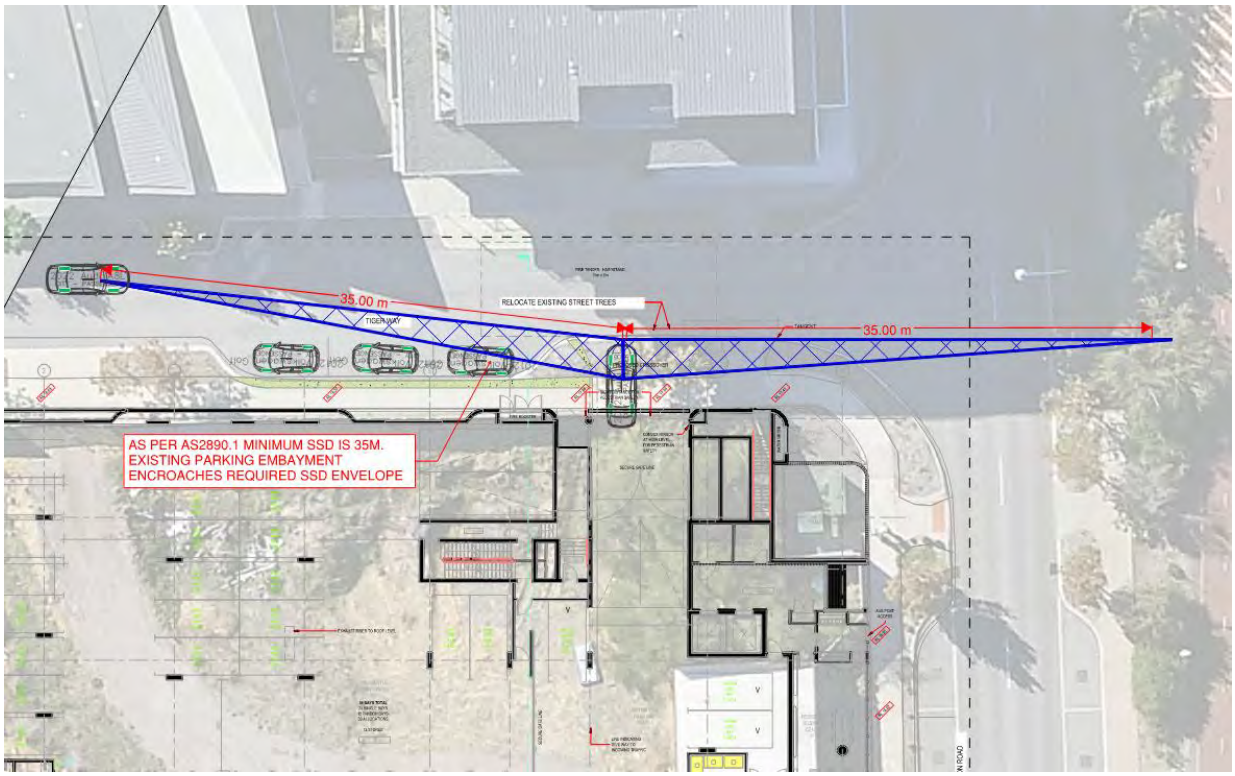

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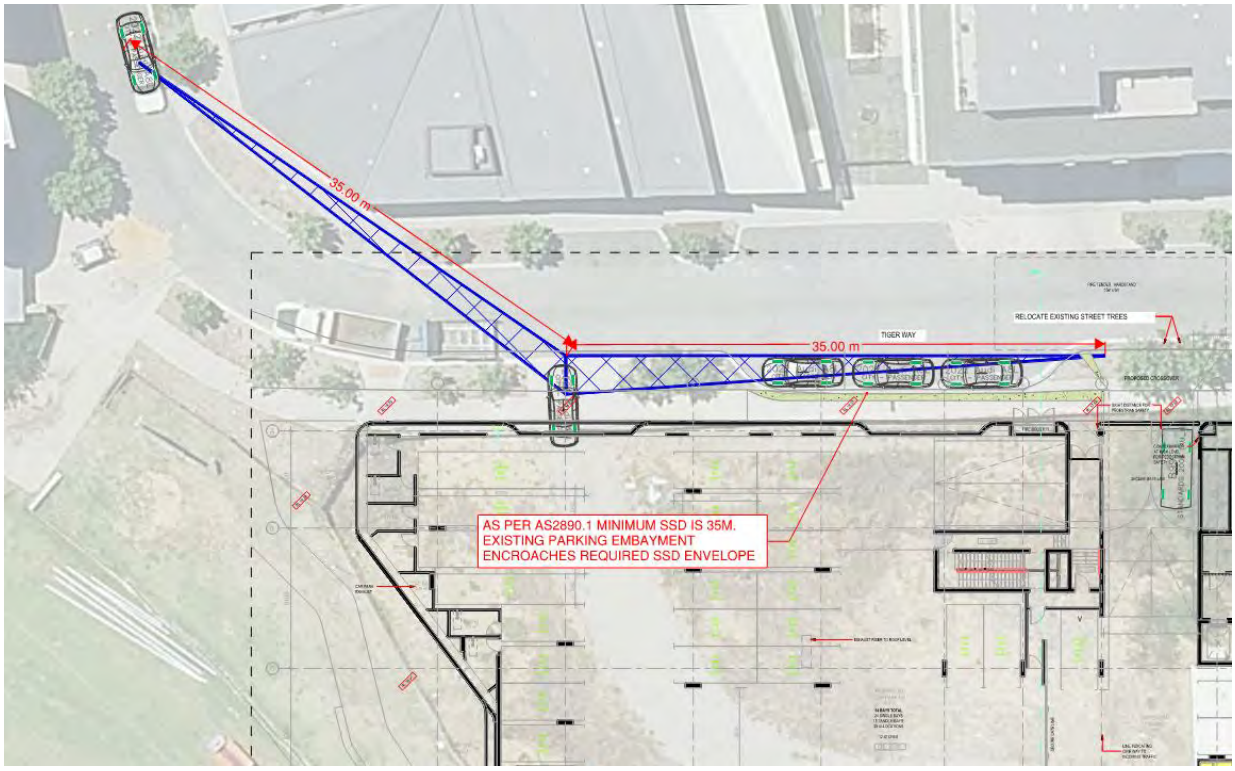
Figure 3-5 Sight Line Assessment - Existing Crossover



3.3.2 Pedestrian Sight Lines

In accordance with AS 2890.1, the pedestrian truncation area should remain free of obstructions to maintain adequate visibility between pedestrians and drivers. There is currently a proposed column located within the truncation area which may partially restrict sight lines between vehicles exiting the site and pedestrians using the adjacent footpath.

As relocation is not feasible, mitigation measures are to be considered to improve visibility and reduce the potential for conflicts between vehicles and pedestrians. Such measures include the installation of traffic management devices such as convex mirrors as illustrated in **Figure 3-6.**

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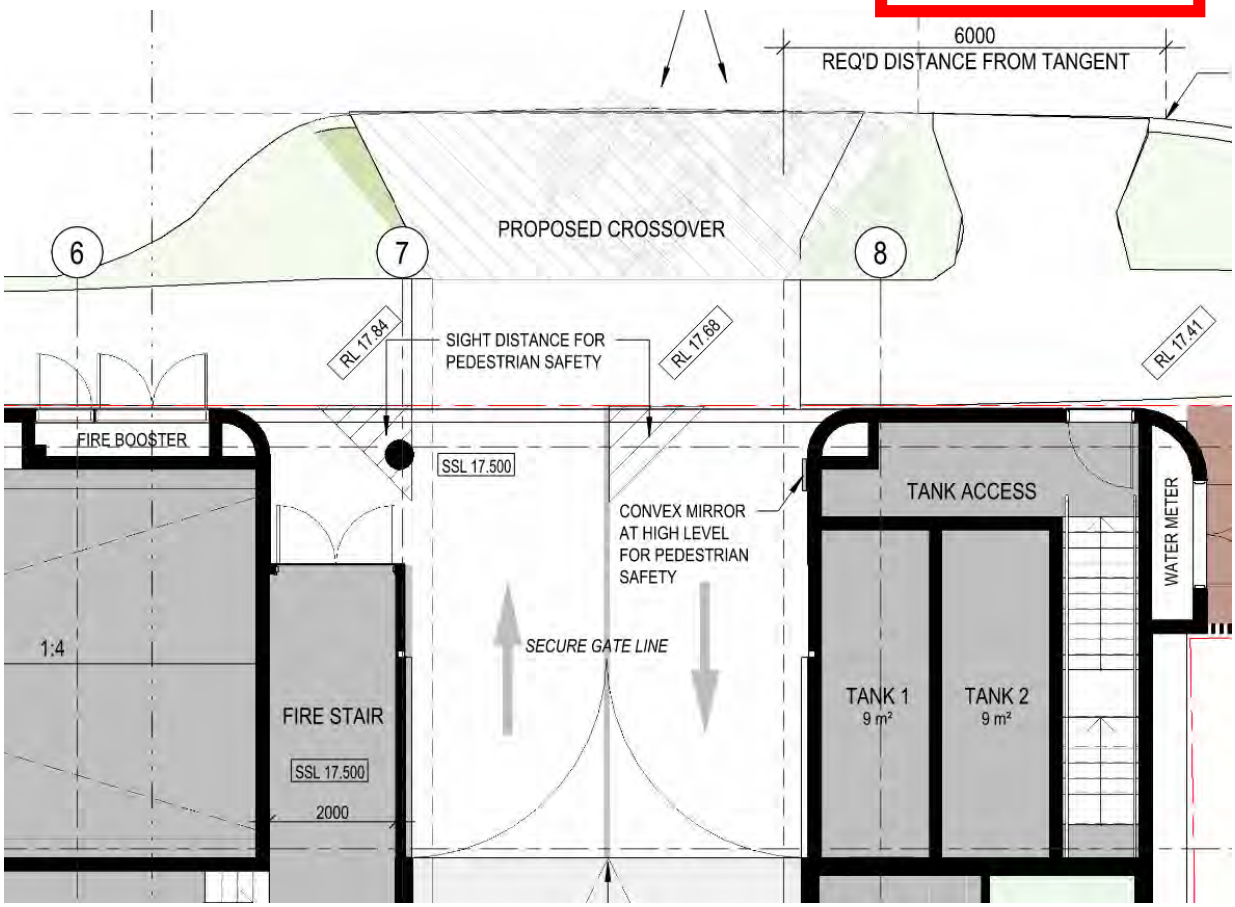
Figure 3-6 Pedestrian Truncation



3.4 Provision for Service Vehicles

Access for delivery and waste vehicles is anticipated to take place via Stage 1 of the proposed development with a proposed platform lift connecting Stage 2. It is anticipated that waste will be transported from the adjacent bin storage onto the platform lift and then collected by the waste truck parked in the Stage 1 loading area as shown in **Figure 3-7**.

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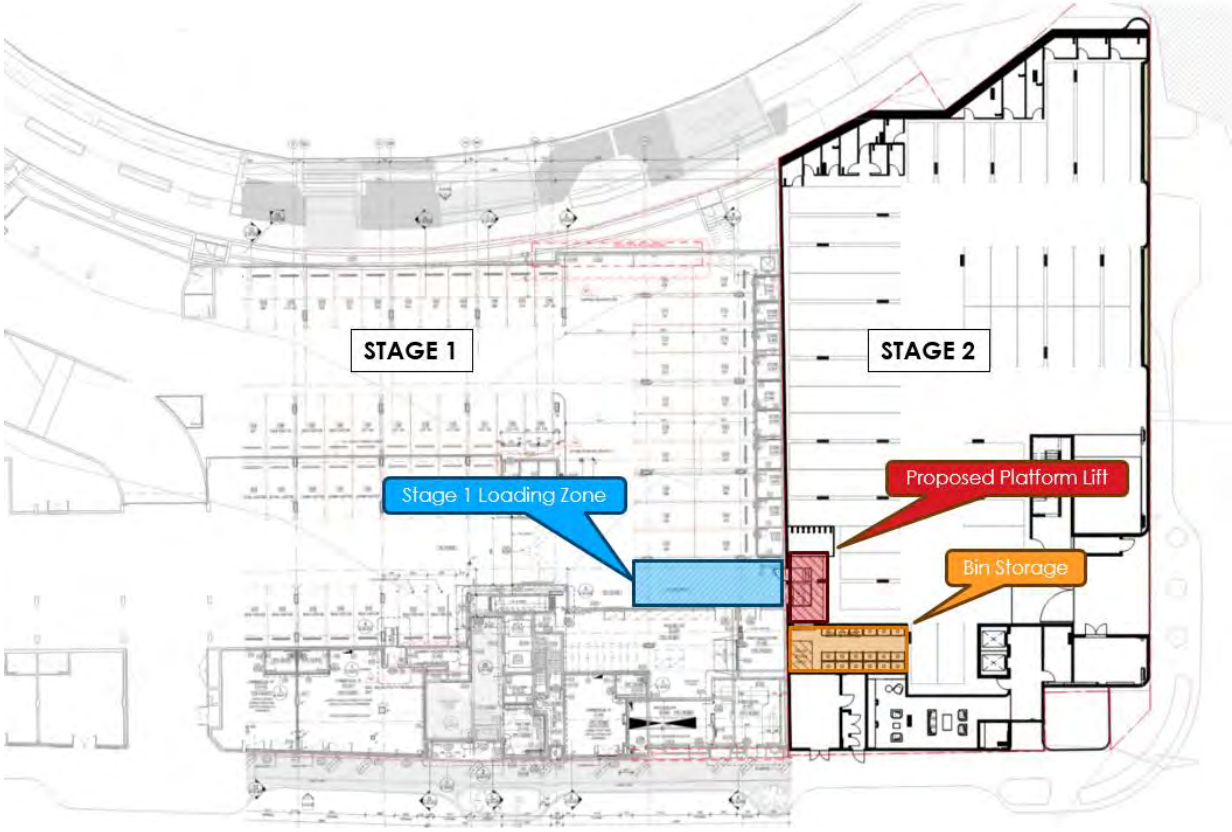
Figure 3-7. Proposed Stage 2 Waste Strategy



Source: Hillam Architects (2025)

3.4.1.1 Waste Truck Swept Paths

It is proposed that delivery and waste vehicles will access the Stage 1 development along Shenton Road. All loading and unloading activity will be conducted within the Site. In addition, the Town of Claremont requires all delivery and waste vehicles to enter and exit the Site in forward gear only with all turning manoeuvres to achieve this to be conducted within the Site boundaries.

A swept path analysis has been undertaken for a 7.4m rear-lift waste vehicle and 8.6m bulk waste vehicle entering and exiting the Site (consistent with the vehicle identified by the Council for this development). The collection vehicle will enter the Site in forward gear via the Shenton Road crossover. On entering the Site, the waste vehicle will turn right and park in the Loading Area adjacent to the residential bin store.

The swept paths indicate that the 7.4m waste truck is able to adequately enter the site as shown in **Figure 3-8** but the body of the waste truck vehicle is expected to encroach onto the tree canopy on exiting the site.

The 8.6m bulk waste truck will require several manoeuvres to enter the loading bay, however due to the infrequent nature of bulk collections this is considered acceptable. The vehicle is also anticipated to encroach onto the tree canopy on exiting the site as shown in **Figure 3-9**. It is suggested that consideration be given to requesting the tree canopy to be trimmed by the Council.

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Figure 3-8. 7.4m Rear-Lift Waste Vehicle Swept Path

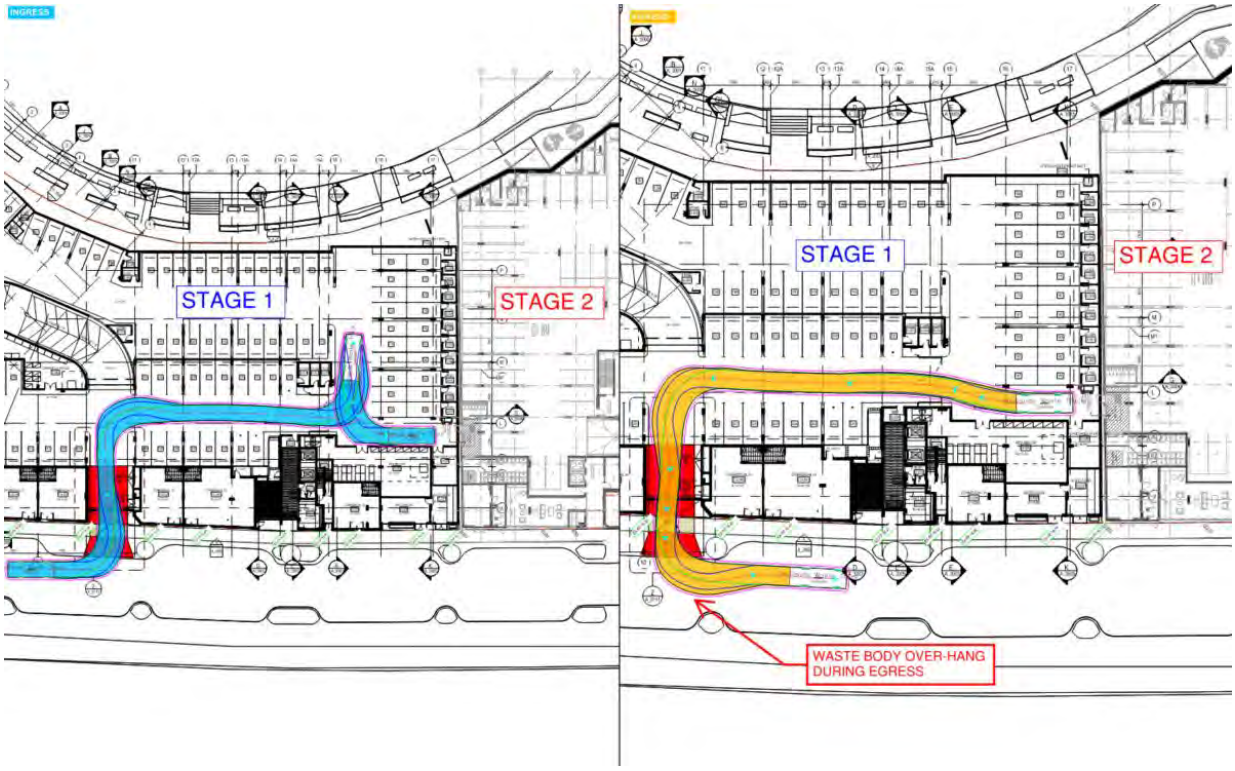
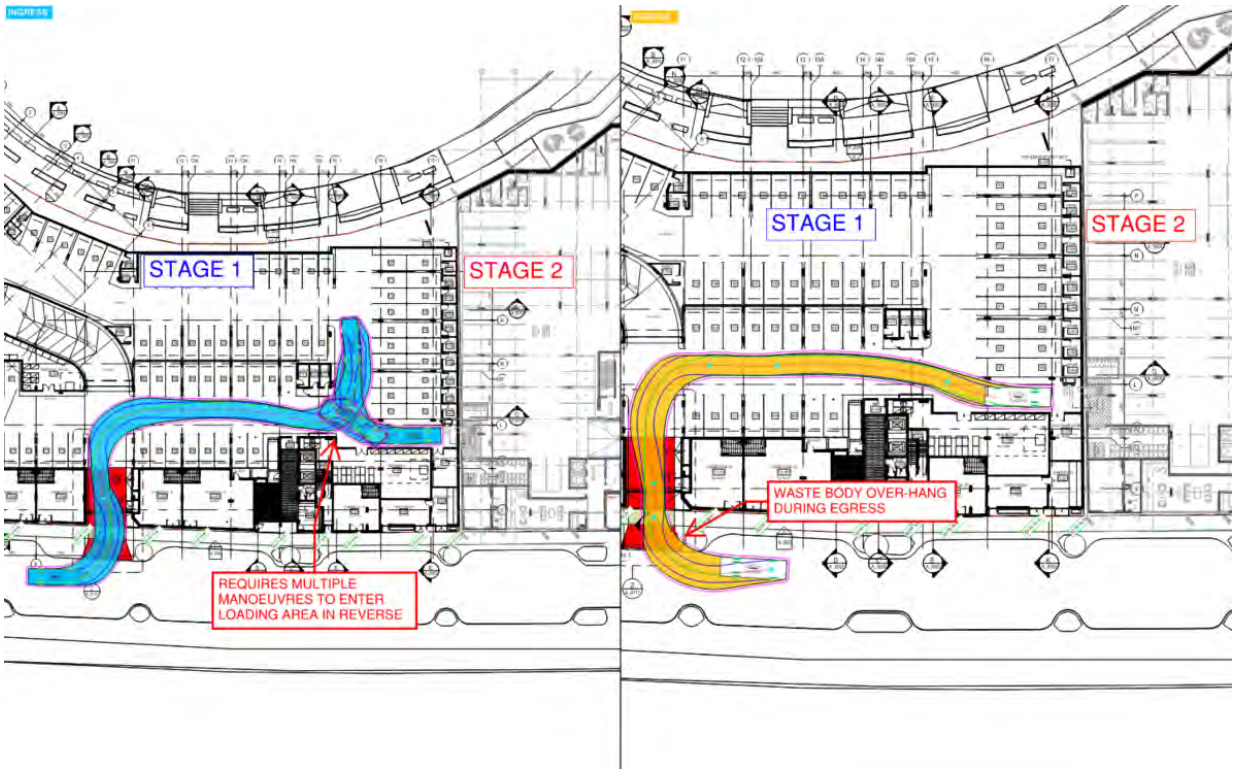


Figure 3-9. 8.6m Bulk Waste Vehicle Swept Path



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4 Parking Requirements and Provision

The statutory parking requirements for the Site were calculated in accordance with the relevant planning documents. The Site's car park layout has been reviewed with reference to the Australian Standard AS2890.1: Off-Street Parking.

4.1 Car Parking Requirements

The statutory requirements as defined by the *State Planning Policy 7.3 Residential Design Codes: Volume 2 – Apartments (R-Codes)* for the minimum requirements and the *Claremont North East Precinct (NEP) Design Guidelines* have been considered for the maximum permitted parking bays in the context of the proposed development and are summarised in **Table 4.1**.

Table 4.1. Car Parking Requirements

Development Classification	Source	Yield	Minimum Requirements	Maximum Permitted	Minimum Required	Maximum Permitted	Provision
1 bedroom dwelling	R-codes Volume 2 Claremont NEP Design Guidelines	5 units	0.75 bay per dwelling	1.2 bays per multiple dwelling	4 bays	73 bays	**109 residential bays plus 6 residential visitor bays**
2+ bedroom dwelling		56 units	1.00 bay per dwelling		56 bays		
Residential Visitors	R-codes	61 units	1.00 bay per 4 dwellings (up to 12th dwelling) 1.00 bay per 8 dwellings (13th dwelling and above)	0.25 bays per multiple dwelling (R-codes)	10 bays	16 bays	
				Total	**70 bays**	**89 bays**	**115 bays**

The total number of parking bays provided in the latest concept Site design is 115 parking bays which exceeds the maximum parking requirements of the *Claremont North East Precinct (NEP) Design Guidelines* by 26 bays.

The addition of 26 parking bays has been advised by the client to be required to address market requirements. Larger apartments, which the development has a greater portion of, have been allocated two bays. These additional bays are primarily provided in a tandem arrangement.

The R-Codes require 10 visitor parking bays for a development comprising 61 dwellings. The proposed development provides 6 visitor parking bays, resulting in a shortfall of 4 visitor bays.

Notwithstanding this variation, it is noted that there are approximately 9 on-street parking bays in the immediate vicinity of the subject site.

Further, the subject site benefits from its close proximity to Claremont Train Station and bus services. Given the highly accessible, transit-oriented nature of the subject site, it is anticipated that a proportion of visitors will arrive by public transport, walking or cycling, thereby reducing demand for on-site visitor parking.

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In addition to the above, a reciprocal parking arrangement could be considered between the residential visitor parking and the manager's office, allowing the office manager to utilise visitor parking bays during business hours when visitor demand is typically lower.

Having regard to the availability of alternative parking opportunities in the immediate locality and the site's strategic location adjacent to public transport infrastructure, along with a potential reciprocal parking arrangement, the proposed variation is considered appropriate and will not result in adverse parking impacts on the surrounding area.

4.2 Bicycle Parking Requirements

The statutory requirement of bicycle parking and end-of-trip facilities for the proposed development is defined by the *Claremont North East Precinct (NEP) Design Guidelines* and summarised in **Table 4.2**.

Table 4.2. Bicycle Parking Requirements

Development Classification	Source	Yield	Requirements	Minimum Required	Provision
Residential	Claremont NEP Design Guidelines	61 units	1 cycle bay per apartment	61 spaces	**Basement: 47 stores Ground Floor: 14 stores + 8 visitor bike bays**
			Total	**61 spaces**	**69 spaces**

Sufficient storage for bicycles owned by residential tenants is available in 61 storerooms located at both the basement and ground levels. In addition, a visitor bike storeroom with 8 bicycle bays is also proposed.

4.3 Motorcycle Parking Requirements

The R-Codes require the provision of one motorcycle parking bay for every 10 car parking bays, resulting in a requirement for 12 motorcycle parking bays as shown in **Table 4-3.**

Given the substantial surplus of car parking provided on-site, the required motorcycle parking bays are anticipated to be readily accommodated within the existing parking provision available to residents.

Table 4.3 Motorcycle Parking Requirements

Development Classification	Source	Yield	Requirements	Minimum Required	Provision
Residential	R-Codes	61 units	Developments exceeding 20 dwellings provide 1 motorcycle/scooter space for every 10 car bays	12 spaces	**0 (motorcycles to be accommodated in surplus parking bays)**
			Total	**12 spaces**	**0 spaces**

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4.4 Parking Compliance Checks

The parking bay geometry requirements set forth by AS2890.1 for User Class 1A (residential, domestic and employee parking), were assessed for the 90˚ angled parking bays. The corresponding provisions in the proposed development are summarised in **Table 4.4.**

Table 4.4. Parking Geometric Compliance

Parameter	Minimum Requirement	Provided	Remarks
Bay Width, m (User Class 1A)	2.4	**2.4**	No non-compliance identified
Bay Length, m	5.4	**5.4**	No non-compliance identified
Small Car Bay Width, m	2.4	**2.4**	No non-compliance identified
Small Car Bay Length, m	5.0	**5.2**	No non-compliance identified
Tandem Bay Width, m	2.4	**2.4**	No non-compliance identified
Small Car Tandem Bay Length, m	10.0	**10.0**	No non-compliance identified
Aisle width, m	5.8	**5.8 – 6.1**	No non-compliance identified
Access width, m (Category 3 – User Class 1A)	4.0 – 6.0	**5.5**	No non-compliance identified
Blind Aisle Extension	1.0	**1.0 – 1.2**	No non-compliance identified

4.5 Swept Path Analysis

A swept path analysis was conducted for a B85 and B99 passenger vehicle for selected parking bays. The swept path analysis indicates that the design vehicles can manoeuvre in and out of the bays on the ground floor and basement level as shown in **Figure 4-1** and **Figure 4-2**.

The analysis shows that the B99 passenger vehicle will require several manoeuvres to enter and exit the end parking bays in an aisle. This is considered to be acceptable since these bays are proposed to be allocated to the residential tenants who will become very familiar on how to enter and exit these bays. A B85 passenger vehicle is able to adequately enter and exit all parking bays.

In addition, the small car bays were also assessed using a B85 design vehicle. The analysis shows that the B85 will require several manoeuvres to enter the bays, however this is considered to be acceptable as the bays can be accessed in one manoeuvre in reverse gear as shown in **Figure 4-3.**

Larger scaled swept path diagrams including the circulation, ingress and egress from various parking bays are included in **Appendix C**.

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4.5.1 Parking Bays – Ingress and Egress

Figure 4-1. Swept Paths - Ground Floor Parking (Ingress and Egress)

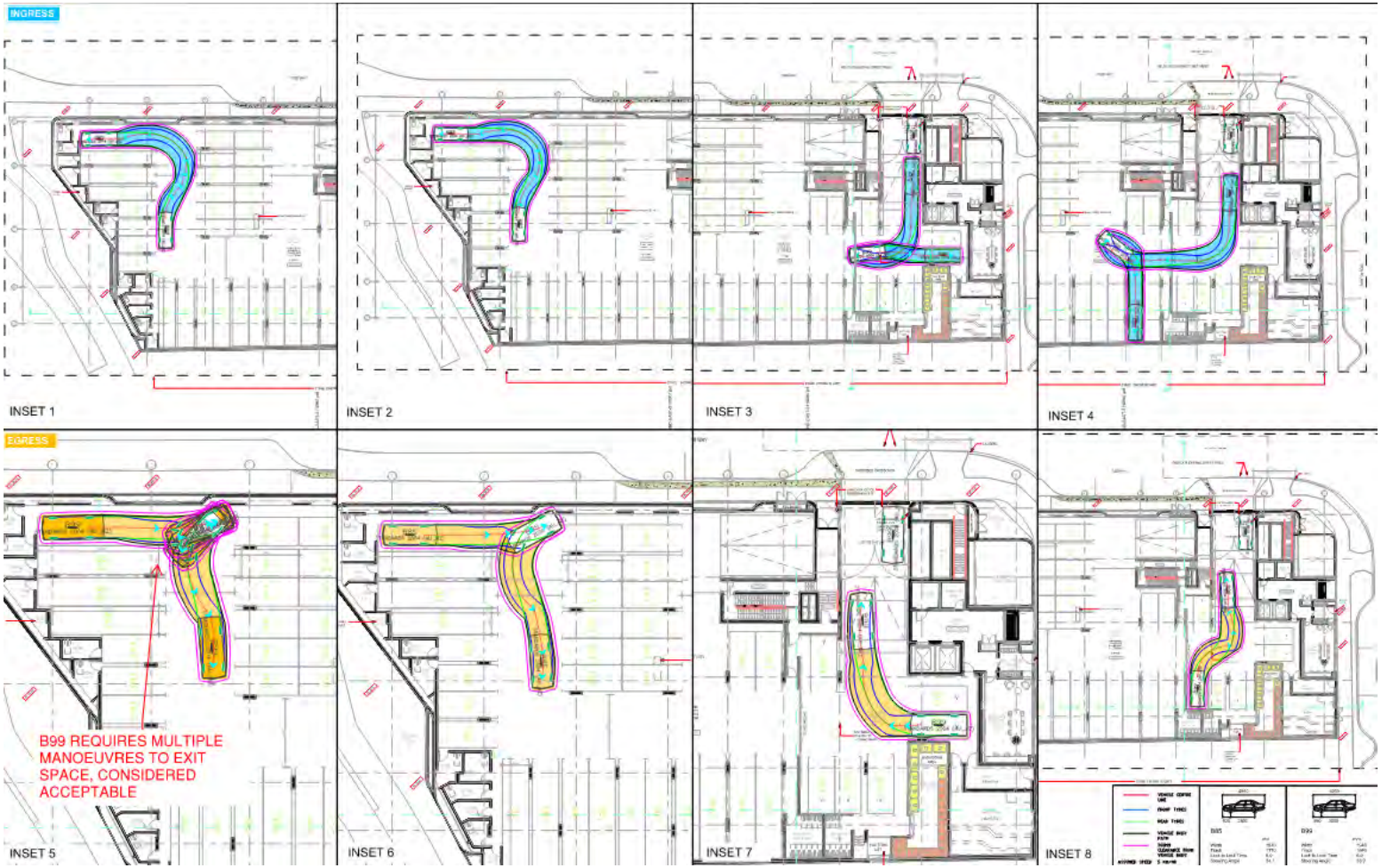

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Figure 4-2. Swept Paths – Basement Level Parking

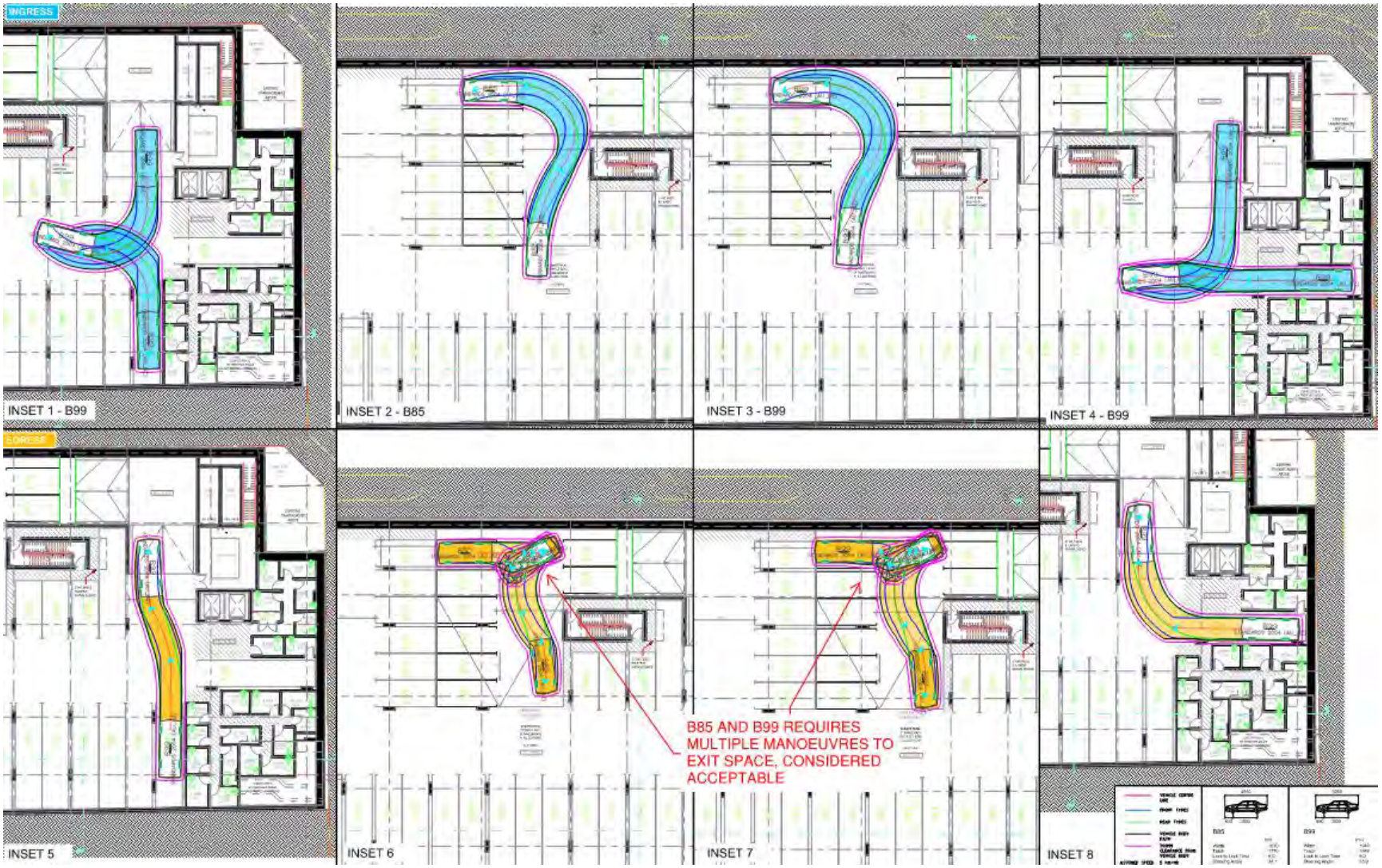

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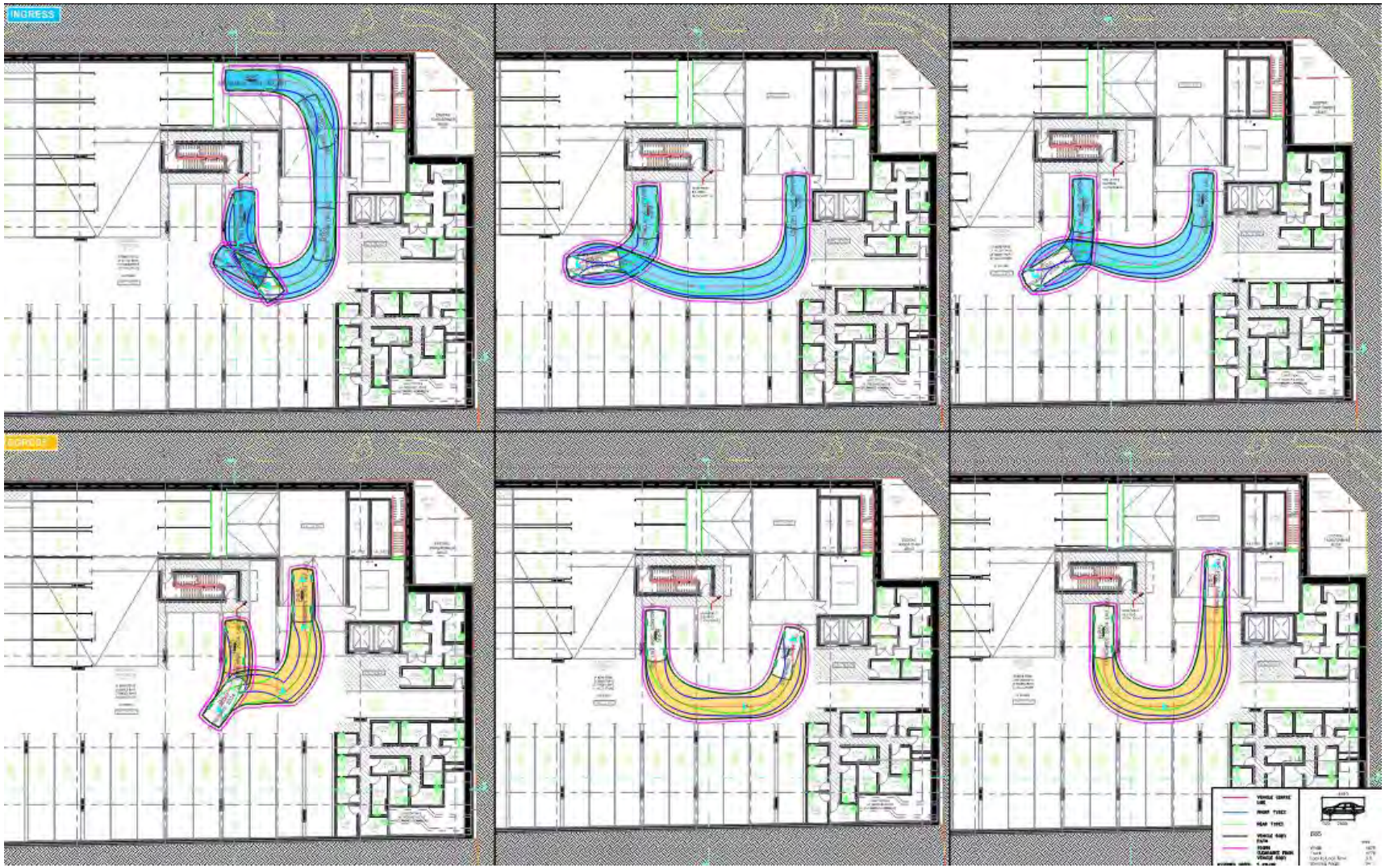
Figure 4-3 Swept Path Analysis - Small Car Bays



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4.5.2 Site Circulation

A swept path analysis was undertaken for B85 and B99 design vehicles to confirm that both vehicle types can safely circulate through the car park concurrently. To facilitate this movement, give way line marking is proposed for opposing traffic movements as shown in **Figure 4-5 to Figure 4-6**. It is also recommended that additional traffic management measures, such as the installation of convex mirrors, be considered to improve visibility and enhance overall safety within the car park.

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Figure 4-4. Swept Paths - Ground Floor Circulation

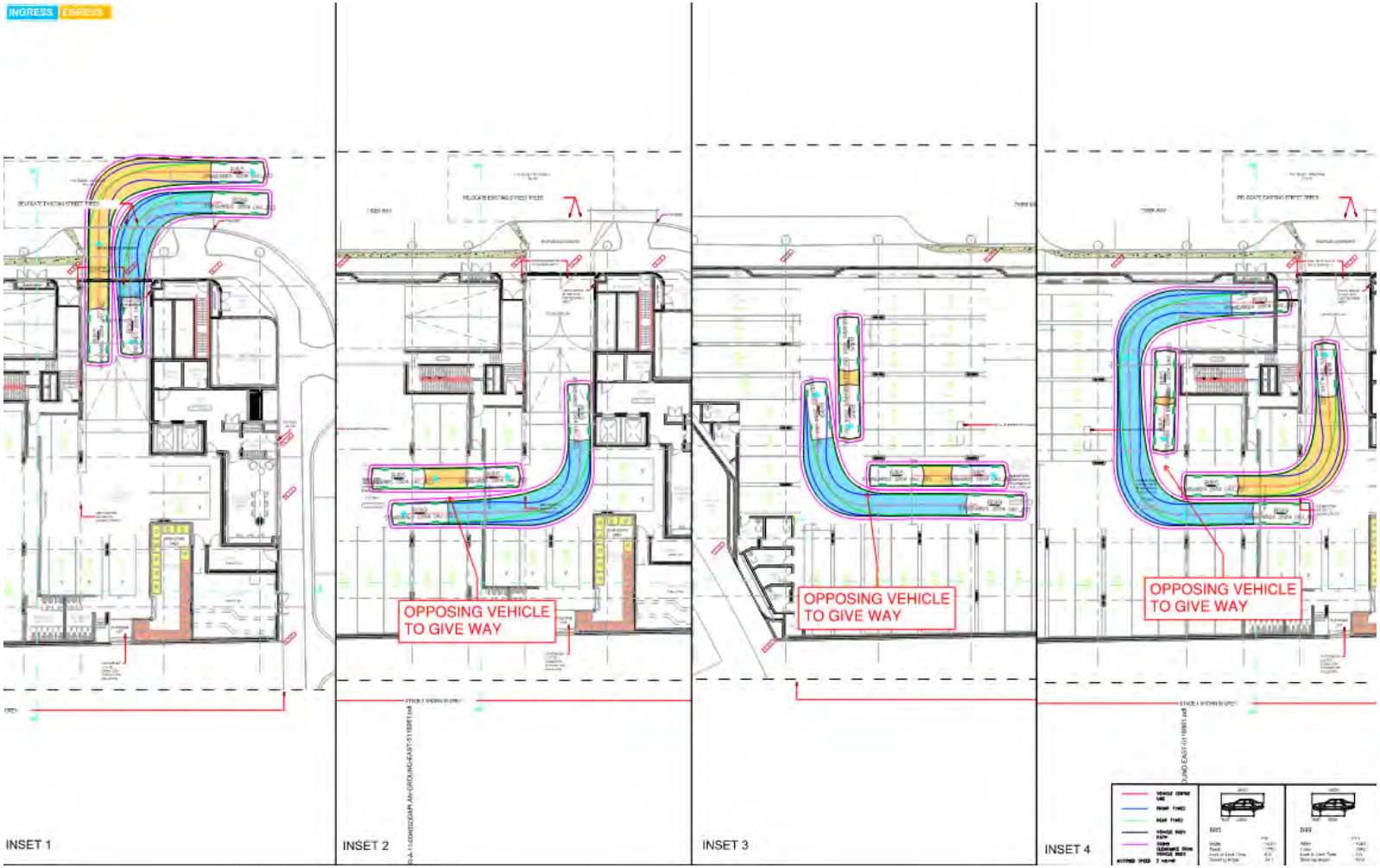

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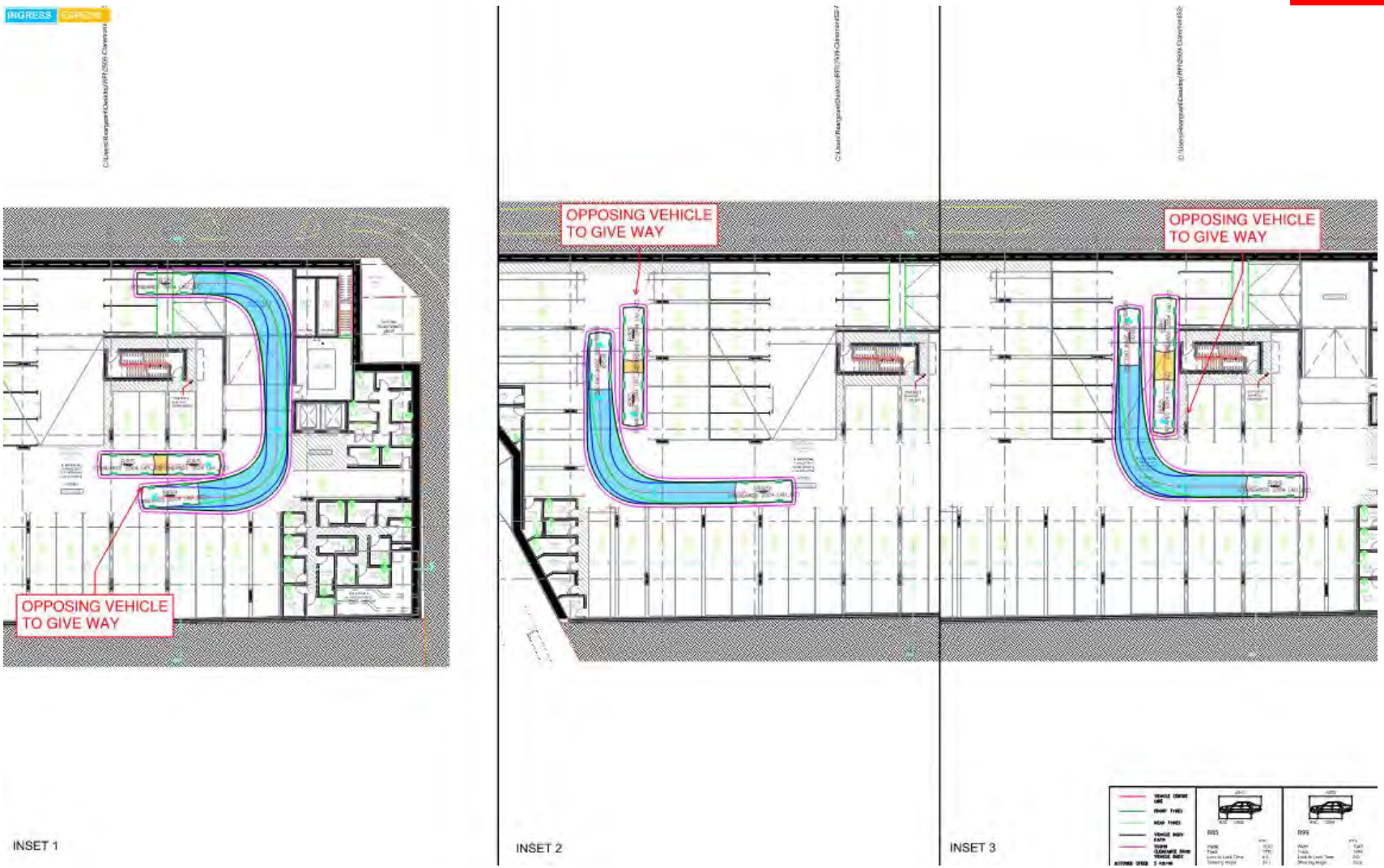
Figure 4-5. Swept Paths - Basement Level Circulation



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5 Proposed Changes to Transport Network

5.1 Surrounding Road Network

Stantec contacted the Town of Claremont previously and were advised that there are no immediate changes to the surrounding road network in the vicinity of the subject Site. In addition, there are no anticipated modifications to the intersection control in the vicinity of the Site in the near future.

5.2 Pedestrian/Cycle Network Facilities

Stantec contacted the Town of Claremont previously and were advised that there are no planned changes for pedestrian and cycling facilities.

5.3 Future Public Transport Network

Stantec contacted the Public Transport Authority previously and were advised that there are no major changes for the bus network in the vicinity of the Site.

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6 Integration with Surrounding Area

6.1 Surrounding Major Attractors and Generators

The major attractors/generators surrounding the Stage 1 and Stage 2 development are shown in **Figure 6-1**. Key attractors/generators include:

- Claremont Station
- Showgrounds Station
- Claremont Pool
- Claremont Oval
- Claremont Quarter
- Claremont Showgrounds
- Town of Claremont Golf Course

Figure 6-1. Key Attractors and Generators

It is likely that trips to from the Site to and from these major attractors will be undertaken by foot due to their close proximity.

6.2 Proposed Changes to Surrounding Land Uses

Stantec contacted the Town of Claremont previously and was advised that there is a residential development at 3 Shenton Road and a commercial development at 2 Shenton Road. Although the construction sites are fenced, there are still no commencement dates for these two (2) identified developments.

7 Analysis of Transport Network

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7.1 Analysis Overview

7.1.1 Key Intersections

A SIDRA analysis was conducted for the following intersections to evaluate the potential impact of Stage 2 site-generated traffic on the surrounding road network:

- Shenton Road / Graylands Road
- Shenton Road / Davies Road
- Shenton Road / Gugeri Street
- Shenton Road / Stage 1 Access.

Given the low volume of traffic expected from the Stage 2 development, no SIDRA analysis was undertaken at the intersections located on Tiger Way including the proposed Stage 2 site access. The proposed Stage 2 development comprises 61 apartment units with 36sqm of residential amenity and 6sqm of manager's office space on the ground floor. The anticipated trip generation is expected to generate a nominal increase of traffic on the surrounding road network during the peak hour periods and is discussed in detail in Section 7.2. Tiger Way is a laneway and is not classified under the Main Roads Functional Road Hierarchy. The Shenton Road / Stage 1 access intersection has been included in the traffic assessments for Stage 2.

The location of the abovementioned intersections analysed using SIDRA in relation to the Site is indicated in **Figure 7-1**.

Figure 7-1. Location of Key Intersections

Source: Metromap (2025)

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7.1.2 Assessment Years

As identified in the WAPC's *Transport Impact Assessment Guidelines: Individual Developments* (revised August 2016), it is recommended that, for analysis purposes, the appropriate assessment years include the year of full opening of the development and 10 years after full opening.

The exact opening year is still not known, however for the purpose of the assessment, it is assumed to occur in the year 2027. Traffic forecasts for the "without" development scenario for the future 2027 and 2037 years were also assessed in order to assess the impact of the background traffic growth and identify if the intersection performance of the future years were caused by development generated trips.

7.1.3 Assessment Scenarios

All relevant intersections have been analysed for the three assessment years applying a conservative growth rate of 3% per annum based on historical traffic data. For this analysis, five (5) scenarios are considered:

- Existing base year (2025)
- 2027 without the proposed development traffic
- 2027 opening year with the proposed development traffic
- 2037 without the proposed development traffic
- 2037 with the development traffic (+ 10 year horizon)

7.1.4 Signal Phasings

Signal phasing and timings for Shenton Road / Davies Road intersection have been based on the current signal phasing provided by MRWA through the IDM (Intersection Diagnostics Monitor) data. The existing phasing will also be used for the 2027 and 2037 design years in order to provide a fair comparison of the impact of the increased traffic volume. It is understood that MRWA may vary the signal operation to improve the function of the intersection or the Stirling Highway Corridor.

The site cycle time option for the 2027 and 2037 assessments was set to 'Optimum Cycle Time' to allow SIDRA to adjust the cycle time in order to minimise the average delay caused by the usage of existing signal phasing in future scenarios.

Figure 7-2 illustrates the signal phasing obtained from the 2023 SCATS data for Shenton Road / Davies Road intersection.

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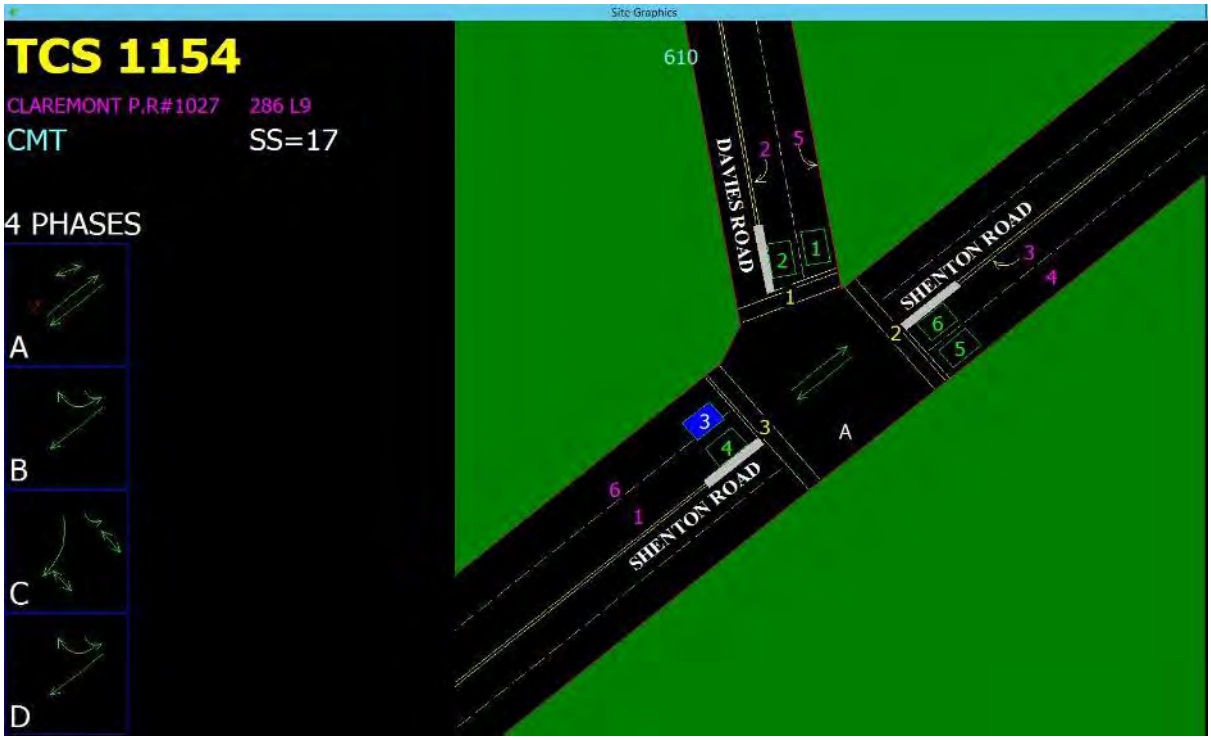
Figure 7-2. Signal Phasing (2023) - Shenton Road / Davies Road Intersection



7.2 Development Traffic Generation

The trip generation rates for residential / commercial sites are set out by the *Western Australian Planning Commission (WAPC) Transport Assessment Guidelines Volume 5 – Technical Guidance*. **Table 7.1** shows the trip generation and **Table 7.2** presents the total potential trip generation of the proposed development for the full development buildout of Stage 2.

Table 7.1. Trip Generation Rates

Land Use	Weekday AM Peak		Weekday PM Peak	
	In	Out	In	Out
Residential	0.2 trips per dwelling	0.6 trips per dwelling	0.5 trips per dwelling	0.3 trips per dwelling
Manager's Office (Commercial)	1.6 trips per 100 sqm	0.4 trips per 100 sqm	0.4 trips per 100 sqm	1.6 trips per 100 sqm

Source: WAPC Transport Assessment Guidelines Volume 5 – Technical Guidance

Table 7.2. Estimated Trip Generation

Land Use	Weekday AM Peak		Weekday PM Peak	
	In	Out	In	Out
Residential	13	37	31	19
Commercial	0	0	0	0
Total	**13**	**37**	**31**	**19**

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The proposed Stage 2 development is anticipated to generate an additional 50 two-way vehicular trips during the AM peak and 50 two-way vehicular trips in the PM peak hour (arrivals plus departures) for the Stage 2 development buildout.

According to the Western Australian Planning Commission [WAPC] guidelines, developments generating between 10 and 100 vehicular trips in the peak hour is considered to have a moderate impact on the surrounding road network.

7.3 Development Trip Distribution

Development trip distribution for the weekday AM and PM peaks have been derived from the existing distribution flow of Shenton Road, Graylands Road, Davies Road and Gugeri Street, as sourced from SCATS data and link counts.

The likely route for people arriving/leaving Stage 1 of the Site including the distribution proportions is shown in **Figure 7-3** and **Figure 7-4** respectively.

Based on the traffic survey undertaken on Tiger Way at the Shenton Road and Graylands Road intersection, the inbound and outbound traffic leaving the proposed Stage 2 development has been distributed as per the figures below.

Figure 7-3. Inbound Routes

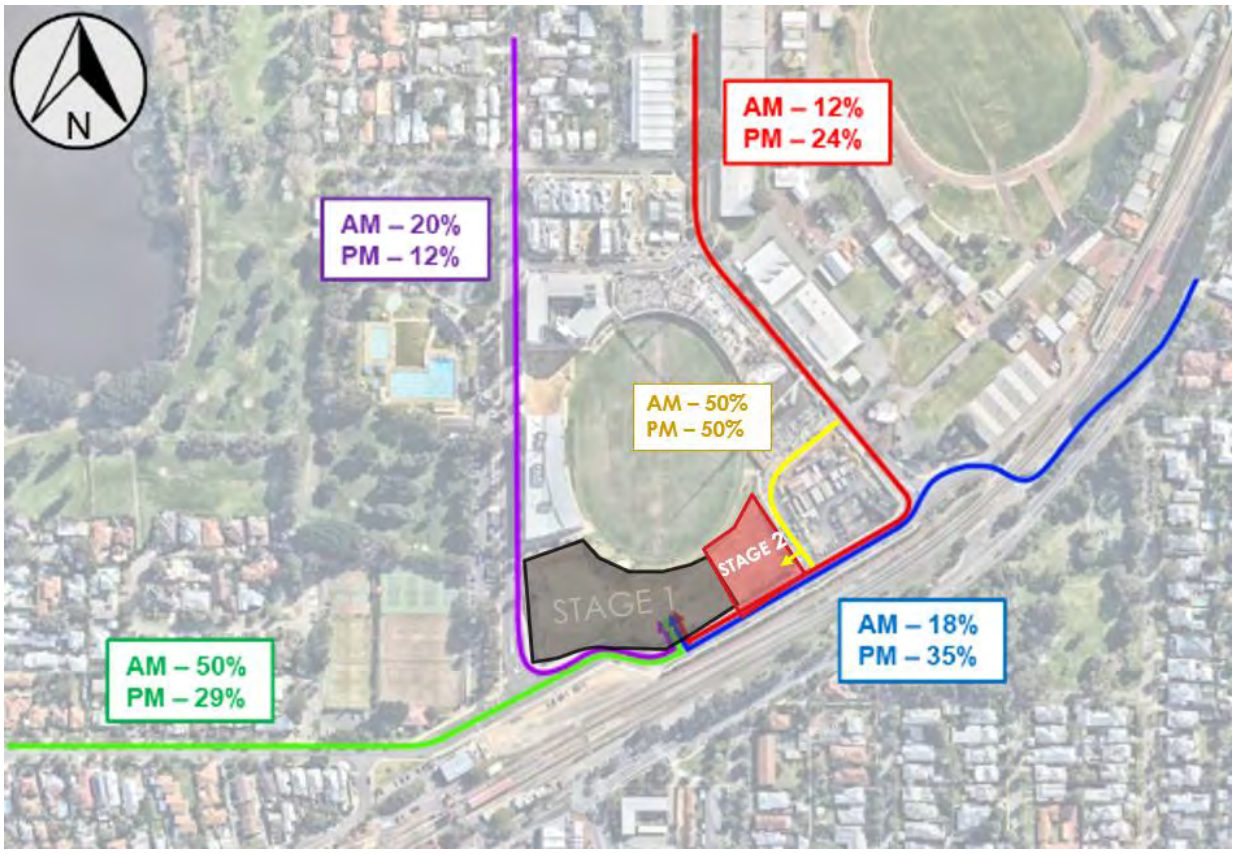

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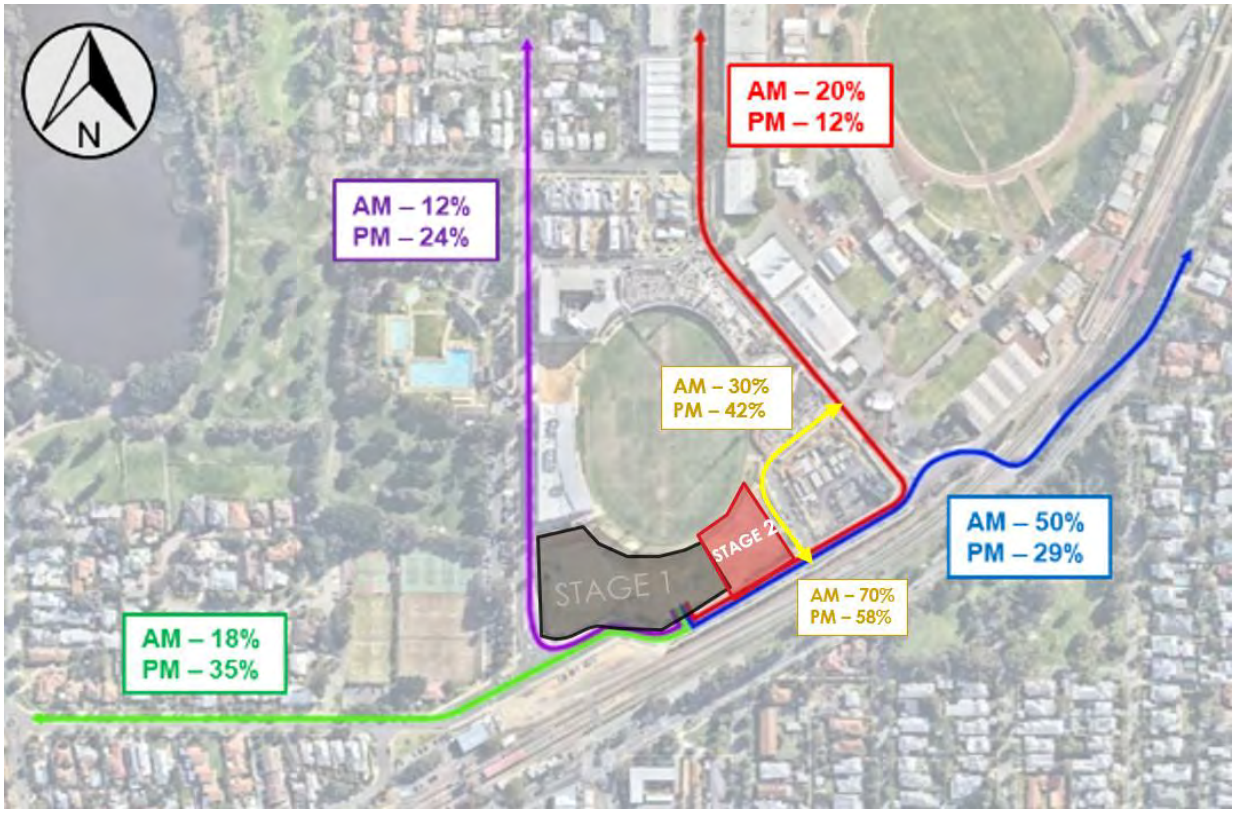
Figure 7-4. Outbound Routes



7.4 Background Traffic

Background traffic volumes have been sourced from existing 2023 SCATS data from Main Roads Western Australia and traffic count data from the Town of Claremont as part of Stage 1 of the development.

- **Year 2025**
  - » Background traffic volume and turning counts for Shenton Road / Davies Road intersection were sourced from 2023 SCATS data and information obtained from the Main Roads Western Australia (MRWA) Traffic Map.
  - » Signals operation (phasings, timings) at Shenton Road / Davies Road were obtained from MRWA Traffic Map.
  - » Background traffic volume for the Shenton Road / Gugeri Street was sourced from the 2024 traffic count data from the Town of Claremont and was used to determine the traffic growth rate from the 2017 traffic data.
  - » Background traffic volumes for the Tiger Way / Shenton Road and Tiger Way / Graylands Road were obtained from traffic data collected in August 2026 by the client.
  - » To derive the background traffic volume for the year 2025, a conservative 3% growth rate has been applied to the existing 2017 background traffic data and turning counts for the key intersections. It should be noted that this calculated growth rate for the study area is extremely high, and if anything, traffic on many roads in the wider vicinity of the Site can be observed to be stable with minimal traffic growth.

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- **Year 2027**
  - » To derive the background traffic volume for the year 2027, a conservative 3% growth rate has been applied to the 2025 background traffic to estimate the future traffic volumes for the 2027 design year.
  - » Signals operation at the Shenton Road / Davies Road intersection for 2027 is assumed to operate as per the existing arrangement.
- **Year 2037**
  - » To derive the background traffic volume for the 2037 design year, a conservative 3% growth rate has been applied to the 2025 background traffic to estimate the future traffic volumes in 2037.
  - » Signals operation at the Shenton Road / Davies Road intersection for 2037 scenario is assumed to operate as per the existing arrangement.

Figure 7-5 to **Figure 7-7** show the background traffic volumes within the vicinity of the Site for the year 2025, 2027 and 2037 without the development.

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Figure 7-5. Background Traffic 2025 – Weekday AM and PM Peak

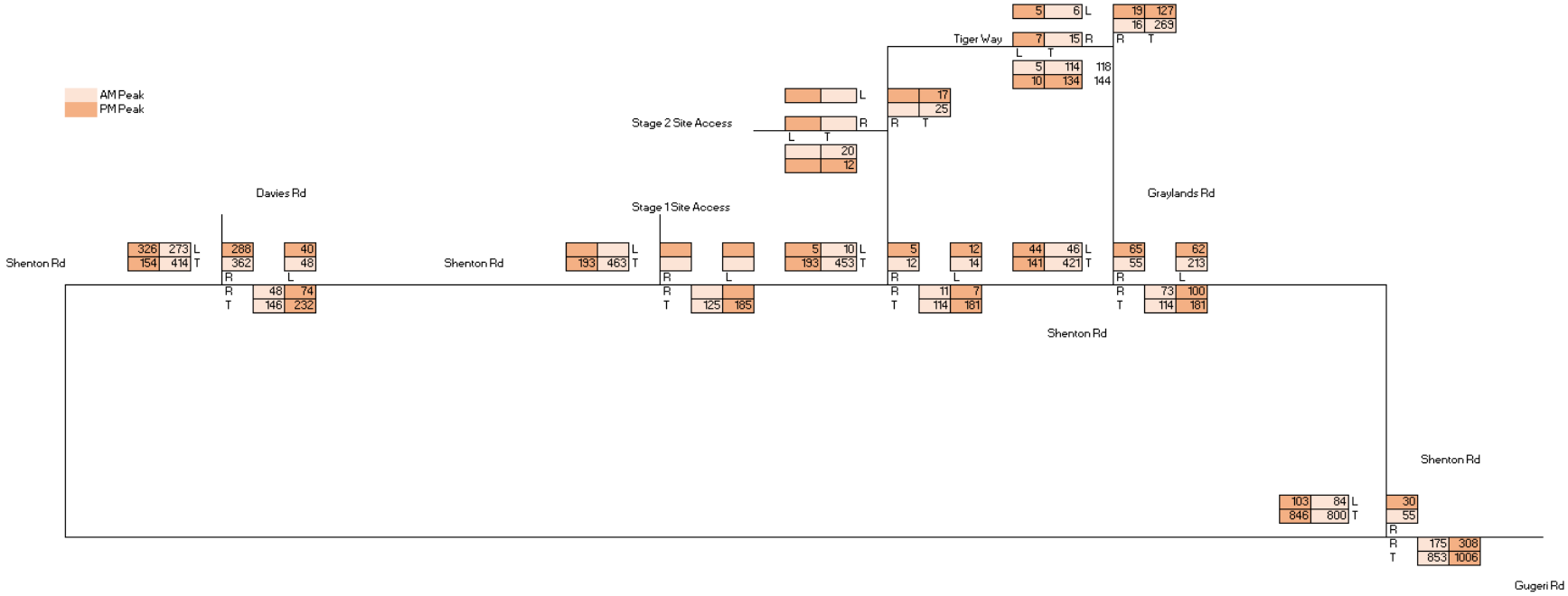

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Figure 7-6. 2027 Traffic without Development – Weekday AM and PM Peak

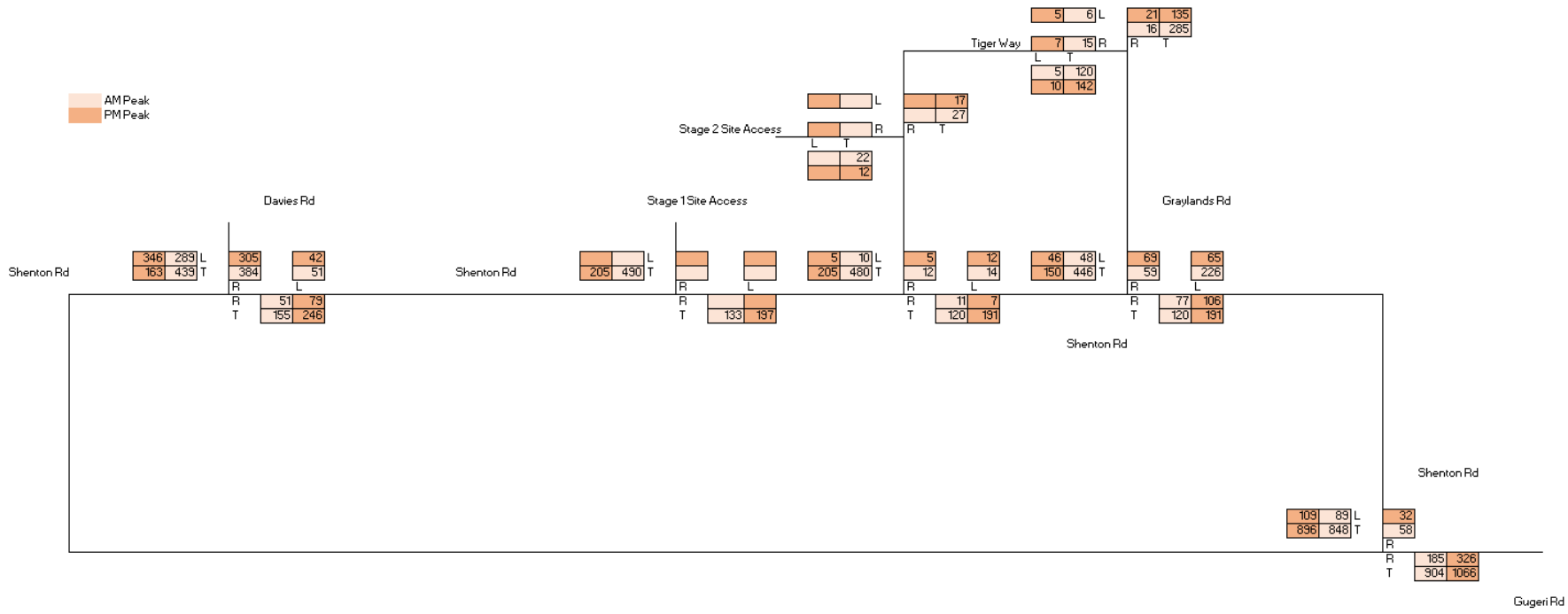

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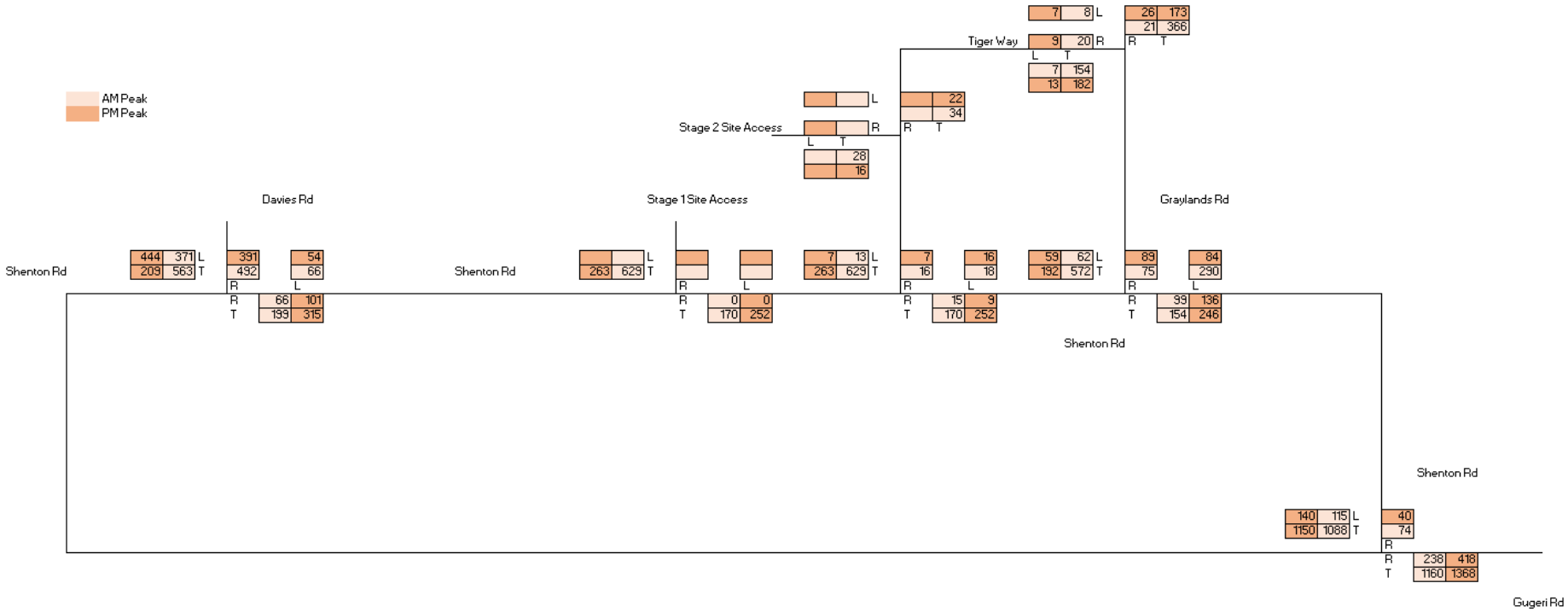
Figure 7-7. 2037 Traffic without Development – Weekday AM and PM Peak



7.5 Background with Development Traffic

The background and with development traffic adopted for the assessment are shown in **Figure 7-8 to Figure 7-9.**

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Figure 7-8. Opening Year of Development (2027) - Weekday AM and PM Peak

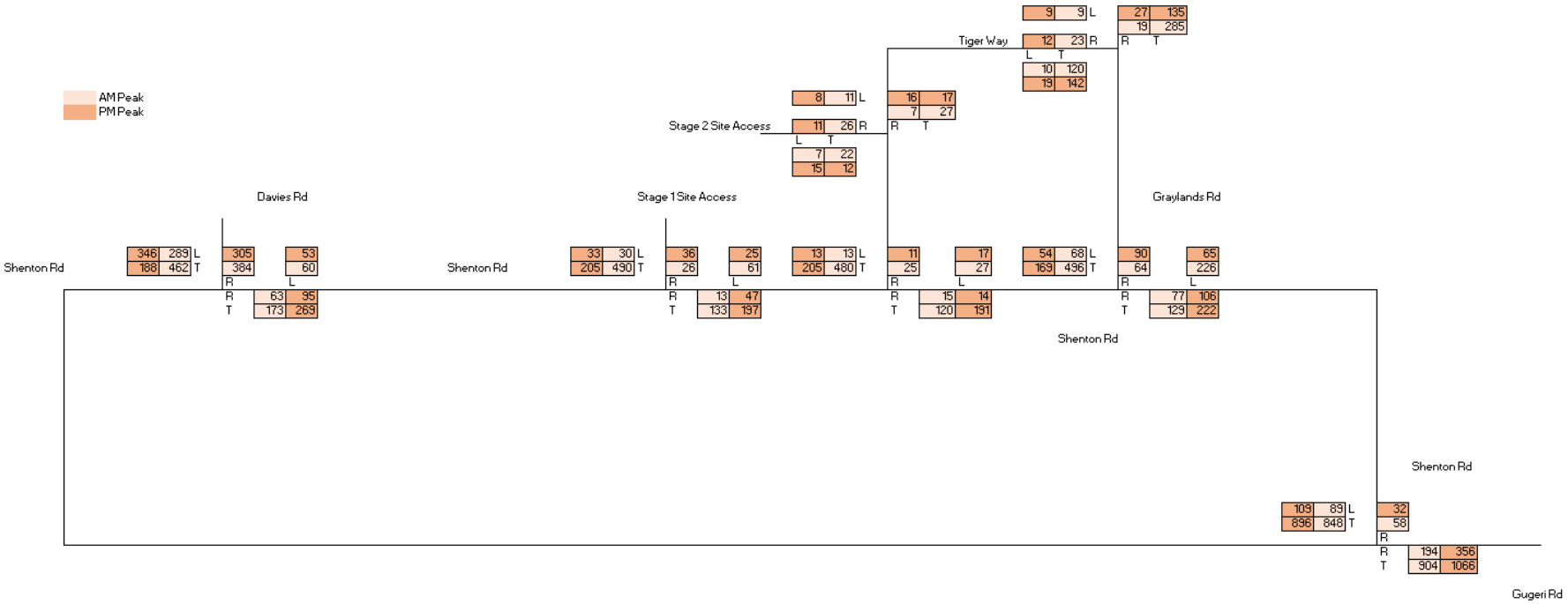

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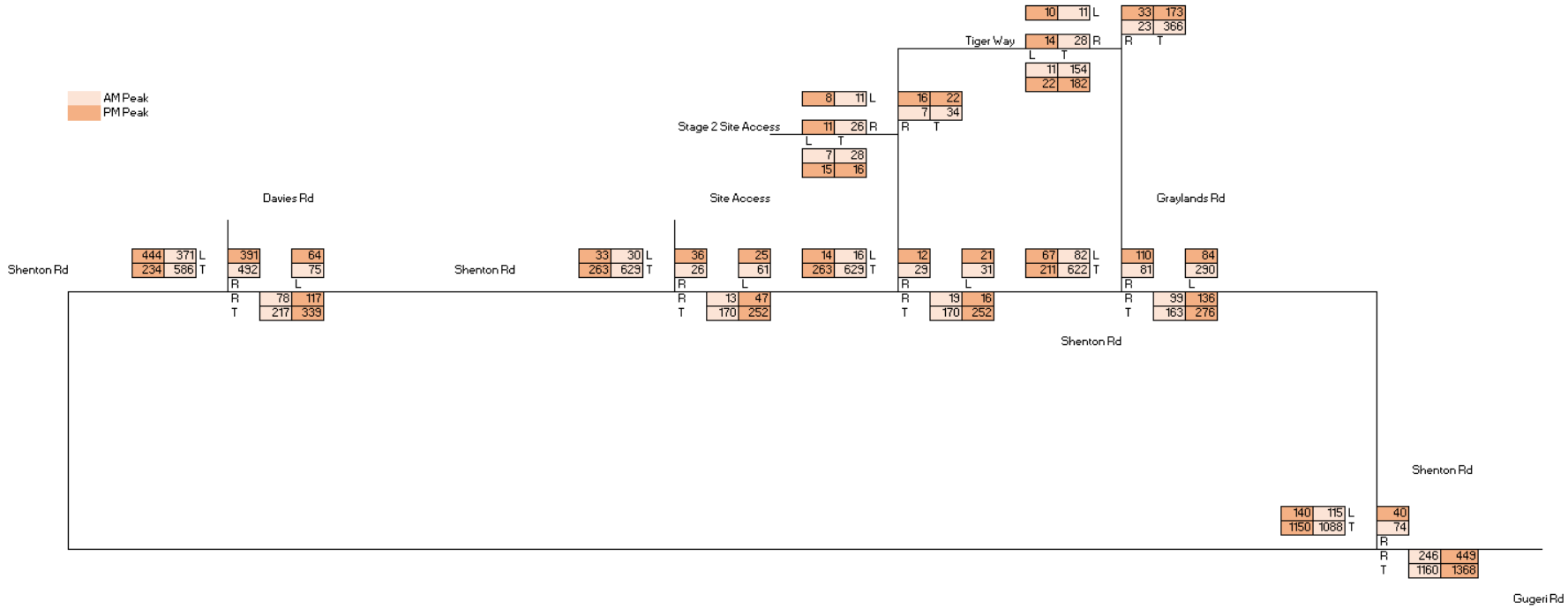
Figure 7-9. Opening Year of the Development + 10 Year Horizon (2037) - Weekday AM and PM Peak



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8 Intersection Performance

Analysis of the traffic impacts of the proposed development has been carried out for the following intersections:

- Shenton Road / Graylands Road
- Shenton Road / Davies Road
- Shenton Road / Gugeri Street
- Shenton Road / Stage 1 Site Access

The identified intersections and accesses have been analysed for the five scenarios using the SIDRA analysis program. This program calculates the performance of intersections based on input parameters, including geometry and traffic volumes. As an output SIDRA provides values for the Degree of Saturation (DOS), queue lengths, delays, level of service, and 95th Percentile Queue. These parameters are defined as follows:

- **Degree of Saturation (DOS)**: is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The theoretical intersection capacity is exceeded for an un-signalized intersection where DOS > 0.80;
- **95% Queue**: is the statistical estimate of the queue length up to or below which 95% of all observed queues would be expected;
- **Average Delay**: is the average of all travel time delays for vehicles through the intersection. An unsignalised intersection can be considered to be operating at capacity where the average delay exceeds 40 seconds for any movement; and
- **Level of Service (LOS)**: is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. The different levels of service can generally be described as shown in **Table 8.1**.

Table 8.1. Level of Service (LOS) Performance Criteria

LOS	Description	Signalised Intersection	Unsignalised Intersection
A	Free-flow operations (best condition)	≤10 sec	≤10 sec
B	Reasonable free-flow operations	10-20 sec	10-15 sec
C	At or near free-flow operations	20-35 sec	15-25 sec
D	Decreasing free-flow levels	35-55 sec	25-35 sec
E	Operations at capacity	55-80 sec	35-50 sec
F	A breakdown in vehicular flow (worst condition)	≥80 sec	≥50 sec

An LOS exceeding these values indicates that the intersection is exceeding its practical capacity. Above these values, users of the intersections are likely to experience unsatisfactory queueing and delays during the peak hour periods.

The detailed SIDRA results for each of the scenarios assessed is included in **Appendix D**. The results of the assessment are discussed in the following sub-sections.

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8.1.1 Scenario 1: Background (2025)

8.1.1.1 Shenton Road / Graylands Road

The following presents the results of the analysis of the Shenton Road / Graylands Road intersection for both AM and PM peak hour periods. **Figure 8-1** illustrates the SIDRA layout of the intersection. **Table 8.2** shows the results of the analysis.

Figure 8-1. SIDRA Layout for Shenton Road / Graylands Road

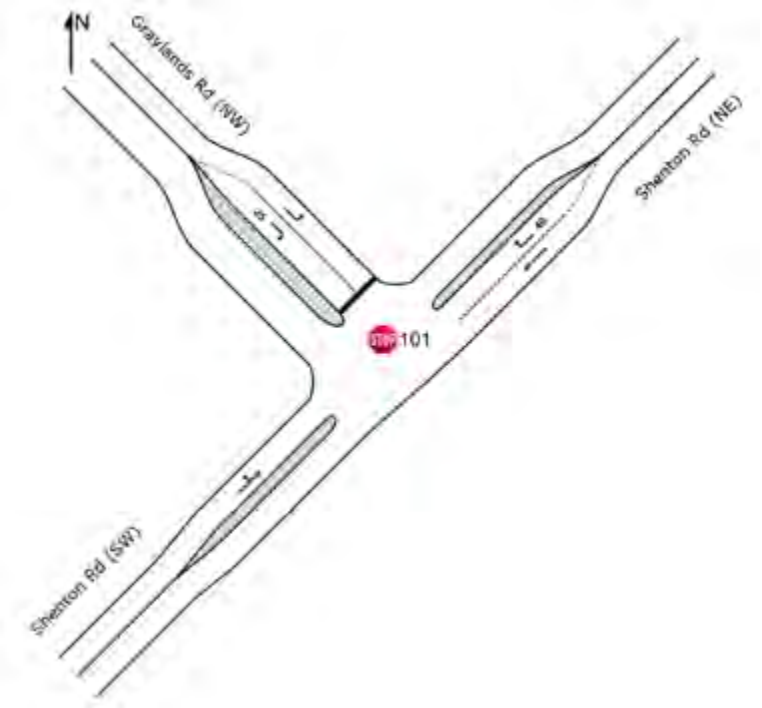

Table 8.2. Shenton Road / Graylands Road (Background 2025)

Intersection Approach		Background 2025 Weekday AM Peak				Background 2025 Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.060	0.0	A	0.0	0.095	0.0	A	0.0
	R	0.070	6.6	A	2.3	0.068	5.2	A	2.4
Northwest: Graylands Rd	L	0.250	10.6	B	8.1	0.051	8.5	A	1.6
	R	0.136	15.7	C	3.8	0.113	12.4	B	3.3
Southwest: Shenton Rd	L	0.240	4.7	A	0.0	0.096	4.6	A	0.0
	T	0.240	0.1	A	0.0	0.096	0.0	A	0.0
All Vehicles		**0.250**	**4.2**	**N/A**	**8.1**	**0.113**	**3.5**	**N/A**	**3.3**

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8.1.1.2 Shenton Road / Davies Road

The following presents the results of the analysis of the Shenton Road / Davies Road intersection for both AM and PM peak hour periods. **Figure 8-2** illustrates the SIDRA layout of the intersection. **Table 8.3** shows the results of the analysis.

Figure 8-2. SIDRA Layout for Shenton Road / Davies Road

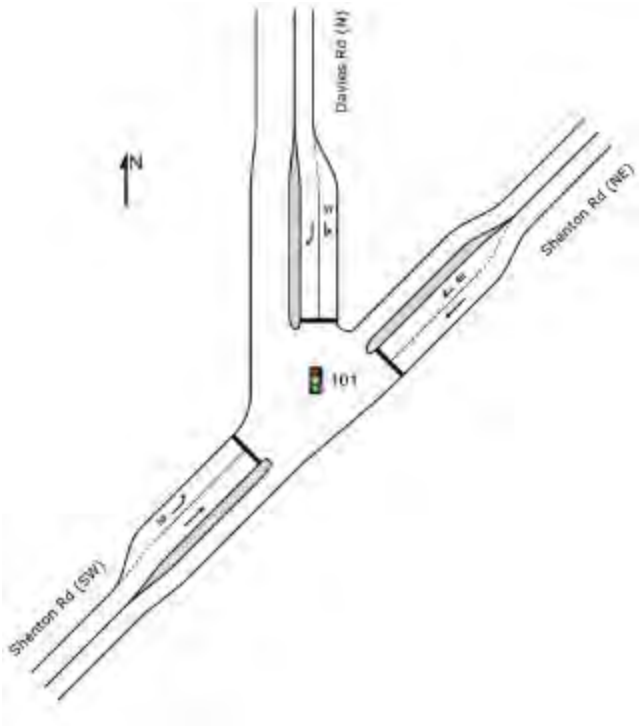

Table 8.3. Shenton Road / Davies Road (Background 2025)

Intersection Approach		Background 2025 Weekday AM Peak				Background 2025 Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.147	8.8	A	18.6	0.215	7.6	A	28.1
	R	*0.225	35.3	D	11.4	*0.223	30.3	C	16.0
North: Davies Rd	L	0.107	30.2	C	9.0	0.105	28.7	C	8.0
	R	*0.707	33.0	C	83.7	*0.647	30.7	C	67.4
Southwest: Shenton Rd	L	0.488	27.3	C	57.5	*0.648	29.1	C	74.6
	T	*0.751	25.0	C	96.3	0.298	21.7	C	31.3
All Vehicles		**0.751**	**26.5**	**C**	**96.3**	**0.648**	**24.1**	**C**	**74.6**

** Critical Movement (Signal Timing)*

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8.1.1.3 Shenton Road / Gugeri Street

The following presents the results of the analysis of the Shenton Road / Gugeri Street intersection for both AM and PM peak hour periods. **Figure 8-3** shows the SIDRA layout representation of the intersection. **Table 8.4** summarises the results of the analysis.

Figure 8-3. SIDRA Layout for Shenton Road / Gugeri Street

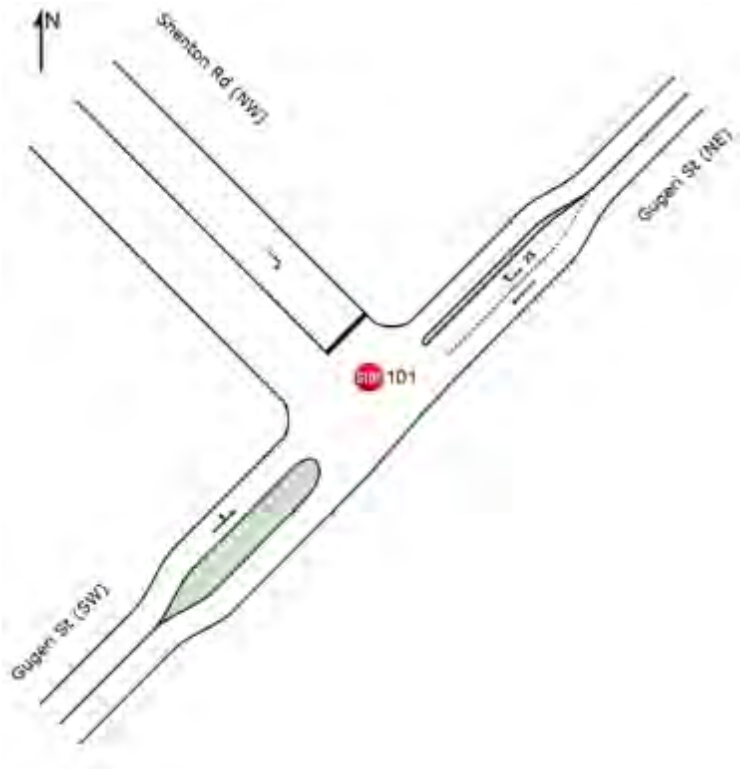

Table 8.4. Shenton Road / Gugeri Street (Background 2025)

Intersection Approach		Background 2025 Weekday AM Peak				Background 2025 Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Gugeri St	T	0.452	0.2	A	0.0	0.841	4.4	A	93.9
	R	0.341	14.0	B	11.5	0.698	21.9	C	33.5
Northwest: Shenton Rd	R	0.257	25.4	A	6.1	0.216	34.0	D	4.5
Southwest: Gugeri St	L	0.450	5.8	D	0.0	0.483	5.8	A	0.0
	T	0.450	0.2	D	0.0	0.483	0.2	A	0.0
All Vehicles		**0.452**	**2.5**	**N/A**	**1.5**	**0.841**	**5.7**	**N/A**	**93.9**

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8.1.2 Scenario 2: 2027 Traffic without Development

8.1.2.1 Shenton Road / Graylands Road

The following presents the results of the analysis of the Shenton Road / Graylands Road intersection for both AM and PM peak hour periods. **Table 8.5** summarises the results of the analysis.

Table 8.5. Shenton Road / Graylands Road (2027 Traffic without Development)

Intersection Approach		2027 Traffic without Development Weekday AM Peak				2027 Traffic without Development Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.063	0.0	A	0.0	0.101	0.0	A	0.0
	R	0.076	6.8	A	2.5	0.073	5.3	A	2.6
Northwest: Graylands Rd	L	0.275	11.0	B	9.3	0.054	8.5	A	1.7
	R	0.156	16.5	C	4.3	0.125	12.7	B	3.7
Southwest: Shenton Rd	L	0.254	4.7	A	0.0	0.102	4.6	A	0.0
	T	0.254	0.1	A	0.0	0.102	0.0	A	0.0
All Vehicles		**0.275**	**4.3**	**N/A**	**9.3**	**0.125**	**3.5**	**N/A**	**3.7**

8.1.2.2 Shenton Road / Davies Road

The following presents the results of the analysis of the Shenton Road / Davies Road intersection for both AM and PM peak hour periods. **Table 8.6** shows the results of the analysis.

Table 8.6. Shenton Road / Davies Road (2027 Traffic without Development)

Intersection Approach		2027 Traffic without Development Weekday AM Peak				2027 Traffic without Development Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.156	8.8	A	19.9	0.228	7.6	A	30.1
	R	*0.239	35.4	D	12.1	*0.238	30.4	C	17.1
North: Davies Rd	L	0.113	31.6	C	9.6	0.111	30.3	C	8.4
	R	*0.756	34.7	C	90.5	*0.693	32.6	C	72.3
Southwest: Shenton Rd	L	0.517	29.1	C	61.5	*0.688	29.5	C	80.3
	T	*0.840	27.4	C	106.1	0.315	21.8	C	33.3
All Vehicles		**0.840**	**28.2**	**C**	**106.1**	**0.693**	**24.8**	**C**	**80.3**

** Critical Movement (Signal Timing)*

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8.1.2.3 Shenton Road / Gugeri Street

The following presents the results of the analysis of the Shenton Road / Gugeri Street intersection for both AM and PM peak hour periods. **Table 8.7** shows the results of the analysis.

Table 8.7. Shenton Road / Gugeri Street (2027 Traffic without Development)

Intersection Approach		2027 Traffic without Development Weekday AM Peak				2027 Traffic without Development Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Gugeri St	T	0.479	0.2	A	0.0	1.021	77.0	F	640.0
	R	0.407	16.0	C	14.0	0.850	34.6	D	53.5
Northwest: Shenton Rd	R	0.317	29.5	D	7.5	0.283	41.6	E	5.9
Southwest: Gugeri St	L	0.477	5.8	A	0.0	0.512	5.8	A	0.0
	T	0.477	0.2	A	0.0	0.512	0.2	A	0.0
All Vehicles		**0.479**	**2.8**	**N/A**	**14.0**	**1.021**	**39.0**	**N/A**	**640.0**

8.1.3 Scenario 3: Opening Year of Development (2027)

8.1.3.1 Shenton Road / Graylands Road

The following presents the results of the analysis of the Shenton Road / Graylands Road intersection for both AM and PM peak hour periods. **Table 8.8** shows the results of the analysis.

Table 8.8. Shenton Road / Graylands Road (Opening Year of Development 2027)

Intersection Approach		Opening Year of Development (2027) Weekday AM Peak				Opening Year of Development (2027) Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.068	0.0	A	0.0	0.117	0.0	A	0.0
	R	0.084	7.3	A	2.7	0.075	5.4	A	2.6
Northwest: Graylands Rd	L	0.297	11.7	B	10.5	0.055	8.6	A	1.7
	R	0.194	18.5	C	5.3	0.178	13.7	B	5.3
Southwest: Shenton Rd	L	0.290	4.7	A	0.0	0.116	4.7	A	0.0
	T	0.290	0.1	A	0.0	0.116	0.0	A	0.0
All Vehicles		**0.297**	**4.5**	**N/A**	**10.5**	**0.178**	**3.7**	**N/A**	**5.3**

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8.1.3.2 Shenton Road / Davies Road

The following presents the results of the analysis of the Shenton Road / Davies Road intersection for both AM and PM peak hour periods. **Table 8.9** summarises the results of the analysis.

Table 8.9. Shenton Road / Davies Road (Opening Year of Development 2027)

Intersection Approach		Opening Year of Development 2027 Weekday AM Peak				Opening Year of Development 2027 Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.174	8.6	A	22.4	0.240	7.4	A	31.9
	R	*0.295	35.0	D	15.2	*0.268	29.8	C	19.4
North: Davies Rd	L	0.133	31.1	C	11.4	0.148	29.8	C	11.4
	R	*0.762	36.4	D	97.2	*0.696	32.7	C	74.6
Southwest: Shenton Rd	L	0.517	29.6	C	61.5	*0.688	29.3	C	82.2
	T	*0.915	45.7	D	155.9	0.367	21.4	C	39.5
All Vehicles		**0.915**	**34.4**	**C**	**155.9**	**0.696**	**24.4**	**C**	**82.2**

** Critical Movement (Signal Timing)*

8.1.3.3 Shenton Road / Gugeri Street

The following presents the results of the analysis of the Shenton Road / Gugeri Street intersection for both AM and PM peak hour periods. **Table 8.10** shows the results of the analysis.

Table 8.10. Shenton Road / Gugeri Street (Opening Year of Development 2027)

Intersection Approach		Opening Year of Development 2027 Weekday AM Peak				Opening Year of Development 2027 Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Gugeri St	T	0.479	0.2	A	0.0	1.058	157.1	F	1069.2
	R	0.434	16.4	C	2.0	0.944	55.3	F	97.5
Northwest: Shenton Rd	R	0.325	30.2	D	1.0	0.308	45.2	E	6.3
Southwest: Gugeri St	L	0.477	5.8	A	0.0	0.512	5.8	A	0.0
	T	0.477	0.2	A	0.0	0.512	0.2	A	0.0
All Vehicles		**0.479**	**2.9**	**N/A**	**2.0**	**1.058**	**76.2**	**N/A**	**1069.2**

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8.1.3.4 Shenton Road / Site Access

The following presents the results of the analysis of the Shenton Road / Site Access intersection for both AM and PM peak hour periods. **Figure 8-4** illustrates the SIDRA layout of the intersection. **Table 8.11** summarises the results of the analysis.

Figure 8-4. SIDRA Layout for Shenton Road / Site Access

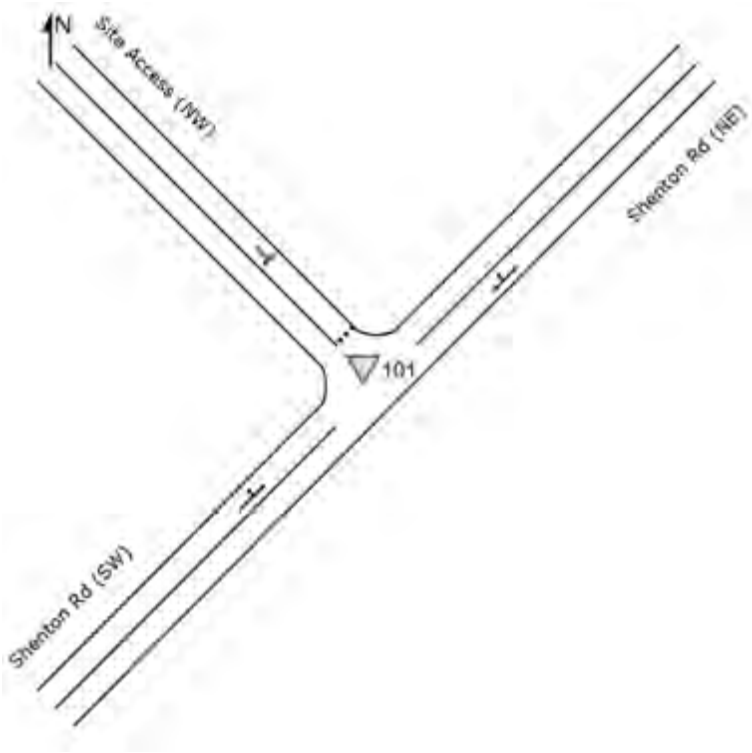

Table 8.11. Shenton Road / Site Access (Opening Year of Development 2027)

Intersection Approach		Opening Year of Development (2027) Weekday AM Peak				Opening Year of Development (2027) Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.121	0.2	A	1.1	0.204	0.0	A	2.9
	R	0.121	10.7	A	1.1	0.204	6.7	A	2.9
Northwest: Site Access	L	0.105	6.6	A	2.8	0.069	5.2	A	1.7
	R	0.105	8.7	A	2.8	0.069	7.5	A	1.7
Southwest: Shenton Rd	L	0.274	4.6	A	0.0	0.126	4.6	A	0.0
	T	0.274	0.1	A	0.0	0.126	0.0	A	0.0
All Vehicles		**0.274**	**1.2**	**A**	**2.8**	**0.204**	**1.3**	**N/A**	**0.4**

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8.1.4 Scenario 4: 2037 Traffic without Development

8.1.4.1 Shenton Road / Graylands Road

The following presents the results of the analysis of the Shenton Road / Graylands Road intersection for both AM and PM peak hours. **Table 8.12** shows the results of the analysis.

Table 8.12. Shenton Road / Graylands Road (2037 Traffic without Development)

Intersection Approach		2037 Traffic without Development Weekday AM Peak				2037 Traffic without Development Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.081	0.0	A	0.0	0.130	0.0	A	0.0
	R	0.121	8.0	A	3.8	0.100	5.5	A	3.5
Northwest: Graylands Rd	L	0.430	13.8	B	18.2	0.074	8.8	A	2.3
	R	0.291	23.7	C	8.4	0.200	15.0	C	5.8
Southwest: Shenton Rd	L	0.326	4.7	A	0.0	0.130	4.7	A	0.0
	T	0.326	0.1	A	0.0	0.130	0.0	A	0.0
All Vehicles		**0.430**	**5.5**	**A**	**18.2**	**0.200**	**3.8**	**A**	**5.8**

8.1.4.2 Shenton Road / Davies Road

The following presents the results of the analysis of the Shenton Road / Davies Road intersection for both AM and PM peak hours. **Table 8.13** summarises the results of the analysis.

Table 8.13. Shenton Road / Davies Road (2037 Traffic without Development)

Intersection Approach		2037 Traffic without Development Weekday AM Peak				2037 Traffic without Development Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.200	9.1	A	26.2	0.292	8.0	A	40.3
	R	*0.309	35.8	D	15.9	*0.304	30.9	C	22.3
North: Davies Rd	L	0.147	37.3	D	12.6	0.142	36.6	D	11.0
	R	*1.001	75.2	E	200.3	*0.925	44.1	D	108.0
Southwest: Shenton Rd	L	0.664	36.3	D	83.5	*0.964	46.6	D	139.9
	T	*1.164	334.1	F	641.7	0.404	26.7	C	44.0
All Vehicles		**1.164**	**139.5**	**F**	**641.7**	**0.964**	**33.8**	**C**	**139.9**

** Critical Movement (Signal Timing)*

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8.1.4.3 Shenton Road / Gugeri Street

The following presents the results of the analysis of the Shenton Road / Gugeri Street intersection for both AM and PM peak hours. **Table 8.14** indicates the results of the analysis.

Table 8.14. Shenton Road / Gugeri Street (2037 Traffic without Development)

Intersection Approach		2037 Traffic without Development Weekday AM Peak				2037 Traffic without Development Weekday PM Peak			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Gugeri St	T	1.254	506.5	F	2746.3	2.232	2254.3	F	7483.5
	R	1.143	317.4	F	335.0	2.839	3352.5	F	2646.3
Northwest: Shenton Rd	R	1.073	284.2	F	82.2	1.386	1.386	F	124.2
Southwest: Gugeri St	L	0.612	5.9	A	0.0	0.657	0.657	A	0.0
	T	0.612	0.3	A	0.0	0.657	0.657	A	0.0
All Vehicles		**1.254**	**249.7**	**N/A**	**2746.3**	**2.839**	**2.839**	**N/A**	**7483.5**

8.1.5 Scenario 5: Opening Year of Development + 10 Year Horizon (2037)

8.1.5.1 Shenton Road / Graylands Road

The following presents the results of the analysis of the Shenton Road / Graylands Road intersection for both AM and PM peak hour periods. **Table 8.15** summarises the results of the analysis.

Table 8.15. Shenton Road / Graylands Road (Opening Year of Development + 10 Year Horizon 2037)

Intersection Approach		Opening Year of Development + 10 Year Horizon 2037 (Weekday AM Peak)				Opening Year of Development + 10 Year Horizon 2037 (Weekday PM Peak)			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.086	0.0	A	0.0	0.146	0.0	A	0.0
	R	0.136	8.7	A	4.1	0.103	5.6	A	3.6
Northwest: Graylands Rd	L	0.469	14.9	B	20.1	0.075	8.9	A	2.3
	R	0.369	28.2	D	10.8	0.271	16.9	C	8.6
Southwest: Shenton Rd	L	0.362	4.7	A	0.0	0.144	4.7	A	0.0
	T	0.362	0.1	A	0.0	0.144	0.0	A	0.0
All Vehicles		**0.469**	**5.9**	**N/A**	**20.1**	**0.271**	**4.2**	**N/A**	**8.6**

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8.1.5.2 Shenton Road / Davies Road

The following presents the results of the analysis of the Shenton Road / Davies Road intersection for both AM and PM peak hours. **Table 8.16** shows the results of the analysis.

Table 8.16. Shenton Road / Davies Road (Opening year of Development + 10 Year Horizon 2037)

Intersection Approach		Opening Year of Development + 10 Year Horizon 2037 (Weekday AM Peak)				Opening Year of Development + 10 Year Horizon 2037 (Weekday PM Peak)			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.220	8.9	A	29.2	0.304	7.7	A	42.4
	R	*0.380	35.3	D	19.8	*0.335	30.3	C	24.7
North: Davies Road	L	0.169	36.8	D	14.6	0.179	36.2	D	14.0
	R	*1.010	113.8	F	268.4	*0.937	61.3	E	140.8
Southwest: Shenton Rd	L	0.664	36.5	D	84.4	*0.976	76.8	E	195.7
	T	*1.206	418.5	F	792.7	0.456	26.3	C	50.55
All Vehicles		**1.206**	**176.7**	**F**	**792.7**	**0.976**	**46.0**	**D**	**195.7**

** Critical Movement (Signal Timing)*

8.1.5.3 Shenton Road / Gugeri Street

The following presents the results of the analysis of the Shenton Road / Gugeri Street intersection for both AM and PM peak hour periods. **Table 8.17** summarises the results of the analysis.

Table 8.17. Shenton Road / Gugeri Street (Opening Year of Development + 10 Year Horizon 2037)

Intersection Approach		Opening Year of Development + 10 Year Horizon 2037 (Weekday AM Peak)				Opening Year of Development + 10 Year Horizon 2037 (Weekday PM Peak)			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Gugeri St	T	1.281	553.7	F	2900.8	2.336	2441.5	F	7732.7
	R	1.196	405.1	F	436.5	3.083	3792.4	F	2994.8
Northwest: Shenton Rd	R	1.104	329.4	F	97.9	1.514	1060.6	F	147.5
Southwest: Gugeri St	L	0.612	5.9	A	0.0	0.657	6.0	A	0.0
	T	0.612	0.3	A	0.0	0.657	0.4	A	0.0
All Vehicles		**1.281**	**278.9**	**N/A**	**2900.8**	**3.083**	**1599.8**	**N/A**	**7732.7**

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8.1.5.4 Shenton Road / Site Access

The following presents the results of the analysis of the Shenton Road / Site Access intersection for both AM and PM peak hours. **Table 8.18** shows the results of the analysis.

Table 8.18. Shenton Road / Site Access (Opening Year of Development + 10 Year Horizon 2037)

Intersection Approach		Opening Year of Development + 10 Year Horizon 2037 (Weekday AM Peak)				Opening Year of Development + 10 Year Horizon 2037 (Weekday PM Peak)			
		DOS	Delay (Sec)	LOS	95% Queue (m)	DOS	Delay (Sec)	LOS	95% Queue (m)
Northeast: Shenton Rd	T	0.155	0.0	A	1.4	0.257	0.0	A	3.4
	R	0.155	14.4	B	1.4	0.257	8.0	A	3.4
Northwest: Site Access	L	0.133	7.6	A	3.4	0.087	5.6	A	2.2
	R	0.133	11.1	B	3.4	0.087	9.4	A	2.2
Southwest: Shenton Rd	L	0.348	4.7	A	0.0	0.157	4.7	A	0.0
	T	0.348	0.1	A	0.0	0.157	0.0	A	0.0
All Vehicles		**0.348**	**1.1**	**N/A**	**0.5**	**0.257**	**1.2**	**N/A**	**3.4**

8.2 SIDRA Results Summary

8.2.1 Existing Year Performance

In general, the existing 2025 results indicate that all intersections assessed are operating at satisfactory levels during the peak hour periods. The analysis is summarised as follows:

- Shenton Road and Graylands Road intersection is expected to perform at an acceptable level of service with minimal delays and minor queuing for all peak hour periods.
- Shenton Road and Davies Road intersection is expected to operate satisfactorily during the peak hour periods.
- Shenton Road and Gugeri Street is expected to operate at satisfactory levels of service, with minimal delays and short queues.

8.2.2 Future Year Performance without Development

The SIDRA results for the future 2027 and 2037, without development, indicate that two of the key intersections are expected to perform unsatisfactorily as a result of the background traffic growth. The analysis is summarised as follows:

- Shenton Road and Graylands Road intersection is expected to perform at acceptable levels for both 2027 and 2037 design years.
- The Shenton Road and Davies Road intersection is expected to perform at adequate levels for the 2027 opening year. The right turn movement on Davies Road is expected to experience increased delays during the AM peak hour for the 2037 design year. Similarly, the right turn movement on Davies Road and the through movement on the Shenton Road southwest

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approach is anticipated to operate at DOS 1.001 and 1.164 respectively which indicate that it is exceeded its practical capacity.

- For the Shenton Road and Gugeri Street intersection, both the right turn and through movements on the north-east approach of Gugeri Street is expected to operate at DOS 2.839 and 2.232 respectively during the PM peak hour period for the 2037 design year, indicating that this approach is exceeding capacity with extensive delays and queuing.

8.2.3 Future Year Performance with Development

The SIDRA results for the opening year of the development and the future 2037 with development scenarios indicate that two key intersections are expected to perform poorly which is attributed to the background traffic growth. The analysis is summarised as follows:

- Site Access and Shenton Road are expected to perform satisfactorily during the AM and PM peak hour periods for both the 2027 opening year and 2037 design year with minimal delays and minor queueing at the Site access.
- Shenton Road and Graylands Road intersection is anticipated to be able to accommodate the additional traffic generated by the proposed development for all scenarios assessed. All approaches perform satisfactorily with the level of service expected to be at LOS C or better for all scenarios.
- The northeast and northern approaches of the Shenton Road / Davies Road intersection are expected to perform satisfactorily in the 2027 opening year except for the southwest approach operating at DOS 0.915. The right turn movement on Davies Road and through movement on the Shenton Road southwest approach at the Shenton Road and Davies Road intersection is expected to operate at DOS of 1.010 and 1.206 respectively during the AM peak hour period for the 2037 design year. The intersection is expected to experience average delays of 176.7 seconds and queuing of around 792.7 m

  A comparison of the SIDRA results between the “with development” and “without development” 2027 and 2037 design year scenarios would indicate that the results are similar. It is concluded that the poor level of performance at this intersection could be attributed to the background traffic growth. To minimise further delays and improve the overall performance at this intersection, consideration could be given to optimising the traffic signal phasing and timings which would require consultation with Main Roads WA.
- Shenton Road and Gugeri Street intersection is expected to perform poorly in 2027 opening year and 2037 future year as significant delays, extensive queueing and oversaturated capacity are anticipated during the PM peak hour period. A comparison of the SIDRA results between the “with development” and “without development” scenarios would indicate that the results are similar, and it is concluded that the poor level of performance at this intersection can be attributed to the background traffic growth. Given this intersection is expected to operate poorly for the 2037 design year, primarily due to the high traffic growth rate used in the assessment although historical counts on adjacent roads actually show the traffic flows have been stable or declining despite increased development along the corridor, it is recommended that the Town/Main Roads WA consider investigating potential solutions to enhance traffic operations at this intersection in the future should this traffic growth be realised.

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- The poor performance for the design year 2037 is heavily related to the high calculated growth rate based on the available historical traffic data. It is implied that, if the high growth rate assumed is realised then the intersection will operate poorly. It should be noted that the historical traffic data on the wider vicinity of the Site e.g. Claremont Crescent and Stubbs Terrace show lesser growth than the calculated growth rate despite increased development along the corridor.

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9 Conclusions

This assessment has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines Volume 4 – Individual Development* for lodgement with the development application. Specifically, this report aims to outline the transport aspects of the proposed redevelopment, with a focus on accessibility, traffic operation, circulation and car parking.

The following is concluded:

- The Stage 2 proposal is a residential development:
  - » 61 residential apartment units
  - » 36 sqm of residential amenity space (at ground level)
  - » 6 sqm managers office
- The Stage 2 development Site will have a peak traffic generation of approximately 50 vehicle trips in the AM peak and 50 vehicle trips in the PM peak hour (arrivals plus departures).
- The Shenton Road / Davies Road and Shenton Road / Gugeri Street intersections are expected to experience an increase in overall delay and DOS performance, leading to a further decline in the intersection's performance particularly during the 2037 horizon. A comparison of the SIDRA results between the “with development” and “without development” scenarios would indicate that the results are similar, and it is concluded that the poor level of performance at these intersections can be attributed to the background traffic growth and not the proposed development. it is recommended that the Town/Main Roads WA consider investigating potential solutions to enhance traffic operations at these intersections in the future should the traffic growth used in this assessment be realised.
- The addition of 26 parking bays has been provided to address market requirements. Larger apartments, which the development has a greater portion of, have been allocated two bays.
- Site access is proposed via a two-way crossover located on Tiger Way. Access and egress will be full movement.
- A swept path analysis has been undertaken for a 7.4m rear-lift and 8.6m bulk waste truck entering and exiting the Stage 1 Site access which will also service the Stage 2 development. This analysis shows that the refuse collection vehicle can effectively access and egress the Stage 1 site in forward gear.
- The Site has excellent access to the existing pedestrian and cycling network with the Fremantle Railway PSP located within walking distance.
- The public transport amenity within the vicinity of the Site is excellent with a high frequency of bus and trains services within walking distance from the Site.

Overall, the proposed development is not expected to have any material impact on traffic operations and safety on the surrounding road network.

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Appendices

Appendix A WAPC Checklist

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Item	Section	Comments/Proposals
Introduction/Background	Section 1	
Name of applicant and consultant	Section 1	
Development location and context	Section 2	
Key issues	N/A	
Background information	Section 1	
Existing situation		
existing site uses (if any)	Section 2	
existing parking and demand (if appropriate)	Section 2	
existing access arrangements	N/A	
surrounding land uses	Section 2	
surrounding road network	Section 2	
existing site traffic	Section 2	
traffic management on frontage roads	Section 2	
traffic flows on surrounding roads (usually AM and PM peak hours)	Section 2	
traffic flows at major intersections (usually AM and PM peak hours)	Section 6	
operation of surrounding intersections	Section 6	
existing pedestrian/cycle networks	Section 2	
existing public transport services surrounding the development	Section 2	
crash data	Section 2	
Development proposal		
regional context	Section 3	
proposed land uses	Section 3	
table of land uses and quantities	Section 3	
access arrangements	Section 3	
parking provision	Section 3	
end of trip facilities	Section 3	
any specific issues	Section 6	
road network	Section 5	
intersection layout and controls	Section 3	
pedestrian/cycle network and crossing facilities	Section 5	
public transport services	Section 5	
Integration with surrounding area	Section 5	
surrounding major attractors/generators	Section 5	
committed developments and transport proposals	Section 5	
proposed changes to land uses within 1200 metres	N/A	
travel desire lines from development to these attractors/generators	N/A	
adequacy of existing transport networks	N/A	

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deficiencies in existing transport networks	N/A
remedial measures to address deficiencies	N/A
Analysis of transport networks	
assessment years	Section 7
time periods	Section 7
development generated traffic	Section 7
distribution of generated traffic	Section 7
parking supply & demand	Section 4
base and "with development" traffic flows	Section 7
analysis of development accesses	Section 7
impact on surrounding roads	Section 7
impact on intersections	Section 7
impact on neighbouring areas	Section 7
road safety	N/A
public transport access	N/A
pedestrian access / amenity	N/A
cycle access / amenity	N/A
analysis of pedestrian / cycle networks	N/A
safe walk/cycle to school (for residential and school site developments only)	N/A
Traffic management plan (where appropriate)	N/A

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Appendix B

Proposed Site Layout Plans

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CLAREMONT TERRACES
STAGE 2

LOT 508 3 SHENTON ROAD, CLAREMONT
NORUP PTY LTD

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SCALE @ A1
1 : 100
0 1 2 3 4 m

PROJECT NO.
2509

REV	DATE	ISSUED	DESCRIPTION
6	14.08.2026	RS	Response to Request for Information
5	30.04.2026	AJ	Development Application
4	21.04.2026	AJ	Development Application
3	20.03.2026	AJ	Development Application
2	24.02.2026	AJ	Consultant Coordination
1	12.02.2026	ES	Consultant Coordination Issue

DRAWING TITLE
BASEMENT PLAN

DRAWING NO.
SK01-01

REV
6

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CLAREMONT TERRACES
STAGE 2

LOT 508 3 SHENTON ROAD, CLAREMONT
NORUP PTY LTD

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SCALE @ A1
1 : 100
0 1 2 3 4 m

PROJECT NO.
2509

REV	DATE	ISSUED	DESCRIPTION
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3	20.03.2026	AJ	Development Application
2	24.02.2026	AJ	Consultant Coordination
1	12.02.2026	ES	Consultant Coordination Issue

DRAWING TITLE
GROUND FLOOR PLAN

DRAWING NO.
SK01-02

REV
6

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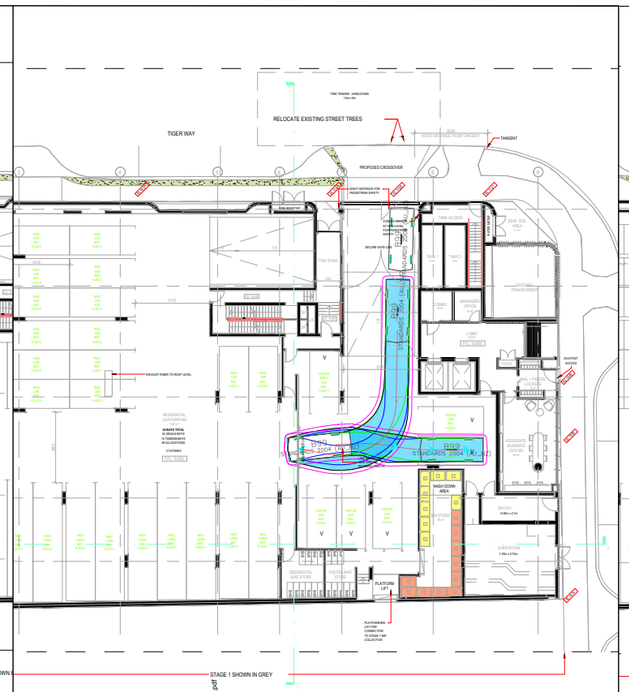
Appendix C

Swept Path Analysis

INGRESS

INSET 1

INSET 2



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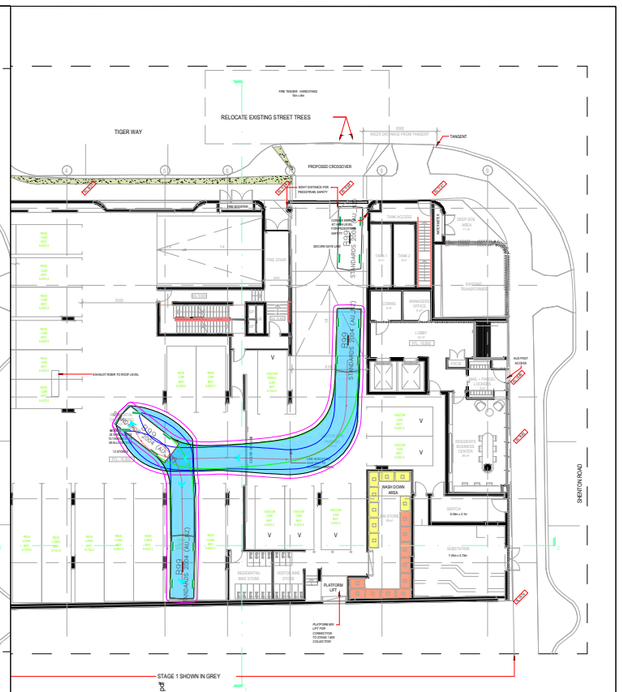

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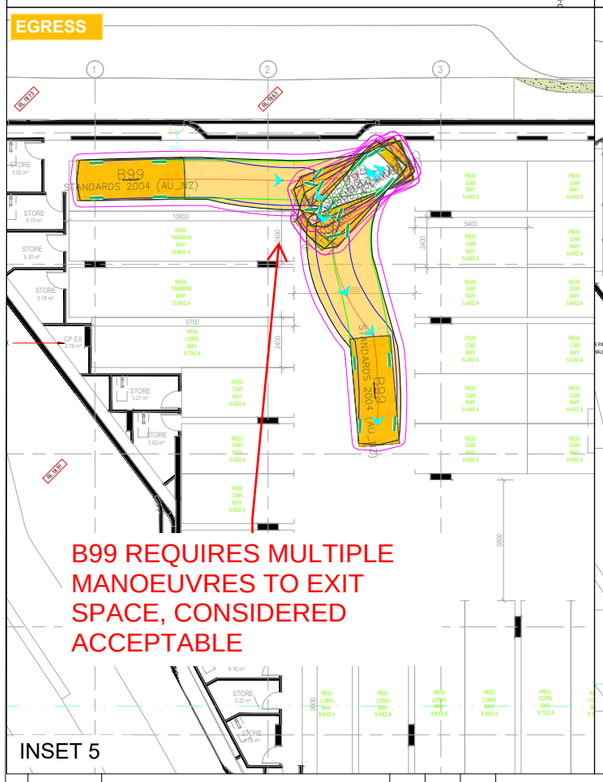

B99 REQUIRES MULTIPLE MANOEUVRES TO EXIT SPACE, CONSIDERED ACCEPTABLE

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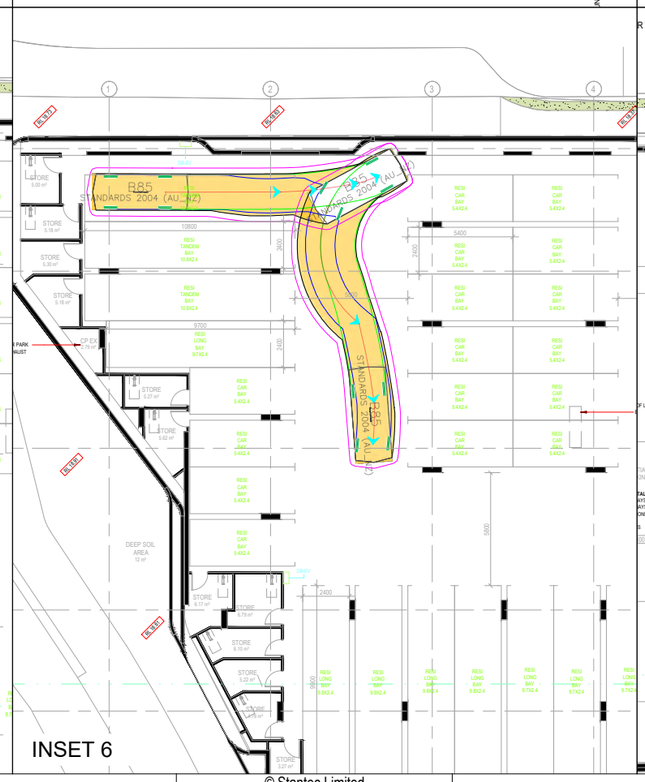

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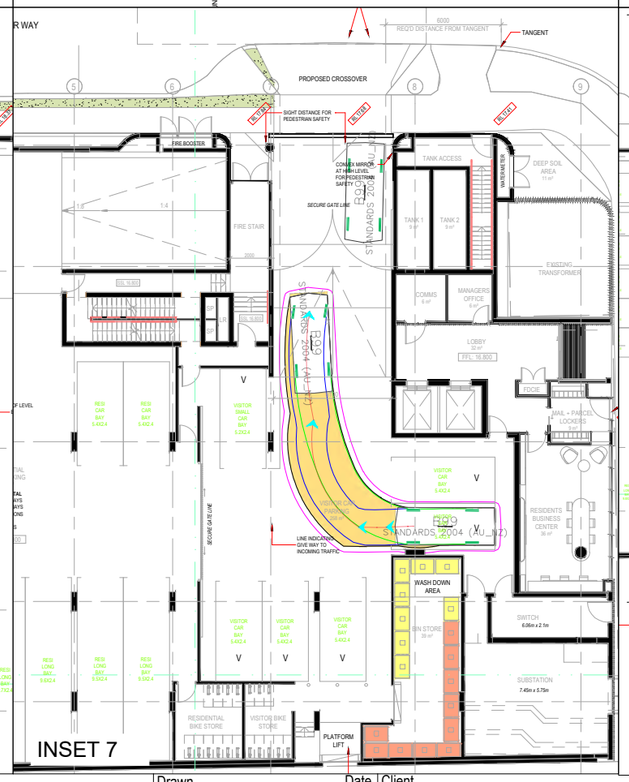

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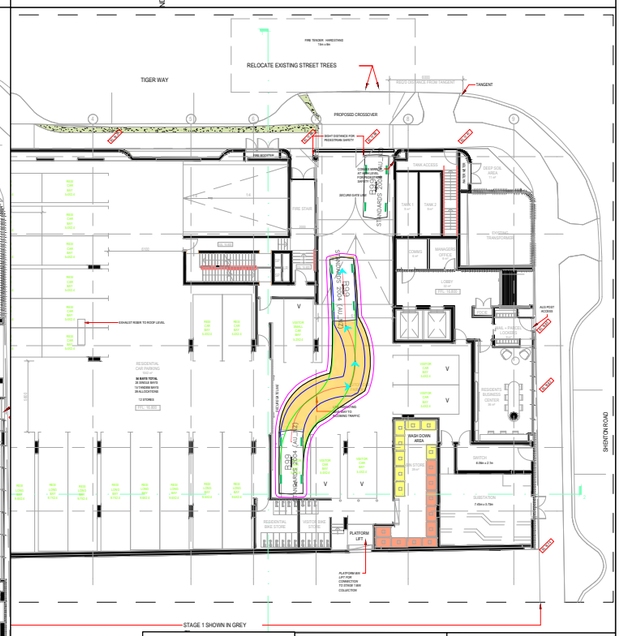

INSET 8

VEHICLE CENTRE LINE
FRONT TYRES
REAR TYRES
VEHICLE BODY PATH
300MM CLEARANCE FROM VEHICLE BODY
ASSUMED SPEED 5 KM/HR

B85

	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

B99

	mm
Width	: 1940
Track	: 1840
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

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Project: CLAREMONT STAGE 2

Title: SWEPT PATH ANALYSIS

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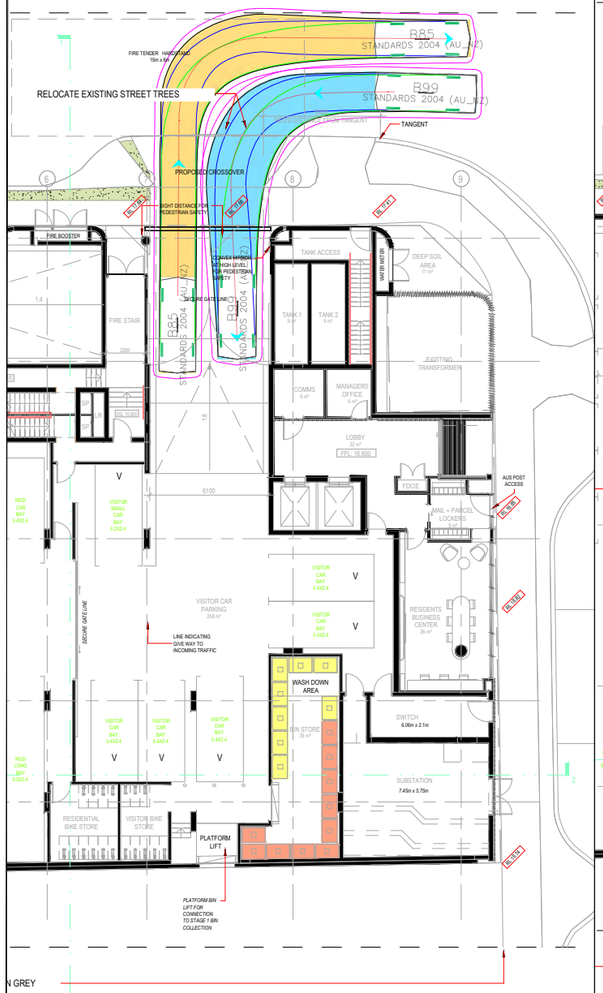

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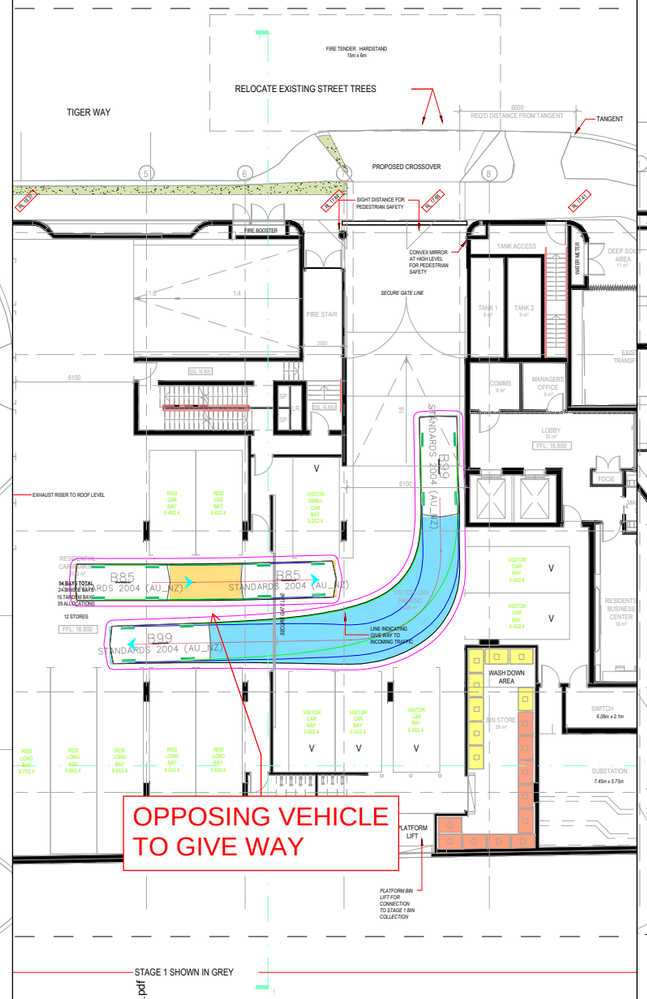

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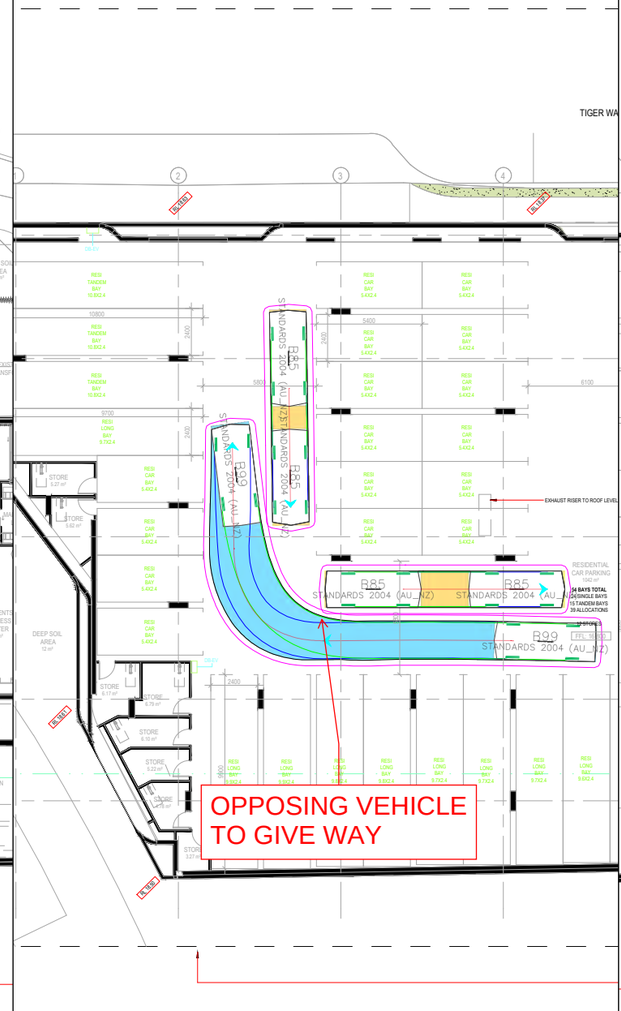

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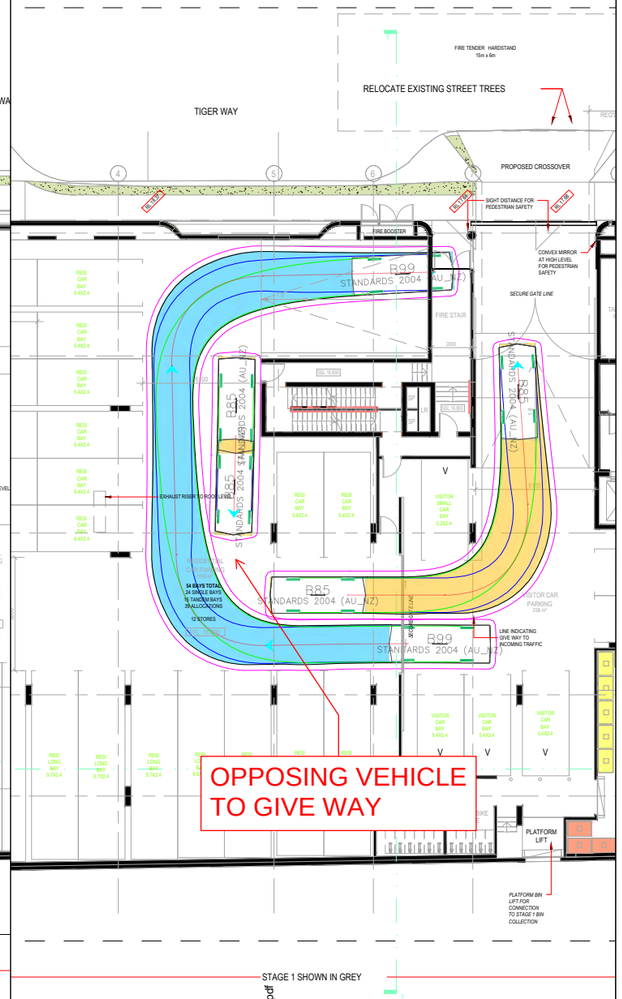

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STAGE 1 SHOWN IN GREY

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REAR TYRES	
VEHICLE BODY PATH	
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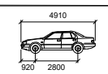
ASSUMED SPEED	5 KM/HR



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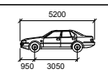

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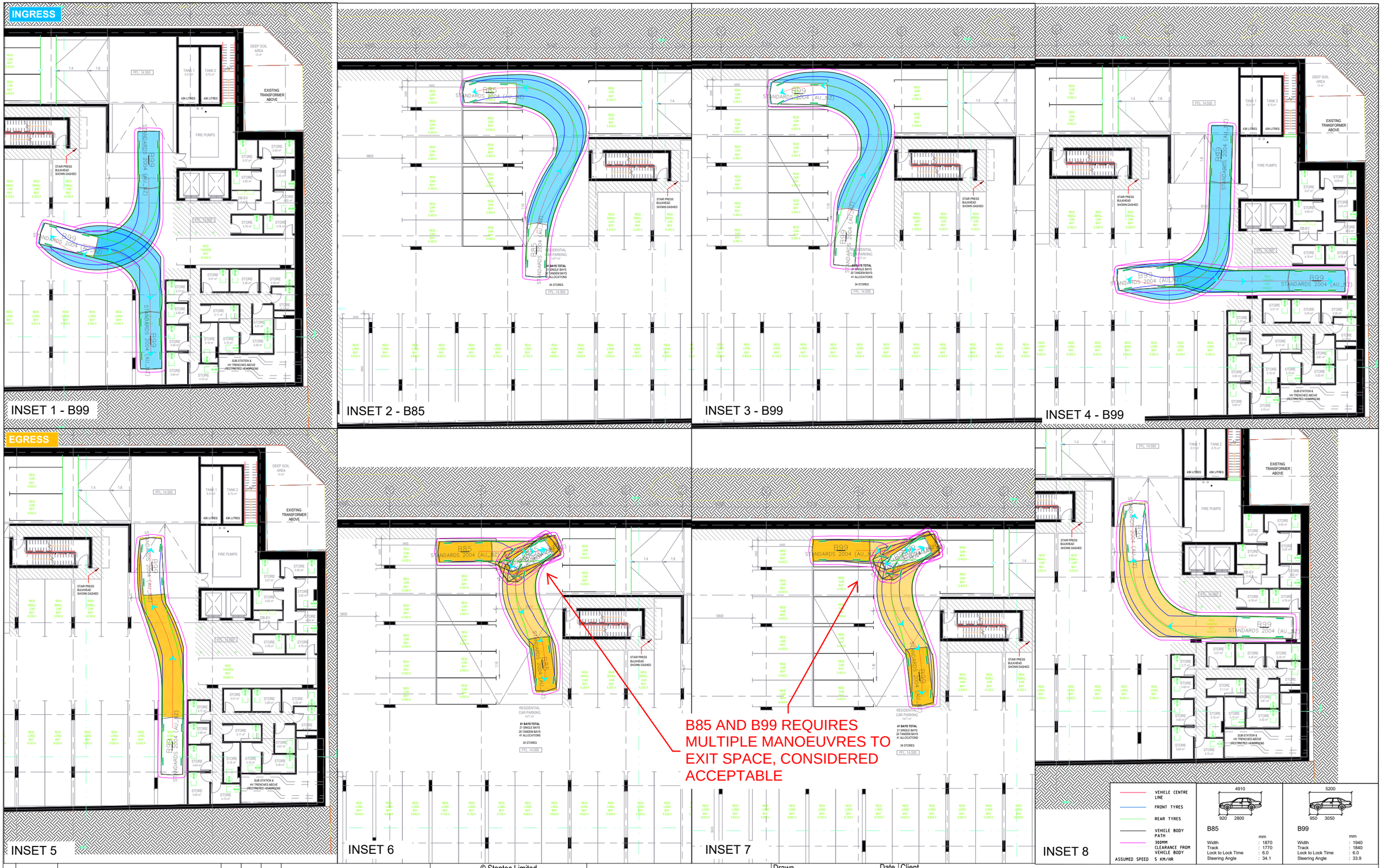

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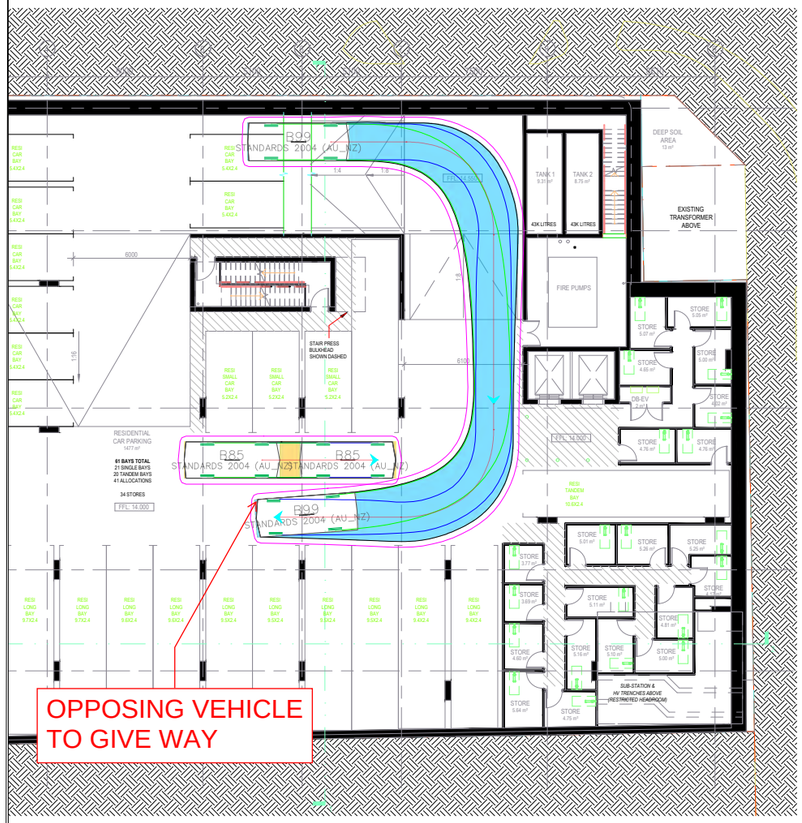

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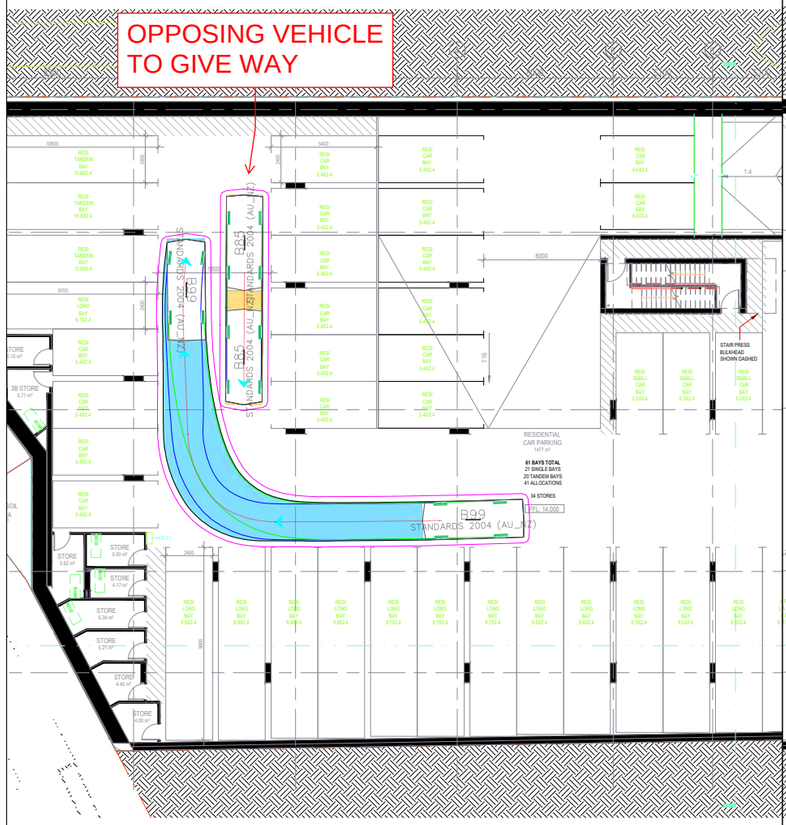

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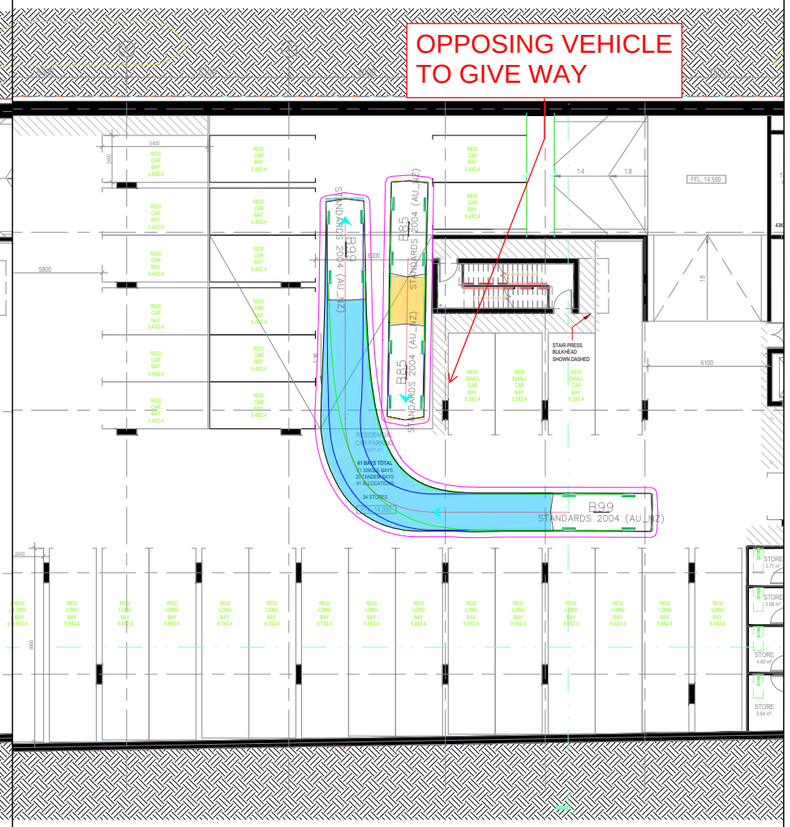
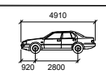


INSET 3

VEHICLE CENTRE LINE	
FRONT TYRES	
REAR TYRES	
VEHICLE BODY PATH	
300MM CLEARANCE FROM VEHICLE BODY	
ASSUMED SPEED	5 KM/HR



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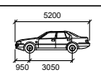
Steering Angle	: 34.1



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		Date
Drawn	SG	17/08/2026
Checked		Date
Designed		Date
Verified		Date
Approved		Date

Client: HILLAM

Project: CLAREMONT STAGE 2

Title: SWEPT PATH ANALYSIS

TOWN OF CLAREMONT
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Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: NTS

Size: A3

Drawing Number: 301252508-DR009

Revision: 8

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Appendix D

SIDRA Results

MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
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New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	114	6.0	114	6.0	0.060	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
26	R2	All MCs	73	6.0	73	6.0	0.070	6.6	LOS A	0.3	2.3	0.50	0.64	0.50	36.3
Approach			187	6.0	187	6.0	0.070	2.6	NA	0.3	2.3	0.20	0.25	0.20	44.3
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	213	6.0	213	6.0	0.250	10.6	LOS B	1.0	8.1	0.53	0.94	0.53	34.5
29	R2	All MCs	55	6.0	55	6.0	0.136	15.7	LOS C	0.5	3.8	0.64	1.01	0.64	35.9
Approach			268	6.0	268	6.0	0.250	11.6	LOS B	1.0	8.1	0.55	0.96	0.55	34.9
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	46	6.0	46	6.0	0.240	4.7	LOS A	0.0	0.0	0.00	0.05	0.00	46.1
31	T1	All MCs	421	6.0	421	6.0	0.240	0.1	LOS A	0.0	0.0	0.00	0.05	0.00	49.2
Approach			467	6.0	467	6.0	0.240	0.5	NA	0.0	0.0	0.00	0.05	0.00	48.8
All Vehicles			922	6.0	922	6.0	0.250	4.2	NA	1.0	8.1	0.20	0.36	0.20	43.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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Project: U:\301252508\Buildings\Project Documentation\Transportation Engineering\Transportation Reports\Report\Updated SIDRA - V1 \301252138_SIDRA Model (Background2025).sip9

MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
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New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	181	6.0	181	6.0	0.095	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
26	R2	All MCs	100	6.0	100	6.0	0.068	5.2	LOS A	0.3	2.4	0.31	0.51	0.31	37.3
Approach			281	6.0	281	6.0	0.095	1.9	NA	0.3	2.4	0.11	0.18	0.11	45.2
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	62	6.0	62	6.0	0.051	8.5	LOS A	0.2	1.6	0.26	0.90	0.26	36.0
29	R2	All MCs	65	6.0	65	6.0	0.113	12.4	LOS B	0.4	3.3	0.53	0.96	0.53	37.8
Approach			127	6.0	127	6.0	0.113	10.5	LOS B	0.4	3.3	0.40	0.93	0.40	37.2
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	44	6.0	44	6.0	0.096	4.6	LOS A	0.0	0.0	0.00	0.13	0.00	45.5
31	T1	All MCs	141	6.0	141	6.0	0.096	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	48.3
Approach			185	6.0	185	6.0	0.096	1.1	NA	0.0	0.0	0.00	0.13	0.00	47.4
All Vehicles			593	6.0	593	6.0	0.113	3.5	NA	0.4	3.3	0.14	0.33	0.14	43.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Davies Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
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10/09/2026

New Site
Site Category: (None)
Signals - Actuated Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	146	6.0	146	6.0	0.147	8.8	LOS A	2.4	18.6	0.52	0.43	0.52	43.6
26b	R3	All MCs	48	6.0	48	6.0	* 0.225	35.3	LOS D	1.5	11.4	0.90	0.73	0.90	29.2
Approach			194	6.0	194	6.0	0.225	15.3	LOS B	2.4	18.6	0.62	0.50	0.62	39.2
North: Davies Rd (N)															
7b	L3	All MCs	48	6.0	48	6.0	0.107	30.2	LOS C	1.2	9.0	0.75	0.72	0.75	35.5
9a	R1	All MCs	362	6.0	362	6.0	* 0.707	33.0	LOS C	10.7	83.7	0.93	0.83	0.93	37.1
Approach			410	6.0	410	6.0	0.707	32.7	LOS C	10.7	83.7	0.91	0.82	0.91	36.9
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	273	6.0	273	6.0	0.488	27.3	LOS C	7.4	57.5	0.85	0.80	0.85	38.5
31	T1	All MCs	414	6.0	414	6.0	* 0.751	25.0	LOS C	12.4	96.3	0.94	0.81	0.94	40.5
Approach			687	6.0	687	6.0	0.751	25.9	LOS C	12.4	96.3	0.90	0.80	0.90	39.6
All Vehicles			1291	6.0	1291	6.0	0.751	26.5	LOS C	12.4	96.3	0.86	0.76	0.86	38.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Davies Rd PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
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10/09/2026

New Site
Site Category: (None)
Signals - Actuated Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	232	6.0	232	6.0	0.215	7.6	LOS A	3.6	28.1	0.50	0.42	0.50	44.4
26b	R3	All MCs	74	6.0	74	6.0	* 0.223	30.3	LOS C	2.0	16.0	0.84	0.74	0.84	30.9
Approach			306	6.0	306	6.0	0.223	13.1	LOS B	3.6	28.1	0.58	0.50	0.58	40.5
North: Davies Rd (N)															
7b	L3	All MCs	40	6.0	40	6.0	0.105	28.7	LOS C	1.0	8.0	0.79	0.72	0.79	34.3
9a	R1	All MCs	288	6.0	288	6.0	* 0.647	30.7	LOS C	8.6	67.4	0.93	0.82	0.93	36.3
Approach			328	6.0	328	6.0	0.647	30.5	LOS C	8.6	67.4	0.91	0.81	0.91	36.1
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	326	6.0	326	6.0	* 0.648	29.1	LOS C	9.6	74.6	0.92	0.82	0.92	37.2
31	T1	All MCs	154	6.0	154	6.0	0.298	21.7	LOS C	4.0	31.3	0.81	0.66	0.81	41.8
Approach			480	6.0	480	6.0	0.648	26.7	LOS C	9.6	74.6	0.88	0.77	0.88	38.5
All Vehicles			1114	6.0	1114	6.0	0.648	24.1	LOS C	9.6	74.6	0.81	0.71	0.81	38.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Project: U:\301252508\Buildings\Project Documentation\Transportation Engineering\Transportation Reports\Report\Updated SIDRA \301252138_SIDRA Model (Background).sip9

MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
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10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (NE)															
25	T1	All MCs	853	6.0	853	6.0	0.452	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
26	R2	All MCs	175	6.0	175	6.0	0.341	14.0	LOS B	1.5	11.5	0.78	0.96	0.97	44.1
Approach			1028	6.0	1028	6.0	0.452	2.5	NA	1.5	11.5	0.13	0.16	0.17	56.3
North: Dummy leg															
9a	R1	All MCs	55	6.0	55	6.0	0.085	8.4	LOS A	0.3	2.1	0.62	0.79	0.62	50.2
Approach			55	6.0	55	6.0	0.085	8.4	LOS A	0.3	2.1	0.62	0.79	0.62	50.2
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	55	6.0	55	6.0	0.257	25.4	LOS D	0.8	6.1	0.84	1.04	0.94	38.7
Approach			55	6.0	55	6.0	0.257	25.4	LOS D	0.8	6.1	0.84	1.04	0.94	38.7
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	84	6.0	84	6.0	0.450	5.8	LOS A	0.0	0.0	0.00	0.06	0.00	54.7
31	T1	All MCs	800	6.0	800	6.0	0.450	0.2	LOS A	0.0	0.0	0.00	0.06	0.00	59.2
Approach			884	6.0	884	6.0	0.450	0.7	NA	0.0	0.0	0.00	0.06	0.00	58.7
All Vehicles			2022	6.0	2022	6.0	0.452	2.5	NA	1.5	11.5	0.11	0.16	0.13	56.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (NE)															
25	T1	All MCs	1006	6.0	1006	6.0	0.841	4.4	LOS A	12.0	93.9	0.86	0.79	1.44	56.0
26	R2	All MCs	308	6.0	308	6.0	0.698	21.9	LOS C	4.3	33.5	0.90	1.23	1.83	40.3
Approach			1314	6.0	1314	6.0	0.841	8.5	NA	12.0	93.9	0.87	0.89	1.53	51.3
North: Dummy leg															
9a	R1	All MCs	30	6.0	30	6.0	0.062	10.2	LOS B	0.2	1.4	0.71	0.84	0.71	49.0
Approach			30	6.0	30	6.0	0.062	10.2	LOS B	0.2	1.4	0.71	0.84	0.71	49.0
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	30	6.0	30	6.0	0.216	34.0	LOS D	0.6	4.5	0.89	1.02	0.95	35.5
Approach			30	6.0	30	6.0	0.216	34.0	LOS D	0.6	4.5	0.89	1.02	0.95	35.5
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	103	6.0	103	6.0	0.483	5.8	LOS A	0.0	0.0	0.00	0.06	0.00	54.6
31	T1	All MCs	846	6.0	846	6.0	0.483	0.2	LOS A	0.0	0.0	0.00	0.06	0.00	59.1
Approach			949	6.0	949	6.0	0.483	0.8	NA	0.0	0.0	0.00	0.06	0.00	58.5
All Vehicles			2323	6.0	2323	6.0	0.841	5.7	NA	12.0	93.9	0.51	0.55	0.89	53.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	120	6.0	120	6.0	0.063	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
26	R2	All MCs	77	6.0	77	6.0	0.076	6.8	LOS A	0.3	2.5	0.52	0.65	0.52	36.2
Approach			197	6.0	197	6.0	0.076	2.7	NA	0.3	2.5	0.20	0.26	0.20	44.2
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	226	6.0	226	6.0	0.275	11.0	LOS B	1.2	9.3	0.55	0.96	0.57	34.2
29	R2	All MCs	59	6.0	59	6.0	0.156	16.5	LOS C	0.5	4.3	0.67	1.01	0.67	35.5
Approach			285	6.0	285	6.0	0.275	12.1	LOS B	1.2	9.3	0.57	0.97	0.59	34.6
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	48	6.0	48	6.0	0.254	4.7	LOS A	0.0	0.0	0.00	0.05	0.00	46.1
31	T1	All MCs	446	6.0	446	6.0	0.254	0.1	LOS A	0.0	0.0	0.00	0.05	0.00	49.2
Approach			494	6.0	494	6.0	0.254	0.5	NA	0.0	0.0	0.00	0.05	0.00	48.8
All Vehicles			976	6.0	976	6.0	0.275	4.3	NA	1.2	9.3	0.21	0.36	0.21	43.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd PM (Site Folder: General)]

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TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	191	6.0	191	6.0	0.101	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
26	R2	All MCs	106	6.0	106	6.0	0.073	5.2	LOS A	0.3	2.6	0.32	0.51	0.32	37.2
Approach			297	6.0	297	6.0	0.101	1.9	NA	0.3	2.6	0.11	0.18	0.11	45.1
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	65	6.0	65	6.0	0.054	8.5	LOS A	0.2	1.7	0.27	0.90	0.27	36.0
29	R2	All MCs	69	6.0	69	6.0	0.125	12.7	LOS B	0.5	3.7	0.55	0.98	0.55	37.6
Approach			134	6.0	134	6.0	0.125	10.7	LOS B	0.5	3.7	0.41	0.94	0.41	37.0
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	46	6.0	46	6.0	0.102	4.6	LOS A	0.0	0.0	0.00	0.13	0.00	45.5
31	T1	All MCs	150	6.0	150	6.0	0.102	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	48.3
Approach			196	6.0	196	6.0	0.102	1.1	NA	0.0	0.0	0.00	0.13	0.00	47.4
All Vehicles			627	6.0	627	6.0	0.125	3.5	NA	0.5	3.7	0.14	0.33	0.14	43.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

TOWN OF CLAREMONT
RECEIVED
10/09/2026

Site: 101 [Shenton Rd/Davies Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

New Site
Site Category: (None)
Signals - Actuated Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	155	6.0	155	6.0	0.156	8.8	LOS A	2.5	19.9	0.53	0.43	0.53	43.6
26b	R3	All MCs	51	6.0	51	6.0	* 0.239	35.4	LOS D	1.6	12.1	0.91	0.74	0.91	29.2
Approach			206	6.0	206	6.0	0.239	15.4	LOS B	2.5	19.9	0.62	0.51	0.62	39.2
North: Davies Rd (N)															
7b	L3	All MCs	51	6.0	51	6.0	0.113	31.6	LOS C	1.2	9.6	0.75	0.72	0.75	35.5
9a	R1	All MCs	384	6.0	384	6.0	* 0.756	34.7	LOS C	11.6	90.5	0.95	0.84	0.95	36.9
Approach			435	6.0	435	6.0	0.756	34.4	LOS C	11.6	90.5	0.92	0.83	0.92	36.7
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	289	6.0	289	6.0	0.517	29.1	LOS C	7.9	61.5	0.86	0.80	0.86	38.3
31	T1	All MCs	439	6.0	439	6.0	* 0.840	27.4	LOS C	13.6	106.1	0.97	0.84	0.98	40.0
Approach			728	6.0	728	6.0	0.840	28.1	LOS C	13.6	106.1	0.93	0.83	0.93	39.3
All Vehicles			1369	6.0	1369	6.0	0.840	28.2	LOS C	13.6	106.1	0.88	0.78	0.88	38.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Davies Rd PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Signals - Actuated Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	246	6.0	246	6.0	0.228	7.6	LOS A	3.9	30.1	0.50	0.43	0.50	44.3
26b	R3	All MCs	79	6.0	79	6.0	* 0.238	30.4	LOS C	2.2	17.1	0.85	0.75	0.85	30.9
Approach			325	6.0	325	6.0	0.238	13.2	LOS B	3.9	30.1	0.59	0.50	0.59	40.4
North: Davies Rd (N)															
7b	L3	All MCs	42	6.0	42	6.0	0.111	30.3	LOS C	1.1	8.4	0.79	0.72	0.79	34.3
9a	R1	All MCs	305	6.0	305	6.0	* 0.693	32.6	LOS C	9.3	72.3	0.94	0.83	0.94	36.2
Approach			347	6.0	347	6.0	0.693	32.3	LOS C	9.3	72.3	0.92	0.81	0.92	36.0
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	346	6.0	346	6.0	* 0.688	29.5	LOS C	10.3	80.3	0.93	0.83	0.93	37.0
31	T1	All MCs	163	6.0	163	6.0	0.315	21.8	LOS C	4.3	33.3	0.82	0.66	0.82	41.7
Approach			509	6.0	509	6.0	0.688	27.0	LOS C	10.3	80.3	0.89	0.78	0.89	38.3
All Vehicles			1181	6.0	1181	6.0	0.693	24.8	LOS C	10.3	80.3	0.82	0.71	0.82	38.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (NE)															
25	T1	All MCs	904	6.0	904	6.0	0.479	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
26	R2	All MCs	185	6.0	185	6.0	0.407	16.0	LOS C	1.8	14.0	0.82	1.00	1.10	43.1
Approach			1089	6.0	1089	6.0	0.479	2.9	NA	1.8	14.0	0.14	0.17	0.19	56.0
North: Dummy leg															
9a	R1	All MCs	58	6.0	58	6.0	0.098	9.0	LOS A	0.3	2.3	0.66	0.81	0.66	49.8
Approach			58	6.0	58	6.0	0.098	9.0	LOS A	0.3	2.3	0.66	0.81	0.66	49.8
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	58	6.0	58	6.0	0.317	29.5	LOS D	1.0	7.5	0.87	1.05	1.03	37.1
Approach			58	6.0	58	6.0	0.317	29.5	LOS D	1.0	7.5	0.87	1.05	1.03	37.1
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	89	6.0	89	6.0	0.477	5.8	LOS A	0.0	0.0	0.00	0.06	0.00	54.7
31	T1	All MCs	848	6.0	848	6.0	0.477	0.2	LOS A	0.0	0.0	0.00	0.06	0.00	59.1
Approach			937	6.0	937	6.0	0.477	0.7	NA	0.0	0.0	0.00	0.06	0.00	58.7
All Vehicles			2142	6.0	2142	6.0	0.479	2.8	NA	1.8	14.0	0.11	0.16	0.14	56.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (NE)															
25	T1	All MCs	1066	6.0	1066	6.0	1.021	77.0	LOS F	82.1	640.0	1.00	0.96	8.57	26.6
26	R2	All MCs	326	6.0	326	6.0	0.850	34.6	LOS D	6.9	53.5	0.96	1.54	2.92	35.6
Approach			1392	6.0	1392	6.0	1.021	67.5	NA	82.1	640.0	0.99	1.10	7.24	28.3
North: Dummy leg															
9a	R1	All MCs	32	6.0	32	6.0	0.076	11.3	LOS B	0.2	1.7	0.75	0.86	0.75	48.2
Approach			32	6.0	32	6.0	0.076	11.3	LOS B	0.2	1.7	0.75	0.86	0.75	48.2
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	32	6.0	32	6.0	0.283	41.6	LOS E	0.8	5.9	0.91	1.04	1.03	33.1
Approach			32	6.0	32	6.0	0.283	41.6	LOS E	0.8	5.9	0.91	1.04	1.03	33.1
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	109	6.0	109	6.0	0.512	5.8	LOS A	0.0	0.0	0.00	0.06	0.00	54.6
31	T1	All MCs	896	6.0	896	6.0	0.512	0.2	LOS A	0.0	0.0	0.00	0.06	0.00	59.0
Approach			1005	6.0	1005	6.0	0.512	0.8	NA	0.0	0.0	0.00	0.06	0.00	58.5
All Vehicles			2461	6.0	2461	6.0	1.021	39.0	NA	82.1	640.0	0.58	0.67	4.12	36.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	129	6.0	129	6.0	0.068	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
26	R2	All MCs	77	6.0	77	6.0	0.084	7.3	LOS A	0.3	2.7	0.55	0.69	0.55	35.8
Approach			206	6.0	206	6.0	0.084	2.7	NA	0.3	2.7	0.21	0.26	0.21	44.2
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	226	6.0	226	6.0	0.297	11.7	LOS B	1.3	10.5	0.58	1.00	0.65	33.6
29	R2	All MCs	64	6.0	64	6.0	0.194	18.5	LOS C	0.7	5.3	0.72	1.02	0.74	34.4
Approach			290	6.0	290	6.0	0.297	13.2	LOS B	1.3	10.5	0.61	1.00	0.67	33.8
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	68	6.0	68	6.0	0.290	4.7	LOS A	0.0	0.0	0.00	0.07	0.00	46.0
31	T1	All MCs	496	6.0	496	6.0	0.290	0.1	LOS A	0.0	0.0	0.00	0.07	0.00	49.0
Approach			564	6.0	564	6.0	0.290	0.6	NA	0.0	0.0	0.00	0.07	0.00	48.5
All Vehicles			1060	6.0	1060	6.0	0.297	4.5	NA	1.3	10.5	0.21	0.36	0.22	43.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	222	6.0	222	6.0	0.117	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
26	R2	All MCs	106	6.0	106	6.0	0.075	5.4	LOS A	0.3	2.6	0.34	0.52	0.34	37.1
Approach			328	6.0	328	6.0	0.117	1.7	NA	0.3	2.6	0.11	0.17	0.11	45.5
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	65	6.0	65	6.0	0.055	8.6	LOS A	0.2	1.7	0.29	0.89	0.29	35.9
29	R2	All MCs	90	6.0	90	6.0	0.178	13.7	LOS B	0.7	5.3	0.59	0.99	0.59	37.1
Approach			155	6.0	155	6.0	0.178	11.6	LOS B	0.7	5.3	0.46	0.95	0.46	36.7
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	54	6.0	54	6.0	0.116	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	45.5
31	T1	All MCs	169	6.0	169	6.0	0.116	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	48.2
Approach			223	6.0	223	6.0	0.116	1.1	NA	0.0	0.0	0.00	0.13	0.00	47.4
All Vehicles			706	6.0	706	6.0	0.178	3.7	NA	0.7	5.3	0.15	0.33	0.15	43.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Davies Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	175	6.0	175	6.0	0.176	8.6	LOS A	2.9	22.7	0.55	0.45	0.55	43.7
26b	R3	All MCs	67	6.0	67	6.0	* 0.314	35.0	LOS C	2.1	16.2	0.94	0.75	0.94	29.3
Approach			242	6.0	242	6.0	0.314	15.9	LOS B	2.9	22.7	0.66	0.54	0.66	38.9
North: Davies Rd (N)															
7b	L3	All MCs	62	6.0	62	6.0	0.138	31.1	LOS C	1.5	11.8	0.78	0.74	0.78	35.7
9a	R1	All MCs	384	6.0	384	6.0	* 0.763	36.5	LOS D	12.5	97.2	0.97	0.91	1.11	36.2
Approach			446	6.0	446	6.0	0.763	35.8	LOS D	12.5	97.2	0.94	0.88	1.06	36.1
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	289	6.0	289	6.0	0.517	29.6	LOS C	7.9	61.5	0.88	0.81	0.88	38.7
31	T1	All MCs	462	6.0	462	6.0	* 0.915	45.7	LOS D	20.0	155.9	1.00	1.23	1.55	32.6
Approach			751	6.0	751	6.0	0.915	39.5	LOS D	20.0	155.9	0.95	1.07	1.29	34.9
All Vehicles			1439	6.0	1439	6.0	0.915	34.4	LOS C	20.0	155.9	0.90	0.92	1.11	35.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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Project: U:\301252508\Buildings\Project Documentation\Transportation Engineering\Transportation Reports\Report\Updated SIDRA \301252138_SIDRA Model (Background 2027+Dev).sip9

MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Davies Rd PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	259	6.0	259	6.0	0.240	7.4	LOS A	4.1	31.9	0.52	0.44	0.52	44.5
26b	R3	All MCs	89	6.0	89	6.0	* 0.268	29.8	LOS C	2.5	19.4	0.87	0.76	0.87	31.1
Approach			348	6.0	348	6.0	0.268	13.1	LOS B	4.1	31.9	0.61	0.52	0.61	40.4
North: Davies Rd (N)															
7b	L3	All MCs	56	6.0	56	6.0	0.148	29.8	LOS C	1.5	11.4	0.82	0.74	0.82	34.5
9a	R1	All MCs	305	6.0	305	6.0	* 0.696	32.7	LOS C	9.6	74.6	0.97	0.87	1.04	36.1
Approach			361	6.0	361	6.0	0.696	32.2	LOS C	9.6	74.6	0.94	0.85	1.01	35.9
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	346	6.0	346	6.0	* 0.688	29.3	LOS C	10.6	82.2	0.95	0.86	1.00	37.1
31	T1	All MCs	190	6.0	190	6.0	0.367	21.4	LOS C	5.1	39.5	0.85	0.70	0.85	41.9
Approach			536	6.0	536	6.0	0.688	26.5	LOS C	10.6	82.2	0.92	0.80	0.95	38.6
All Vehicles			1245	6.0	1245	6.0	0.696	24.4	LOS C	10.6	82.2	0.84	0.74	0.87	38.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (SW)															
25	T1	All MCs	904	6.0	904	6.0	0.479	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.6
26	R2	All MCs	197	6.0	197	6.0	0.434	16.4	LOS C	2.0	15.3	0.83	1.02	1.15	42.9
Approach			1101	6.0	1101	6.0	0.479	3.1	NA	2.0	15.3	0.15	0.18	0.21	55.7
North: Dummy leg															
9a	R1	All MCs	58	6.0	58	6.0	0.098	9.0	LOS A	0.3	2.3	0.66	0.81	0.66	49.8
Approach			58	6.0	58	6.0	0.098	9.0	LOS A	0.3	2.3	0.66	0.81	0.66	49.8
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	58	6.0	58	6.0	0.325	30.2	LOS D	1.0	7.7	0.87	1.05	1.04	36.9
Approach			58	6.0	58	6.0	0.325	30.2	LOS D	1.0	7.7	0.87	1.05	1.04	36.9
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	89	6.0	89	6.0	0.477	5.8	LOS A	0.0	0.0	0.00	0.06	0.00	54.7
31	T1	All MCs	848	6.0	848	6.0	0.477	0.2	LOS A	0.0	0.0	0.00	0.06	0.00	59.1
Approach			937	6.0	937	6.0	0.477	0.7	NA	0.0	0.0	0.00	0.06	0.00	58.7
All Vehicles			2154	6.0	2154	6.0	0.479	2.9	NA	2.0	15.3	0.12	0.17	0.15	56.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (SW)															
25	T1	All MCs	1066	6.0	1066	6.0	1.058	157.1	LOS F	137.2	1069.2	1.00	0.97	14.39	16.8
26	R2	All MCs	362	6.0	362	6.0	0.944	55.3	LOS F	12.5	97.5	0.98	2.12	4.98	29.7
Approach			1428	6.0	1428	6.0	1.058	131.8	NA	137.2	1069.2	1.00	1.26	12.00	18.9
North: Dummy leg															
9a	R1	All MCs	32	6.0	32	6.0	0.076	11.3	LOS B	0.2	1.7	0.75	0.86	0.75	48.2
Approach			32	6.0	32	6.0	0.076	11.3	LOS B	0.2	1.7	0.75	0.86	0.75	48.2
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	32	6.0	32	6.0	0.308	45.2	LOS E	0.8	6.3	0.92	1.04	1.05	32.1
Approach			32	6.0	32	6.0	0.308	45.2	LOS E	0.8	6.3	0.92	1.04	1.05	32.1
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	109	6.0	109	6.0	0.512	5.8	LOS A	0.0	0.0	0.00	0.06	0.00	54.6
31	T1	All MCs	896	6.0	896	6.0	0.512	0.2	LOS A	0.0	0.0	0.00	0.06	0.00	59.0
Approach			1005	6.0	1005	6.0	0.512	0.8	NA	0.0	0.0	0.00	0.06	0.00	58.5
All Vehicles			2497	6.0	2497	6.0	1.058	76.2	NA	137.2	1069.2	0.59	0.77	6.89	26.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Site Access AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	206	6.0	206	6.0	0.121	0.0	LOS A	0.1	1.1	0.08	0.10	0.08	49.6
26	R2	All MCs	13	0.0	13	0.0	0.121	10.7	LOS B	0.1	1.1	0.08	0.10	0.08	48.1
Approach			219	5.6	219	5.6	0.121	0.6	NA	0.1	1.1	0.08	0.10	0.08	49.5
NorthWest: Site Access (NW)															
27	L2	All MCs	61	0.0	61	0.0	0.105	6.6	LOS A	0.4	2.8	0.51	0.72	0.51	44.5
29	R2	All MCs	26	0.0	26	0.0	0.105	8.7	LOS A	0.4	2.8	0.51	0.72	0.51	44.3
Approach			87	0.0	87	0.0	0.105	7.2	LOS A	0.4	2.8	0.51	0.72	0.51	44.4
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	30	0.0	30	0.0	0.274	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	48.5
31	T1	All MCs	490	6.0	490	6.0	0.274	0.1	LOS A	0.0	0.0	0.00	0.03	0.00	49.7
Approach			520	5.7	520	5.7	0.274	0.4	NA	0.0	0.0	0.00	0.03	0.00	49.6
All Vehicles			826	5.1	826	5.1	0.274	1.2	NA	0.4	2.8	0.08	0.12	0.08	49.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Site Access PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	325	6.0	325	6.0	0.204	0.0	LOS A	0.4	2.9	0.11	0.13	0.11	49.3
26	R2	All MCs	47	0.0	47	0.0	0.204	6.7	LOS A	0.4	2.9	0.11	0.13	0.11	47.9
Approach			372	5.2	372	5.2	0.204	0.8	NA	0.4	2.9	0.11	0.13	0.11	49.1
NorthWest: Site Access (NW)															
27	L2	All MCs	25	0.0	25	0.0	0.069	5.2	LOS A	0.2	1.7	0.41	0.61	0.41	44.8
29	R2	All MCs	36	0.0	36	0.0	0.069	7.5	LOS A	0.2	1.7	0.41	0.61	0.41	44.7
Approach			61	0.0	61	0.0	0.069	6.6	LOS A	0.2	1.7	0.41	0.61	0.41	44.7
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	33	0.0	33	0.0	0.126	4.6	LOS A	0.0	0.0	0.00	0.08	0.00	48.3
31	T1	All MCs	205	6.0	205	6.0	0.126	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	49.5
Approach			238	5.2	238	5.2	0.126	0.7	NA	0.0	0.0	0.00	0.08	0.00	49.3
All Vehicles			671	4.7	671	4.7	0.204	1.3	NA	0.4	2.9	0.10	0.15	0.10	48.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	154	6.0	154	6.0	0.081	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
26	R2	All MCs	99	6.0	99	6.0	0.121	8.0	LOS A	0.5	3.8	0.59	0.75	0.59	35.1
Approach			253	6.0	253	6.0	0.121	3.1	NA	0.5	3.8	0.23	0.29	0.23	43.6
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	290	6.0	290	6.0	0.430	13.8	LOS B	2.3	18.2	0.66	1.11	0.92	31.9
29	R2	All MCs	75	6.0	75	6.0	0.291	23.7	LOS C	1.1	8.4	0.80	1.05	0.95	31.9
Approach			365	6.0	365	6.0	0.430	15.8	LOS C	2.3	18.2	0.69	1.10	0.92	31.9
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	62	6.0	62	6.0	0.326	4.7	LOS A	0.0	0.0	0.00	0.05	0.00	46.1
31	T1	All MCs	572	6.0	572	6.0	0.326	0.1	LOS A	0.0	0.0	0.00	0.05	0.00	49.1
Approach			634	6.0	634	6.0	0.326	0.5	NA	0.0	0.0	0.00	0.05	0.00	48.7
All Vehicles			1252	6.0	1252	6.0	0.430	5.5	NA	2.3	18.2	0.25	0.41	0.32	41.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	246	6.0	246	6.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
26	R2	All MCs	136	6.0	136	6.0	0.100	5.5	LOS A	0.5	3.5	0.37	0.54	0.37	36.9
Approach			382	6.0	382	6.0	0.130	2.0	NA	0.5	3.5	0.13	0.19	0.13	45.0
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	84	6.0	84	6.0	0.074	8.8	LOS A	0.3	2.3	0.31	0.90	0.31	35.9
29	R2	All MCs	89	6.0	89	6.0	0.200	15.0	LOS C	0.7	5.8	0.62	1.01	0.62	36.3
Approach			173	6.0	173	6.0	0.200	12.0	LOS B	0.7	5.8	0.47	0.96	0.47	36.1
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	59	6.0	59	6.0	0.130	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	45.5
31	T1	All MCs	192	6.0	192	6.0	0.130	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	48.3
Approach			251	6.0	251	6.0	0.130	1.1	NA	0.0	0.0	0.00	0.13	0.00	47.4
All Vehicles			806	6.0	806	6.0	0.200	3.8	NA	0.7	5.8	0.16	0.34	0.16	43.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Davies Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Signals - Actuated Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	199	6.0	199	6.0	0.200	9.1	LOS A	3.4	26.2	0.54	0.45	0.54	43.4
26b	R3	All MCs	66	6.0	66	6.0	* 0.309	35.8	LOS D	2.0	15.9	0.92	0.75	0.92	29.0
Approach			265	6.0	265	6.0	0.309	15.7	LOS B	3.4	26.2	0.63	0.53	0.63	39.0
North: Davies Rd (N)															
7b	L3	All MCs	66	6.0	66	6.0	0.147	37.3	LOS D	1.6	12.6	0.76	0.74	0.76	35.4
9a	R1	All MCs	492	6.0	492	6.0	* 1.001	75.2	LOS E	25.7	200.3	1.00	1.22	1.70	26.4
Approach			558	6.0	558	6.0	1.001	70.7	LOS E	25.7	200.3	0.97	1.16	1.59	27.1
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	371	6.0	371	6.0	0.664	36.3	LOS D	10.7	83.5	0.91	0.83	0.91	37.8
31	T1	All MCs	563	6.0	563	6.0	* 1.164	334.1	LOS F	82.3	641.7	1.00	3.31	4.94	7.9
Approach			934	6.0	934	6.0	1.164	215.8	LOS F	82.3	641.7	0.96	2.32	3.34	11.9
All Vehicles			1757	6.0	1757	6.0	1.164	139.5	LOS F	82.3	641.7	0.92	1.68	2.38	16.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Davies Rd PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Signals - Actuated Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	315	6.0	315	6.0	0.292	8.0	LOS A	5.2	40.3	0.53	0.45	0.53	44.1
26b	R3	All MCs	101	6.0	101	6.0	* 0.304	30.9	LOS C	2.9	22.3	0.86	0.76	0.86	30.7
Approach			416	6.0	416	6.0	0.304	13.5	LOS B	5.2	40.3	0.61	0.53	0.61	40.2
North: Davies Rd (N)															
7b	L3	All MCs	54	6.0	54	6.0	0.142	36.6	LOS D	1.4	11.0	0.80	0.73	0.80	34.2
9a	R1	All MCs	391	6.0	391	6.0	* 0.925	44.1	LOS D	13.9	108.0	1.00	0.93	1.14	34.1
Approach			445	6.0	445	6.0	0.925	43.2	LOS D	13.9	108.0	0.98	0.90	1.09	34.1
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	444	6.0	444	6.0	* 0.964	46.6	LOS D	17.9	139.9	1.00	1.03	1.32	32.3
31	T1	All MCs	209	6.0	209	6.0	0.404	26.7	LOS C	5.6	44.0	0.84	0.69	0.84	41.3
Approach			653	6.0	653	6.0	0.964	40.2	LOS D	17.9	139.9	0.95	0.92	1.16	34.6
All Vehicles			1514	6.0	1514	6.0	0.964	33.8	LOS C	17.9	139.9	0.86	0.81	0.99	35.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (NE)															
25	T1	All MCs	1160	6.0	1160	6.0	1.254	506.5	LOS F	352.4	2746.3	1.00	0.99	23.38	6.5
26	R2	All MCs	238	6.0	238	6.0	1.143	317.4	LOS F	43.0	335.0	1.00	4.53	14.65	9.6
Approach			1398	6.0	1398	6.0	1.254	476.6	NA	352.4	2746.3	1.00	1.59	21.89	6.9
North: Dummy leg															
9a	R1	All MCs	74	6.0	74	6.0	0.221	14.6	LOS B	0.6	5.0	0.82	0.92	0.90	46.3
Approach			74	6.0	74	6.0	0.221	14.6	LOS B	0.6	5.0	0.82	0.92	0.90	46.3
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	74	6.0	74	6.0	1.073	284.2	LOS F	10.5	82.2	1.00	2.23	5.57	10.4
Approach			74	6.0	74	6.0	1.073	284.2	LOS F	10.5	82.2	1.00	2.23	5.57	10.4
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	115	6.0	115	6.0	0.612	5.9	LOS A	0.0	0.0	0.00	0.06	0.00	54.5
31	T1	All MCs	1088	6.0	1088	6.0	0.612	0.3	LOS A	0.0	0.0	0.00	0.06	0.00	58.9
Approach			1203	6.0	1203	6.0	0.612	0.9	NA	0.0	0.0	0.00	0.06	0.00	58.4
All Vehicles			2749	6.0	2749	6.0	1.254	249.7	NA	352.4	2746.3	0.56	0.92	11.31	11.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (NE)															
25	T1	All MCs	1368	6.0	1368	6.0	2.232	2254.3	LOS F	960.2	7483.5	1.00	1.00	43.74	1.6
26	R2	All MCs	418	6.0	418	6.0	2.839	3352.5	LOS F	339.5	2646.3	1.00	13.40	50.65	1.1
Approach			1786	6.0	1786	6.0	2.839	2516.4	NA	960.2	7483.5	1.00	3.90	45.36	1.4
North: Dummy leg															
9a	R1	All MCs	40	6.0	40	6.0	0.241	25.6	LOS D	0.6	4.7	0.91	0.97	0.99	40.6
Approach			40	6.0	40	6.0	0.241	25.6	LOS D	0.6	4.7	0.91	0.97	0.99	40.6
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	40	6.0	40	6.0	1.386	833.9	LOS F	15.9	124.2	1.00	2.67	7.51	4.1
Approach			40	6.0	40	6.0	1.386	833.9	LOS F	15.9	124.2	1.00	2.67	7.51	4.1
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	140	6.0	140	6.0	0.657	6.0	LOS A	0.0	0.0	0.00	0.06	0.00	54.4
31	T1	All MCs	1150	6.0	1150	6.0	0.657	0.4	LOS A	0.0	0.0	0.00	0.06	0.00	58.7
Approach			1290	6.0	1290	6.0	0.657	1.0	NA	0.0	0.0	0.00	0.06	0.00	58.2
All Vehicles			3156	6.0	3156	6.0	2.839	1432.5	NA	960.2	7483.5	0.59	2.28	25.78	2.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	163	6.0	163	6.0	0.086	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
26	R2	All MCs	99	6.0	99	6.0	0.136	8.7	LOS A	0.5	4.1	0.62	0.80	0.62	34.4
Approach			262	6.0	262	6.0	0.136	3.3	NA	0.5	4.1	0.23	0.30	0.23	43.5
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	290	6.0	290	6.0	0.469	14.9	LOS B	2.6	20.1	0.70	1.14	1.03	31.0
29	R2	All MCs	81	6.0	81	6.0	0.369	28.2	LOS D	1.4	10.8	0.85	1.08	1.08	29.9
Approach			371	6.0	371	6.0	0.469	17.8	LOS C	2.6	20.1	0.73	1.13	1.04	30.7
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	82	6.0	82	6.0	0.362	4.7	LOS A	0.0	0.0	0.00	0.06	0.00	46.0
31	T1	All MCs	622	6.0	622	6.0	0.362	0.1	LOS A	0.0	0.0	0.00	0.06	0.00	49.0
Approach			704	6.0	704	6.0	0.362	0.6	NA	0.0	0.0	0.00	0.06	0.00	48.5
All Vehicles			1337	6.0	1337	6.0	0.469	5.9	NA	2.6	20.1	0.25	0.40	0.34	41.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Graylands Rd PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	276	6.0	276	6.0	0.146	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	49.9
26	R2	All MCs	136	6.0	136	6.0	0.103	5.6	LOS A	0.5	3.6	0.39	0.56	0.39	36.8
Approach			412	6.0	412	6.0	0.146	1.9	NA	0.5	3.6	0.13	0.18	0.13	45.3
NorthWest: Graylands Rd (NW)															
27	L2	All MCs	84	6.0	84	6.0	0.075	8.9	LOS A	0.3	2.3	0.33	0.90	0.33	35.8
29	R2	All MCs	110	6.0	110	6.0	0.271	16.9	LOS C	1.1	8.6	0.68	1.05	0.77	35.3
Approach			194	6.0	194	6.0	0.271	13.4	LOS B	1.1	8.6	0.53	0.98	0.58	35.4
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	67	6.0	67	6.0	0.144	4.7	LOS A	0.0	0.0	0.00	0.13	0.00	45.5
31	T1	All MCs	211	6.0	211	6.0	0.144	0.0	LOS A	0.0	0.0	0.00	0.13	0.00	48.2
Approach			278	6.0	278	6.0	0.144	1.1	NA	0.0	0.0	0.00	0.13	0.00	47.4
All Vehicles			884	6.0	884	6.0	0.271	4.2	NA	1.1	8.6	0.18	0.34	0.19	43.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Davies Rd AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
RECEIVED
10/09/2026

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	219	6.0	219	6.0	0.220	8.9	LOS A	3.7	29.2	0.56	0.47	0.56	43.5
26b	R3	All MCs	81	6.0	81	6.0	* 0.380	35.3	LOS D	2.5	19.8	0.95	0.76	0.95	29.2
Approach			300	6.0	300	6.0	0.380	16.0	LOS B	3.7	29.2	0.67	0.55	0.67	38.8
North: Davies Rd (N)															
7b	L3	All MCs	76	6.0	76	6.0	0.169	36.8	LOS D	1.9	14.6	0.78	0.75	0.78	35.6
9a	R1	All MCs	492	6.0	492	6.0	* 1.010	113.8	LOS F	34.4	268.4	1.00	1.58	2.47	20.1
Approach			568	6.0	568	6.0	1.010	103.5	LOS F	34.4	268.4	0.97	1.47	2.25	21.1
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	371	6.0	371	6.0	0.664	36.5	LOS D	10.8	84.4	0.93	0.84	0.95	38.0
31	T1	All MCs	586	6.0	586	6.0	* 1.206	418.5	LOS F	101.7	792.7	1.00	3.93	5.94	6.5
Approach			957	6.0	957	6.0	1.206	270.4	LOS F	101.7	792.7	0.97	2.73	4.00	9.8
All Vehicles			1825	6.0	1825	6.0	1.206	176.7	LOS F	101.7	792.7	0.92	1.98	2.91	13.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Davies Rd PM (Site Folder: General)]

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TOWN OF CLAREMONT
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New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 66 seconds (Site User-Given Phase Times)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	329	6.0	329	6.0	0.304	7.7	LOS A	5.4	42.4	0.55	0.47	0.55	44.3
26b	R3	All MCs	111	6.0	111	6.0	* 0.335	30.3	LOS C	3.2	24.7	0.89	0.77	0.89	30.9
Approach			440	6.0	440	6.0	0.335	13.4	LOS B	5.4	42.4	0.63	0.55	0.63	40.3
North: Davies Rd (N)															
7b	L3	All MCs	68	6.0	68	6.0	0.179	36.2	LOS D	1.8	14.0	0.83	0.75	0.83	34.4
9a	R1	All MCs	391	6.0	391	6.0	* 0.937	61.3	LOS E	18.1	140.8	1.00	1.22	1.74	28.9
Approach			459	6.0	459	6.0	0.937	57.6	LOS E	18.1	140.8	0.97	1.15	1.61	29.5
SouthWest: Shenton Rd (SW)															
30a	L1	All MCs	444	6.0	444	6.0	* 0.976	76.8	LOS E	25.1	195.7	1.00	1.38	2.06	24.9
31	T1	All MCs	236	6.0	236	6.0	0.456	26.3	LOS C	6.5	50.5	0.88	0.73	0.88	41.6
Approach			680	6.0	680	6.0	0.976	59.3	LOS E	25.1	195.7	0.96	1.16	1.65	28.6
All Vehicles			1579	6.0	1579	6.0	0.976	46.0	LOS D	25.1	195.7	0.87	0.98	1.36	31.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

TOWN OF CLAREMONT
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10/09/2026

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (SW)															
25	T1	All MCs	1160	6.0	1160	6.0	1.281	553.7	LOS F	372.2	2900.8	1.00	0.99	24.76	6.0
26	R2	All MCs	249	6.0	249	6.0	1.196	405.1	LOS F	56.0	436.5	1.00	5.39	17.95	7.8
Approach			1409	6.0	1409	6.0	1.281	529.7	NA	372.2	2900.8	1.00	1.77	23.56	6.2
North: Dummy leg															
9a	R1	All MCs	74	6.0	74	6.0	0.221	14.7	LOS B	0.6	5.0	0.82	0.93	0.90	46.0
Approach			74	6.0	74	6.0	0.221	14.7	LOS B	0.6	5.0	0.82	0.93	0.90	46.0
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	74	6.0	74	6.0	1.104	329.4	LOS F	12.6	97.9	1.00	2.43	6.31	9.2
Approach			74	6.0	74	6.0	1.104	329.4	LOS F	12.6	97.9	1.00	2.43	6.31	9.2
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	115	6.0	115	6.0	0.612	5.9	LOS A	0.0	0.0	0.00	0.06	0.00	54.5
31	T1	All MCs	1088	6.0	1088	6.0	0.612	0.3	LOS A	0.0	0.0	0.00	0.06	0.00	58.9
Approach			1203	6.0	1203	6.0	0.612	0.9	NA	0.0	0.0	0.00	0.06	0.00	58.4
All Vehicles			2760	6.0	2760	6.0	1.281	278.9	NA	372.2	2900.8	0.56	1.02	12.22	10.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Gugeri St PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

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New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Gugeri Rd (SW)															
25	T1	All MCs	1368	6.0	1368	6.0	2.336	2441.5	LOS F	992.1	7732.7	1.00	1.00	45.21	1.5
26	R2	All MCs	454	6.0	454	6.0	3.083	3792.4	LOS F	384.2	2994.8	1.00	13.93	52.78	1.0
Approach			1822	6.0	1822	6.0	3.083	2783.2	NA	992.1	7732.7	1.00	4.22	47.09	1.3
North: Dummy leg															
9a	R1	All MCs	40	6.0	40	6.0	0.241	25.7	LOS D	0.6	4.7	0.91	0.97	0.99	40.4
Approach			40	6.0	40	6.0	0.241	25.7	LOS D	0.6	4.7	0.91	0.97	0.99	40.4
NorthWest: Shenton Rd (NW)															
29	R2	All MCs	40	6.0	40	6.0	1.514	1060.6	LOS F	18.9	147.5	1.00	2.83	8.17	3.2
Approach			40	6.0	40	6.0	1.514	1060.6	LOS F	18.9	147.5	1.00	2.83	8.17	3.2
SouthWest: Gugeri Rd (SW)															
30	L2	All MCs	140	6.0	140	6.0	0.657	6.0	LOS A	0.0	0.0	0.00	0.06	0.00	54.4
31	T1	All MCs	1150	6.0	1150	6.0	0.657	0.4	LOS A	0.0	0.0	0.00	0.06	0.00	58.7
Approach			1290	6.0	1290	6.0	0.657	1.0	NA	0.0	0.0	0.00	0.06	0.00	58.2
All Vehicles			3192	6.0	3192	6.0	3.083	1599.8	NA	992.1	7732.7	0.59	2.48	27.00	2.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Site Access AM (Site Folder: General)]

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New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	265	6.0	265	6.0	0.155	0.0	LOS A	0.2	1.4	0.08	0.10	0.08	49.5
26	R2	All MCs	13	0.0	13	0.0	0.155	14.4	LOS B	0.2	1.4	0.08	0.10	0.08	48.1
Approach			278	5.7	278	5.7	0.155	0.7	NA	0.2	1.4	0.08	0.10	0.08	49.5
NorthWest: Site Access (NW)															
27	L2	All MCs	61	0.0	61	0.0	0.133	7.6	LOS A	0.5	3.4	0.59	0.81	0.59	43.7
29	R2	All MCs	26	0.0	26	0.0	0.133	11.1	LOS B	0.5	3.4	0.59	0.81	0.59	43.6
Approach			87	0.0	87	0.0	0.133	8.7	LOS A	0.5	3.4	0.59	0.81	0.59	43.7
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	30	0.0	30	0.0	0.348	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	48.5
31	T1	All MCs	629	6.0	629	6.0	0.348	0.1	LOS A	0.0	0.0	0.00	0.02	0.00	49.7
Approach			659	5.7	659	5.7	0.348	0.3	NA	0.0	0.0	0.00	0.02	0.00	49.6
All Vehicles			1024	5.2	1024	5.2	0.348	1.1	NA	0.5	3.4	0.07	0.11	0.07	49.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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MOVEMENT SUMMARY

Site: 101 [Shenton Rd/Site Access PM (Site Folder: General)]

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New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
NorthEast: Shenton Rd (NE)															
25	T1	All MCs	417	6.0	417	6.0	0.257	0.0	LOS A	0.4	3.4	0.11	0.13	0.11	49.4
26	R2	All MCs	47	6.0	47	6.0	0.257	8.0	LOS A	0.4	3.4	0.11	0.13	0.11	47.6
Approach			464	6.0	464	6.0	0.257	0.8	NA	0.4	3.4	0.11	0.13	0.11	49.2
NorthWest: Site Access (NW)															
27	L2	All MCs	25	6.0	25	6.0	0.087	5.6	LOS A	0.3	2.2	0.49	0.67	0.49	43.9
29	R2	All MCs	36	6.0	36	6.0	0.087	9.4	LOS A	0.3	2.2	0.49	0.67	0.49	43.7
Approach			61	6.0	61	6.0	0.087	7.8	LOS A	0.3	2.2	0.49	0.67	0.49	43.8
SouthWest: Shenton Rd (SW)															
30	L2	All MCs	33	6.0	33	6.0	0.157	4.7	LOS A	0.0	0.0	0.00	0.06	0.00	48.1
31	T1	All MCs	263	6.0	263	6.0	0.157	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.6
Approach			296	6.0	296	6.0	0.157	0.6	NA	0.0	0.0	0.00	0.06	0.00	49.4
All Vehicles			821	6.0	821	6.0	0.257	1.2	NA	0.4	3.4	0.10	0.14	0.10	48.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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With every community, we redefine what's possible.

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Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

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00 | Claremont Terraces

landscape concept

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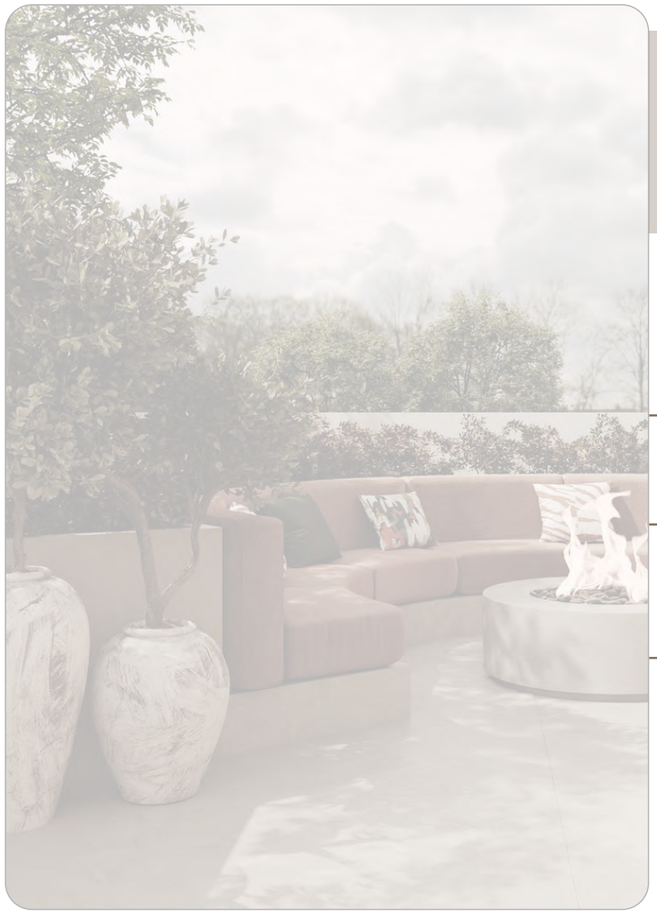

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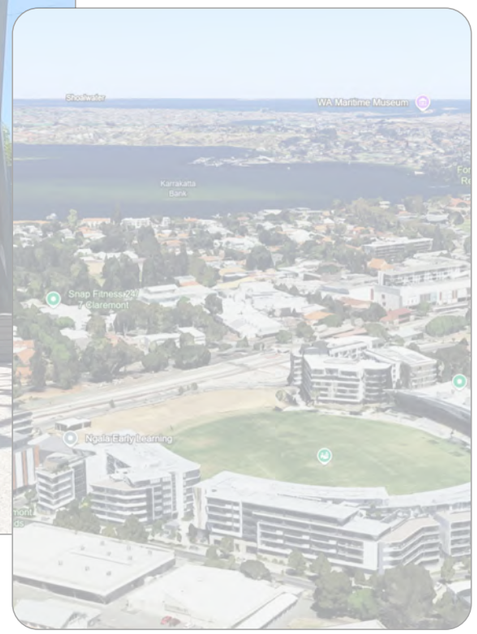
01 | CONTEXT & SITE ANALYSIS



01 CONTEXT AND SITE ANALYSIS

SITE CONTEXT

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Claremont terraces stage 2 is located within the City of Claremont, in the suburb of Claremont.

The site sits within a rapidly developing residential area surrounding the Revo Fitness Stadium Oval, situated north of the train line and near Claremont Train Station. Existing residential developments have already been constructed around the oval, with Claremont Terraces Stage 1 currently under construction immediately to the west of Stage 2.

A range of key public amenities are within walking distance, including Lake Claremont, Claremont Quarter, Claremont Train Station, and the Claremont Showgrounds. Both the Revo Fitness Stadium Oval and Showgrounds host occasional events throughout the year.

In addition to residential apartments, the area around the oval features the Revo Fitness Gym, IGA supermarket, cafés, and several other local organisations and businesses. Across Davies Road, opposite the oval, lies the Claremont Aquatic Centre, which includes the Claremont Pool.

The site is conveniently located within easily accessible commuting distance to the coast, Swan River, and CBD.

CLAREMONT TERRACES STAGE 2

PREPARED FOR HILLAM ARCHITECTS

LANDSCAPE CONCEPT
SEPTEMBER 2026

JOB NO. 2514601 C1.104 REV F

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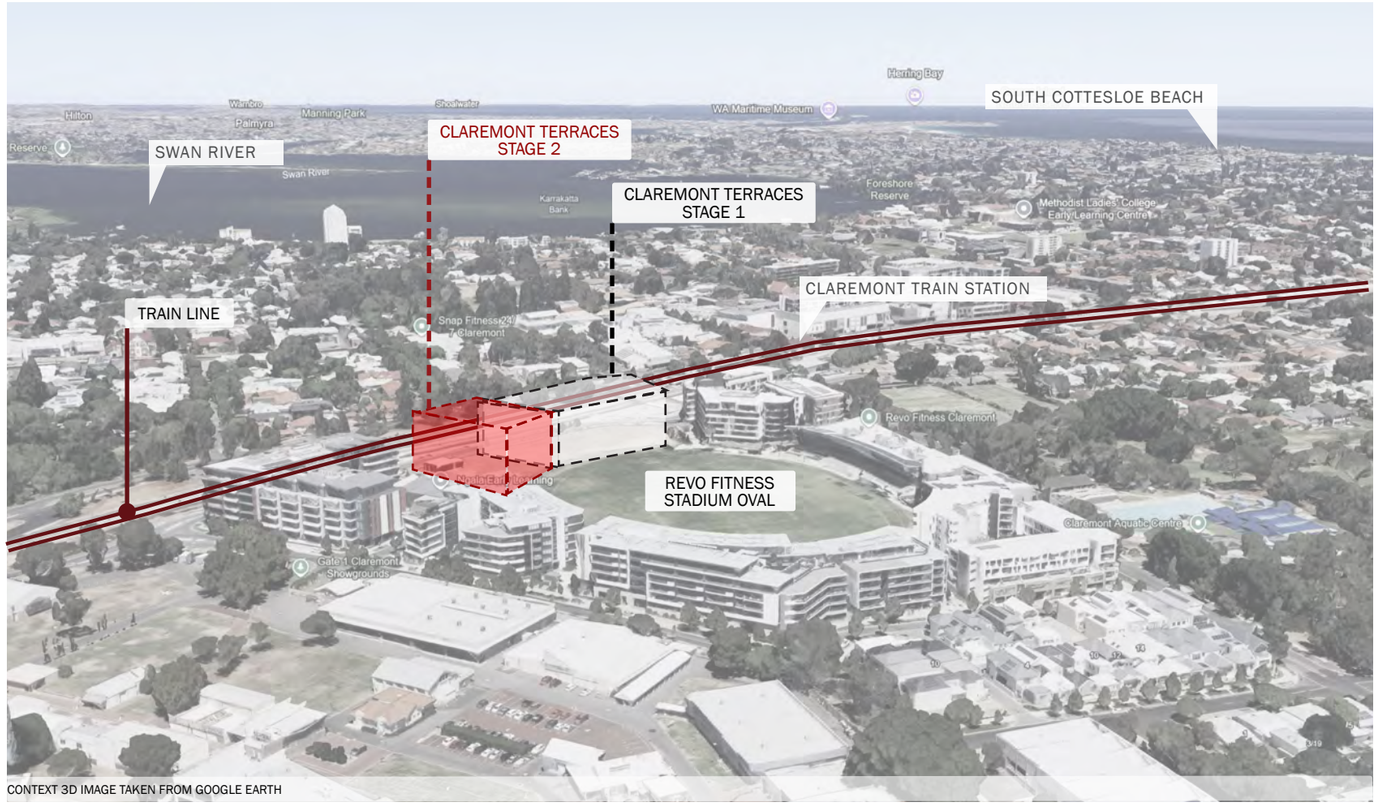
01 CONTEXT AND SITE ANALYSIS

SITE CONTEXT



CONTEXT 3D IMAGE TAKEN FROM GOOGLE EARTH

PHOTO TAKEN FROM OVAL TOWARDS CLAREMONT TERRACES STAGE 1 AND 2 (SOUTH-EAST DIRECTION)

PHOTO TAKEN AT PATH ACCESS INTO OVAL, WEST OF CLAREMONT TERRACES STAGE 1

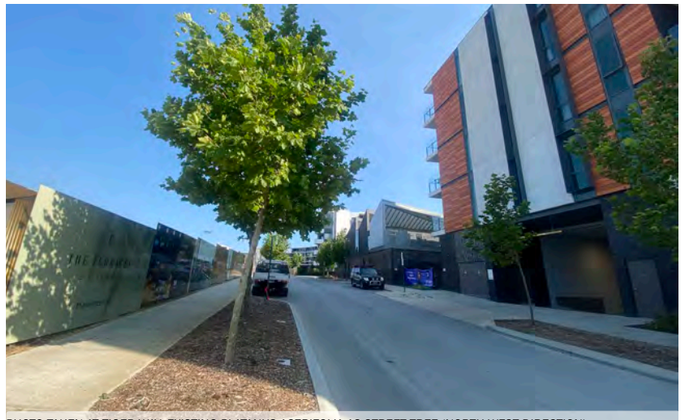


PHOTO TAKEN AT TIGER WAY, EXISTING PLATANUS ACERIFOLIA AS STREET TREE (NORTH-WEST DIRECTION)

PHOTO TAKEN AT SHENTON ROAD (NORTH-EAST DIRECTION)

PHOTO TAKEN AT SHENTON ROAD, WITH IGA IN FRONT (NORTH-EAST DIRECTION)

CLAREMONT TERRACES STAGE 2

PREPARED FOR HILLAM ARCHITECTS

LANDSCAPE CONCEPT
SEPTEMBER 2026

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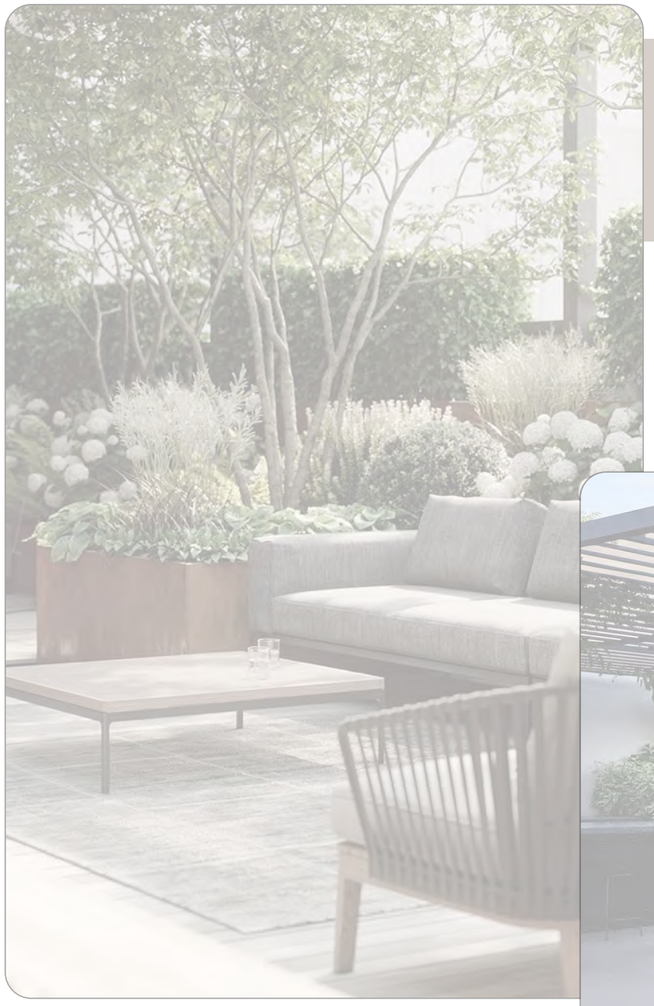

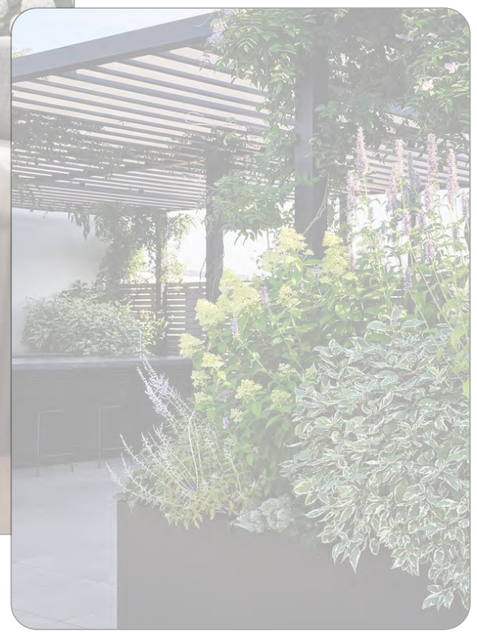

02-03 | IMAGERY & LANDSCAPE CONCEPT

02 IMAGERY BOARD
CONCEPT DESIGN

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03 LANDSCAPE CONCEPT
BASEMENT LEVEL

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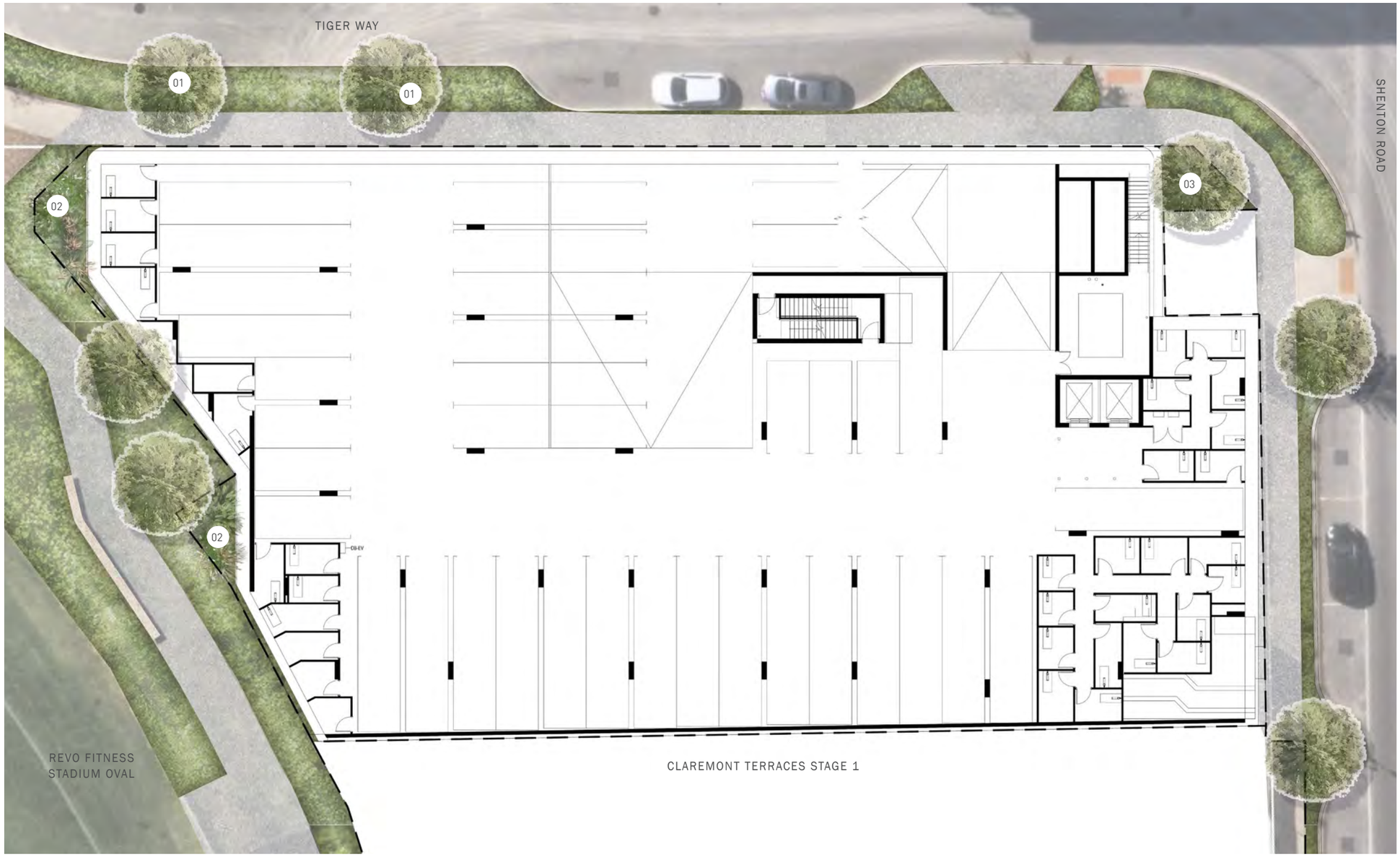

LEGEND

01 PROPOSED RELOCATION OF EXISTING TREES

02 DYNAMIC FEATURE PLANTING TO BUILDING THAT TIES IN WITH SURROUNDING PLANTING

03 DYNAMIC FEATURE PLANTING AND TREE TO SCREEN EXISTING TRANSFORMER FROM THE CORNER OF THE BUILDING

CLAREMONT TERRACES STAGE 2

PREPARED FOR HILLAM ARCHITECTS

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03 LANDSCAPE CONCEPT
GROUND FLOOR

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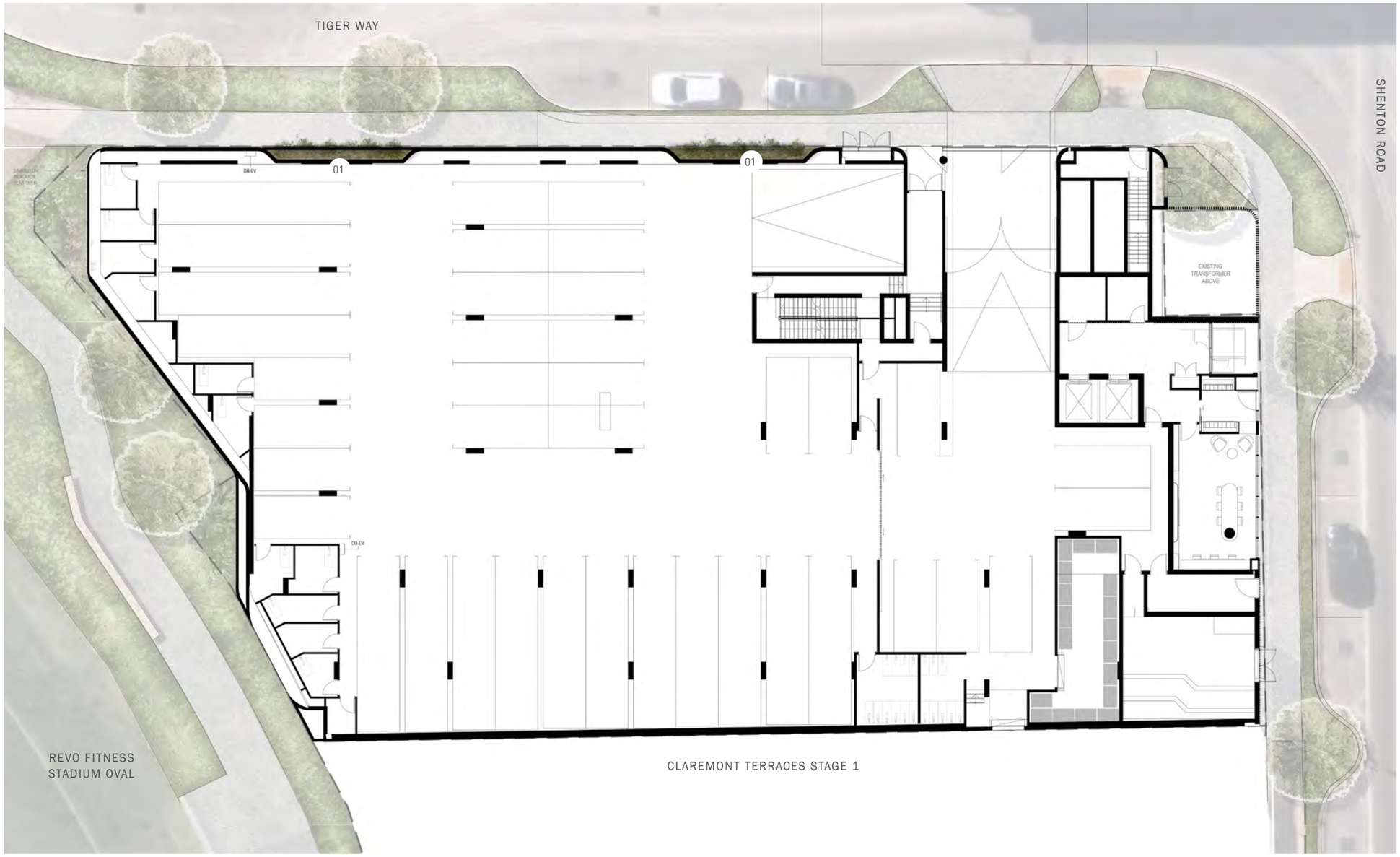

LEGEND

01 DYNAMIC FEATURE PLANTING TO BUILDING THAT TIES IN WITH SURROUNDING PLANTING

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03 LANDSCAPE CONCEPT
LEVEL 1

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LEGEND

01 STAIRS TO PROVIDE CONNECTION AND ACCESS TO STAGE 1 BUILDING LEVEL 1 COURTYARD

02 FEATURE PAVEMENT BANDING STRIP

03 PROPOSED FEATURE UNIT PAVING

04 PROPOSED TIMBER LOOK TILE TO FOCAL SEATING ZONE & DINING AREA

05 FIRE PIT SURROUNDED BY PROPOSED BUILT-IN TIMBER BENCH SEAT NESTLED INTO GARDEN BED

06 PROPOSED BUILT-IN TIMBER BENCH SEATS NESTLED INTO HERBAL GARDEN BED WITH FRUIT TREE

07 HERBAL GARDEN BED PLANTERS

08 RAISED STEEL PLANTERS WITH SHADE TOLERANT PLANT SPECIES SUITED TO LOW LIGHT CONDITIONS

09 COMMUNAL DINING AREA WITH FLEXIBLE SEATING, BUILT-IN TIMBER SEATS INTO GARDEN BEDS, BBQ AND PERGOLA

10 CLIMBERS TO PROVIDE SHADE PROTECTION AND SCREENING

LOCATION PLAN, NTS

CLAREMONT TERRACES STAGE 2

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LEVEL 2

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01 PROPOSED FEATURE PLANTING WITH CREEPERS HANGING FROM LEVEL 2 TERRACE

DETAIL 1: CREEPERS HANGING DOWN OVER LOBBY ENTRANCE FROM LEVEL 2.

CLAREMONT TERRACES STAGE 2

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ROOF TOP LEVEL

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LEGEND

01 FEATURE PAVEMENT BANDING STRIP

02 PROPOSED FEATURE UNIT PAVING

03 PROPOSED TIMBER LOOK TILE TO DEFINE DINING/BAR & LOUNGE AREAS - AS WELL AS YOGA DECK & ENTRY HALLWAY

04 BAR TABLE WITH BAR STOOLS LOOKING OUT TO THE REVO FITNESS OVAL

05 COMMUNAL DINING AREA WITH BBQ OVERLOOKING THE CITY & SWAN RIVER

06 FIRE PIT SURROUNDED BY FLEXIBLE LOUNGE FURNITURE OR BUILT-IN TIMBER SEATS INTO GARDEN BED

07 PROPOSED BUILT-IN TIMBER BENCH SEATS NESTLED INTO GARDEN BED

08 COMMUNAL DINING AREA WITH FLEXIBLE SEATING, BUILT-IN TIMBER SEATS INTO GARDEN BED, BBQ, SHELVES/DROP-OFF SHELF & PERGOLA OVER HEAD

09 HERBAL GARDEN BED PLANTER

10 POTS TO SOFTEN & DEFINE EDGES

11 PRIVATE ROOF TOP AREA WITH BBQ, ROOF PAVILION, SHELVES/DROP-OFF SHELF & FLEXIBLE SEATING OPTIONS

12 YOGA DECK & PAVILION

13 CLIMBERS GROWING UP ALONG THE FACADE

CLAREMONT TERRACES STAGE 2

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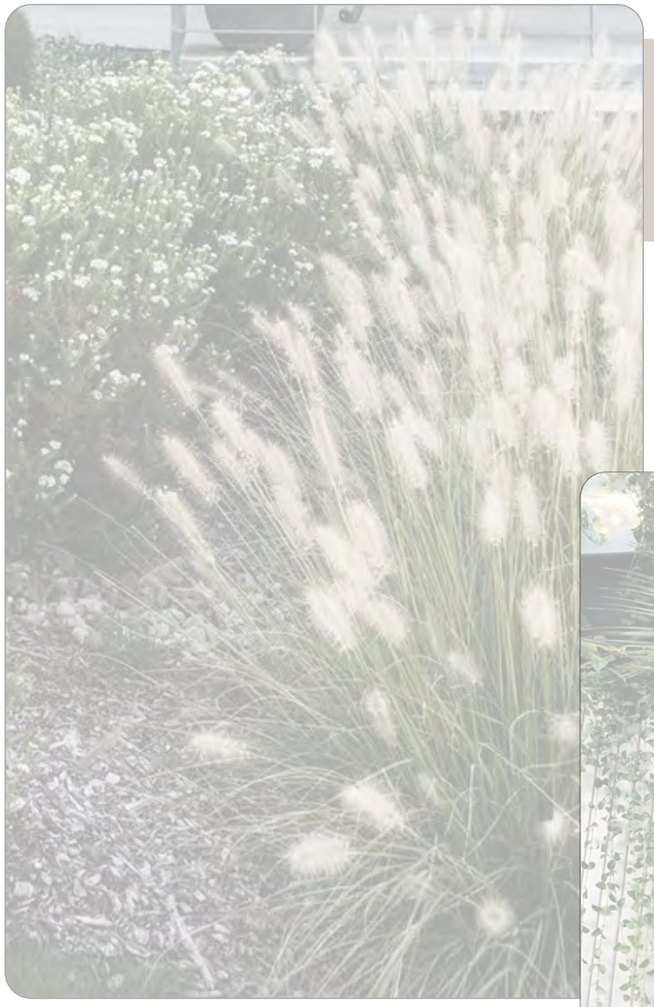

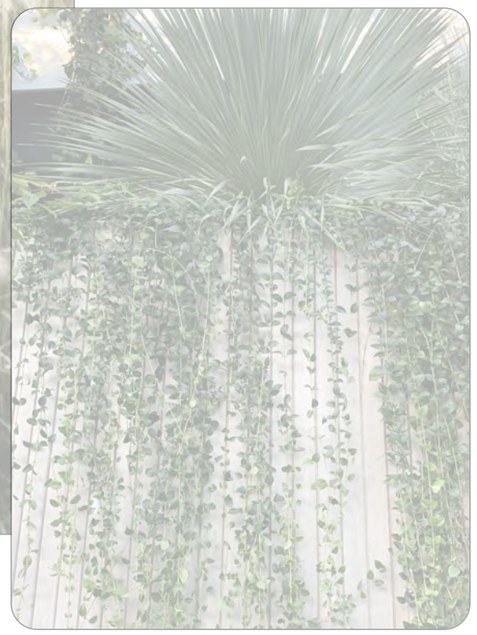

04-05 | PLANTING PALETTE, DEEP SOIL & TREE CALCULATION

04 PLANTING PALETTE
TREES

TOWN OF CLAREMONT
RECEIVED
10/09/2026

Platanus acerifolia
LONDON PLANE TREE
MATURE SIZE: 30 X 10 M
POT SIZE: 200L

Eucalyptus Vitrix Snow Queen
POWDERBARK COOLABAH
MATURE SIZE: 6 X 3 M
POT SIZE: 100L

Cupaniopsis anacardiodes
TUCKEROO
MATURE SIZE: 6 X 3 M
POT SIZE: 100L

Caesalpinia ferrea
LEOPARD TREE
MATURE SIZE: 8 X 4 M
POT SIZE: 200L

Magnolia grandiflora 'Alta'
MAGNOLIA
MATURE SIZE: 9 X 4 M
POT SIZE: 90L

Citrus limon
LEMON
MATURE SIZE: 1.5 X 1 M
POT SIZE: 100L

Agonis flexuosa
WEST AUSTRALIAN WEEPING PEPPERMINT
MATURE SIZE: 4-10 X 4-10 M
POT SIZE: 90L

Olea europaea
OLIVE
MATURE SIZE: 2.5 X 2 M
POT SIZE: 200L

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04 PLANTING PALETTE
SHRUBS & GROUNDCOVERS

TOWN OF CLAREMONT
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SUN/HALF SUN PLANTS

Lomandra katrinus deluxe
ALOE SPINY HEADED MAT BUSH
MATURE SIZE: 1 X 0.7 M
SPACING: 2/M² POT SIZE: 140MM

Olearia 'Beach ball'
COAST DAISY BUSH
MATURE SIZE: 0.4 X 0.8 M
SPACING: 2/M² POT SIZE: 140 MM

Anigozanthos Everlasting Red
KANGAROO PAW
MATURE SIZE: 0.45 X 0.35 M
SPACING: 1/M² POT SIZE: 140 MM

Grevillea 'Gin Gin Gem'
SPIDER FLOWER
MATURE SIZE: 0.3 X 2 M
SPACING: 2/M² POT SIZE: 140 MM

Dianella 'Tasred'
FLAX LILY
MATURE SIZE: 0.45 X 0.5 M
SPACING: 3/M² POT SIZE: 140 MM

Lomandra 'Lime Tuff'
MAT RUSH
MATURE SIZE: 0.5 X 0.5 M
SPACING: 4/M² POT SIZE: 140 MM

Eremophila Kalbarri Carpet
EMU BUSH
MATURE SIZE: 0.2 X 2 M
SPACING: 2/M² POT SIZE: 140 MM

Senecio Serpens
BLUE CHALK STICKS
MATURE SIZE: 0.3 X 0.9 M
SPACING: 2/M² POT SIZE: 140 MM

Casuarina 'Cousin it'
COUSIN IT CASUARINA
MATURE SIZE: 0.15 X 1 M
SPACING: 2/M² POT SIZE: 140 MM

Acacia cognata 'Limelight'
RIVER WATTLE
MATURE SIZE: 0.7 X 1.2 M
SPACING: 2/M² POT SIZE: 140 MM

Dichondra 'Silver falls'
KIDNEY WEED
MATURE SIZE: 0.1 X 2 M
SPACING: 4/M² POT SIZE: 140 MM

Hardenbergia comptoniana
NATIVE WISTERIA
MATURE SIZE: 3 X 3 M
SPACING: 2/M² POT SIZE: 140 MM

CLAREMONT TERRACES STAGE 2
PREPARED FOR HILLAM ARCHITECTS

LANDSCAPE CONCEPT
SEPTEMBER 2026

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04 PLANTING PALETTE
SHRUBS & HERBS

TOWN OF CLAREMONT
RECEIVED
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SUN/HALF SUN PLANTS

Carissa 'Desert Star'
NATAL PLUM
MATURE SIZE: 1.5 X 1.5 M
SPACING: 1/M2 POT SIZE: 140 MM

Strelitzia reginae
BIRD OF PARADISE
MATURE SIZE: 2 X 1.5 M
SPACING: 1/M2 POT SIZE: 5L / 12L

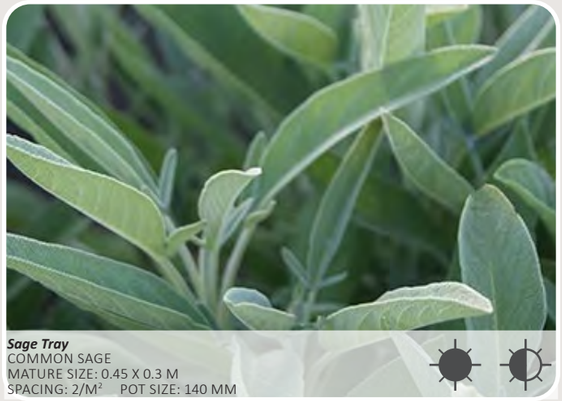
Agave Attenuata
CENTURY PLANT
MATURE SIZE: 1.5 X 0.8 M
SPACING: 2/M² POT SIZE: 140 MM

Trachelospermum jasminoides
CHINESE STAR JASMINE
MATURE SIZE: 0.4 X 3-6 M
SPACING: 2/M² POT SIZE: 140 MM

HERBAL GARDEN PLANTS

Rosmarinus Tuscany Blue Tray
ROSMARINUS
MATURE SIZE: 1.5 X 2 M
SPACING: 2/M² POT SIZE: 140 MM

Basil Aristotle Tray
GREEK BASIL
MATURE SIZE: 0.3 X 0.3 M
SPACING: 2/M² POT SIZE: 140 MM



Sage Tray
COMMON SAGE
MATURE SIZE: 0.45 X 0.3 M
SPACING: 2/M² POT SIZE: 140 MM

Thyme Tray
THYME
MATURE SIZE: 0.3 X 0.3 M
SPACING: 2/M² POT SIZE: 140 MM

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04 PLANTING PALETTE
FEATURE PLANTS & GROUND COVERS

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SHADE TOLERANT SPECIES

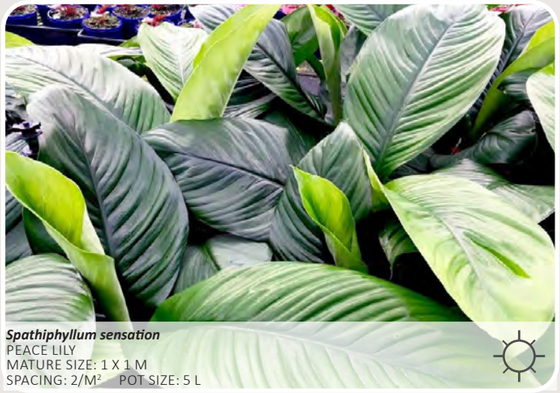
Asplenium nidus
BIRDS NEST FERN
MATURE SIZE: 1 X 1.5 M
SPACING: 2/M² POT SIZE: 140 MM

Chamaedorea seifritzii
BAMBOO PALM
MATURE SIZE: 3 X 2 M
SPACING: 1/M² POT SIZE: 140 MM

Philodendron Xanadu
XANADU
MATURE SIZE: 0.9 X 0.7 M
SPACING: 2/M2 POT SIZE: 140 MM

Fatsia japonica
JAPANESE ARALIA
MATURE SIZE: 1-6 X 1-4 M
SPACING: 1/M² POT SIZE: 140 MM

Kalanchoe bracteata
KALANCHOE SILVER TEASPOONS
MATURE SIZE: 1 X 1 M
SPACING: 2/M² POT SIZE: 140 MM



Spathiphyllum sensation
PEACE LILY
MATURE SIZE: 1 X 1 M
SPACING: 2/M² POT SIZE: 5 L

Ficus Tineke
FICUS
MATURE SIZE: 0.3 X 0.2 M
SPACING: 2/M² POT SIZE: 140 MM

Arthropodium cirratum
NEW ZEALAND ROCK LILY
MATURE SIZE: 0.8 X 0.8 M
SPACING: 2/M² POT SIZE: 140 MM

Blechnum 'Silver Lady'
SILVER LADY FERN
MATURE SIZE: 1.2 X 1 M
SPACING: 2/M² POT SIZE: 140 MM

Philodendron Paraiso Verde
VARIEGATED PHILODENDRON
MATURE SIZE: 3 X 0.6 M
SPACING: 3/M² POT SIZE: 140 MM

Dichondra repens
KIDNEY PLANT
MATURE SIZE: 0.1 X 0.3 M
SPACING: 5/M² POT SIZE: 140 MM

Dieffenbachia Tropic Marianne
DIEFFENBACHIA
MATURE SIZE: 1.5 X 0.6 M
SPACING: 2/M² POT SIZE: 140 MM

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05 DEEP SOIL & TREE CANOPY PROVISION
LEVEL 2 & ROOF TOP LEVEL

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ITEM 3.3A - MINIMUM DEEP SOIL AREA AND TREE PROVISION

REQUIRED DEEP SOIL AREA: 200.3 SQ.M / BASED ON A SITE AREA OF 2003 SQ.M (10%)

REQUIRED TREE PROVISION: 2 x LARGE TREE IN DEEP SOIL BASED ON A SITE AREA OF 2003 SQ.M

DEEP SOIL AREA PROVISION REQUIREMENTS - TABLE 01

THE DEVELOPMENT PROVIDES COMPLIANT TREE PROVISION IN DEEP SOIL ON GROUND.

THE TABLE BELOW OUTLINES MINIMUM REQUIREMENTS FOR DEEP SOIL AREAS AS DEFINED IN DESIGNWA.

TABLE 01: DEEP SOIL ZONE REQUIREMENTS

	LOT AREA: 2003 SQ.M	MINIMUM REQUIREMENTS	PROJECT REQUIREMENT FOR PROVISION
WAPC DEEP SOIL AREA REQUIREMENTS	>1000 SQ.M	10% OF DEEP SOIL AREA ON SITE (200.3 SQ.M)	PROVIDED DEEP SOIL AREA OF 39 SQ.M PROVIDED ADDITIONAL PLANTING ON STRUCTURE 276.5 SQ.M (REQUIRED 322.6 SQM)

DEEP SOIL AREA AND PLANTING ON STRUCTURE PROVISION - TABLE 02

THE DEVELOPMENT EXCEEDS THE DEEP SOIL AREA AND OFFSET REQUIREMENTS.

TABLE 02: DEEP SOIL AREAS AND PLANTING ON STRUCTURE

	DEEP SOIL IN GROUND (more than 1m)	ON STRUCTURE PLANTING	TOTAL
BASMENT LEVEL	39 SQ.M	- SQ.M	39 SQ.M
GROUND FLOOR	- SQ.M	9.5 SQ.M	9.5 SQ.M
LEVEL 1	- SQ.M	46 SQ.M	46 SQ.M
LEVEL 2	- SQ.M	11 SQ.M	11 SQ.M
ROOF TOP LEVEL	- SQ.M	171 SQ.M	171 SQ.M

THE TABLE BELOW OUTLINES MINIMUM REQUIREMENTS FOR TREE PROVISION AS DEFINED IN DESIGNWA.

TABLE 03: TREE PROVISION REQUIREMENTS

	LOT AREA: 4200 SQ.M	MINIMUM REQUIREMENTS	PROJECT REQUIREMENT FOR PROVISION
WAPC TREE CANOPY REQUIREMENTS	>1000 SQ.M	2 LARGE TREE AND SMALL TREES TO SUIT AREA	MINIMUM OF 128 SQ.M OF TREE CANOPY COVER PROVIDED 532 SQ.M TREE CANOPY COVER

THE DEVELOPMENT EXCEEDS THE TREE PROVISION REQUIREMENTS.

TABLE 04: TREE PROVISION

	SMALL TREES: 2-6m DIAMETER 28 SQ.M CANOPY COVER AT MATURITY	MEDIUM TREES: 6-9m DIAMETER 64 SQ.M CANOPY COVER AT MATURITY	LARGE TREES: >9m DIAMETER 64 SQ.M CANOPY COVER AT MATURITY	TOTAL CANOPY COVER (NOT INCLUDING EXISTING TREES)
BASEMENT LEVEL	1	-	-	28 SQ.M
GROUND FLOOR	-	-	-	-
LEVEL 1	4	-	-	112 SQ.M
LEVEL 2	1	-	-	28 SQ.M
ROOF TOP LEVEL	16	-	-	448 SQ.M

IRRIGATION STRATEGY

A FULLY AUTOMATIC IRRIGATION SYSTEM WILL BE INSTALLED FOR THE CLAREMONT TERRACES STAGE 2 PROJECT. THE SCOPE WILL INCLUDE:
- IRRIGATION TO ALL LANDSCAPE AREAS
- MOISTURE SENSORS THROUGHOUT, TO ENSURE WATER USE IS MINIMISED
- USE OF LOW WATER USE EMITTERS TO ENSURE ONLY SUFFICIENT WATER IS PROVIDED TO IRRIGATE PLANTING AREAS
- IN-LINE FERTILISATION UNIT TO ENSURE FERTILISING AND MOISTURE RETENTION IS CONTROLLED
- USE OF POP - UP FLOOD BUBBLERS TO SUIT SIZE OF GARDEN BEDS TO ENSURE ANY OVER-SPRAY AND WASTAGE IS MITIGATED, AND;
- A DETAILED DESIGN AND SPECIFICATION WILL BE PROVIDED AT BUILDING LICENSE APPLICATION STAGE.

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05 DEEP SOIL & TREE CANOPY PROVISION COMPLIANCE
GROUND FLOOR & LEVEL 1

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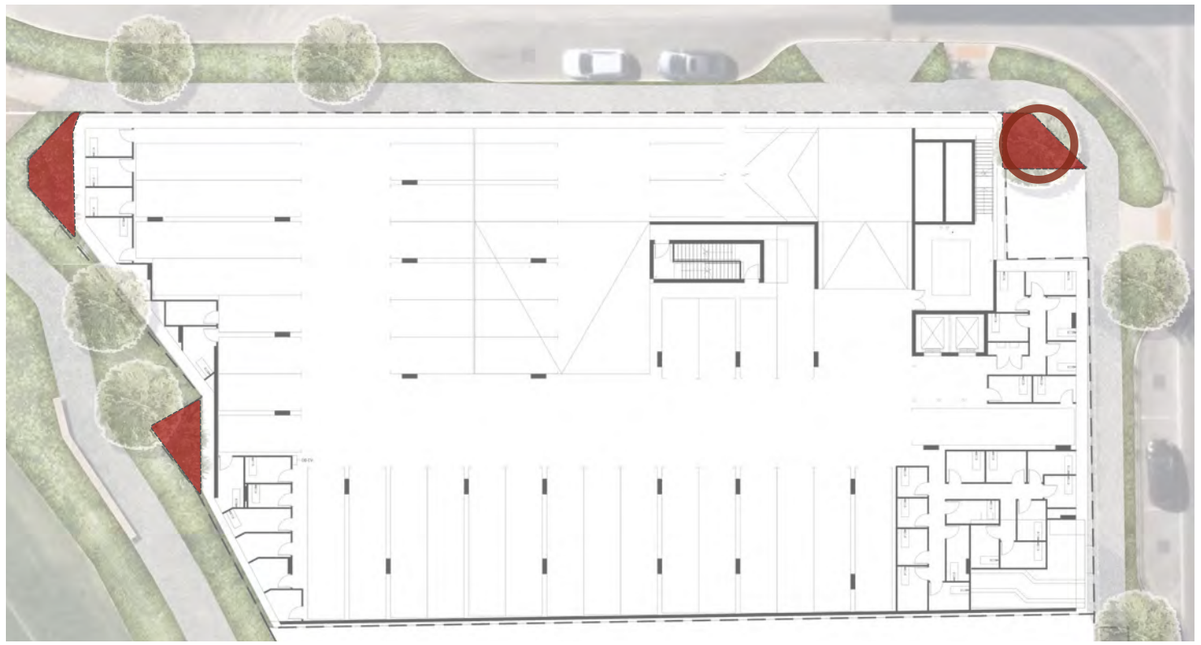
FIGURES SHOWING DEEP SOIL REQUIREMENTS FOR TREES (AS PER SPP 7.3 DESIGN GUIDELINES)



BASEMENT LEVEL

DEEP SOIL IN GROUND	39 SQ.M
SMALL TREE	1 NO.

LEVEL 1

PLANTING ON STRUCTURE	46 SQ.M
SMALL TREE	4 NO.

GROUND FLOOR

PLANTING ON STRUCTURE	9.5 SQ.M

CLAREMONT TERRACES STAGE 2

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LEVEL 2 & ROOF TOP LEVEL

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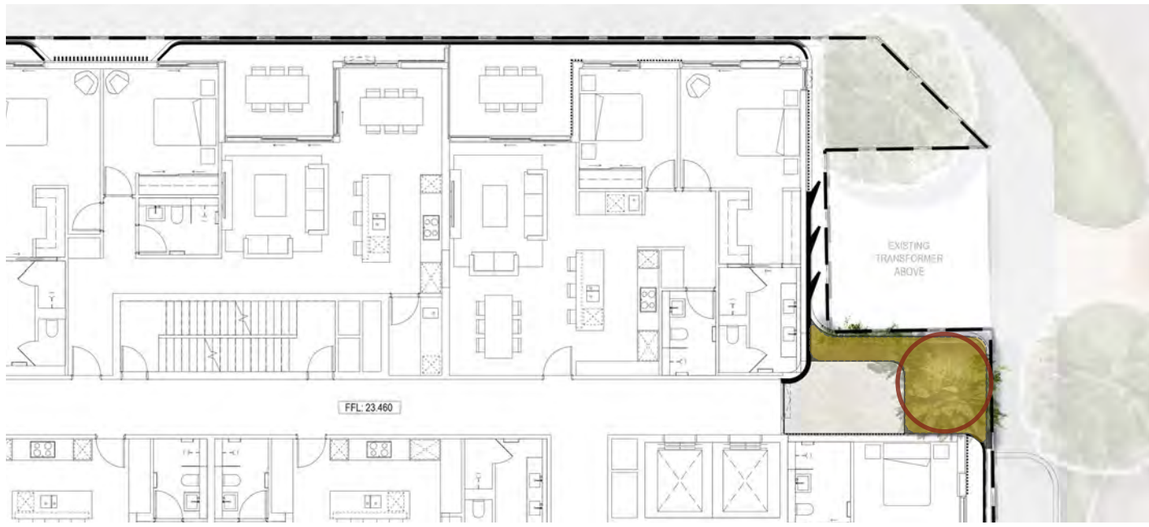

LEVEL 2

PLANTING ON STRUCTURE	11 SQ.M
SMALL TREE	1 NO.

ROOF TOP LEVEL

PLANTING ON STRUCTURE	171 SQ.M
SMALL TREE	16 NO.

FIGURES SHOWING DEEP SOIL REQUIREMENTS FOR TREES (AS PER SPP 7.3 DESIGN GUIDELINES)

CLAREMONT TERRACES STAGE 2

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CLAREMONT TERRACES STAGE 2

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Attachment 6 - Applicant's Architectural Report

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HILLAM ARCHITECTS

DEVELOPMENT APPLICATION

PROPOSED
RESIDENTIAL DEVELOPMENT

LOT 508
3 SHENTON ROAD
CLAREMONT

APRIL 2026

METRICS NORUP HILLAM ARCHITECT

TOWN OF CLAREMONT
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Acknowledgement of Country

Hillam Architects and Norup acknowledges the Traditional Owners of Country throughout Australia and acknowledges their Continuing connection to land, waters and community. We pay our respects to the people, the cultures and the Elders past and present.

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REVISION	DESCRIPTION	DATE
A	DRAFT ISSUE TO PLANNER	06.11.2025
B	PRE-LODGEMENT MEETING WITH TOWN OF CLAREMONT	10.11.2025
C	REVIEW WITH DEV WA & ESTATE ARCHITECT	28.11.2025
D	SUBMISSION TO DEV WA & ESTATE ARCHITECT	05.12.2025
E	ESTATE ARCHITECT REVIEW	20.03.2025
F	SUBMISSION TO DEVELOPMENT APPLICATION	30.04.2025

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INTRODUCTION

EXECUTIVE SUMMARY

Claremont Terraces Stage 2 has been designed by Hillam Architects for Norup as the final and most prominent development parcel framing the Claremont Football Oval.

This submission presents a refined and coordinated architectural response informed by the City's planning framework, precinct design guidelines, and the design direction provided by the Estate Architect and Development WA. As the last remaining site within the precinct, Stage 2 carries significant urban importance. Key initiatives in the design focus on strengthening the overall viability and cohesion of the Terraces development and completing the built form around the oval.

The proposal delivers a high-quality residential interface that reinforces the broader masterplan intent, incorporating **61 large family sized residential apartments** carefully oriented to capture both oval views and wider vistas toward the Swan River and the city. Strategic screening, articulation, and material placement establish a strong architectural identity and contribute to a clear and enduring facade expression.

The proposal enhances pedestrian amenity along Tiger Way, improves ground-level planting, and continues the landscape language established in Stage 1 to ensure a cohesive precinct outcome.

Deep soil opportunities and expanded planting integration further support the project's environmental and sustainability objectives. Overall, Stage 2 delivers a coordinated, commercially viable, and contextually responsive design outcome that completes the Claremont Terraces precinct with clarity, continuity, and architectural integrity.

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Address	Lot 508, 3 Shenton Road, Claremont WA 6010
Developer	Norup
Architect	Hillam Architects
Local Council	Town of Claremont
Site Area	2000 sqm
Precinct	Claremont North East Precinct (NEP)
Zoning	Residential Development
R-coding	R-ACO

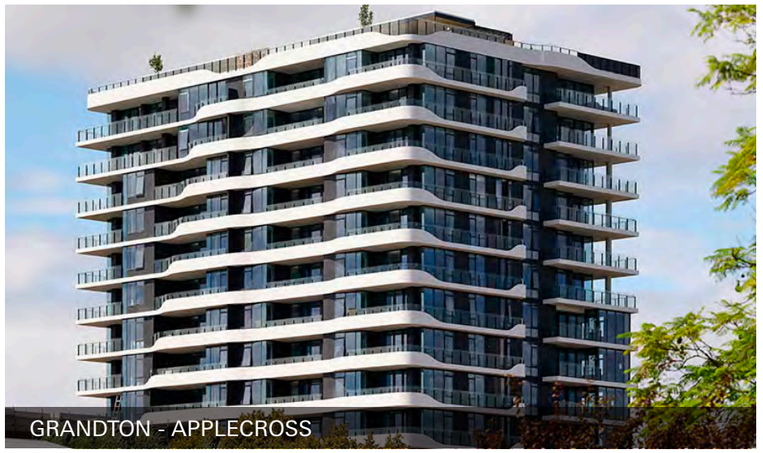
DEVELOPMENT TEAM

NORUP:

With 35 years in engineering, construction, and development, John Norup understands how Perth has been built - and how it should evolve. Norup was founded to take a more focused and sustainable approach to residential development. Smaller in scale. Sharper in design. Built for long-term liveability. From natural light and energy performance to enduring materials, nothing is left to chance. Because great design doesn't stop at the walls, it shapes how a building lives over time. At Norup, we focus on what today's buyers value most: layouts that live well, materials that hold up, and residences that stand the test of time - architecturally and environmentally.

HILLAM ARCHITECTS:

Having built an enviable portfolio over the past 30 years, Hillam Architects sees opportunity for extraordinary design at every scale, from multi-residential, mixed-use and commercial developments through to bespoke, high-end single residential dwellings. We aim to produce spaces that inspire, elevate and exceed the lifestyle expectations of the people who interact with them. Directly responsive to the needs of the client, the parameters of the site and climate, our projects reinforce the role of architecture in creating a sustainable future. Our continued practice in this area, coupled with our excellent relationships with local authorities, consultants and contractors, allows us to exceed design expectations whilst ensuring that projects are delivered and ensure projects are delivered on-time and on budget, without compromising on quality or aesthetics.


GRANDTON - APPLECROSS

BEACH SHACK - SCARBOROUGH

LUCENT - CLAREMONT

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PROJECT TEAM

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HILLAM ARCHITECTS

NORUP

METRICS

SLR

Stantec

EMERGEN

ALPHAZETA

PLAN E Landscape Architects

RICK VERMEY, ARTIST

IV PROJECT HISTORY

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Preceding this development application, Hillam Architects presented the concept to the Town of Claremont, Development WA, and the Estate Architect for consideration, culminating in this proposal for a high-quality residential apartment development.

OCTOBER 2025	PRE-LODGEMENT MEETING WITH THE TOWN OF CLAREMONT
NOVEMBER 2025	PARTIAL FORMAL FEEDBACK RECEIVED FROM THE TOWN OF CLAREMONT
NOVEMBER 2025	MEETING WITH DEVELOPMENT WA & ESTATE ARCHITECT
NOVEMBER 2025	FORMAL COMMENTS RECEIVED FROM DEVELOPMENT WA & ESTATE ARCHITECT
DECEMBER 2025	SUBMISSION TO DEVELOPMENT WA & ESTATE ARCHITECT
JANUARY 2026	FEEDBACK RECEIVED FROM ESTATE ARCHITECT
FEBRUARY 2026	SECONDARY PRE-LODGEMENT MEETING WITH THE TOWN OF CLAREMONT
MARCH 2026	ESTATE ARCHITECT REVIEW
APRIL 2026	DEVELOPMENT APPLICATION

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V ARCHITECTURAL STATEMENT

Claremont Terraces Stage 2 presents a refined architectural and landscape response that aligns with the City of Claremont's planning framework, the precinct design guidelines, and the established design character of the precinct. The proposal has been carefully developed to ensure a cohesive relationship between the existing Stage 1 development to the west, with particular emphasis on strengthening the visual continuity along Shenton Road, Tiger Way, and the oval frontage.

The architectural expression builds upon a clear and elegant design language, incorporating increased facade depth, interplay of shadows, and a well-defined massing hierarchy. Balcony treatments, screening elements, and material placement have been composed to deliver a legible and sophisticated streetscape presence, creating a strong identity for the building within the broader precinct.

Landscape design plays a central role in shaping the character of the proposal, contributing meaningfully to the public realm and enhancing pedestrian amenity. The proposal reinforces the established Stage 1 palette while introducing additional ground-level planting, improved deep-soil opportunities, podium landscaping, and integrated balcony planting to create a lush, biophilic environment throughout the rooftop amenities level.

Internally, the residential planning has been further refined. The development now includes generous, family-sized apartments and an upgraded penthouse level featuring six premium residences, three of which include private rooftop amenity. Each layout has been carefully designed to optimise functionality, circulation, structural efficiency, solar access, and natural ventilation, ensuring high-quality living outcomes throughout the building.

The facade strategy focuses on controlled, well-proportioned architectural elements such as Juliet-style balustrades, operable windows, and enhanced reveal depths.

Overall, Stage 2 has been conceived as a coherent and well-resolved addition to the Claremont North East precinct. The proposal demonstrates a commitment to design excellence, environmental performance, and high-quality urban outcomes, delivering a development that complements Stage 1 while establishing its own strong architectural presence.

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VI DESIGN WA - 10 DESIGN PRINCIPLES

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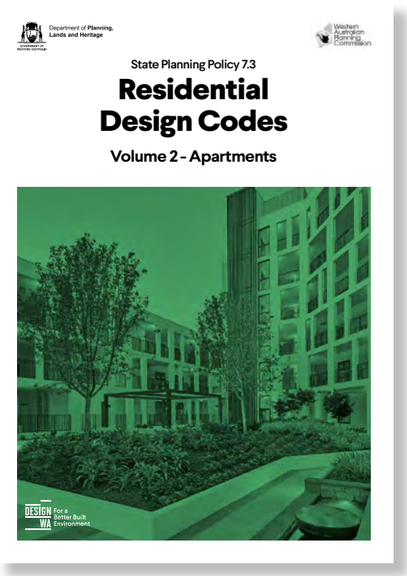

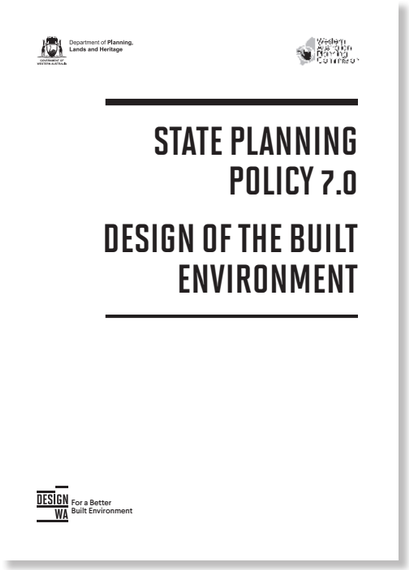

*Refer to Planning Report.

1. **Context and Character**
   Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.

   The proposed development responds to the established context of Claremont Oval with a well designed, carefully crafted building that sits politely but confidently at the junction between Shenton Rd and Tiger Way. ✓

2. **Landscape Quality**
   Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.

   The broader precinct of Claremont Oval has extensive, high quality landscaped public realm. This proposal has been designed to sit well within this setting, with perimeter planting at strategic locations at the ground floor interface. This is supplemented with extensive on-deck landscaping at level 1 and rooftop amenity. ✓

3. **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.

   The built form has been carefully crafted in response to the existing and emerging scale of the precinct. In particular, the proposed development of stage 2 responds to the height of the approved stage 1 development immediately to the west. ✓

4. **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.

   All apartments have been carefully planned to deliver a high-quality living environment, featuring efficient and functional layouts, generous balconies, a well-considered communal open space, and a diverse range of rooftop amenities. ✓

5. **Sustainability**
   Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.

   Sustainability starts with well-designed apartments, most of which benefit from natural cross ventilation. Extensive roof top solar panels help offset the energy requirements of the common areas and help to reduce the running costs for residents. EV charging ready infrastructure will help future proof the development. ✓

6. **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.

   Generous levels of amenity are afforded to future residents of the development, which starts with a flexible use space at ground level. Extensive outdoor amenities at level 1 and rooftop level are complemented by generous private apartment balconies and terraces throughout. ✓

7. **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.

   A highly legible ground floor entry to the development reinforces the development's main address on Shenton Rd and provides a welcoming arrival experience for residents and visitors alike. The overall articulation and formal expression of the building is kept deliberately simple. Expressed balcony edges with subtle curves reference those of the oval. ✓

8. **Safety**
   Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.

   Extensive active edges and "eyes on the street" are the basics of good design and promote the wellbeing of residents and the broader community. ✓

9. **Community**
   Good design responds to local community needs as well as the wider social context, providing buildings and spaces that support a diverse range of people and facilitate social interaction.

   The local community of the oval will benefit from another high-quality development within the precinct, which will complete the oval edge built form composition. The residents of the proposed Stage 2 development will not only benefit from the extensive amenities within the building but those of the broader context. ✓

10. **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.

    The building has been carefully crafted to complement the existing built form of Claremont Oval. A simple, restrained palette of high quality materials are part of a refined composition. The horizontal banding is accentuated by a darker facade material, whilst "special moments" like the double height curved entry make a statement at street level. ✓

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CONTEXT & CHARACTER

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1.1 LOCATION CONTEXT

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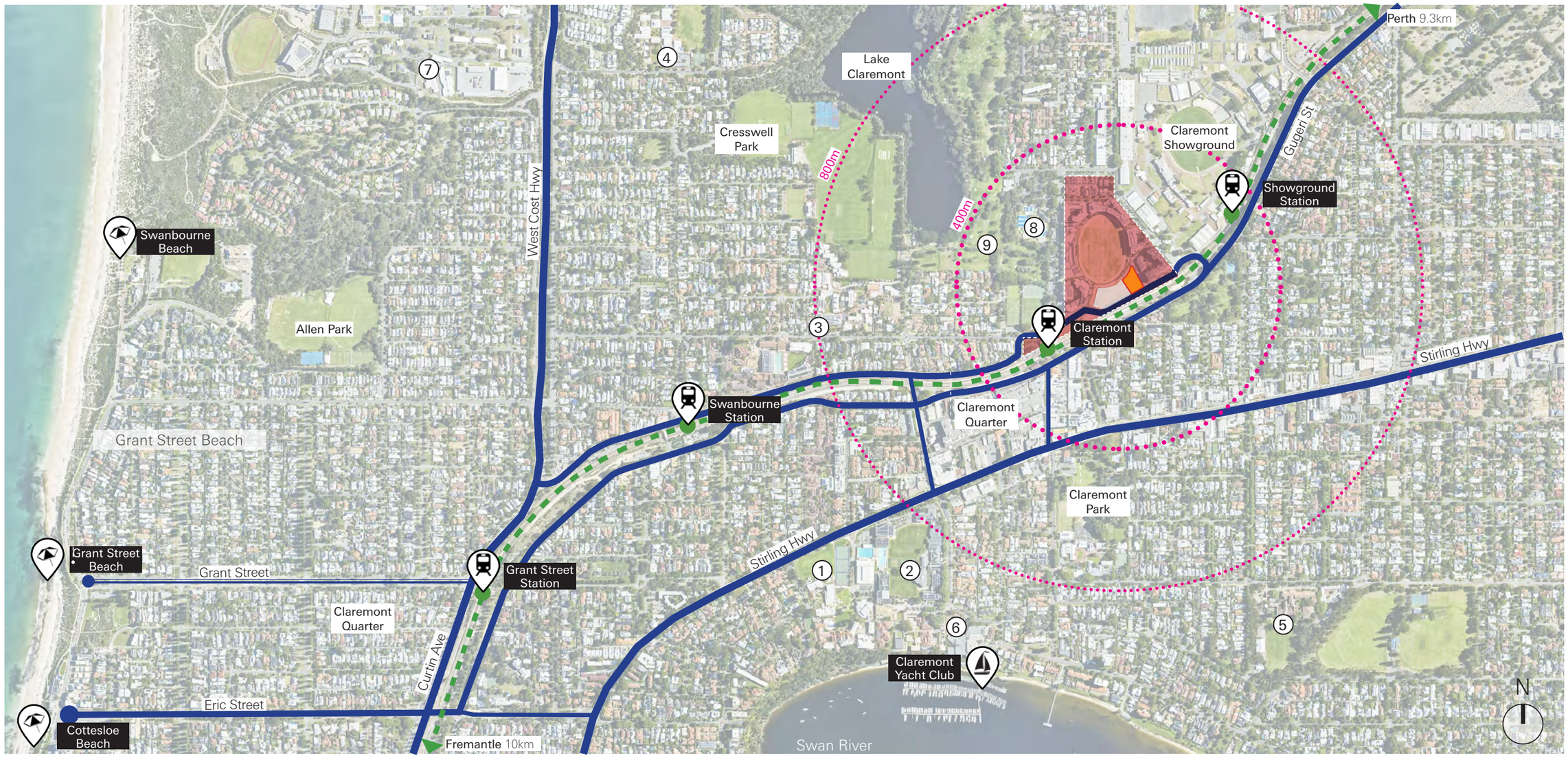

Keys:

- Claremont North-East Precinct Boundary
- Project Site
- Primary Traffic Artery
- Railway
- Proximity

Amenities:

1. Methodist Ladies' College Claremont
2. Christ Church Grammar School
3. Scotch College
4. Swanbourne Primary School
5. UWA Claremont Campus
6. Bathesda Health Care
7. Campbell Barracks Health Centre
8. Claremont Aquatic Centre
9. Claremont Golf Course

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1.2 SITE CONTEXT

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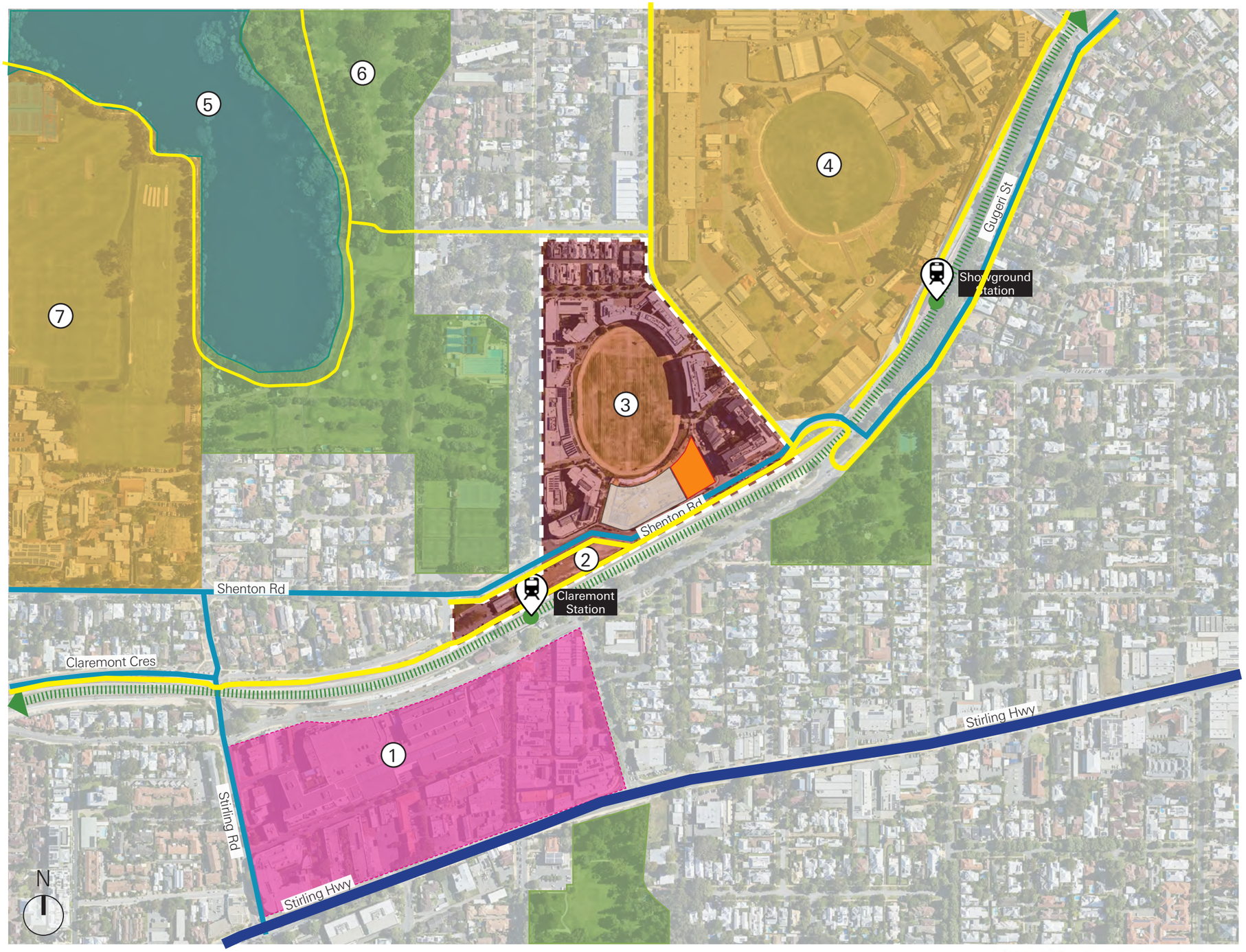

Immediate Amenities:

- Claremont Football Oval
- Claremont Train Station
- Parks and Recreation
- Claremont Quarter Shopping Centre
- Health and Fitness Facilities

Suburb Amenities:

- Public Transport
- Shopping Centre
- Health and Fitness
- Sporting Facilities
- Cafes and Restaurants
- Recreational facilities
- Education Facilities
- Library

1. Claremont Town Centre
2. Claremont Specialist Medical Centre
3. Claremont Football Oval
4. Claremont Showgrounds
5. Lake Claremont
6. Lake Claremont Golf Course
7. Scotch College

- Site
- Ecological
- Parks & Recreation
- Civic
- Commercial

- NEP Boundary
- Train Station
- Primary Traffic Artery
- Secondary Traffic Artery
- Railway
- Bike Path

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1.3 CLIMATE ANALYSIS

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1.4 LOCATION AMENITIES

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KEY:

- Project Site
- Commercial & Hospitality
- Public Transport
- Recreational
- Ecological
- Civic
- Primary Views
- Secondary Views

1. Claremont Quarter
2. Claremont Train Station
3. Claremont Football Oval
4. Claremont Showgrounds
5. Revo Gym
6. Lake Claremont
7. Lake Claremont Golf Course
8. Claremont Aquatic Centre
9. Claremont Tennis Club
10. Scotch College
11. Claremont Jetty
12. Swan River
13. Showgrounds Train Station
14. Claremont Park
15. Claremont Library

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1.5 PRECINCT AMENITIES

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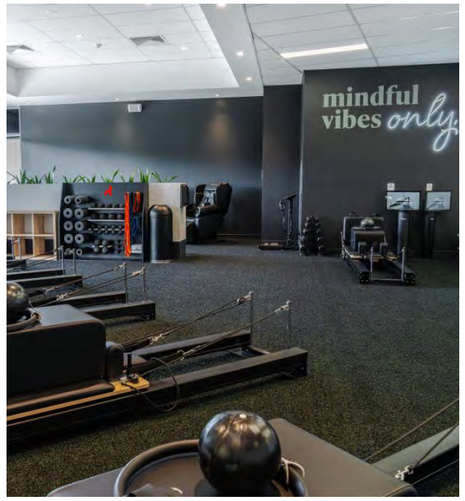

The Terraces Stage 2 is located along the South-Eastern edge of the Claremont North-East Precinct, a sought after location due to its close proximity to a wide range of established local amenities and public transport infrastructure. Positioned directly adjacent to the Claremont Football Oval, the site benefits from immediate access to a high quality open green space and sporting facilities.

Additionally, recent developments on the Claremont North-East Precinct provide additional amenities and everyday convenience such as the Foodies Market IGA, Cafes, and health and fitness facilities.

Other assets of the precinct, resulting from recent and ongoing refurbishments include the network of landscaped public open spaces, including a spacious walkways around the oval with seating, shades structures, BBQ facilities, a play area for children.

The great mix of amenities located within the Claremont North East Precinct contribute to a vibrant, active, and quality lifestyle of future residents.

1.6 SURROUNDING CONTEXT

CONTEXT & CHARACTER

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Located along the South-Eastern edge of the Claremont North East Precinct, The Terraces is a very short walk away from the Claremont Train Station, which provides frequent services to the Perth CBD, Fremantle, and Perth Airport, making it suitable for a transit oriented development.

The broader precinct includes a diverse mix of land uses that contribute to the vibrant, livable, and active urban environment. Key nearby amenities that is also within the five minute walking radius include the FORM Gallery, Claremont Showgrounds, Claremont Town Centre, and Claremont Quarter Shopping Centre. These amenities contribute to the vibrant, well connected and livable neighborhood.

Furthermore, the site's proximity to the Lake Claremont Golf Course, Lake Claremont, and Claremont Lawn Tennis Club, further supports an active and healthy lifestyle of future residents providing opportunities for walking, cycling, and being immersed in nature. Thus, providing balance between living and working, and nature and urban.

Overall, The Terraces' prime location, compatibility with its surroundings, proximity to key amenities, and potential mixed use integration provide opportunities to make a strong contribution to the ongoing transformation of the precinct, supporting the Claremont North East Precinct Structure Plan's vision for a sustainable, connected, and livable urban precinct.

1.7 SURROUNDING CONTEXT CHARACTER

CONTEXT & CHARACTER

The Terraces Stage 2, located in Claremont, is subject to restrictions on materials and colors. The building materials must reflect a contemporary and high-quality urban aesthetic by incorporating a variety of materials and textures across the facade. Material and color selection should consider the urban context, durability, structural robustness, and the ability to maintain integrity as the development matures.

At the ground level, facades are required to feature fine-grained materials. Additionally, the choice of materials and colors should demonstrate careful consideration of thermal performance and overall environmental sustainability.

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LANDSCAPE QUALITY

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2.1 LANDSCAPE CHARACTER

LANDSCAPE QUALITY

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Claremont Terraces Stage 2 is located within the City of Claremont, in the suburb of Claremont.

The site sits within a rapidly developing residential area surrounding the Claremont Football Oval, situated north of the train line and near Claremont Train Station. Existing residential developments have already been constructed around the oval, with Claremont Terraces Stage 1 currently under construction immediately to the west of Stage 2.

A range of key public amenities are within walking distance, including Lake Claremont, Claremont Quarter, Claremont Train Station, and the Claremont Showgrounds. Both the Claremont Football Oval and Showgrounds host occasional events throughout the year.

In addition to residential apartments, the area around the oval features the Revo Fitness Gym, IGA supermarket, cafés, and several other local organisations and businesses. Across Davies Road, opposite the oval, lies the Claremont Aquatic Centre, which includes the Claremont Pool.

The site is conveniently located within easily accessible commuting distance to the coast, Swan River, and CBD.

*For more information please see Plan E Landscape Design Report.

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2.1 LANDSCAPE CHARACTER

LANDSCAPE QUALITY

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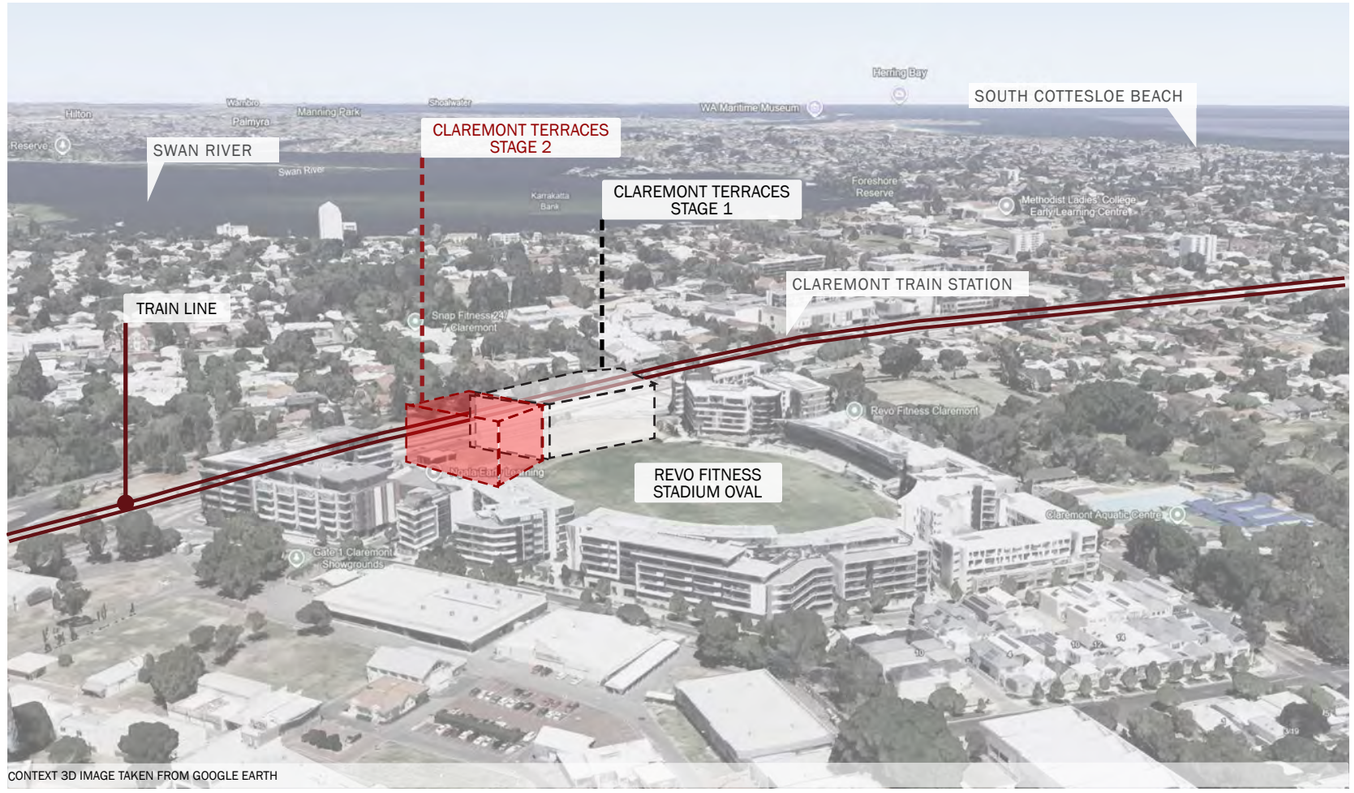

CONTEXT 3D IMAGE TAKEN FROM GOOGLE EARTH

PHOTO TAKEN FROM OVAL TOWARDS CLAREMONT TERRACES STAGE 1 AND 2 (SOUTH-EAST DIRECTION)

PHOTO TAKEN AT PATH ACCESS INTO OVAL, WEST OF CLAREMONT TERRACES STAGE 1

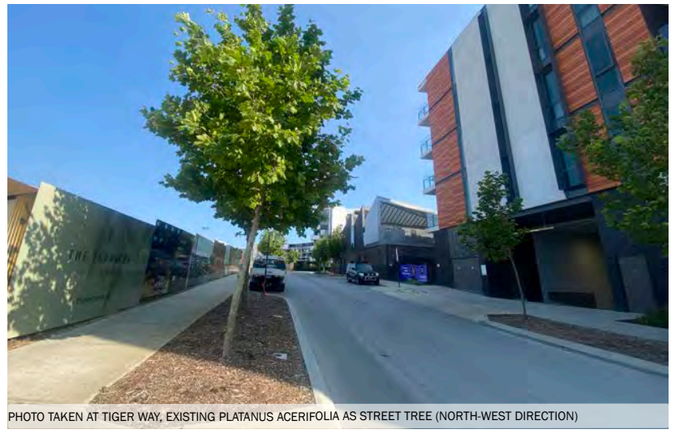

PHOTO TAKEN AT TIGER WAY, EXISTING PLATANUS ACERIFOLIA AS STREET TREE (NORTH-WEST DIRECTION)

PHOTO TAKEN AT SHENTON ROAD (NORTH-EAST DIRECTION)

PHOTO TAKEN AT SHENTON ROAD, WITH IGA IN FRONT (NORTH-EAST DIRECTION)

*For more information please see Plan E Landscape Design Report.

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2.2 LANDSCAPE PLAN (GROUND FLOOR)

LANDSCAPE QUALITY

LEGEND:

1. Proposed relocation of existing trees.
2. Dynamic feature planting to building that ties in with surrounding planting.
3. Dynamic feature planting and tree to screen existing transformer from the corner of the building.

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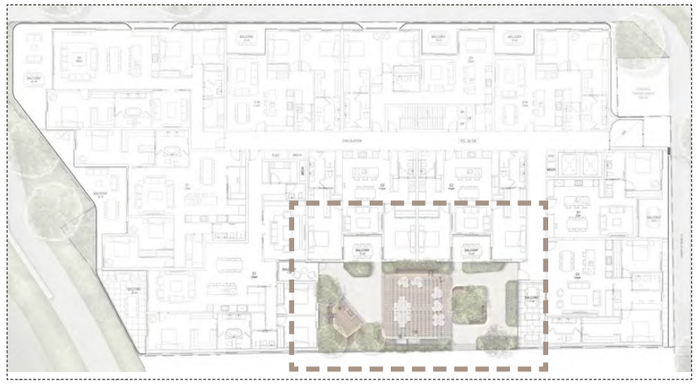
2.2 LANDSCAPE PLAN (LEVEL 1)

LANDSCAPE QUALITY



LEGEND:

1. Stairs to provide connection & access to Stage 1 building Level 1 courtyard.
2. Feature pavement banding strip.
3. Proposed feature unit paving.
4. Proposed timber look tile to focal seating zone & dining area.
5. Fire pit surrounded by proposed built-in timber bench seat nestled into garden bed.
6. Built-in timber bench seats nestled into herbal garden bed with fruit tree.
7. Herbal garden bed planters.
8. Raised steel planters with shade tolerant plant species suited to low light conditions.
9. Communal dining area with flexible seating, built in timber seats into garden beds, BBQ and vergola
10. Climbers to provide shade protection and screening.

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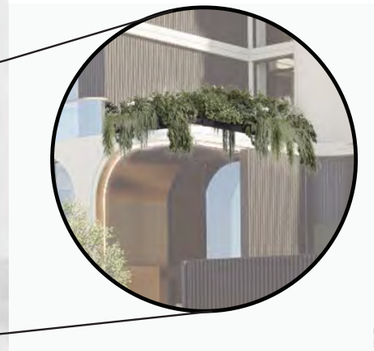
2.2 LANDSCAPE PLAN (LEVEL 2)

LANDSCAPE QUALITY

LEGEND:

1. Proposed feature planting with creepers hanging from Level 2 Terrace.



Detail 1: Creepers hanging down over lobby entrance from Level 2.

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2.2 LANDSCAPE PLAN (ROOFTOP AMENITY PLAN)

LANDSCAPE QUALITY

LEGEND:

1. Feature pavement banding strip.
2. Propsoed feature unit paving.
3. Proposed timber look tile to define dining/bar & lounge areas - as well as yoga deck & entry hallway.
4. Bar table with bar stools looking out to the Revo Fitness Oval.
5. Bar table with bar stools overlooking the city & Swan River.
6. Fire pit surrounded by flexible lounge furniture or built-in timber seats into garden bed.
7. Proposed built-in timber bench seats nestled into garden bed.
8. Communal dining area with flexible seatings, built-in timber seats into garden bed, BBQ, shelves/drop-off shelve & vergola over head.
9. Herbal garden bed planter.
10. Pots to soften & define edges.
11. Private top top area with BBQ, roof pavilion, shelves,/ drop-off shelve & flexible seating options
12. Yoga deck & pavilion
13. Climbers growing up along the facade.

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*For more information please see Plan E Landscape Design Report.

PLAN E
LANDSCAPE ARCHITECTS
LEVEL 1 278 RAILWAY PARADE WEST LEEDERVILLE 6007
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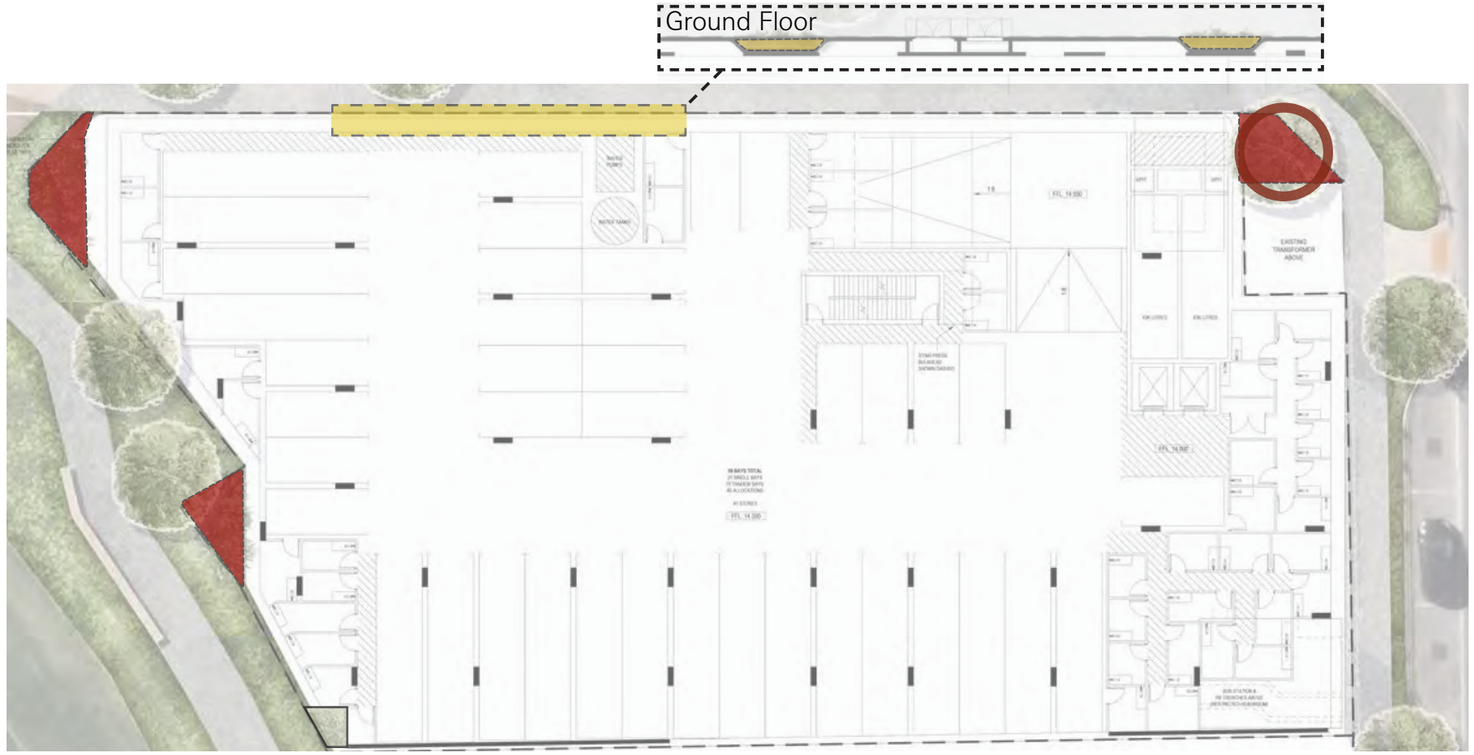
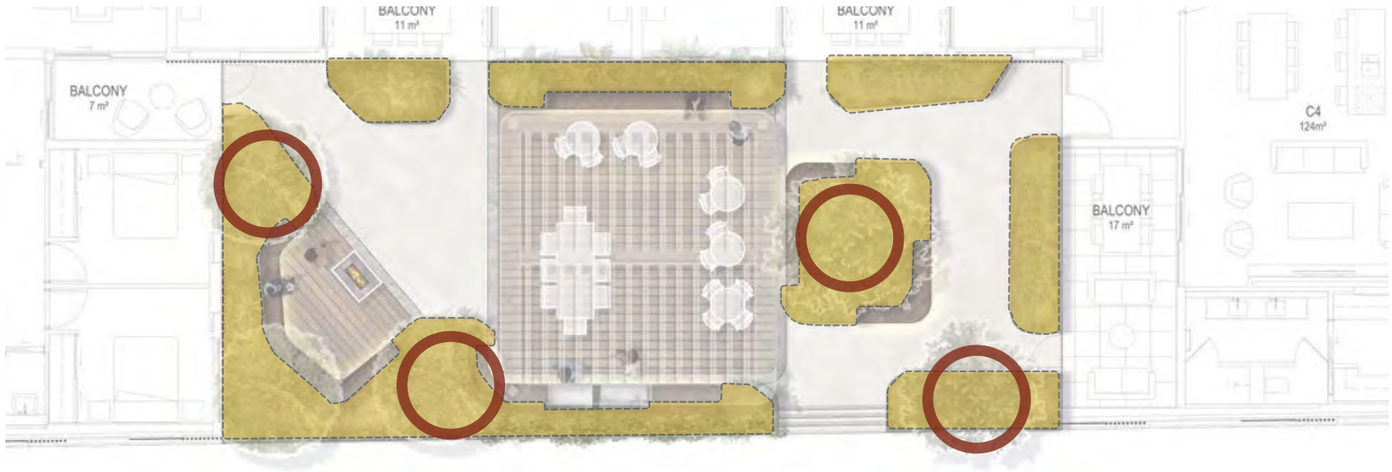
METRICS NORUP

2.3 DEEP SOIL & PLANTING ON STRUCTURE (GROUND FLOOR & LEVEL 1)

LANDSCAPE QUALITY



Figures showing deep soil requirements for trees (as per spp 7.3 design guidelines).



*For more information please see Plan E Landscape Design Report.

LEGEND:

BASEMENT FLOOR

- Deep soil in ground - **39m² provided.**
- Small tree - **1 provided.**

GROUND FLOOR

- Planting on structure - **3.9m² provided.**

LEVEL 1

- Planting on structure - **60m² provided.**
- Small tree - **4 provided.**

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2.3 DEEP SOIL & PLANTING ON STRUCTURE (LEVEL 2 & ROOFTOP)

LANDSCAPE QUALITY

LEGEND:

LEVEL 2

Planting on structure - **11m² provided.**

Small tree - **1 provided.**

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ROOFTOP LEVEL

Planting on structure - **158.6m² provided.**

Small tree - **13 provided.**

*For more information please see Plan E Landscape Design Report.

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2.4 PUBLIC REALM INTERFACE

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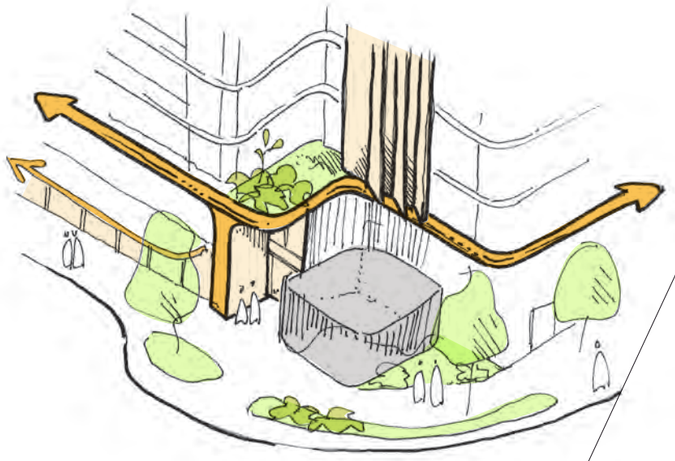
*Illustration shown is artist's impression.

SPECIAL CORNER ELEMENT & PUBLIC ART

The corner of Tiger Way and Shenton Road is envisioned as a Special Corner Element, defined by distinctive architectural features and materials designed to serve as canvases for public art. These surfaces will provide opportunities for the artist to showcase their work, enriching the streetscape with diverse creative expressions. Integrating public art at this prominent location will enhance the vibrancy of the public realm and contribute to a strong sense of character and identity within the Claremont North East Precinct.



2.4 PUBLIC REALM INTERFACE

LANDSCAPE QUALITY

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STATEMENT RESIDENT ENTRY

The Shenton Road interface of The Claremont Terraces (Stage 2) is envisioned as a vibrant and active frontage, featuring the primary residential entry beneath a distinctive canopy.

The permeable ground floor achieved through the glass facade establishes a connection to the residential amenities further enhancing the sense of vibrancy of the public realm.

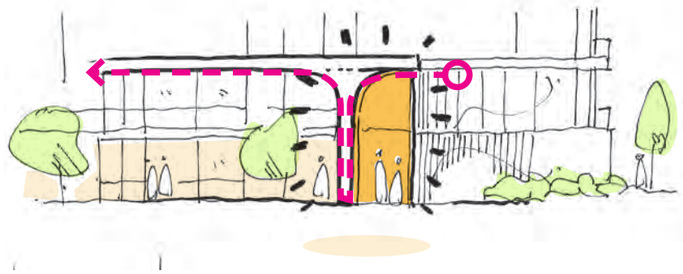

*Illustration shown is artist's impression.

2.4 PUBLIC REALM INTERFACE

LANDSCAPE QUALITY

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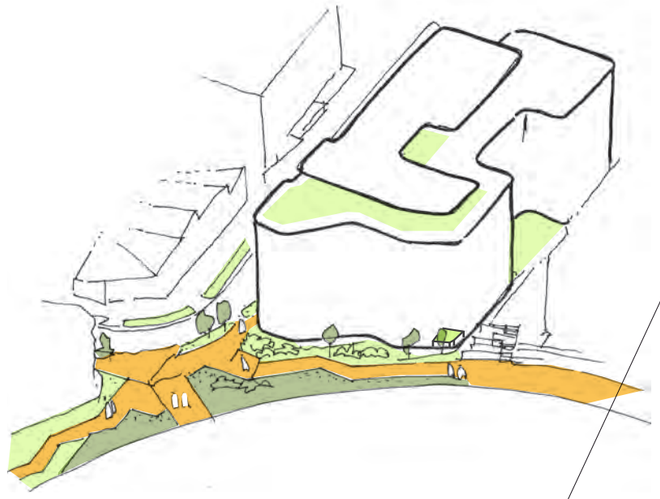
*Illustration shown is artist's impression.

CLAREMONT OVAL INTERFACE:

The Terraces Stage 2 has direct access to the Claremont Oval via the ground floor, allowing residents to enjoy the beautifully landscaped pathways around the oval right at their door step. The north-western facade also benefits from an abundant amount natural lighting and uninterrupted views of the Claremont Oval.



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3

BUILT FORM & SCALE

METRICS NORUP

3.1 PROGRAMME
BUILT FORM & SCALE

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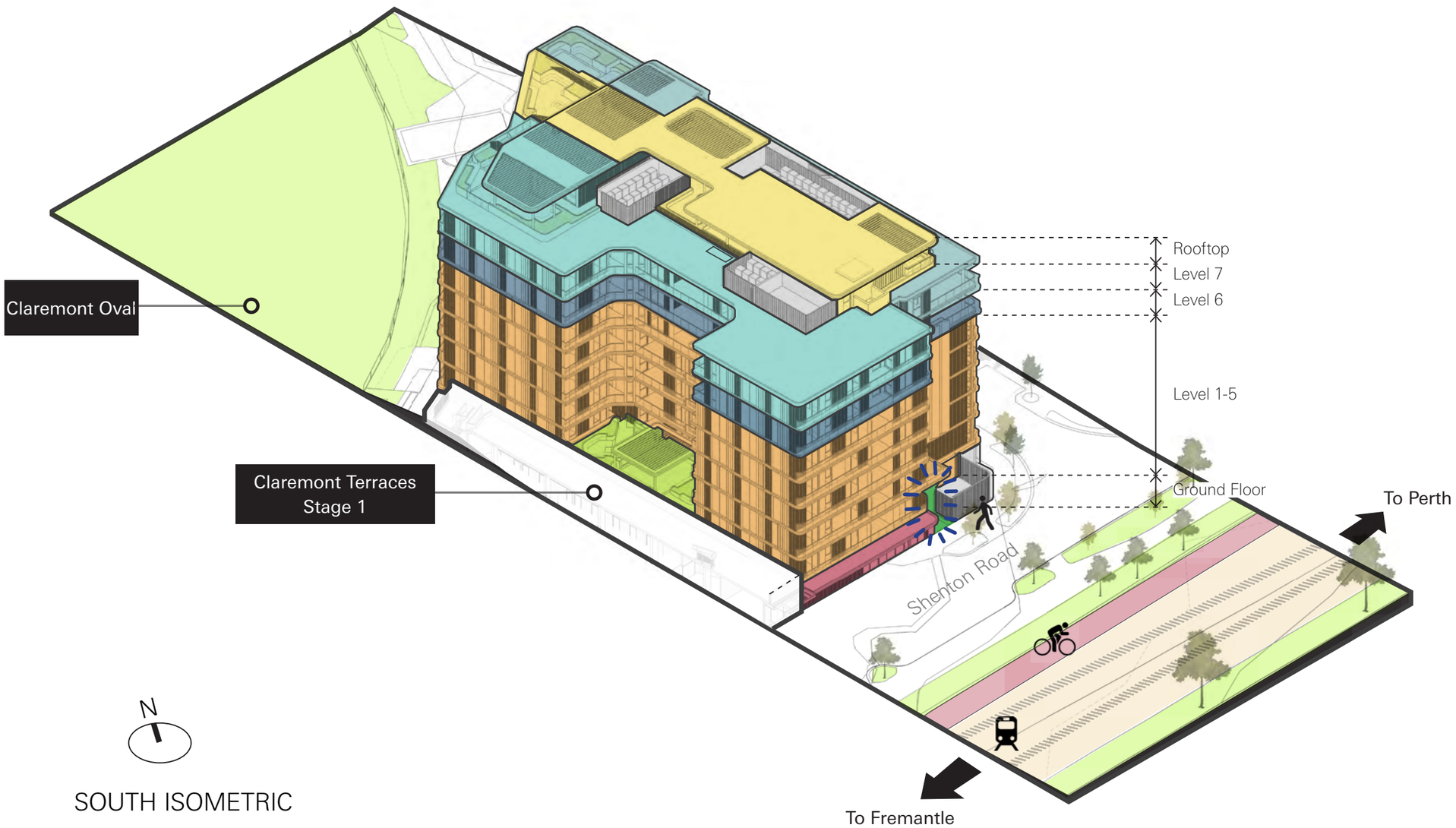
An overview of the proposed built-form and programme:



SOUTH ISOMETRIC

LEGEND:

- Communal Rooftop Amenities
- Penthouse Apartments
- Sub-Penthouse Apartments
- Apartments
- Level 1 Residential Courtyard
- Ground Level Residential Amenity
- Pedestrian Entrance
- Services

METRICS NORUP

3.1 ISOMETRIC VIEWS

BUILT FORM & SCALE

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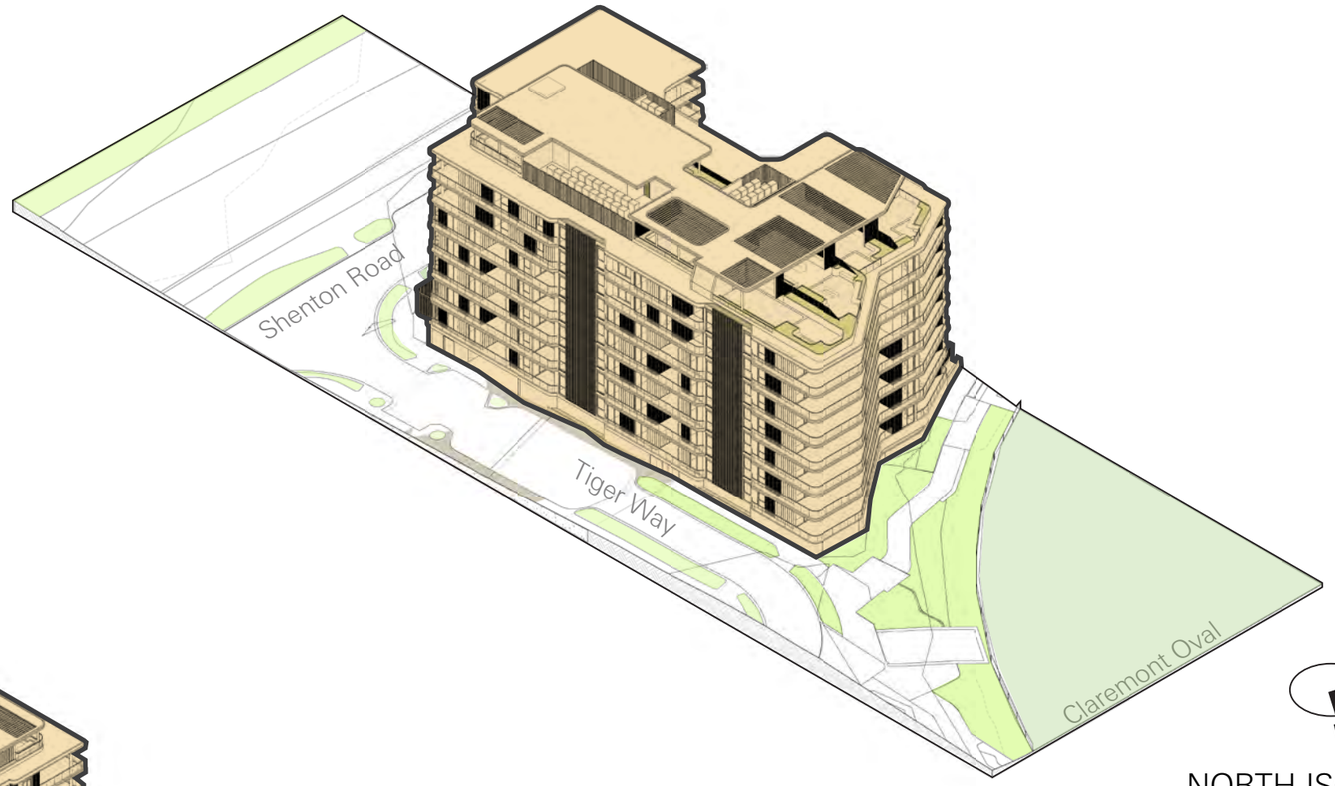
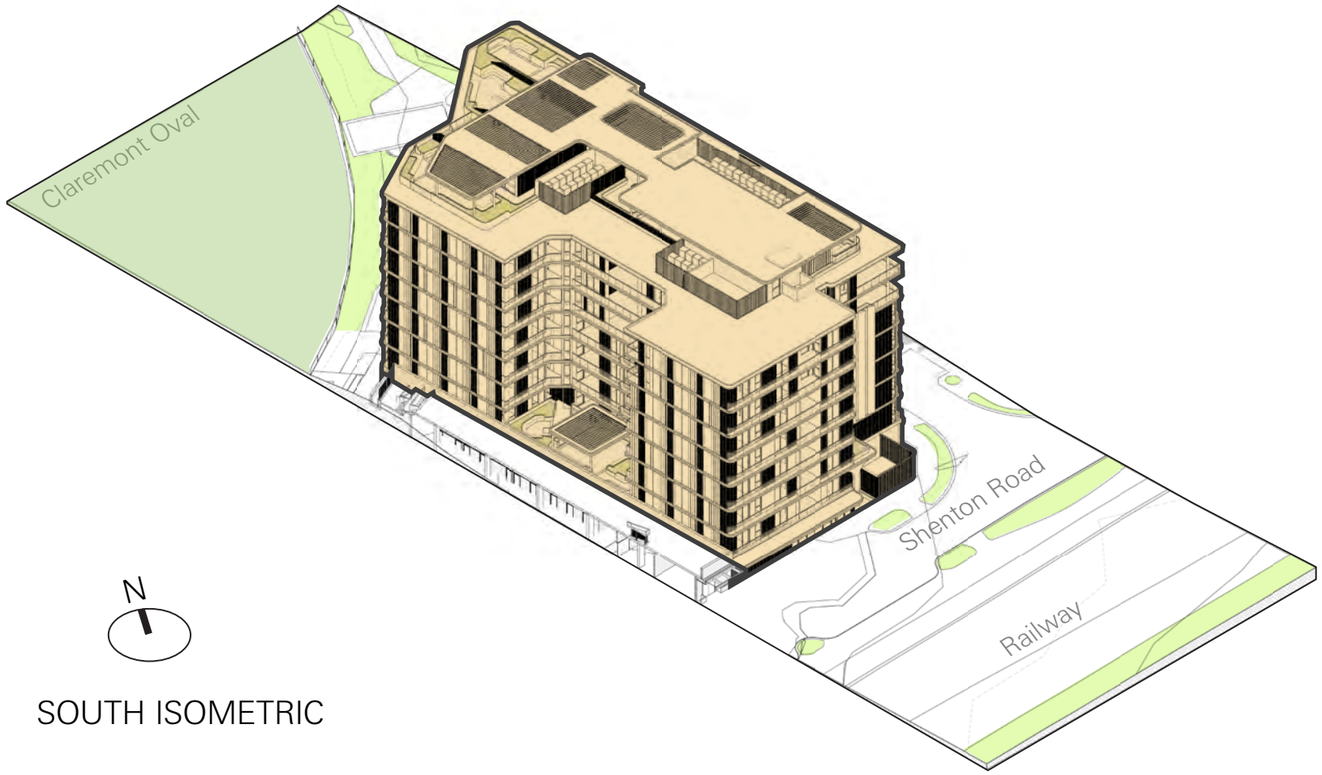


NORTH ISOMETRIC



SOUTH ISOMETRIC

METRICS NORUP

3.1 CONTEXT ELEVATION (SOUTH)

BUILT FORM & SCALE

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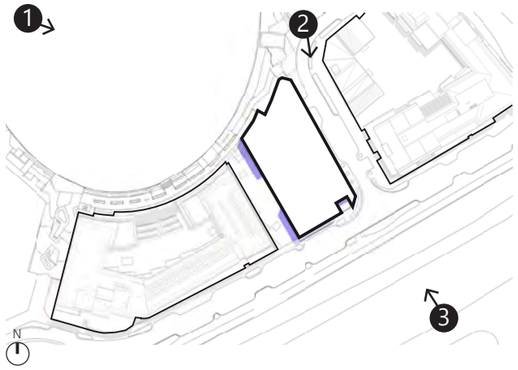

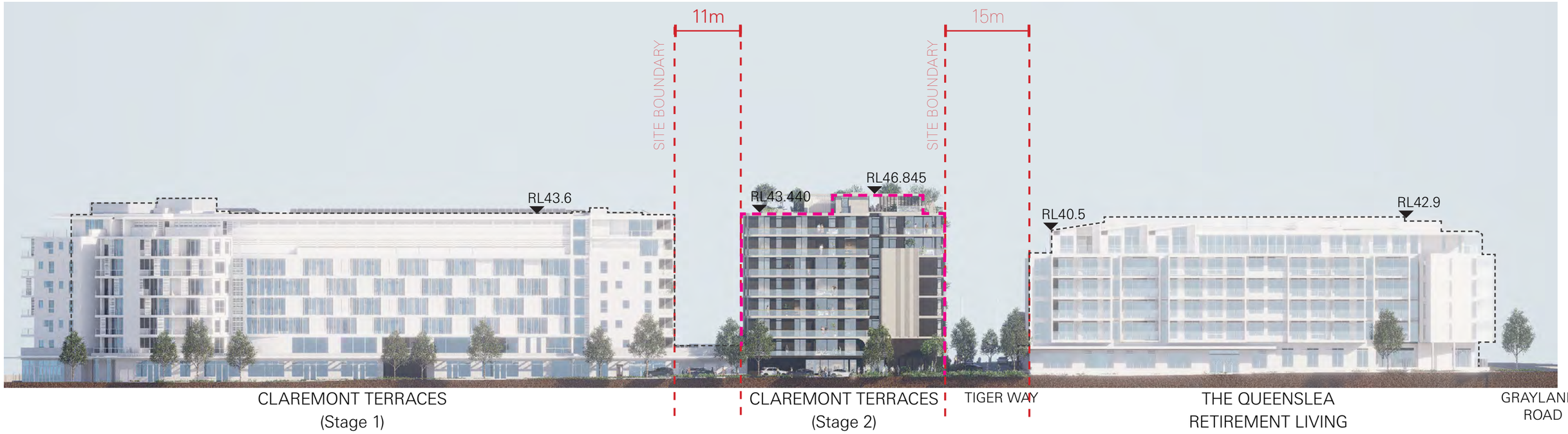

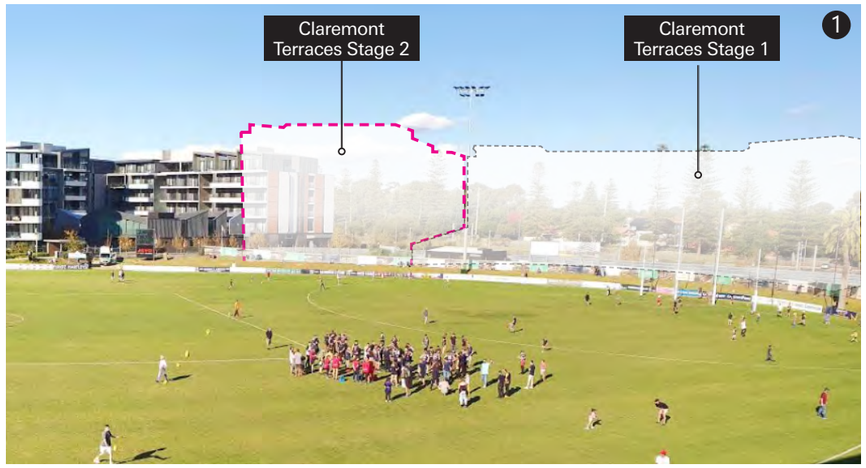

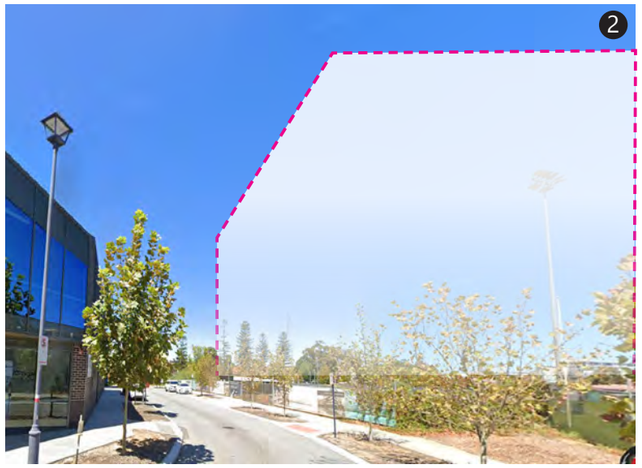

METRICS NORUP

3.1 CLAREMONT OVAL BUILDING EDGE HEIGHTS

BUILT FORM & SCALE

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NORTH ELEVATION:

3.2 VISUAL IMPACT ASSESSMENT

BUILT FORM & SCALE

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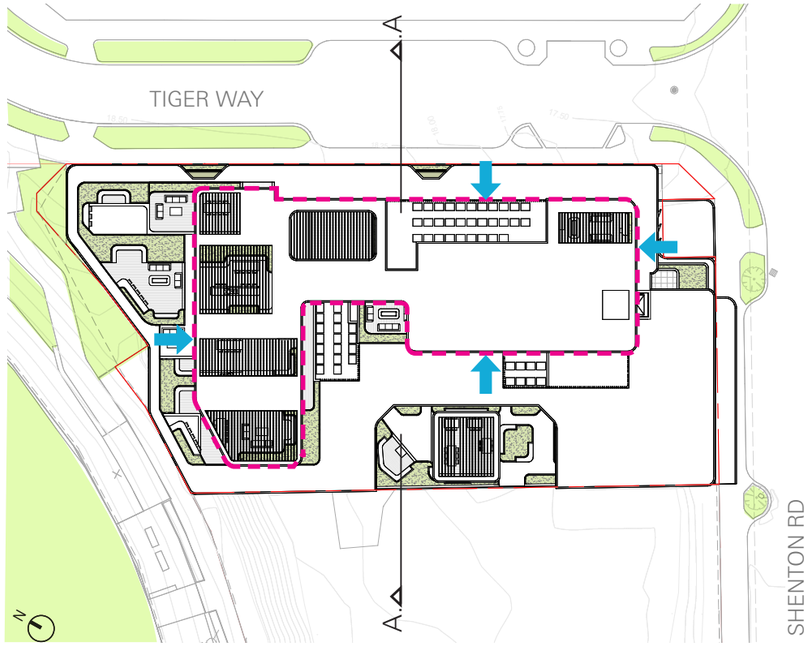
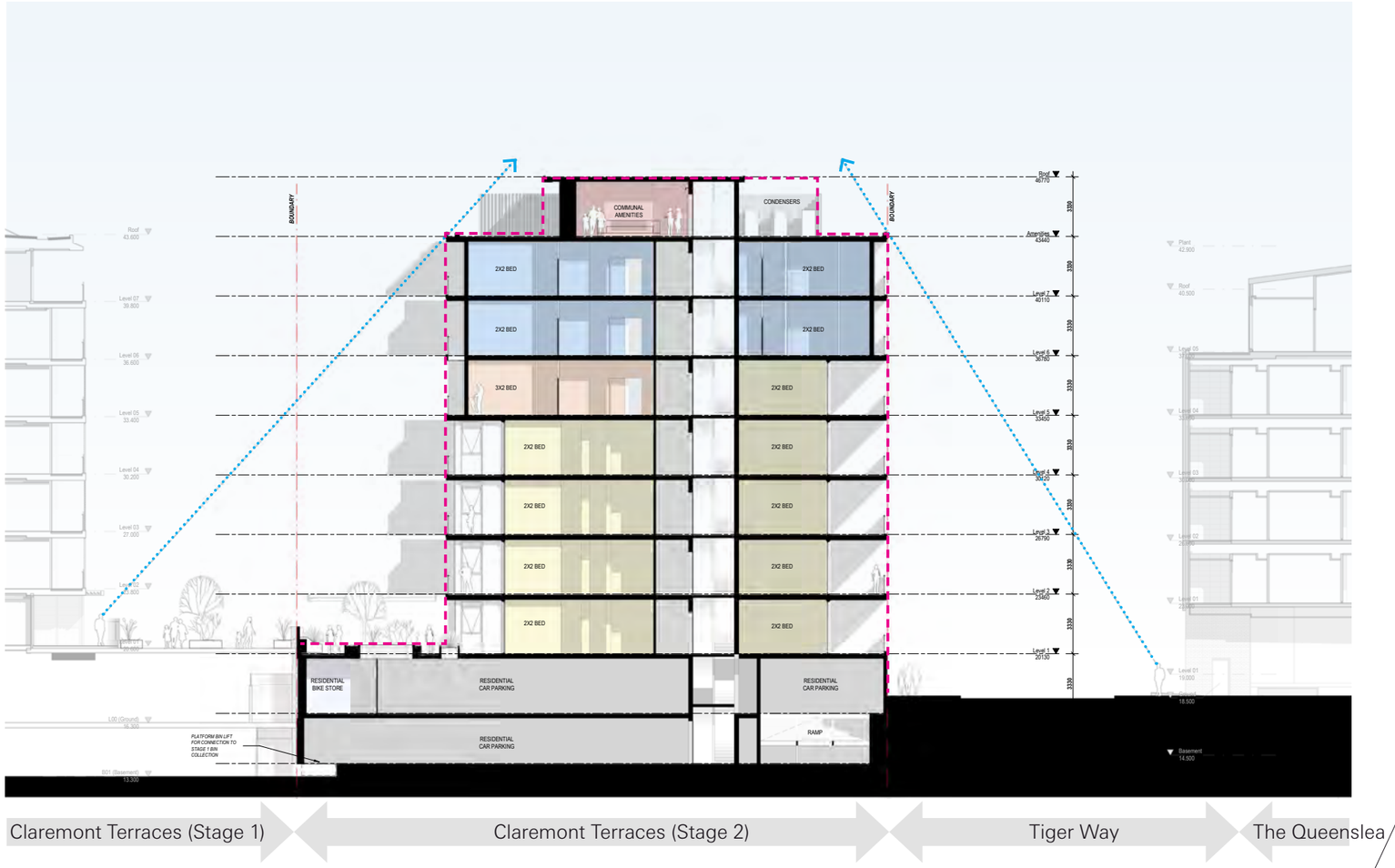


ROOF PLAN



SECTION A

The site's setbacks reduce the visibility of the residential rooftop amenities from street level and from the Level 1 corridor between Claremont Terraces Stage 1 and Stage 2, while ensuring optimal views from the rooftop amenities.

3.2 VISUAL IMPACT ASSESSMENT

BUILT FORM & SCALE

TOWN OF CLAREMONT
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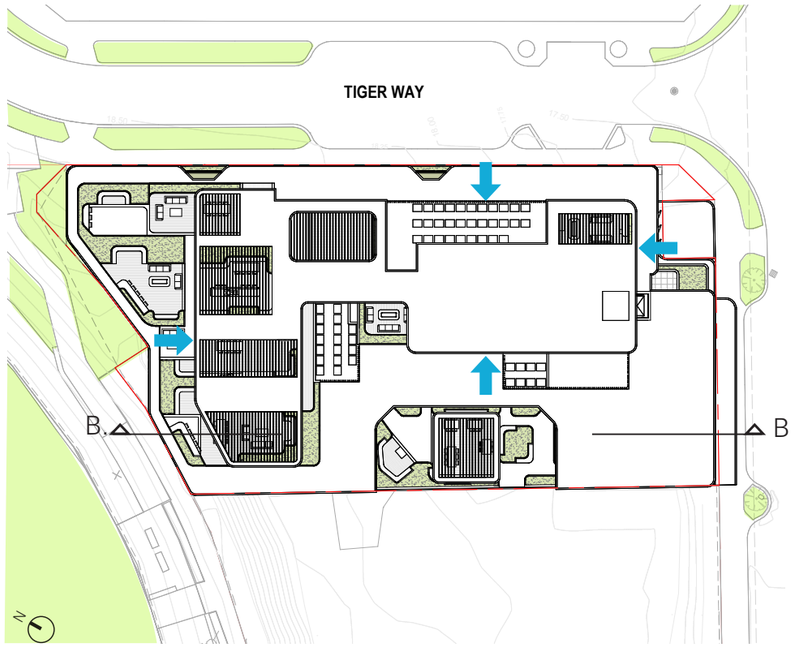
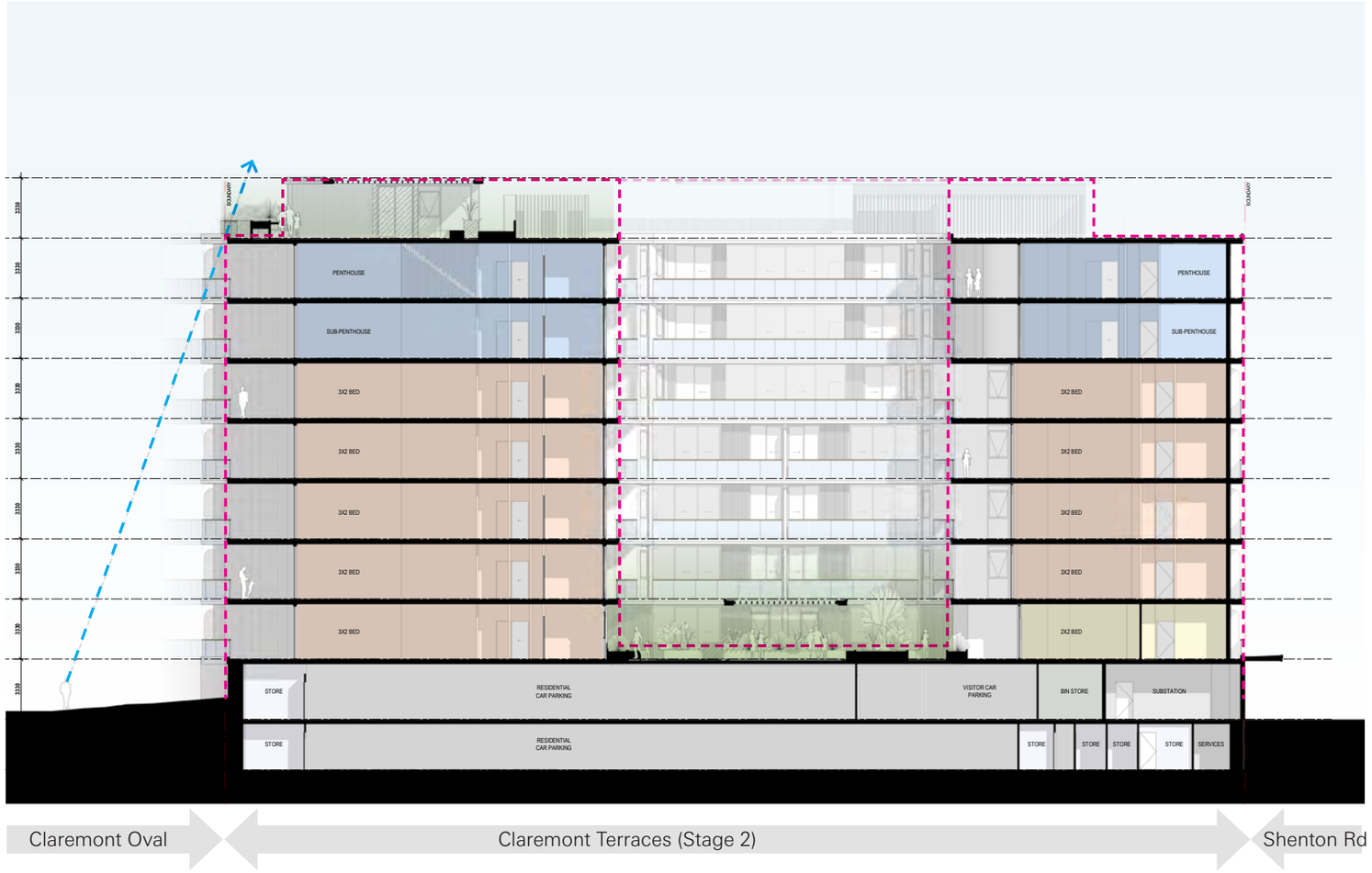


ROOF PLAN



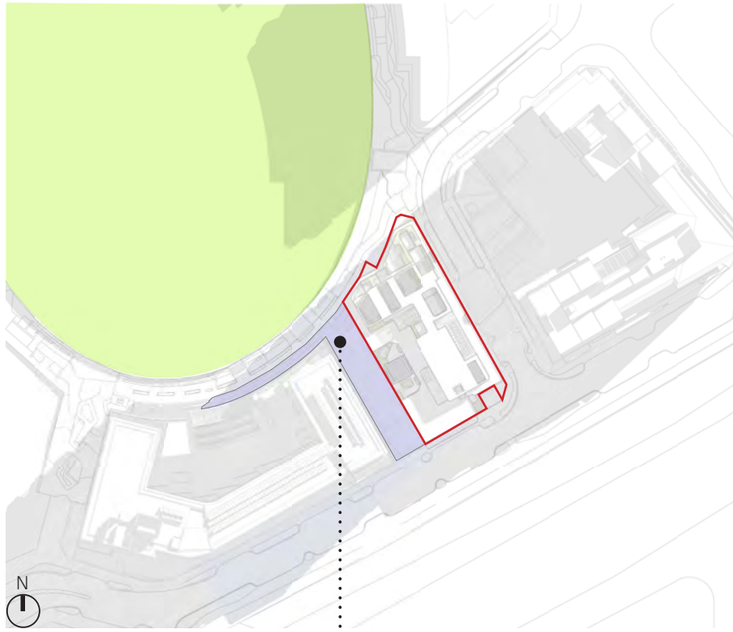
SECTION B

The site's setbacks reduce the visibility of the residential rooftop amenities from landscape path along the Claremont Football Oval, while ensuring optimal views from the rooftop amenities.

3.3 OVERSHADOWING DIAGRAM (WINTER SOLSTICE)

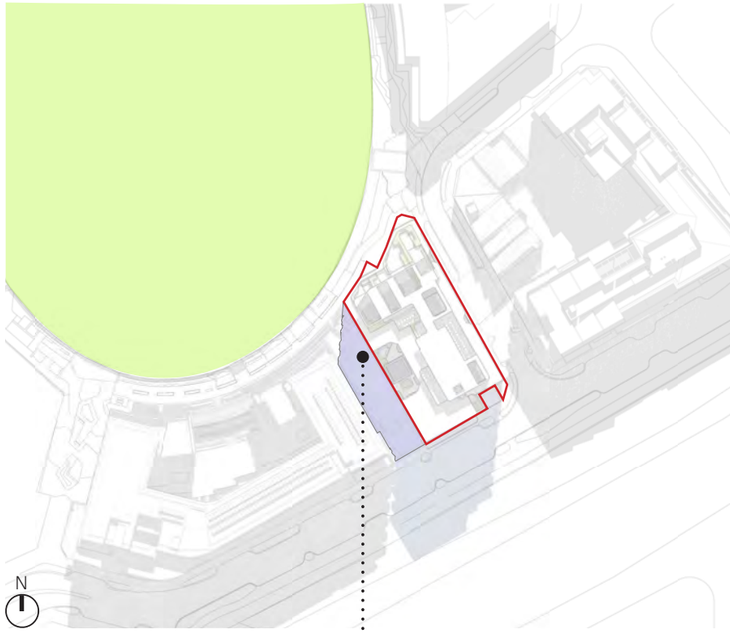
BUILT FORM & SCALE

9AM



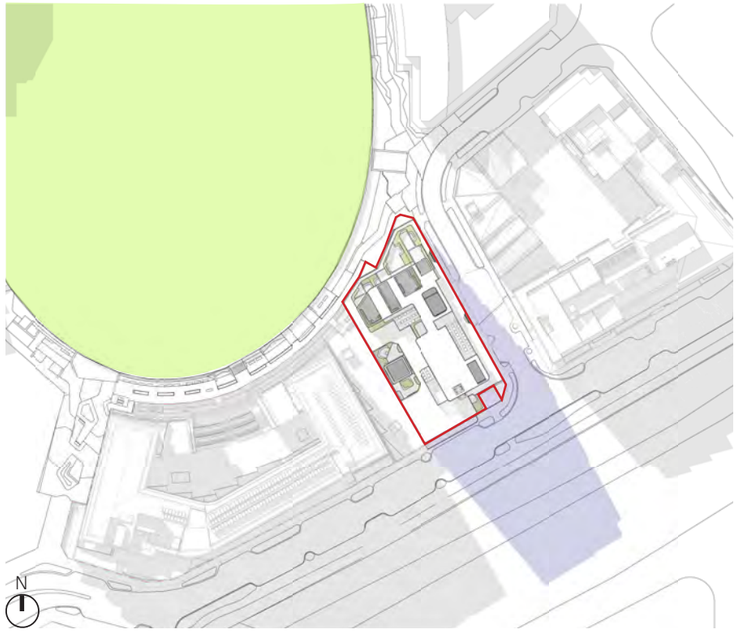
692.9m²

12PM



519.14m²

3PM



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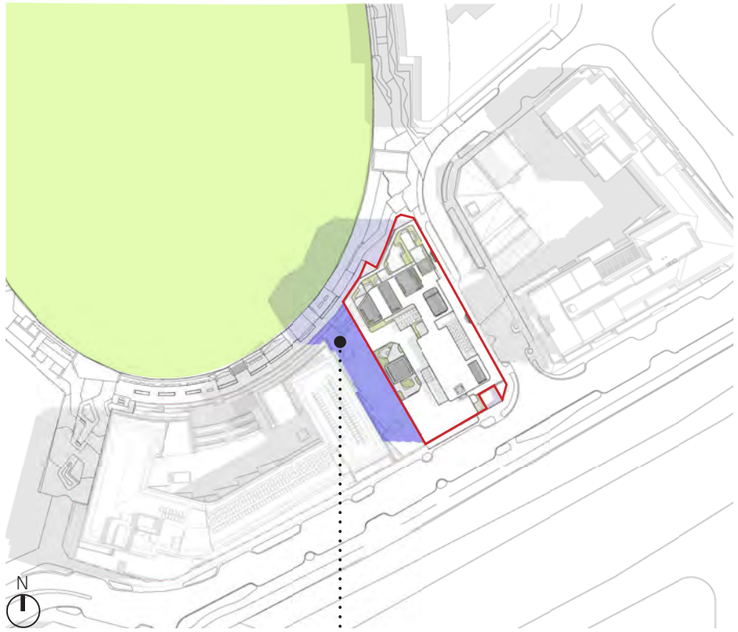
METRICS NORUP

3.3 OVERSHADOWING DIAGRAM (SUMMER SOLSTICE)

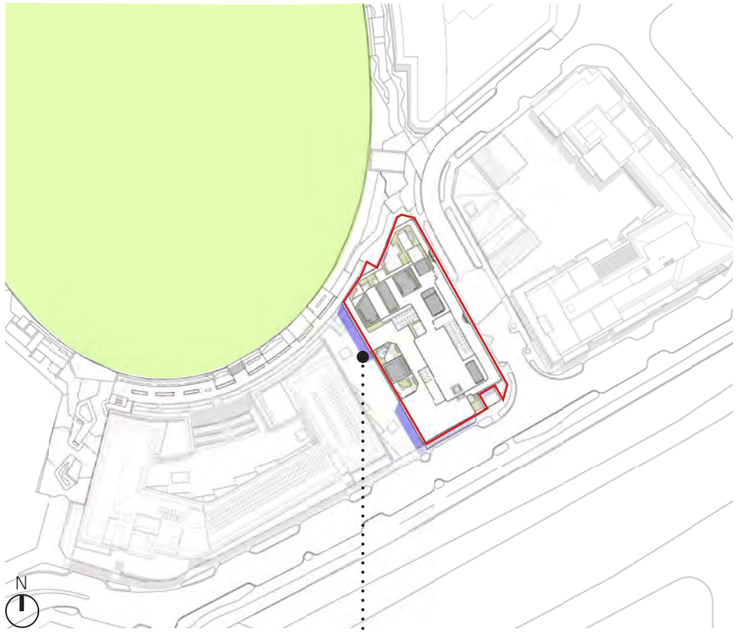
BUILT FORM & SCALE

9AM



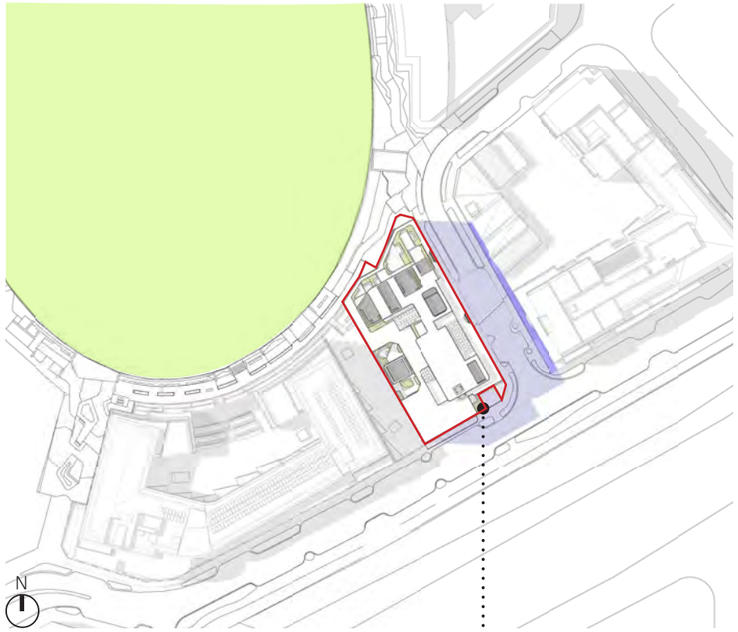
544.12m²

12PM



109.13m²

3PM



109.45m²

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4

FUNCTIONALITY & BUILD QUALITY

4.1 TRAFFIC IMPACT ASSESSMENT
FUNCTIONALITY & BUILD QUALITY

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VEHICLE TRIP GENERATION:

The proposed Stage 2 development is expected to generate approximately 50 two-way vehicular trips during the AM peak hour and 50 two-way vehicular trips during the PM peak hour (arrivals plus departures).

According to WAPC Transport Impact Assessment Guidelines, developments generating between 10 and 100 vehicular trips during the peak hour is considered to have a moderate impact on the surrounding road network.

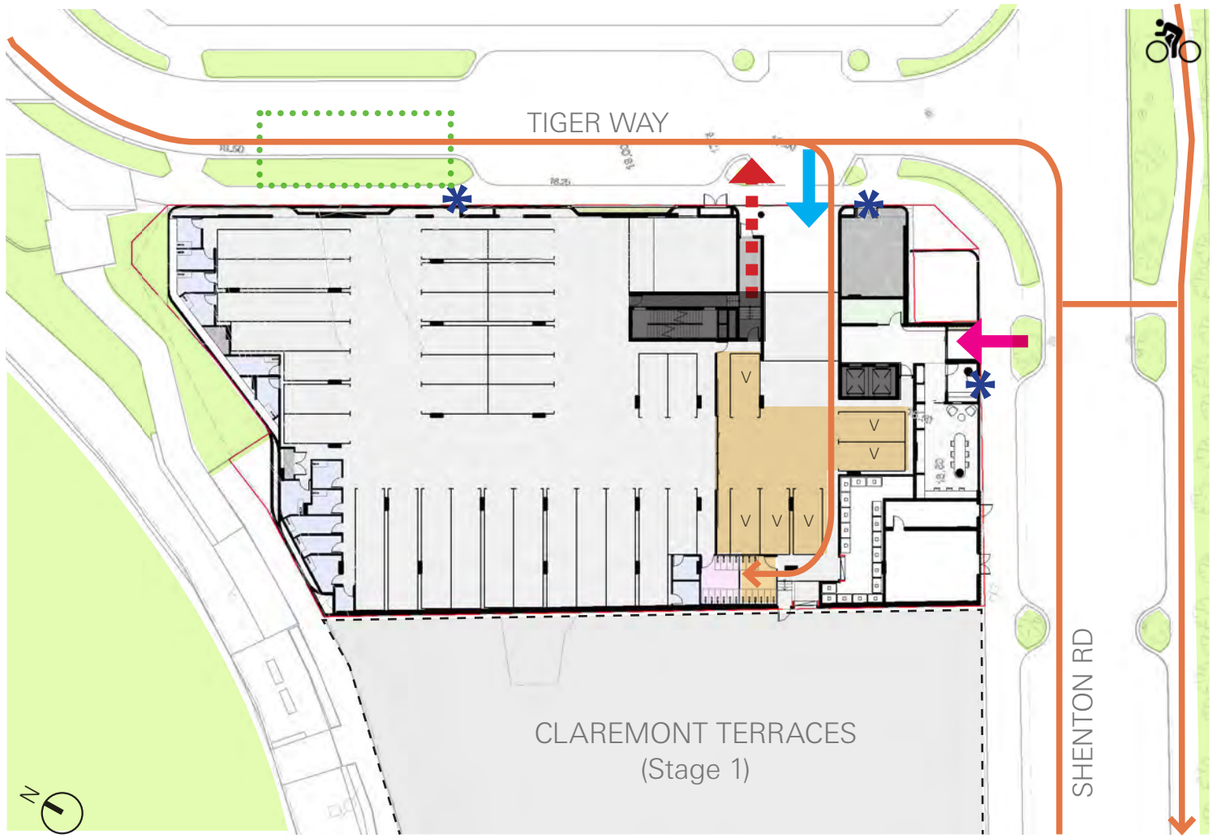
Walking and cycling facilities within the surrounding area are considered to be excellent, with many high-quality paths available providing good connectivity with the surrounding amenities, which are expected to favour the lifestyle aspirations of the target demographic and mitigate the reliance on motor vehicles. Additionally, the public transport amenity within the vicinity of the site is also considered to be excellent with a high frequency of bus and trains services within walking distance from the site.

PARKING:

A feature of the proposal is the concealment of 111 residential and 6 visitor parking bays within two levels of parking. There are also 9 on-street visitor bays located in the immediate vicinity of the site.

The proposal provides one bicycle rack within each residential store, and also includes a secure ground-floor bicycle storage area with 9 residential and 9 visitor racks.

GROUND FLOOR PLAN:



LEGEND

- Resident Vehicle Access
- Resident Egress Path
- Cycle Paths
- Pedestrian Access
- Visitor Parking
- On-site Services
- Fire Hardstand

A full summary of the existing and anticipated traffic conditions and methodologies can be found in the Transport Impact Statement Report.

Stantec

METRICS NORUP

4.2 WASTE MANAGEMENT PLAN
FUNCTIONALITY & BUILD QUALITY

BIN STORAGE AREA:

A bin enclosure area is proposed within the building at ground level for the storage of general waste and recycle bins. The bin enclosure is located adjacent to the platform lift for connection to Stage 1 bin collection area. This space has been sized for the estimated waste generation and the use of:

- Ten 660L refuse bins, collected twice each week.
- Eight 660L recycling bins, collected once each week.

WASTE COLLECTION:

It is anticipated that the proposed Development will use the waste collection services provided by the Town of Claremont. Waste collection is proposed to take place from the loading area in the Stage 1 development during off-peak hours or outside normal business hours.

On the designated collection day, the general and recycling waste bins will be transported by a nominated staff/caretaker from the Stage 2 bin enclosure to the proposed platform lift which connects to the Stage 1 loading area where the waste truck will be parked. The general and recycling waste will then be emptied into the waste truck and on completion of the service the empty Mobile Garbage Bins (MGBs) will be returned to the respective bin enclosures by the nominated staff member.

GENERAL WASTE & RECYCLING:

Waste and recyclables will be sorted on-site and as close to source as possible. Sorting will rely on appropriate education of staff in addition to adequate signage for bins located in the bin enclosure.

Waste and recycling will be based on the following streams:

- General Waste.
- Co-mingled Recycling, which includes clean aluminium foil and trays, glass bottles and jars, long-life milk and juice cartons, cardboard, plastic containers, tins, and cans.

OTHER WASTE STREAMS:

Storage, handling and collection of bulk wastes, such as mattresses and other hard rubbish and electronic waste such as old batteries, are not covered in this WMP. It should be noted that the Town provides biannual green and bulk waste collections throughout the year for residential and multi-residential properties. It is recommended that the Facility Manager/caretaker of this development manage and coordinate the bulk waste collections for this development.

WASTE REDUCTION & MANAGEMENT STRATEGY:

Waste reduction is accomplished through proper education of all stakeholders and the implementation of various sustainability strategies. It also involves constant monitoring and review of waste operations.

MANAGEMENT OF ALL WASTE:

As noted variously above, a nominated staff member will monitor and oversee all relevant aspects of waste management.

A full summary and further details relating to the above can be found in the Waste Management Plan.

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4.3 WASTE DISPOSAL STRATEGY

FUNCTIONALITY & BUILD QUALITY

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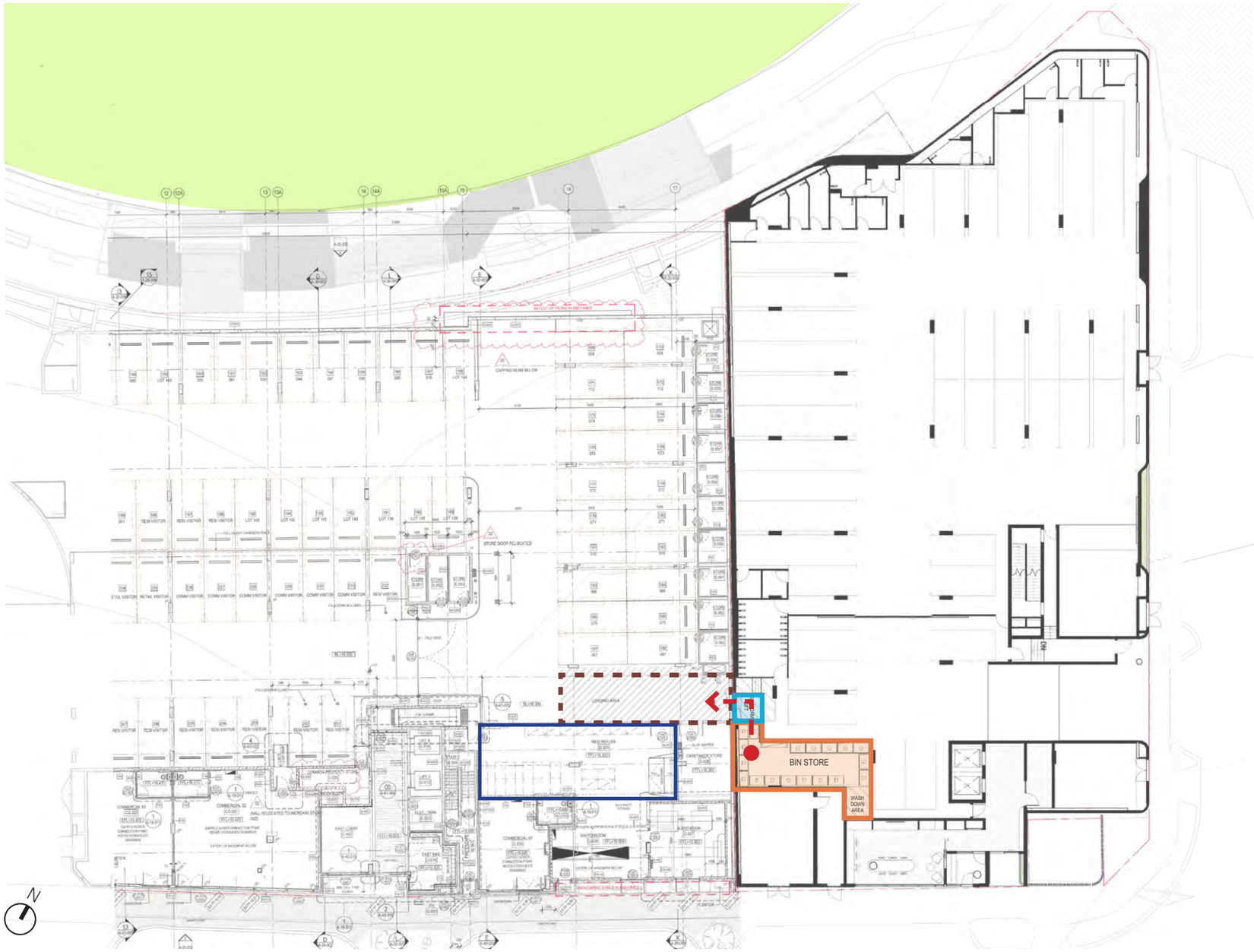
GROUND FLOOR PLAN:



An option that is being considered is for a nominated staff member to transfer the bins from the Stage 2 residential bin enclosures via a proposed platform lift to the Stage 1 residential bin enclosure. The bins would potentially be ferried from the Stage 2 residential bin enclosures to the waste truck that is parked in the Loading Area on the waste collection days.

LEGEND:

- Stage 2 Waste Storage Area
- Waste Disposal Strategy
- Platform Lift
- Stage 1 Bin Loading Zone
- Stage 1 Bin Enclosure.

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4.4 DWELLING MIX

FUNCTIONALITY & BUILD QUALITY

SK01 - CLAREMONT STAGE 2																	*30.04.2026*
SK-01	**Car bays required for units**	**Car allocations provided**	**Single**	**Tandem**	**Pit Stackers**	**Car bays provided**	**On-Street Parking**	**Stores**	**Carpark - Plot ratio area**	**Commercial - Plot ratio area**	**Residential - Plot ratio area**	**Studio**	**1x1 bed**	**2x2 bed**	**3x2 bed**	**4x3 bed**	**Total**
Basement 01		40	13	19	8	67		42	1434								
Ground Floor		38	24	14		52	9	15	1405								
Level 1	10										1358		1	6	3		10
Level 2 (Lower Typical)	10										1387		1	5	4		10
Level 3	10										1387		1	5	4		10
Level 4	10										1387		1	5	4		10
Level 5	9										1377		1	3	5		9
Level 6 (Sub-Penthouse)	6							2			1357				5	1	6
Level 7 (Penthouse)	6							2			1353				5	1	6
Level 8 (PH Upper)	0										36						
TOTAL OVERALL		***78***	***37***	***33***	***8***	***119***	***9***	***61***	***2839***	***0***	***9642***	***0***	***5***	***24***	***30***	***2***	***61***
TOTAL PERCENTAGE												***0%***	***8%***	***39%***	***49%***	***3%***	
Visitor Parking Req.	**10**																
Deep Soil	**43.00**	***2.2%***															
Plot Ratio Area		***12481***															
PLOT RATIO		***6.24***															
SITE AREA		***2000***															

	CARBAY ALLOCATION		Units	Alloca.	Bays	Notes:
	Visitor	1 car bay		6	6	*10 required as per R-codes (9.12 bays)*
Apartments	**1 Bed**	1 car bay	5	5	5	
	2 Bed	1 car bay	12	12	12	
	2 Bed	Tandem	12	12	24	*Max 1.2 per apartment (NEP)*
	3 Bed	Tandem	21	21	42	
	3 Bed	2 car bays	9	18	18	
	4 Bed	2 car bays	2	4	4	
			61	**78**	**111**	

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4.5 TYPICAL APARTMENT LAYOUT

FUNCTIONALITY & BUILD QUALITY

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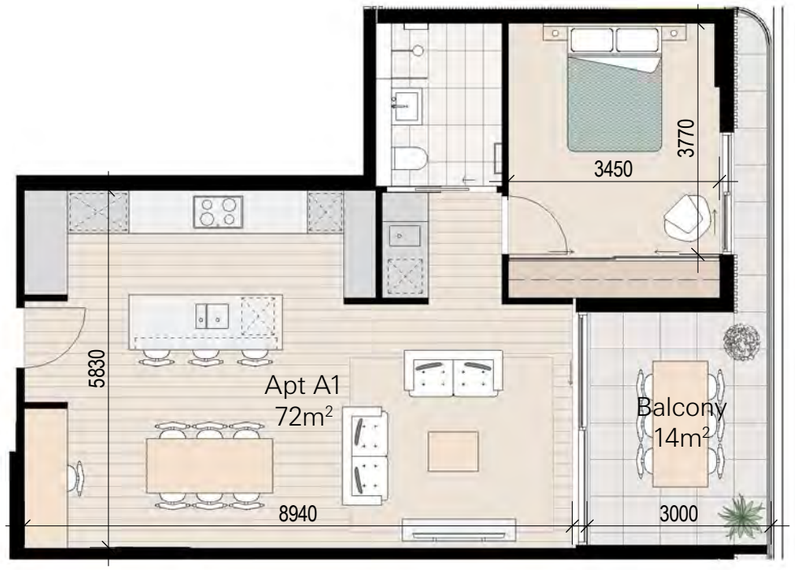


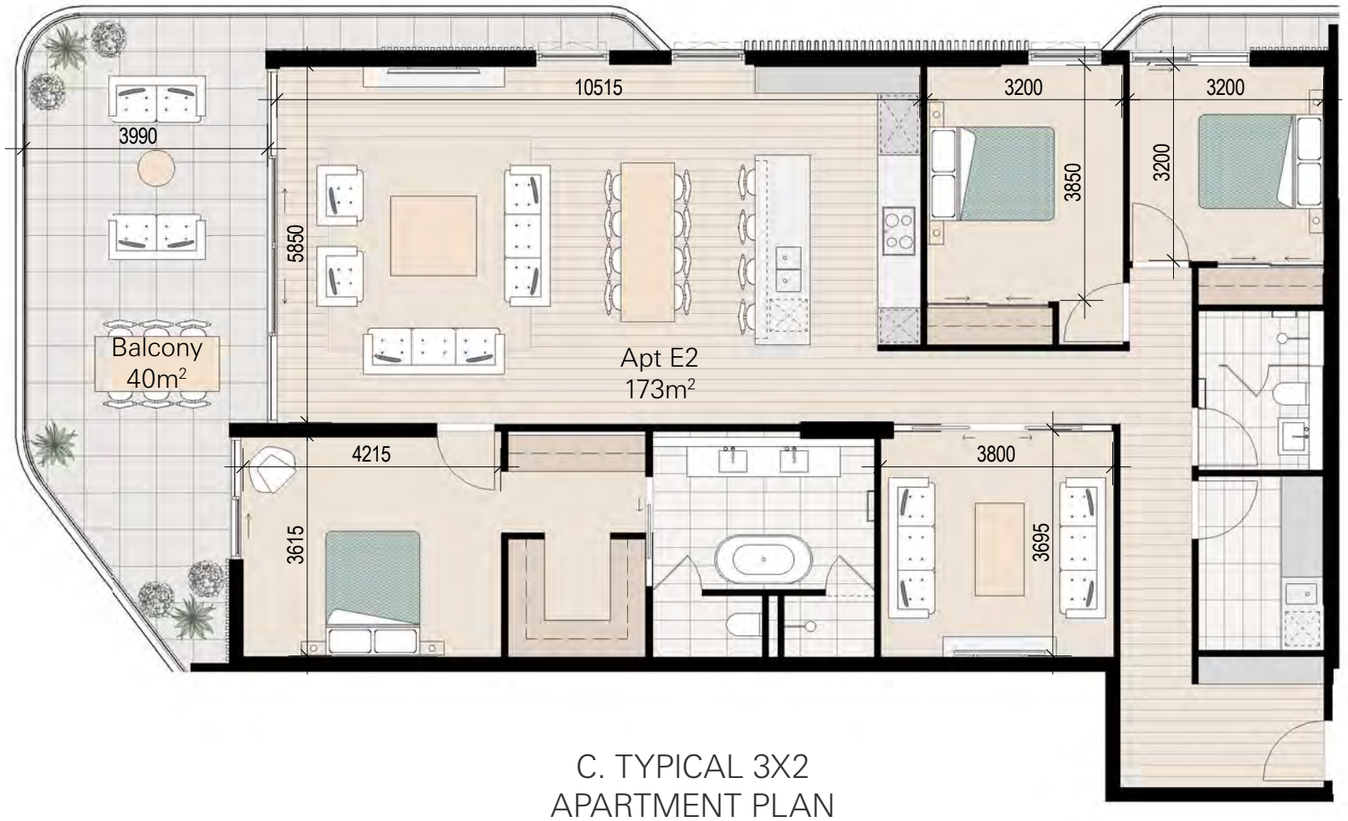
A. TYPICAL 1X1
APARTMENT PLAN
1:100
(Level 1-5)

B. TYPICAL 2X2
APARTMENT PLAN
1:100
(Level 1-5)

METRICS NORUP

4.5 TYPICAL APARTMENT LAYOUT

FUNCTIONALITY & BUILD QUALITY



C. TYPICAL 3X2
APARTMENT PLAN
1:100
(Level 1-5)

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4.5 TYPICAL APARTMENT LAYOUT

FUNCTIONALITY & BUILD QUALITY

D. TYPICAL PENTHOUSE
APARTMENT PLAN
1:100
(Level 6)

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SUSTAINABILITY

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5.1 SUSTAINABILITY STRATEGIES

SUSTAINABILITY

All units meet the minimum NatHERS energy efficiency requirement of 6 stars for sole occupancy and average of 7 stars, based on NCC 2022.

KEY INITIATIVES:	GOALS:	SUSTAINABILITY COMMITMENTS:
Structure Design Efficiency	Integrate passive solar design principles to optimise solar access in winter and shading in summer.	• Enhance passive solar performance by incorporating shading devices on north, east, and west facing windows to reduce summer heat gain and improve visual interest.
Energy Efficiency	Enhance energy performance by reducing consumption through efficient design and the use of renewable and low energy systems.	• Efficient LED lighting and controls. • 20% reduction in lighting power when compared to NCC DTS. • 60% of the combined living and bedroom area of each dwelling have high level of daylight (above 160 Lux). • Provision of photovoltaic (PV) system to supply renewable energy. • NCC 2022 compliant building fabric. • Energy efficient condenser clothes dryers.
Water Efficiency	Water efficient fixtures and landscaping.	• High WELS rating. • Water sensitive landscape design through plant selections, soil improvement, irrigation efficiency, and water harvesting.
Heat Resilience	Reduce impacts of heat island effect.	• Light roof colour (SRI ≥ 0.64). • Incorporate vegetation and green spaces around the building to provide shading and reduce surrounding air temperatures.
Sustainable Transport/Accessibility	Low carbon options.	• Provision for electric vehicle (EV) charging bays. • Provision for secure bicycle storage area. • Access to public transport. • Building design and location encourage walking to and from several amenities within the vicinity.
Indoor Environment Quality	Enhance indoor air quality.	• Natural ventilation to all apartment units. • Low VOC and low formaldehyde products to be used. • Minimum 95% of internally applied paints, adhesives, sealants (by volume), and carpets (by area) must meet TVOC limits.

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A full summary and further details relating to the above can be found in the Sustainable Design Assessment Report.

5.2 NATURAL VENTILATION

SUSTAINABILITY

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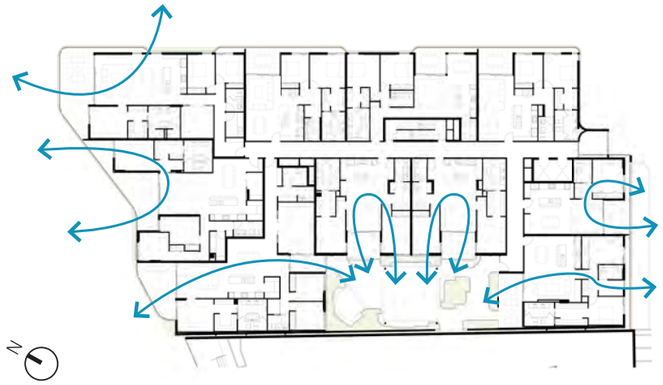

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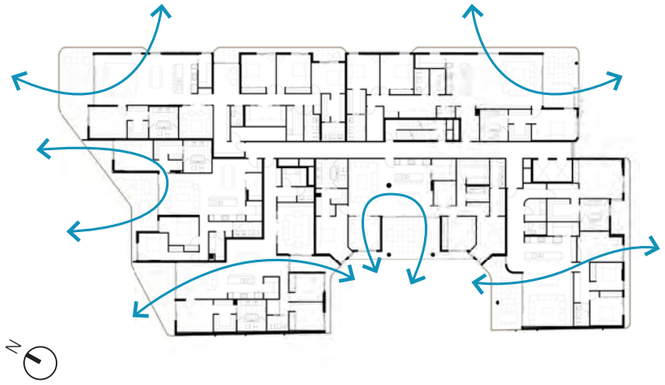

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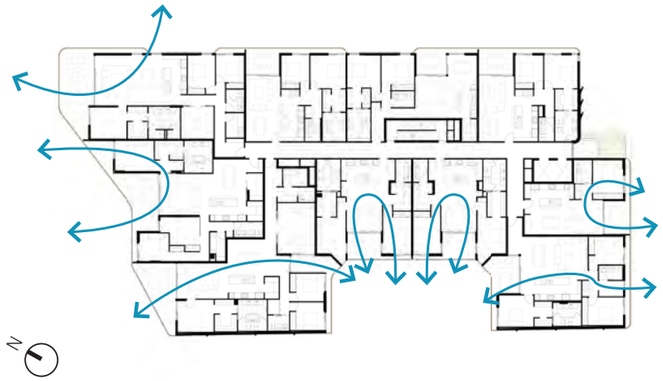

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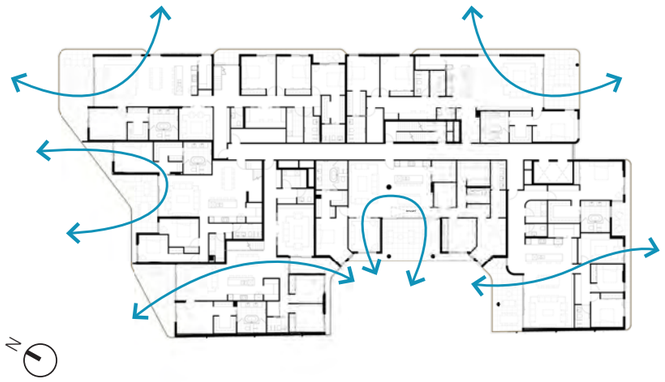

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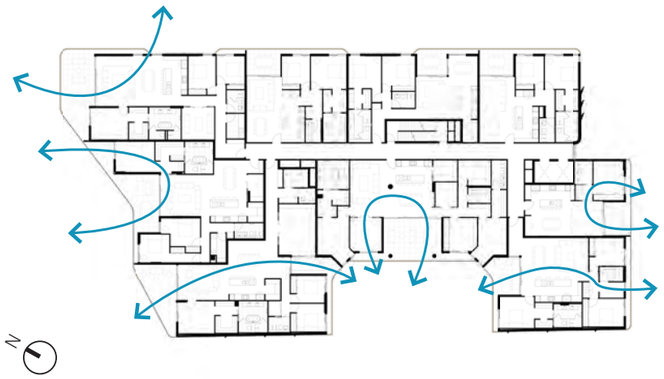

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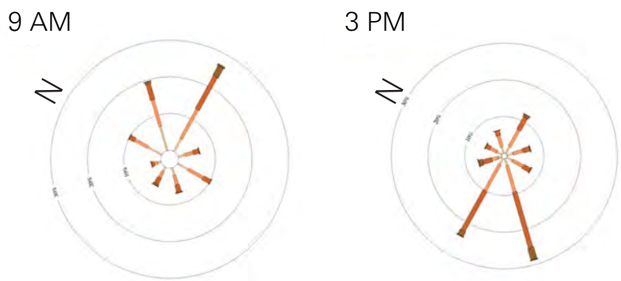

PREVAILING WIND DIRECTIONS

NATURAL VENTILATION

75% of the 61 dwellings across the proposal achieve natural ventilation, exceeding the **Design WA requirement of 60%.**

LEVEL	NUMBER OF APTS	COMPLYING APTS
BASEMENT	-	-
GROUND FLOOR	-	-
LEVEL 1	10	7
LEVEL 2	10	7
LEVEL 3	10	7
LEVEL 4	10	7
LEVEL 5	9	6
LEVEL 6	6	6
LEVEL 7	6	6
TOTAL	61	46 = 75.4%

Single aspect apartments included with the 60% minimum.
Single aspect apartment must have ventilation openings oriented between 45° - 90° of the prevailing cooling wind direction and room depth no greater than 3 x ceiling height.

5.2 NATURAL VENTILATION

SUSTAINABILITY

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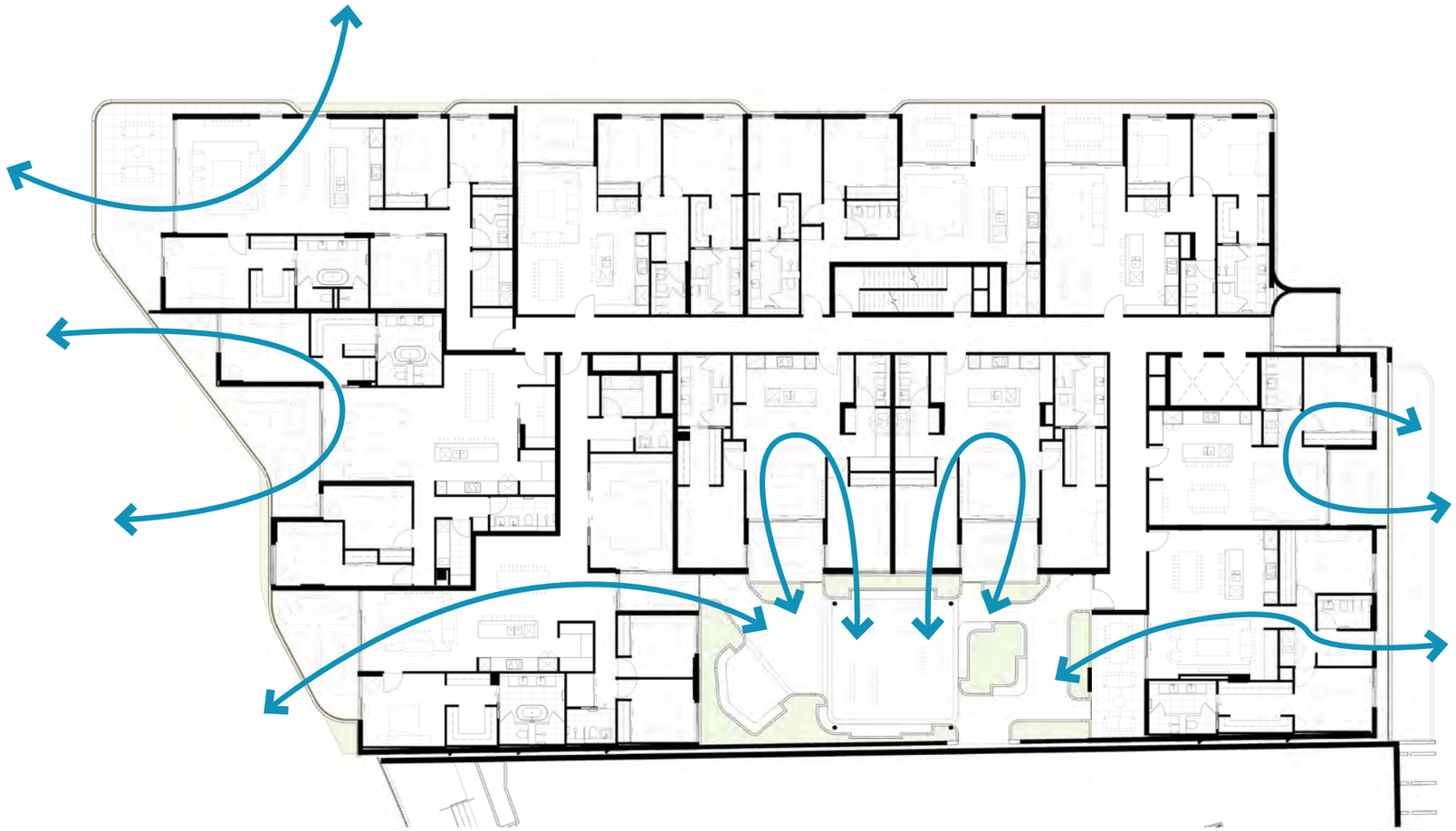
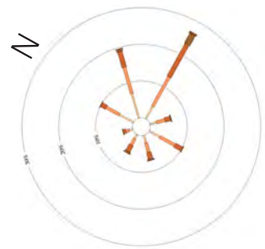


LEVEL 1

PREVAILING WINDS:

9 AM



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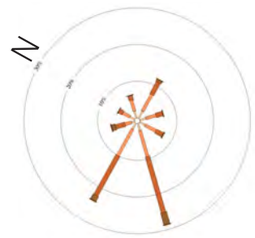

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METRICS NORUP

5.2 NATURAL VENTILATION

SUSTAINABILITY

TOWN OF CLAREMONT
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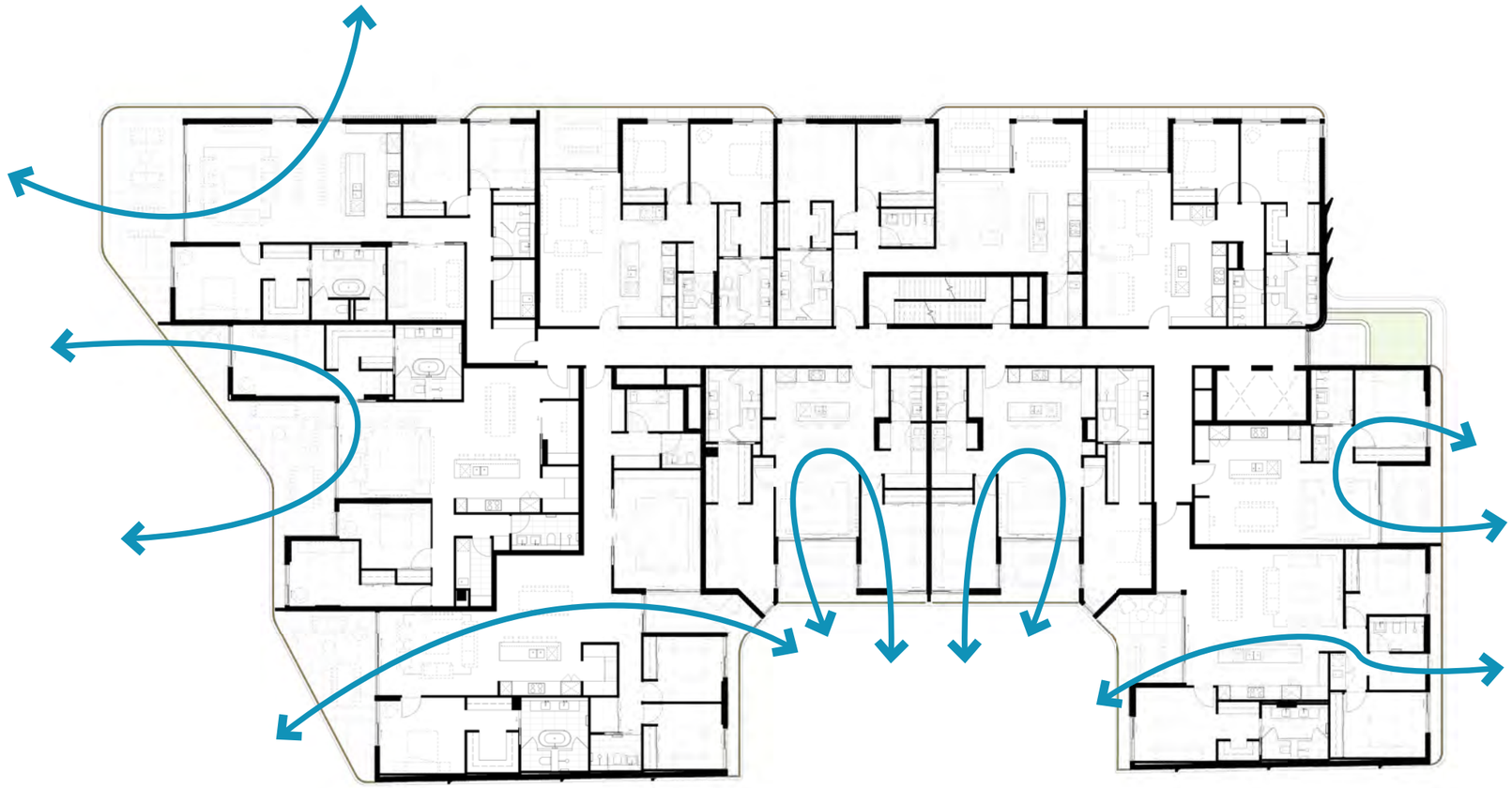
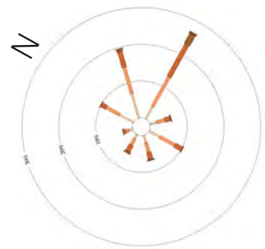


LEVEL 2 - 4

PREVAILING WINDS:

9 AM



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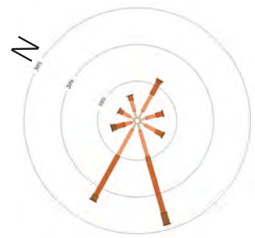

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METRICS NORUP

5.2 NATURAL VENTILATION

SUSTAINABILITY

TOWN OF CLAREMONT
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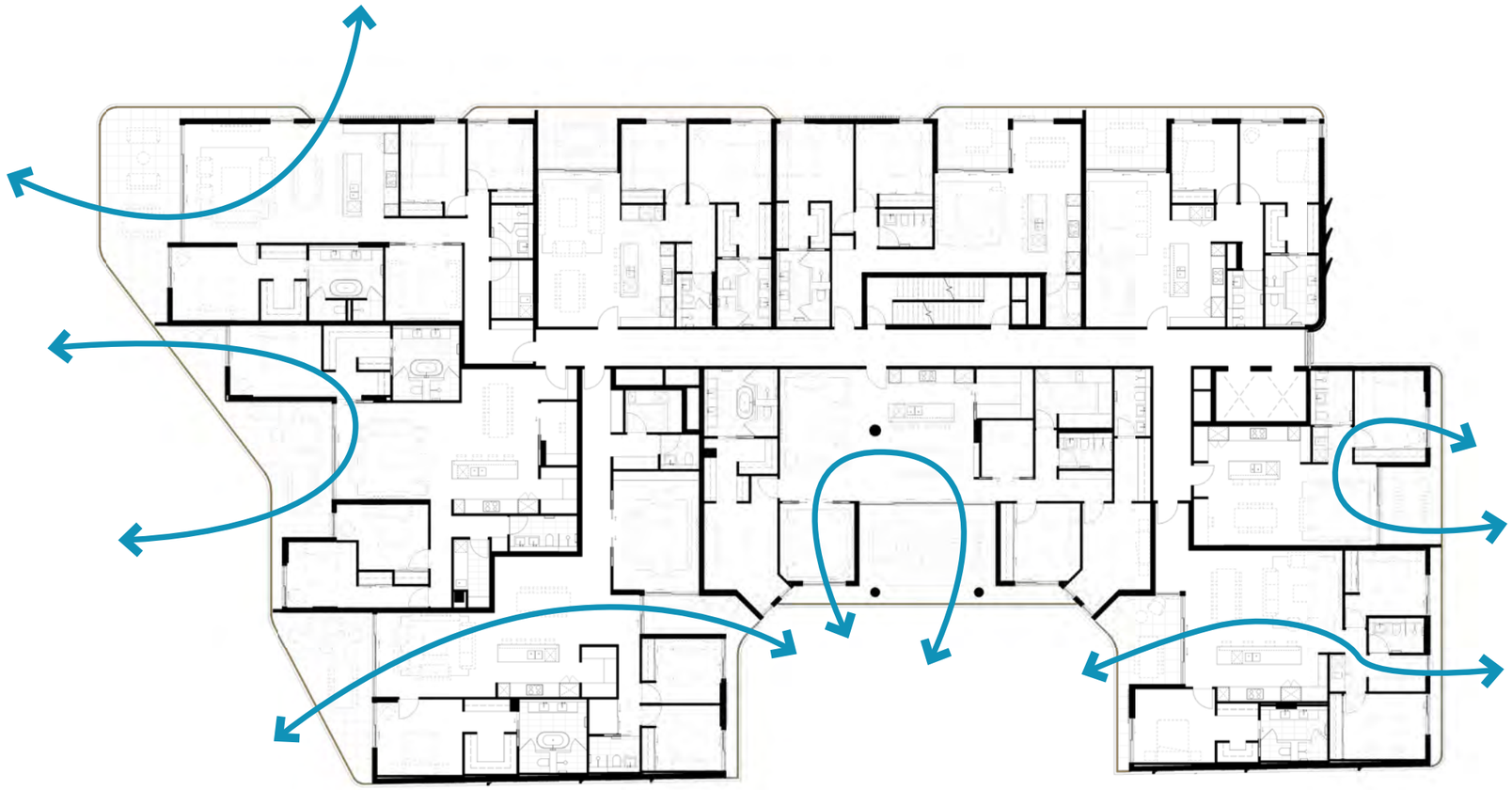

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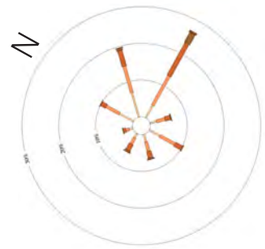

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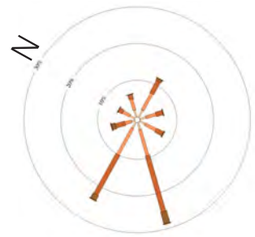

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LEVEL 5

METRICS NORUP

5.2 NATURAL VENTILATION

SUSTAINABILITY

TOWN OF CLAREMONT
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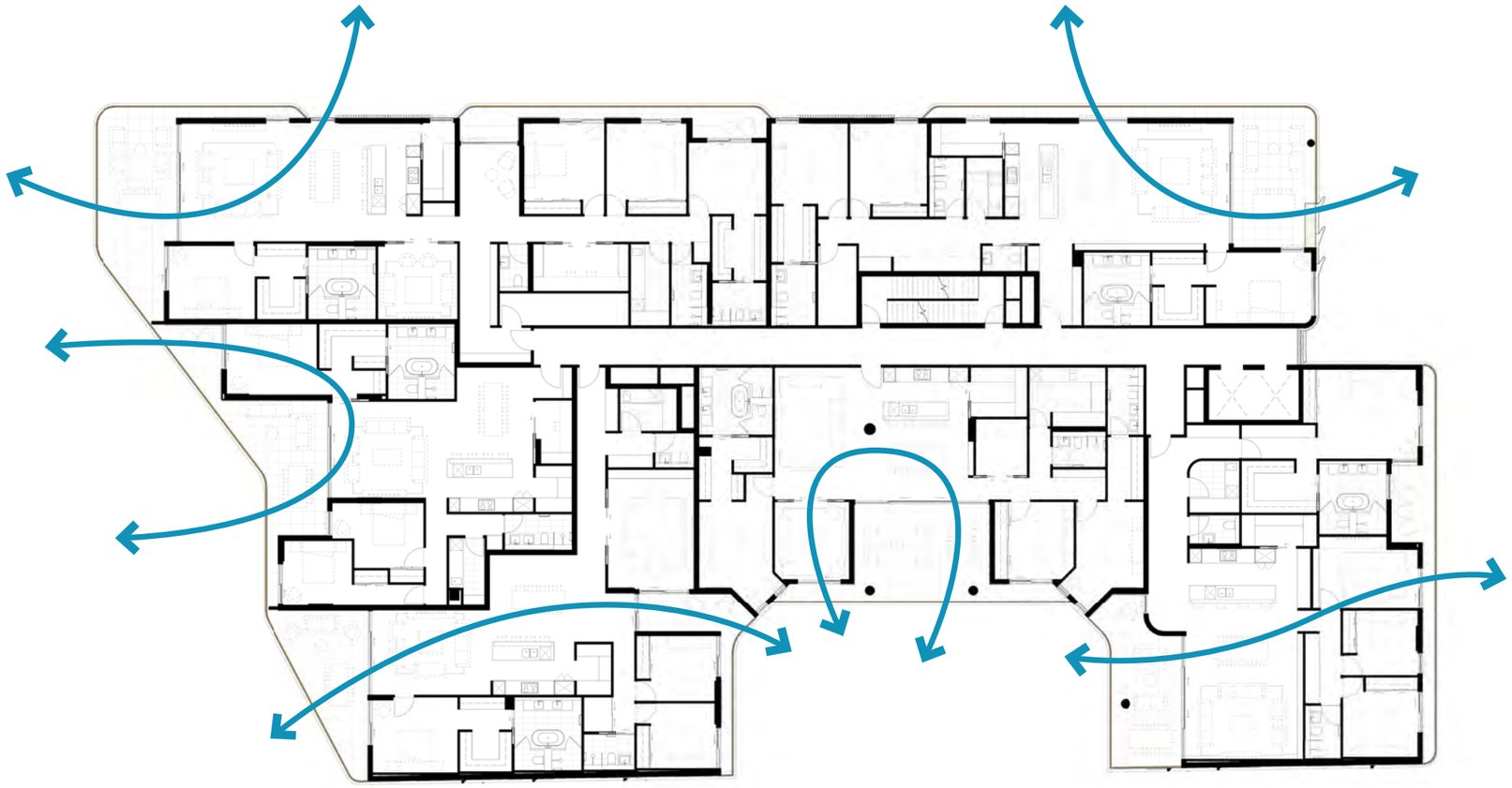
18/05/2026



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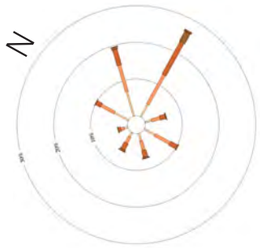

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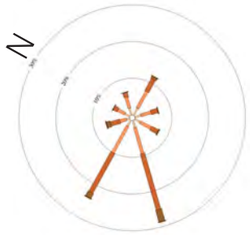

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LEVEL 6

METRICS NORUP

5.2 NATURAL VENTILATION

SUSTAINABILITY

TOWN OF CLAREMONT
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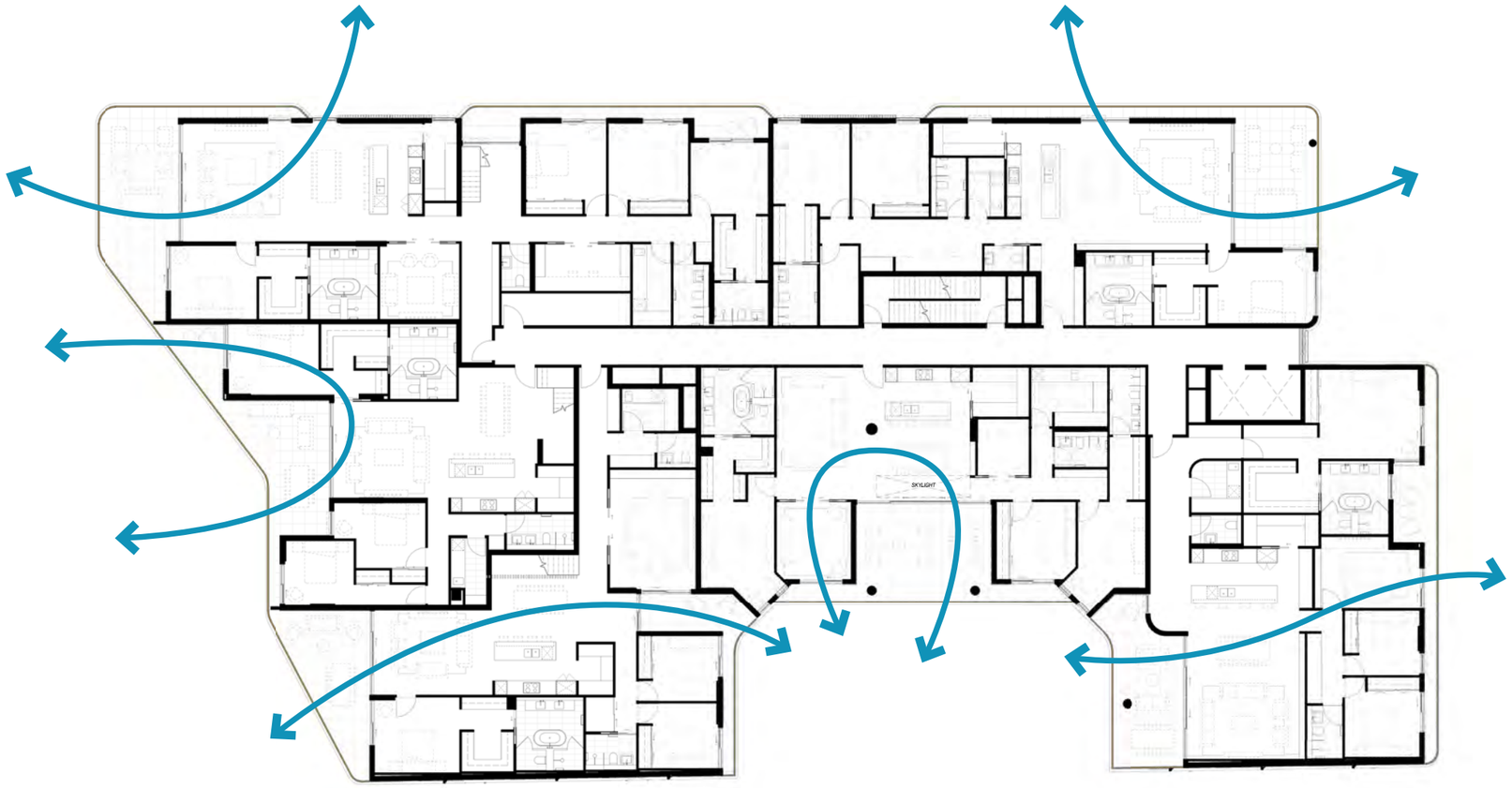

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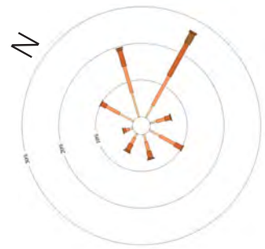

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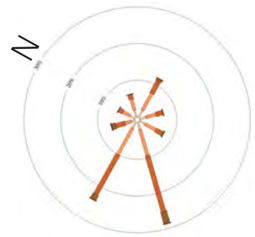

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LEVEL 7

METRICS NORUP

5.3 SOLAR ACCESS (WINTER SOLSTICE)

SUSTAINABILITY

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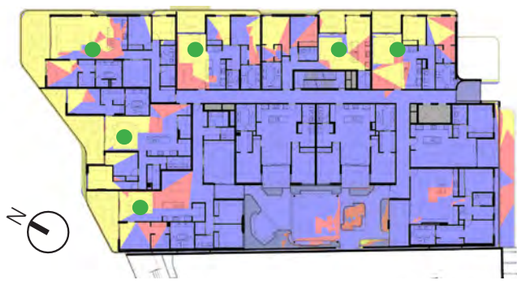
DIRECT SUN HOURS:

LEVEL 1:

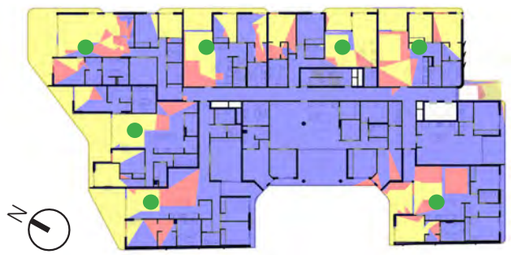
LEVEL 2:



LEVEL 3:

LEVEL 4:

LEVEL 5:



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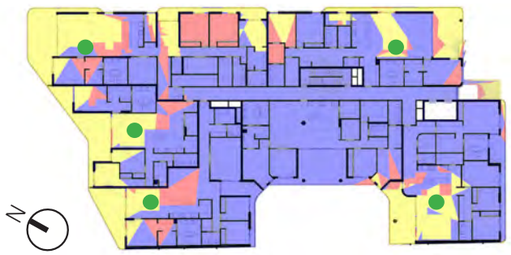

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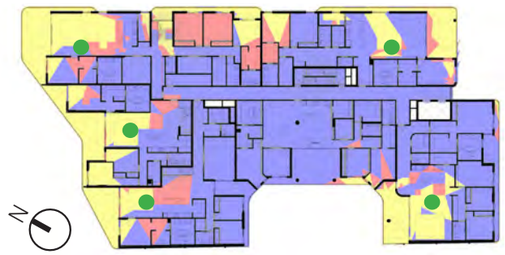

Habitable spaces have direct access to natural light, with bedrooms and living spaces prioritized around the edges of the building envelope.

Of the 61 apartments in the proposal, **43 (70.5%) receive at least two hours of direct sunlight** between 9:00 am and 3:00 pm on the 21st of June. The design complies with the Design WA requirement by exceeding the 70% minimum solar access threshold.

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AMENITY

6.1 GROUND FLOOR AMENITIES

AMENITY

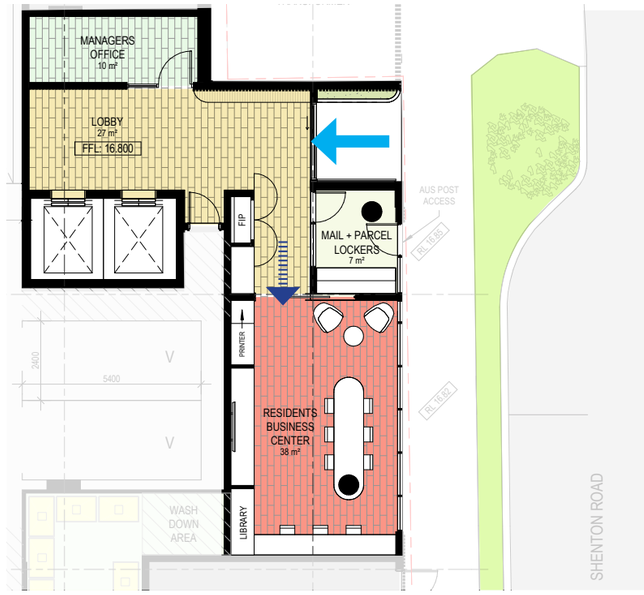
A total of 479m^2 has been allocated towards residential amenity.

Residents will enjoy the amenity of multiple communal spaces which have been split throughout three levels of the proposal, namely the ground floor, level 1, and rooftop. The proposal offers varying types of communal spaces which include external and internal spaces that allow for a range of uses year round both social and private.

*Illustration shown is artist's impression.

GROUND FLOOR AMENITIES:

The proposal provides some residential amenities within the ground floor, such as library with study nooks that not only benefits residents but also enhances the vitality of the public realm through permeable facades. Other key features include bicycle racks, secure parking and store rooms and easy access to lifts and lobby.



GROUND FLOOR

LEGEND

Resident Access

Resident & Visitor Access

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METRICS NORUP

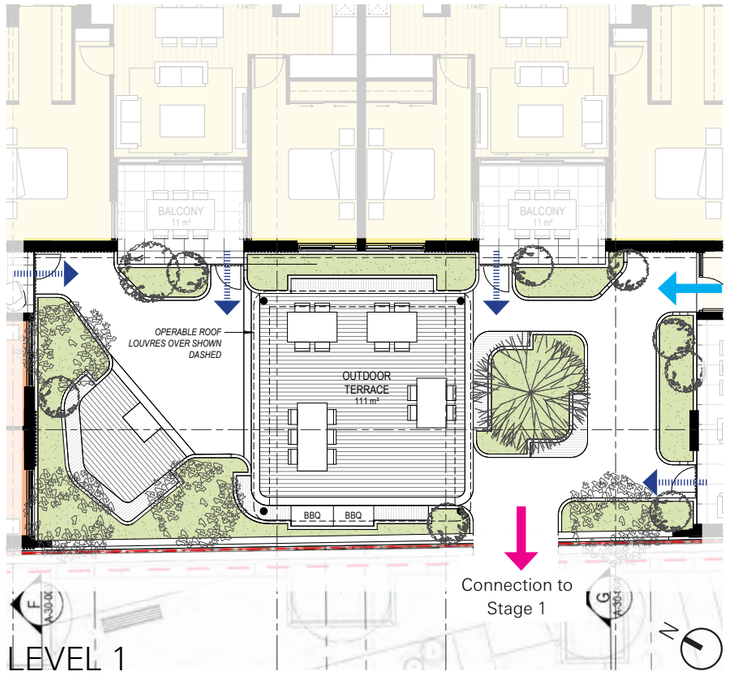
6.2 LEVEL 1 AMENITIES

AMENITY

*Illustration shown is artist's impression.

LEVEL 1 AMENITIES:

Within Level 1, the proposal provides residents access to a communal private open space (courtyard) featuring a decked BBQ and dining area, lush plantings, and access to the shared resident amenities located in Claremont Terraces Stage 1.



LEGEND

- Resident Access
- Connection to Stage 1
- Terrace Private Access

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METRICS NORUP

6.3 ROOFTOP AMENITIES

AMENITY

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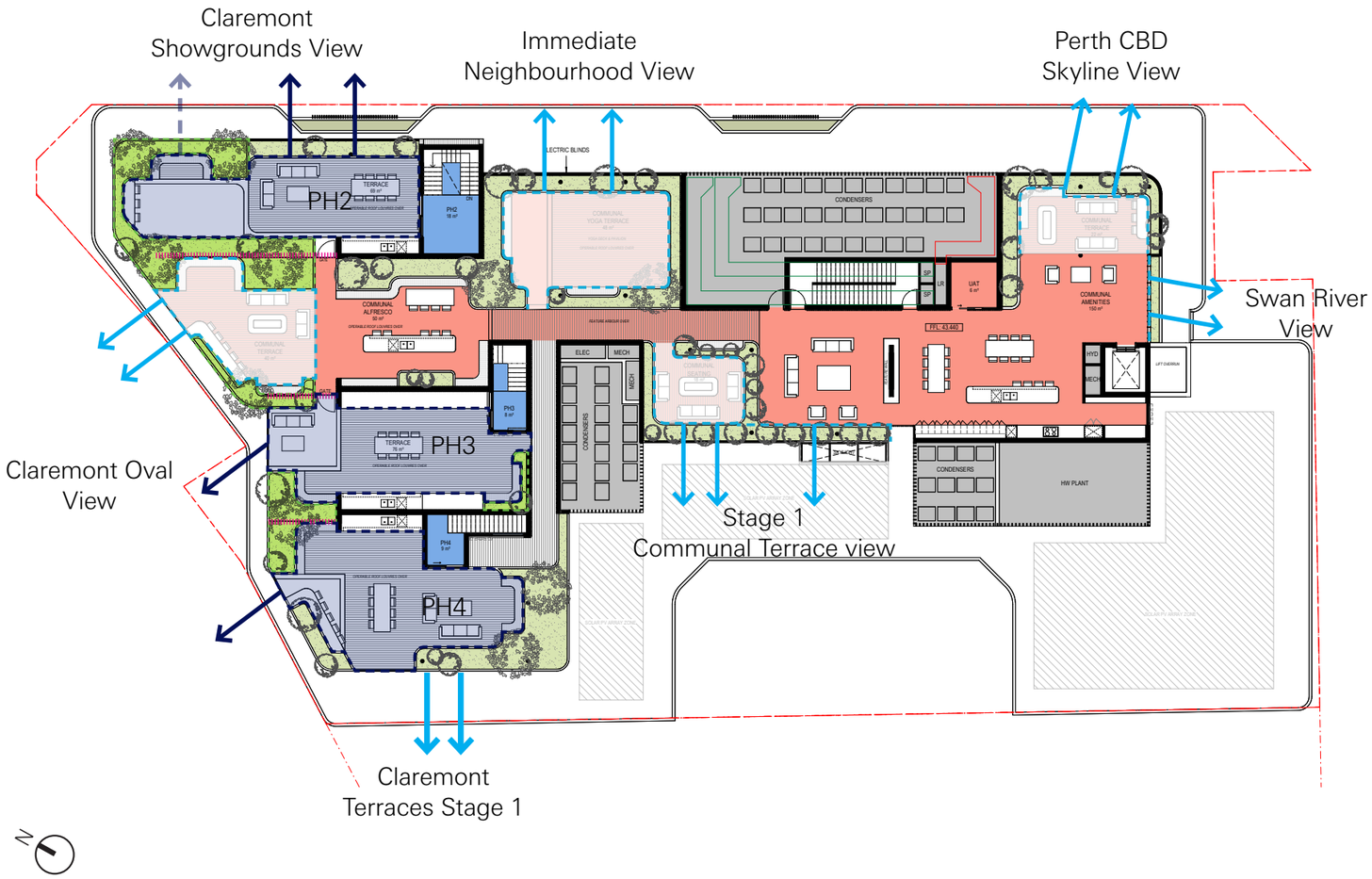

ROOFTOP AMENITIES PLAN

ROOFTOP AMENITIES:

Residents will enjoy a variety of communal spaces thoughtfully arranged across the rooftop level to create an exceptional living experience. The amenities include inviting internal areas, such as formal lounge and dining spaces, as well as expansive outdoor spaces featuring vibrant landscaping and decked flooring. The outdoor spaces include a communal BBQ and dining pavilion, a yoga pavilion, and two outdoor lounge areas for residents to enjoy.

The outdoor lounge located along the north offers uninterrupted views over the Claremont Oval, while the outdoor lounge located along the south overlooks the city skyline and the Swan River.

*Illustration shown is artist's impression.

LEGEND

- Strategic Plantings
- Communal Terrace
- Penthouse Terrace
- Terrace Views
- Strategic Screening

METRICS NORUP

6.4 RESIDENT'S PRIVACY
AMENITY

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LEVEL 1 AMENITIES PLAN

RESIDENT'S PRIVACY:

Privacy between balconies is maintained through the use of integrated screens, strategic planting, and physical separations.

Strategic plantings are utilized within the Level 1 communal open space to protect resident privacy. Additionally, integrated balcony screening is applied to typical apartment floors facing the internal communal open space , specifically where balconies are positioned at a 90-degree angle in close proximity to one another.

*Illustration shown is artist's impression.

LEGEND

- Strategic Plantings
- Resident's Balcony
- Resident's Terrace
- Terrace Views
- Strategic Screening

METRICS NORUP

6.5 LEVEL 1 COMMUNAL OPEN SPACE

AMENITY

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Residents are provided with access to a communal private open space (courtyard) within Level 1. This external space features BBQ and dining area, lush plantings, and access to shared resident amenities located in the Terraces Stage 1.

*Illustration shown is artist's impression.

6.6 ROOFTOP COMMUNAL OPEN SPACE

AMENITY

TOWN OF CLAREMONT
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Upon arrival, residents are provided access to an outdoor lounge area overlooking the City and Swan River.

*Illustration shown is artist's impression.

6.6 ROOFTOP GARDEN WALK

AMENITY

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Heading towards the communal BBQ and dining area from the formal lounge and dining, residents experience shaded pathway surrounded by lush landscaping.

*Illustration shown is artist's impression.

6.6 COMMUNAL ROOFTOP TERRACE

AMENITY

TOWN OF CLAREMONT
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Residents are provided access to several rooftop amenities, including internal formal lounge and dining area, and external rooftop terrace featuring shaded BBQ and dining area, and casual seating spaces overlooking the Claremont Oval.

*Illustration shown is artist's impression.

6.6 PRIVATE ROOFTOP TERRACE

AMENITY

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Residents of the Level 7 penthouse apartments enjoy not only balcony spaces within the apartment level, but also private rooftop terraces that offer exceptional outdoor living overlooking the Claremont Oval.

*Illustration shown is artist's impression.

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7

LEGIBILITY

METRICS NORUP

7.1 SITE ACCESS
LEGIBILITY

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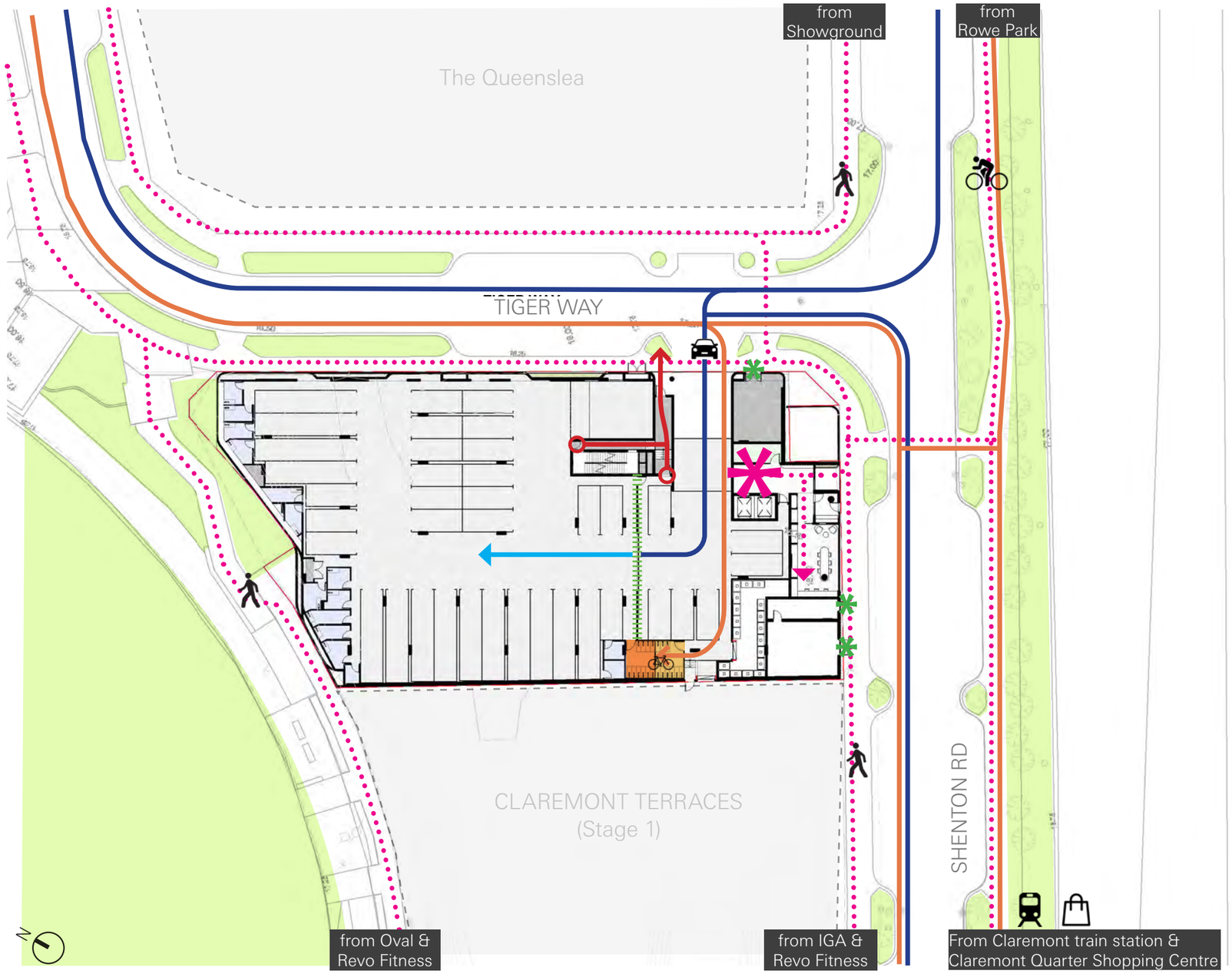
GROUND FLOOR PLAN:



Vehicle access for both residents and visitors is located along Tiger Way, minimising traffic impact along Shenton Road.

The primary entry for residents and visitors is located along Shenton Road, which directs residents and visitors into the lobby, lifts, car parking, and resident ground floor amenities. The location of the entrance is highly legible and enhances connection with surrounding precinct amenities.

Internally, the building is easily navigable with the access lifts that flows residents and visitors into the corridor spine leading to apartments and residential amenities.

LEGEND:

- Vehicle Access (Residential & Visitor)
- Secure Access (Residents Only)
- Secure Gate
- Pedestrian Access (Resident & Visitor)
- Bicycle Access (Resident & Visitor)
- Egress
- Residential Lift Lobby
- Secure Bicycle Store (Visitor)
- Secure Bicycle Store (Residential)
- On-Site Service Access

METRICS NORUP

7.2 WALKABILITY DIAGRAM

LEGIBILITY

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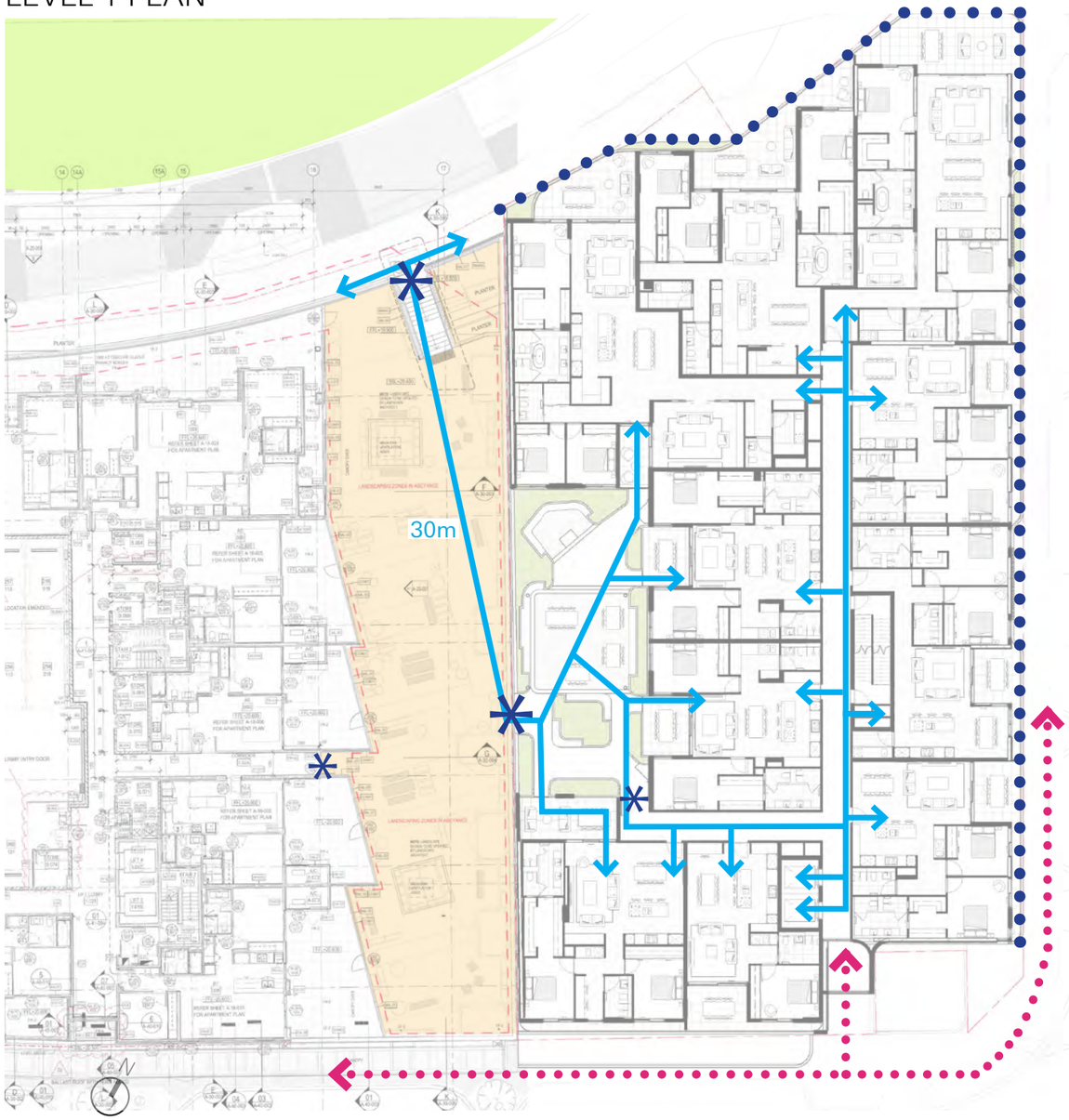
LEVEL 1 PLAN



CONNECTED COMMUNITY

The design of Stage 2 is seamlessly integrates with Stage 1, establishing a continuous social spine throughout the development. This connectivity is optimized through strategic nodes and legible walkability, ensuring fluid precinct-wide circulation. A discreet, secure gate provides a controlled transition, prioritizing resident safety while maintaining the development's overall visual and spatial cohesion.

LEGEND:

- Level 1 Community Terrace Connectivity
- Residential Secure Gate
- Ground Level Connections

METRICS NORUP

7.3 PEDESTRIAN EXPERIENCE

LEGIBILITY

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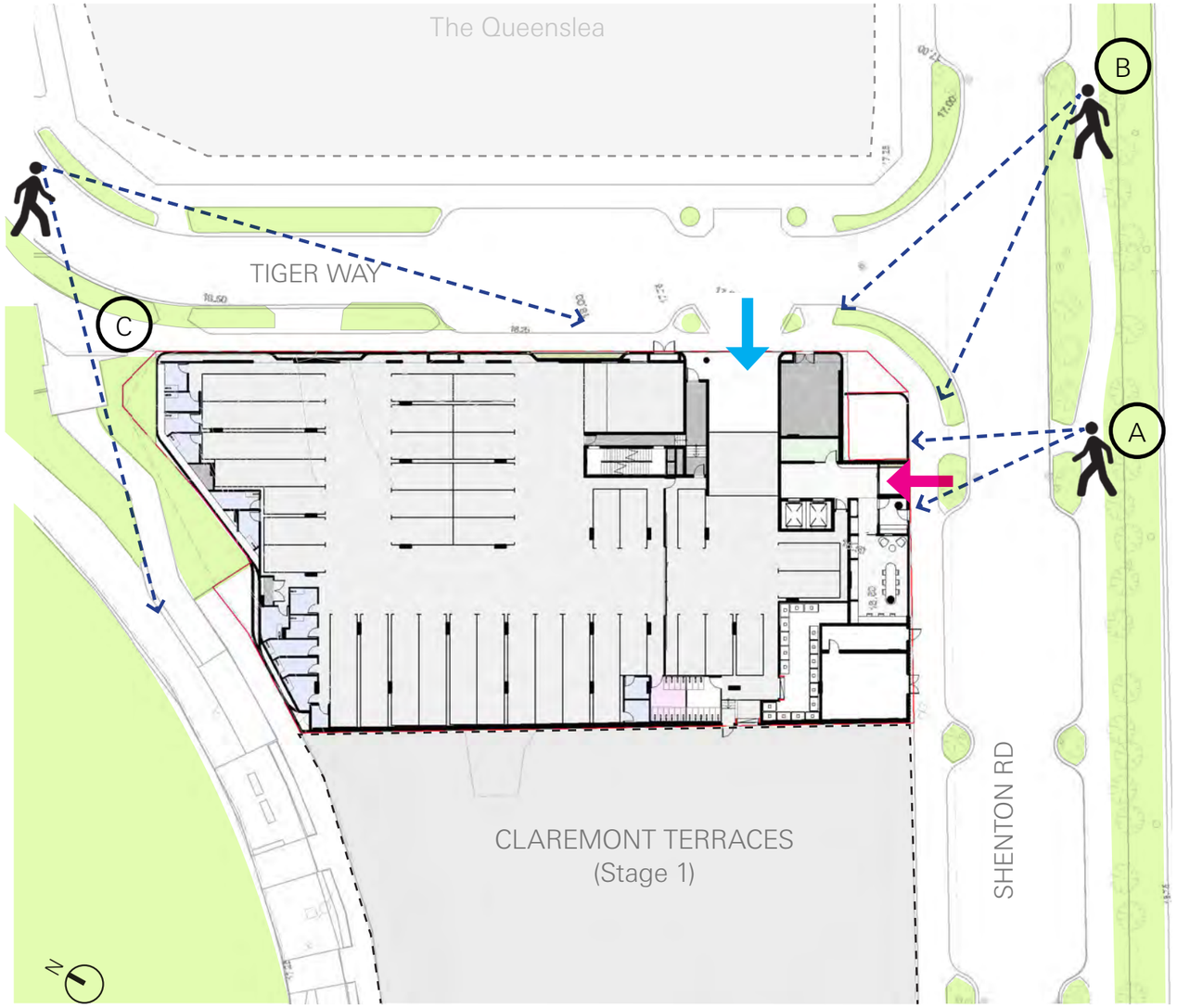

LEGEND:

- Vehicle Access (Resident & Visitor)
- Pedestrian Access (Resident & Visitor)

The inviting form of the main entrance marked by a distinctive canopy and featured artwork directs pedestrian flow towards the Lobby. The main entrance has also been positioned in close proximity to visitor and public parking, residential amenities within the ground floor, and the pathways leading to the Claremont Oval. Thus the main entry point is easily visible from the public realm.

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SAFETY

8.1 CPTED OVERVIEW

SAFETY

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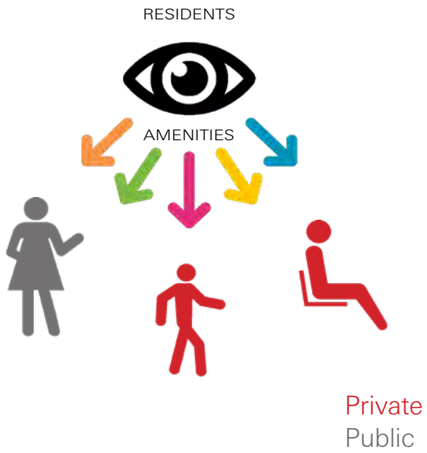
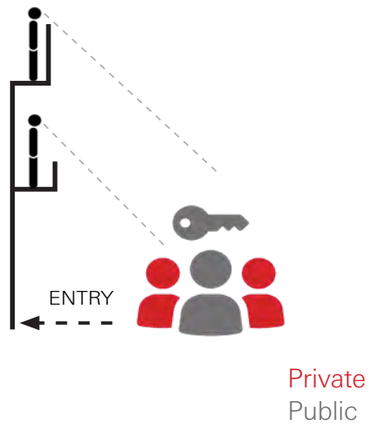
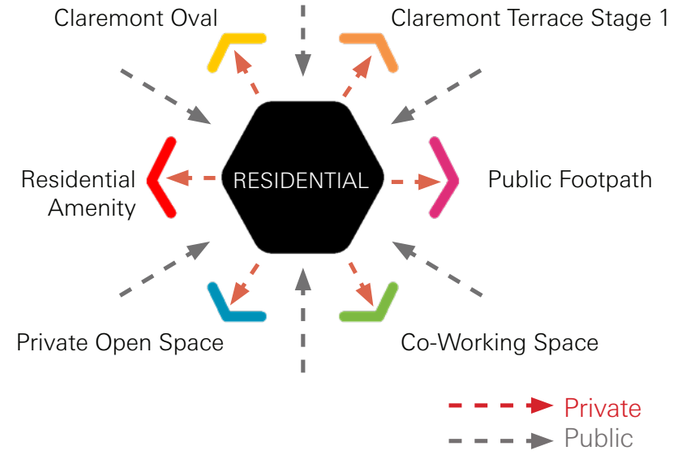
This proposal seeks to adopt the principles of Crime Prevention Through Environmental Design (CPTED) particularly through the following strategies:







NATURAL / PASSIVE SURVEILLANCE:

- Maximize the level of natural / passive surveillance with open and clear site lines between buildings, walkways and other public spaces.
- Building entrances, windows, balcony and communal spaces should be visible from the public realm to maximize opportunities for natural / passive surveillance.
- Ensure paths, entrances, parking lots, and gathering spaces are well lit.
- Use low or see through plantings and fences to maintain visibility, and avoid the use of vegetation that creates hiding places.
- Encourage active use of outdoor spaces, particularly around the public realm through the incorporation of elements such as outdoor seatings.
- Ensure that spaces and building facades are well maintained to signal that people are present and attentive.

NATURAL ACCESS CONTROL:

- Ensure that building access points are clearly defined and defensible at all times.
- Ensure access points to private or restricted areas are limited and clearly defined with security control operational at all times.
- Alcoves hidden from sight and voids are avoided and low profile landscaped areas are used as means of distinction between public, private, and transitional spaces.
- Provide an easy to understand site-wide pedestrian and bicycle network identifying key routes so that users can navigate the site with ease.

TERRITORIAL REINFORCEMENT:

- Ensure that boundaries between public, semi-public, and private areas are well defined through elements such as low fences/railings, plantings,and change in materiality to signal transitions between spaces. This creates an appropriate sense of ownership and discourages unwanted activities as offenders perceive a higher risk of detection or intervention.
- Provide signage that shows ownership and proper use.
- Clearly define entrances and access points.

8.2 PASSIVE SURVEILLANCE

SAFETY

TOWN OF CLAREMONT
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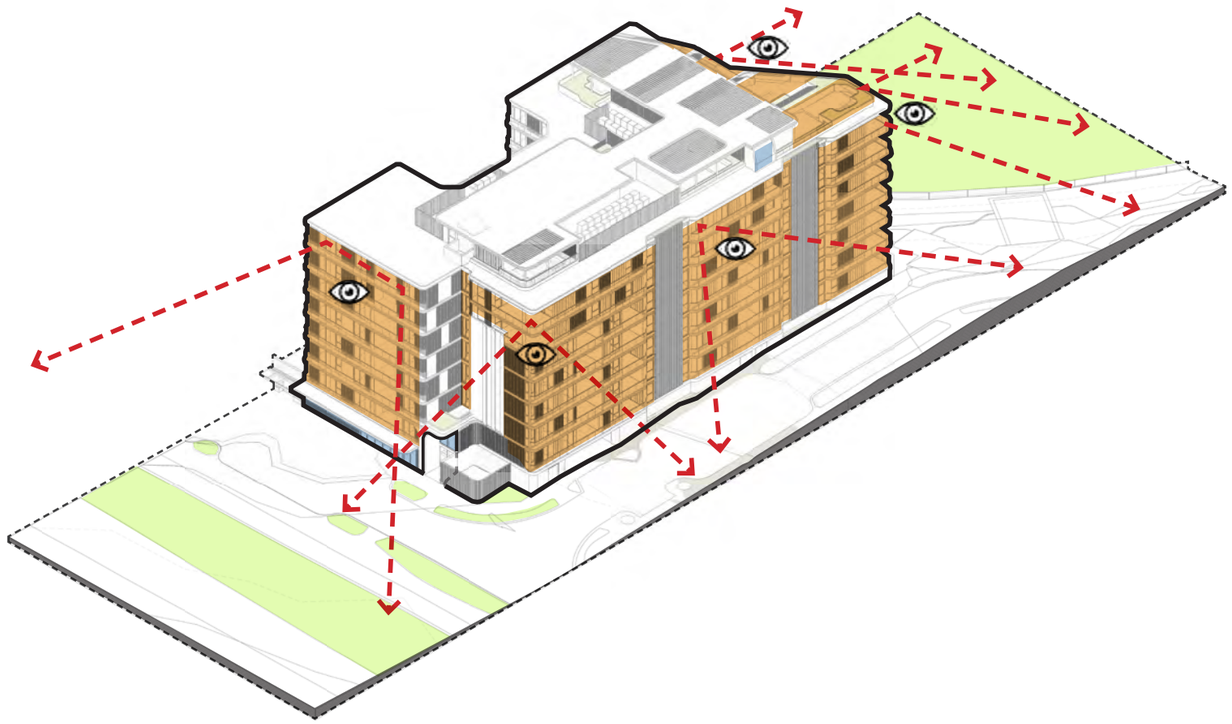
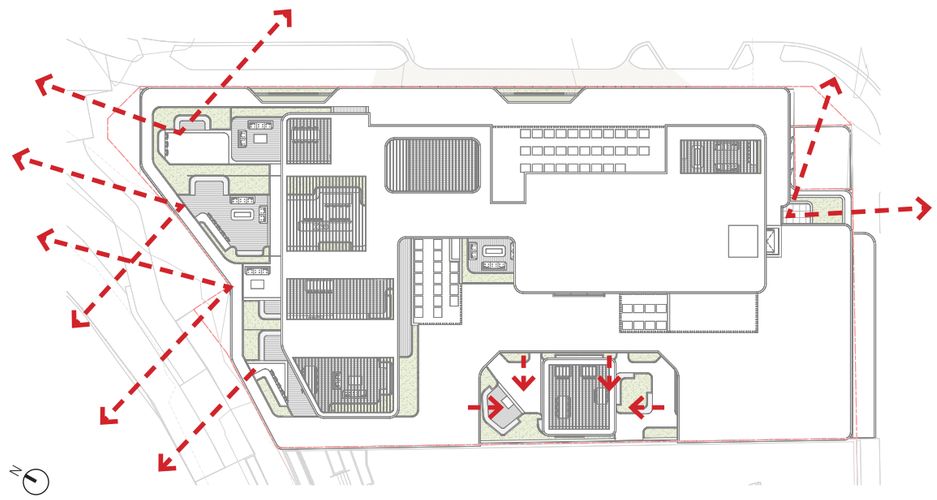
SOUTH-EAST ISOMETRIC:



SITE PLAN:



LEGEND:

Passive Surveillance

The project offers passive surveillance of the public realm, specifically along Tiger Way, Shenton Road, and the Claremont Oval. Balconies overlooking the ground floor courtyard offer surveillance over the communal open space.

8.2 PASSIVE SURVEILLANCE

SAFETY

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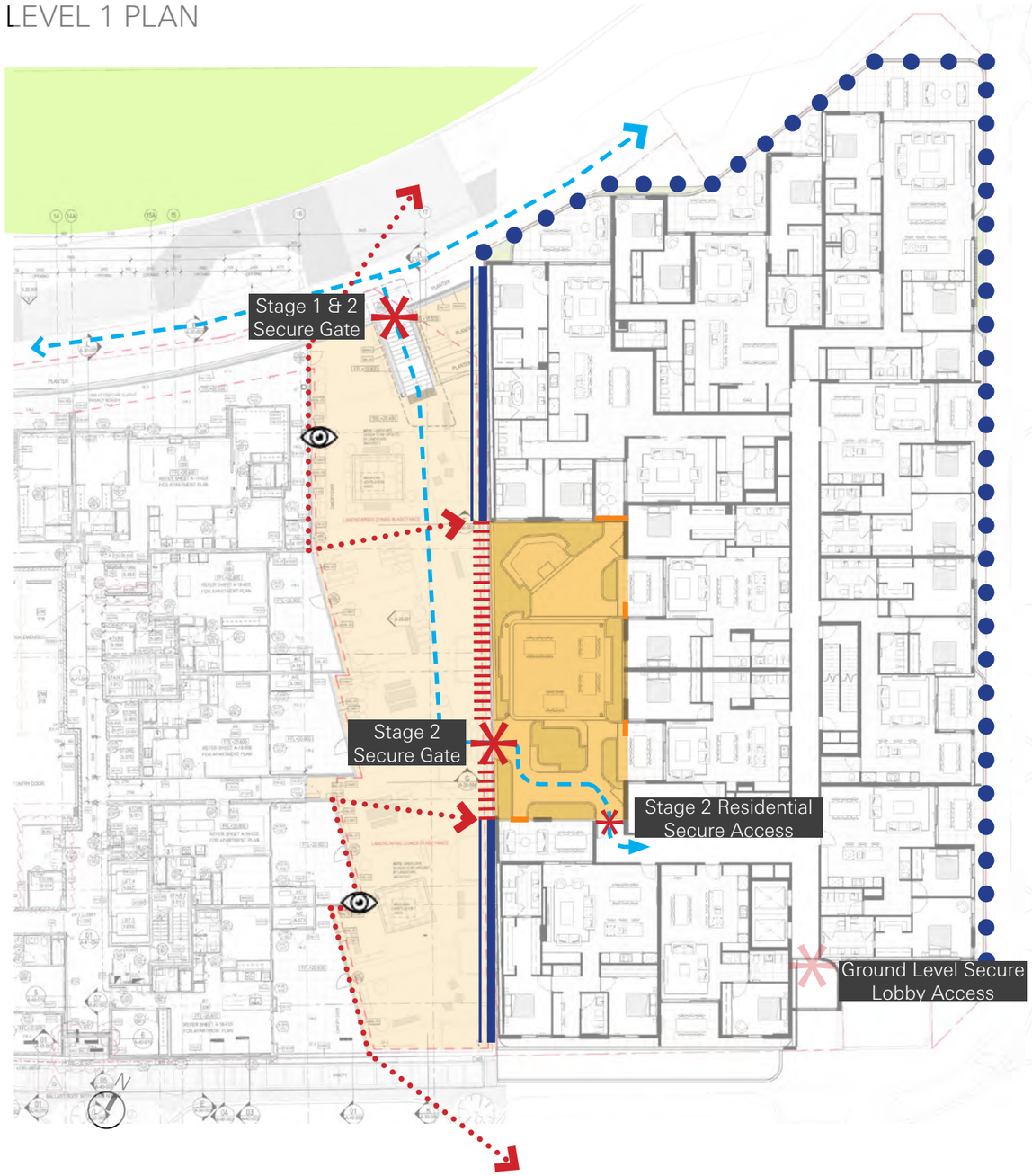
LEVEL 1 PLAN



STREET ADDRESS & PASSIVE SURVEILLANCE

On Shenton Road, an architecturally sculpted form anchors the residential entry, establishing a prestigious street address. Ground Level changes along Tiger Way and the Oval interface, paired with a dense landscape buffer creates a critical separation that protects visual privacy by mitigating direct pedestrian sight-lines while maintaining essential passive surveillance. This sophisticated threshold enhances streetscape identity while facilitating a secure, legible transition, effectively balancing high-quality design with functional precinct accessibility.

COMMUNAL TERRACE SECURE ACCESS

The Level 1 communal terrace ensures residential safety through a discreet, secure gate that regulates access between the two development stages. This controlled transition maintains visual privacy and protection for residents while seamlessly connecting both buildings into a cohesive, walkable social cluster and secure urban environment.

LEGEND:

- Level 1 Community Terrace Connectivity
- Street Level Change
- Solid Wall
- Residential Terrace Secure Gate
- 1.8m Perimeter wall with Planters
- Visual Security

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9

COMMUNITY

9.1 COMMUNITY BENEFITS

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1. Strengthening Community Connections:

- Attractive streetscapes, outdoor seating areas, and shared courtyards create natural gathering points for residents and visitors.
- Human scaled design achieved through clear sightliness, and accessible pathways.
- Communal/shared residential amenities foster neighbourliness.

2. Improving Walkability & Urban Vitality:

- Accessible walkways and landscaped buffers to make walking comfortable and safe.
- The ground floor residential business center paired with high quality public interfaces enhances the vitality of the street encouraging social interactions.
- Thoughtful lighting of public realm interface and clear signage improve safety and encourage active use throughout the day.
- Proximity to amenities such as retail, public transport, and parks reduces car dependency and encourage active living.
- Public artworks, thoughtful materials, and cohesive greenery improve visual appeal and community pride.

3. Enhancing Local Ecology & Environmental Performance:

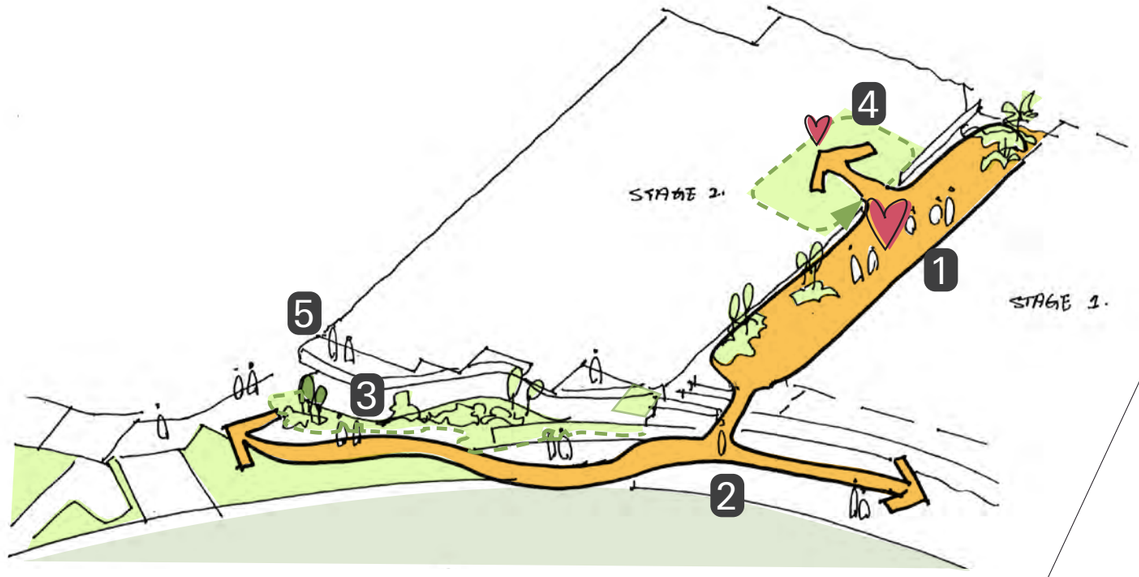
- Native plantings of landscaped areas including communal terraces support biodiversity, bird habitats and pollinator pathways.
- The addition of landscaping and plantings help reduce heat-island effects.

4. Improving Social Inclusivity & Local Economy:

- A mix of apartment types and shared amenities enhances inclusivity and community life.
- More residents also means more support for local businesses and services, helping neighbourhood retail. hospitality, and transport services to thrive.

5. Safety & Passive Surveillance:

- "Eyes on the street" make neighbourhoods feel safer.
- Active frontages, windows overlooking pathways, and well designed communal areas increase passive surveillance.



9.2 PUBLIC ARTWORK

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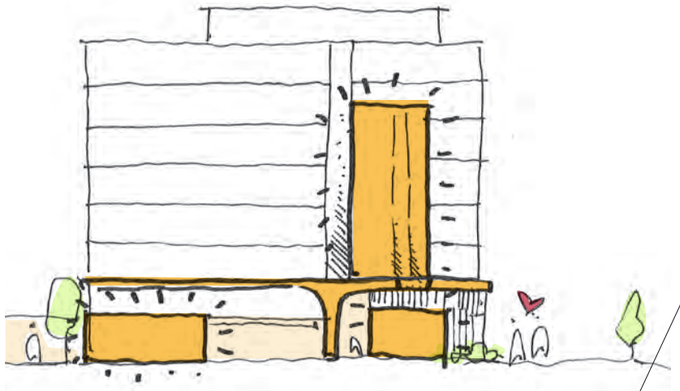
SHENTON ROAD INTERFACE

The integration of public artwork as part of the proposal enhances the community by strengthening local identity, celebrating culture, and improving the visual appeal and amenity of shared spaces. It encourages social interaction, creates safer and more inviting environments, and activates public areas. Overall, it contributes to a vibrant, culturally rich, and cohesive precinct that residents and the wider community can enjoy.



Public Artwork Opportunity

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10
AESTHETICS

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10.1 DESIGN PRECEDENTS

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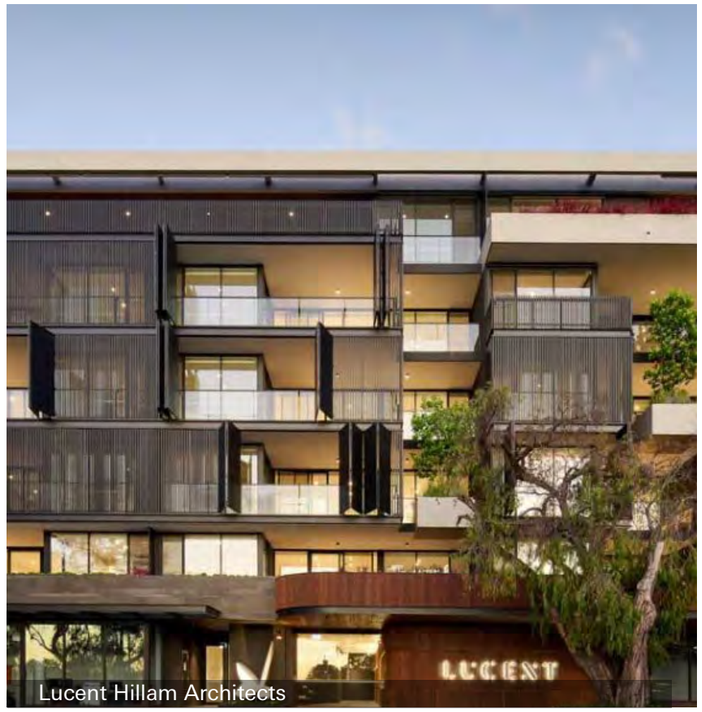
The proposed aesthetic delivers a refined architectural and landscape response that aligns with the City of Claremont's planning framework, precinct guidelines, and established character. A clear, elegant design language is expressed through increased facade depth, enhanced shadow play, and a defined massing hierarchy. Carefully considered balcony treatments, screening elements, and materials create a sophisticated streetscape, while well-proportioned facade elements such as Juliet-style balustrades, operable windows, and deeper reveals, ensure a cohesive architectural outcome.



Lucent Hillam Architects

The Terraces Hassell

Harbour - Hillam Architects

Botanical Hillam Architects

Broadway Hillam Architects

Eden Hillam Architects

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10.2 MATERIAL FINISHES

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SOUTH ELEVATION (SHENTON ROAD INTERFACE):

The materiality articulates a balanced architectural aesthetic. Warm timber soffits, travertine flooring, and textured brick establish a grounded, tactile palette, while dark Grey introduces fine-grain refinement. Inspired by local fabrics and nature, the palette conveys layered subtlety and spatial cohesion.

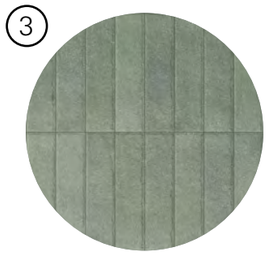
1

Textured Finish

2

Warm Soffit Lining

3

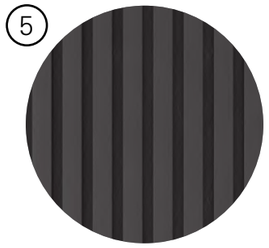


Feature Cladding

4

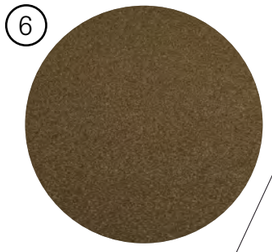
Flooring

5



Expressed Joint Cladding

6



Bronze Powdercoat Handrails

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10.3 SCHEME VIEW

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SPECIAL CORNER ELEMENT

10.3 SCHEME VIEW

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PRIMARY ENTRANCE

10.3 SCHEME VIEW

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VIEW FROM SOUTH WEST ON SHENTON ROAD

10.3 SCHEME VIEW

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VIEW FROM TIGER WAY PEDESTRIAN PATH

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10.3 SCHEME VIEW

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VIEW ALONG TIGER WAY

10.3 SCHEME VIEW

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CLAREMONT OVAL INTERFACE

10.3 SCHEME VIEW

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VIEW FROM CLAREMONT OVAL

METRICS NORUP

10.3 SCHEME VIEW

TOWN OF CLAREMONT
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VIEW FROM NORTH WEST FROM OVAL

METRICS NORUP

10.3 SCHEME VIEW

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LEVEL 1 COMMUNAL COURTYARD

10.3 SCHEME VIEW

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CLAEMONT OVAL INTERFACE

METRICS NORUP

10.3 SCHEME VIEW

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CLAREMONT OVAL INTERFACE

METRICS NORUP

10.3 SCHEME VIEW

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PRIVATE RESIDENTIAL AND COMMUNAL ROOFTOP AMENITIES

10.3 SCHEME VIEW

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PRIVATE RESIDENTIAL AND COMMUNAL ROOFTOP AMENITIES

10.3 SCHEME VIEW

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NORTH COMMUNAL TERRACE WITH OVAL VIEWS

10.3 SCHEME VIEW

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NORTH COMMUNAL ALFRESCO

10.3 SCHEME VIEW

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COMMUNAL YOGA TERRACE

10.3 SCHEME VIEW

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COMMUNAL SEATING AROUND FIREPIT

10.3 SCHEME VIEW

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WALKWAY CONNECTING NORTH AND SOUTH AMENITIES

10.3 SCHEME VIEW

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SOUTH-EAST COMMUNAL TERRACE WITH RIVER AND CITY VIEWS

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SOUTH-EAST COMMUNAL AMENITIES WITH RIVER AND CITY VIEWS

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APPENDICES

A.1 REPORT SUMMARY
LANDSCAPE REPORT

PLAN E - LANDSCAPE ARCHITECTS:

The public and private realm of 3 Shenton Road requires a balance between the expressions of the surrounding natural environment and the proposed built outcome to enhance both resident and public experience.

The inclusion of local and endemic species is pivotal along the public interface to ensure a 'green' buffer to Claremont NEP which in turn aids in creating a comfortable space for the local community.

Internally the landscape design is to offer a variety of uses , activities and amenities that are comfortable and healthy to benefit both residents and visitors.

Further details relating to the above can be found in the Landscape Report.

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A.1 REPORT SUMMARY

SUSTAINABLE DESIGN ASSESSMENT REPORT

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EMERGEN:

EMERGEN has developed a sustainable design report on the proposed multi-level residential development at 3 Shenton Road, Claremont WA 6010 in consultation with Hillam Architects.

The purpose of this report is to outline the sustainability commitments that align with core principles, focusing on energy and water efficiency. It highlights efforts to promote environmental responsibility and resource efficiency, underscoring commitments to a greener, more sustainable future.

A summary of the Sustainable Targets for the development are outlined below.

- Structure design efficiency;
- energy efficiency;
- water efficiency;
- urban ecology;
- sustainable transport/accessibility; and
- indoor environment quality.

The initial assessment is based on preliminary documentation with the outcomes subject to change during design development.

A full summary and further details relating to the above can be found in the Sustainable Design Assessment Report.

A.1 REPORT SUMMARY
WASTE MANAGEMENT PLAN

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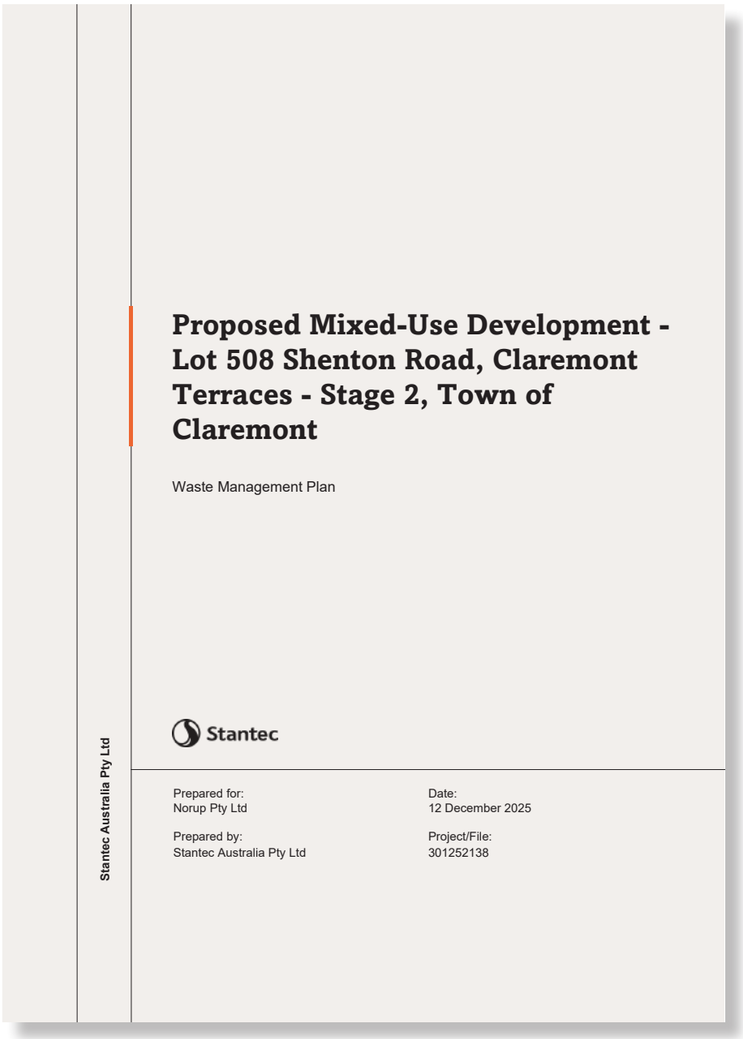

Proposed Mixed-Use Development - Lot 508 Shenton Road, Claremont Terraces - Stage 2, Town of Claremont

Waste Management Plan

Stantec

Prepared for:
Norup Pty Ltd

Date:
12 December 2025

Prepared by:
Stantec Australia Pty Ltd

Project/File:
301252138

Stantec Australia Pty Ltd

STANTEC:

This WMP focuses on assessing the impacts associated with the development of Claremont Terraces Stage 2 located at Lot 508 Shenton Road, Claremont. The development comprise 61 residential units, manager's office and residential amenities.

The scope of this WMP is limited to the estimation of general waste, recycling, and food organic and garden organic (FOGO) waste generated by the proposed Development and includes recommendations for the appropriate collection, storage, handling and transportation of waste and recycling, in accordance with the requirements outlined by the Town of Claremont, WALGA's Multi Dwelling Waste Management Plan Guidelines and WALGA's Commercial and Industrial Waste Management Plan Guidelines.

This Waste Management Plan demonstrates that the proposed Stage 2 Development provides adequately sized bin enclosure area for the storage of general and recycle waste based on estimated waste generation and a suitable configuration of bins.

The above is achieved using:

- Ten 660L general waste bins, collected twice each week.
- Eight 660L recycling bins, collected once each week.

The general and recycling waste for the proposed Stage 2 development is to be collected via the Stage 1 waste collection area. The general and recycling waste bins will be transported by a nominated staff/caretaker from the Stage 2 bin enclosure to the proposed platform lift (low profile scissor lift table) which connects to the Stage 1 loading area on the days of collection. The general and recycling waste will then be emptied into the waste truck that is parked in the Stage 1 loading area.

A full summary and further details relating to the above can be found in the Waste Management Plan.

A.1 REPORT SUMMARY

ACOUSTIC REPORT

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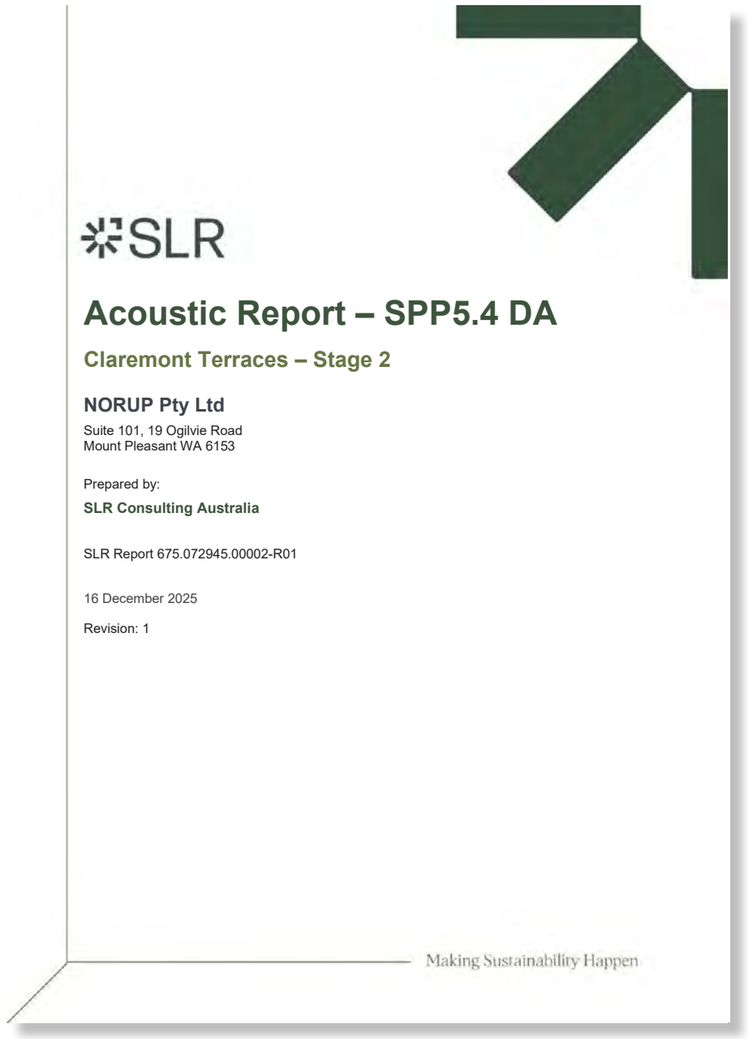

SLR

Acoustic Report – SPP5.4 DA

Claremont Terraces – Stage 2

NORUP Pty Ltd

Suite 101, 19 Ogilvie Road
Mount Pleasant WA 6153

Prepared by:

SLR Consulting Australia

SLR Report 675.072945.00002-R01

16 December 2025

Revision: 1

Making Sustainability Happen

SLR:

This report has been prepared for the Terraces' Stage 2 at Lot 508 Shenton Road Claremont to address likely development approval requirements for a detailed Acoustic Report. Performance requirements have been developed in accordance with State Planning Policy 5.4, and the Environmental Protection (Noise) Regulations 1997.

This report has reviewed in detail the following.

- Noise ingress to residential spaces from the Fremantle Rail Line and Airport Line State Planning Policy 5.4,

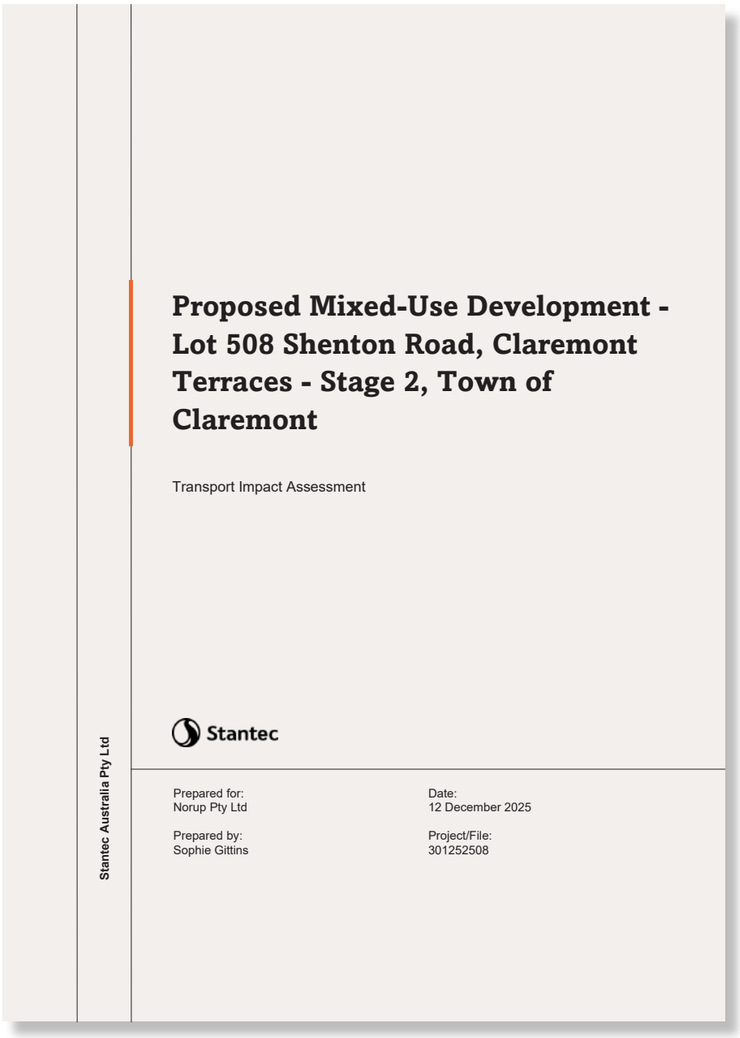
- External noise sources and ingress into nearby sensitive areas.

The review finds that the development can practicably comply with both the State Planning Policy 5.4, and the Environmental Protection (Noise) Regulations 1997.

A full summary and further details relating to the above can be found the Acoustic Report.

A.1 REPORT SUMMARY

TRANSPORT IMPACT STATEMENT



Proposed Mixed-Use Development - Lot 508 Shenton Road, Claremont Terraces - Stage 2, Town of Claremont

Transport Impact Assessment

Stantec

Prepared for:
Norup Pty Ltd

Prepared by:
Sophie Gittins

Date:
12 December 2025

Project/File:
301252508

Stantec Australia Pty Ltd

STANTEC:

This report has been prepared for the proposed residential development of located at Lot 508 Shenton Road, Claremont, within the Town of Claremont (the "Site"). This Transport Impact Assessment (TIA) report focuses on assessing the impacts associated with the Claremont Terraces Stage 2 development comprising 61 apartment units with manager's office space.

A full summary and further details relating to the above can be found the Transport Impact Assessment Report.

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A.2 NEP DESIGN GUIDELINES REVIEW 2

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ESTATE ARCHITECT COMMENT	DESIGN RESPONSE
1. The Proposal does not meet the DAP requirements in relation to height as indicated in the Design Guidelines. Whilst the Proposal aligns with the height of the neighbouring Stage 1 proposal the height of the building on Tiger Way exceeds the neighbouring built form to the east the stepping down of height from west to east towards Tiger Way is lost. This results in a lack of a coherent built form outcome. We recommend the Applicant considers the design approach for the built form heights in relation to the DAP and neighbouring built form prior to the submission of the Development Application.	We acknowledge that the proposed RL 46.8 building height marginally exceeds the DAP requirements. This outcome has been a considered design response to maintain consistency with the Stage 1 built form on the western side, ensuring a cohesive presentation along the shared interface. To address the transition in height toward Tiger Way and reduce any perceived impact relative to The Queenslea building (RL 42.9, approximately one storey lower), the design has incorporated several measures, including: • Rooftop amenity setback: The rooftop amenity areas have been further set back from Tiger Way, ensuring they are not visible from the public realm and reducing perceived height. • Enhanced articulation: The Tiger Way elevation has been refined to increase façade articulation and widen balconies, shifting the main building line further back to lessen visual bulk. • Increased landscaping: Additional planting has been introduced to this frontage, with landscaping cascading from the rooftop and climbing from ground level, creating two distinct vertical landscape bands that soften the overall form.
2. The Proposal does not meet suitable requirements in relation to 2 hours of natural daylight to living areas in winter or suitable cross ventilation as indicated in the Design Guidelines. We recommend the Applicant therefore considers the design approach for these two areas prior to the submission of the Development Application.	A total of 44 apartments (72%) achieve the minimum amount of direct access to natural daylight as defined by the R-Codes . For cross ventilation, we have re-calculated. A total of 46 apartments (75%) achieve natural cross ventilation as defined by the R-Codes.
3. Whilst it is acknowledged the Applicant has proposed an extent of shading to the northern and eastern facades, there remains an extent of glazing that has no shading and does not align with the objectives of the design guidelines to provide suitable shading to glazing. We recommend the Applicant considers providing shading to these areas prior to the submission of the Development Application.	The design has been adjusted to ensure all apartments have adequate levels of shading to glazing, with an increase to the slab edge overhangs of 750mm. This, in combination with the larger glazing insets at balcony locations, will serve to limit heat gain during the hotter months.

A.2 NEP DESIGN GUIDELINES REVIEW 2

	ESTATE ARCHITECT COMMENT	DESIGN RESPONSE
4.	The Proposal provides parking to the ground floor raising the apartments fronting the Oval. Whilst the Applicant has indicated that this is screened from the public realm and neighbouring properties. When viewed from the Oval the wall height exceeds the requirement under the design guidelines. We recommend the Applicant reviews the wall design and considers the potential for access from Level 1 apartments to the Oval or through minimization of the wall height prior to the submission of the Development Application.	Refer to diagram on page 35 of DA report, which shows a study of the height difference relationships along the oval Edge. The proposal exceeds the maximum height of 1.5m by 300mm towards the western end of the oval edge, which is largely mitigated by the presence of public realm landscaping in this area.
5.	The Proposal provides a range of landscaping to the Tiger Way frontage. However, the depth and width provided for this landscaping is minimal and may impact the viability of the landscaping shown, the articulation of the wall is supported. We recommend the Applicant considers the extent and viability landscaping in this area prior to the submission of the Development Application.	Two landscaped inflection points have been introduced along the Tiger Way elevation to encourage planting at street level to grow up the lower portion of elevation. At these locations, the elevation visually connects to further planting introduced at roof level, which serves as a device to break down the linear scale of the building along Tiger Way.
6.	The Proposal provides a range of balconies which are either accessible from the neighbouring apartment balcony or inaccessible from within the apartment for maintenance. We recommend the Applicant considers these two areas prior to the submission of the Development Application.	Balcony dividers have been added to the elevations to ensure adequate visual privacy between apartments.

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A.2 NEP DESIGN GUIDELINES REVIEW 2

ESTATE ARCHITECT COMMENT	DESIGN RESPONSE
7. The Proposal does not meet the requirements for suitable area to storerooms as a number of these stores are 3sqm or include provision for bicycle storage therefore minimizing the usable space in the storeroom. In one instance a storeroom is inaccessible. We recommend the Applicant considers the extent of storage space and access prior to the submission of the Development Application. .	Stores have been adjusted to ensure the correct number and size is achieved.
8. The Proposal does not include suitable information to the: a. Roof above the apartments in way of finish, water collection, services and, b. Roof above the communal facilities to the top floor in way of design, finish, water collection and services. We recommend the Applicant considers the provision of these two areas prior to the submission of the Development Application.	Amenity and roof levels have been updated to show coordinated locations for air conditioning units, hot water plant, photovoltaics and other services.
9. The Proposal provides no information in relation to DFES access or booster location. We recommend the Applicant considers the provision of these two areas prior to the submission of the Development Application.	Fire tender hard stand and booster cabinet location has been adjusted. Refer to ground floor plan for further information.

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A.2 NEP DESIGN GUIDELINES REVIEW 2

ESTATE ARCHITECT COMMENT	DESIGN RESPONSE
10. That Crossover, Footpath, Lighting, Mechanical and Hydraulic, Signage, Building Materials and Finishes should be reviewed at Building License Issue as the information provided within the documentation reviewed did not provide adequate information for a number of the items as listed in the Design Guidelines checklist. This should be consistent with what we would anticipate being required as a DA Condition by the Town of Claremont at Building License Issue. In relation to the materials and finishes that further information is provided prior to submission of the Development Application as the information provided by the Applicant in their proposal is minimal.	As noted.

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A.3 NEP DESIGN GUIDELINES REVIEW 3

ESTATE ARCHITECT COMMENT	DESIGN RESPONSE
1. We believe the Proposal does not meet suitable requirements in relation to 2 hours of natural daylight to living areas in winter as indicated in the Design Guidelines. The Applicant indicates that 44 apartments are provided with 2 hours of natural daylight to the main living area for each apartment. Upon review of the Design Report provided by the Applicant we consider the amount of apartments provided with 2 hours of natural daylight to the main living area is 40 in lieu of the 44 indicated by the Applicant. This falls below the required 70% as indicated under Section 4.1.1 of the Residential Design Codes Volume 2. We recommend the Applicant therefore considers the design approach prior to the submission of the Development Application.	The design has been further refined to optimize solar orientation. Of the 61 apartments in the proposal, 43 (70.5%) receive at least two hours of direct sunlight between 9:00 am and 3:00 pm on the 21st of June. The design complies with the Design WA requirement by exceeding the 70% minimum solar access threshold.
2. The Proposal provides parking to the ground floor raising the apartments fronting the Oval. Whilst the Applicant has indicated that this is screened from the public realm and neighbouring properties. When viewed from the Oval the wall height exceeds the requirement under the design guidelines by 300mm. We also recommend the Applicant considers the opportunity to provide direct access to the oval.	While the current design requires a wall height of 1.8m to adequately screen the ground-floor parking and ensure the privacy of the elevated apartments, we acknowledge the 300mm departure from the Design Guidelines. To mitigate the visual mass when viewed from the Oval, we propose the following adjustments: • We introducing 'stepped plannter and pulling the balcony edge back slightly to create a dedicated zone for integrated cascading landscaping. • This approach breaks up the vertical plane of the 1.8m wall, replacing 300mm–500mm of "hard" wall surface with "soft" greenery, effectively reduce the perceived height fronting the oval.

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A.3 NEP DESIGN GUIDELINES REVIEW 3

ESTATE ARCHITECT COMMENT	DESIGN RESPONSE
3. The Proposal provides a range of landscaping to the Tiger Way frontage which will provide additional amenity. However, the width provided for this landscaping is minimal and may not reflect the extent of landscaping indicated in the elevations shown. We recommend the Applicant considers increasing the extent of landscaping in this area prior to the submission of the Development Application. Extending the landscaping extent further north and south may assist here.	We have increased the planter widths along Tiger Way to optimize the pedestrian experience. These planting zones provide a continuous, high-amenity green buffer.
4. The Proposal does not meet the requirements for suitable area to storerooms as a number of these stores are 3sqm and also include provision for bicycle storage minimizing the usable floor area in the storeroom. We recommend the Applicant considers the extent of storage space and access especially stores that do not achieve 4sqm. A more efficient circulation strategy between stores may assist with this.	We have adjusted the design to ensure most residential storerooms achieve a minimum area of 5sqm where possible. To ensure that individual stores remain functional for general use, internal bike racks are only located within units that are 4.5sqm or larger. Furthermore, dedicated residential and communal bike stores have been provided to accommodate remaining numbers of bike parking

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SUSTAINABLE DESIGN ASSESSMENT REPORT

PROPOSED APARTMENTS

CLAREMONT TERRACES – STAGE 2

PREPARED BY

CLAIRE CHAPMAN

Project: 132816

Published Date: 20/08/2026

EMERGEN

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DOCUMENT REVISION

DATE	DOCUMENT	COMPLETED BY	REVIEWED BY	APPROVED BY	REV NO.
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20/08/2026	SDAR	Gerdan Manalo / Irah Arimbuyutan	Claire Chapman	Glenn Underwood	2

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DISCLAIMER

The contents of this report are based on the documentation and plans provided by the Client to EMERGEN/CADDS Group. The outcomes presented are representative of schematic systems, schedules, and project design. These results should not be considered as actual energy usage.

EMERGEN

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1 OVERVIEW

EMERGEN has developed a sustainable design report on the proposed multi-level residential development at Shenton Road, Claremont WA 6010 in consultation with Hillam Architects.

The purpose of this report is to support the development application by identifying the principles incorporated in the design that meet sustainable objectives and targets for the site. The initial assessment is based on preliminary documentation with the outcomes subject to change during design development.

1.1 STATE PLANNING POLICY SUMMARY

EMERGEN (a division of CADDS GROUP), in collaboration with the design team (Hillam Architects) has developed a sustainable design strategy aligning with ***State Planning Policy 7.0,*** which focuses on the Design of the Built Environment - specifically, Principle 5: Sustainability.

This report serves the vital purpose of bolstering the development application by articulating the sustainability principles and commitments for the project site. We acknowledge the significance of State Planning Policy 7.0 in promoting sustainability within the built environment. Good design, as outlined in the policy, is not only about aesthetics but also optimises the sustainability of our built surroundings, yielding positive outcomes on environmental, social, and economic fronts.

Our approach to sustainable landscape and urban design adheres closely to the established water-sensitive urban design principles, ensuring minimal adverse impacts on existing natural features and ecological processes while promoting green infrastructure at all scales of the project. Furthermore, our strategy for sustainable built environments embraces passive environmental design measures tailored to local climate and site conditions. This includes careful consideration of optimal orientation, shading, building envelope, and natural ventilation, ultimately reducing reliance on energy-intensive heating and cooling technologies. This, in turn, results in reduced energy consumption, decreased resource usage, and lowered operating costs throughout the project's lifecycle.

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2 TARGETS

The design team will utilise a structured approach to a sustainable outcome for the design and construction of the development including the following Sustainable Targets.

Table 1: Sustainability Targets

DESCRIPTION	GOAL	SUSTAINABILITY COMMITMENTS
STRUCTURE DESIGN EFFICIENCY	Integrate passive solar design principles into optimising solar access in winter and shading in summer.	• Enhance solar passive performance by incorporating shading devices on north, east, and west-facing windows to reduce summer heat gain and improve visual interest.
ENERGY EFFICIENCY	Enhance energy performance by reducing consumption through efficient design and the use of renewable and low-energy systems.	• Efficient LED Lighting and controls. • **20%** reduction in lighting power when compared to NCC DTS • For Class 2 units, above **60%** of the combined living and bedroom area of each unit have high level of daylight (above 160 Lux). • Provision for solar photovoltaic (PV) system to supply renewable energy. • NCC 2022 compliant building fabric. • All units meet the minimum NatHERS energy efficiency requirement of 6 stars for sole occupancy and average of 7 stars, based on the NCC 2022. • Energy efficient condenser clothes dryers
WATER EFFICIENCY	Water efficient fixtures and Landscaping.	• High WELS Ratings • Water sensitive urban design, drip irrigation.
URBAN ECOLOGY	Reduce impacts of heat island effect	• Light roof colour (SRI ≥ 0.64). • Incorporate vegetation and green spaces around the building to provide shading and reduce surrounding air temperatures.
SUSTAINABLE TRANSPORT/ ACCESSABILITY	Low carbon options	• Provision for future EV charging bays. • Provision for secure bicycle storage area. • Access to public transport
INDOOR ENVIRONMENT QUALITY	Enhance indoor air quality	• Natural ventilation to all apartment units. • Low VOC and Low Formaldehyde products to be used. • Minimum 95% of internally applied paints, adhesives, sealants (by volume), and carpets (by area) must meet TVOC limits.

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3 PROJECT INFORMATION

The proposed residential development site is located at Shenton Road, Claremont WA 6010 within the Town of Claremont. This project aims to revitalize a vacant site through the construction of a eight-storey multi residential building comprising of 61 apartment units and common Amenities, including a rooftop space. The development aims to contribute positively to the local streetscape by delivering contemporary, high-quality, and sustainable housing that respects and complements the suburb's medium-density residential zoning.

Figure 1: Existing Site Image/Proposed Development

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4 STRUCTURE DESIGN EFFICIENCY

4.1 SOLAR PASSIVE DESIGN

Solar Passive design principles have been carefully integrated into the proposed development to enhance energy efficiency and occupant comfort. While the east- and west-facing glazing is less ideal for solar gain control, the design incorporates effective shading strategies to mitigate heat during the summer months, while still preserving views and maintaining a strong connection to the surrounding natural environment. Emergen has conducted a Solar Analysis to review efficiency of proposed shading design.

4.1.1 SOLAR ANALYSIS

The architectural design incorporates several strategies to reduce unwanted heat gain from the north and west - critical for Climate Zone 5 conditions where afternoon solar exposure is significant.
Key measures include:

- Horizontal shading to north-facing glazing, blocking high-angle summer sun while allowing beneficial winter light.
- Limited use of dark cladding, with the façade predominantly finished in light, reflective materials, helping lower absorbed solar radiation.
- Setbacks and overhangs that naturally shade the ground floor glazing and entry areas.
- High-SRI roof covering, minimising heat absorption at the roof - the most solar-exposed surface.

Together, these elements reduce mechanical cooling demand, improve occupant comfort, and align with NCC 2022 thermal performance expectations.

Direct Solar (mean) W/m²

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12 AM	0	0	0	0	0	0	0	0	0	0	0	0
11 PM	0	0	0	0	0	0	0	0	0	0	0	0
10 PM	0	0	0	0	0	0	0	0	0	0	0	0
9 PM	0	0	0	0	0	0	0	0	0	0	0	0
8 PM	0	0	0	0	0	0	0	0	0	0	0	0
7 PM	225	122	0	0	0	0	0	0	0	0	23	504
6 PM	550	462	587	140	0	0	0	0	282	498	382	666
5 PM	708	626	721	544	443	363	313	394	450	627	592	757
4 PM	798	722	788	634	529	457	393	441	497	689	694	809
3 PM	839	783	825	674	601	525	454	475	551	726	754	853
2 PM	863	824	849	685	667	558	487	497	598	739	796	885
1 PM	870	846	840	695	683	545	503	506	619	724	806	884
12 PM	851	838	811	690	655	530	501	530	620	692	805	865
11 AM	828	810	770	646	587	495	462	519	616	652	781	836
10 AM	799	763	695	571	477	420	374	455	574	595	739	789
9 AM	744	702	570	457	342	191	179	356	464	512	687	711
8 AM	659	609	294	173	0	0	0	51	262	411	621	586
7 AM	525	450	0	0	0	0	0	0	0	145	528	383
6 AM	129	0	0	0	0	0	0	0	0	0	334	0
5 AM	0	0	0	0	0	0	0	0	0	0	0	0
4 AM	0	0	0	0	0	0	0	0	0	0	0	0
3 AM	0	0	0	0	0	0	0	0	0	0	0	0
2 AM	0	0	0	0	0	0	0	0	0	0	0	0
1 AM	0	0	0	0	0	0	0	0	0	0	0	0

Location
Swanbourne, WA, AUS

Coordinates
31.96° S / 115.76° E

Weather File
AUS_WA_Swanbourne.946140_TMYx.2007-2021

Figure 2: Average Direct Solar (W/m2)

Figure 5 displays average direct solar radiation by hour and month. It highlights peak solar loads from 9 AM–4 PM, especially in summer and early autumn, with the strongest heat on west-facing surfaces in the afternoon. There is room for improved by adding additional shading to protect the building more in summer months.

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5 ENERGY EFFICIENCY

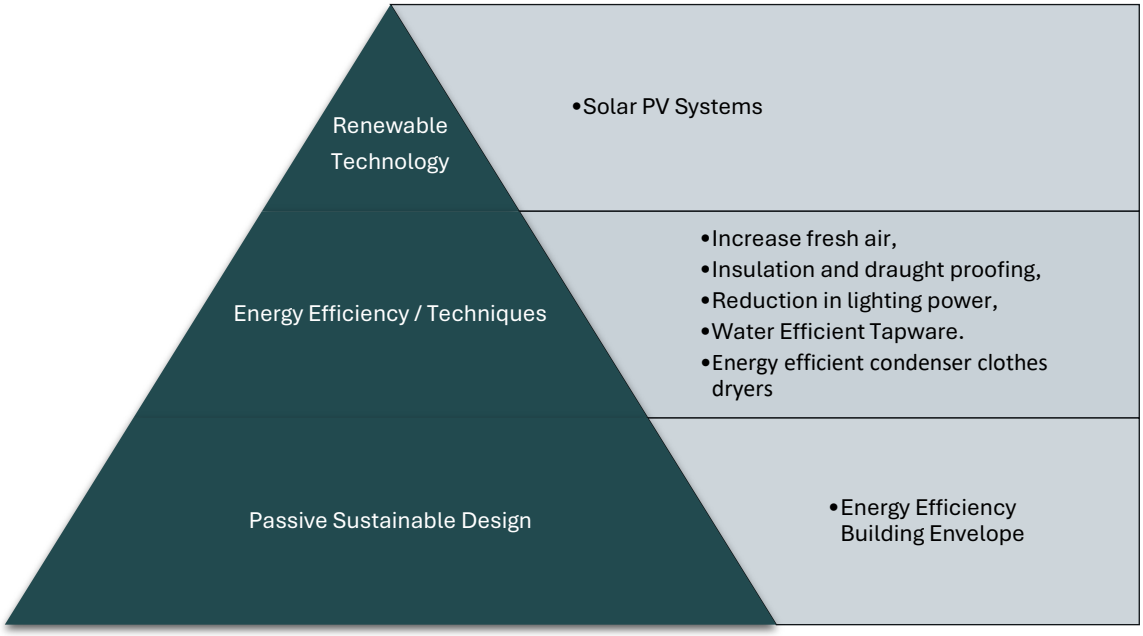

Figure 3: Energy Reduction Strategy

5.1 LIGHTING COMFORT

Lighting within the building must meet the following criteria:

- All lighting must be flicker-free.
- Light sources must have a minimum Colour Rendering Index (CRI) average R1 to R8 of 85 or higher and have a CRI R9 of 50 or higher.
- Light sources must meet best practice illuminance levels for each task within each space type with a maintained illuminance that meets the levels recommended in AS/NZS 1680.1:2006 series applicable to the project type and including maintenance.
- The maintained Illuminance values must achieve a uniformity of no less than that specified in Table 3.2 of AS/NZS 1680.1:2006, with a maintenance factor method as defined in AS/NZS 1680.4.; and
- All light sources must have a minimum of 3 MacAdam Ellipses.
- The walls within the field of view of occupants in regularly occupied spaces must have an average surface reflectance value of 0.70 and an average surface illuminance of at least 50% of the horizontal illuminance levels required for task.
- Vertical illuminance in workspaces: ensure that 50% of the horizontal task illuminance reaches the average eye height for 90% of primary spaces using vertical illuminance calculation grid.
- The illuminance values must be calculated in accordance with AS/NZS 1680 series for the relevant task.

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5.2 EFFICIENT LIGHTING AND CONTROLS

The installed aggregate illumination power has been designed to be **20%** below the maximum illumination power based on maximum allowable lighting power densities defined in Table J7D3a of the NCC 2022. Motion Detectors and daylight sensors are provided to reduce demand.

Table 2: Lighting Characteristics

PARAMETER	PROPOSED BUILDING	REFERENCE BUILDING
LIGHTING TYPE	LED light fittings	LED light fittings
DESIGN ILLUMINANCE (LUX)	Various lux	Various lux
NOMINAL LIGHTING POWER DENSITY (W/M^2)	**20%** less compared to NCC max requirements.	As per NCC max requirements.
OCCUPANT SENSOR CONTROLS	Motion sensors	N/A
DAYLIGHT CONTROLS	Yes	N/A
OTHER LIGHTING CONTROLS	Timer switches	N/A
ADJUSTMENT FACTOR APPLIED	0.9 – Motion sensor 1 0.7 – Motion sensor 2 0.55 – Motion sensor 3	Room Aspect Ratio

5.3 ARTIFICIAL LIGHTING AND CONTROLS

All lighting will be equipped with light-emitting diodes (LEDs), covering all primary areas. Common area lighting will include controls like occupancy sensors (PIRs) and time switches to minimize energy usage when lighting is not needed.

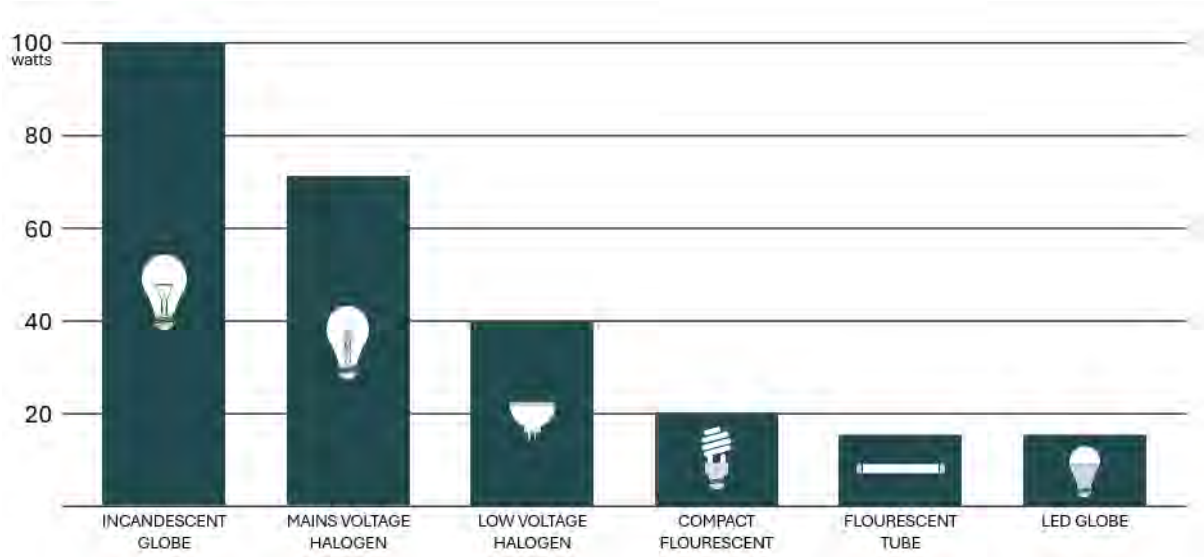

Figure 4: Comparison of LED Lighting with other Conventional Lighting

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5.4 DAYLIGHTING

Preliminary daylight modelling has been conducted for all regularly occupied areas, at finished floor level under standard overcast sky conditions (CIE). The purpose of this analysis is to demonstrate that the building provides daylight access exceeding typical federal, state, or local regulations by showcasing how the design and glazing specifications optimize natural lighting in these regularly occupied spaces.

For Class 2 buildings, 60% of the combined living and bedroom area of each unit must comply with the daylight requirements. Kitchens are not included in the calculations. The daylight levels must also be present in at least 20% of the area of each bedroom and living area.

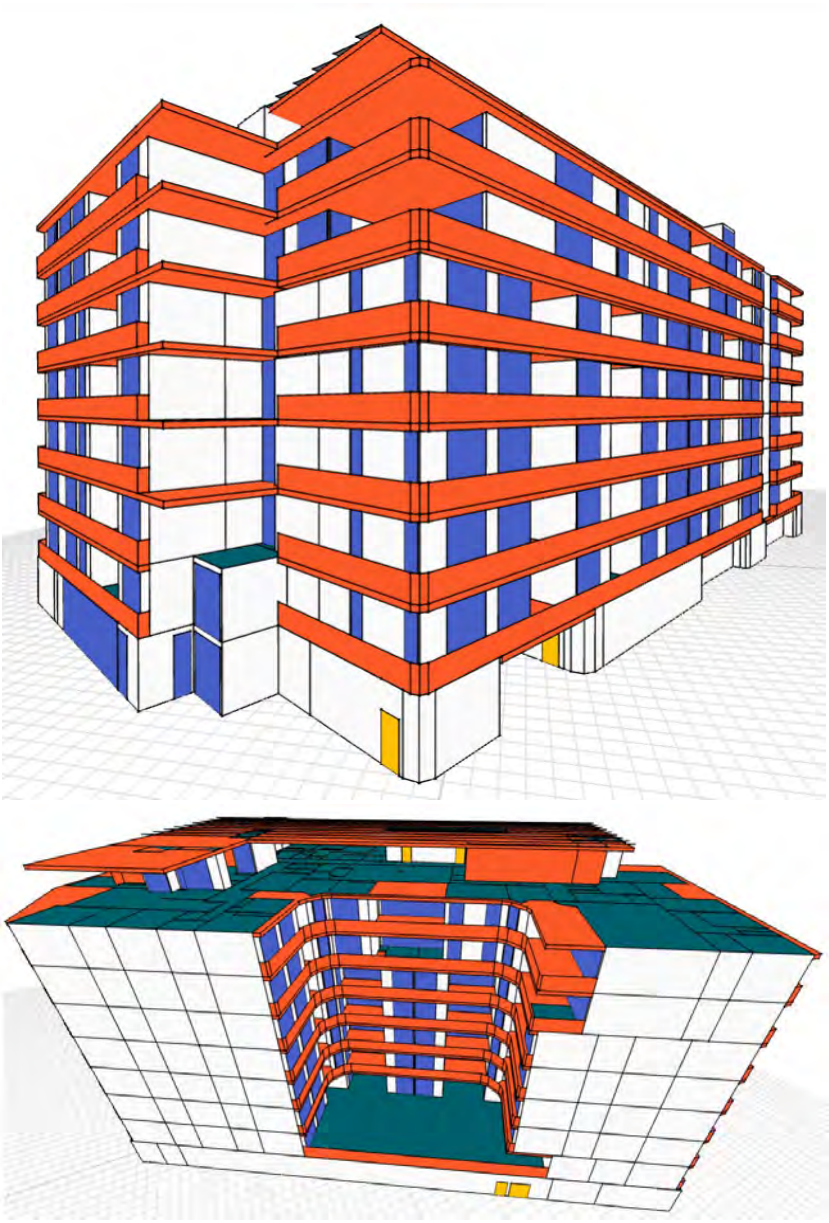

Figure 5: Daylighting Model in BetterBuilding (Speckle)

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Table 3: Calculation Conditions - Daylight

CALCULATION CONDITIONS	
TEST FACTOR	Daylight Factor
SKY FACTOR	CIE Overcast Sky
DATE	September 21st 12:00pm

Table 4: Daylighting Results for Sole Occupancy Units

LEVEL	APT NO.	PROPOSE USAGE	NOMINATED AREA (m^2)	COMPLIANT AREA (m^2)	COMPLIANT AREA (%)
G	Common Areas	Lobby and Amenities	80.98	80.98	**100.00**
1	C4	Living and Bedrooms	58.00	33.56	**57.86**
1 - 5	C1b (R)		53.56	53.56	**100.00**
1 - 5	C3		66.76	66.56	**99.70**
1 - 5	C1b (L)		53.50	53.50	**100.00**
1 - 5	E2		86.80	86.80	**100.00**
1 - 5	D1		93.46	71.77	**76.79**
1 - 5	E1		81.20	70.17	**86.42**
1 - 5	C2 (L)		62.64	32.06	**50.38**
1 - 5	C2 (R)		62.64	33.16	**52.94**
1 - 5	A1		45.25	45.18	**99.85**
2 - 5	C2 (L)		63.46	42.67	**67.24**
2 - 5	C2 (R)		63.46	38.88	**61.27**
2 - 5	D2		73.82	46.05	**62.38**
6 - 7	PH1		101.50	101.50	**100.00**
6 – 7	PH2		86.80	86.80	**100.00**
6 – 7	PH3		93.3	81.31	**87.15**
6 – 7	PH4		81.20	81.20	**100.00**
6 – 7	PH5		94.36	73.56	**77.96**
6 - 7	PH6		104.44	99.59	**95.36**

Based on the results above, the proposed development meets the required daylight percentage, enhancing occupant comfort, well-being, and productivity. Additionally, by reducing reliance on artificial lighting, it contributes to lower energy consumption and a reduced environmental impact.

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Showing the area above the threshold value of 160 lux:

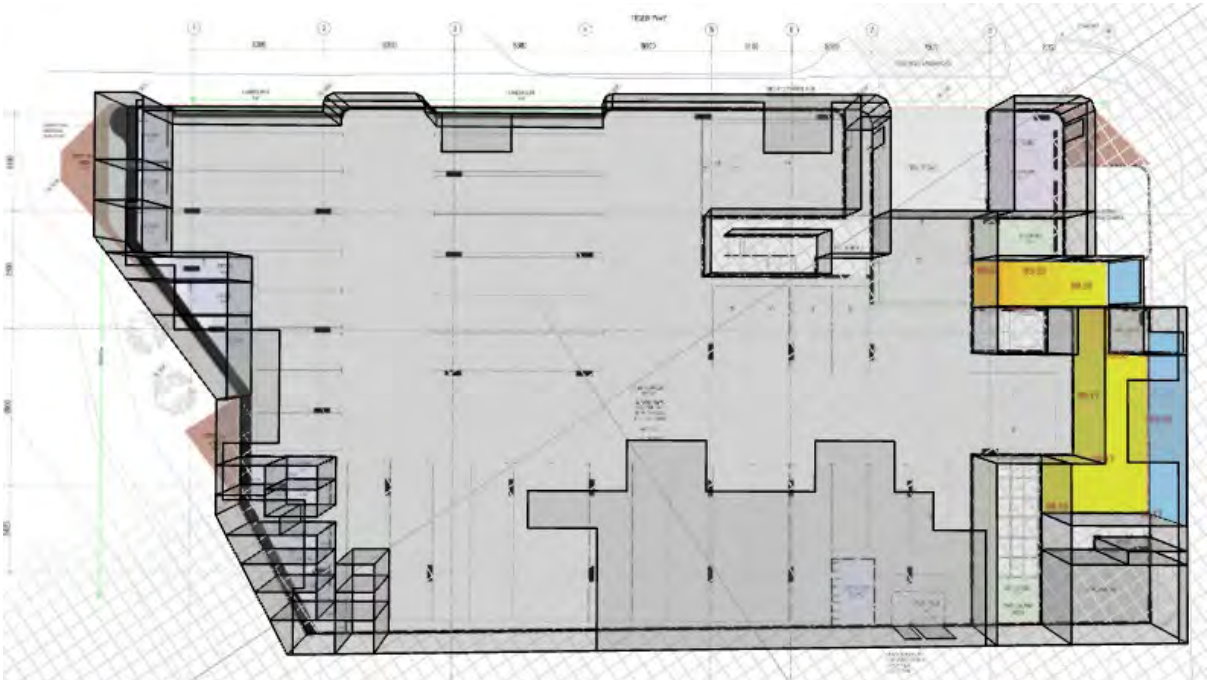

Figure 6: Daylighting for Ground Floor

Figure 7: Daylighting for First Floor

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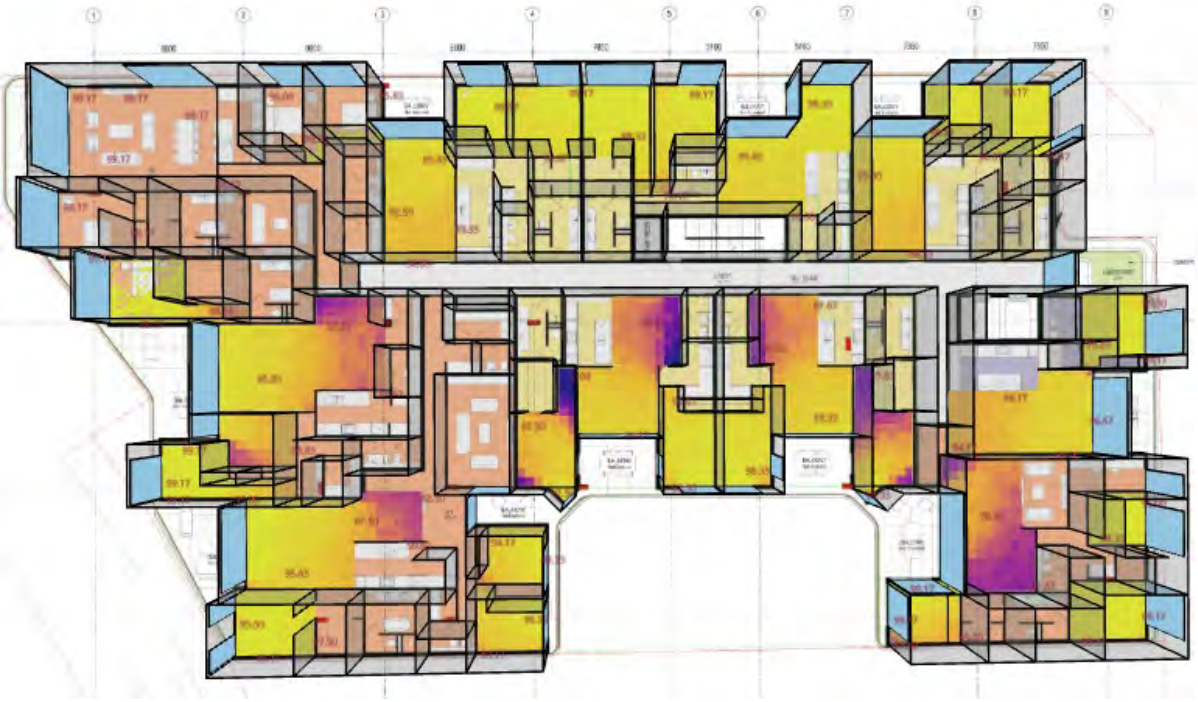

Figure 8: Daylighting for Second Floor to Fifth Floor

Figure 9: Daylighting for Sixth Floor to Seventh Floor

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5.5 RENEWABLE TECHNOLOGY

Based on available roof space, EMERGEN recommends committing to allocating at least 80% of usable roof area for a commercial solar PV system.

The total roof area is approximately 1,370 m^2 and using a conservative 50% utilisation factor for panel placement (allowing for plant, access, fire setbacks and shading allowances), around 685 m^2 can be dedicated to solar PV.

This corresponds to an estimated system capacity of **~129.1 kW**, which would provide a significant operational energy offset for the common areas and reduce long-term electricity demand.

Final sizing will be confirmed during detailed design; however, the recommended commitment ensures the project secures meaningful renewable energy generation aligned with best-practice commercial developments.

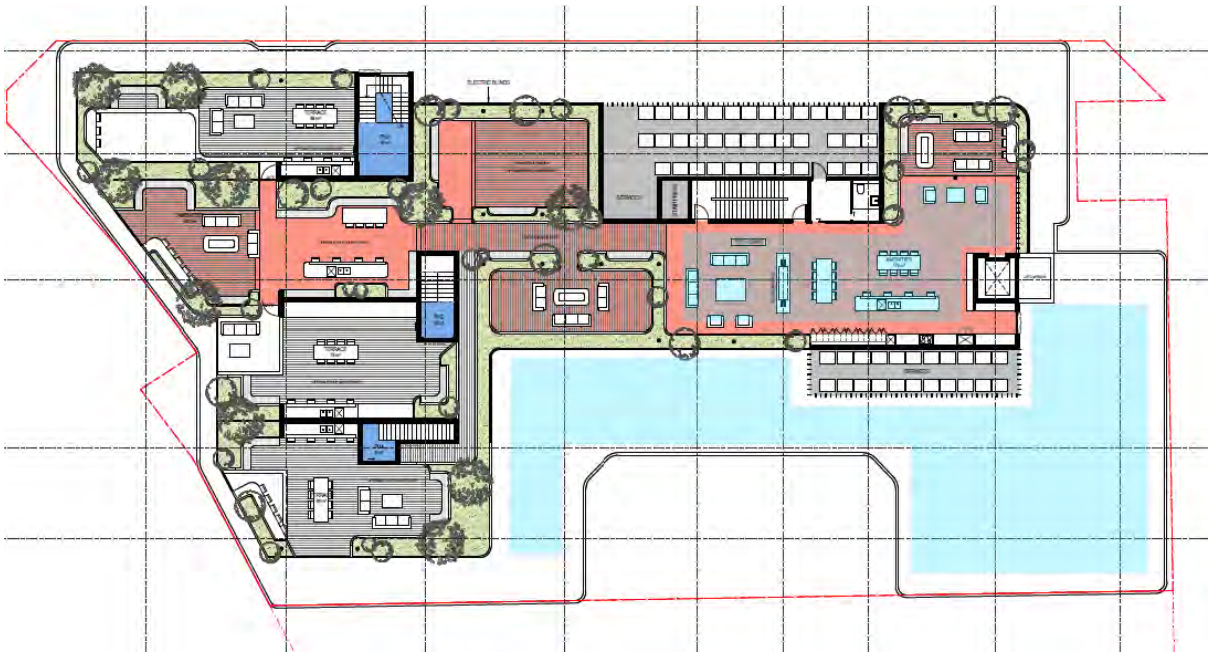

Figure 10: Provision for Solar PV System

5.6 ENERGY USE

Energy savings in a building can be realised by minimising the need for heating and cooling through a well-designed and insulated façade. The design team will focus on enhancing energy efficiency by exceeding the minimum requirements of NCC Section J. This will involve optimising the building envelope, air conditioning and ventilation systems, and lighting to ensure lower energy consumption.

The review has been undertaken in accordance with the Energy Efficiency provisions of the NCC 2022 – Amendment 1 for each class of building referred in the table below:

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Table 5: Energy Compliance Overview

BUILDING	CLASS	VERIFICATION
61 x Sole Occupancy	2	NatHERS
Amenities	2 Common Areas	Solar and Daylighting

These results are produced from models based on the documentation provided by the Architects. Any updates to these plans may affect the results and may require a change to specification (Section 5.1.1 – 5.1.2).

5.6.1 BUILDING SPECIFICATIONS FOR SOLE OCCUPANCY UNITS – CLASS 2

The construction for the proposed building envelope is as per plans provided during the DA stage are outlined below. *These specifications may require upgrades once all units are modelled.*

Table 6: Proposed Building Specifications for Apartment Units

CONSTRUCTION		DESCRIPTION	REQUIREMENT
EXTERNAL WALLS	External Steel Framed Wall	9mm FC Cladding on 92mm steel stud with 13mm plasterboard lining.	**R0.2 thermal break** between external cladding and steel frame with **R2.0 insulation batts** inside steel frame. ***Total R-Value=2.1***
INTERNAL WALLS	Steel Framed Wall	92mm steel stud with 13mm plasterboard lining.	**No Insulation Required.**
	Lift/Stair Wall	250mm Concrete wall with 13mm plasterboard lining.	**No Insulation Required.**
FLOORS	Suspended Slab	250mm suspended concrete Slab. Floor coverings as per plans.	**R1.3 K10 Soffit Insulation** *to exposed/carpark below suspended floors.*
CEILINGS/ ROOFS	Roof Type 1	250mm suspended concrete Slab.	**R5.0 Insulation Batts** to dropped plasterboard ceilings. *To exposed roofs only*

** Wall constructions have been simplified for modelling purposes using worst-case assumptions.*

Table 7: Proposed Glazing Specifications for Apartment Units

WINDOW SPECIFICATION	U-VALUE	SHGC

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EXTERNAL GLAZING 1	Single Glazed Low-E Clear in aluminium frame.	**4.57**	**0.56**
EXTERNAL GLAZING 2	Double Glazed Low-E Clear in aluminium frame.	**3.10**	**0.27**

Note: The glazing values specified are for whole systems values (glass + frame).

5.6.2 ESTIMATED ENERGY USED FOR SOLE OCCUPANCY UNITS – CLASS 2

The results below are based on NatHERS rating. The minimum requirement under the NCC 2022 is 6 stars and average of 7 stars. The worst case apartments have been modelled.

Table 8: Options and Upgrades Required

APARTMENT TYPE	FLOOR INSULATION R1.3	CEILING INSULATION R5.0	SINGLE GLAZED (U=4.57, SHGC=0.56)	DOUBLE GLAZED (U=3.10, SHGC=0.27)
C1b	X		X	
C4	X		X	
E1	X		X	
C2			X	
A1			X	
D1			X	
SPH3			X	
SPH4			X	
SPH5			X	
PH2		X		X
PH3		X		X
PH6		X		X

Table 9: NatHERS Results

APARTMENT TYPE	LEVEL	HEATING (MJ/m^2)	COOLING (MJ/m^2)	TOTAL	STAR RATING	THERMAL IMPACT
C1b	1	20.3	32.7	53.0	7.5	Exposed Floor
C4	1	29.6	33	62.6	6.9	Exposed Floor
E1	1	42.7	26.7	69.4	6.5	Exposed Floor
C2	2	25.2	27.1	52.3	7.5	
A1	3	30.2	30.3	60.5	7.0	
D1	3	10.0	31.2	41.2	8.1	
SPH3	6	12.7	23.8	36.5	8.4	
SPH4	6	20.9	25.2	46.1	7.8	

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SPH5	6	27.7	23.7	51.4	7.6	
PH2	7	32.0	42.4	74.4	6.3	Exposed Roof
PH3	7	35.5	33.0	68.5	6.6	Exposed Roof
PH6	7	42.1	27.4	69.5	6.5	Exposed Roof
AVERAGE					**7.23**	

The project is committed to meet the minimum requirement under the NCC 2022 is 6 stars and average of 7 stars.

6 URBAN ECOLOGY

Urban ecology is crucial for conserving biodiversity and enhancing urban life. Well-planned buildings and landscapes protect biodiversity and support sustainable practices, including low water and fertilizer use and the selection of native plants.

The current site has no existing vegetation. The proposed redevelopment restores ecological function through:

- >70% native or drought-tolerant species mix
- Deep soil zones along Shenton Road and the boundary to Claremont Oval.
- Landscaped areas to the outdoor terrace on Level one and the rooftop terrace
- Shrubs and low water planting
- Pedestrian-oriented front verge interface, improving amenity and microclimate

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Figure 11- Landscaping to the Outdoor Terrace

6.1 HEAT RESILIENCE

The heat island effect occurs when urban areas are warmer than their rural surroundings due to the built environment. The roof and external finishes have been reviewed to ensure heat resilience and long-term comfort. A light-coloured roof with a Solar Reflectance Index (SRI) ≥70 has been proposed to minimise heat absorption and reduce urban heat island effects.

The strategies that can be used to reduce the heat island effect are:

- Vegetation
- Green roofs
- Roofing materials, including shading structures, having the following:
  – For roof pitched <15°– a three-year SRI of minimum 64
  – For roof pitched >15°– a three-year SRI of minimum 34
- Unshaded hard-scaping elements with a three-year SRI of minimum 34 or an initial SRI of minimum 39
- Hardscaping elements shaded by overhanging vegetation
- Water bodies and/or water courses
-

7 WATER EFFICIENCY

7.1 SUSTAINABLE WATER INITIATIVES

Western Australia has a limited potable water supply due to the increases in population and reductions in annual rainfall levels. By reducing demand this will help to alleviate the concerns related to potable water

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usage. The development aims to achieve a minimum 20% reduction in potable water consumption compared to established benchmarks.

Table 10: WELS Ratings

FIXTURE / EQUIPMENT TYPE	WELS RATING
TAPS	5 Star
TOILETS	4 Star
SHOWERS	3 Star
DISHWASHERS	4 Star
WASHING MACHINES	4 Star

7.2 WATER EFFICIENT LANDSCAPING

Water-efficient landscaping refers to techniques and strategies aimed at conserving water while maintaining aesthetically pleasing and functional outdoor spaces. This is important in Western Australia due to its semi-arid climate conditions, which often result in water scarcity. Key strategies include:

- **Plant Selection:** Choosing native or drought-tolerant plant species that are well-suited to the local climate can significantly reduce water requirements.
- **Soil Improvement:** Improving soil quality through methods such as mulching and composting can enhance water retention and reduce evaporation, thereby optimizing water usage in landscaping.
- **Irrigation Efficiency:** Employing efficient irrigation systems such as drip irrigation or micro-sprinklers helps deliver water directly to plant roots with minimal waste. Additionally, using smart irrigation controllers that adjust watering schedules based on weather conditions and soil moisture levels can further enhance water efficiency.
- **Water Harvesting:** Capturing rainwater through techniques like rainwater tanks will allow for on-site water storage and reuse, reducing reliance on potable water for landscaping needs.
- Overall, water-efficient landscaping plays a vital role in conserving water resources, promoting sustainability, and mitigating the impacts of water scarcity in urban and rural environments.

8 SUSTAINABLE TRANSPORT/ ACCESSABILITY

8.1 BICYLCE PARKING FACILITIES & SUSTAINABLE TRANSPORT FACILITIES

The intention of this category is to reduce occupants' reliance on carbon-intensive vehicles. To support this, the development will include infrastructure that facilitates the future installation of electric vehicle (EV) charging stations. Additionally, secure bike storage will be provided to encourage cycling as a sustainable mode of transportation.

8.2 WALKABILITY TO THE SITE

The building's design and location encourage walking to and from several amenities within the vicinity. This means designing roads within the building boundary to prioritise pedestrians, and either providing within, or being located close to, several amenities.

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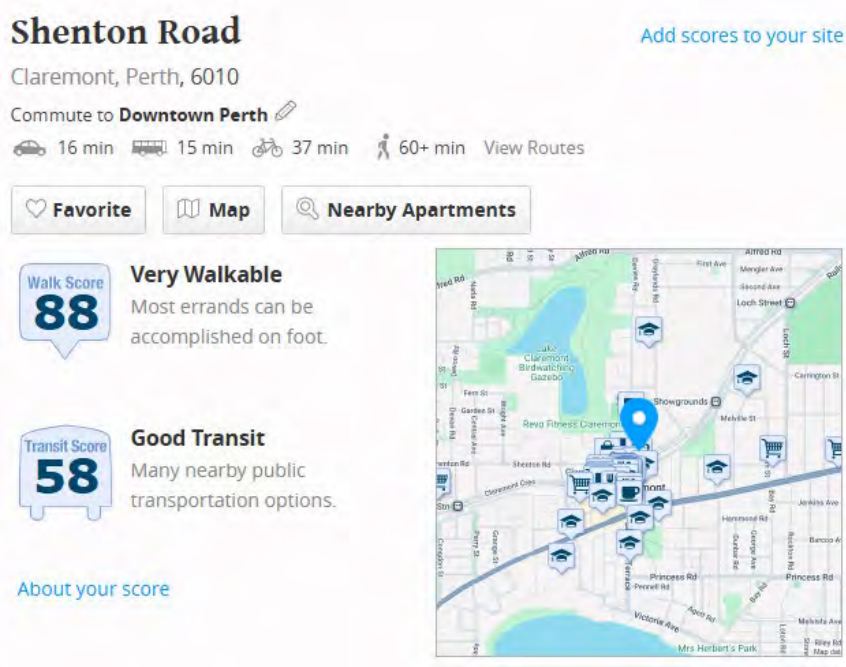

Figure 12: Walkability Score of the Proposed Development

9 INDOOR ENVIRONTMENT QUALITY

9.1 PROVISIONS FOR INCREASED OUTDOOR AIR

Pollutants entering the building are minimised, and a high level of fresh air is provided to ensure levels of indoor pollutants are maintained at acceptable levels. It is proposed that outdoor air provided to primary areas will be at a rate at least 50% greater than minimum in AS 1668.2:2012, this will need to be confirmed by the mechanical engineer.

9.2 INTERNAL FINISHES

Internal finishes (paints, adhesives, sealants, carpets) with low VOC and formaldehyde content will be prioritised.

Using low VOC (volatile organic compounds) products offers numerous benefits, primarily by enhancing indoor air quality and promoting better health. These products release fewer harmful chemicals, reducing the risk of respiratory issues, headaches, dizziness, and long-term health problems. Environmentally, low VOC products contribute less to air pollution and smog formation, supporting a healthier ecosystem.

9.3 PAINTS, ADHESIVES, AND SEALANTS

To meet the requirements, at least 95% of internally applied paints, adhesives, sealants (by volume), and carpets (by area) must meet TVOC (Total Volatile Organic Compounds) limits. Compliance with these limits can be achieved through one of the following methods:

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1. **Product Certification Scheme:** The contractor can use products that are certified under a recognized and current Product Certification Scheme at the time of purchase. These schemes assess and verify the TVOC content of the materials, ensuring they meet the specified limits.
2. **Laboratory Product Testing**: If there are no certified products available, the contractor can conduct laboratory testing on the paints, adhesives, and sealants, to determine their TVOC content. The testing should be carried out using the whole paint, including water and tinters, to obtain accurate results.
3. **Absence of Non-compliant Materials**: Alternatively, if none of the materials mentioned (paints, adhesives, sealants, and carpets) are present at the time of practical completion (PC), and thus no TVOC emissions are expected, compliance can be achieved.

All paints used for internal application on the job are to have a low TVOC content as outlined below. TVOC content must be based on whole paint (water and tinters included):

Table 11: Paint VOC limits

PRODUCT TYPE / SUBCATEGORY	MAX TVOC CONTENT (G/L OF READY TO USE PRODUCT)
Walls and ceilings – Any gloss level	16
Trim, varnishes and wood stains	75
Primers, sealers and prep coats	65

Maximum TVOC Content Limits for Paints, Varnishes and Protective Coatings
*EU Directive
The TVOC content of the 'ready-to-use' paint shall be theoretically calculated as the sum total of the VOCs of each of the raw material component comprising the paint.

Where the TVOC content of individual components is not known, it must be determined experimentally by one of the following testing methods as appropriate:

- ISO Method 17895 (2005), for a material with a presumed VOC content <1%;
- ISO Method 11890-2 (2006), for a material with a presumed VOC <15%;
- ISO Method 11890-1 (2007), for a material with a presumed VOC content >15%;
- ASTM D3960, which is comprised of four individual testing procedures that measures TVOC (D2369) as well as density (D1475) and water content (D4017). Exempt compounds (D4457) must not be subtracted in the calculation of VOC content.

The contractor must obtain written approval from the design team before using any sealant, adhesive, paint, flooring or fit out items. This approval will be contingent on the provision of proof that the product has a VOC content below that noted above.

At the end of construction, the contractor is required to undertake a final audit to ensure that the correct products have been used.

All sealants used in an internal application on the job are to have a low TVOC content as outlined below.

Table 12: Adhesives/Sealants VOC limits

PRODUCT	MAXIMUM TVOC CONTENT (G/LITRE)

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General purpose adhesives and sealants	50
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
Primers, sealers and prep coats	65
One and two pack performance coatings for floors	140

Maximum TVOC limits for Adhesives & Sealants
*Sealants used to enhance the fire- and water-proofing properties are included.

The testing method applicable to adhesive and sealants is only ASTM D3960 as detailed above for paints. For more information on ASTM D3960 refer to South Coast Air Quality Management District Rule 1168.

The contractor must obtain written approval from the design team before using any sealant, adhesive, paint, flooring or fitout items. This approval will be contingent on the provision of proof that the product has a VOC content below that noted above.

At the end of construction, the contractor is required to undertake a final audit to ensure that the correct products have been used.

All carpets and/or other flooring used on the project are to have low TVOC emission rates as outlined below.

Table 13: Carpet VOC limits

ALL CARPET/FLOORING PRODUCTS MUST COMPLY WITH TVOC EMISSION LEVELS	
Total VOC limit	0.5 mg/m^2 per hour
4-pc (4-Phenolcycohexene) limit	0.05 mg/m^2 per hour

Compliance Testing: Refer to Carpet and Rug Institute Green Label (US) OR American Society for Testing and Materials (ASTM) D5116 Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Material/Products OR

For carpets and laminate floor coverings, an option for demonstrating compliance with TVOC levels is as follows: ISO 10580 (also known as ISO/TC 219) – Document N238 – Resilient,

Textile and Laminate Floor Coverings Evaluation of Volatile Organic Compounds Emissions, with a limit of 500µg/m^2/hr at 24 hours. OR

For floor coverings (other than carpet), an option for demonstrating compliance with TVOC levels is as follows:

ISO16000 parts 9, 10 and 11 (also known as the EN 13419), with a TVOC limit at three days of 5mg/m^2/h and 0.5mg/m^2/h at 28 days.

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Carpet or other flooring installed as part of the base building works prior to fit out works, can be deemed re-used for the purpose of this credit.

The contractor must obtain written approval from the design team before using any sealant, adhesive, paint, flooring or fit out items. This approval will be contingent on the provision of proof that the product has a VOC content below that noted above.

At the end of construction, the contractor is required to undertake a final audit to ensure that the correct products have been used.

There are two options for demonstrating compliance for carpets, as follows:

Option A - Product Certification:

Carpets certified under a relevant Product Certification Scheme standard recognised by the GBCA under the GBCA assessment Framework for Product Certification Schemes are deemed to satisfy the requirements of this criterion. Relevant GBCA recognized standards are listed on the GBCA web site. The certificate must be current at the time of project registration or submission and list the relevant product name and model.

A UL GREENGUARD Children & Schools® certification current at the time of project registration or submission is another acceptable evidence for demonstrating compliant TVOC levels for carpets.

Option B - Experimental Testing

All carpets comply with the Total VOC (TVOC) limits within Table below. The emission levels detailed in this table must be established by a NATA or another ISO/IEC17025 accreditation laboratory.

Table 14: Flooring VOC limits

ALL CARPET/FLOORING PRODUCTS MUST COMPLY WITH TVOC EMISSION LEVELS – TO ASTM D5116 TEST PROTOCOL	
Carpets using ASTM D5116 Test Protocol:	
Total VOC limit	0.5 mg/m^2 per hour
4-pc (4-Phenolcycohexene) limit	0.05 mg/m^2 per hour
Carpet using ISO 16000 test protocol (also known as EN 13419)	
TVOC at three days-	0.5 mg/sqm per hour
Flooring using ISO 10580 (also known as ISO/TC 219) – Document	
TVOC at 24 hours - 0	0.5mg/sqm per hour

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9.4 FORMALDEHYDE MINIMISATION

All engineered wood products used internally, including exposed and concealed applications, must have low formaldehyde emissions as defined in the table below, or contain no formaldehyde. Engineered wood products are defined as particleboard, plywood, veneer, MDF, Laminated Veneer Lumber (LVL), High-Pressure Laminate (HPL), Compact Laminate and decorative overlaid wood panels and include both finished and unfinished products.

These requirements are not applicable to exterior applications, formwork, internal car park applications, reused engineered wood products or raw timber.

The contractor must obtain approval from the design team before substituting any product.

The limits listed here are defined according to the test method. The levels listed are equivalent results for different test procedures.

Table 15: Formaldehyde emission limits

TEST PROTOCOL	EMISSION LIMIT/ UNIT OF MEASUREMENTS
AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood	< 1.0 mg/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	< 1.0 mg/L
JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	< 1.0 mg/L
JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	< 1.0 mg/L
JIS A1901 (not applicable to Plywood)	< 1.0 mg/L
ASTM D5116	<0.1 (+/- 0.0005) mg/m^{2}hr (may also be represented as mg/m^2/hr)
ISO 16000 part 9, 10 and 11 (also known as EN 13419)	<0.1 (+/- 0.0005) mg/m^{2}hr (may also be represented as mg/m^2/hr)
ASTM D6007	0.12mg/m^3*
ASTM E1333	0.12mg/m^3**
EN 717-1 (also known as DIN EN 717-1)	0.12 mg/m^3
EN 717-2 (also known as DIN EN 717-2)	3.5 mg/m^{2}hr (may also be represented as mg/m^2/hr).
*The test report must confirm that the conditions of Table 1 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.	

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10 CONCLUSION

In conclusion, the report outlines sustainability commitments that align with core principles, focusing on energy and water efficiency. It highlights efforts to promote environmental responsibility and resource efficiency, underscoring a commitment to a greener, more sustainable future.

Table 16: Sustainability Commitments

DESCRIPTION	GOAL	SUSTAINABILITY COMMITMENTS
STRUCTURE DESIGN EFFICIENCY	Integrate passive solar design principles into optimising solar access in winter and shading in summer.	• Enhance solar passive performance by incorporating shading devices on north, east, and west-facing windows to reduce summer heat gain and improve visual interest.
ENERGY EFFICIENCY	Enhance energy performance by reducing consumption through efficient design and the use of renewable and low-energy systems.	• Efficient LED Lighting and controls. • **20%** reduction in lighting power when compared to NCC DTS • For Class 2 units, above **60%** of the combined living and bedroom area of each unit have high level of daylight (above 160 Lux). • Provision for solar photovoltaic (PV) system to supply renewable energy. • NCC 2022 compliant building fabric. • All units meet the minimum NatHERS energy efficiency requirement of 6 stars for sole occupancy and average of 7 stars, based on the NCC 2022. • Energy efficient condenser clothes dryers
WATER EFFICIENCY	Water efficient fixtures and Landscaping.	• High WELS Ratings • Water sensitive urban design, drip irrigation.
HEAT RESILIENCE	Reduce impacts of heat island effect	• Light roof colour (SRI ≥ 0.64). • Incorporate vegetation and green spaces around the building to provide shading and reduce surrounding air temperatures.
SUSTAINABLE TRANSPORT/ ACCESSABILITY	Low carbon options	• Provision for future EV charging bays. • Provision for secure bicycle storage area. • Access to public transport
INDOOR ENVIRONMENT QUALITY	Enhance indoor air quality	• Natural ventilation to all apartment units. • Low VOC and Low Formaldehyde products to be used. • Minimum 95% of internally applied paints, adhesives, sealants (by volume), and carpets (by area) must meet TVOC limits.

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Proposed Mixed-Use Development - Lot 508 Shenton Road, Claremont Terraces - Stage 2, Town of Claremont

Waste Management Plan

Stantec

Prepared for:
Norup Pty Ltd

Prepared by:
Stantec Australia Pty Ltd

Date:
12 December 2025

Project/File:
301252138

Stantec Australia Pty Ltd

Revision Schedule

Revision	Description	Author	Quality Check	Independent Review	Date
001	For Issue	Sophie Gittins	DH	Desmond Ho	05/12/2025
002	Final	Sophie Gittins	PM	Desmond Ho	12/12/2025

Disclaimer

The conclusions in the Report titled Proposed Mixed-Use Development- Lot 508 Shenton Road-Stage 2, Claremont, Town of Claremont 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 scope of work was conducted 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.

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Printed Name

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1 Introduction

1.1 Background

Stantec has been commissioned by Norup Pty Ltd ("the Client") to prepare a Waste Management Plan (WMP) for Stage 2 of the proposed residential development ("the Development") located at Lot 508 Shenton Road, Claremont ("the Site") within the Town of Claremont.

A Waste Management Plan (WMP) report (WM-RPT-001_A) was previously prepared for Stage 1 of the development, which included 137 apartments and commercial and retail spaces. This WMP focuses on assessing the impacts associated with the Stage 2 development on the subject site comprising 61 residential units, manager's office and residential amenities.

The scope of this WMP is limited to the estimation of general waste, recycling, and food organic and garden organic (FOGO) waste generated by the proposed Development and includes recommendations for the appropriate collection, storage, handling and transportation of waste and recycling, in accordance with the requirements outlined by the Town of Claremont, WALGA's Multi Dwelling Waste Management Plan Guidelines and WALGA's Commercial and Industrial Waste Management Plan Guidelines.

Estimations of generated volumes of liquid wastes (including cooking and motor oils) and bulk rubbish are not provided. Specialist contractors will need to be commissioned by the Development operators for the collection and disposal of liquid wastes and bulk rubbish, as necessary.

1.2 Site Description

The Site is located in the suburb of Claremont within the Town of Claremont. The Site is bounded by Claremont Football Oval to the north, Shenton Road to the south, Tiger Way to the east and other mixed-use development to the west. The location of Stage 1 and Stage 2 is shown in **Figure 1-1.**

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Figure 1-1. Site Location

Source: Metromap (2025)

Plans for the proposed development outlines a residential building with 61 units with 59sqm of residential amenity and 12sqm manager's office space on the ground floor. The anticipated usage generating waste from the proposed Development is tabulated in **Table 1-1**.

The Development will front onto Tiger Road and is surrounded by residential and mix-use properties. The bin enclosure for the development is proposed to be located on the ground floor of the Site and access to the development is through the proposed crossover on Tiger Road.

This assessment is based on site plans provided by Hillam Architects in December 2025. **Figure 1-2**. shows the ground floor plan, with an enlarged version included in **Appendix A**.

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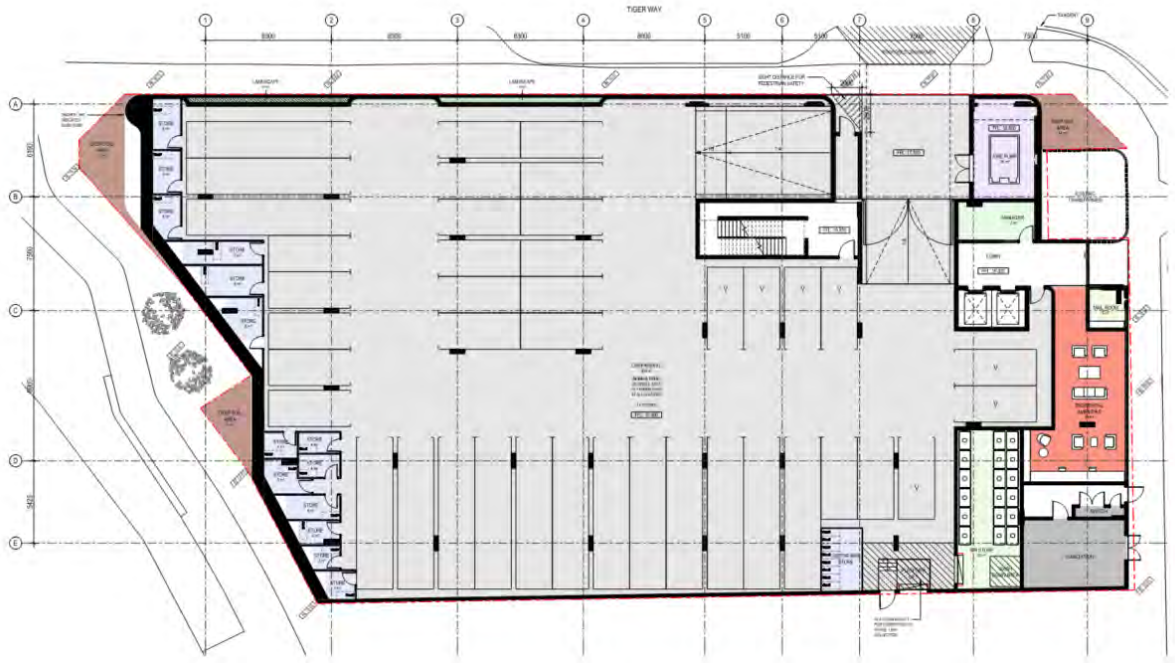
Figure 1-2. Ground Floor Plan



Source: Hillam Architects (December 2025)

Table 1-1. Proposed Stage 2 Development Land Uses

Type	Development Yield
Total Residential (Units)	61 apartment units
1 bed	5
2x2	24
3x2	30
4x3	2
Residential Amenity (for all levels)	440 sq. m
Manager's Office (GFA)	12 sq. m.

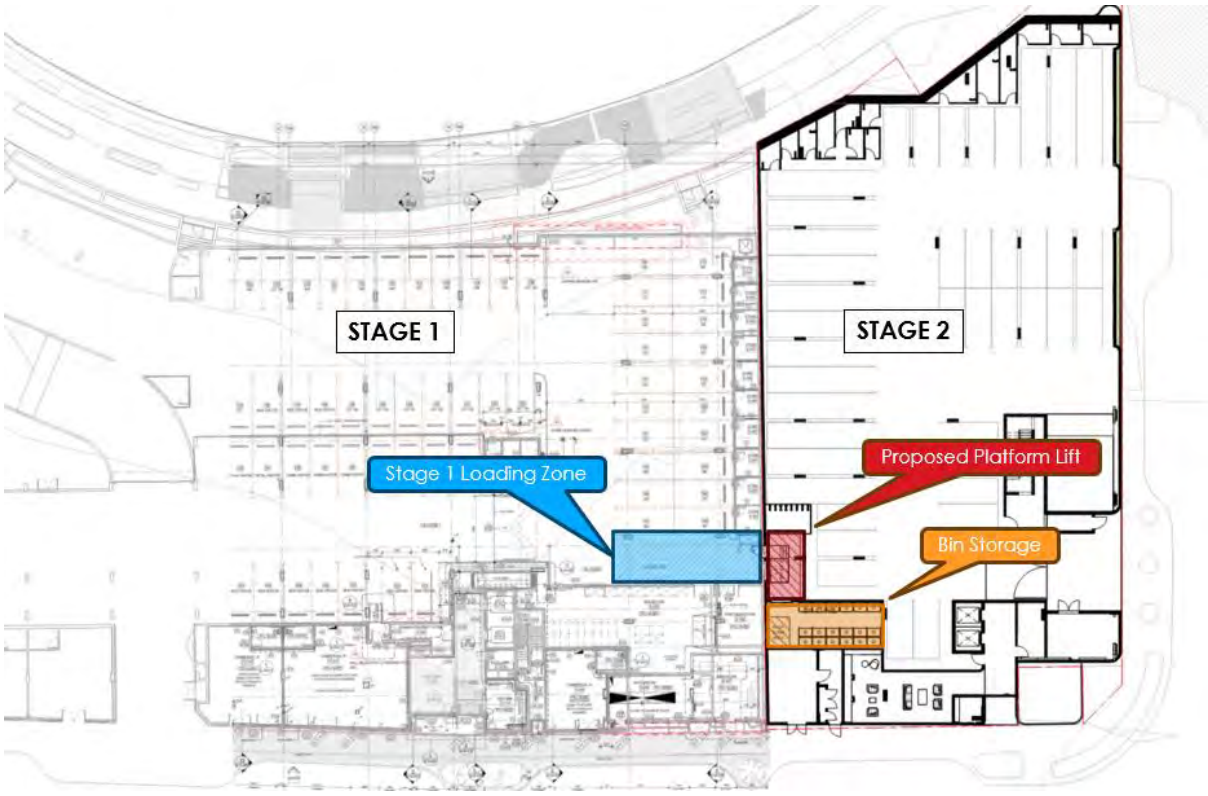
1.3 General Waste and Recycling Collection Services

The residential premises of the Stage 2 development will use the Town of Claremont's waste collection services for general and recycling waste, with general waste collected twice a week and recycling waste collected once every week.

In accordance with the Town of Claremont's requirements, all waste collection services will be conducted on-site.

The general and recycling waste for the proposed Stage 2 development is to be collected via the Stage 1 waste collection area. The general and recycling waste bins will be transported by a nominated staff/caretaker from the Stage 2 bin enclosure to the proposed platform lift (low profile scissor lift table) which connects to the Stage 1 loading area on the days of collection. The general and recycling waste will then be emptied into the waste truck that is parked in the Stage 1 loading area as shown in **Figure 1-3**.

Figure 1-3. Proposed Stage 2 Waste Strategy



1.4 Scissor Lift Tables

Low profile scissor lift tables have a lift mechanism which allows a very low closed height, eliminating the need for pit installation. A wide variety of table sizes are available and can be built to customer specifications which provides for varying capacities, lifting heights, table sizes etc. An example of a low-profile scissor lift table is shown in **Figure 1-4**.

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Figure 1-4. Low Profile Scissor Lift Table

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Source: Sitecraft materials Handling Equipment

Suppliers of low-profile scissor lift tables have indicated that there is a 2 hour callback time for urgent issues.

1.5 Bin Enclosure

The Mobile Garbage Bin (MGB) storage for the residential apartments, manager's office and residential amenities will be accommodated in a single bin enclosure on the ground floor.

1.5.1 Construction Considerations

The bin enclosure for the Development will be designed with the following considerations:

- The bin enclosures will have concrete slab floor with a graded floor to a waste drain that is connected to sewer. Floors to be even and flat for safe storage of bins.
- Access doors will be self-closing to prevent access to vermin.
- Adequate aisle width for easy manoeuvring of bins.
- No double stacking of rows of bins.
- All wall joins will be sealed to a height of 150 mm for ease of washing.
- Walls are to be painted with washable paint.
- A hose cock will also be included to facilitate washout of bins and washout of the area.
- Drainage of wastewater from washing facilities will drain to main sewers.
- All electrical outlets will be installed at a height of 1.6 m for ease of use and safety.
- Light switches for the bin enclosures must be installed at a height of 1.6m to prevent obstruction by bins and equipment.

- Sufficient lighting for the bin enclosure should be provided by motion detected automatic artificial lighting to facilitate access to the bin enclosure.
- Adequate ventilation will be provided to the bin enclosures to ensure sufficient turnover of the air mass to prevent odour nuisance.
- Appropriate signage to be provided.
- To be designed to not permit stormwater to enter the drain.
- Bins not to be visible from the property boundary or areas trafficable by the public.
- Any external bin store greater than 20m is to be roofed as per Water Authority requirement; and;
- Bins are reasonably secured from theft and vandalism.

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2 Waste Generation and Management

To ensure effective waste management for the development, it was essential to estimate the expected on-site waste volume. The Town of Claremont advised that a waste management plan should incorporate a two-bin collection system for general waste and recyclables. Since the Town does not have specific waste generation rates, they recommended using the rates outlined in WALGA's Multi-Dwelling Waste Management Plan Guidelines and Commercial and Industrial Waste Management Plan Guidelines for the proposed residential and commercial development. Using the general and recycling waste generation rates, a broad estimation of daily and weekly waste generation for the proposed development has been calculated.

2.1 Waste Streams

2.1.1 General Waste and Recycling

Waste and recyclables will be sorted on-site and as close to source as possible. Sorting will rely on appropriate education of staff in addition to adequate signage for bins located in the bin enclosure. Waste and recycling will be based on the following streams:

- General Waste.
- Co-mingled Recycling, which includes clean aluminium foil and trays, glass bottles and jars, long-life milk and juice cartons, cardboard, plastic containers, tins, and cans.

2.1.2 Other Streams

Storage, handling and collection of bulk wastes, such as mattresses and other hard rubbish and electronic waste such as old batteries, are not covered in this WMP. It should be noted that the Town provides biannual green and bulk waste collections throughout the year for residential and multi-residential properties. It is recommended that the Facility Manager/caretaker of this development manage and coordinate the bulk waste collections for this development.

2.2 Waste Stream Estimates

The weekly waste generation and bin requirements for the residential, manager's office and residential amenities was calculated using the waste generation rates detailed in **Table 2-1**.

Table 2-1. Waste Generation Rates (Residential/Commercial)

Type of Premises	Source	Weekly General Waste	Weekly Co-mingled Recycling
1 Bedroom (unit)	WALGA	80L/unit/week	20L/unit/week
2 Bedroom (unit)	WALGA	160L/unit/week	40L/unit/week
3+ Bedroom (unit)	WALGA	240L/unit/week	120L/unit/week
Amenities/Manager's Offices	WALGA (Office)	10 L/100m^2/day	10 L/100m^2/day

The waste volumes presented are estimates only and are representative of the design drawings of the Development provided in November 2025.

A summary of the estimated weekly waste generated for each waste stream is provided in **Table 2-2** and outlined in **Appendix B**.

Table 2-2. Weekly Waste Generation (Residential Apartments/Manager's office/residential amenities)

Type of Premises	Weekly General Waste (litres)	Weekly Co-mingled Recycling (Litres)
1 Bedroom (unit)	400.00	100.00
2 Bedroom (unit)	3840.00	960.00
3+ Bedroom (unit)	7680.00	3840.00
Amenities	308.00	308.00
Managers Office	8.40	8.40
Total	12,236.40	5,216.40

The waste volumes presented are estimates only and are representative of the design drawings of the Development provided in December 2025.

2.3 Bin Requirements

A summary of the breakdown of the anticipated MGB requirements for the proposed development, the proposed bin sizes, and the proposed collection frequencies are provided in **Table 2-3**.

Table 2-3. Bin Requirements – Residential Apartments/Manager's office/residential amenities

	Size (L)	Collection	No of Bins
General Waste	660	Twice weekly	10
Co-mingled Recycling	660	Weekly	8
Total	18 x660L		

2.4 Bin Enclosure Layout

The bins will be stored in the allocated bin enclosure on the ground floor of the Stage 2 Development and will be easily and safely accessible from within the development.

The waste bins will generally be stored directly abutting the walls of the enclosures.

The locations of the anticipated bin enclosure in both the Stage 1 and 2 developments are illustrated in **Figure 2-1**. The proposed bin enclosure for Stage 2 is adequately sized for the storing and manoeuvring of a total of 18 x 660L bins.

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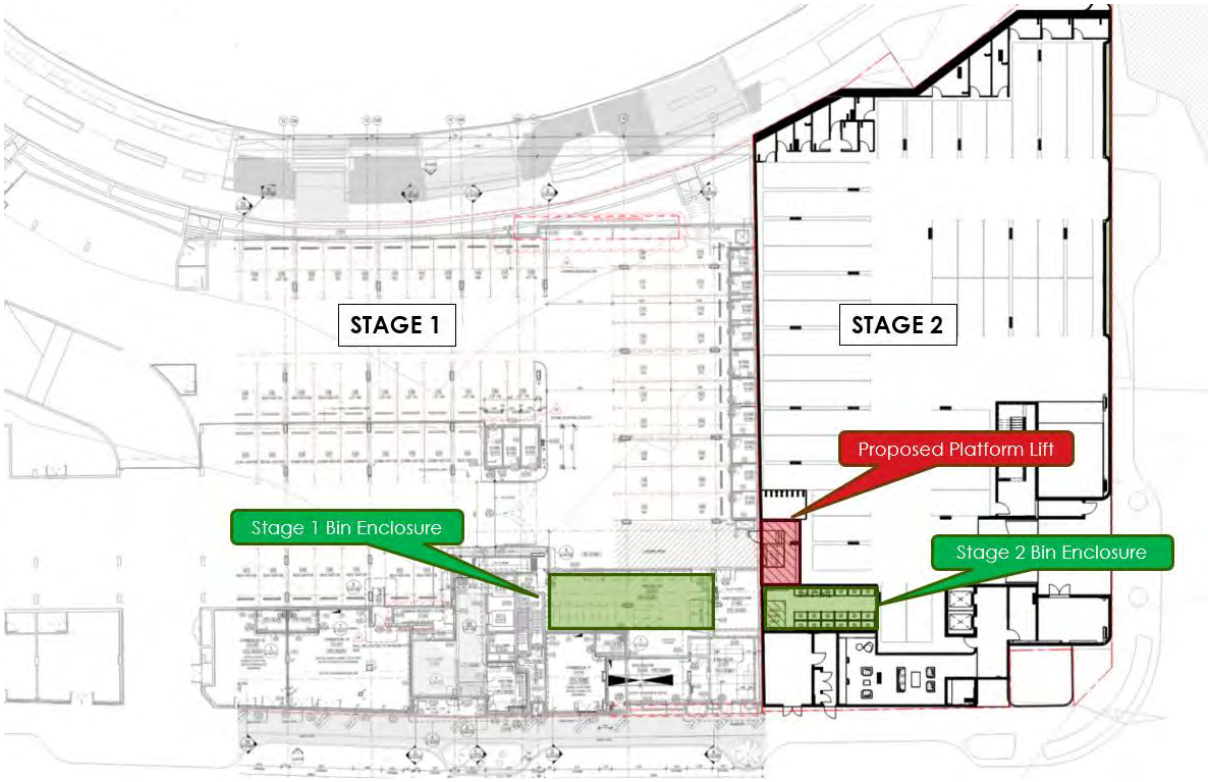
Figure 2-1. Bin Enclosures



Source: Hillam Architects (November 2025)

2.5 Design Considerations

A number of problems can arise from inadequate consideration of waste management in developments. Some of these problems include noise, odour, hygiene issues, vermin, negative impacts on the health, safety, environment, and security. To avoid these issues, it is vital to consider waste management in the design and planning of the proposed Development.

2.5.1 Odour

The enclosure is located away from public areas which will prevent odour nuisance.

2.5.2 Noise

The bin enclosure is located away from public areas to limit noise that may otherwise disturb surrounding premises when materials are placed in the bins.

2.5.3 Vermin

The use of lidded MGBs will eliminate access by vermin. The use of bait stations will also be considered by the Development operator if required.

2.5.4 Aesthetics

The bin enclosure has been designed with the Development and as such will be consistent with the overall aesthetics, avoiding the placement of bins along the external faces of the building.

2.5.5 Regular Washing of Bins and Enclosure

The Facility Manager or an assigned staff/cleaner will be responsible for the organisation of regular washing of bins and for maintenance of the storage area. The washing area will have graded floors that drain to the sewer which will allow for the cleaning of the store and bins.

2.5.6 Protection from Vandalism

The bin enclosure will be closed off from public access and will use gates and/or secure doors to deter vandalism and anti-social behaviour. No bins will remain or be stored outside of the enclosure.

2.6 Transfer of Waste and Recycling

2.6.1 Residential Apartments and Manager's Office

Residents and office manager will transfer waste to the dedicated bin enclosure located on the site as required. These wastes will be emptied into their respective bins within the associated bin enclosure.

2.7 Collection of Waste and Recycling

2.7.1 Waste Collection

2.7.1.1 Residential/Manager's Office Waste

It is anticipated that the proposed Development will use the waste collection services provided by the Town of Claremont. Waste collection is proposed to take place from the loading area in the Stage 1 development during off-peak hours or outside normal business hours, in accordance with the collection frequencies outlined in **Table 2-3**.

The general and recycling waste for the proposed Stage 2 development is to be collected via the Stage 1 waste collection area. On the designated collection day, the general and recycling waste bins will be transported by a nominated staff/caretaker from the Stage 2 bin enclosure to the proposed platform lift which connects to the Stage 1 loading area where the waste truck will be parked as shown in **Figure 2-2**. The general and recycling waste will then be emptied into the waste truck and on completion of the service the empty Mobile Garbage Bins (MGBs) will be returned to the respective bin enclosures by the nominated staff member.

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Figure 2-2. Proposed Waste Collection/Loading Area

Source: Hillam Architects (November 2025)

2.7.1.2 Bulk Waste

The Town of Claremont has advised that a separate bulk waste storage enclosure is not required. It is anticipated that 2 or 3 on-site visitor parking bays in the Stage 1 development will be used to place the bulk items for the Stage 2 development (typically over a weekend) preceding the pre-arranged collection day.

It is recommended that the Facility Manager/caretaker manage and coordinate the bulk waste collections for the Stage 2 development.

2.7.2 Provision for Service Vehicle

A swept path analysis has been undertaken for Stage 1 using a 7.4m rear-lift waste vehicle and 8.6m bulk waste vehicle entering and exiting the Site (consistent with the vehicle identified by the City for this development). The collection vehicle will enter the Site in forward gear via the Shenton Road crossover. On entering the Site, the waste vehicle will turn right and park in the Loading Area adjacent to the residential bin store.

The swept paths indicate that the 7.4m waste truck is able to adequately enter the site as shown in **Figure 2-3** but the body of the waste truck vehicle is expected to encroach onto the tree canopy on exiting the site.

The 8.6m bulk waste truck is expected to require multiple manoeuvres to enter the Stage 1 loading bay, however due to the infrequent nature of bulk collections this is considered acceptable. The vehicle is also anticipated to encroach on the tree canopy on exiting the site as shown in **Figure 2-4**. It is suggested that consideration be given to requesting the tree canopy to be trimmed by the Council.

Figure 2-3. 7.4m Rear-Lift Waste Vehicle Swept Path

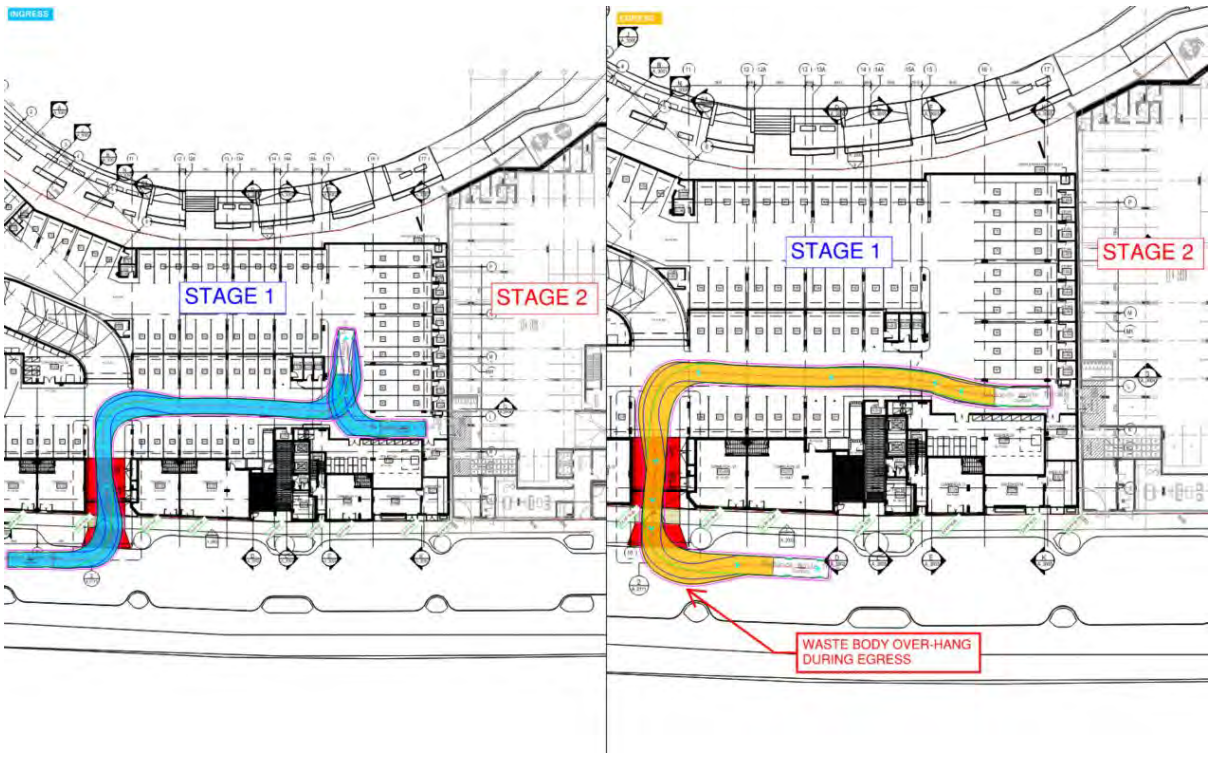

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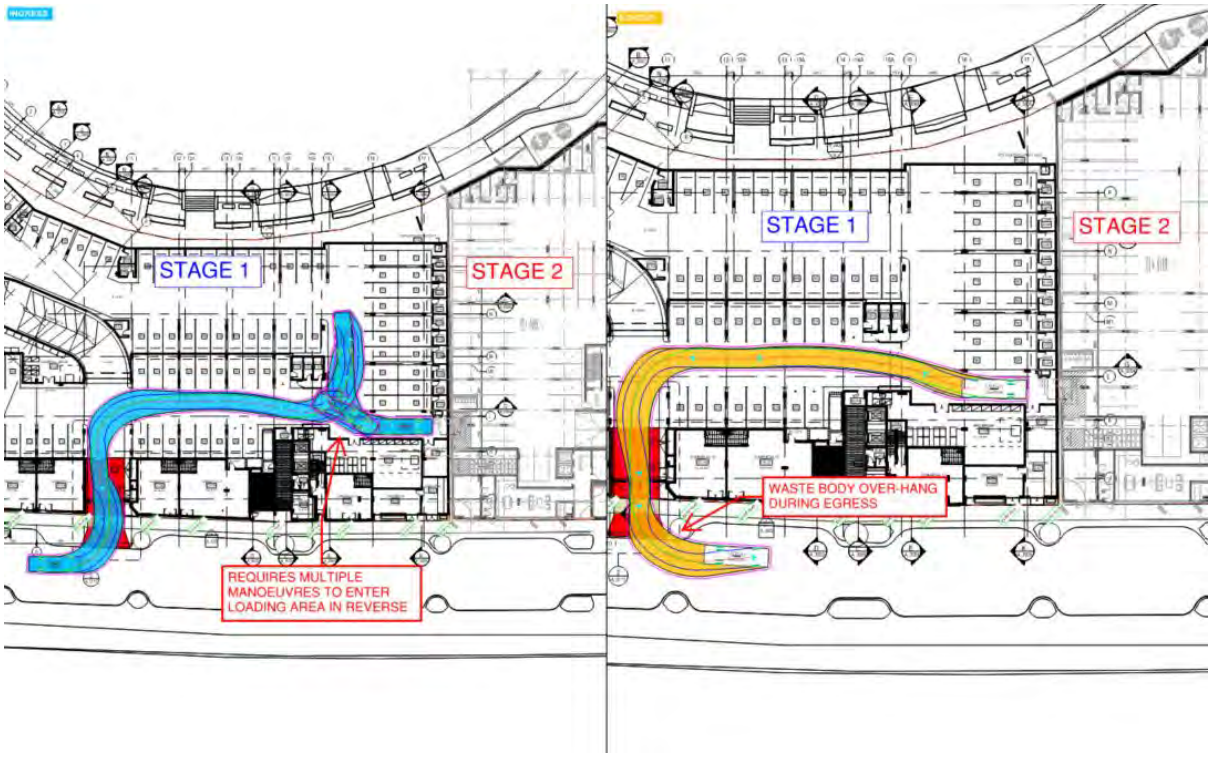
Figure 2-4. 8.6m Bulk Waste Vehicle Swept Path



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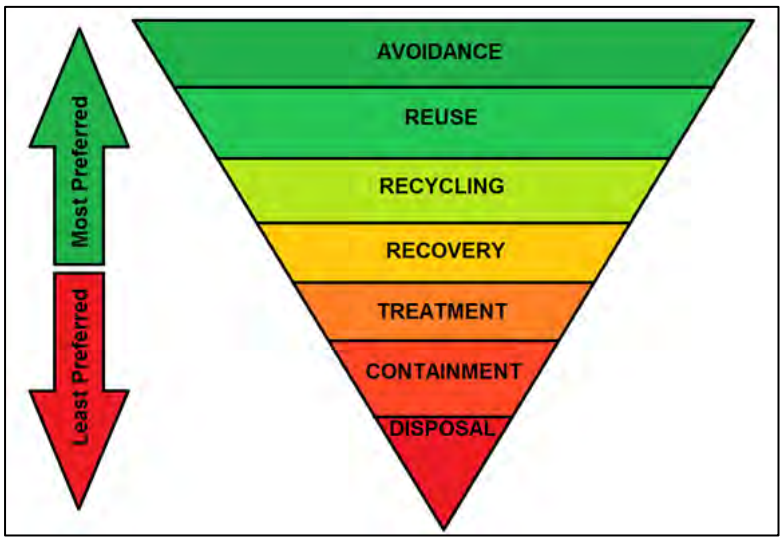
3 Waste Reduction and Management Strategy

This waste management plan has been developed with the strategic approach of reducing waste through best practices and education of residents, tenants and staff. Best practices for waste minimisation will optimise the Development's use of the waste minimisation hierarchy, which seeks to encourage sustainable options for waste. The waste hierarchy is demonstrated in **Figure 3-1**.

Figure 3-1. Waste Hierarchy



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3.1 Waste Reduction Strategies

Waste reduction is accomplished through proper education of all stakeholders and the implementation of various sustainability strategies. It also involves constant monitoring and review of waste operations.

3.1.1 Provision of Information

Everyone has a role to play in waste reduction. It is critical to implement customised communication techniques in the premises to advise suitable disposal choices that prevent contamination in waste streams and optimise diversion alternatives in order to control and reduce waste volumes generated on Site. Suitable types of information which can be provided includes:

- Online information.
- Marketing materials such as posters, employee manuals, leaflets demonstrating procedures of waste segregation and waste collection days.
- Staff manual detailing proper waste segregation and management.
- Sufficient labelling of bins, signage of storage areas and equipment to reinforce waste separation.

However, information on its own is not enough and it must be paired with other initiatives to be effective.

3.2 Engagement

Regular engagement between all stakeholders of the Development should take place in order to remind everyone the proper and best practices of waste management. The engagement should include:

- Demonstration of waste management systems pertinent to an individual's role.
- Distribution of waste management strategy documents in relevant locations.
- An explanation of the benefits of waste separation and recycling.
- Training on all pertinent equipment related to waste management.

3.3 Monitoring and Review

The Facility Manager/nominated staff who will oversee the implementation of the Waste Management Plan should continually monitor and review the waste management plan activities.

The Facility Manager/nominated staff will be responsible for the following:

- Monitoring and maintenance of bins and the Bin Storage Area.
- Responsible for ferrying the bins from the Stage 2 bin enclosure to the waste truck parked in the Stage 1 loading area via a proposed platform lift.
- Responsible for ensuring that the empty waste bins are promptly returned to the respective bin enclosures once servicing has been completed.
- Monitor staff's behaviour and identify requirements for further waste segregation and management education.
- Conduct regular training on waste segregation, reduction, and waste management.
- Conduct regular waste audits to improve waste management.
- Engage with the local government to ensure efficient and effective waste service to the Development.

In the event that waste generation rates for the Development change, a waste audit may be required by the Council or other regulatory bodies. Similarly, should a change to the waste regulations be implemented by the Council or other regulatory bodies, a waste audit may be required in addition to further waste stream separation.

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4 Conclusion

This Waste Management Plan demonstrates that the proposed Stage 2 Development provides adequately sized bin enclosure area for the storage of general and recycle waste based on estimated waste generation and a suitable configuration of bins.

The collection of general and recyclable waste is achieved using:

- Residential Apartments:
  - » 10 x 660L general waste bins collected twice a week.
  - » 8 x 660L recycling waste bins, collected once a week.

The Waste collection for residential apartments is anticipated to be collected on-site by the Town of Claremont.

The Facility Manager or designated staff will ferry the residential MGBs from their respective bin enclosures to the waste truck parked in the Stage 1 loading area via a platform lift and return the empty MGBs back to the respective bin enclosures.

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5 References

WALGA (n.d.), Multiple Dwelling Waste Management Plan Guidelines: A Resource for Western Australian Local Government and Developers, Perth.

WALGA (n.d.), Commercial and Industrial Waste Management Guidelines, Perth.

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Appendices

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Appendix A

Architectural Plans

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CLAREMONT TERRACES
- STAGE 2
JOHN NORUP

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SCALE @ A1
1 : 100
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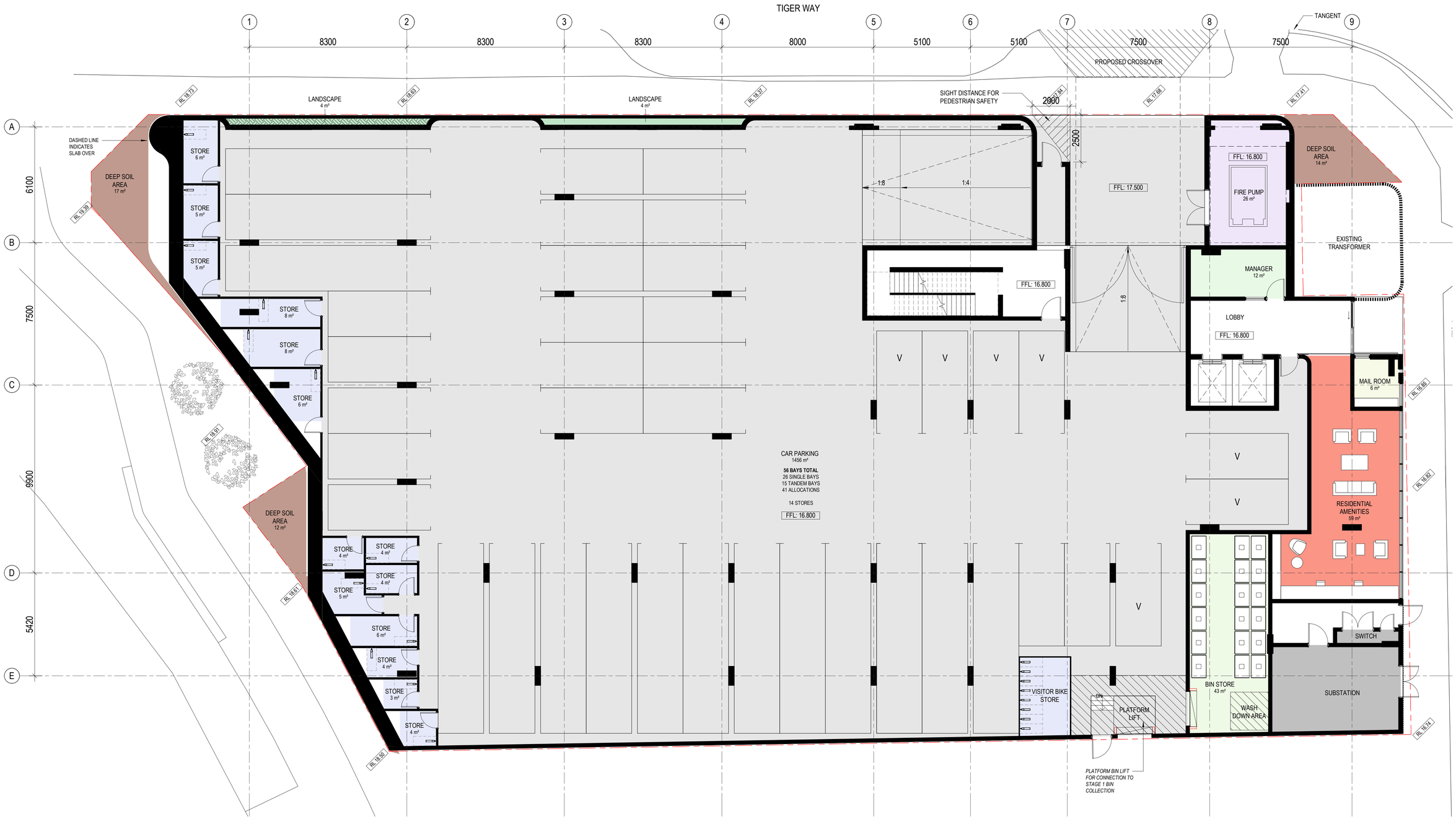
PROJECT NO.
2509

REV	DATE	ISSUED	DESCRIPTION

DRAWING TITLE
BASEMENT PLAN

DRAWING NO.
SK01-01

REV



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CLAREMONT TERRACES
- STAGE 2
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SCALE @ A1
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PROJECT NO.
2509

REV	DATE	ISSUED	DESCRIPTION

DRAWING TITLE
GROUND FLOOR PLAN

DRAWING NO.
SK01-02

REV

Appendix B

Waste Calculations

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Appendix B Waste Calculations

B.1 General and Recycling Waste Generation Rates - Residential

Floor Item	Waste Rates	General Waste	Recycling Waste
1 Bedroom (unit)	WALGA	80L/unit/week	20L/unit/week
2 Bedroom (unit)	WALGA	160L/unit/week	40L/unit/week
3+ Bedroom (unit)	WALGA	240L/unit/week	120L/unit/week
Amenities/Manager's Offices	WALGA (Office)	10 L/100m^2/day	10 L/100m^2/day

The following equation was used to calculate the anticipated weekly waste generation for residential waste for the proposed Development:

$$\boldsymbol{Total\ Amount\ of\ Waste\ Type} = (\boldsymbol{Number\ of\ Units} \times \boldsymbol{Waste\ Rate}) \times \boldsymbol{7\ days}$$

The total number of bins required for general waste for residential waste for a twice a week collection was calculated using the following equation:

$$\boldsymbol{Total\ Number\ of\ Bins\ Required} = \frac{\boldsymbol{Total\ Weekly\ Waste\ Generated}}{\boldsymbol{660\ L}} x1/2$$

The total number of bins required for recycling waste for residential waste for a once-a-week collection was calculated using the following equation:

$$\boldsymbol{Total\ Number\ of\ Bins\ Required} = \frac{\boldsymbol{Total\ Weekly\ Waste\ Generated}}{\boldsymbol{660\ L}}$$

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With every community, we redefine what's possible.

Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

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Stantec Australia Pty Ltd

Ground Floor, 226 Adelaide Terrace
Perth WA 6000
AUSTRALIA
ABN 17 007 820 322
stantec.com

Attachment 9 - Acoustic Report

Acoustic Report – SPP5.4 DA

Claremont Terraces – Stage 2

NORUP Pty Ltd

Suite 101, 19 Ogilvie Road
Mount Pleasant WA 6153

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Prepared by:

SLR Consulting Australia

SLR Report 675.072945.00002-R01

16 December 2025

Revision: 1

Making Sustainability Happen

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
1	16 December 2025	Louisa Cheung	Luke Zoontjens	Luke Zoontjens
0	28 November 2025	Louisa Cheung	Luke Zoontjens	DRAFT

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with NORUP Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Executive Summary

The METRICS and NORUP JV is proposing to develop a multistorey development titled 'the Terraces' Stage 2 at Lot 508 Shenton Road Claremont.

This report has been prepared to address likely development approval requirements for a detailed Acoustic Report. Performance requirements have been developed in accordance with *State Planning Policy 5.4*, and the *Environmental Protection (Noise) Regulations 1997*.

This report has reviewed in detail

- noise ingress to residential spaces from the Fremantle Rail Line and Airport Line against *State Planning Policy 5.4*,
- External noise sources and ingress into nearby sensitive areas.

The review finds that the development can practicably comply with both the *State Planning Policy 5.4*, and the *Environmental Protection (Noise) Regulations 1997*.

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Appendix A Predicted Transport Noise Levels
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1.0 Introduction

1.1 Background

The NORUP is proposing to develop the Terraces Stage 2 at Lot 508 Shenton Road Claremont.

Architectural drawings (plans, elevations, schedules) dated 5th December 2025 have been reviewed and used in the following assessment.

1.2 Locality

Figure A presents an aerial image of the site locality.

Figure A Aerial image indicating lot boundary (Source: Nearmaps, Google)

Located between the road and railway reserve and Claremont Oval, the site is zoned 'Development' under the Town of Claremont Local Planning Scheme No. 3, and is within the North East Precinct Structure Plan.

The building construction will need to comply with the *National Construction Code* (*NCC*). Environmental noise emissions from operation of the building will need to comply with the Assigned Noise Levels listed in the *Environmental Protection Noise Regulations 1997*.

Due to proximity of the site to the Fremantle Rail Line and Airport Line, an assessment according to the *State Planning Policy 5.4 Road and Rail Noise* (*SPP 5.4*) is also required to inform the development approval process.

Figure B presents an early concept view of the development.

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Figure B Architectural render of the development, viewed from Shenton Road.

1.3 Structure of this report

For the purposes of Development Approval, this report addresses the following elements:

- Road and rail noise ingress (**Section 2.0**).
- Environmental noise emissions to surrounding areas (**Section 3.0**).
- Acoustic separation between adjacent multi-residential dwellings (**Section 3.0**).

2.0 Transport noise ingress (SPP 5.4)

2.1 Context

The purpose of *State Planning Policy 5.4* (*SPP 5.4*) is to minimise the adverse impact of road and rail noise on noise-sensitive land-use and/or development within the specified trigger distance of strategic freight and major traffic routes and other significant freight and traffic routes.

SPP 5.4 applies to the preparation and assessment of planning instruments, including region and local planning schemes; planning strategies, structure plans; subdivision and development proposals in Western Australia.

Where any part of a proposed noise sensitive lot is within the specified trigger distance, an assessment against *the Policy* is required to determine the likely level of transport noise and management/mitigation required. **Table A** presents a summary of the relevant trigger distances for scheduled roads.

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Table A Transport corridor classification and trigger distances

Transport corridor classification	Trigger distance, metres (Note [1])
Roads - Strategic freight and major traffic routes Roads as defined by Perth and Peel Planning Frameworks and/or roads with either 500 or more Class 7 to 12 Austroads vehicles per day, and/or 50,000 per day traffic volume	300
Roads - Other significant freight/traffic routes These are generally any State administered road and/or local government road identified as being a future State administered road (red road) and other roads that meets the criteria of either >= 100 Class 7 to 12 Austroads vehicles daily or >= 23,000 daily traffic count.	200
Passenger railways	100
Freight railways	200

Note 1 measured from road carriageway edge or railway centreline

Based on the information provided, the nearest significant transport asset is the Fremantle railway line which is around 30 metres away. Being within 100 metres, the proposed development is within the trigger distance for *SPP 5.4*.

2.2 Criteria

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Targets from SPP5.4 is provided in **Table B**.

Table B *SPP 5.4* Noise Targets

Proposal	New / upgrade	Noise targets		
		Outdoor		Indoor
		Day ($L_{Aeq,day}$, dB) (6 am – 10 pm)	Night ($L_{Aeq,night}$, dB) (10 pm – 6 am)	(L_{Aeq}, dB)
Noise-sensitive land-use and/or development	New noise-sensitive land-use and/or development within the trigger distance of an existing / proposed transport corridor	55	50	$L_{Aeq,day}$ 40 (living and work areas) $L_{Aeq,night}$ 35 (bedrooms)
Roads	New	55	50	N/A
	Upgrade	60	55	N/A
Railways	New	55	50	N/A
	Upgrade	60	55	N/A

Based on this table and residential usages facing the railway, the recommended indoor noise targets are

- L_{Aeq} 40 dB within living and work areas, and

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- $L_{Aeq,night}$ 35 dB in bedrooms.

2.3 Assessment

To determine future design incident noise level, a detailed 3D model of road and railway noise was created to represent the current and future day period scenario. Key model inputs are listed in **Table C**. The building was included based on the current set of drawings and adjacent development. Assessment points are located at the middle of facades of each residence, at 1.5m above each floors finished floor level. **Figure C** indicates these locations in plan.

To represent the current and future scenario, the rail noise model includes the Fremantle Line and Airport Line at full capacity.

The road traffic noise model includes the design year (2025) with increased road volumes to represent a 20-year design horizon (year 2045). The year 2047 scenario, referencing the traffic forecast in the Stantec's Traffic Impact Assessment report[1], is also predicted using empirical formula[2].

Based on these road and rail volumes, the day period is determinative, meaning that if the design is compliant based on day period results, the design will also be compliant with the night period results.

Table C Noise prediction basis

Aspect	Source		Basis / Rationale
	Shenton Road	Rail	
Volume, Day period (per direction)	2025: 335 per hour East Bound 161 per hour West Bound 2045: 470 per hour East Bound 225 per hour West Bound 2047 (peak traffic): 818 per hour East Bound 361 per hour West bound	2025: 130 per day 2045: 130 per day	Recorded volume[3] plus 3% to represent each year growth
Noise emission model	CoRTN (AU)	Kilde 130	Conservative
Modelled emission strength, dB	-2.2	-6.2 @ 96 m length	Relative to standard to match historical data
Speed, km/hr	40	40 to 70	Railway stopping at Claremont Station

[1] Lot 508 Shenton Road, Claremont Terraces-Stage 2, Town of Claremont, Traffic Impact Assessment Report prepared by Stantec, dated 05 December 2025

[2] The Calculation of Road Traffic Noise (CoRTN) methos was used to estimate base noise level during day time peak.

[3] Traffic Signal LM01154 dated 2023, https://reportingcentreresources.mainroads.wa.gov.au/public/data/traffic_map/TL/LM01154.xlsx

Figure C Locations of modelled sensitive receivers

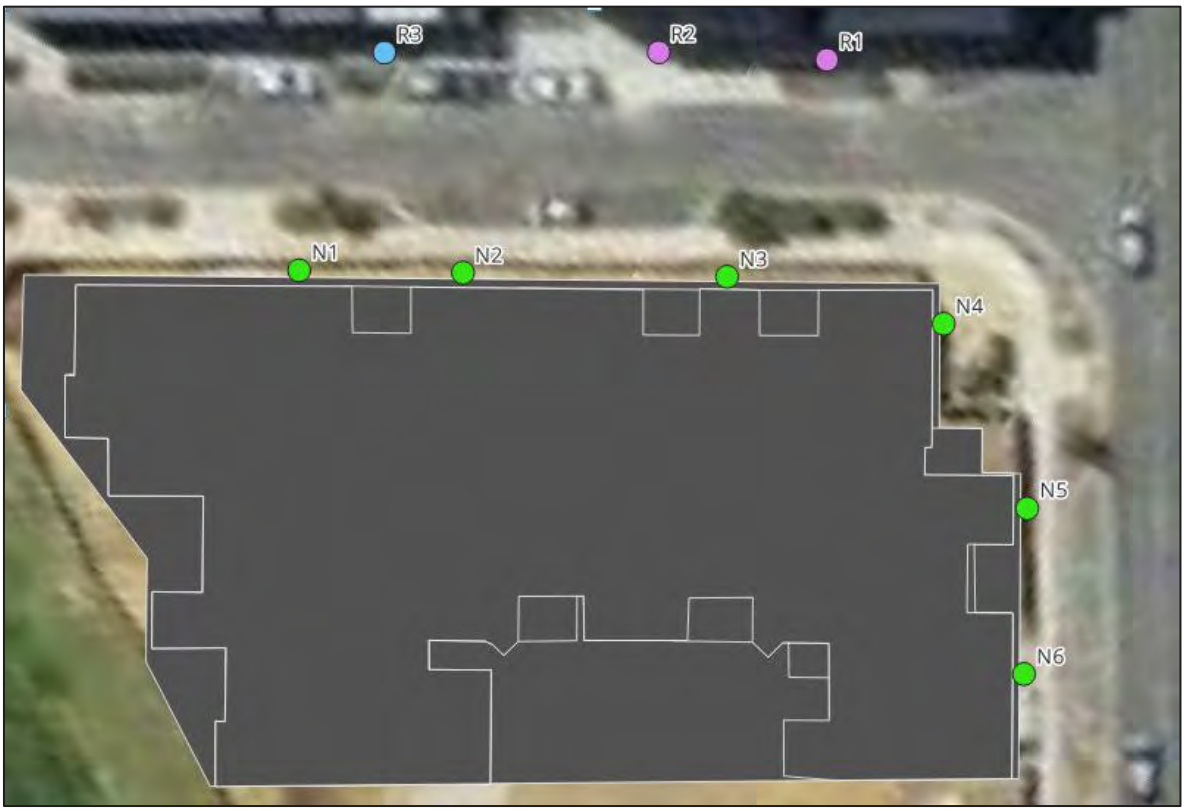

Table D lists the results for each scenario. From this table it can be seen that the future incident design level is typically over $L_{Aeq,day}$ 60 dB. The highest incident level assessed is $L_{Aeq,day}$ 66 dB at two apartments, which is 11 dB above the relevant outdoor design target and aligns to Noise Exposure Category C in the SPP 5.4 Guidelines.

Detailed predicted noise levels are included in **Appendix A.** Whilst the most exposed apartments are predicted to have this Noise Exposure Category, levels across the façade will vary and minimum façade noise reduction requirements will be lower at the less exposed locations.

Table D Predicted $L_{Aeq,day}$ design noise levels by scenario, dB

Sensitive Receivers	Rail	Design year 2025		Design year 2045		Design year 2047	
		Road	Sum	Road	Sum	Road*	Sum
N1	47	51	52	58	58	60	60
N2	49	51	53	58	58	60	60
N3	51	53	55	58	59	60	61
N4	57	59	61	61	62	63	64
N5	57	62	63	63	64	66	66
N6	57	62	63	63	64	65	66
Maximum	57	62	**63**	63	**64**	**66**	**66**

*Road traffic noise levels predicted using traffic forecast in this Project's Traffic Impact Assessment Report prepared by Stantec. (Stantec reference: 301252508, dated 05 December 2025)

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Practicable construction options are available to comply with SPP 5.4 noise ingress requirements. Subject to further optimisation, some examples are provided in **Table E**.

Table E Performance requirements for managing noise ingress

Aspect	Parameter	Construction	
		Generally	**Facing railway**
Walls	Minimum Weighted sound reduction performance (R_w), dB	45	51
	Sketch (Note[1])		
	Example arrangement	• Internal • 1x13mm EC08 • 92mm stud with 100mm 14kg/m3 glasswool insulation and 10mm rockwool thermal break strips to external façade of stud framing • 13mm Siniat Weather defence • 70mm cross battened top hat ventilated cavity • 9mm FC cladding • External	• Internal • **2x13mm EC08** • 92mm stud with 100mm 14kg/m3 glasswool insulation and 10mm rockwool thermal break strips to external façade of stud framing • 13mm Siniat Weather defence • 70mm cross battened top hat ventilated cavity • 9mm FC cladding • External
Windows	Minimum weighted sound reduction performance (R_w), dB	32	34
	Example arrangement	Minimum 6.38mm laminate single glazed panes in airtight awning / casement frames	Double glazed insulating glass unit (DGU) 6-12-6 mm in airtight awning / casement frames
Balcony doors	Minimum Weighted sound reduction performance (R_w), dB	29	32
	Example arrangement	Toughened single glazing with weatherproof seals	Double glazed insulating glass units (DGU) 6-12-6 mm with weatherproof seals

Note 1 Image sourced from https://media.siniat.com/pd47641/original/1031430004/siniat-weather-defence_brochure_march24_final.pdf

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3.0 Internal separation (NCC)

We understand that the development would be assessed as mostly Class 2 under the 2022 National Construction Code (NCC).

Detailed design of internal partition is yet available at this early stage. However, a preliminary review of the internal arrangements finds that compliance with relevant acoustic separation requirements in the NCC would be practicable.

4.0 Noise emissions (Regulations)

Project noise emissions are addressed by state noise policy in the form of the Western Australia *Environmental Protection (Noise) Regulations 1997* (EPNR, 'Regulations'). To achieve compliance with this policy, noise levels at nearby residential areas are not to exceed defined limits referred to as Assigned Levels. These limits are determined from consideration of prevailing background noise levels and 'influencing factors' (IFs) that considers the level of commercial and industrial zoning in the locality.

The influencing factor considers zoning and road traffic around the nearest sensitive receiver of interest, within 100 and 450 m distance. A summary of the applicable noise limits is provided in **Table F**.

Table F Assigned Levels summary

Part of premises receiving noise	Time of day	Assigned Level, dB		
		L_{A10}	L_{A1}	L_{Amax}
Noise Sensitive premises at locations within 15 metres of a building directly associated with a noise sensitive use	0700 to 1900 hours Monday to Saturday *('Day')*	53	63	73
	0900 to 1900 hours Sunday and public holidays *('Sundays')*	48	58	73
	1900 to 2200 hours all days *('Evening')*	48	58	63
	2200 hours on any day to 0700 Monday to Saturday and 0900 hours Sunday and public holidays *('Night')*	43	53	63
Noise Sensitive premises at locations further than 15 metres from a building directly associated with a noise sensitive use.	All hours	60	75	80
Commercial premises	All hours	60	75	80
Industrial and utility premises	All hours	65	80	90

If noise emitted from any premises when received at any other premises cannot reasonably be free of intrusive characteristics of tonality, modulation and impulsiveness, then a series of adjustments must be added to the emitted levels (measured or calculated) and the adjusted level must comply with the Assigned Level.

The adjustments are detailed in **Table G** and are further defined in Regulation 9(1) of the Environmental Protection (Noise) Regulations 1997.

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Table G Table of adjustments

Noise characteristic	Definition	Adjustment if present (Note[1])
Tones	Where the difference between the A weighted sound pressure level in any one third octave ban and the arithmetic average of the A weighted sound pressure levels in the two adjacent one third octave bands is greater than 3 dB in terms of $L_{Aeq,T}$ 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.	+5 dB
Modulation	A variation in the emission of noise that – Is more than 3 dB L_{AFast} or is more than 3 dB L_{AFast} in any one third octave band; Is present for at least 10% of the representative assessment period; and, Is regular, cyclic and audible.	+5 dB
Impulsiveness	Present where the difference between the L_{APeak} and L_{Amax} is more than 15 dB when determined for single representative event.	+10 dB

Note 1 where noise emission is not music, these adjustments are cumulative to a maximum of 15 dB.

The following subsections provide assessment of various aspects identified, by source type.

4.1 Vehicle noise

Noise from movements of vehicles within private car parking areas is regulated. However, the frequency and positions of such vehicle movements are such that noise emissions are predicted to be compliant at noise sensitive receptors on floors above.

Bin storage is provided at ground level inside the carpark. The bins will be transferred to Stage 1 for collection. No bin truck will be travelling in and out of the site.

4.2 Mechanical plant

4.2.1 Fire pump

The fire pump is proposed to be installed at the fire services pump room at ground floor carpark. **Figure D** shows the location of the fire pump room at ground level.

The room will be fully enclosed with fire rated walls and door typically rated to at least R_w 55 and R_w 30 respectively.

Any doors, and openings for exhaust, air inlet/outlet for the pump room should be located off Shenton Road, facing southward and away from residential development opposite Tiger Way.

Periodic testing is recommended to be carried out between 7am to 7pm Monday to Friday. Therefore, noise egress from the fire pump to the surrounding is expected to be minimal and permitted under Regulation 14.

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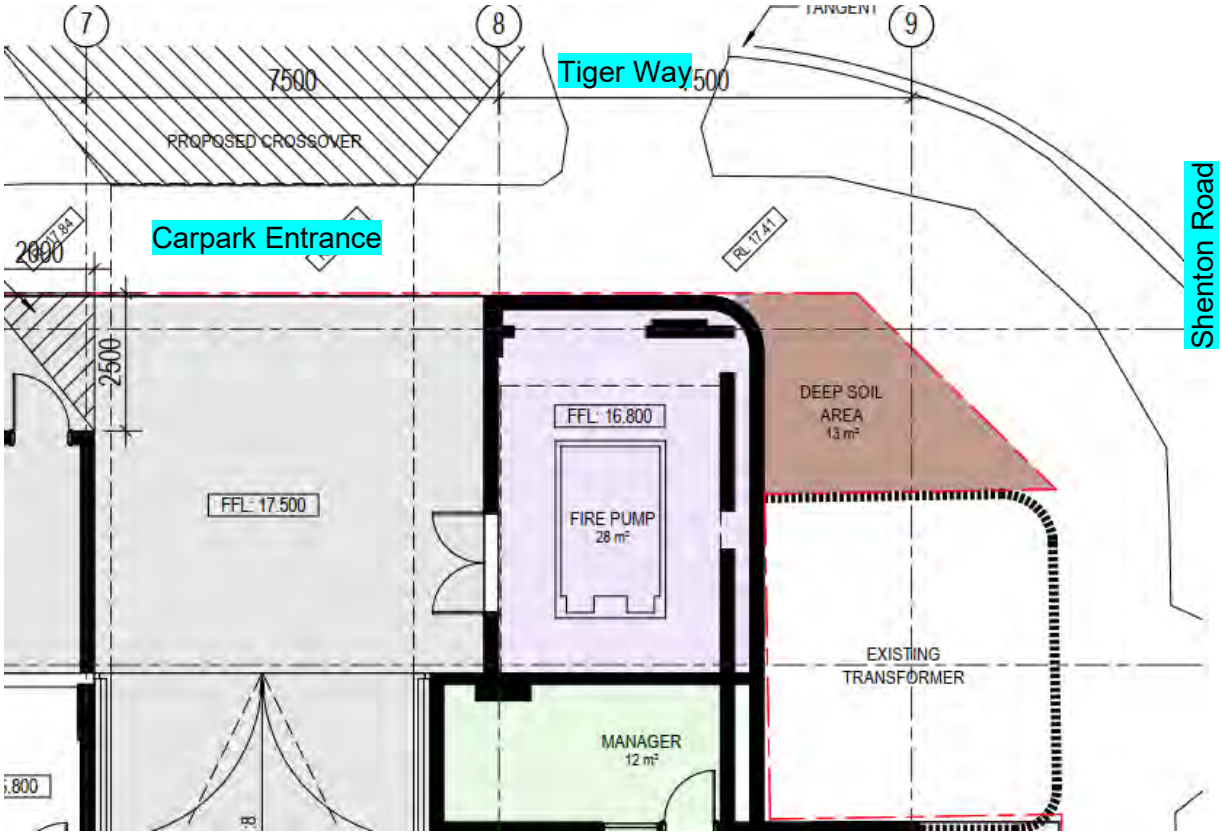
Figure D Fire pump room at ground level carpark



4.2.2 Car park ventilation

Car parking areas should ideally be naturally ventilated but may use mechanical services to assist. Noise emissions from these services are required to comply with the noise emission criteria in **Table F. Table H** presents the modelled arrangement of mechanical ventilation.

Table H Modelled car park ventilation

Noise Sources	Location	Quantity	Sound power level L_{WA} per item, dB
Carpark ventilation (SLR database)	Carpark entrance (3 metres from floor level)	4	70

It is understood that the design in this respect is subject to change and would need to be reviewed further if the positions, operating profile and/or noise emissions change. However, compliance with applicable Assigned Noise Levels is predicted based on the currently indicated fan locations, ventilation openings and wall partitions.

4.2.3 Residential condenser units

A service space is designed on roof. Most mechanical plant is assumed to be located on the rooftop. Mechanical outdoor condensers (including those located on individual balconies) would need to comply with **Table F**. Rooftop mechanical plant have been modelled as per **Table I**. **Figure E** shows the location of the rooftop AC plant.

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Table I Modelled roof mechanical plant

Noise Sources	Location	Quantity	Sound power level L_{WA} per item, dB
AC outdoor units (reference catalogue)	Roof Service Plant	61	76

Figure E Location of Roof top AC plant

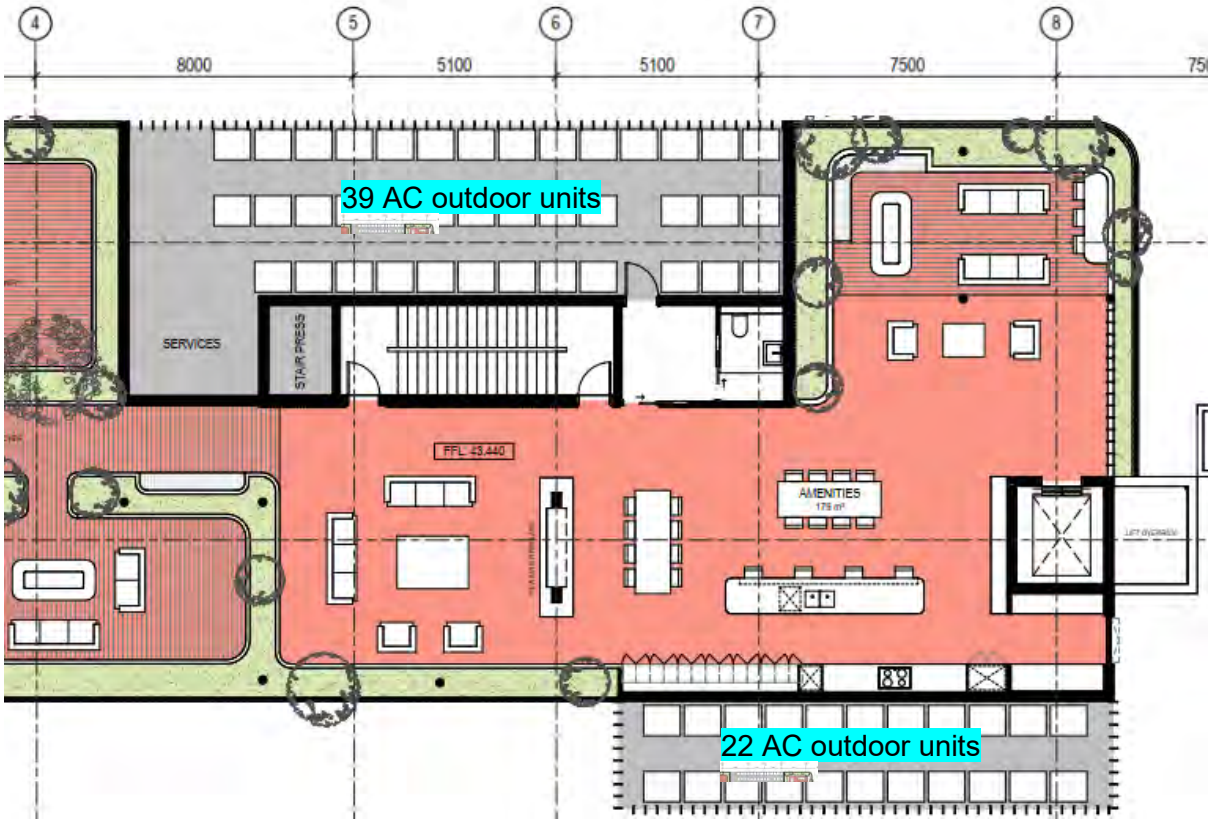

Table J summarised the predicted noise level from mechanical plants and carpark ventilation.

Table J Predicted mechanical noise from the site

Sensitive Receptors	Description	Predicted L_{A10} noise level at 1m from façade, dB
Level 7 PH1 (This development)	Directly under roof service plant	42
Top floor/Level 4, the Queenslea	Opposite to car park entrance and service plant	40
Level 1, the Queenslea	Opposite to car park entrance and service plant	42
Nagala Early Learning	Northeast of the development, across Tiger Way	36

The predicted levels are lower than the relevant assigned level of L_{A10} 43 dB. On this basis, noise emissions from mechanical services can comply with the Regulations.

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Appendix A Predicted Transport Noise Levels

Acoustic Report – SPP5.4 DA

Claremont Terraces – Stage 2

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A.1 Year 2025

A.1.1 Road Traffic Noise

Sensitive Receiver	Predicted $L_{Aeq,day}$							
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	Max
N1	51	50	50	49	49	48	48	***51***
N2	51	51	50	50	50	49	49	***51***
N3	53	53	53	52	52	51	51	***53***
N4	59	59	58	57	57	56	55	***59***
N5	62	61	60	59	59	58	57	***62***
N6	62	61	60	59	59	58	57	***62***
Max	***62***	***61***	***60***	***59***	***59***	***58***	***57***	
Max exceedance	***6***	***6***	***5***	***4***	***3***	***3***	***2***	

A.1.2 Railway Noise

Sensitive Receiver	Predicted $L_{Aeq,day}$							
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	Max
N1	46	46	47	47	47	46	46	***47***
N2	48	48	49	48	49	47	47	***49***
N3	50	50	51	51	51	51	51	***51***
N4	56	56	56	56	57	55	55	***57***
N5	56	57	57	57	57	57	57	***57***
N6	56	57	57	57	57	57	57	***57***
Max	***56***	***57***	***57***	***57***	***57***	***57***	***57***	
Max exceedance	***1***	***1***	***1***	***2***	***2***	***2***	***1***	

A.1.3 Overall

Sensitive Receiver	Predicted $L_{Aeq,day}$							
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	Max
N1	52	52	52	51	51	50	50	***52***
N2	53	53	53	52	52	51	51	***53***
N3	55	55	55	55	54	54	54	***55***
N4	61	61	60	60	60	59	58	***61***
N5	63	62	62	61	61	60	60	***63***
N6	63	62	62	61	61	60	60	***63***
Max	***63***	***62***	***62***	***61***	***61***	***60***	***60***	
Max exceedance	***7***	***7***	***6***	***6***	***5***	***5***	***5***	

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A.2 Year 2045

A.2.1 Road Traffic Noise

Sensitive Receiver	Predicted $L_{Aeq,day}$							
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	Max
N1	58	57	56	55	54	54	53	***58***
N2	58	57	56	55	55	54	53	***58***
N3	58	58	57	56	56	55	54	***58***
N4	61	61	60	59	59	58	57	***61***
N5	63	63	62	61	60	59	59	***63***
N6	63	62	61	61	60	59	59	***63***
Max	***63***	***63***	***62***	***61***	***60***	***59***	***59***	
Max exceedance	***8***	***7***	***6***	***5***	***5***	***4***	***3***	

A.2.2 Railway Noise

Sensitive Receiver	Predicted $L_{Aeq,day}$							
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	Max
N1	46	46	47	47	47	46	46	***47***
N2	48	48	49	48	49	47	47	***49***
N3	50	50	51	51	51	51	51	***51***
N4	56	56	56	56	57	55	55	***57***
N5	56	57	57	57	57	57	57	***57***
N6	56	57	57	57	57	57	57	***57***
Max	***56***	***57***	***57***	***57***	***57***	***57***	***57***	
Max exceedance	***1***	***1***	***1***	***2***	***2***	***2***	***1***	

A.2.3 Overall

Sensitive Receiver	Predicted $L_{Aeq,day}$							
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	Max
N1	58	57	56	56	55	54	54	***58***
N2	58	57	57	56	56	55	54	***58***
N3	59	58	58	57	57	56	56	***59***
N4	62	62	61	61	61	60	59	***62***
N5	64	63	63	62	62	61	61	***64***
N6	64	63	63	62	62	61	61	***64***
Max	***64***	***63***	***63***	***62***	***62***	***61***	***61***	
Max exceedance	***9***	***8***	***7***	***7***	***6***	***6***	***5***	

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A.3 Year 2047

A.3.1 Road Traffic Noise

Sensitive Receiver	Predicted $L_{Aeq,day}$							
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	Max
N1	60	59	58	57	57	56	55	***60***
N2	60	59	58	58	57	56	56	***60***
N3	60	60	59	59	58	57	57	***60***
N4	63	63	62	62	61	60	59	***63***
N5	66	65	64	63	62	62	61	***66***
N6	65	65	64	63	62	62	61	***65***
Max	***66***	***65***	***64***	***63***	***62***	***62***	***61***	
Max exceedance	***10***	***9***	***9***	***8***	***7***	***6***	***6***	

A.3.2 Railway Noise

Sensitive Receiver	Predicted $L_{Aeq,day}$							
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	Max
N1	46	46	47	47	47	46	46	***47***
N2	48	48	49	48	49	47	47	***49***
N3	50	50	51	51	51	51	51	***51***
N4	56	56	56	56	57	55	55	***57***
N5	56	57	57	57	57	57	57	***57***
N6	56	57	57	57	57	57	57	***57***
Max	***56***	***57***	***57***	***57***	***57***	***57***	***57***	
Max exceedance	***1***	***1***	***1***	***2***	***2***	***2***	***1***	

A.3.3 Overall

Sensitive Receiver	Predicted $L_{Aeq,day}$							
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	Max
N1	60	59	59	58	57	56	56	***60***
N2	60	59	59	58	58	57	56	***60***
N3	61	60	60	59	59	58	58	***61***
N4	64	64	63	63	62	61	61	***64***
N5	66	65	65	64	63	63	62	***66***
N6	66	65	65	64	63	63	62	***66***
Max	***66***	***65***	***65***	***64***	***63***	***63***	***62***	
Max exceedance	***11***	***10***	***9***	***9***	***8***	***8***	***7***	

Appendix B Noise contour maps

Acoustic Report – SPP5.4 DA

Claremont Terraces – Stage 2

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Figure A- 1 Predicted mechanical noise from site, L_{Aeq} dB

Note: Noise contours are calculated at 1.5 metres above local floor level.

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Making Sustainability Happen

Attachment 10 - Estate Architect Endoresement Letter

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06/05/26

Katie Andrews
Manager Planning
Mia Yellagonga Tower 2 Level 7/5 Spring Street
Perth Western Australia 6000

Re: Lot 508 Stage 2 The Terraces, Shenton Road, Claremont on the Park
Architect Design Third Review

Dear Katie,

This letter provides a summary and the recommendations for Lot 508 Stage 2 The Terraces, Claremont on the Park in relation to the second review carried out by Hames Sharley/Chris Maher Estate Architect. The review was carried out in accordance with the requirements as setout in the Claremont on the Park NEP Design Guidelines.

Overall the amendments provided by the Applicant have improved the outcome of the project which we believe will be a positive addition to the Claremont on the Park project. At this stage while there have been significant movement towards compliance, we cannot provide an Estate Architect endorsement for this proposal as there are several items that do not meet the requirements of the Claremont on the Park NEP Design Guidelines. As such the Design Guidelines matrix while now demonstrating further compliance has currently not been signed, however we consider whilst these items do not meet the requirements under the Design Guideline Checklist we believe the approach taken by the Applicant is consistent with and will deliver the intent of the Guidelines.

Post the Development Application approval we recommend that the items below should be reviewed at Building License Issue as the information provided within the documentation reviewed did not provide adequate information for several of the items as listed in the Design Guidelines checklist:

- Percent For Art
- Crossover,
- Lighting,
- Mechanical and Hydraulic design,
- Signage,
- Materials and Finishes,
- The roof design to the Level 7 apartments and
- The roof design to the Level 8 amenities.

This should we believe be consistent with the DA Conditions by the Town of Claremont at Development Application Issue.

Should you require additional information in relation to the above points please do contact our office on the above details.

Yours sincerely

Chris Maher
Claremont on the Park Estate Architect
National Director Urban Development Portfolio

HAMES SHARLEY

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SCHEDULE OF SUBMISSIONS

Application reference: DA26-050 | 01PEA/26/5758
DAP reference: DAP/26/03123
Property location: Lot 508 (No. 3) Shenton Road, Claremont

Issue	Consolidated summary of submissions	Applicant response
1. Building height and planning framework	Submissions raise concern regarding the proposed eight-storey height and its relationship with the planning framework for the North East Precinct.	While the proposed development exceeds the six-storey height identified within the North East Precinct Design Guidelines (NEP), the proposal has been assessed against the broader objectives of the planning framework, including State Planning Policy 7.0 and State Planning Policy 7.3, which support performance-based assessment of apartment development. The site is located approximately 240m from Claremont Train Station and is surrounded by established medium and high-density development. The proposal has been designed to respond to this strategic transit-oriented location whilst delivering housing diversity, communal amenities and high-quality design outcomes.
	Submissions refer to the North East Precinct Structure Plan, including its description of predominantly four- to five-storey apartment development with six storeys in discrete locations, the previously understood five to six-storey scale, the stated dwelling cap for the precinct, and earlier Council and DAP decisions. Submissions consider that the proposed height departs from the scale applied to surrounding development.	The proposed building height is considered consistent with the emerging character of the precinct, having regard to the concentration of high density residential development surrounding the Claremont Oval, including the approved eight-storey development on the western side of the subject site.

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	Submissions request that the building be reduced to six storeys, with seven storeys also identified as an alternative maximum.	The subject site occupies a prominent location in close proximity to Claremont Train Station and Claremont Quarter. Given the absence of adjoining low-density residential development and the established high-density character of the surrounding precinct, the site is well suited to accommodate the proposed development.
	Clarification is requested regarding the verified overall height in metres and storeys, the heights of existing buildings overlooking Claremont Oval, and any height variations previously approved within the precinct.	The proposed development is eight storeys with a maximum height of 28m. An eight-storey development has been approved on the immediately adjoining site to the west and is currently under construction which has the same height provisions.
	Submissions request that the proposal be amended or refused, and also include a request that no further development occur on the site.	The proposal has been amended where appropriate. The request for no development to occur on-site is not supported as the site is designated for high density residential development.
2. Precinct consistency and cumulative built form	Submissions state that the site forms part of the broader Terraces / Claremont on the Park development and should not be assessed solely as a separate building.	The proposal has been designed having regard to its physical and functional relationship with the approved Stage 1 development, including shared amenities, connections and built form outcomes.
	Submissions request consideration of Stage One and Stage Two as a combined urban composition, together with the surrounding completed developments.	The proposed development will manifest a built form outcome that is consistent with the other residential development surrounding the Oval, including an angled frontage facing the Oval.
	Matters raised include whether subdivision or separation of the remaining land should result in a different height, density or design outcome from previous stages; whether the final parcel maintains the coordinated scale and design character of the precinct; and whether the combined	The built form outcome of the proposal in relation to the other residential developments facing the Oval has been addressed above. The proposal is considered to represent an appropriate transition from the low-density development north of the Oval

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	building envelope provides an appropriate transition within the precinct.	and the subject site's close proximity to the Claremont Train Station.
	Submissions request specific assessment of the cumulative mass, articulation and contextual response of both stages.	A detailed assessment against the relevant planning provisions has been included in the planning report. Both stages have been included only where relevant.
3. Building bulk, visual character and relationship with Claremont Oval	Submissions raise concern regarding building bulk, apparent scale, skyline and visual character. Submissions raise concern that the proposed building would create an abrupt height transition and alter the visual relationship between the surrounding apartment buildings and Claremont Oval.	The proposal incorporates a range of architectural measures intended to reduce perceived scale, including articulated façades, recessed balconies, variation in materials and landscaping treatments. The building has been designed to achieve a visually balanced outcome when viewed from the public realm and surrounding development.
	Matters raised include the sense of openness around the Oval, the potential for the development to become a prominent feature when viewed from the Oval and surrounding properties, and the long-term effect of the combined Stage One and Stage Two development on this public space.	Development at the subject site was envisaged under the NEP. While the proposal contributes to the built form framing the Oval, the sense of openness is maintained through the separation between buildings. Stage 1 and Stage 2 are separated by approximately 11.8m, which is consistent with the building separation outcomes achieved within the precinct and assists in maintaining visual openness, outlook and ventilation.
	Façade articulation, recessed balconies, materials, landscaping, active frontages, passive surveillance and rooftop design refinements are acknowledged. Submissions request further assessment of whether these measures adequately address the apparent scale and cumulative visual presence of the development.	The combination of articulated building forms, recesses, balconies, landscaping, material variation and separation distances significantly reduces perceived building bulk and contributes positively to the established character of the precinct. These measures collectively assist in achieving an appropriate built form response for the site.
4. Residential amenity	Submissions raise concern regarding potential impacts on the amenity of nearby apartments, including	The proposal has been designed having regard to the residential amenity provisions of the applicable

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	overshadowing, access to daylight and natural light, privacy, outlook, views and the sense of enclosure.	planning framework, including building separation, setbacks, privacy and access to natural light. A detailed assessment of the proposal's amenity impacts has been provided as part of the planning documentation accompanying the application.
	Particular reference is made to apartments closest to the site and to rooftop and communal facilities within surrounding developments. Existing loss of daylight associated with the current Stage One construction is also referenced when considering the cumulative effect of further development.	The proposal has been assessed in the context of the approved Stage 1 development and surrounding residential development, including consideration of cumulative built form outcomes and the relationship with adjoining apartments and communal facilities. The proposed development is bound by Shenton Road and the Fremantle Train Line to the south and does not affect any residential properties or the Oval from access to direct northern sunlight.
	Submissions request that the relationship between the proposed building, neighbouring apartments and shared residential facilities be assessed.	A detailed assessment of the proposal's relationship to neighbouring development has been undertaken against the relevant provisions of the planning framework and forms part of the planning assessment submitted with the application.
5. Density, site capacity and infrastructure	Submissions raise concern regarding the proposed density of approximately 61 apartments on the remaining parcel and whether the development is proportionate to the size and capacity of the site.	The proposal facilitates higher-density residential development within a precinct specifically identified for urban consolidation and increased residential density, and is considered to represent an appropriate development outcome having regard to the site's strategic location and planning context.
	Matters raised include potential pressure on local roads, visitor parking, community services and other infrastructure.	The capacity of the surrounding road network, access arrangements and parking provision have been assessed in the Traffic Impact Statement. The site also benefits from its proximity to Claremont

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		Train Station, Claremont Quarter and other established services and infrastructure.
	Submissions request that the proposal be assessed in the context of the intended density, dwelling numbers and infrastructure capacity of the broader precinct. The strategic benefits of urban consolidation and additional housing in a location near the railway station, town centre and Claremont Oval are acknowledged, while further consideration of the site-specific effects is requested.	The proposal has been assessed having regard to the broader planning objectives of the Claremont North East Precinct and is consistent with the strategic intent of accommodating additional housing within a highly accessible, transit-oriented location in proximity to employment, services, public transport and public open space.
6. Traffic, vehicle access, servicing and road safety	Submissions raise concern regarding additional vehicle movements associated with the proposed dwellings and the use of Tiger Way for resident and visitor access. Tiger Way is described as a narrow local access road that is already busy and difficult to navigate.	Tiger Way is the nominated vehicle access road under the NEP.
	Matters raised include traffic congestion, the interaction of residents, visitors and service vehicles, and safety for drivers and pedestrians.	The proposed development has been designed to accommodate resident, visitor and service vehicle movements, with the safety and operation of the access arrangements assessed through the supporting Transport Impact Assessment.
	Potential impacts on Shenton Road and the surrounding road network are also identified, including vehicles entering and leaving the precinct. Submissions request assessment of the capacity and safety of the proposed access arrangements and local road network.	The operation and capacity of the surrounding road network, including key intersections and access routes serving the precinct, have been assessed as part of the Transport Impact Assessment accompanying the application.
7. Construction activity, pedestrian access and temporary impacts	Submissions raise concern regarding the duration and cumulative effects of construction activity, including noise, road closures, footpath closures, reduced pedestrian connectivity, loss of on-street parking and restricted access between nearby developments and surrounding destinations.	A Construction Management Plan is expected to be conditioned.

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	Concern is raised that a further stage may extend these impacts for existing residents and adjoining land uses. The need to manage pedestrian and footpath access near the adjoining aged-care facility is also identified.	A Construction Management Plan is expected to be conditioned.
	Submissions request appropriate management of construction traffic, noise, parking, pedestrian safety and temporary access restrictions.	A Construction Management Plan is expected to be conditioned.
8. Planning precedent, community expectations, equity and public benefit	Submissions raise concern that approval of the proposed height may influence the assessment of future applications seeking similar departures. They state that existing residents and earlier developments relied on, or were assessed against, the planning framework and established scale of the precinct.	Each development application is required to be assessed on its individual merits having regard to the specific characteristics of the site, the proposal and the applicable planning framework. Approval of the proposed development would not predetermine the outcome of future development applications. Furthermore, this is the final development site remaining within the NEP.
	Submissions question whether a different outcome for the remaining site would be equitable and whether there are community or public benefits that support the additional height and density. The relationship between the proposed development yield and the broader community outcome is also raised.	The proposal will contribute to housing choice and supply within a highly accessible location while delivering a high-quality residential development outcome in close proximity to public transport, services and public open space. Additional retail, café, commercial uses were investigated as part of initial planning for the site, however, considered to not be viable and likely remain vacant if constructed.
	Increased housing supply is acknowledged, but submissions request that this benefit be considered together with the established planning and design objectives.	The proposal has been assessed against the applicable planning framework and is considered to appropriately balance strategic housing objectives with the relevant design, built form and amenity outcomes envisaged for the precinct.

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9. Strategic planning, design quality and overall planning outcome	Submissions acknowledge the proposal's architectural design, landscaping, active frontages, sustainability initiatives, housing choice and response to a location near public transport, the town centre and Claremont Oval. These matters are identified as benefits of the proposal. Submissions nevertheless request assessment of whether the proposal fully achieves the broader qualitative objectives of the North East Precinct Structure Plan and Local Planning Policy 128, including contextual response, podium form, height transitions, setbacks, building mass, articulation, apparent scale and the public realm.	The applicant acknowledges these comments and considers that the proposal delivers a high-quality residential development outcome. A detailed assessment of the proposal against the North East Precinct Structure Plan, Local Planning Policy 128 and other applicable planning instruments has been provided as part of the Planning Assessment submitted with the application. The proposal is considered to satisfy the relevant design objectives relating to built form, streetscape presentation and the public realm.
	Submissions also request consideration of whether a reduced or moderated building envelope could provide similar strategic benefits and whether the proposed envelope represents the appropriate overall planning outcome for the site.	The applicant considers the proposed built form represents an appropriate planning outcome having regard to the site's strategic location, surrounding development context and the design objectives of the applicable planning framework. No reduction in the building envelope is proposed.
10. Property values and neighbourhood desirability	Submissions raise concern that the proposed scale and relationship with the surrounding precinct may affect the desirability, market perception and property values of nearby dwellings.	Property values are not a planning consideration in the assessment of a development application and can be influenced by a wide range of factors beyond the development of adjoining land.
11. Site identification and assessment process	Submissions raise questions regarding the site identification used in correspondence and the public notice, including the relationship between the street address and Part Lot 508, and request confirmation of the correct development site description.	The subject site refers to the only undeveloped land surrounding the Claremont Oval on the eastern side of Lot 508 (No. 3) Shenton Road, Claremont.
	Requests are also made for notification of the Responsible Authority Report, the progress of the assessment and the date of any Development Assessment Panel meeting.	The Town of Claremont is responsible for this process.

SLR Consulting Australia Pty Ltd
Level 1, 500 Hay Street, Subiaco WA 6008, Australia

10 September 2026

SLR Ref No.: 675.V25311.00EA1-RFI-v1.0 20260810

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Attention: Tianqi Xiao – Senior Planner
Town of Claremont
308 Stirling Highway
CLAREMONT WA 6010

SLR Project No.: 675.V25311.00EA1

RE: Response to Request for Further Information
Lot 508 (No. 3) Shenton Road, Claremont

Dear Tianqi,

Thank you for issuing the Request for Further Information (RFI) dated 21 July 2026 in relation to the proposed eight-storey multiple dwelling development at Lot 508 (No. 3) Shenton Road, Claremont (the subject site).

We have reviewed the matters raised in the RFI and provides the following response, including further information, clarification and amendments where appropriate.

This response has been structured to follow the format of the Town's RFI, with each item addressed individually, and references provided to supporting documentation where relevant.

A. Major Planning Issues

RFI Item	Applicant Response
1. Vehicle Access	Whilst the proposed crossover is not located in the exact location identified within the North East Precinct Design Guidelines (NEP), it remains located on Tiger Way and is considered an appropriate access arrangement having regard to the function and hierarchy of the surrounding road network. The location of vehicle access to a site needs to consider a wide variety of factors. Vehicle access from the nominated NEP access point is considered inappropriate due to sightline issues south along Tiger Way and the sloping nature of the site which would result in a long vehicle ramp and a large, approximately 3m high, blank wall facing the oval or substantial above ground parking. The proposed vehicle access location is considered the safest possible access point along Tiger Way and enables minimal height solid walls to the public realm. The amended Transport Impact Assessment demonstrates that both the proposed crossover and the crossover location identified within the Detailed Area Plan are affected by the presence of on-street parking. However, the proposed crossover location provides superior visibility exiting the site, with sightlines not restricted by parked vehicles along Tiger Way. The amended Transport Impact Assessment therefore concludes that the proposed crossover location represents a safer access arrangement than the location identified within the NEP. Further, it is understood that the Town and DevelopmentWA are considering the introduction of 15-minute parking restrictions for the

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RFI Item	Applicant Response
	on-street parking bays immediately adjacent to the crossover. This measure would reduce the likelihood of vehicles parking within the sightline area and further assist in maintaining safe vehicle and pedestrian movements at the crossover.
2. Crossover Truncation	The crossover has been designed to operate as a two-way access point, with line marking and directional arrows guiding vehicles to keep left when entering and exiting the development. This arrangement separates inbound and outbound vehicle movements. The proposed crossover is 6.1m wide, which is sufficient to accommodate two-way vehicle movements. In this regard, the northern side of the crossover will accommodate vehicles exiting the site and entering Tiger Way. Accordingly, a truncation area of 2.0m x 2.5m has been provided to maximise visibility between pedestrians and drivers. The amended Transport Impact Assessment identifies a structural column within the truncation area which may partially restrict visibility between pedestrians and drivers exiting the site. As relocation of this column is not feasible, additional mitigation measures are proposed, including the installation of a convex mirror to improve visibility. The southern side of the crossover is intended to accommodate inbound vehicles entering the development. As vehicles on this side are entering the site rather than joining the public road network, the absence of a truncation area does not give rise to any safety concerns.
3. Building Height	We acknowledge that, while the approved Stage 1 development comprises an eight-storey development, the subject proposal must be assessed on its own merits against the applicable planning framework. The subject site occupies a highly accessible location within walking distance of Claremont Train station and Claremont Quarter Secondary Activity Centre, making it an appropriate location for higher-density residential development. This outcome is consistent with broader State planning initiatives that seek to facilitate increased residential density in proximity to high-frequency public transport infrastructure and Secondary Activity Centres. Whilst the proposal exceeds the maximum building height requirements contained within the NEP Design Guidelines, the variation is considered appropriate having regard to the site's location, surrounding built form context and the extent to which the proposal satisfies the relevant objectives of the applicable planning framework. The proposal has been assessed against the relevant objectives of the NEP Design Guidelines and R-Codes Volume 2 as follows: NEP Design Guidelines: <table><tr><th>Objectives</th><th>Assessment Commentary</th></tr><tr><td>1. To provide sufficient access to sun, breezes, views and privacy.</td><td>The proposal maintains an 11.8m separation to the approved Stage 1 development, which is considered sufficient to maintain ventilation and privacy between developments. Additionally, windows are orientated to not directly face into adjoining properties where possible.</td></tr></table>

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RFI Item	Applicant Response	
		The rooftop communal areas are able to enjoy glimpses towards the Swan River and City, not capable from lower levels. No views of significance are being blocked by the proposed building height. Further, the orientation of the site ensures the proposal does not substantially affect access to direct northern sunlight for adjoining developments. To the south of the development is Shenton Road and the Fremantle Trainline.
	2. Maintain the character envisaged for the Claremont NEP.	The proposal is considered consistent with the established character of the precinct, which is characterised by high-density residential development surrounding Claremont Oval. There are no adjoining low-density residential properties that would be directly affected by the proposal, with the nearest low-density residential development located south of the railway line. The main residential floor of the proposed development has a maximum RL of 43.51, which is comparable to the approved Stage 1 development immediately adjoining the site, which main residential floor has a maximum RL of 43.60. Stage 1 has rooftop plant equipment above this level to a similar height to the proposed Stage 2 infrastructure and lightweight, open rooftop amenities. Further, the retirement living development across Tiger Way at 2 Graylands Road has a maximum RL of 42.90. Whilst the proposed development comprises a greater number of storeys than the retirement living development, the overall building height, bulk and scale of the developments are broadly comparable. From a human-scale perspective, the perceived difference in building height when viewed from Claremont Oval, Shenton Road or Tiger Way is expected to be minimal given the comparable overall heights of the surrounding developments and the setting back of the rooftop amenity and services level. Having regard to the surrounding built form context, the absence of impacts on adjoining low-density residential development, and the site's proximity to Claremont Train Station and Claremont Quarter, the proposal is considered to represent an appropriate built form outcome and maintain the character envisaged for the Claremont North East Precinct.

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RFI Item	Applicant Response
	R-Codes:

Element Objectives	Assessment Commentary
The height of development responds to the desired future scale and character of the street and local area, including existing buildings that are unlikely to change.	Refer to comments above under Objective 2 for the NEP Design Guidelines.
The height of buildings within a development responds to changes in topography.	By moving the proposed vehicle access point to a lower point along Tiger Way it allows the development to have an overall lower height by approximately 1.5m.
Development incorporates articulated roof design and/or roof top communal open space where appropriate.	The proposal incorporates a rooftop communal open space, signification rooftop landscaping and with a stepped roof form.
The height of development recognises the need for daylight and solar access to adjoining and nearby residential development, communal open space and in some cases, public spaces.	Having no southern neighbours, the proposed development does not significantly affect any residential properties or public open space from access to direct northern sunlight.

Additional perspectives from both the Shenton Road frontage and the Claremont Oval frontage have been included below.

Shenton Road frontage.

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RFI Item	Applicant Response
	 Claremont Oval frontage. For the above reasons, the proposed 8-storey development adequately addresses the relevant planning considerations under the applicable framework and is considered appropriate for the locality.
4. Deep Soil Areas and Planting on Structure	There are no existing trees on the subject site, as the site has previously been cleared for redevelopment. Notwithstanding this, the proposal incorporates a substantial landscaping strategy comprising 22 new trees distributed throughout the development. Collectively, these trees provide 532m^2 of canopy cover at maturity, significantly exceeding the minimum canopy provision requirement of 128m^2. The NEP Design Guidelines require a minimum of 70% of building façades to be setback nil from lot boundaries. This limits the extent of deep soil areas that can be accommodated at ground level. The proposal complies with the nil setback requirements of the NEP and provides approximately 39m² of deep soil area at ground level. To supplement the deep soil provision, the proposal incorporates substantial planting on structure, including approximately 46m² at Level 1, 11m^2 at Level 2 and 171m² within the rooftop communal open space area. Whilst the proposed planting on structure does not fully satisfy the acceptable outcome under Clause A3.3.7 of the R-Codes, it nevertheless delivers a significant landscaping outcome that establishes a multi-layered green network throughout the development and contributes to a high-quality landscaped setting for residents. Given the predominantly residential nature of the upper floors and the absence of communal spaces along the circulation corridors, the introduction of additional planting within these areas is not considered to provide a meaningful landscaping benefit. When considered in conjunction with the substantial landscaped setting provided by Claremont Oval immediately adjoining the site, the proposal is considered to achieve the intent of the landscaping and

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RFI Item	Applicant Response
	deep soil objectives of the applicable planning framework and represents an appropriate development
5. Communal Open Space	The proposal provides communal open space across Level 1 and the rooftop level, including communal dining areas, BBQ facilities, seating areas, landscaping, a fire pit and a rooftop yoga deck. These spaces provide a high level of residential amenity and cater for a variety of passive and active recreational activities. In addition to the communal open space provided within Stage 2, residents will also have access to the communal facilities within Stage 1 via the shared Level 1 connection. Legal and strata arrangements have been established to facilitate the ongoing sharing of facilities between the two developments.
6. Motorcycle Parking	The proposal provides a total of 115 parking bays, resulting in a surplus of 26 bays above the NEP maximum requirement of 89 bays. The R-Codes require the provision of one motorcycle parking bay for every 10 car parking bays, resulting in a requirement for 12 motorcycle parking bays. Given the surplus of carparking provided on-site, the required motorcycle parking bays can be readily accommodated within the existing car parking provision.
7. Car Parking Provision - Visitor Parking	The R-Codes require 10 visitor parking bays for a development comprising 61 dwellings. The proposed development provides 6 visitor parking bays, resulting in a shortfall of 4 visitor bays. Notwithstanding this variation, it is noted that there are approximately 9 on-street parking bays in the immediate vicinity of the subject site. Further, the subject site benefits from its close proximity to Claremont Train Station and bus services. Given the highly accessible, transit-oriented nature of the subject site, it is anticipated that a proportion of visitors will arrive by public transport, walking or cycling, thereby reducing demand for on-site visitor parking. Having regard to the availability of alternative parking opportunities in the immediate locality and the site's strategic location adjacent to public transport infrastructure, the proposed variation is considered appropriate and will not result in adverse parking impacts on the surrounding area.
8. Active Frontage and Public Domain Interface	Approximately 63% of the proposed development is considered ground floor active frontage. The remaining non-active frontage includes substantial essential infrastructure and services (substation, switch room, fire pump, vehicle entry, fire exit, water meter and booster), which have been integrated into the buildings design. If you exclude these essential infrastructure and services, the proposed development has an approximately 81% active frontage – compliant with the NEP. The incorporation of active non-residential uses at ground level was considered during the design process. However, current market conditions and demand within the precinct do not support the delivery of commercially viable non-residential tenancies in this location. It is also relevant that the subject site is located within close proximity of the Claremont Quarter, which already provides a comprehensive range of goods and services, including supermarkets, cafes,

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RFI Item	Applicant Response
	restaurants, tavern and retail offerings. In addition, an IGA is located at 1 Davies Road very close to the subject site. Having regard to the existing commercial offerings available within the immediate locality, it is not considered that there is currently an unmet demand for additional ground-floor commercial premises that would support ongoing commercial viability. The proposal includes a 'Residents Business Centre' at ground level, featuring clear glazing and an active interface to Shenton Road. This space has been designed to enable possible future conversion to commercial floorspace should market demand arise, thereby providing flexibility to accommodate evolving needs within the precinct.
9. Oval Edge Interface	Due to the sloping nature of the site, the "level 1" dwellings are considered ground floor active uses facing the oval as the level below is greater than 50% below ground level when viewed from the oval and therefore is considered a basement. It is acknowledged that the proposal exceeds the maximum 1.5m level difference. However, this is a result of the sloping site and the need to have a level pedestrian entry along Shenton Road. This variation has been minimised through the extensive estate architect referral process by incorporating the suggested additional landscaping and cutting back of balcony widths along this frontage.
10. Oval Edge Façade Treatment and Balcony Screening	The proposal has been deliberately designed to maintain a strong visual relationship with the Oval, consistent with the objectives of the NEP which seek to promote surveillance, activity and engagement with the public open space. As such, extensive fixed screening treatments have not been proposed, as they would diminish residents' outlook towards the Oval and detract from the intended relationship between the development and the Oval. It is also noted that the Oval forms one of the key amenity attributes of the development and is expected to be regularly used and enjoyed by future residents. They will be informed by building management of major events occurring at the Oval. The proposed façade incorporates recessed balconies and glazing which assist in mitigating potential impacts associated with activities occurring on the Oval. It is further noted that a number of existing residential developments fronting Claremont Oval do not incorporate extensive balcony screening treatments to manage impacts associated with Oval activities. The proposed development adopts a similar design approach that reflects the established built form character surrounding the Oval.

B. Other Information and Clarification

RFI Item	Applicant Response
Estate Architect Endorsement	The correspondence from the Claremont on the Park Estate Architect (EA), attached as part of the DA submission, confirms that the proposed development will be a positive addition to the Claremont NEP.

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RFI Item	Applicant Response
	Whilst formal endorsement was not provided at the time of review due to the proposal not demonstrating compliance with certain requirements of the NEP Design Guidelines relating to detailed design and building delivery matters, including public art, lighting, signage. The EA recommended that these matters to be dealt with during the building permit application process and managed through conditions of development approval. Notwithstanding the above, the EA noted that the design approach is consistent with and will deliver the intent of the Design Guidelines. Accordingly, the correspondence demonstrates that the proposal has been reviewed by the EA and is generally supported in principle. DevelopmentWA confirmed this approach.
Waste Management and Access to Stage 1 Infrastructure	The Town's comments regarding the reliance on the proposed platform lift and nominated personnel to facilitate the transfer of waste and recycling bins from Stage 2 to the Stage 1 loading area. In the event that the platform lift is temporarily unavailable, waste and recycling bins can be stored within the Stage 2 bin enclosure until the platform lift is returned to service. As detailed in the Waste Management Plan (WMP), suppliers of the proposed platform lift have advised of a two-hour callback time for urgent maintenance issues, minimising the likelihood of prolonged disruption to waste collection operations. The proposed waste management strategy is not dependent on any specific individual. The WMP identifies the Facility Manager as being responsible for managing waste collection operations. As part of these responsibilities, the Facility Manager will have the authority to implement appropriate contingency measures where required, including coordinating alternative personnel, contractors or equipment to facilitate the transfer of bins in the event that the platform lift is temporarily unavailable. Stages 1 and 2 form part of the broader Claremont Terraces development and have been designed to operate in an integrated manner. The proposed waste management arrangement forms part of the broader shared infrastructure and operational arrangements between the two stages.
Habitable Room Daylight Information	A consolidated habitable room daylight schedule has been prepared and is submitted in support of this response. The schedule identifies the area of each habitable room, the applicable window type, glazing area and resulting glazed area percentage for each room type throughout the development.
Transport Impact Assessment and Swept-Path Analysis	Please refer to the amended Transport Impact Assessment for a detailed response to Items B4.1 to B4.7.

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C. Plan and Document Consistency

RFI Item	Applicant Response
Deep soil area and planting on structure	The landscaping plan has been updated and the deep soil area and planting-on-structure calculations have been revised.
Visitor parking	The DA package has been updated and reconciled. The proposal provides 6 visitor parking bays.
Balcony enclosure	The architectural drawings have been updated to clarify the enclosure status of the balconies.
Balcony areas	The architectural drawings have been updated.
Sustainable Design Report	The Sustainable Design Assessment Report has been updated and the references to a five-storey development have been corrected.

D. Referral Agency Comments

PTA Proposed Condition	Applicant Response
Prior to commencement of the development or any works associated with the development, the applicant/owner is required to submit an application to the satisfaction of the PTA and must obtain approval from the PTA for works in and around the operating Railway Corridor in accordance with the PTA's 8810-450-003 – Procedure – Working In and around the PTA Rail Corridor, Assets and Infrastructure.	We acknowledge the requirement to obtain approvals from PTA. However, this obligation is typically addressed by way of advice note rather than as a condition of development approval. It is requested that this is reworded as an advice note.
Engineering reports & drawings are to be submitted, approved, and works undertaken in accordance with the approved engineering reports, drawings, and approved plan of subdivision to ensure that:	The proposed conditions appear to largely be associated with NCC requirements and should be reworded as an advice note.
The developer/owner is required to submit a Transportation Noise Assessment (TNA) developed by a qualified acoustical engineer or consultant in accordance with SPP 5.4 and other relevant industry standards. The conclusions made in the TNA should be implemented and incorporated in the development.	An Acoustic Assessment has already been submitted with the development application. A standard condition requiring the implementation of this acoustic assessment is expected to be included as part of the determination.
Any drainage (including stormwater runoff) from the development is to be entirely contained within the developers' land boundary, during construction & in the ultimate design.	Noted. We have no objection to a standard condition requiring drainage to be contained within the development site.

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PTA Proposed Condition	Applicant Response
The developer must ensure that no drainage basins, retention swales, infiltration systems, or water storage units with open (unsealed) bases are constructed directly adjacent to the rail reserve, particularly where the rail corridor is at a lower elevation than the development site.	Such infrastructure is not proposed as part of the development. As such, this condition is not considered necessary.
The design must prevent the potential for stormwater infiltration or overflow that could lead to erosion, slope instability, or washout into the rail reserve.	Noted. We have no objection to a standard condition requiring drainage to be contained within the development site.
Detailed stormwater management and drainage plans, including geotechnical stability assessments where applicable, must be submitted to and approved by PTA prior to construction.	We have no objection to a standard condition requiring drainage to be contained within the development site. A condition requiring the approval of the PTA is not considered appropriate.
All windows and openings facing the rail, where the floor below the window is 2 m or more above the surface beneath shall be protected with a device or screen, and which does not permit a 125mm sphere to pass through the window opening or screen. Windows (only) can be restricted instead of screened.	The proposed conditions appear to largely be associated with NCC requirements and should be reworded as an advice note.
All balcony edges facing the rail shall be protected with a screen with minimum height of 2.4m, and which does not permit a 125mm sphere to pass through the screen.	This seems to be an additional project specific requirement from the PTA to prevent objects being thrown onto the rail corridor (not related to the NCC). Note: the Queenslea building does not comply with this. If required, we can provide a diagram to show distance from the railway. We will not be introducing full height screens to balconies and thus do not want this conditioned.
Measures being undertaken to identify the vegetation, protected plants, trees and fauna adjacent to the rail corridor that maybe potentially impacted by the construction works.	This matter can be addressed through a standard condition for a Construction Environmental Management Plan prior to construction. An advice note can be added which specifically relates to these requirements of the CEMP is also considered appropriate.
No excavated soil materials be stockpiled against or near PTA existing fences as this can cause structural damage, rail corridor embankment washout and security breaches.	This matter can be addressed through a standard condition for a Construction Environmental Management Plan prior to construction. An advice note can be added which specifically relates to these requirements of the CEMP is also considered appropriate.

PTA Proposed Condition	Applicant Response
Crane's boom are prohibited over the rail corridor. The Proponent shall identify and assess all risks to PTA Infrastructure. Submit the Risk Assessment, Crane Management Plan, and Crane Lifting Plan clearly showing the Rail Corridor as an exclusion zone.	This matter can be addressed through a standard condition for a Construction Environmental Management Plan prior to construction. An advice note can be added which specifically relates to these requirements of the CEMP is also considered appropriate.

PTA Proposed Advice Note	Applicant Response
The development owner/proponent is required to submit an application to undertake works within the PTA Protection Zone prior for any works commencing. Information about the procedure and required information for assessment can be found in the PTA's 8810-450-003 – Procedure – Working In and around the PTA Rail Corridor, Assets and Infrastructure. The application must be submitted no less than three (3) months prior to the commencement of any construction works. Please email the application to PTAThirdPartyAccess@pta.wa.gov.au	Noted
Notification on Title on each apartment stating 'This development is in the vicinity of a transport corridor and is affected, or may in the future be affected, by road and rail transport noise. Road and rail transport noise levels may rise or fall over time depending on the type and volume of traffic.'	Noted.

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PTA Comments	Applicant Response
The developer must provide an updated Acoustic Assessment with recommendations for specific treatments and mitigation against rail noise on each apartment, as per requirements of SPP5.4, as the provided Acoustic Report, on Page 6, states 'Practicable construction options are available to comply with SPP 5.4 noise ingress requirements. Subject to further optimisation, some examples are provided in **Table E**.'	An Acoustic Assessment has already been submitted with the development application. The assessment concludes that the proposal can achieve compliance with SPP 5.4. Detailed apartment-specific treatments can be addressed through detailed design beyond this DA process and within the Building Permit approval process.
Apartment plans on each floor showing mitigation and treatments against rail noise being made available to PTA'S Environmental Services Branch once design has progressed.	Noted.

Conclusion

We appreciate the Town's detailed review of the application and the opportunity to provide further information in support of the proposal.

As outlined throughout this response, amendments have been made to aspects of the proposal where appropriate, including vehicular access arrangement, landscaping and other design matters raised by the Town.

We consider that the matters raised by the Town have been satisfactorily addressed and respectfully requests that the Town proceed with its assessment of the application.

Should any further clarification be required, please do not hesitate to contact the undersigned.

Regards,

SLR Consulting Australia Pty Ltd

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Christian Parker
Associate Consultant - Planning

Tianqi Xiao

From: WAPCreferrals <WAPCreferrals@pta.wa.gov.au>
Sent: Thursday, 23 July 2026 9:29 AM
To: Tianqi Xiao
Cc: Peta Shrapnel
Subject: PTA RESPONSE: Referral for Comments - Lot 508 (No. 3) Shenton Road, Claremont

OFFICIAL: Sensitive

Hello Xiao.

Based on the Public Transport Authority's (PTA) assessment on **Development Application - Lot 508 (No. 3) Shenton Road, Claremont,** the PTA has the following response:

No objection, subject to the following Conditions, Advice Notes and Comments:

Conditions

1. Prior to commencement of the development or any works associated with the development, the applicant/owner is required to submit an application to the satisfaction of the PTA and must obtain approval from the PTA for works in and around the operating Railway Corridor in accordance with the PTA's 8810-450-003 – Procedure – Working In and around the PTA Rail Corridor, Assets and Infrastructure.

2. Engineering reports & drawings are to be submitted, approved, and works undertaken in accordance with the approved engineering reports, drawings, and approved plan of subdivision to ensure that:

    a. The developer/owner is required to submit a Transportation Noise Assessment (TNA) developed by a qualified acoustical engineer or consultant in accordance with SPP 5.4 and other relevant industry standards. The conclusions made in the TNA should be implemented and incorporated in the development.
    b. Any drainage (including stormwater runoff) from the development is to be entirely contained within the developers' land boundary, during construction & in the ultimate design.
    c. The developer must ensure that no drainage basins, retention swales, infiltration systems, or water storage units with open (unsealed) bases are constructed directly adjacent to the rail reserve, particularly where the rail corridor is at a lower elevation than the development site.
    d. The design must prevent the potential for stormwater infiltration or overflow that could lead to erosion, slope instability, or washout into the rail reserve.
    e. Detailed stormwater management and drainage plans, including geotechnical stability assessments where applicable, must be submitted to and approved by PTA prior to construction.
    f. All windows and openings facing the rail, where the floor below the window is 2 m or more above the surface beneath shall be protected with a device or screen, and which does not permit a 125mm sphere to pass through the window opening or screen. Windows (only) can be restricted instead of screened.
    g. All balcony edges facing the rail shall be protected with a screen with minimum height of 2.4m, and which does not permit a 125mm sphere to pass through the screen.
    h. Measures being undertaken to identify the vegetation, protected plants, trees and fauna adjacent to the rail corridor that maybe potentially impacted by the construction works.
    i. No excavated soil materials be stockpiled against or near PTA existing fences as this can cause structural damage, rail corridor embankment washout and security breaches.

j. Crane's boom are prohibited over the rail corridor. The Proponent shall identify and assess all risks to PTA Infrastructure. Submit the Risk Assessment, Crane Management Plan, and Crane Lifting Plan clearly showing the Rail Corridor as an exclusion zone.

Justification for Condition

This Stage 2 site is within 50m of the PTA Railway Reserve, approximately 31.0m from the nearest rail of the Fremantle Railway Line, this places the proposed development within the PTA Protection Zone. An application to PTA Third Party Access is required prior to the commencement of any construction works within the Protection Zone.

Advice

1. The development owner/proponent is required to submit an application to undertake works within the PTA Protection Zone prior for any works commencing. Information about the procedure and required information for assessment can be found in the PTA's 8810-450-003 – Procedure – Working In and around the PTA Rail Corridor, Assets and Infrastructure. The application must be submitted no less than three (3) months prior to the commencement of any construction works. Please email the application to PTAThirdPartyAccess@pta.wa.gov.au

2. Notification on Title on each apartment stating *'This development is in the vicinity of a transport corridor and is affected, or may in the future be affected, by road and rail transport noise. Road and rail transport noise levels may rise or fall over time depending on the type and volume of traffic.'*

Comments:

- The developer must provide an updated Acoustic Assessment with recommendations for specific treatments and mitigation against rail noise on each apartment, as per requirements of SPP5.4, as the provided Acoustic Report, on Page 6, states 'Practicable construction options are available to comply with SPP 5.4 noise ingress requirements. Subject to further optimisation, some examples are provided in **Table E**.'

- Apartment plans on each floor showing mitigation and treatments against rail noise being made available to PTA'S Environmental Services Branch once design has progressed.

If you require any further information or if you would like to discuss our response further, please don't hesitate to contact myself, Connor Kiss, at WAPCreferrals@pta.wa.gov.au.

Kind regards,

Connor Kiss **(they/them)**
Transport and Land Use Planner | Infrastructure Planning and Land Services
Public Transport Authority of Western Australia
Tel (08) 9326 5845
Email: connor.kiss@pta.wa.gov.au | Web: www.pta.wa.gov.au
Work days: Mon – Fri.

Public Transport Authority

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Tianqi Xiao

From: WAPCreferrals <WAPCreferrals@pta.wa.gov.au>
Sent: Monday, 5 October 2026 8:05 AM
To: Tianqi Xiao
Subject: RE: PTA RESPONSE: Referral for Comments - Lot 508 (No. 3) Shenton Road, Claremont

Follow Up Flag: Follow up
Flag Status: Flagged

OFFICIAL: Sensitive

Hi Tianqi,

Apologies for the delay in our response.

In response to the applicant's response to PTA's referral comments, I can accept and confirm the request to reword PTA's Conditions for Lot 508 (No. 3) Shenton Road, Claremont to Advice Notes.

Kind regards,

Connor Kiss (they/them)
Transport and Land Use Planner | Infrastructure Planning and Land Services
Public Transport Authority of Western Australia
Tel (08) 9326 5845
Email: connor.kiss@pta.wa.gov.au | Web: www.pta.wa.gov.au
Work days: Mon – Thu.

Public Transport Authority

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PROUD TO SUPPORT THE SUNFLOWER

From: WAPCreferrals
Sent: Tuesday, 29 September 2026 4:08 PM
To: Tianqi Xiao <txiao@claremont.wa.gov.au>
Cc: Anthony Scutti <ascutti@claremont.wa.gov.au>; Peta Shrapnel <pshrapnel@claremont.wa.gov.au>
Subject: RE: PTA RESPONSE: Referral for Comments - Lot 508 (No. 3) Shenton Road, Claremont

Attachment 14: Alternative to Responsible Authority Recommendation

ALTERNATIVE RECOMMENDATION

That the Metro Inner Development Assessment Panel resolves to **APPROVE** the proposed eight-storey multiple dwelling development at Lot 508 (No. 3) Shenton Road, Claremont, subject to the following conditions:

General

1. The development is to be undertaken in accordance with the approved plans and documents attached to this approval, as listed below, except where amended by subsequent conditions:

Plan/ Document Name	Reference	Town of Claremont Received Date
SITE LOCATION	SK01-00 | REV 7	10.09.2026
BASEMENT PLAN	SK01-01 | REV 7	10.09.2026
GROUND FLOOR PLAN	SK01-02 | REV 7	10.09.2026
LEVEL 1 PLAN	SK01-03 | REV 7	10.09.2026
LEVEL 2 PLAN (TYPICAL)	SK01-04 | REV 6	10.09.2026
LEVEL 3 PLAN	SK01-05 | REV 7	10.09.2026
LEVEL 4 PLAN	SK01-06 | REV 7	10.09.2026
LEVEL 5 PLAN	SK01-07 | REV 7	10.09.2026
LEVEL 6 PLAN (SUB-PENTHOUSE)	SK01-08 | REV 7	10.09.2026
LEVEL 7 PLAN (PENTHOUSE)	SK01-09 | REV 7	10.09.2026
ROOF AMENITY PLAN	SK01-10 | REV 7	10.09.2026
ROOF PLAN	SK01-11 | REV 7	10.09.2026
SECTION 01 EAST-WEST	SK01-12 | REV 7	10.09.2026
SECTION 02 NORTH-SOUTH	SK01-13 | REV 7	10.09.2026
ELEVATION - EAST	SK01-14 | REV 7	10.09.2026
ELEVATION - SOUTH	SK01-15 | REV 7	10.09.2026
ELEVATION - NORTH	SK01-16 | REV 7	10.09.2026
ELEVATION - WEST	SK01-17 | REV 7	10.09.2026

2. This decision constitutes planning approval only and is valid for a period of four years from the date of approval, being <insert date>. If the subject development is not substantially commenced within the specified period, the approval shall lapse and be of no further effect.

Vehicle Access

3. **Prior to the issue of a Building Permit,** a parking management plan for the on-street parking bays immediately adjacent to the Tiger Way crossover shown on the approved plans is to be prepared in consultation with the Town's Engineering Services and submitted to and approved by the Town of Claremont.

   The parking management plan is to identify proposed measures to improve available visibility in the vicinity of the crossover. Any parking measures, signage, line marking or other measures approved as part of the parking management proposal are to be implemented prior to occupation of the development at the full cost of the applicant/owner.

4. **Prior to occupation or use of the development,** any redundant crossover(s) are to be removed, and the verge, kerb and footpath reinstated to the satisfaction of the Town of Claremont.

5. The vehicle crossover is to be designed and constructed in accordance with the Town of Claremont's Specifications for Crossovers, to the satisfaction of the Town of Claremont.

Resident Parking

6. **Prior to occupation or use of the development,** all on-site vehicle parking, manoeuvring and circulation areas are to be constructed, sealed, drained and line marked in accordance with the approved plans and thereafter maintained to the satisfaction of the Town of Claremont.

Visitor Parking

7. **Prior to the occupation or use of the development,** the six visitor parking bays shown on the approved plans are to be clearly identified and permanently retained for visitor parking, to the satisfaction of Town of Claremont.

Construction Management

8. **Prior to the issue of a Building Permit,** a Construction Management Plan is to be prepared and submitted to the specification and satisfaction of the Town of Claremont addressing:

   (i) access to the site;

   (ii) delivery and storage of materials; and

   (iii) the parking of tradespersons.

   The approved Construction Management Plan is to be thereafter implemented for the duration of construction to the satisfaction of the Town of Claremont.

Street Trees

9. Street tree removal is not approved as part of this development approval.

10. **Prior to the issue of a Building Permit,** a plan is to be submitted to and approved by the Town of Claremont identifying Tree Protection Zones around the street trees to be retained on the Tiger Way verge adjoining the development site, in accordance with AS 4970-2025.

    The approved tree protection measures are to be installed prior to the commencement of works and remain in place for the duration of construction to the satisfaction of the Town of Claremont.

Landscaping

11. **Prior to the issue of a Building Permit,** a final Landscape Plan is to be submitted to and approved by the Town of Claremont. Once approved, the Landscaping Plan is to be installed prior to occupation of the development and thereafter maintained for the life of the development to the satisfaction of the Town.

Signage

12. **Prior to the Occupation of the development,** a Signage Strategy shall be prepared in accordance with the North East Precinct Design Guidelines and the Town of Claremont Signs Local Law, to the satisfaction of and approved by the Town of Claremont. Once approved, the Signage Strategy shall be implemented prior to occupation and thereafter maintained in accordance with the approved plans.

Lighting

13. **Prior to the issue of a Building Permit,** a detailed External Lighting Plan is to be submitted to and approved by the Town of Claremont. Once approved, the External Lighting Plan is to be installed prior to occupation of the development and thereafter maintained for the life of the development.

Clothes Drying

14. Clothes drying facilities are to be appropriately ventilated and screened from public view to the satisfaction of the Town of Claremont.

Universal Design

15. **Prior to the issue of a Building Permit,** certification from a suitably qualified professional is to be submitted to and approved by the Town of Claremont confirming that the detailed design provides either:

    a. a minimum of 20% of all dwellings, across a range of dwelling sizes, designed to meet the Silver Level requirements of the Liveable Housing Design Guidelines; or

    b. a minimum of 5% of all dwellings designed to meet the Platinum Level requirements of the Liveable Housing Design Guidelines.

Sustainability

16. Prior to occupation of the development, the sustainability measures and commitments are identified in the approved Sustainable Design Assessment Report (Ref. 132816), prepared by Emergen and dated 17 December 2025, are to be implemented in their entirety to the satisfaction of the Town of Claremont.

Materials, Colours and Finishes

17. **Prior to the issue of a Building Permit,** a final schedule of external materials, colours and finishes is to be submitted to and approved by the Town of Claremont. Once approved, the schedule of external materials, colours and finishes is to be completed and thereafter maintained in accordance with the approved schedule.

Building Services

18. **Prior to the issue of a Building Permit,** details of all externally visible mechanical, hydraulic and other building services, including rooftop plant and associated screening, are to be submitted to and approved by the Town of Claremont.

    All plant, equipment and servicing infrastructure is to be appropriately screened and integrated into the design of the development and thereafter maintained to the satisfaction of the Town.

Transport Impact Assessment

19. **Prior to the issue of a Building Permit,** an updated Transport Impact Assessment is to be submitted to and approved by the Town of Claremont's Engineering Services. The updated assessment is to:
    a) confirm and justify the modelling inputs and outputs for the Shenton Road/Graylands Road, Shenton Road/Davies Road and Shenton Road/Gugeri Street intersections;
    b) address the identified changes in level of service and queue length attributable to the development; and
    c) identify any mitigation measures required to appropriately manage the development-related impacts on the surrounding road network.

    Recommendations from the approved Transport Impact Assessment are to be implemented prior to occupation of the development, to the satisfaction of the Town of Claremont.

Waste Management

20. All measures included in the Waste Management Plan (Ref.301252138), prepared by Stantec Australia Pty Ltd and dated 12 December 2025, are to be implemented and the development is thereafter to operate in accordance with the approved Waste Management Plan at all times, to the satisfaction of the Town of Claremont.

21. **Prior to occupation of the development,** evidence is to be provided to the satisfaction of the Town of Claremont demonstrating that legally enforceable arrangements have been established to secure ongoing access to and use of the Stage 1 loading area, waste collection area, platform lift and associated access route for the waste servicing of Stage 2.

    The arrangements are to remain in place for the life of the development and are to address access, operation, maintenance, repair and availability of the shared waste servicing infrastructure relied upon by Stage 2.

Acoustic Report

22. The development is to be designed and constructed to satisfy the applicable acoustic performance requirements of State Planning Policy 5.4 – Road and Rail Noise and the recommendations and performance requirements of the approved Acoustic Report (Ref. 675.072945.00002-R01), prepared by SLR Consulting Australia and dated 16 December 2025, to the satisfaction of the Town of Claremont.

Public Art

23. **Within 6 months of the Building Permit being issued,** a Public Art Strategy in accordance with Local Planning Policy 207 – Public Art is to be submitted to and approved by the Town of Claremont. Once approved, the Public Art Strategy is to be fully implemented prior to occupation of the development, unless otherwise approved by the Town.

Stormwater Management

24. **Prior to the issue of a Building Permit,** a detailed Stormwater Management Plan and drainage design is to be submitted to and approved by the Town's Engineering Services.

    The Stormwater Management Plan is to demonstrate that stormwater generated by the development can be appropriately managed in accordance with the Town's engineering requirements, including the 1% AEP (1 in 100 year) storm event, and without discharge onto adjoining land or the adjoining rail reserve.

    Once approved, the Stormwater Management Plan is to be implemented prior to occupation of the development and thereafter maintained for the life of the development to the satisfaction of the Town.

Advice Notes

1. Where an approval has so lapsed, no development must be carried out without the further approval of the local government having first been sought and obtained.
2. If an applicant or owner is aggrieved by this determination there is a right of review by the State Administrative Tribunal in accordance with the *Planning and Development Act 2005* Part 14. An application must be made within 28 days of the determination.

3. This is a Development Approval only and a Building Permit must be obtained from the Local Government prior to the commencement of any building works. Permits for non-residential development must be certified prior to submission.
4. In relation to Condition 3, any alteration to existing on-street parking controls, parking restrictions, signage, line marking or other works within the Tiger Way road reserve is subject to separate assessment and approval by the Town of Claremont. This development approval does not authorise any alteration to the existing on-street parking arrangements or other infrastructure within the Tiger Way road reserve.
5. Vehicle crossover(s) shall be designed and constructed in accordance with the Town's Specifications for Crossovers. Applicants/owners are advised to contact the Town's Technical Services regarding the crossover application process, requirements and subsidy eligibility. A Crossover Application package detailing the Town's requirements is available from the Town of Claremont website (https://www.claremont.wa.gov.au/services/planning-and-building/building-applications/).
6. The Public Transport Authority has provided the following advice notes:
   1) Prior to commencement of the development or any works associated with the development, the applicant/owner is required to submit an application to the satisfaction of the PTA and must obtain approval from the PTA for works in and around the operating Railway Corridor in accordance with the PTA's 8810-450-003 – Procedure – Working In and around the PTA Rail Corridor, Assets and Infrastructure.
   2) Engineering reports & drawings are to be submitted, approved, and works undertaken in accordance with the approved engineering reports, drawings, and approved plan of subdivision to ensure that:
      a) The developer/owner is required to submit a Transportation Noise Assessment (TNA) developed by a qualified acoustical engineer or consultant in accordance with SPP 5.4 and other relevant industry standards. The conclusions made in the TNA should be implemented and incorporated in the development.
      b) Any drainage (including stormwater runoff) from the development is to be entirely contained within the developers' land boundary, during construction & in the ultimate design.
      c) The developer must ensure that no drainage basins, retention swales, infiltration systems, or water storage units with open (unsealed) bases are constructed directly adjacent to the rail reserve, particularly where the rail corridor is at a lower elevation than the development site.
      d) The design must prevent the potential for stormwater infiltration or overflow that could lead to erosion, slope instability, or washout into the rail reserve.
      e) Detailed stormwater management and drainage plans, including geotechnical stability assessments where applicable, must be submitted to and approved by PTA prior to construction.
      f) All windows and openings facing the rail, where the floor below the window is 2 m or more above the surface beneath shall be protected with a device or screen, and which does not permit a 125mm sphere to pass through the window opening or screen. Windows (only) can be restricted instead of screened.

g) All balcony edges facing the rail shall be protected with a screen with minimum height of 2.4m, and which does not permit a 125mm sphere to pass through the screen.

h) Measures being undertaken to identify the vegetation, protected plants, trees and fauna adjacent to the rail corridor that maybe potentially impacted by the construction works.

i) No excavated soil materials be stockpiled against or near PTA existing fences as this can cause structural damage, rail corridor embankment washout and security breaches.

j) Crane's boom are prohibited over the rail corridor. The Proponent shall identify and assess all risks to PTA Infrastructure. Submit the Risk Assessment, Crane Management Plan, and Crane Lifting Plan clearly showing the Rail Corridor as an exclusion zone.

3) The development owner/proponent is required to submit an application to undertake works within the PTA Protection Zone prior for any works commencing. Information about the procedure and required information for assessment can be found in the PTA's 8810-450-003 – Procedure – Working In and around the PTA Rail Corridor, Assets and Infrastructure. The application must be submitted no less than three (3) months prior to the commencement of any construction works. Please email the application to PTAThirdPartyAccess@pta.wa.gov.au

4) Notification on Title on each apartment stating 'This development is in the vicinity of a transport corridor and is affected, or may in the future be affected, by road and rail transport noise. Road and rail transport noise levels may rise or fall over time depending on the type and volume of traffic.'