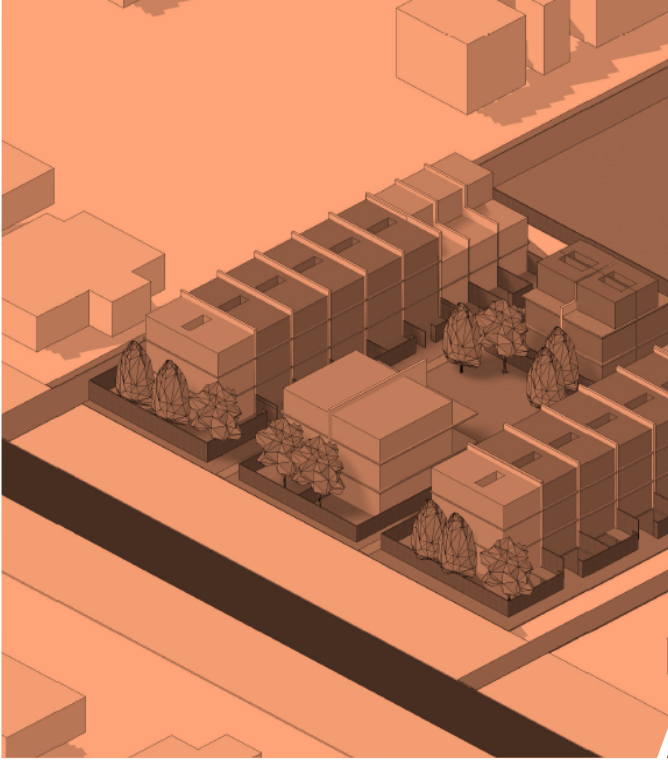



# PROPOSED RESIDENTIAL DEVELOPMENT
## BLOCK 16, SECTION 25, BRADDON

## TRAFFIC IMPACT ASSESSMENT

**PROPOSED RESIDENTIAL DEVELOPMENT** BLOCK 16, SECTION 25, BRADDON

Client: **Syzygy Developments**

Report Reference: 22303REP001

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# 1 INTRODUCTION

SALT has been engaged by Szygy Developments to prepare the following Traffic Impact Assessment for a proposed residential development on the northern part of the former Canberra City Lawn Bowling Club site at Block 16, Section 25 (21 Elder Street) in Braddon.

The parent title has an overall area of 8,732m$^2$ and fronts both Farrer Street to the northwest and Elder Street to the southeast. It is currently zoned for commercial land use (CZ6 – Leisure & Accommodation) owing to its previous use as a bowling club and is intended to be subdivided into two separate land titles (north and south) with a strip of common property along the eastern boundary of the site.

The subject proposal considers the development of twenty-four (24) townhouse style dwellings upon the northern land parcel, which are to be constructed atop a single basement level that accommodates garaged car parking spaces.

A common property accessway is to be provided along the eastern boundary of the wider title which will provide a link between Farrer Street and Elder Street.

A massing study for the proposal has been prepared for the proposal by Judd Studio (Revision 1, dated 01.05.2024) which forms the basis of this study.

To support this proposal, an application for a Major Territory Plan Amendment to change the current zoning of the northern land parcel from commercial land use to residential land use (RZ4) is being prepared to allow this form of development upon the site.

The proposal is generally distinct from the southern land parcel, which is subject to a separate development application for a six-storey hotel development fronting Elder Street that does not require a change to the Territory Plan.

In the course of preparing this report SALT has inspected the site and its surrounding environs, assessed the proposal against the statutory car parking requirements outlined in the ACT Technical Specifications, and reviewed the massing study plans prepared by Judd Studio.

# 2 EXISTING CONDITIONS

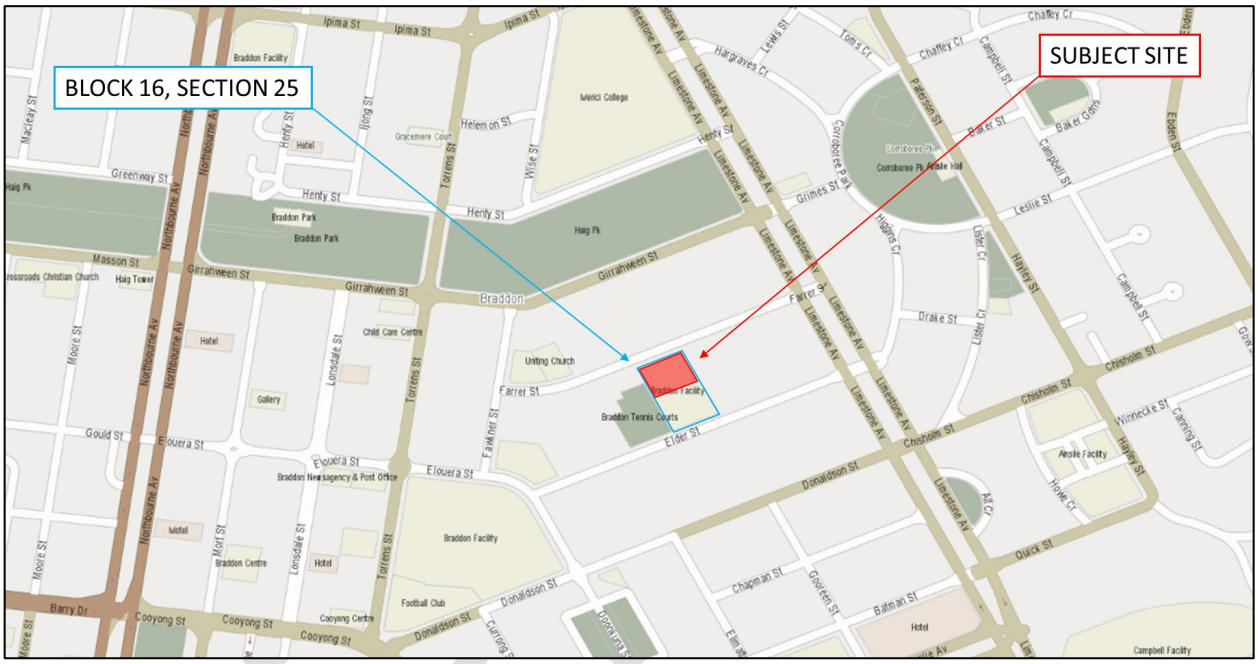
## 2.1 SITE LOCATION

The subject site is located on land at Block 16, Section 25 (21 Elder Street) in Braddon.

The subject site forms part of a larger land parcel that extends from Elder Street at its southeastern boundary to Farrer Street at its northwestern boundary, and which formerly accommodated the Canberra City Lawn Bowling Club,

The locality plan at Figure 1 illustrates the location of the site relative to the wider bowling club site and the proximate road network.

Figure 1 Site Locality Plan




The site has an area of 4,366m$^2$ and 71.6 metres frontage to Farrer Street along the northwestern site boundary.

A narrow recreation reserve spans the length of the southwestern boundary which accommodates a concrete pedestrian pathway linking Farrer Street to Elder Street.

The site and wider land parcel are currently vacant, having formerly accommodated three (3) bowling greens, clubhouse facilities, a caretakers dwelling and an on-site car parking area for thirty-three (33) vehicles that was accessed from Elder Street.

A single width crossover that formerly provided vehicular access to the above mentioned caretakers dwelling is located on Farrer Street towards the eastern boundary of the site.

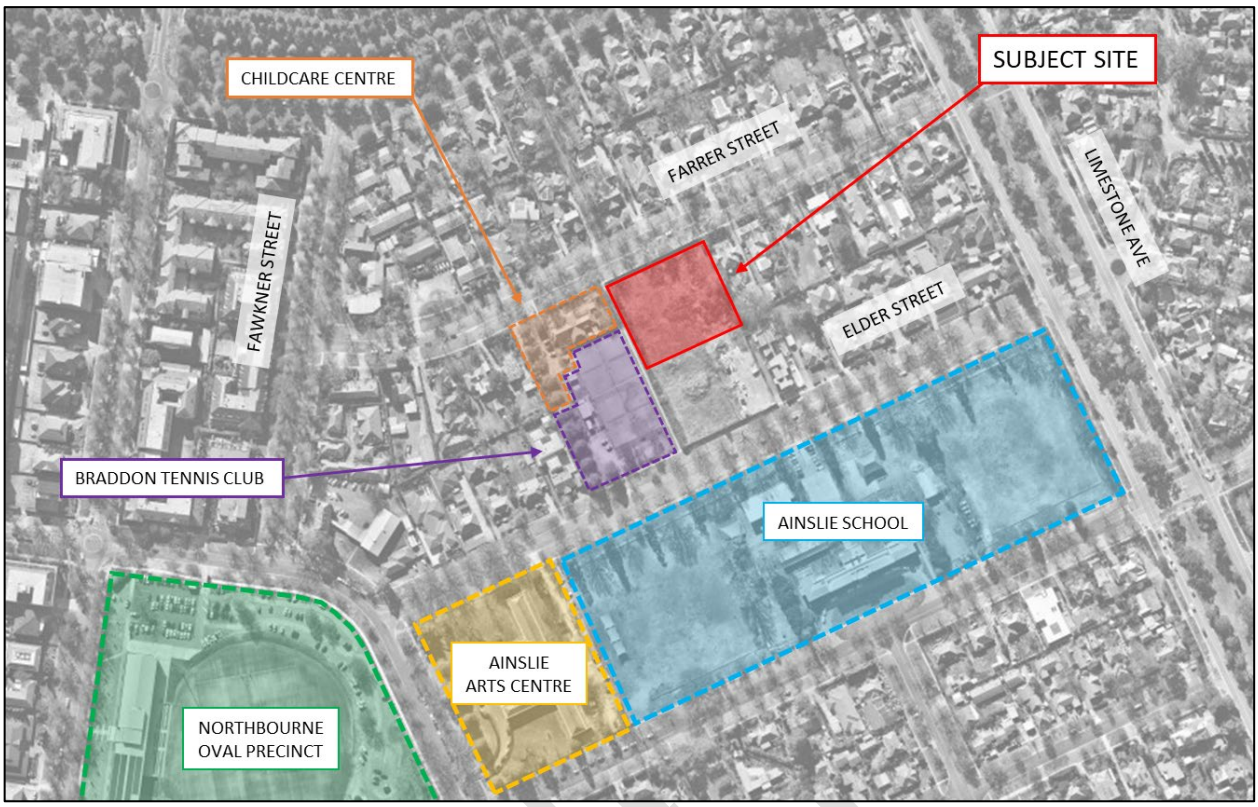
The site is located approximately 500 metres east of the Lonsdale Street Activity Strip and is surrounded by a mixture of land uses, including:

- The Braddon Tennis Club, immediately adjacent to the pedestrian link west of the site fronting Elder Street;
- A childcare centre (KU Braddon) immediately adjacent to the pedestrian link west of the site fronting Farrer Street;
- Ainslie Primary School (preschool to year 6) on the southern side of Elder Street;
- Haig Park, approximately 200 metres north of the site;
- Ainslie Arts Centre, approximately 180 metres southwest of the site fronting Doonkuna Street;
- Salvation Army Recovery Church, approximately 200 metres southwest of the site on the northeastern corner of Doonkuna Street and Fawkner Street; and
- Northbourne Oval (Canberra Raiders) and facilities, approximately 300 metres southwest of the site.

The remainder of the surrounding area is largely residential in nature.

The location and layout of the site relative to the above land uses and road network is illustrated at Figure 2.

Figure 2 Site Layout




## 2.1.1 PLANNING ZONES

Figure 3 shows the location of the site as defined by the ACT Territory Plan zoning maps.

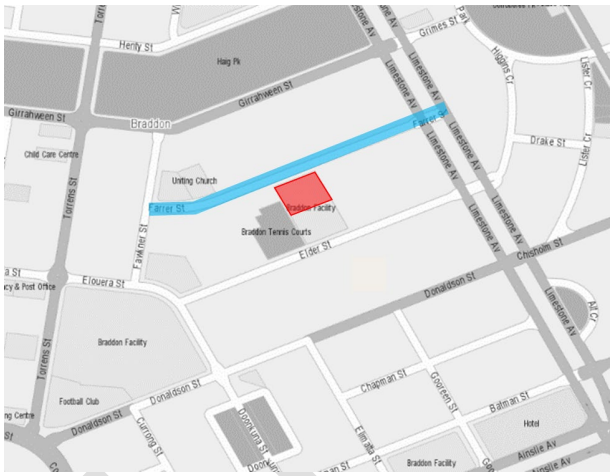
Figure 3 ACT Territory Plan Zoning Map


Figure 3 identifies the site as currently being zoned for commercial (CZ6: Leisure & Recreation) use due to the former occupation of the site as a lawn bowling club.

The land uses that are considered exempt, assessable or prohibited within the CZ6 zone are outlined at Part E2 of the Territory Plan.

## 2.2 SURROUNDING ROAD NETWORK

### 2.2.1 FARRER STREET




**Farrer Street** is a local access street which extends in an approximately northeast–southwest alignment from Limestone Avenue at its eastern end to Fawkner Street at its western end, forming the frontage of the subject site approximately midway along its length.

Farrer Street has a reservation width of approximately 30 metres, which accommodates a single two-way carriageway of approximately 9 metres width.

Parallel kerbside parking along the southern (site frontage) side of the carriageway is subject to 2-hour parking controls between 7:30am and 6:00pm on weekdays, with the exception of 7 spaces along the frontage of the childcare centre to the west of the site, which are subject to 5-minute time controls across the same time period.

Kerbside parking along the northern side of the carriageway is generally subject to 'No Parking' controls across the same time period but is unrestricted in the evenings and on weekends.

The intent of the existing parking control scheme seeks to maintain adequate carriageway width to allow concurrent opposing vehicle movements at all times during the daytime, whilst allowing vehicles to park opposite one another in the evenings and on weekends when traffic volumes are typically lower.

The latter arrangement requires one vehicle to yield to oncoming traffic when passing between parked vehicles and is a typical form of 'traffic calming' in lower order streets that seeks to reduce vehicle speeds.

Pedestrian footpaths are provided along both sides of the reservation..

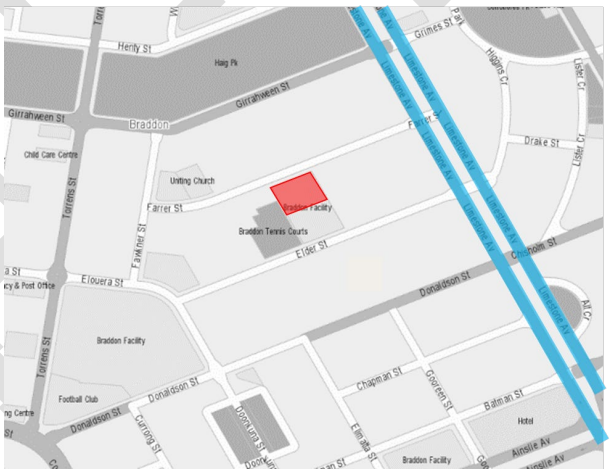
The default speed limit along the site frontage is 50km/h.

Figure 4 and Figure 5 show the existing configuration of Farrer Street along the site frontage.

Figure 4 Farrer Street, looking southwest from Block 16, Section 25

Figure 5 Farrer Street, looking northeast from Block 16, Section 25

## 2.2.2 LIMESTONE AVENUE




**Limestone Avenue** is an arterial route that extends from Majura Avenue, Dickson at its northern end to Fairbarn Avenue / Anzac Parade, Campbell at its southern end.

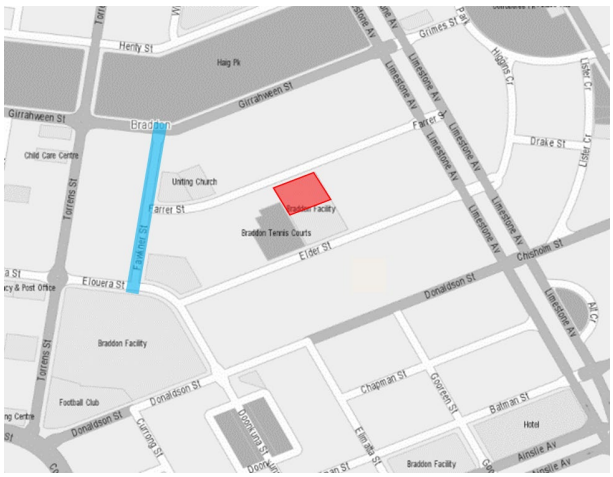
Limestone Avenue passes in a northwest-southeast alignment approximately 200 metres east of the site, where it provides dual carriageways within an approximately 60 metre wide reservation.

Each carriageway is approximately 8 metres wide and provides two (2) vehicular travel lanes. No on-street car parking is permitted.

The carriageways are separated by a central median of approximately 32 metres width and footpaths are provided along both side of the road reservation

The posted speed limit along the site frontage is 60km/h.

## 2.2.3 FAWKNER STREET



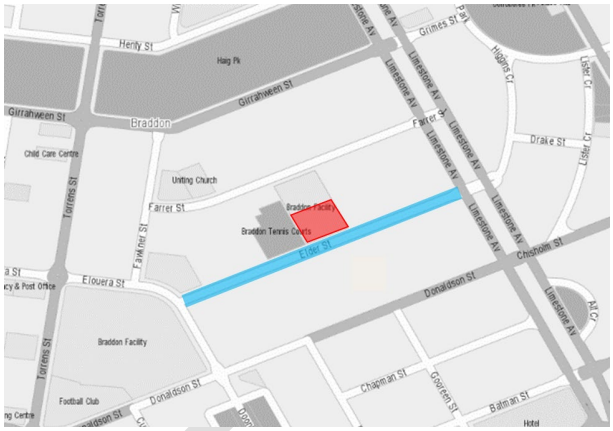

**Fawkner Street** is a local access street located approximately 200 meres west of the site, which extends in a north-south alignment from Girrahween Street at its northern end to Eloura Street at its southern end.

Fawkner Street has a reservation of approximately 30 metres width which accommodates a single two-way carriageway of approximately 9 metres width.

Parallel kerbside parking is permitted along both kerbsides subject to parking controls at various times of the day and week. Bus stops are located on both sides of the carriageway serving the #31 Route in both directions.

Footpaths are provided along both sides of the reservation and a default speed limit of 50km/h applies.

### 2.2.4 ELDER STREET




**Elder Street** is a local access street which extends in an approximately northeast-southwest alignment from Limestone Avenue at its eastern end to Doonkuna Street at its western end.

Elder Street has a reservation width of approximately 30 metres, which along the boundary of the wider title accommodates a single two-way carriageway of approximately 9 metres width.

Parallel kerbside parking along the southern side of the carriageway (opposite the title) is subject to a mix of 2P and unrestricted parking controls.

Kerbside parking along the northern side of the carriageway is subject to 'No Parking' controls.

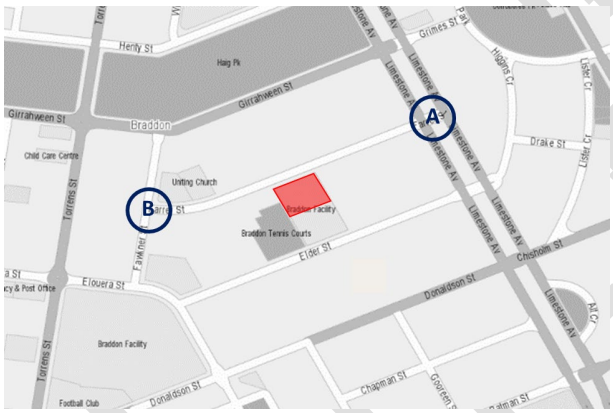
The existing parking control scheme maintains adequate carriageway width to allow concurrent opposing vehicle movements at all times and the parking controls along the southern side of the carriageway seek to encourage the turnover of parking spaces during school set-down and collection times.

Pedestrian footpaths are provided along both sides of the reservation, including along the site frontage.

The default speed limit along the site frontage is 50km/h, however a school zone speed limit of 40km/h applies between 8:00am and 4:00pm, Monday to Friday.

## 2.3 INTERSECTIONS

The following intersections are located within close proximity of the site:




A. *Farrer Street intersects Limestone Avenue* at a stop controlled T-intersection approximately 200 metres east of the site, at which Limestone Avenue forms the priority route.

   A break in the Limestone Avenue central median allows for vehicles to store in both directions and stages the intersection crossing.

B. *Farrer Street intersects Fawkner Street* at a give-way controlled T-intersection at which Fawkner Street forms the priority route.

   Each leg provides a single approach and departure lane.

## 2.4 SUSTAINABLE TRANSPORT

### 2.4.1 PUBLIC TRANSPORT

The site has great public transport accessibility, with the services identified at Figure 6 located within close proximity of the site.

Bus Route #31 (City Interchange – Belconnen) stops on Fawkner Street and Doonkuna Street approximately 250 metres walk to the west of the site, and Bus Route #53 (Dickson – Acton) stops near the intersection of Limestone Avenue and Donaldson Street approximately 650 metres walk to the southeast of the site.

Of particular note, the Canberra Light Rail (R1) service stops at the intersection of Northbourne Avenue and Elouera Street approximately 850 metres west of the site, which provides a high speed link between Gungahlin Place and the City Interchange from where all citybound bus services throughout Canberra can be accessed.

The full public transport services proximate to the site are summarised at Table 1.

Figure 6 Public Transport Provision (Map)

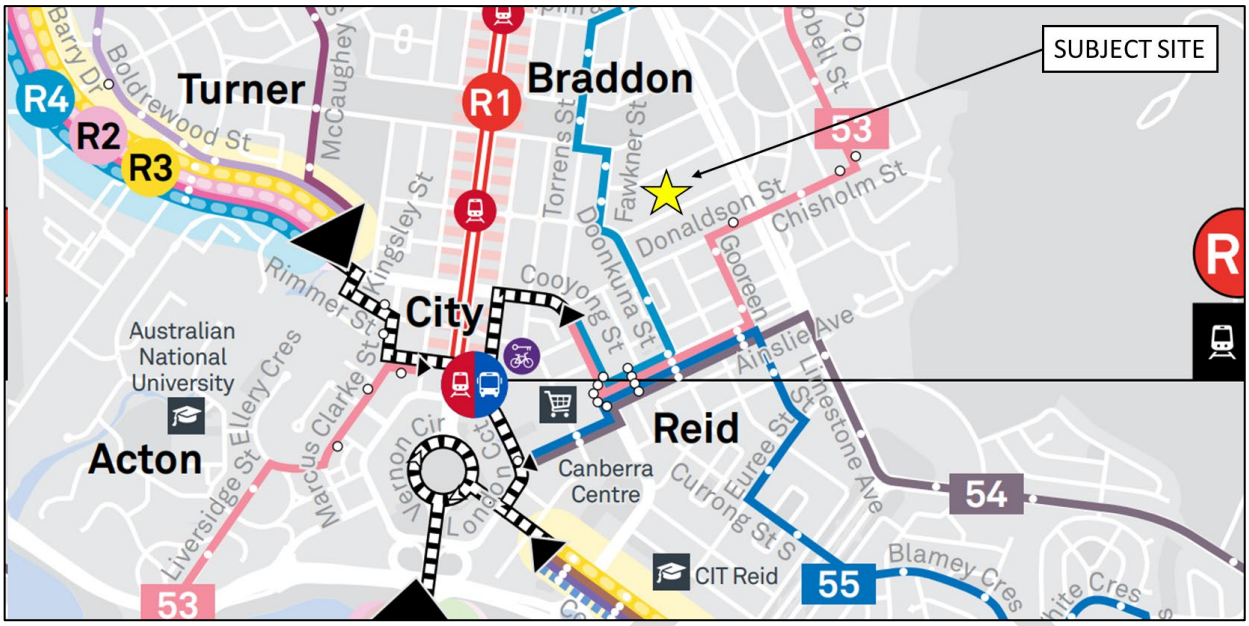



Table 1 Proximate Public Transport Services

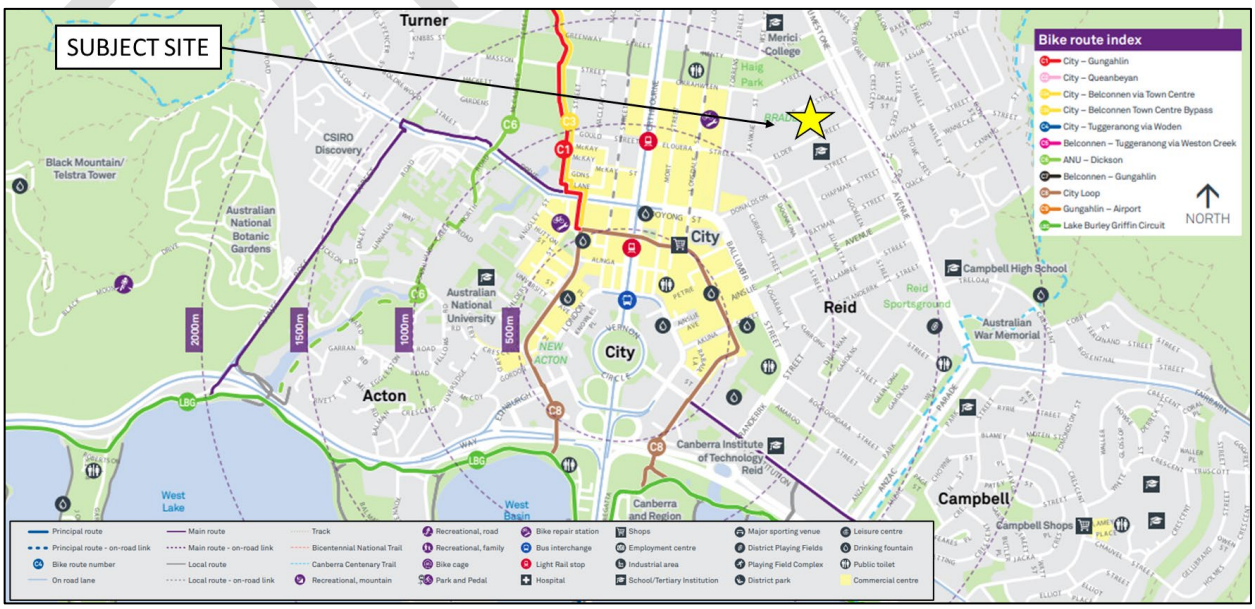
| Service | Route | Route Description | Nearest Stop | Approximate Distance (Walking Time) |
|---|---|---|---|---|
| Light Rail | R1 | Gungahlin Place – Alinga Street (City) | Elouera St | 850 metres (11 mins) |
| Bus | 31 | City Interchange, Braddon, Ainslie, Dickson Interchange, Lyneham, Kaleen, Belconnen Bus Stations | Fawkner St | 250 metres (3 mins) |
| | 53 | Dickson, Dickson Interchange, Hackett, Ainslie, City Interchange, Acton | Donaldson St | 850 metres (9 mins) |
| All ten (10) Rapid Bus Services & Twelve (12) additional bus services | | | City Interchange | 1400 metres (19 mins or via R1) |

## 2.4.2 CYCLING FACILITIES

The subject site is well located to the walking and cycling facilities provided throughout the city centre and the connections that they provide to the wider Canberra area.

The City Centre Walking and Cycling Map in the immediate vicinity of the site is presented at Figure 7, below.

Figure 7 City Centre Walking and Cycling Guide (Excerpt)



The map indicates the site is located in close proximity to the C8 (City Loop) Bike Route, which passes along Bunda Street in the city centre; and the C1 (City – Gangahlin), C3 (City – Belconnen via Town Centre) and C6 (ANU – Dickson) Bike Routes which pass along Sullivans Creek and McCaughey Street approximately 1,200 metres west of the site.

### 2.4.3 WALKABILITY

The location of the site within Braddon is well located to take advantage of the public transport, commercial, retail and recreational uses that are located within convenient walking distance, such as the light rail service and subsequent connections provided from Northbourne Avenue; the retail, food & beverage, services and facilities located along Lonsdale Street; and the recreational facilities at Haig Park.

In the area surrounding the subject site, pedestrians are primarily accommodated by standard concrete or asphalt footpaths within the road reserve.

A recreational pathway provided along the western boundary of the site forms part of a wider pathway network that provides midblock connections between Elder Street and Henty Street.

## 2.5 EXISTING CAR PARKING AND TRAFFIC CONDITIONS

### 2.5.1 SURVEYED CAR PARKING DEMANDS

SALT commissioned Trans Traffic Surveys to undertake car parking occupancy surveys along Farrer Street to determine the existing demand for publicly available car parking spaces in the area.

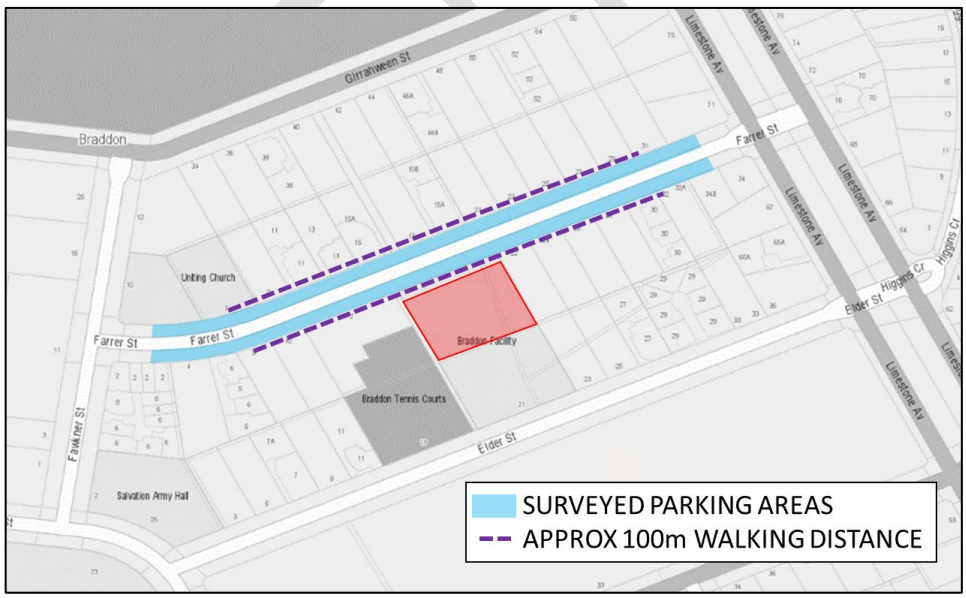
The surveys were undertaken at half hourly intervals across the following times:

- *Thursday 31st August, 2023* *3:00pm–8:00pm*
- *Saturday 2nd September, 2023* *11:00am–4:00pm*

These dates were chosen as they were a typical weekday and Saturday during the school term and were not impacted by public or school holidays. The times of day were chosen as they are typical of when residents are likely to be home and accepting visitors.

The car parking areas captured in the survey are illustrated at Figure 8.

**Figure 8 Surveyed Car Parking Areas**

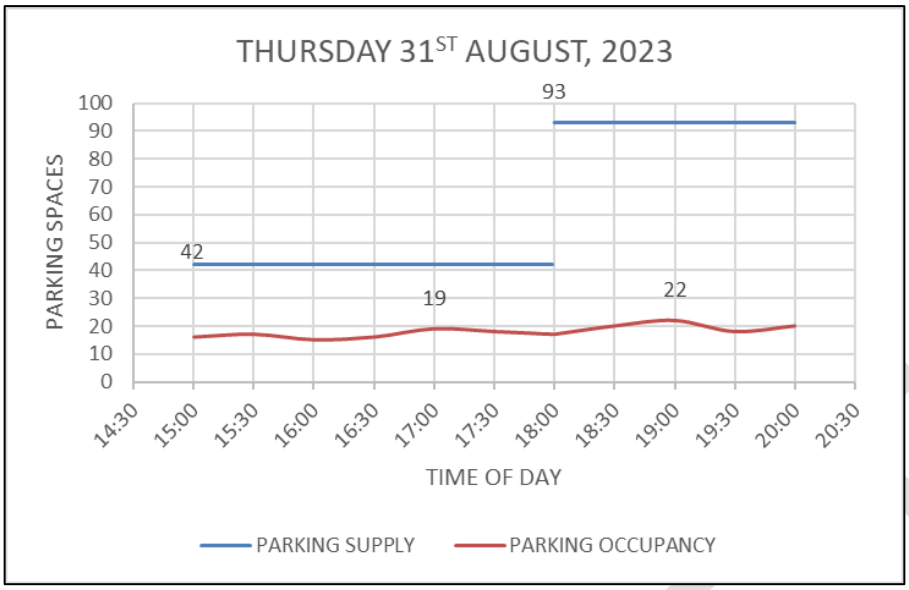


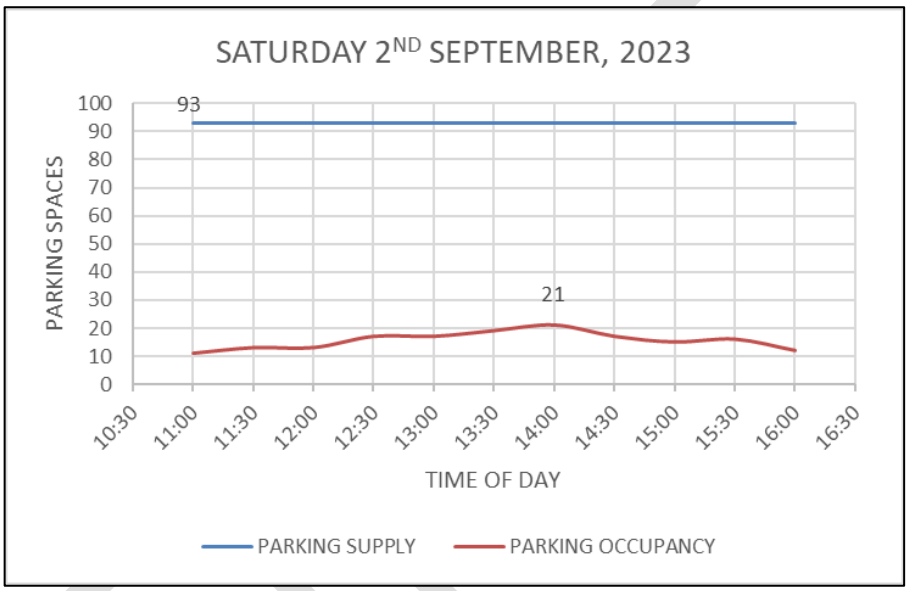

The length of Farrer Street between Fawkner Street and Limestone Avenue represents an approximately 100 metre walking distance from the site (as noted in the *ACT Planning (Residential Zones) Technical Specifications 2024* and discussed at Section 5.2.1).

This survey area provides 93 car parking spaces, though the number of spaces available to the public varies throughout the day and week due to the location of 'No Standing' parking controls along the northern kerbside.

The car parking demand profiles recorded during the Thursday and Saturday survey periods are illustrated at Figure 9.

Figure 9 Public Car Parking Demand Profiles




The weekday surveys indicate the following:

- A minimum parking supply of 42 spaces was available between 3:00pm and 6:00pm on the weekday survey. This increased to 93 spaces at 6:00pm (at the conclusion of the 'No Parking' controls along the northern side of the carriageway and 5-minute restriction along the childcare frontage);
- During the afternoon, a peak demand for 19 spaces was recorded at 5:00pm which equated to a minimum availability for 23 spaces;
- During the evening (i.e. post 6:00pm) the availability of parking spaces was much greater, with a minimum availability of 71 spaces observed at 7:00pm;

A consistent parking supply of 93 spaces was available throughout the Saturday survey. A peak parking demand for 21 spaces was recorded at 2:00pm, equating to a utilisation of 23% and an availability of 72 spaces.

The full car parking survey data is attached at Appendix 1.

## 2.5.2 EXISTING TRAFFIC CONDITIONS

SALT commissioned Trans Traffic Surveys to undertake turning volume counts at the Farrer Street intersection with Limestone Avenue to the east of the site and Fawkner Street intersection west of the site on a typical weekday (Wednesday 3rd July, 2024) across the following time periods:

- 6:30am–9:30am; and
- 2:30pm–6:30pm

The peak hour traffic volumes recorded at each intersection are presented at Figure 10, below.

**Figure 10 Surveyed Peak Hour Turning Volumes – Farrer Street**

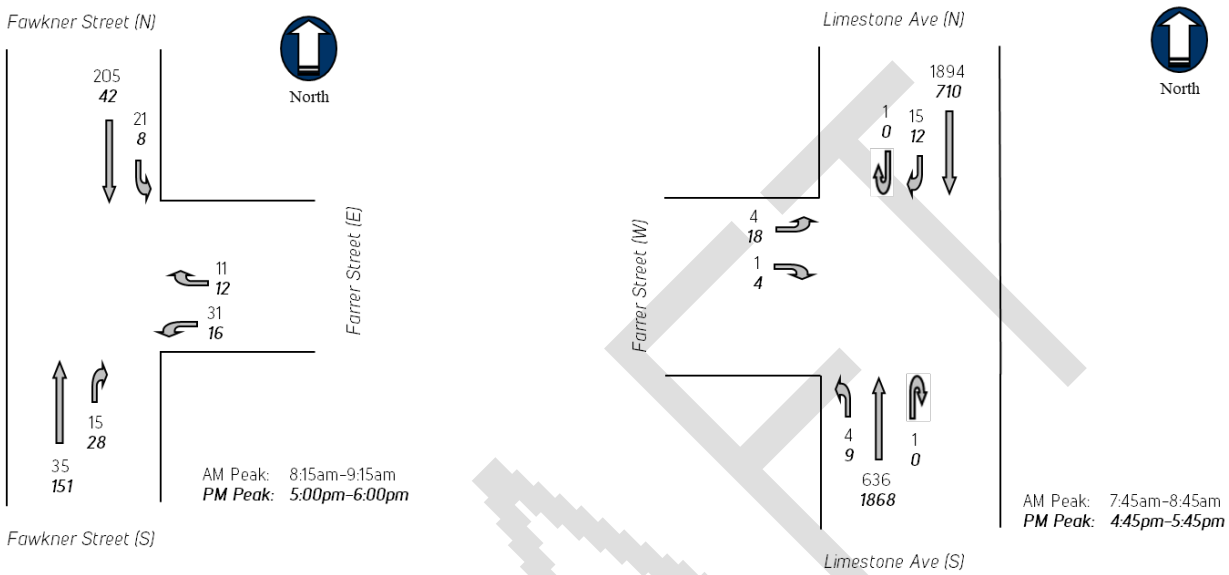
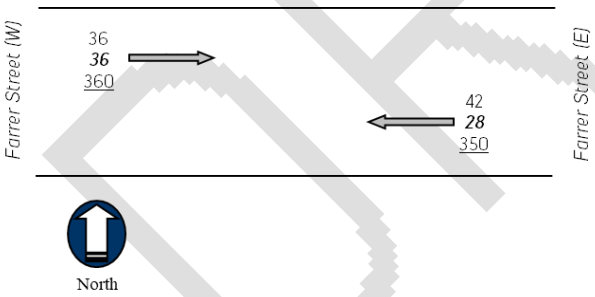



Figure 11 shows the eastbound and westbound traffic volumes near the Fawkner Street intersection. The average daily weekday traffic volumes along Farrer Street have also been approximated by applying the commonly accepted theory that peak hour traffic accounts for around 10% of the daily traffic volume, on average.

**Figure 11 Average Daily and Weekday Peak Hour Traffic Volumes at Farrer Street frontage**




*Daily traffic volumes have been based on applying a peak flow factor of 10% to the average of the AM and PM peak hour traffic volumes.

# 3 ELDER STREET DEVELOPMENT APPLICATION (DA-202443065)

The land to the south of the site is subject to a separate development application (DA-202443065) for a six-storey hotel development that does not require a change to land zoning that applies to the site.

The hotel is proposed to comprise 102 guest rooms with ancillary function areas and a cafe, restaurant, day spa and minor retail offerings at ground level fronting Elder Street. Basement car parking is to be provided with vehicular access via a double width crossover to Elder Street at the eastern boundary of the site.

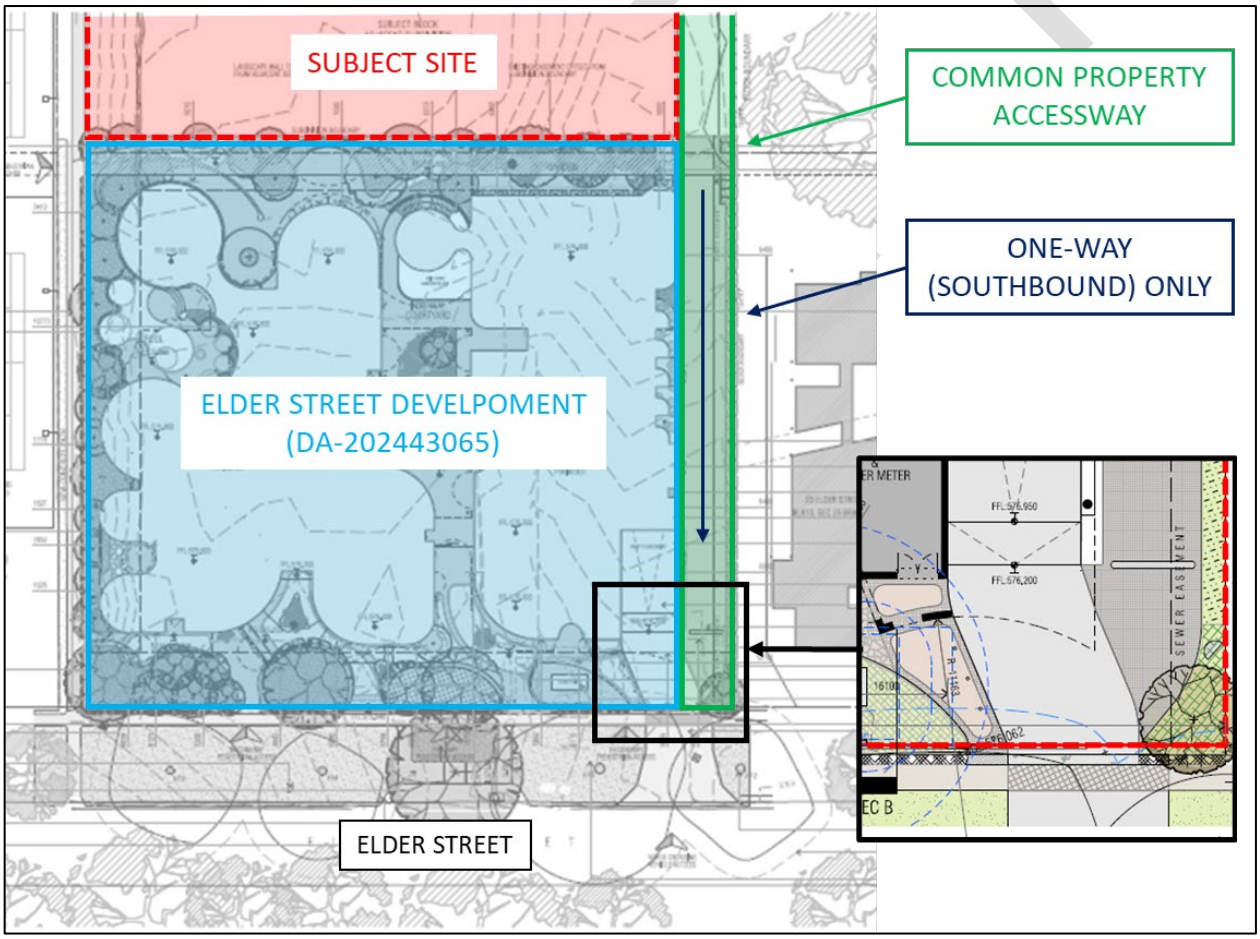
The development is generally distinct from the subject proposal, albeit for the common property accessway that is proposed to extend along the eastern boundary of the wider title from Farrer Street to Elder Street.

The accessway is intended to operate in a one-way (southbound) direction only alongside the hotel development and will be used only for loading and waste collection movements associated with that site.

At the Elder Street boundary, the accessway will merge with the outbound side of the basement vehicle access, thereby allowing waste collection and servicing vehicles to egress via the correct side of the crossover.

An excerpt from the ground level architectural plan for the Elder Street develpoment is provided at Figure 12, which illustrates the location of the common property accessway and crossover to Elder Street.

Figure 12 Elder Street Development (DA-202443065) Ground Level Plan



# 4 PROPOSED DEVELOPMENT

Szygy Developments has lodged an application for a Major Territory Plan Amendment to change the current zoning of the subject site from commercial land use (CZ6 – Leisure & Accommodation) to residential land use (RZ4) in order to support a residential development upon the site.

Judd Studio has prepared a massing study to inform the proposal, which suggests the site will accommodate twenty-four (24) three-storey townhouse style dwellings. Each dwelling is proposed to be provided with a double car garage at basement level.

Extracts from the ground level (left) and basement level (right) massing study plans are presented at Figure 13, below.

Figure 13 Ground (left) and Basement (right) level Architectural Massing Studies


The massing study suggests the dwellings will be provided in a range of configurations as summarised in the Development Schedule at Table 2, below.

Table 2 Development Schedule

| Land Use | Yield |
|---|---|
| *Townhouses* | *(24 no.)* |
| *- 2-bedroom* | 4 no. |
| *- 3-bedroom* | 16 no. |
| *- 4 bedroom* | 2 no. |
| *- 5 bedroom* | 2 no. |
| *Car Parking Spaces* | *48 no.* |

The garages are shown in a secured common basement level directly beneath and interconnected to the dwelling to which it is on-title.

Vehicular access to the basement level is proposed via a two-way vehicular ramp at the south of the site.

The ramp will be serviced by the common property accessway along the eastern boundary of the wider title, which is intended to allow two-way vehicle movement between Farrer Street and the ramp

At Farrer Street, vehicular ingress to the accessway is shown via a widened crossover that is generally sited in the same location as the existing crossover to the site.

Pedestrian access to the dwellings is shown via two (2) landscaped walkway connections to the existing footpath network along Farrer Street, which will pass along the frontages of the dwellings and either side of a deep rooted landscaped area.

# 5 CAR PARKING CONSIDERATIONS

## 5.1 CAR PARKING REQUIREMENT

The sought Major Territory Plan Amendment would apply a residential zoning to the site that would make the car parking requirement rates outlined in the ACT *'Planning (Residential Zones) Technical Specifications 2024'* applicable.

Those rates are outlined as follows:

*Resident:*

- *One parking space per single bedroom dwelling; and*
- *A minimum average provision of 1.5 spaces per two bedroom dwelling, provided that each two bedroom dwelling is allocated a minimum of one parking space and a maximum of two parking spaces; or*
- *Two parking spaces per two bedroom dwelling; and*
- *Two parking spaces for each dwelling with three or more bedrooms; plus*

*Visitor:*

- *One visitor space per four dwellings or part thereof where a complex comprises four or more dwellings.*

  *A portion of short stay visitor parking is to be provided outside boom gates / roller doors.*

  *Accessible Visitor car parking is to compromise a minimum of 3% (rounded up) of the total number of required visitor parking spaces.*
- *Note: Parking for motorcycles and motor scooters – three dedicated spaces per 100 car parking spaces are required, with a minimum provision of one space for carparks with a minimum of 30 car parking spaces.*

  *These spaces are to be provided in addition to the number of car parking spaces required above. Provision of motorcycle parking spaces should comply with AS 2890 (both part 1 – Off-street and part 5 – On-street)*

Based on the above, the statutory car parking requirement for the proposal as presented in the massing study is summarised at Table 3, below.

**Table 3 Statutory Car Parking Requirement**

| Land Use | Yield. | Car Parking Rate | Car Parking Spaces |
|---|---|---|---|
| **Residents** | | | |
| Townhouses<br>– 2-bedroom<br>– 3-bedroom<br>– 4 bedroom<br>– 5 bedroom | <br>4 no.<br>16 no.<br>2 no.<br>2 no. | 2 parking spaces per two bedroom dwelling; and<br>2 parking spaces for each dwelling with three or more bedrooms. | <br>8 spaces<br>32 spaces<br>4 spaces<br>4 spaces |
| ***Total Resident Spaces*** | | | ***48 spaces*** |
| Resident Visitors | | | |
| Townhouses | 24 no. | 1 visitor space per four dwellings or part thereof where a complex comprises four or more dwellings. | 6 spaces |
| ***Total Resident Visitor Spaces*** | | | ***6 spaces*** |
| Motorcycles | | | |
| Car Parking Requirement | 48 spaces | 3 dedicated spaces per 100 car parking spaces are required, with a minimum provision of 1 space for carparks with a minimum of 30 car parking spaces. | 1 space. |
| ***Total Motorcycle Spaces*** | | | ***1 space*** |

Based on the above, the statutory car parking requirement for the proposal would be 48 resident spaces, 6 resident visitor spaces and 1 motorcycle space.

## 5.2 SUITABILITY OF ON-SITE CAR PARKING PROVISION

### 5.2.1 LOCATIONAL REQUIREMENTS FOR CAR PARKING SPACES

The ACT *'Planning (Residential Zones) Technical Specifications 2024"* outlines locational requirements for car parking provisions in residential zones as follows:

**Table 4 Parking Location Requirements for Residential Zones**

| Location or use[1] | Long stay parking | Short stay / Visitor parking | Operational parking[2] |
|---|---|---|---|
| Residential use | On-Site | On-Site or within 100 metres | On-Site |

[1] Distances are walking distance in metres, not radius or direct line distance.
[2] Operational parking is for vehicles used directly as part of the operation within the development.

In consideration of the above:

- The basement level massing study indicates the proposal could provide 48 resident car parking spaces through a mix of tandem and side-by-side double garages, which satisfies the resident car parking requirement.

  Each dwelling can be allocated 2 spaces in accordance with the technical specifications requirements;
- A review of the basement level massing study also indicates that there is adequate area to provide a motorcycle space within the basement level when more detailed plans are prepared as part of a Development Application.
- The car parking occupancy surveys at Section Figure 10 and attached at Figure 9 identify an on-street car parking supply of 93 spaces within 100 metres of the site on Farrer Street:
  - During weekday business hours this supply is reduced to 42 spaces due to 'No Standing' and 5-minute parking controls. The surveys identified a minimum availability of 23 spaces during these times; and
  - In the evenings and on weekends the full parking supply of 93 spaces is available for public use. The surveys identified a minimum availability of 71 spaces and 72 spaces during the respective weekday evening and Saturday afternoon surveys.

  These availabilities are far greater than the likely resident visitor car parking demand, which is estimated at up to 6 spaces and is envisaged to peak during weekday evenings and on weekends when residents are likely to be home and accepting visitors.

  Notably, this demand could be entirely accommodated along the subject site frontage to Farrer Street, which is 71.6 metres in length and could accommodate around 12 spaces based on Australian Standard (AS2890.5: Off-Street Parking) dimension requirements

  The resident visitor car parking requirement can therefore be accommodated within 100 metres of the site in accordance with the technical specifications requirement.

Based on the above, the allocations of short and long-term car parking spaces associated with this form of development can be appropriately met on-site and on-street as required by the technical specifications.

# 6 BICYCLE PARKING CONSIDERATIONS

## 6.1 BICYCLE PARKING REQUIREMENT

The ACT *'Planning (Residential Zones) Technical Specifications 2024'* requires bicycle parking to be provided for 'multi-unit housing, including attached houses' at the following rates:

*Resident:*

- 1 space per one or two bedroom dwelling;
- 2 spaces per three or more bedroom dwelling with a car parking space; and
- 1 space per bedroom for dwellings not allocated a car parking space

Resident Visitor

- 1 space per 10 dwellings

Each dwelling can be allocated 2 on-site car parking spaces, therefore the statutory bicycle parking requirement for the proposal is as outlined at Table 5, below.

**Table 5 Bicycle Parking Requirement**

| Land Use | No. | Long Term Parking | | Short Term Parking | |
|---|---|---|---|---|---|
| | | Rate | No. | Rate | No. |
| Townhouses<br>- 2-bedroom<br>- 3-bedroom<br>- 4 bedroom<br>- 5 bedroom | <br>4 no.<br>16 no.<br>2 no.<br>2 no. | 1 space per one or two bedroom dwelling; and<br>2 spaces per three or more bedroom dwelling with a car parking space | <br>4 no.<br>32 no.<br>4 no.<br>4 no. | 1 space per 10 dwellings | 3 no. |
| ***Total*** | | | ***44 no.*** | | ***3 no.*** |

Based on the above, there would be a requirement to provide 44 secured spaces for long-stay users (residents) and 3 spaces for short-term users (visitors).

Long stay bicycle parking spaces must be provided by way of Class A (individual lockers) or Class B (spaces within a secured room separated from car parking areas) facilities. Short-term spaces may be provided in a publicly accessible location.

A review of the basement level massing study indicates that each townhouse will be provided with a secured garage that could be suitably designed to allow the storage of 1 or 2 bicycles as is required by the Technical Specifications.

A review of the ground level massing study indicates that there is ample open space in which a bicycle rack could be provided to meet this requirement.

Based on the above, the allocations of short and long-term bicycle parking spaces associated with this form of development can be appropriately met on-site as required by the technical specifications.

# 7 DESIGN CONSIDERATIONS

## 7.1 CAR PARKING LAYOUT

The basement level massing study indicates a mix of tandem and side-by-side double garages may be provided within the development.

The tandem garages have been shown with a footprint width of 4.5 metres and the side-by-side garages have been shown with a footprint width of 5.7 metres. These dimensions are more than sufficient to provide the minimum internal widths of 3.0 metres and 5.4 metres that are respectively required for single width and double width car garages in the Australian Standard for Off-Street Car Parking (AS2890.1:2004).

Based on the 6.1 metre apron width shown on the plans, the tandem garages would require a garage door width of 2.8 metres and the side-by-side garages would require a garage door width of at least 4.8 metres.

These dimensions should be reviewed and swept path diagrams prepared if necessary as part of the Development Application stage.

The massing study suggests that 3.5m and 6.1m wide aisles will be provided through the basement level, which will be suitable for a one-way circulation arrangement whilst providing adequate manoeuvring space for vehicles to access the garages from the wider aisles.

A minimum overhead clearance of 2.2 metres should be provided above all trafficable areas, including above the basement access ramp.

Based on the above, the internal car parking layouts and circulation arrangements can be designed appropriately for this form of development.

## 7.2 SITE ACCESS ARRANGEMENTS

### 7.2.1 BASEMENT ACCESS RAMP

Vehicular access to the basement level is proposed via a two-way vehicular ramp at the south of the site, which will in turn be provided access from the common property accessway proposed to span between Farrer Street and Elder Street along the eastern boundary of the wider title.

Ramp grades should be designed in accordance with the Australian Standard for Off-Street Car Parking (AS2890.1:2004).

### 7.2.2 COMMON PROPERTY ACCESSWAY

The common property accessway along the eastern boundary of the site is proposed to accommodate the two-way traffic movements of the subject proposal between Farrer Street and the basement access ramp, and the one-way southbound movements of service and waste collection vehicles associated with the Elder Street develpoment (as allowed for in the develpoment application for that site).

The accessway is shown on the massing plans with a width of 4.4m, which is suitable for a single lane of traffic at a time. The Australian Standard for Off-Street Car Parking (AS2890.1:2004) states the following:

> *"As a guide, 30 or more movements in a peak hour (in and out combined) would usually require provision for two vehicles to pass on the driveway, i.e. a minimum width of 5.5 m.*
>
> *On long driveways, passing opportunities should be provided at least every 30 m."*

Section 7.4 indicates the subject proposal is expected to generate in the order of 14 vehicle movements (in and out combined) during the peak 1-hour periods. Accordingly, the two-way traffic volume along the common property accessway adjacent to the site will remain below the 30vph threshold once the occasional servicing vehicle movements associated with the Elder Street develpoment to the south are considered, and a single width lane will be acceptable for two-way vehicular movement as outlined by the standard.

Notwithstanding, the length of the lane is approximately 50 metres in length, and a passing opportunity will need to be provided near to the midpoint of its length to accord with the standard.

This requirement will need to be captured in the architectural scheme when more detailed plans are prepared for a Development Application.

A swept path diagram has been prepared and is attached at Appendix 2, which demonstrates an inbound Heavy Rigid Vehicle (nom. 12.5m length) can enter the shared accessway to service the Elder Street site as allowed for in that development application.

The swept path has been prepared using a 1-metre wide clearance envelope as required by TCCS, which is far greater than the 600mm requirement outlined for rigid vehicle movements in the Australian Standard.

Waste collection requirements for the subject proposal are expected to occur from the Farrer Street kerbside and can be determined and designed for at the Development Application stage.

## 7.3 TRAFFIC CONSIDERATIONS

## 7.4 TRAFFIC GENERATION

The ACT Estate Development Code suggests that a trip generation rate of 6 vehicle movements per dwelling per day be used to assess multi-unit developments.

In 2019, Transport Canberra and City Services (TCCS) and the Environment Planning and Sustainable Development Directorate (EPSDD) reviewed this trip generation rate and found it not to be appropriate for higher density residential development in Town Centres and adjacent to Northbourne Avenue. An Engineering Advisory note was issued that suggested a rate of 3.37 trips per dwelling be applied to this form of development within these boundaries, and that developments close to town centres just outside the boundaries be assessed on a case by case basis.

The subject site is located around 500 metres east of central Braddon and the shops that front Northbourne Avenue. It is therefore highly likely that a lower trip generation rate than that provided in the Estate Development Code would be appropriate to apply to the proposal.

Notwithstanding, the trip generation rate of 6 daily vehicle movements per dwelling as stated in the Estate Development Code will be used to provide a conservative assessment of the proposal.

It is commonly accepted that residential peak hour traffic generation accounts for around 10% of the daily traffic stream, with residential traffic generally split 80% outbound / 20% inbound during the morning commuter peak and 40% outbound / 60% inbound during the afternoon commuter peak.

Based on the above, the daily and peak hour traffic volumes anticipated to be generated by the proposal are estimated at Table 6, below.

**Table 6 Site-Generated Traffic Volume Estimate**

| Land Use | Yield | Daily | | | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Inbound | Outbound | Total | Inbound | Outbound | Total | Inbound | Outbound | Total |
| Dwellings | 24 no. | 72 vpd | 72 vpd | 144 vpd | 3 vph | 11 vph | 14 vph | 8 vph | 6 vph | 14 vph |

Based on the above, the subject proposal is anticipated to generate in the order of 144 movements per day, inclusive of around 14 movements during each of the AM and PM peak 1-hour periods.

## 7.5 TRAFFIC DISTRIBUTION

The subject proposal will cater for two-way movement between Farrer Street and the basement access ramp, and one-way movement for service and waste collection vehicles associated with the Elder Street site between the basement access ramp and Elder Street.

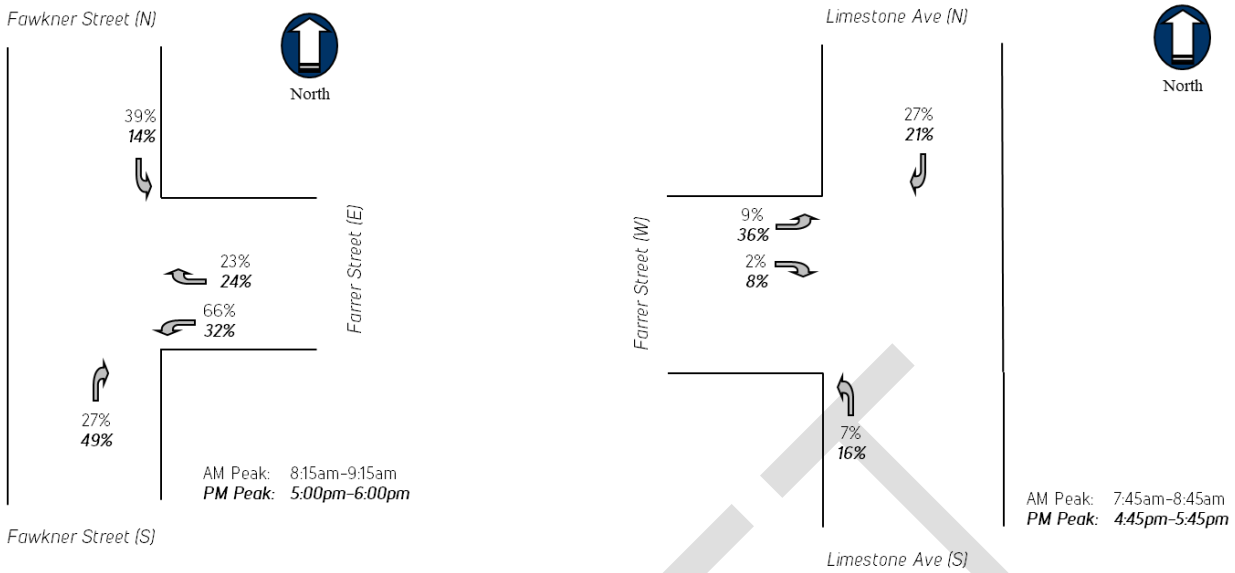
To limit traffic along the southern portion of the accessway to servicing and waste collection vehicles associated with the Elder Street development only, a retractable bollard could be installed on the laneway to the south of the site and be supplemented by a 'No Right Turn' sign at the top of the basement access ramp.

On this basis, all traffic associated with the subject proposal will approach and depart the site via Farrer Street.

The turning movements surveys presented at Figure 10 recorded all inbound and outbound traffic movements to/from Farrer Street from the intersections to the east and west.

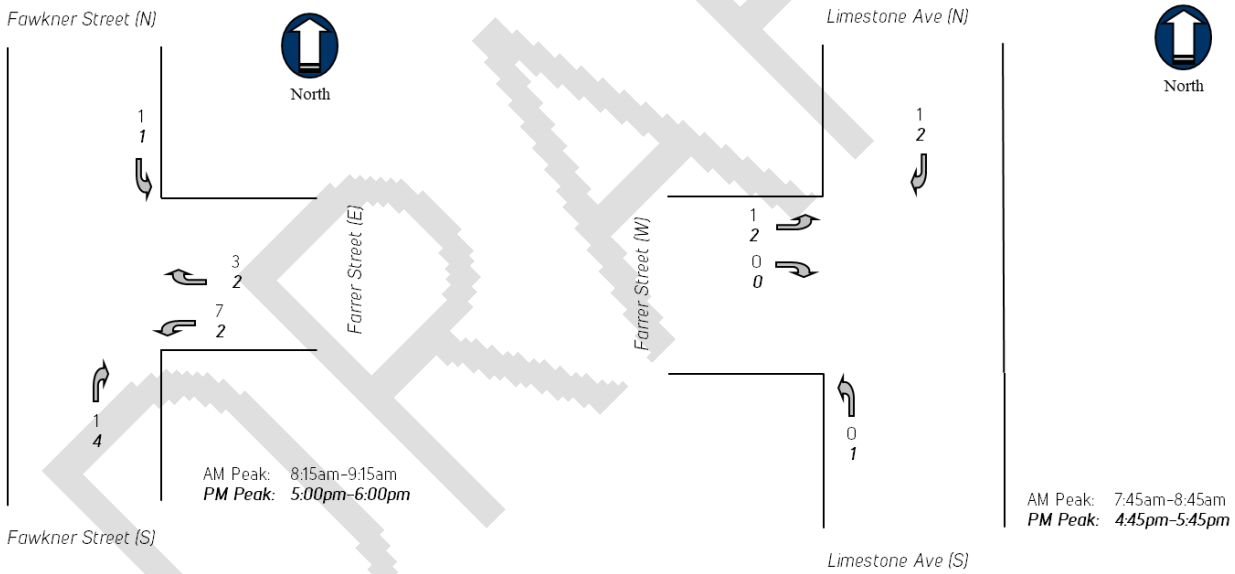
The distribution of these vehicle movements to/from the intersections during both peak periods is presented at Figure 14.

Figure 14 Surveyed Traffic Distributions to/from Farrer St




Based on the existing traffic distribution of peak hour vehicle movements, the forecast site generated traffic volume at Table 6 is likely to be distributed to the external road network as presented at Figure 15, below.

Figure 15 Forecast Post-Development Turning Volumes




## 7.6 POST-DEVELOPMENT TRAFFIC CONDITIONS

### 7.6.1 TURNING VOLUMES

The additional peak hour traffic generated by the site is considered very low in traffic engineering terms and is equivalent to around 1 additional peak hour vehicle movement on the surrounding road network every 4 to 5 minutes, on average.

Further, the surrounding road network is highly connective, so the impact of this additional traffic will be less once distributed to the surrounding intersections and diluted through the wider road network.

Based on the distribution of additional peak hour vehicle movements at Figure 15, the additional traffic generated by development of the subject site to the surrounding intersections is presented against the existing peak hour traffic volumes at Table 7, below.

### Table 7 Net Increase in Approach Volumes

| Traffic Volumes | Farrer Street / Fawkner Street | | Farrer Street / Limestone Avenue | |
|---|---|---|---|---|
| | AM Peak | PM Peak | AM Peak | PM Peak |
| Existing Volumes | 318 vpd | 257 vpd | 2,556 vpd | 2,621 vpd |
| Additional Site Traffic (% increase) | 12 vph (+3.7%) | 9 vph (+3.5%) | 2 vph (<+0.1%) | 5 vph (<+0.1%) |

Based on the table above, the additional traffic generated by the proposal is expected to represent an approximately 3–4% increase in existing approach volumes at the Farrer Street / Fawkenr Street intersection and less than a 0.1% increase at the Farrer Street / Limestone Avenue intersection during the peak periods.

With regard to daily traffic volumes, the additional 144 vehicle movements anticipated per day would increase the daily traffic volume along Farrer Street from around 710 to 854 vehicles per day, which is below the environmental capacity that would be expected for a local residential street.

Notably, the development will have less traffic impact than if it were developed for many of the land uses permitted under the legacy *CZ6 – Leisure and Accommodation* land zoning that applies to the site.

Therefore, the sought territory plan amendment and subsequent construction of a townhouse development upon the site is not expected to have any adverse capacity, safety or amenity impacts on surrounding road and intersection traffic conditions.

# 8 CONCLUSION

Szygy Developments has lodged an application for a Major Territory Plan Amendment to change the current zoning of the the northern part of the former Canberra City Lawn Bowling Club site at Block 16, Section 25 (21 Elder Street, Braddon) from commercial land use (CZ6 – Leisure & Accommodation) to residential land use (RZ1 – Suburban) in order to support a residential development upon the site.

Judd Studio has prepared a massing study to inform the proposal, which suggests the site will accommodate twenty-four (24) three-storey townhouse style dwellings. Each dwelling is proposed to be provided with a double car garage at basement level.

Based on the foregoing, it is concluded that:

- The proposal is generally distinct from the southern land parcel, which is subject to a separate development application for a six-storey hotel development with activated ground floor uses fronting Elder Street.
- The proposal would generate a statutory car parking requirement for 48 resident car parking spaces, 1 motorcycle parking space and 6 resident visitor car parking spaces:
  - The basement level massing study indicates the proposal can provide 48 resident car parking spaces through a mix of tandem and side-by-side double garages, which would satisfy the resident car parking requirement;
  - A review of the basement level massing study also indicates that there is adequate area to provide a motorcycle space within the basement level when more detailed plans are prepared as part of a Development Application.
  - The car parking occupancy surveys indicate there are adequate on-street parking opportunities along Farrer Street within 100 metres of the site to accommodate the peak resident visitor car parking demand for 6 spaces.

    This demand will realistically be accommodated along the immediate frontage of the site, which can accommodate in the order of 12 spaces based on Australian Standard dimension requirements.

  On this basis, the statutory car parking requirement can be satisfactorily accommodated at the site and on the surrounding street network as required by the locational requirements in the ACT *'Planning (Commercial Zones) Technical Specifications 2023'* for this form of develpoment;
- The basement footprint provides adequate area to allow the on-site car parking to be designed in accordance with the Australian Standard for Off-Street Car Parking (AS2890.1:2004);
- The bicycle parking requirements can be met through the provision of private basement level garages for residents and the installation of a common bicycle rail at ground level for visitors;
- The single width servicing accessway along the eastern boundary of the site will be appropriate to provide two-way access to the subject site subject to a passing area being provided approximately midway along its length to accord with the Australian Standard;
- The additional traffic generated by the site is considered low in the context of existing peak hour traffic volumes and is equivalent to around 1 additional peak hour vehicle movement on the surrounding road network every 4 to 5 minutes, on average.
- The sought territory plan amendment and subsequent construction of a townhouse development upon the site is not expected to have any adverse capacity, safety or amenity impacts on surrounding traffic conditions, and the development is likely to have less traffic impact than if it were developed for many of the land uses permitted under the legacy *CZ6 – Leisure and Accommodation* land zoning that applies to the site.

# APPENDIX 1 PARKING SURVEYS

**Parking Braddon ACT EDIT**

***Public Car Parking Occupancy - Thursday 31st August and Satuday 2nd September, 2023***

TRANS TRAFFIC SURVEY

| Street | Section | Side | Restriction | Supply | Thursday 31st August, 2023 | | | | | | | | | | | | Saturday 2nd September, 2023 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 15:00 | 15:30 | 16:00 | 16:30 | 17:00 | 17:30 | 18:00 | 18:30 | 19:00 | 19:30 | 20:00 | 11:00 | 11:30 | 12:00 | 12:30 | 13:00 | 13:30 | 14:00 | 14:30 | 15:00 | 15:30 | 16:00 |
| Farrer St | Fawkner St to Limestone Ave | N | No Parking 7:30am-6pm Mon-Fri, Public Holidays Excepted | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | No Parking 7:30am-6pm Mon-Fri, Public Holidays Excepted | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 0 |
| | Limestone Ave to Fawkner St | S | 2P 7:30am-6pm Mon-Fri, Public Holidays Excepted | 28 | 8 | 9 | 8 | 7 | 10 | 12 | 12 | 14 | 16 | 16 | 18 | 9 | 7 | 10 | 12 | 12 | 14 | 15 | 15 | 13 | 14 | 10 |
| | | | P 5mins 7:30am-6pm Mon-Fri, Public Holidays Excepted | 7 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| | | | 2P 7:30am-6pm Mon-Fri, Public Holidays Excepted | 14 | 8 | 8 | 7 | 9 | 9 | 6 | 5 | 5 | 4 | 2 | 2 | 1 | 4 | 2 | 3 | 3 | 2 | 4 | 1 | 2 | 2 | 2 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Parking Supply at Time of Survey** | **93** | **42** | **42** | **42** | **42** | **42** | **42** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** | **93** |
| **Parking Occupancy at Time of Survey** | | **16** | **17** | **15** | **16** | **19** | **18** | **17** | **20** | **22** | **18** | **20** | **11** | **13** | **13** | **17** | **17** | **19** | **21** | **17** | **15** | **16** | **12** | | | |
| **Parking Spaces Available at Time of Survey** | | **26** | **25** | **27** | **26** | **23** | **24** | **76** | **73** | **71** | **75** | **73** | **82** | **80** | **80** | **76** | **76** | **74** | **72** | **76** | **78** | **77** | **81** | | | |
| **Occupancy (%)** | | **38%** | **40%** | **36%** | **38%** | **45%** | **43%** | **18%** | **22%** | **24%** | **19%** | **22%** | **12%** | **14%** | **14%** | **18%** | **18%** | **20%** | **23%** | **18%** | **16%** | **17%** | **13%** | | | |

# APPENDIX 2 SWEPT PATH DIAGRAM

FARRER STREET

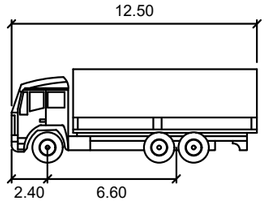
12.5m HEAVY RIGID VEHICLE SWEPT PATH
(1.0m CLEARANCE SHOWN)

PEDESTRIAN SIGHT TRIANGLES TO BE PROVIDED AS PER AS2890.1:2004

COMMON PROPERTY ACCESSWAY

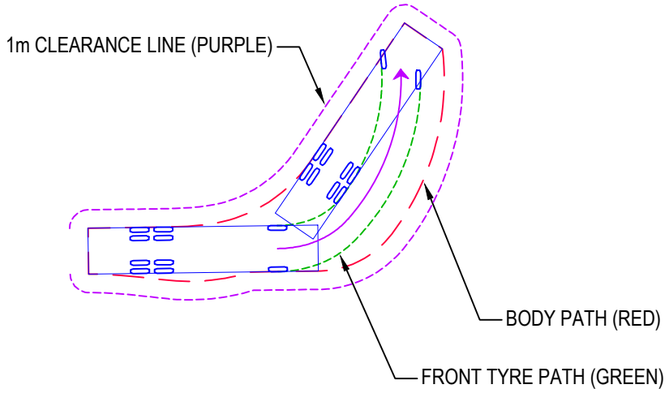
SUBJECT SITE
BLOCK 16, SECTION 25
BRADDON

DESIGN VEHICLE




HRV

| | meters |
|---|---|
| Width | : 2.50 |
| Track | : 2.50 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 35.2 |




# SXYGY DEVELOPMENTS

PROPOSED RESIDENTIAL DEVELOPMENT
BLOCK 16, SECTION 25, BRADDON
RIGID VEHICLE ACCESS TO ELDER STREET
SWEPT PATH DIAGRAM

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SCALE: 1:200 @ A3

| DRAWN / CHECKED | DATE | SIZE |
|---|---|---|
| MD / EC | 28/08/2024 | A3 |
| DRAWING NUMBER | | REVISION |
| SALT-22303-SK-008 | | 1 |

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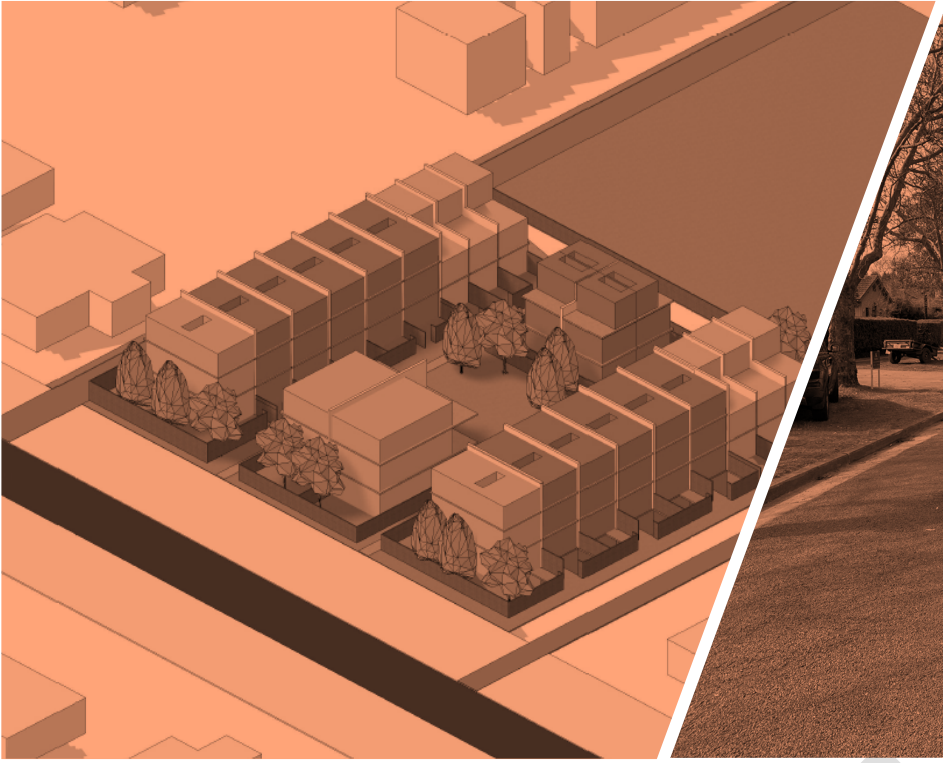



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