Traffic Impact Assessment

Uniting Edinglassie Village ILU

Prepared for Uniting / 17 October 2023

211568 TAAA

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Revision Register

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1.0 Existing Conditions

1.1 The Site

Uniting Edinglassie Village ILU is located at 1-3 Emerald Street, 6 Troy Street, and 8 Troy Street, Emu Plains, approximately 60 kilometres west of Sydney's CBD. The land is located within the Penrith local government area and is classified as an R3 medium-density residential zone.

The existing site comprises of a Residential Aged Care Facility that was recently constructed and existing low density Independent Living Units. On-site facilities are currently accessed via Troy Street and Emerald Street, with no vehicular access through to the Great Western Highway. An overview of the site can be seen in Figure 1.1.

The surrounding properties predominantly consist of residential houses to the east and west. Emu Plains Public School is located to the south-east of the site and the Lennox Shopping Centre is located to the north across the Great Western Highway.

Figure 1.1: Site Overview
Background image source: Nearmap

1.1.1 Site Location

Great Western Highway provides frontage and pedestrian access to the site. Great Western Highway connects into Russell Street, which leads to the access to Western Motorway, and both Great Western Highway and Western Motorway end to Parramatta Road. Figure 1.2 shows the location of the site within the surrounding road network.

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Figure 1.2: Site Location

Background image source: Nearmap

1.2 Site Access

1.2.1 Vehicle Access

Vehicular access to the site will be via Emerald Street to the east of the site (refer to Figure 1.3). This access point provides access to staff and resident parking, as well as providing servicing and emergency vehicle access.

The existing Edinglassie Village is served by one driveway crossing from Troy Street. The site of this redevelopment will also include the adjacent properties of 6 and 8 Troy Street, each of which have their own private driveway crossover. The consolidated site will remove all driveway crossovers from Troy Street.

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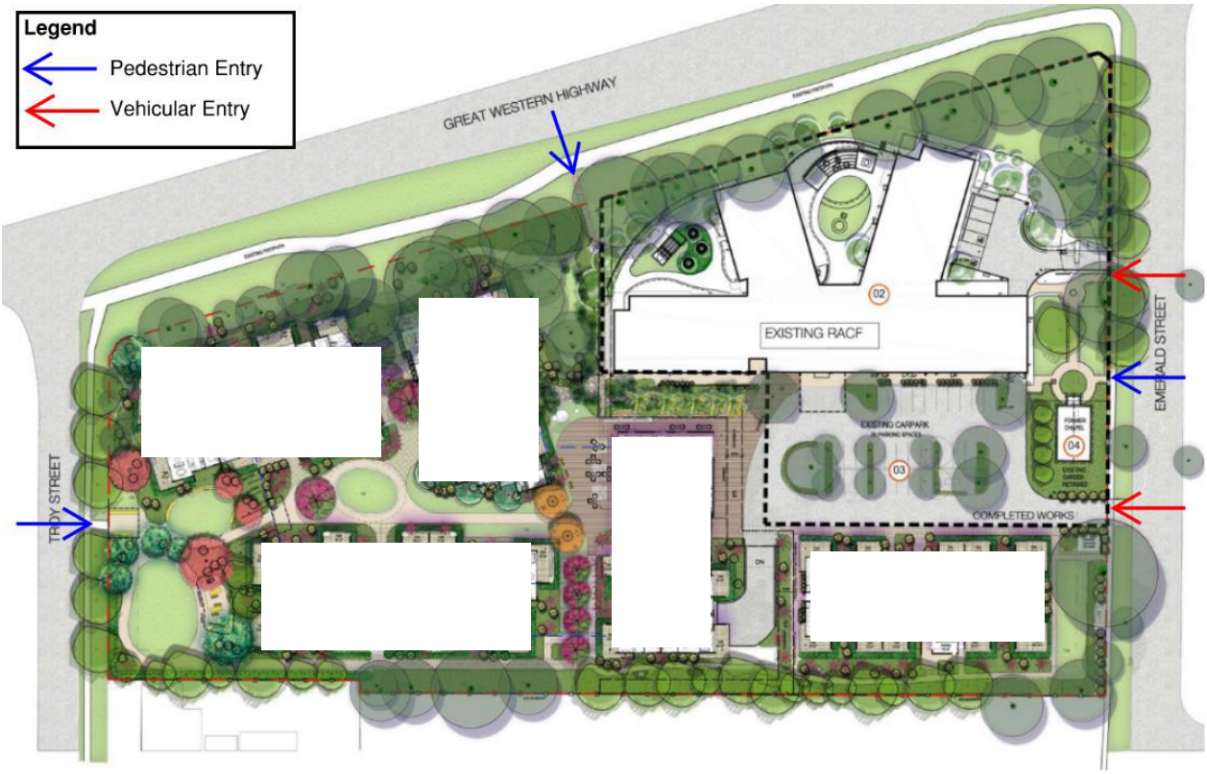

Figure 1.3: Site Access Points

Source: Taylor Brammer Landscape Architects Pty Ltd

1.2.2 Pedestrian Access

Pedestrian access is available to the site from Troy Street, Emerald Street and the Great Western Highway. These points provide access to and from the site and other local attractors such as Lennox Shopping Village and the bus stops on Great Western Highway.

1.3 Road Network

1.3.1 External Road Network

The **Great Western Highway** extends along the northern boundary of the site and is a classified TfNSW roadway. Within the vicinity of the site it provides one to two lanes in each direction, with a signposted speed limit of 60 km/hr. It provides access to the M4 Western Motorway and Parramatta Road

Emerald Street runs north to south along the eastern boundary of the site. It is a local road with one through lane in each direction and a parking lane to each kerbside. Adjacent to the site there is a school zone at 40 km/h that is active during school peak times. Emerald Street is limited to left in and left out movements where it connects with the Great Western Highway.

Troy Street runs north to south along the western boundary of the site. It is also a local road with one through lane in each direction and a parking lane to each kerbside. There is also school zone signage adjacent to the site. A give-way control is located at the intersection of Troy Street and the Great Western Highway.

The road network in the vicinity of the site is detailed in Figure 1.2.

1.3.2 Internal Road Network

There are two main internal road networks within Edinglassie Village. From Emerald Street there are two access points, one located south of the sandstone chapel provides access to a car park and the

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porte cochere as well as some on site parking for the existing ILUs. The second access point north of the sandstone chapel provides additional parking for the RACF as well as access to the loading dock servicing the RACF.

From Troy Street access is provided for car parking associated with existing independent living units.

These site access points are shown in Figure 1.3.

1.4 Parking Facilities

The existing site currently contains the following parking facilities:

- A small car park adjacent to the RACF building accessed from Emerald Street.
- A completed car park at the rear of the RACF also accessed from Emerald Street.
- 6 car parking spaces accessed from Emerald Street currently serving the existing ILU village residents fronting Emerald Street.
- 17 car parking spaces accessed from Troy Street that serve the majority of the ILUs.

Figure 1.4 demonstrates the existing car parking arrangement.

Figure 1.4: On Site Parking

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1.5 Public Transport

1.5.1 Buses

Bus stops are situated along the Great Western Highway and Emerald Street. Stops along both approaches are located approximately 150 metres from the site entrance. Bus routes and approximate frequencies are shown in Table 1.1. Services are operated by Blue Mountains Transit. Figure 1.5 illustrates the bus routes and connecting services.

Table 1.1: Weekday Bus Route Frequency Near the Development Site

Route		Peak Frequency	Daily Frequency
688	Penrith to Emu Heights	Every 20 minutes	Every 60 minutes
689	Penrith to Leonay	Every 30 minutes	Every 60 minutes
690P	Springwood to Penrith	3 services daily	
691	Penrith to Mount Riverview	5 services daily	

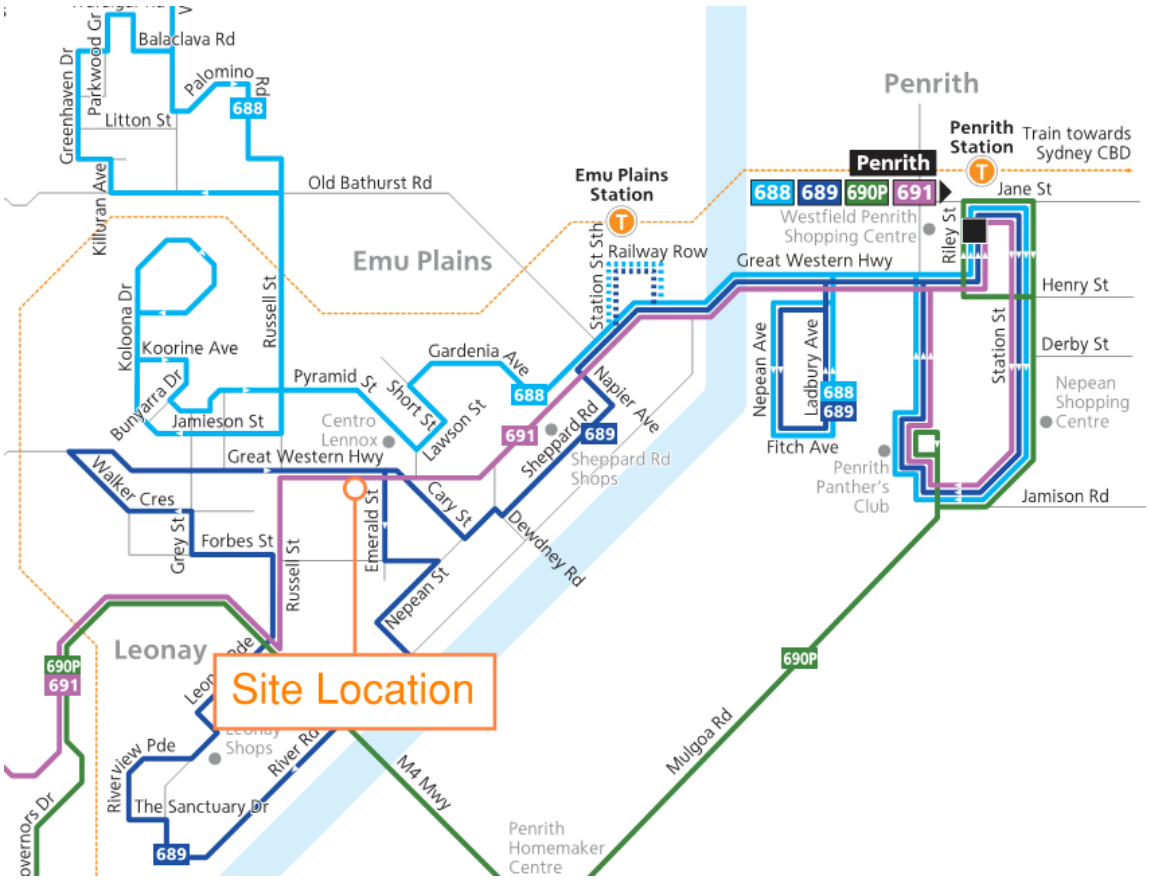

Figure 1.5: Public Transport near to the Site

Source: Blue Mountains Buses

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The locations of the bus stops servicing the village are summarised in Figure 1.6.

Figure 1.6: Location of nearby Bus Stops

1.5.2 Trains

The nearest train station to the site is Emu Plains Station. The station is serviced by the T1 (Western) and Blue Mountains lines. The station is located approximately 2 kilometres or 20 to 25 minutes' walk from the site, and buses along Emerald Street and Great Western Highway also provide a connection to the Station.

Train connections provide access to Blue Mountains stations as well as the wider Sydney network.

1.6 Active Transport

1.6.1 Pedestrian Infrastructure

Pedestrian footpaths are provided along all frontages of the site and both kerbsides of Troy Street and Emerald Street. Great Western Highway in the vicinity of the site is a dedicated shared path.

Emerald Street and Troy Street provide kerb ramps for pedestrians to cross.

A signalised pedestrian crossing is available adjacent to the site on the Great Western Highway which provides access from the site to the Lennox Shopping Village.

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Pedestrian access is available to the adjacent bus stops on the Great Western Highway through the kerb ramps, footpaths and signalised crossing discussed. Covered bus shelters are provided to bus stops on both the northern and southern kerbsides.

1.6.2 Cyclist Infrastructure

The Great Western Highway to the site's frontage contains a shared path providing for off road cycling. This connects the site to Penrith and areas of the Blue Mountains.

Penrith City Council has developed the Penrith Accessible Trails Hierarchy Strategy (PATHS) to identify and prioritise infrastructure upgrades for use by cyclists, pedestrians, and other wheeled users. This plan identifies a major district shared path along the Great Western Highway within the bounds of Penrith City Council which has partially been completed.

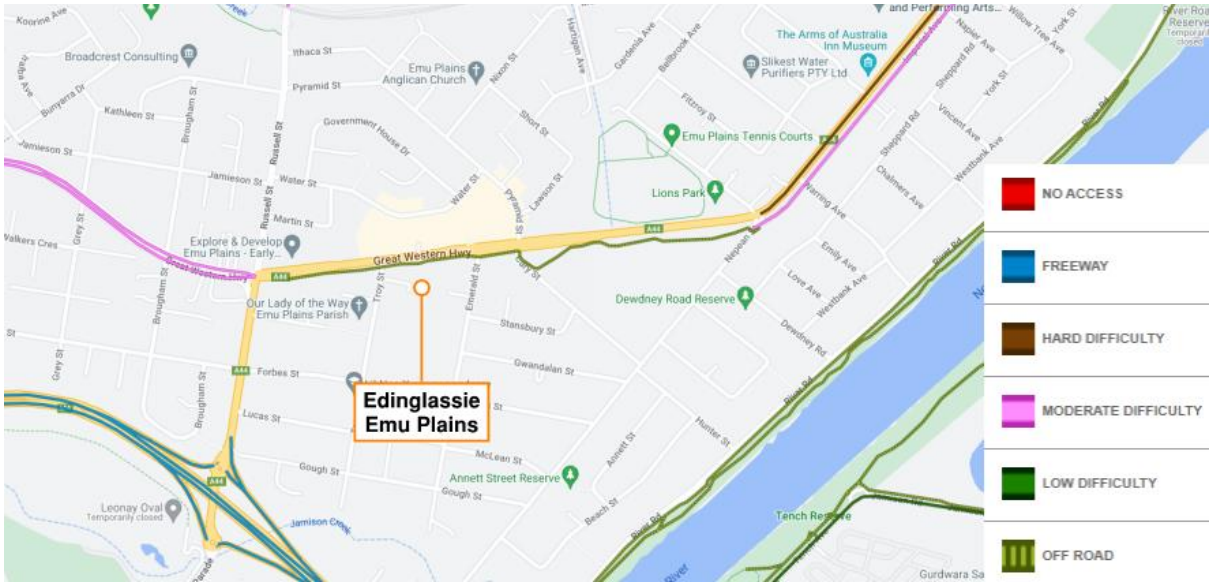

Figure 1.7: Emu Plans Cycleway Map

Source: Cycleway Finder

1.7 Network Analysis

1.7.1 Traffic Volumes

Traffic count data was collected on the 26th of July 2022 between 7am to 10am and 4pm to 7pm at the intersections of Troy Street/Great Western Highway and Emerald Street/Great Western Highway.

The subsequent peak periods were found and analysed.

AM peak period	**8:00 – 9:00**
PM peak period	**16:30 – 17:30**

1.7.2 Traffic Modelling

Traffic modelling of the existing conditions has been undertaken using SIDRA intersection modelling software to accurately determine and demonstrate the current performance of the road network near to the site. The intersections of Troy Street/Great Western Highway and Emerald Street/Great Western Highway have been modelled, with their network layouts as illustrated in Figure 1.8.

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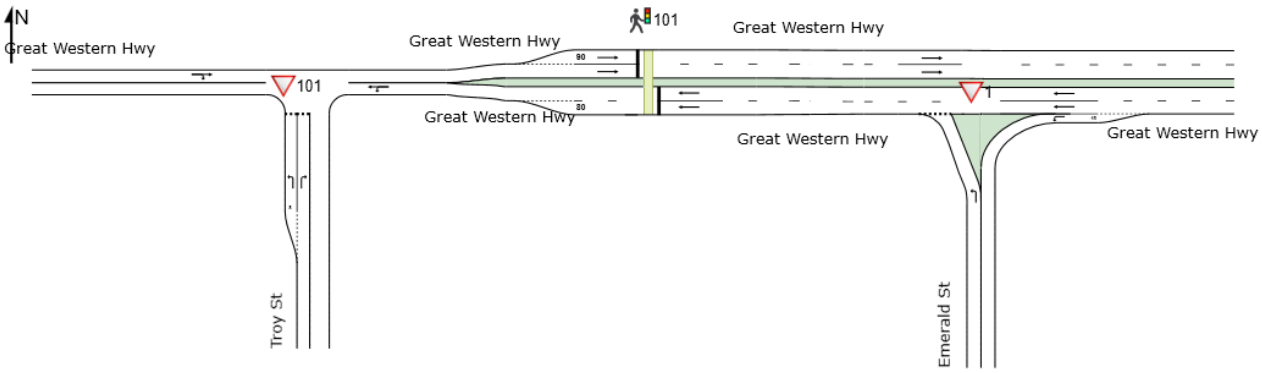

Figure 1.8: SIDRA study intersections layout

The diagram is indicative of connections only, not to scale.

Table 1.2 presents a summary of the existing operation of the key intersections, with full results presented in **Appendix A**. It should be noted that the level of service for the unsignalised intersection is based on the worst approach.

Table 1.2: Existing Traffic Modelling Results

Data for signalised intersections is intersection total
Data for unsignalised intersections is the manoeuvre with the worst delay

Intersection	Period	Degree of Saturation	Average Delay (sec)	95% Back of Queue (m)	Level of Service
Troy Street/Great Western Highway	**AM**	0.147	8.8	1.4	**A**
	PM	0.237	8.2	0.9	**A**
Pedestrian Crossing at Great Western Highway	**AM**	0.337	4.0	8.6	**A**
	PM	0.379	4.1	9.9	**A**
Emerald Street/Great Western Highway	**AM**	0.025	5.6	0.0	**A**
	PM	0.011	5.7	0.0	**A**

Full results of the SIDRA intersection modelling are provided in **Appendix A**.

As shown in Table 1.2, the study intersections operate in an acceptable range with the Level of Service A during AM and PM peak hours. The highest delay is related to the right-turn movement from Troy Street to Great Western Highway; however, it is still operating at a Level of Service A in peak hours. According to the level of service criteria provided in Table 1.3, both of the give way intersections and the pedestrian crossing have a good operation at Level of Service A and an average delay below 14 seconds per vehicle.

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Table 1.3: Level of service criteria for intersections

Level of Service	Average Delay (sec/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	**<14**	Good operation	Good operation
B	**15 to 28**	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	**29 to 42**	Satisfactory	Satisfactory, but accident study required
D	**43 to 56**	Operating near capacity	Near capacity & accident study required
E	**57 to 70**	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, required other control mode

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2.0 Proposed Works

2.1 Site Development

2.1.1 Background

Uniting is responsible for the Uniting Church's ministry for older people, particularly those who are disadvantaged, vulnerable and isolated.

Uniting operates more than 200 aged care services, with more than 14,000 clients in residential and community care programs and employs over 3,500 full time equivalent staff across NSW/ACT. Uniting is the single largest provider of aged care services in NSW and the ACT.

The Edinglassie Village site has been identified by Uniting as in need of redevelopment.

A 73-bed nursing home and a 53 bed hostel have made way for the recently constructed 100 bed residential aged care facility and carparking, whilst existing 45 independent living units (ILUs) remain.

A local heritage listed sandstone chapel is located mid-way along the Emerald Street boundary.

Nos 6 and 8 Troy Street are single storey residences located on the Western side of the site, to be incorporated into the redevelopment.

The site is relatively flat but does fall gently towards the south and west and is listed as flood affected on Council's maps, effected mainly by flood waters from the north and east.

There are several substantial and highly valued trees scattered across the site, primarily along the highway frontage.

2.1.2 Project Proposal

The existing 45 ILUs are in the south eastern and north western portions of the site and were constructed in the 1970's as villa style developments. Their design and features are out of step with contemporary demand and requiring increasing levels of maintenance to keep them to a serviceable condition. For these reasons, the proposal is to demolish and replace them with a more contemporary design and greater product mix that make greater use of the valuable site and provides Uniting an opportunity to accommodate and assist more residents in the Emu Plains area.

The proposed redevelopment will provide 147 ILUs with a unique identity and character that not only underpins all aspects of design and reflects the Uniting values, but also reflects upon Emu Plains as an established suburb in the west of Sydney.

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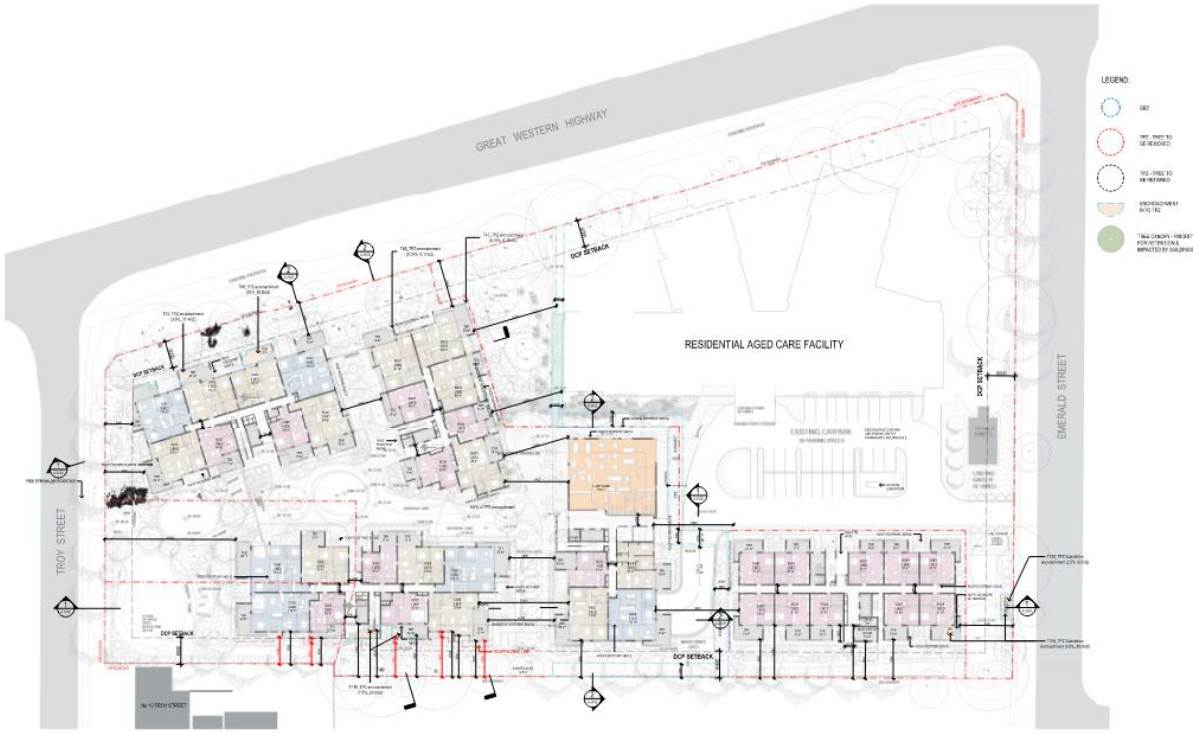

Figure 2.1: Architectural Site Plan

2.2 Site Access

Site access will be available only from Emerald Street. This access will occur through the existing driveway that was constructed as part of the Residential Aged Care Facility development.

2.3 Traffic Impact

2.3.1 Trip Generation

The RMS Guide to Traffic Generating Developments (2013 Supplement) summarises trip generation rates for housing for seniors as follows:

- Weekday daily vehicle trips 2.1 trips per dwelling
- Weekday peak hour 0.4 trips per dwelling

The current site contains 45 Independent Living Units (ILU) that are proposed to be demolished and replaced with 147 ILU apartments. As a result, there will be 102 additional ILUs on site.

At a rate of 0.4 trips per dwelling, the new development will generate 41 weekday peak hour trips and 214 total daily trips.

It should be noted that the development peak hour does not generally coincide with the network peak hour. For a conservative assessment, development traffic generation has been applied to the network peak.

2.3.2 Trip Distribution

The proposed development contains a basement carpark accessed from the existing car park on Emerald Street. Vehicles entering the site can turn both left and right from Emerald Street, and when exiting, they also have the option to turn left or right onto Emerald Street. However, for a conservative assessment, considering the proximity of the Great Western Highway, it is assumed that all vehicles associated with the site will turn right into the site and turn left onto Emerald Street when exiting.

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2.3.3 Network Analysis

Pre- and post-development SIDRA modelling was conducted of the two local intersections. Table 2.1 illustrates the Level of Service at each of the modelled intersections before and after the operation of the proposed development. Full modelling results are available in **Appendix A**.

In order to analyse the impact of the proposed works, the intersections of Great Western Highway/Troy Street and Great Western Highway/Emerald Street have been modelled with the development traffic and distribution discussed in sections 2.3.1 and 2.3.2 respectively. The results of the traffic modelling at these two intersections post development are shown in Table 2.1.

Table 2.1: Post Development Modelling Results

Intersection	Period	Degree of Saturation	Average Delay (sec)	95% Back of Queue (m)	Level of Service
Troy Street/Great Western Highway	**AM**	0.179	9.1	1.7	**A**
	PM	0.056	8.6	0.5	**A**
Pedestrian Crossing at Great Western Highway	**AM**	0.350	4.2	9.0	**A**
	PM	0.390	4.3	10.3	**A**
Emerald Street/Great Western Highway	**AM**	0.025	5.6	0.0	**A**
	PM	0.020	5.6	0.0	**A**

The post development intersection model results indicate that the additional vehicle trips generated by the development can be accommodated by the intersections near to the site with all intersections maintaining good operation of Level of Service (LoS) A.

2.4 Parking Facilities

2.4.1 Car Parking Requirements

Statutory parking requirements for the development are contained in the State Environmental Planning Policy (Housing) 2021 as follows:

Schedule 4 Clause 5 requires

If car parking (not being car parking for employees) is provided –

a) Car parking spaces must comply with the requirements for parking for persons with a disability set out in AS 2890.6, and
b) 10% of the total number of car parking spaces (or at least one space if there are fewer than 10 spaces) must be designed to enable the width of the spaces to be increased to 3.8m, and
c) Any garage must have a power-operated door, or there must be a power point and an area for motor or control rods to enable a power-operated door to be installed at a later date

Division 7 Clause 108 requires

j) For a development application made by, or made by a person jointly with, a social housing provider – at least 1 parking space for every 5 dwellings,
k) If the above does not apply at least 0.5 parking spaces for each bedroom.

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2.4.2 Parking Provision

We have been advised that Uniting is a social housing provider, as such the site requires 1 parking space for every 5 dwellings under the SEPP. The site proposes 147 independent living units and therefore requires 30 parking spaces.

These spaces are required to be accessible in accordance with AS2890.6, with 10% of spaces able to be increased to 3.8m width.

The site proposes a single basement which includes:

- 113 car spaces inclusive of 30 accessible parking spaces.
- 1 car wash bay.

Therefore, the site is in accordance with the requirements under the SEPP.

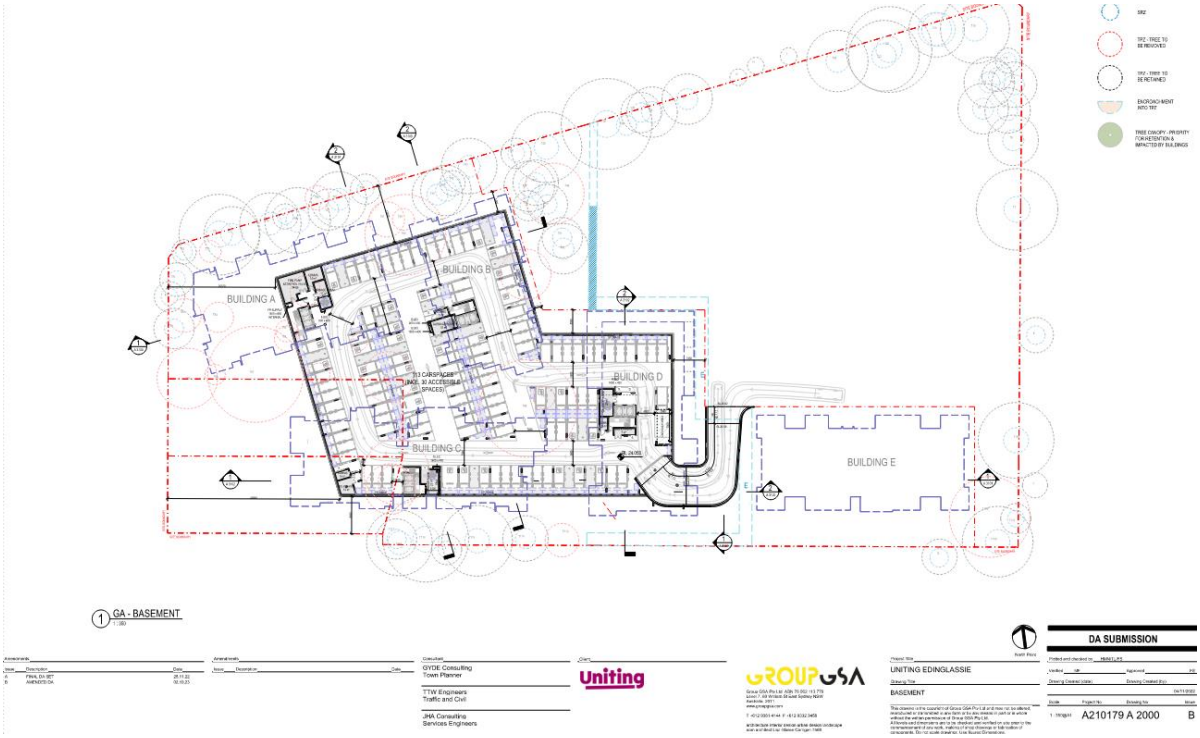

Figure 2.2: Proposed Parking Layout
Source: A2000 Rev G prepared by Group GSA dated 25/09/23

The proposed one car wash bay is considered appropriate for the following reasons:

- The development is comprised of seniors living apartments. In accordance with TfNSW's Guide to Traffic Generating Developments the trip generation of this type of development is significantly lower than a typical residential flat building. As such it is anticipated that a reduced number of car wash bays would be required that a typical residential flat building.
- The number of car parking spaces required under the SEPP is significantly lower than what would be required for a typical residential flat building which reflects that car ownership is likely to be lower and therefore demand on car washing also likely to be lower.
- Uniting has observed that residents of seniors housing developments rarely utilise car wash bays. Nevertheless, the provision of one bay on site offers flexibility for residents who might consider using it, effectively meeting the anticipated demand.

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2.4.3 Visitor Parking

Visitor parking is not required under the SEPP, however as the site is adjacent to the Residential Aged Care Facility also owned and operated by Uniting, it is anticipated that visitors will park within available visitors parking associated with the RACF.

The site is planned to function as a campus-style precinct, aligning with Uniting's experience in managing similar sites where Residential Aged Care (RAC) and Seniors Housing coexist. These two entities have distinct peak periods for visitor parking: RAC during the evening when family members visit (adhering to controlled visiting hours), and Seniors Housing during the day when residents tend to have more visitors. The proposed car park provision is designed to accommodate both demands. Additionally, it's worth noting that staff parking for the RAC is segregated from visitor spaces, preventing any clash in parking demands.

2.4.4 Compliance Review

Parking spaces have been reviewed for their compliance with AS2890.1, AS2890.2 and AS2890.6.

With one-way signage included in the detailed design the car parking layout can be made to comply with these standards.

2.5 Public Transport Facilities

Division 4 Clause 93 of the SEPP (Housing) 2021 stipulates that residents will require access to facilities and services either on site or by a transport service that:

a) Takes residents to a place that has adequate access to facilities and services, and
b) For development on land within the Greater Sydney region –
    i) Not be an on-demand booking service for the transport of passengers for a fare, and
    ii) Be available both to and from the site at least once between 8am and 12pm each day and at least once between 12pm and 6pm each day, and
c) For development on land that is not within the Greater Sydney region – be available both to and from the site during daylight hours at least once each day

These services are required to be available at a distance not more than 400m from the site and available by means of a suitable access pathway with compliant grades.

The site is both within 400m of the Lennox Shopping Village and also the bus stops available on the Great Western Highway and therefore meets this requirement.

There is no proposal to modify existing bus services or bus stops located near to the site.

2.6 Loading Facilities

Turning path analysis has been completed for a Small Rigid Vehicle waste vehicle within the basement car park. It has been confirmed by Uniting that a private waste collector is intended to service the site.

These turning paths have been attached in Appendix B showing compliance with AS2890.2 and allowance for the vehicle to enter and exit the site in a forward direction in accordance with Council's requirements.

2.7 Emergency Vehicle Access

The site access points have been reviewed for the manoeuvrability of bariatric ambulance vehicles through the site, this turning path analysis has been attached in Appendix B. These turning paths show compliance with AS2890.2 and confirm that the vehicle can enter and exit the site in a forward direction.

The turning path analysis also confirms that ambulance vehicles will continue to be able to access the RACF on site.

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2.8 Pick-up and Drop-off Facilities

While no formal pick up and drop off facilities are provided within the site, it is assumed that pick up and drop off will be able to occur informally within the internal road of the site.

2.9 Construction Traffic

The site is well located to the state road network with a frontage to the Great Western Highway. It is anticipated that construction vehicle access will occur from both Emerald Street and Troy Street to avoid impacts to tree protection zones through the centre of the site.

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3.0 Response to Council Request for Information

Penrith City Council provided a Request for Further Information on the 4th of April 2023 regarding the development, following which the design has been modified to address these concerns. The following section summarises the design response to these requests.

Parking

The parking rate under the Housing SEPP for independent living units is 1 space per 5 dwellings for a social housing provider which equates to 30 spaces. The proposal is for 117 spaces, which is a significant over supply of car spaces. The oversupply of parking will only be considered should impacts on existing trees be reduced. Impacts on the TPZ of some trees is due to the extent of basement in areas.

While Uniting is a social housing provider, there are 43 social and affordable housing units proposed as part of the development and a further 103 standard units. While it is noted that statutory requirements under the SEPP require 1 space per 5 dwellings, for marketability reasons it is considered appropriate to apply the higher rate for non-social housing provided within the SEPP (0.5 spaces per bedroom). This methodology has been applied and approved on other Uniting projects such as Hawkins Leichhardt (under Inner West Council) and Epping (under Parramatta Council).

Since the original development application, the number of parking spaces has been reduced to 113 and the basement rationalised to reduce the impact on existing trees as requested.

External Access and Manoeuvring

Swept path plans show conflicts for vehicles moving in/out of the site at the same time. Plans need to demonstrate that bidirectional access is available at all times and that appropriate clearances are satisfied. Additional swept path plans are to show that service vehicles can access the basements while a B85 vehicle is using the same space.

Since the original development application, the basement has been rationalised to provide one consolidated basement and adjustments made to the access ramp to allow for travel by a service vehicle and B85 vehicle (refer to Appendix B).

Plans are required to demonstrate separate pedestrian access from Troy Street.

Refer to the landscape architectural plans demonstrating this access.

Plans are required to demonstrate that minimum sight distances to pedestrians and vehicles remain clear of obstructions per AS 2890.1.

The Emerald Street driveway is existing and has no obstructions adjacent. Since the original development application the driveway access from Troy Street has been removed from the project.

Internal Layout and Manoeuvring

Turning path plans show conflicts between bidirectional vehicles and vehicles with parked cars/structural components. Plans are required to demonstrate that bidirectional movements are available throughout the development with appropriate clearances to parked cars and columns/walls.

Refer to comments under “External Access and Manoeuvring” and the swept path analysis in Appendix B.

Additional swept path plans are required to demonstrate vehicle access for parking spaces at the end of a blind aisle.

As the basement layout has been consolidated since the original development application, there are no blind aisles remaining in the basement.

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4.0 Conclusion

This Traffic Impact Assessment has been prepared to assess the traffic and transport impacts and design elements of the redesigned basement of the proposed redevelopment of Uniting Edinglassie Village. The overall transport strategy and findings for the proposed development are as follows:

Pedestrians

- The project includes accessible paths of travel between all buildings and connecting to the Residential Aged Care Facility.

Service and loading

- Waste collection will occur from the basement carpark, adjacent to the waste room serving each building within the site at nominated areas within the parking aisle. These manoeuvres will occur These manoeuvres will occur in accordance with waste management plan.

- The site has been reviewed for access by bariatric ambulance vehicles to ensure they can access the site in the event of an emergency. Access is available by a bariatric ambulance.

Car parking

- The proposal contains a single basement which includes:

  - 113 car spaces inclusive of 30 accessible spaces.
  - 1 car wash bay

- Parking is provided in accordance with the requirements of the SEPP Housing.

Traffic Impacts

- The additional vehicle trips generated by the development are expected to have an insignificant impact on the local road network.

- SIDRA intersection modelling indicates an acceptable level of service both before and after the development.

Prepared by	Reviewed by	Authorised By
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Appendix A – Intersection Analysis

SIDRA Intersection Modelling Analysis

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MOVEMENT SUMMARY

Site: 101 [Great Western Hwy/Troy St - AM (Site Folder: 2022)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

Reprocess the Network in this Version to see the selected Movement Class results. All results may be affected by reprocessing compared with Version 9.0 results.

Network: N101 [2022 - AM (Network Folder: 2022)]

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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Troy St															
1	L2	All MCs	76	0.0	76	0.0	0.065	4.8	LOS A	0.1	0.8	0.42	0.54	0.42	43.9
3	R2	All MCs	77	0.0	77	0.0	0.147	8.8	LOS A	0.2	1.4	0.63	0.81	0.63	33.6
Approach			153	0.0	153	0.0	0.147	6.8	LOS A	0.2	1.4	0.53	0.68	0.53	39.8
East: Great Western Hwy															
4	L2	All MCs	33	0.0	33	0.0	0.223	5.6	LOS A	0.0	0.0	0.00	0.05	0.00	57.1
5	T1	All MCs	385	1.6	385	1.6	0.223	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.3
Approach			418	1.5	418	1.5	0.223	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.1
West: Great Western Hwy															
11	T1	All MCs	472	1.6	472	1.6	0.274	0.2	LOS A	0.2	1.1	0.09	0.04	0.09	58.6
12	R2	All MCs	31	3.4	31	3.4	0.274	7.7	LOS A	0.2	1.1	0.09	0.04	0.09	57.2
Approach			502	1.7	502	1.7	0.274	0.7	NA	0.2	1.1	0.09	0.04	0.09	58.4
All Vehicles			1073	1.4	1073	1.4	0.274	1.5	NA	0.2	1.4	0.12	0.13	0.12	54.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

MOVEMENT SUMMARY

Site: 101 [Great Western Hwy/Troy St - PM (Site Folder: 2022)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

Reprocess the Network in this Version to see the selected Movement Class results. All results may be affected by reprocessing compared with Version 9.0 results.

Network: N101 [2022 - PM (Network Folder: 2022)]

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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Troy St															
1	L2	All MCs	25	0.0	25	0.0	0.023	5.0	LOS A	0.0	0.3	0.45	0.54	0.45	43.9
3	R2	All MCs	28	0.0	28	0.0	0.052	8.2	LOS A	0.1	0.5	0.59	0.77	0.59	34.0
Approach			54	0.0	54	0.0	0.052	6.7	LOS A	0.1	0.5	0.52	0.66	0.52	39.7
East: Great Western Hwy															
4	L2	All MCs	16	0.0	16	0.0	0.249	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	57.4
5	T1	All MCs	454	0.7	454	0.7	0.249	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
Approach			469	0.7	469	0.7	0.249	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.5
West: Great Western Hwy															
11	T1	All MCs	407	2.3	407	2.3	0.237	0.2	LOS A	0.1	0.9	0.08	0.03	0.08	58.8
12	R2	All MCs	22	9.5	22	9.5	0.237	8.2	LOS A	0.1	0.9	0.08	0.03	0.08	57.0
Approach			429	2.7	429	2.7	0.237	0.7	NA	0.1	0.9	0.08	0.03	0.08	58.6
All Vehicles			953	1.5	953	1.5	0.249	0.8	NA	0.1	0.9	0.07	0.06	0.07	57.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

MOVEMENT SUMMARY

Site: 101 [Great Western Hwy - Ped Crossing - AM (Site Folder: 2022)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

Reprocess the Network in this Version to see the selected Movement Class results. All results may be affected by reprocessing compared with Version 9.0 results.

Network: N101 [2022 - AM (Network Folder: 2022)]

New Site
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 20 seconds (Site Practical Cycle Time)

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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Great Western Hwy															
2	T1	All MCs	419	1.5	419	1.5	* 0.337	4.1	LOS A	1.2	8.6	0.66	0.54	0.66	16.4
Approach			419	1.5	419	1.5	0.337	4.1	LOS A	1.2	8.6	0.66	0.54	0.66	16.4
West: Great Western Hwy															
8	T1	All MCs	468	1.8	468	1.8	0.270	4.0	LOS A	0.9	6.6	0.66	0.54	0.66	45.9
Approach			468	1.8	468	1.8	0.270	4.0	LOS A	0.9	6.6	0.66	0.54	0.66	45.9
All Vehicles			887	1.7	887	1.7	0.337	4.0	LOS A	1.2	8.6	0.66	0.54	0.66	39.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Great Western Hwy											
P1	Full	53	4.9	LOS A	0.0	0.0	0.70	0.70	172.0	217.2	1.26
All Pedestrians		53	4.9	LOS A	0.0	0.0	0.70	0.70	172.0	217.2	1.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Great Western Hwy - Ped Crossing - PM (Site Folder: 2022)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

Reprocess the Network in this Version to see the selected Movement Class results. All results may be affected by reprocessing compared with Version 9.0 results.

Network: N101 [2022 - PM (Network Folder: 2022)]

New Site
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 20 seconds (Site Practical Cycle Time)

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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East: Great Western Hwy															
2	T1	All MCs	474	0.7	474	0.7	* 0.379	4.2	LOS A	1.4	9.9	0.68	0.56	0.68	16.2
Approach			474	0.7	474	0.7	0.379	4.2	LOS A	1.4	9.9	0.68	0.56	0.68	16.2
West: Great Western Hwy															
8	T1	All MCs	333	2.8	333	2.8	0.193	3.8	LOS A	0.6	4.6	0.63	0.51	0.63	46.4
Approach			333	2.8	333	2.8	0.193	3.8	LOS A	0.6	4.6	0.63	0.51	0.63	46.4
All Vehicles			806	1.6	806	1.6	0.379	4.1	LOS A	1.4	9.9	0.66	0.54	0.66	36.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Eff. Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Great Western Hwy											
P1	Full	53	4.9	LOS A	0.0	0.0	0.70	0.70	172.0	217.2	1.26
All Pedestrians		53	4.9	LOS A	0.0	0.0	0.70	0.70	172.0	217.2	1.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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MOVEMENT SUMMARY

Site: 1 [Great Western Hwy/Emerald St - AM (Site Folder: 2022)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

Reprocess the Network in this Version to see the selected Movement Class results. All results may be affected by reprocessing compared with Version 9.0 results.

Network: N101 [2022 - AM (Network Folder: 2022)]

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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Emerald St															
1	L2	All MCs	61	0.0	61	0.0	0.054	3.9	LOS A	0.1	0.5	0.27	0.45	0.27	36.6
Approach			61	0.0	61	0.0	0.054	3.9	LOS A	0.1	0.5	0.27	0.45	0.27	36.6
East: Great Western Hwy															
2	L2	All MCs	44	0.0	44	0.0	0.025	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
3	T1	All MCs	358	1.8	358	1.8	0.094	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			402	1.6	402	1.6	0.094	0.6	NA	0.0	0.0	0.00	0.06	0.00	58.9
West: Great Western Hwy															
4	T1	All MCs	468	1.8	468	1.8	0.122	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			468	1.8	468	1.8	0.122	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles			932	1.6	932	1.6	0.122	0.5	NA	0.1	0.5	0.02	0.05	0.02	57.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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.

MOVEMENT SUMMARY

Site: 1 [Great Western Hwy/Emerald St - PM (Site Folder: 2022)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

Reprocess the Network in this Version to see the selected Movement Class results. All results may be affected by reprocessing compared with Version 9.0 results.

Network: N101 [2022 - PM (Network Folder: 2022)]

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	Aver. Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Emerald St															
1	L2	All MCs	28	0.0	28	0.0	0.027	5.4	LOS A	0.0	0.3	0.31	0.52	0.31	43.2
Approach			28	0.0	28	0.0	0.027	5.4	LOS A	0.0	0.3	0.31	0.52	0.31	43.2
East: Great Western Hwy															
2	L2	All MCs	19	5.6	19	5.6	0.011	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
3	T1	All MCs	445	0.7	445	0.7	0.123	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach			464	0.9	464	0.9	0.123	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
West: Great Western Hwy															
4	T1	All MCs	333	2.8	333	2.8	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach			333	2.8	333	2.8	0.087	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles			825	1.7	825	1.7	0.123	0.3	NA	0.0	0.3	0.01	0.03	0.01	58.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Override Site Data 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 [Great Western Hwy/Troy St - AM - Copy (Site Folder: 2022)]

Network: N101 [2022 - AM - TEST (Network Folder: 2022)]

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

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Troy St														
1	L2	76	0.0	76	0.0	0.068	5.0	LOS A	0.1	0.8	0.45	0.56	0.45	43.9
3	R2	77	0.0	77	0.0	0.154	9.1	LOS A	0.2	1.4	0.65	0.82	0.65	33.4
Approach		153	0.0	153	0.0	0.154	7.1	LOS A	0.2	1.4	0.55	0.69	0.55	39.7
East: Great Western Hwy														
4	L2	33	0.0	33	0.0	0.246	5.6	LOS A	0.0	0.0	0.00	0.04	0.00	57.1
5	T1	428	1.5	428	1.5	0.246	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	59.3
Approach		461	1.4	461	1.4	0.246	0.4	NA	0.0	0.0	0.00	0.04	0.00	59.2
West: Great Western Hwy														
11	T1	472	1.6	472	1.6	0.276	0.3	LOS A	0.2	1.2	0.10	0.04	0.10	58.5
12	R2	31	3.4	31	3.4	0.276	8.1	LOS A	0.2	1.2	0.10	0.04	0.10	57.2
Approach		502	1.7	502	1.7	0.276	0.7	NA	0.2	1.2	0.10	0.04	0.10	58.4
All Vehicles		1116	1.3	1116	1.3	0.276	1.5	NA	0.2	1.4	0.12	0.13	0.12	54.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Great Western Hwy/Troy St - PM (Site Folder: 2022)]

Network: N101 [2022 - PM - TEST (Network Folder: 2022)]

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

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Troy St														
1	L2	25	0.0	25	0.0	0.023	5.0	LOS A	0.0	0.3	0.45	0.54	0.45	43.9
3	R2	28	0.0	28	0.0	0.052	8.1	LOS A	0.1	0.5	0.59	0.77	0.59	34.0
Approach		54	0.0	54	0.0	0.052	6.7	LOS A	0.1	0.5	0.52	0.66	0.52	39.7
East: Great Western Hwy														
4	L2	16	0.0	16	0.0	0.249	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	57.4
5	T1	454	0.7	454	0.7	0.249	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.6
Approach		469	0.7	469	0.7	0.249	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.5
West: Great Western Hwy														
11	T1	407	2.3	407	2.3	0.237	0.2	LOS A	0.1	0.9	0.08	0.03	0.08	58.8
12	R2	22	9.5	22	9.5	0.237	8.2	LOS A	0.1	0.9	0.08	0.03	0.08	57.0
Approach		429	2.7	429	2.7	0.237	0.7	NA	0.1	0.9	0.08	0.03	0.08	58.6
All Vehicles		953	1.5	953	1.5	0.249	0.8	NA	0.1	0.9	0.07	0.06	0.07	57.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Great Western Hwy/Emerald St - AM - Copy (Site Folder: 2022)]

Network: N101 [2022 - AM - TEST (Network Folder: 2022)]

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

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Emerald St														
1	L2	104	0.0	104	0.0	0.093	3.9	LOS A	0.1	1.0	0.29	0.46	0.29	36.5
Approach		104	0.0	104	0.0	0.093	3.9	LOS A	0.1	1.0	0.29	0.46	0.29	36.5
East: Great Western Hwy														
2	L2	44	0.0	44	0.0	0.025	5.6	LOS A	0.0	0.0	0.00	0.53	0.00	54.9
3	T1	358	1.8	358	1.8	0.099	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		402	1.6	402	1.6	0.099	0.6	NA	0.0	0.0	0.00	0.06	0.00	58.9
West: Great Western Hwy														
4	T1	468	1.8	468	1.8	0.122	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		468	1.8	468	1.8	0.122	0.0	NA	0.0	0.0	0.00	0.00	0.00	59.9
All Vehicles		975	1.5	975	1.5	0.122	0.7	NA	0.1	1.0	0.03	0.07	0.03	55.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Great Western Hwy/Emerald St - PM (Site Folder: 2022)]

Network: N101 [2022 - PM - TEST (Network Folder: 2022)]

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

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Emerald St														
1	L2	72	0.0	72	0.0	0.068	5.5	LOS A	0.1	0.7	0.33	0.54	0.33	43.1
Approach		72	0.0	72	0.0	0.068	5.5	LOS A	0.1	0.7	0.33	0.54	0.33	43.1
East: Great Western Hwy														
2	L2	19	5.6	19	5.6	0.011	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	54.7
3	T1	445	0.7	445	0.7	0.130	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		464	0.9	464	0.9	0.130	0.3	NA	0.0	0.0	0.00	0.02	0.00	59.5
West: Great Western Hwy														
4	T1	333	2.8	333	2.8	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		333	2.8	333	2.8	0.087	0.0	NA	0.0	0.0	0.00	0.00	0.00	60.0
All Vehicles		868	1.6	868	1.6	0.130	0.6	NA	0.1	0.7	0.03	0.06	0.03	57.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Great Western Hwy - Ped Crossing - AM - Copy (Site Folder: 2022)]

Network: N101 [2022 - AM - TEST (Network Folder: 2022)]

New Site
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 20 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Great Western Hwy														
2	T1	462	1.4	462	1.4	* 0.372	4.2	LOS A	1.4	9.7	0.68	0.56	0.68	16.2
Approach		462	1.4	462	1.4	0.372	4.2	LOS A	1.4	9.7	0.68	0.56	0.68	16.2
West: Great Western Hwy														
8	T1	468	1.8	468	1.8	0.270	4.0	LOS A	0.9	6.6	0.66	0.54	0.66	45.9
Approach		468	1.8	468	1.8	0.270	4.0	LOS A	0.9	6.6	0.66	0.54	0.66	45.9
All Vehicles		931	1.6	931	1.6	0.372	4.1	LOS A	1.4	9.7	0.67	0.55	0.67	38.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Great Western Hwy											
P1	Full	53	4.9	LOS A	0.0	0.0	0.70	0.70	172.0	217.2	1.26
All Pedestrians		53	4.9	LOS A	0.0	0.0	0.70	0.70	172.0	217.2	1.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: 101 [Great Western Hwy - Ped Crossing - PM (Site Folder: 2022)]

Network: N101 [2022 - PM - TEST (Network Folder: 2022)]

New Site
Site Category: (None)
Pedestrian Crossing (Signalised) - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 20 seconds (Site Practical Cycle Time)

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Great Western Hwy														
2	T1	517	0.6	517	0.6	* 0.414	4.3	LOS A	1.6	11.0	0.69	0.57	0.69	16.0
Approach		517	0.6	517	0.6	0.414	4.3	LOS A	1.6	11.0	0.69	0.57	0.69	16.0
West: Great Western Hwy														
8	T1	333	2.8	333	2.8	0.193	3.8	LOS A	0.6	4.6	0.63	0.51	0.63	46.4
Approach		333	2.8	333	2.8	0.193	3.8	LOS A	0.6	4.6	0.63	0.51	0.63	46.4
All Vehicles		849	1.5	849	1.5	0.414	4.1	LOS A	1.6	11.0	0.67	0.55	0.67	35.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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 (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
East: Great Western Hwy											
P1	Full	53	4.9	LOS A	0.0	0.0	0.70	0.70	172.0	217.2	1.26
All Pedestrians		53	4.9	LOS A	0.0	0.0	0.70	0.70	172.0	217.2	1.26

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Appendix B – Swept Paths

Vehicle Swept Path Analysis

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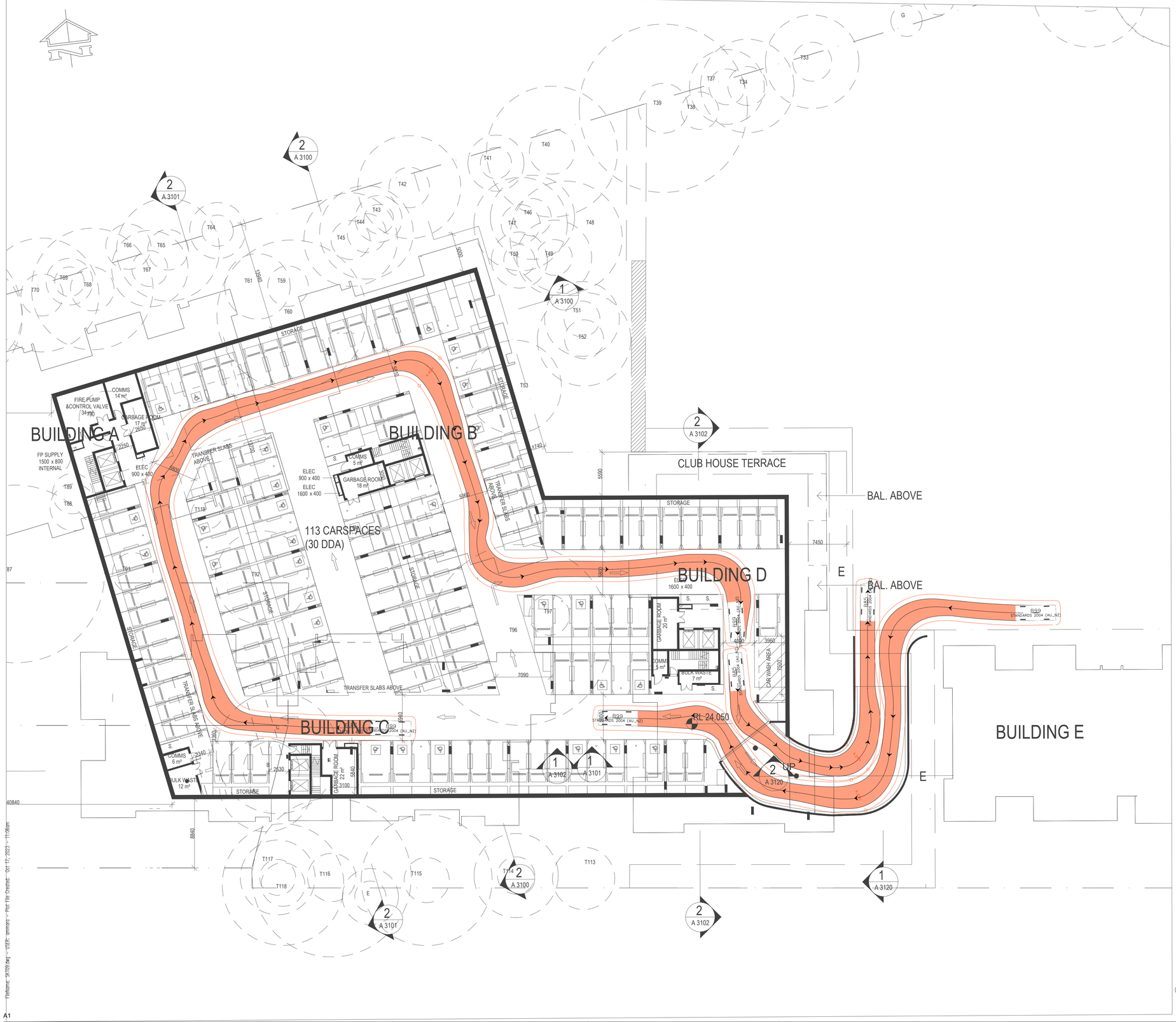

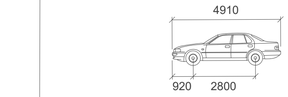

B85

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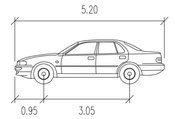
Steering Angle	:	34.1

VEHICLE PROFILE
B85



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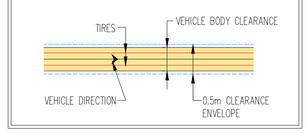
VEHICLE PROFILE
B99

SWEPT PATH LEGEND:



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A1

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P5	DEVELOPMENT APPLICATION	GC	AA	03.10.23
P4	DEVELOPMENT APPLICATION	GC	AA	25.09.23
P3	DEVELOPMENT APPLICATION	GC	AA	18.09.23
P2	DEVELOPMENT APPLICATION	GC	AA	15.09.23
P1	DEVELOPMENT APPLICATION	GC	AA	14.09.23

Rev Description Eng Draft Date | Rev Description Eng Draft Date | Rev Description Eng Draft Date

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Project
UNITING EDINGLASSIE EMU PLAINS

Sheet Subject
BUILDINGS A-C
BASEMENT
B99 + B85

Scale : A1	Drawn	Authorised
1:400	AA	GC

Job No	Drawing No	Revision
211568	SKT09	P6

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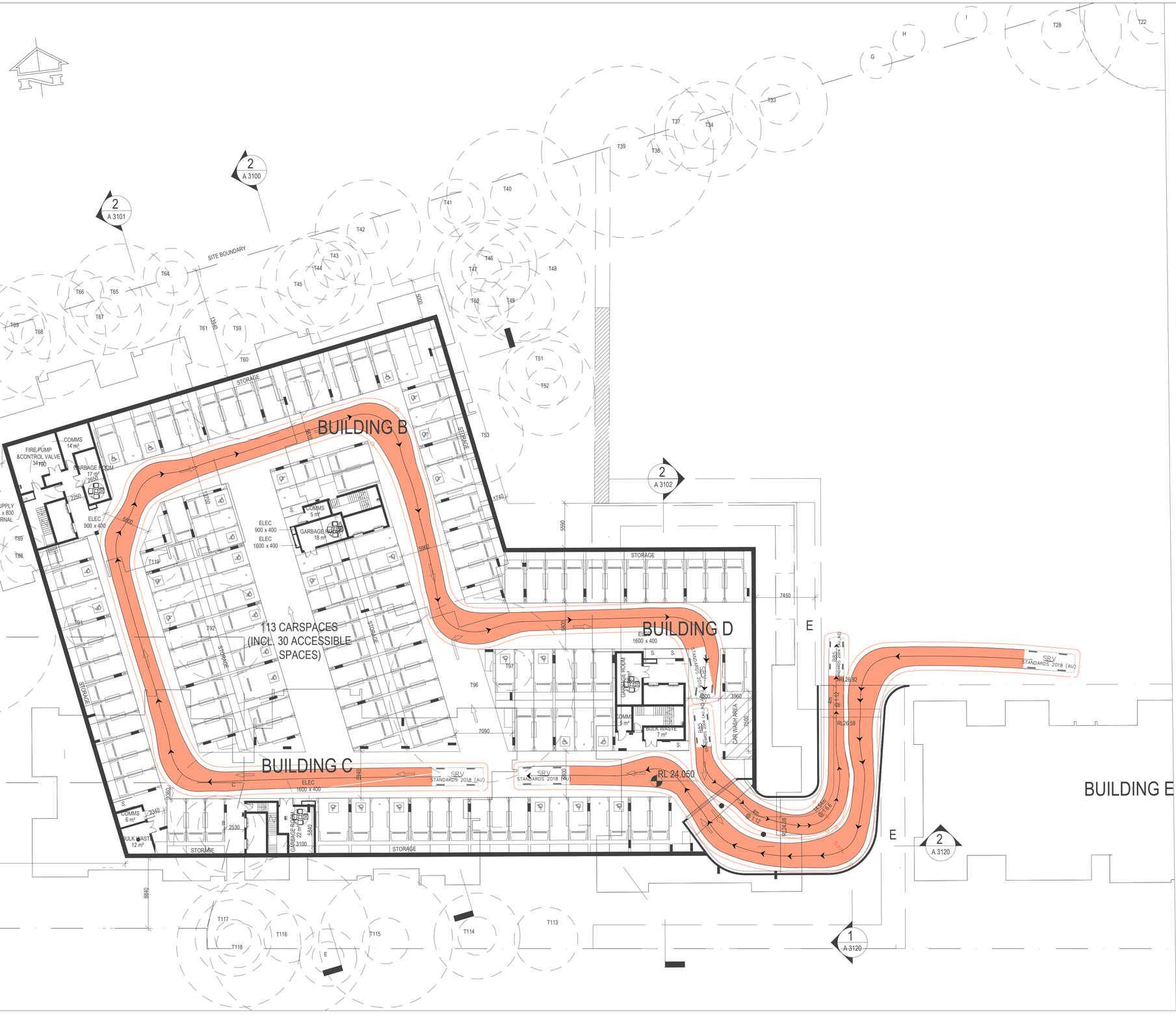

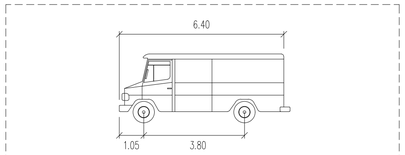

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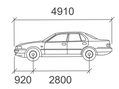
Steering Angle	: 38.1

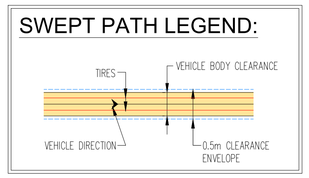
VEHICLE PROFILE
SRV

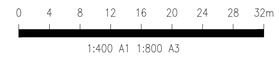


B85

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

VEHICLE PROFILE
B85





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A1

Rev	Description	Eng	Draft	Date
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P5	DEVELOPMENT APPLICATION	GC	AA	18.09.23
P4	DEVELOPMENT APPLICATION	GC	AA	14.09.23
P3	DEVELOPMENT APPLICATION	GC	GC	09.08.23
P2	DEVELOPMENT APPLICATION	GC	GC	4.11.22
P1	DEVELOPMENT APPLICATION	GC	GC	2.11.22

Rev Description Eng Draft Date | Rev Description Eng Draft Date

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Project
UNITING EDINGLASSIE EMU PLAINS

Sheet Subject
BUILDINGS A-C
BASEMENT
B85 + SRV

Scale : A1	Drawn	Authorised
1:400	AA	GC

Job No	Drawing No	Revision
211568	SKT08	P6

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