Hemanote Consultants

7-9 BANKSIA ROAD, GREENACRE

PROPOSED CHILDCARE CENTRE DEVELOPMENT

TRAFFIC & PARKING
IMPACT ASSESSMENT

NOVEMBER 2024

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TRAFFIC & PARKING IMPACT ASSESSMENT

7-9 BANKSIA ROAD, GREENACRE

PROPOSED CHILDCARE CENTRE

DATE: 04 NOVEMBER 2024

DISCLAIMER

Doc. Revision	Prepared by	Reviewed by	Issued by	Issue date
Draft 1 (internally)	S. Payet	R. Selim	S. Payet	02 Oct 2024
Draft 2 (internally)	S. Payet	R. Selim	S. Payet	17 Oct 2024
Final report (to client)	S. Payet	R. Selim	R. Selim	18 Oct 2024
Final report (to client)	S. Payet	R. Selim	R. Selim	04 Nov 2024

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1 INTRODUCTION

This report has been prepared by Hemanote Consultants to assess the traffic and parking implications of the proposed childcare centre to be located at **7-9 Banksia Road, Greenacre**, accommodating up to 100 children places between the ages of 0 to 5 years old.

This report is to be read in conjunction with the architectural plans prepared by Lockhart-Krause Architects (reduced copy of the plans – Revision 'A' and dated 28/10/2024 - is attached in *Appendix 'A'* of this report) and submitted to City of Canterbury-Bankstown Council as part of a Development Application.

This report is set as follows:

- *Section 2:* Description of the existing site location and its use;
- *Section 3:* Description of existing traffic conditions near the subject site;
- *Section 4:* Description of the proposal, vehicular access, on-site parking provision, layout and circulation;
- *Section 5:* Assessment of impacts on parking;
- *Section 6:* Assessment of impacts on traffic in the vicinity of the subject site; and
- *Section 7:* Outlines conclusions.

2 EXISTING SITE DESCRIPTION

➢ ***Site Location***

The subject site is located on the northern side of Banksia Road at properties No. 7-9 (legally known as Lot A of DP365724 and Lot A of DP419336), within the suburb of Greenacre. The site has a frontage of approximately 29.6 metres to Banksia Road from the south. Refer to Figure 1 for a site locality map.

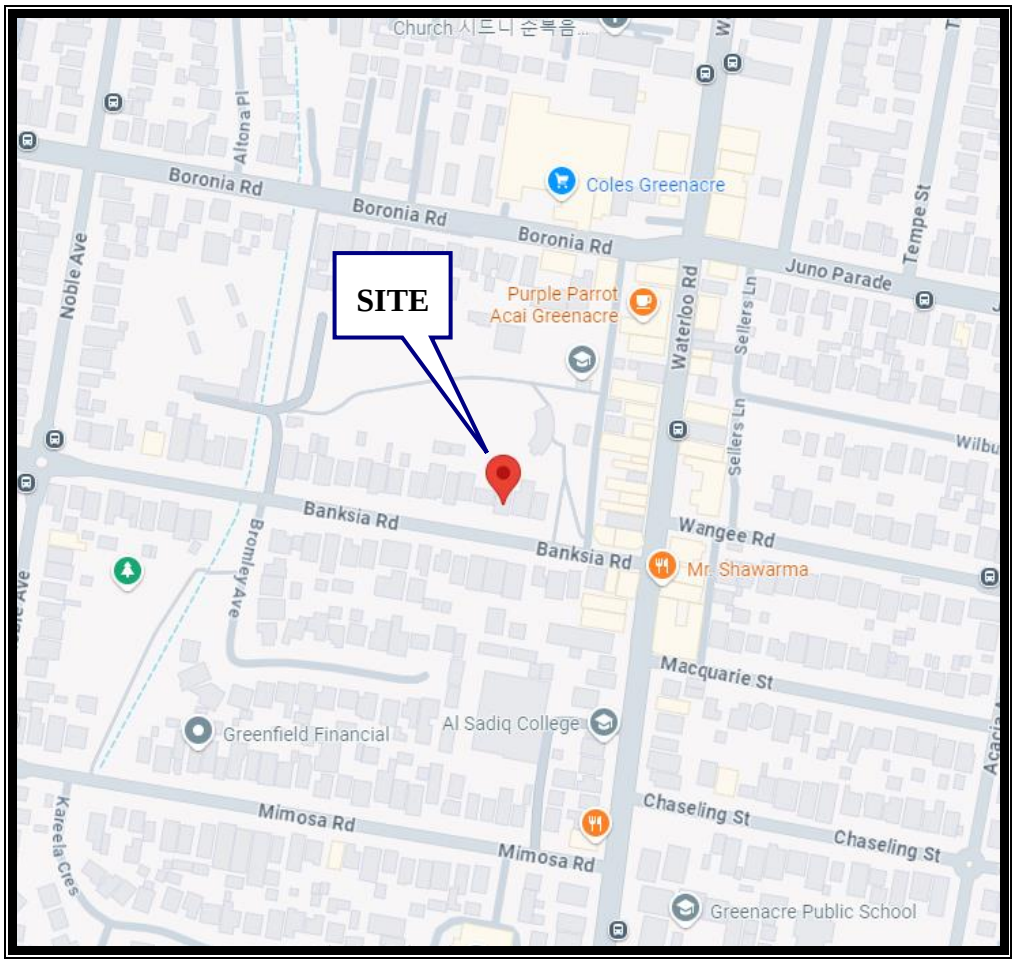


Figure 1: Site Locality Map

- ***Existing Site & Surrounding Land Use***

The subject site has an area of 1,363.4m^2 and is currently occupied by two residential dwellings. It is located in a mixed residential and commercial area, characterised by residential developments, as well as nearby retail and commercial sites.

The site is also located approximately 2.1 km from Punchbowl Railway Station, 2.3 km from Wiley Park Railway Station and 2.8 km from Lakemba Railway Station.

Photo 1: Site frontage to Banksia Road

3 EXISTING TRAFFIC CONDITIONS

3.1 Road Network and Classification

Banksia Road is a local road that runs in an east to west direction between Waterloo Road (regional road) to the east and Stacey Street (state road) to the west. Banksia Road intersects with a number of local roads near the subject site, including Community Place, Bromley Avenue and Noble Avenue.

3.2 Road Description and Traffic Control

Banksia Road has a two-way divided carriageway, with a width between kerbs of approximately 12 metres. This carriageway generally provides one travel lane per direction, with parking available along both sides of the road. At present, unrestricted parking is generally permitted along both sides Banksia Road, including the frontage of the subject site. Parking closer to the intersection with Waterloo Road is restricted to signposted '1-Hour Parking 8:30am – 6:00pm Mon – Fri and 8:30am – 12:30pm Sat', as well as 'No Stopping' and 'No Parking' on the northern side, near the intersection with Community Place.

The legal speed limit on Banksia Road is at 50km/h, with signposted '40km/h High Pedestrian Activity' near the intersection with Waterloo Road. Banksia Road intersects with Community Place and Bromley Avenue, which are both controlled by 'T-priority' traffic measures, given to traffic travelling along Banksia Road.

Figure 2: Aerial photograph of the subject site and surrounding road network

Photo 2: Banksia Road at the subject site – facing east

Photo 3: Banksia Road at the subject site – facing west

3.3 Current Traffic Flows

A traffic volume survey was undertaken by Hemanote Consultants at the following intersections of:

- Banksia Road / Waterloo Road
- Banksia Road / Noble Avenue

in the vicinity of the subject site on Thursday 19 September 2024, during morning period (7.00am to 10.00am) and afternoon period (3.00pm to 6.00pm), considering the childcare centre proposed hours of operation and traffic peak periods.

The traffic flows in the morning & afternoon peak hours are shown in Tables 1 and 2 below.

Traffic movement	Morning Peak Hour (Vehicles Per Hour)	Evening Peak Hour (Vehicles Per Hour)
	8.00am – 9.00am	3.15pm – 4.15pm
Waterloo Road (North of Banksia Road)		
Northbound	368	396
Southbound	232	293
Waterloo Road (South of Banksia Road)		
Northbound	294	326
Southbound	226	283
Banksia Road		
Eastbound	95	128
Westbound	27	68

Table 1: Current traffic flows in the vicinity of the subject site (on a typical weekday)

Traffic movement	Morning Peak Hour (Vehicles Per Hour)	Evening Peak Hour (Vehicles Per Hour)
	8.00am – 9.00am	3.15pm – 4.15pm
Noble Avenue (North of Banksia Road)		
Northbound	309	495
Southbound	392	589
Noble Avenue (South of Banksia Road)		
Northbound	296	527
Southbound	349	509
Banksia Road (East of Noble Avenue)		
Eastbound	84	136
Westbound	35	61
Banksia Road (West of Noble Avenue)		
Eastbound	51	50
Westbound	32	87

Table 2: Current traffic flows in the vicinity of the subject site (on a typical weekday)

The results of the traffic volume counts undertaken determined that the traffic morning peak period on Banksia Road / Waterloo Road and Banksia Road / Noble Avenue were between 8.00am to 9.00am and the afternoon peak period was between 3.15pm to 4.15pm on a typical weekday.

The existing traffic flows on Banksia Road, Noble Avenue and Waterloo Road are appropriate for two local roads and a regional road, respectively, in a mixed residential and commercial area, where traffic is free flowing without major queuing or delays near the subject site in peak hours, with spare capacity.

It is determined that the existing mid-block level of service on Banksia Road is at level 'A' in accordance with Table 4.4 of the Roads & Maritime Services' *"Guide to Traffic Generating Developments - 2002"* (on the following page).

The existing mid-block level of service on Waterloo Road and Noble Avenue ranges between levels 'A' and 'B'.

Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

Table 4.4: Urban road peak hour flows per direction RMS Guide)

- ***Current Intersection Performance (pre-development)***

Average Vehicle Delay (AVD) and Level of Service (LOS) – The AVD and LOS provide a measure of the operational performance of an intersection, as indicated in Table 4.2 of the Roads & Maritime Services "*Guide to Traffic Generating Developments - 2002*" (shown below).

Level of Service	Average Delay per Vehicle (secs/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, requires other control mode

Table 4.2: Level of Service Criteria for intersections (RMS Guide)

A **pre-development** SIDRA intersection performance analysis was undertaken for the existing intersections of Banksia Road / Waterloo Road and Banksia Road / Noble Avenue, in the vicinity of the subject site (Pre-development).

Refer to Figure 3 on the following page, showing the intersections network layout controlled by T-priority traffic measures at Banksia Road / Waterloo Road and a roundabout at Banksia Road / Noble Avenue. Banksia Road, Noble Avenue and Waterloo Road have undivided carriageways, with one through traffic lane in each direction.

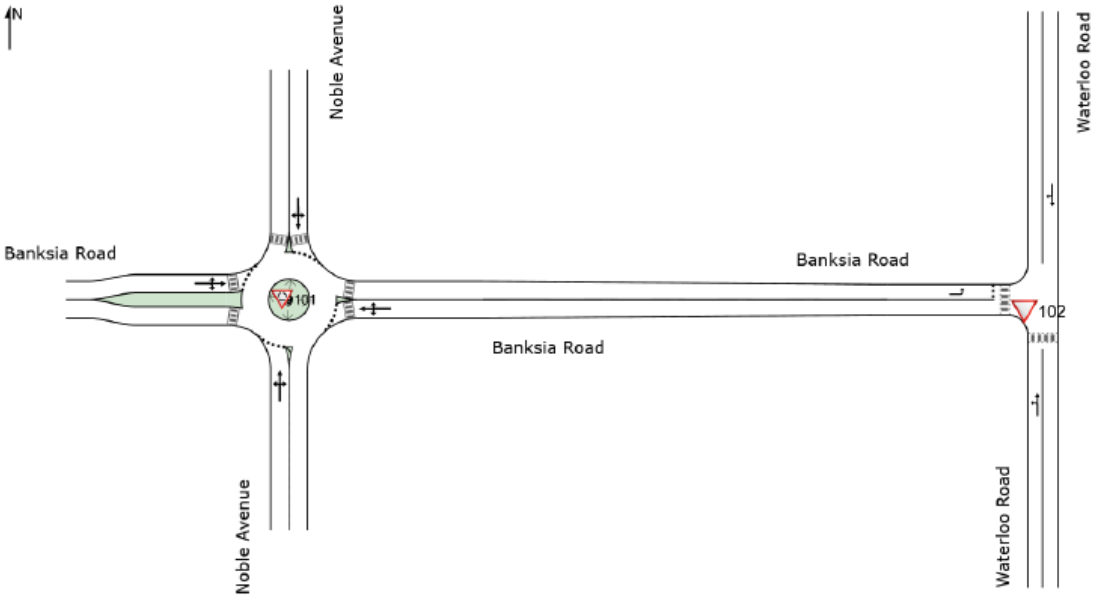


Figure 3: Existing Intersection Network Layout

The **pre-development** SIDRA performance analysis determined that the current operational performance of the existing intersections of Banksia Road / Waterloo Road and Banksia Road / Noble Avenue are in good operation at a Level of Service (LOS) 'A' during AM and PM peak periods.

Refer to the summary of the results of the SIDRA intersection performance analysis attached in *Appendix 'C'* of this report.

3.4 Existing Transportation Services

The subject site has good access to public transport services in the form of trains and buses. The site is located approximately 2.1 km from Punchbowl Railway Station, 2.3 km from Wiley Park Railway Station and 2.8 km from Lakemba Railway Station.

Frequent bus services operate along Waterloo Road, Noble Avenue, Boronia Road, Juno Parade, Wangee Road, Greenacre Road, Hillcrest Avenue, Chiswick Road, Rawson Road, Highview Avenue, Wattle Street, Acacia Avenue, Maiden Street, Shellcote Road, Carrisbrook Avenue and Cardigan Road, in close proximity to the subject site (i.e. bus routes M90, S14, 913, 914, 939, 940, 941 and 946).

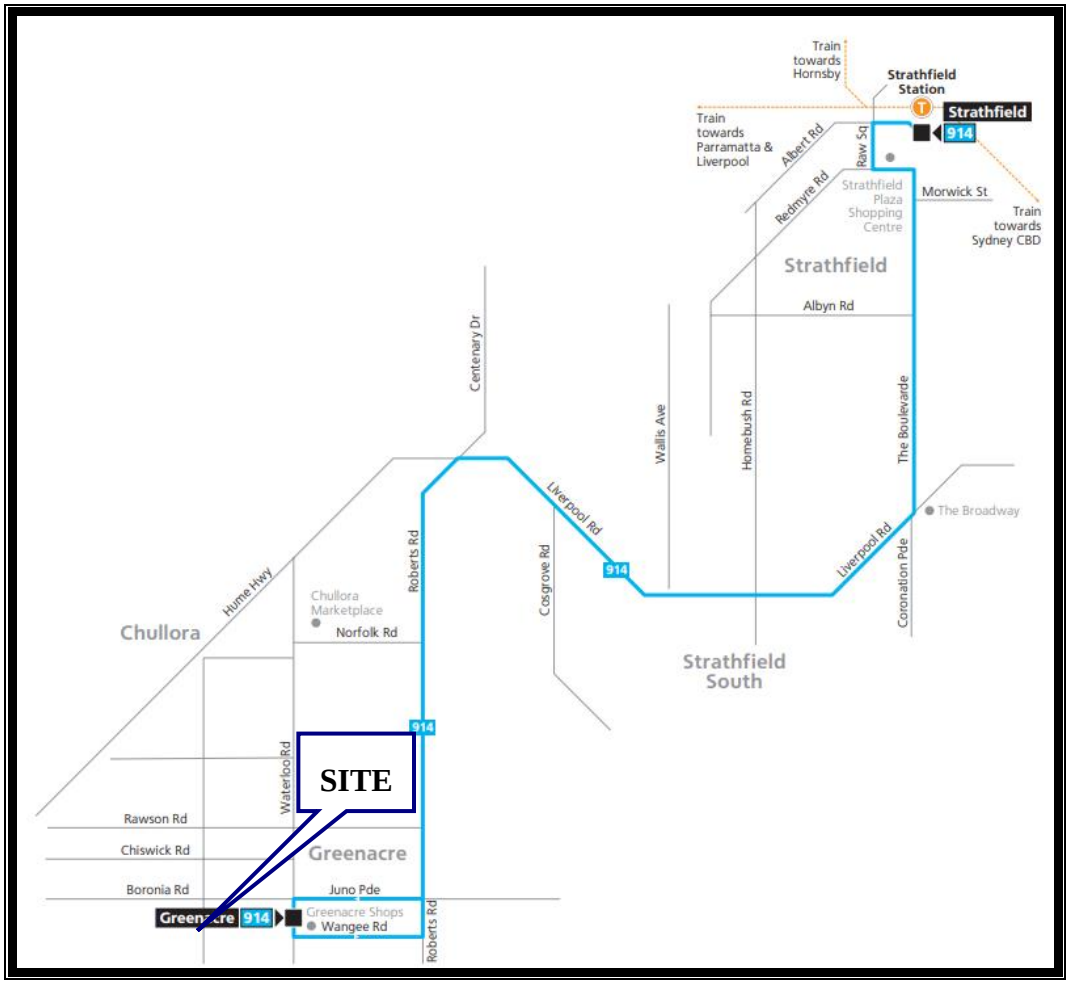


Figure 4: Bus services near the subject site (Bus no. 914)

4 PROPOSED DEVELOPMENT

4.1 Description of the proposal

The proposed development application seeks approval for the demolition of the existing residential dwellings located at **7-9 Banksia Road, Greenacre**, and the construction of a childcare centre, accommodating up to 100 children places, with basement parking.

The proposed development will include the following:

- Childcare centre accommodating up to one-hundred (100) children:
    - 20 children places between the ages of 0 to 2 years old (5 staff members);
    - 50 children places between the ages of 2 to 3 years old (10 staff members);
    - 30 children places between the ages of 3 to 6 years old (3 staff members).
- A total of twenty-five (25) on-site car parking, with 10 car spaces allocated for staff parking and 15 visitor car parking spaces for the drop-off and pick-up of children (including 1 accessible parking space & an adjacent shared area), in addition to five (5) bicycle storage spaces, in basement level.
- There will be a maximum of eighteen (18) full-time educators/staff members on-site at any given time. The proposed hours of operation of the centre will be from 7.00am to 6.00pm on weekdays only.

Refer to ***Appendix 'A'*** for the proposed development plans.

4.2 Vehicular & Pedestrian Access

The vehicular access to and from the off-street parking facilities will be via a new access driveway crossing to be located in Banksia Road. The access driveway is to have a width of 7 metres, which is adequate for a low volume (Category 1) access driveway in accordance with AS2890.1:2004 – Table 3.2.

The access driveway is to provide two-way vehicular movements, where two vehicles can pass each other at the same time without causing delays or congestion to traffic on the street. The proposed access driveway is located more than 6 metres from the tangent point of the adjacent kerbline, in accordance with Figure 3.1 of AS2890.1:2004.

Vehicular access is to be located and constructed in accordance with the requirements of AS2890.1:2004, where vehicles enter and exit the site in a forward direction at all times.

The existing vehicular crossings located in Banksia Road are to be removed and replaced with new kerb, gutter and footpath, to be constructed to Council specifications.

The clear sight line triangle (2.5m x 2m) between the driver's eye view and pedestrians is provided on the exit side of the driveway, as per Figure 3.3 of AS2890.1:2004.

A separate pedestrian access gate is also provided at the front of the site to segregate pedestrians and vehicles and improve safety within the site.

4.3 On-site Parking Provision

Canterbury-Bankstown Development Control Plan 2023, Chapter 3, Section 2, requires on-site parking for childcare centres to be provided at a minimum rate of:

- 1 car space per 4 children.
- 1 bicycle space per 4 staff.

Refer to Table 3 below for the required and proposed parking provision for the subject development site:

Age Group	**0-2 years**	**2-3 years**	**3-5 years**	**Total**
Number of children	20	50	30	100
Staff to Children Ratio	1 to 4	1 to 5	1 to 10	-
Number of Staff	5	10	3	18
On-site car parking required (25 car spaces)				**25**
On-site car parking proposed (10 spaces for staff & 15 spaces for parents/visitors)				**25**
Compliance with on-site car parking				**Yes**

Table 3: On-site parking requirement and provision

The proposed childcare centre for 100 children places and 18 staff members, would therefore require a minimum of 25 on-site car parking spaces and 5 bicycle storage spaces.

The proposed development provides twenty-five (25) on-site car parking, with 10 car spaces allocated for staff parking and 15 visitor car parking spaces for the drop-off and pick-up of children (including 1 accessible parking space & an adjacent shared area), in addition to five (5) bicycle storage spaces, in basement level.

Therefore, the proposed on-site parking provision is adequate for the proposed development and in compliance with Council's parking requirements.

4.4 On-site Parking Layout and Circulation

The layout of the on-site car parking area and manoeuvring arrangements has been designed to enhance vehicular and pedestrian access, where vehicles enter and exit the site in a forward direction, through the provision of adequate internal aisle width and turning space.

AS2890.1:2004 Parking facilities Part 1: Off-street car parking requires a minimum parking space width of 2.4 meters (for User Class 1A staff parking) and 2.6 metres (for User Class 3 short-term visitor parking) and a minimum length of 5.4 meters. The proposed off-street car spaces have a minimum width of 2.4 metres for staff and a minimum width of 2.6 metres for visitors and a length of 5.4 meters each, which is adequate.

The accessible car parking space has a width of 2.4 metres, in addition to an adjacent 2.4 metres wide shared area, which is adequate in accordance with AS2890.6:2009 (and the updated AS2890.6:2022).

Car parking spaces adjacent to walls or obstructions have been made wider than the minimum width, to accommodate full door opening in accordance with Clause 2.4.2(d) of AS2890.1:2004.

Clause 2.4.2 of AS2890.1:2004 requires a minimum aisle width of 5.8 metres for two-way aisles, adjacent to 90^{o} angle parking. The proposed aisles have a minimum width of 6.3 metres, which is adequate for two-way traffic and manoeuvring into and out of parking spaces.

Adequate space is provided throughout the basement level**,** which allows vehicles to undertake a 3-point turn and exit in a forward direction, if all other car parking spaces are occupied, as demonstrated in the vehicle swept paths diagrams attached in *Appendix 'B'* of this report.

The ramp to the basement level has a minimum clear width of 5.5 metres, in addition to a 300mm kerb on either side and has a maximum grade of 1:20 (5%) for the first 6 metres within the site. It has a maximum grade of 1:4 (25%) with a change of grade of 1:8 (12.5%) over the 2 metres at either end of the ramp, which is adequate.

A minimum 2.2 metres headroom clearance is to be provided from the car park basement level to the underside of all services conduits and suspended stormwater pipelines, in accordance with Clause 5.3.1 of AS2890.1:2004. A “Maximum Headroom Clearance 2.2m” sign is to be erected at the entrance to the basement level and is to be clearly visible to all drivers.

A minimum 2.5 meters headroom clearance is to be provided above the accessible parking space and its adjacent shared zone in accordance with Clause 2.4 of AS2890.6:2009 (and the updated AS2890.6:2022).

A traffic convex mirror is to be installed at the bottom of the ramp (as shown on the basement plan), to provide drivers with further assistance with viewing oncoming traffic, as an additional safety and traffic management measure.

A dedicated pedestrian path has also been provided within the carpark, to provide a defined pedestrian path to the centre’s access point. It is recommended that the on-site parking area be signposted with a speed limit of 10 km/h, to reduce speed environment, raise awareness of the presence of pedestrians and children and increase safety for all users of the carpark.

All vehicular manoeuvring within the site has been designed and checked using the B99 and B85 standard design vehicle turning paths from AS2890.1:2004 and Austroads. Refer to the vehicle swept paths diagrams attached in *Appendix ‘B’* of this report.

Therefore, the car parking layout and vehicular circulation are adequate in accordance with AS2890.1:2004 and AS2890.6:2009 (and the updated AS2890.6:2022), where vehicles are to enter and exit the site in a forward direction at all times.

4.5 Waste Collection & Deliveries

All waste storage is to take place within the dedicated garbage storage area located in basement level. Waste Bins will be transported to the street kerbside in Banksia Road for collection on waste collection day.

5 ON-STREET PARKING PROVISION

5.1 Existing Parking Controls

The subject site is located in a mixed residential and commercial area, where unrestricted parking is generally permitted along both sides Banksia Road, including the frontage of the subject site. Parking closer to the intersection with Waterloo Road is restricted to signposted '1-Hour Parking 8:30am – 6:00pm Mon – Fri and 8:30am – 12:30pm Sat', as well as 'No Stopping' and 'No Parking' on the northern side, near the intersection with Community Place.

5.2 Impacts of Proposed Development on Parking

The parking demand resulting from the proposed childcare centre development can be accommodated within the proposed adequate and compliant on-site car and bicycle parking spaces for staff and visitors, in addition to on-street parking. The subject site has good access to existing public transport in the form of train and bus services.

Therefore, the proposed development will not have adverse impacts on parking in the surrounding area.

6 EXTERNAL TRAFFIC IMPACT

6.1 Estimated Future Traffic Generation

An indication of the potential traffic generation of the proposed development is provided by the *RMS Guide to Traffic Generating Development - 2002*.

The Guide specifies the following traffic generation rates for long-day care centres:

- 0.8 peak period vehicle trips per child between 7.00am and 9.00am; and
- 0.7 peak period vehicle trips per child between 4.00pm and 6.00pm.

Therefore, the proposed development with a total of 100 children places has a total estimated traffic generation as follows:

- **80** morning peak period vehicle trips (**40 in and 40 out trips**); and
- **70** afternoon peak period vehicle trips (**35 in and 35 out trips**).

6.2 Projected Intersection Performance (post-development)

Average Vehicle Delay (AVD) and Level of Service (LOS) – The AVD and LOS provides a measure of the operational performance of an intersection, as indicated in Table 4.2 of the Roads & Maritime Services "*Guide to Traffic Generating Developments - 2002*" (shown below).

Level of Service	Average Delay per Vehicle (secs/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, requires other control mode

Table 4.2: Level of Service Criteria for intersections (RMS Guide)

A **post-development** SIDRA intersection performance modelling analysis was undertaken for the intersections of Banksia Road / Waterloo Road and Banksia Road / Noble Avenue, in the vicinity of the subject site, and it was modelled as the proposed network layout as shown in Figure 5 below.

Refer to the summary of the results of the SIDRA intersection performance analysis (undertaken for pre & post development, including the 10-year future growth) attached in *Appendix 'C'* of this report.

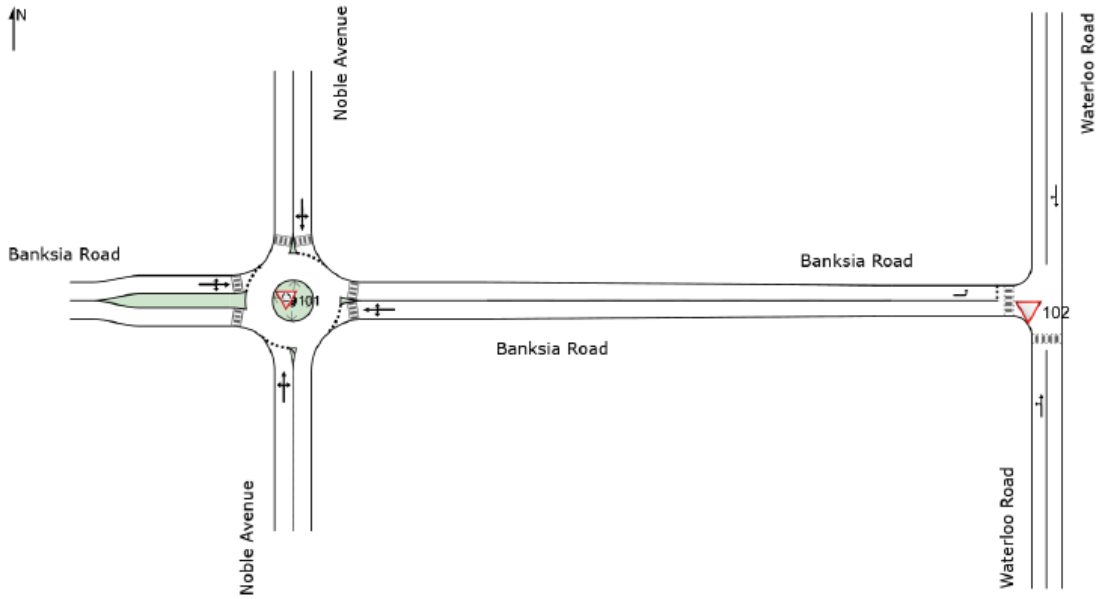


Figure 5: Intersection Network Layout

The following assumptions have been considered and adopted in the SIDRA Network Intersection modelling for the post-development conditions considering that the main access to and from the subject site is through Banksia Road:

- Morning and afternoon peak traffic generation from *RMS Guide to Traffic Generating Developments* has been used, as outlined in Section 6.1 of this report.
- AM & PM Traffic generated by the development was equally adopted for inbound and outbound traffic.

- The traffic volume split from the development at the **subject-modelled intersections** was assigned based on the current traffic conditions, existing traffic network restrictions, and observed drivers' behaviour.
- The traffic volume split from the development at the **proposed driveway** for the subject development was assigned as shown in Figures 6 and 7, based on the existing traffic volume pattern approaching and departing Banksia Road and existing 'No Right Turn' restrictions at the intersection of Banksia Road / Waterloo Road and to avoid this busier intersection.
- Pre-development network analysis is modelled for the base year (2024) and 10 years of future growth (2034) in surrounding traffic. The annual traffic growth rate for the 10-year future period was based on the SIDRA intersection analysis software, which allows for future analysis of surrounding traffic by applying a uniform growth rate of 2% for each year over the 10-year period.
- Post-development network analysis is modelled for when the Childcare Centre development is in operation and after 10 years of future growth in surrounding traffic.

These assumptions will result in the development trip distribution shown in Figures 6 and 7 for relevant traffic movement and modelled intersection.

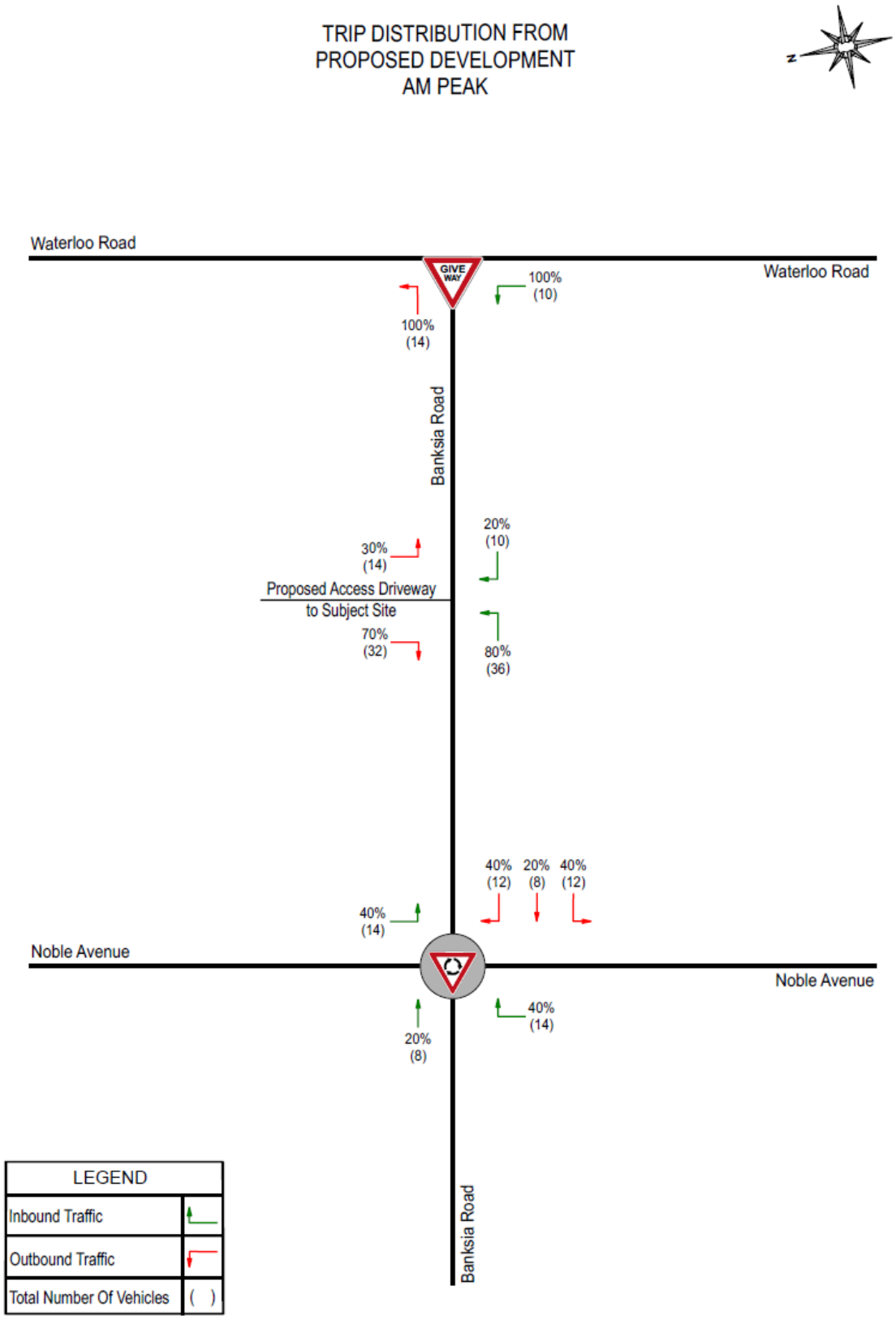


Figure 6: Development Traffic Distribution on the Surrounding Road Network – **AM Peak**

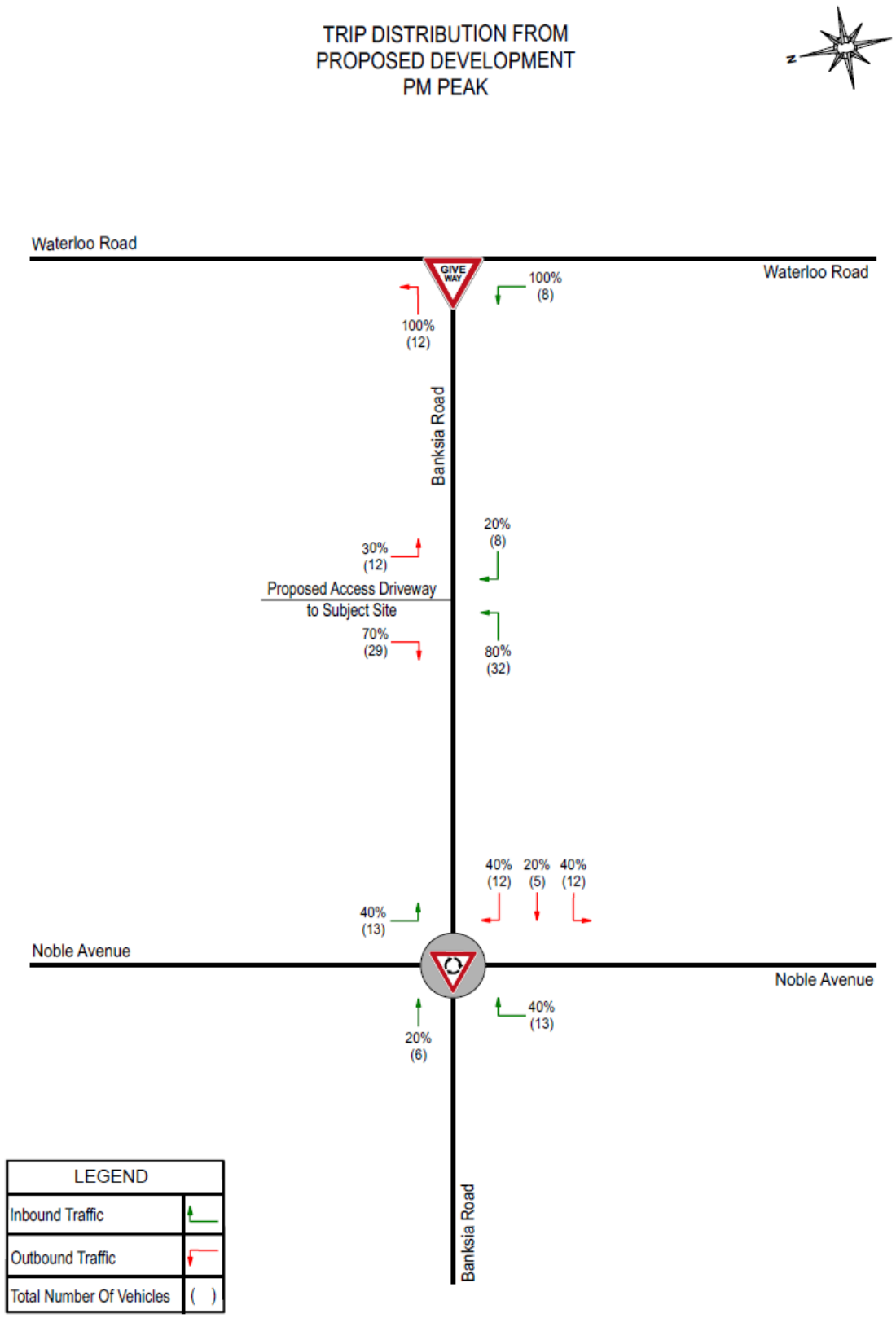


Figure 7: Development Traffic Distribution on the Surrounding Road Network – **PM Peak**

The outcome of the SIDRA modelling

A summary of the results of the SIDRA intersection performance analysis has been provided in Tables 4 to 7 below, as well as the SIDRA Movement Summary Tables attached in *Appendix 'C'* of this report.

Modelled Peak	Average LOS	Average Delay (sec)	DOS (Veh/C)
Base Year 2024 – Pre-Development	A	1.2	0.162
Base Year 2024 – Post Development	A	1.4	0.168
Future Year 2034 – Pre-Development	A	1.3	0.195
Future Year 2034 – Post Development	A	1.4	0.202

Table 4: Network SIDRA Modelling – Banksia Rd / Waterloo Rd – 8.00am – 9.00am

Modelled Peak	Average LOS	Average Delay (sec)	DOS (Veh/C)
Base Year 2024 – Pre-Development	A	1.5	0.181
Base Year 2024 – Post Development	A	1.7	0.186
Future Year 2034 – Pre-Development	A	1.6	0.217
Future Year 2034 – Post Development	A	1.7	0.223

Table 5: Network SIDRA Modelling – Banksia Rd / Waterloo Rd – 3.15pm – 4.15pm

Modelled Peak	Average LOS	Average Delay (sec)	DOS (Veh/C)
Base Year 2024 – Pre-Development	A	4.3	0.307
Base Year 2024 – Post Development	A	4.7	0.336
Future Year 2034 – Pre-Development	A	4.4	0.372
Future Year 2034 – Post Development	A	4.8	0.409

Table 6: Network SIDRA Modelling – Banksia Rd / Noble Ave – 8.00am – 9.00am

Modelled Peak	Average LOS	Average Delay (sec)	DOS (Veh/C)
Base Year 2024 – Pre-Development	A	4.8	0.489
Base Year 2024 – Post Development	A	5.1	0.518
Future Year 2034 – Pre-Development	A	5.1	0.598
Future Year 2034 – Post Development	A	5.6	0.636

Table 7: Network SIDRA Modelling – Banksia Rd / Noble Ave – 3.15pm – 4.15pm

It can be concluded from the results of the SIDRA modelling that:

For the base year (2024), the proposed childcare centre (**post-development**) will not alter the current LOS (pre-development) at the subject intersections as outlined earlier in Section 3.3 of this report and will continue to operate at its current levels of service during weekday AM and PM peak periods.

The future 10-year (**without development**) analysis indicates the subject intersections of Banksia Road / Waterloo Road and Banksia Road / Noble Avenue will continue to operate at the current levels of service, during weekday AM & PM peak periods.

For the future year (2034), the proposed childcare centre (**with development**) will not alter the future LOS at the subject intersections and will continue to operate at the predicted future levels of service.

Therefore, the estimated traffic generation from the proposed development is of low impact on existing flows on Banksia Road and surrounding streets and will not have adverse impacts on the current operational performance of the subject existing intersections, which will continue to operate at the same levels of service.

7 CONCLUSION

It can be concluded from the traffic and parking impact assessment that the proposed childcare centre development at **7-9 Banksia Road, Greenacre** will not have adverse impacts on existing traffic or parking conditions and is worthy of Council's support in its current form.

- The current traffic flows on Banksia Road, Noble Avenue and Waterloo Road are appropriate for two local roads and a regional road, respectively, in a mixed residential and commercial area, where there are no major queuing or delays in traffic near the subject site in peak hours, with spare capacity.

- The estimated traffic generation from the proposed development is of low impact on existing flows on Banksia Road and surrounding streets and will not have adverse impacts on the current operational performance of the subject existing intersections, which will continue to operate at the same levels of service. The traffic generated by the proposed childcare centre development can be readily accommodated within the existing road network.

- The potential increase in the number of vehicle movements in and about Banksia Road and adjacent streets will not have adverse impacts on the amenity of the area.

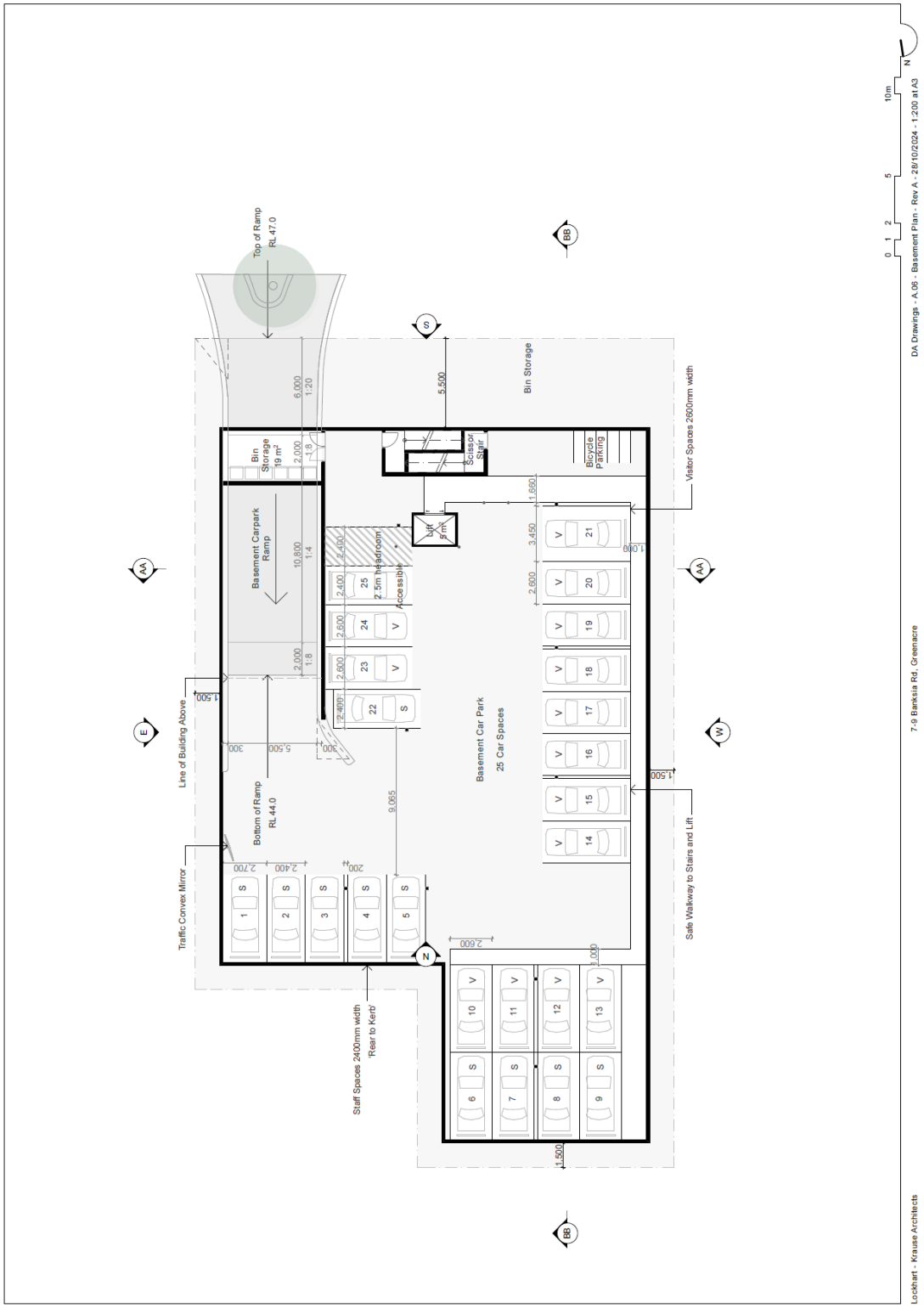
- The parking demand resulting from the proposed childcare centre can be easily accommodated within the proposed adequate and compliant on-site car and bicycle parking for both staff and visitors/parents, which is in compliance Council's parking requirements.

- The on-site vehicular access, car parking layout and vehicular circulation is adequate for the proposed development and in accordance with AS2890.1:2004 and AS2890.6:2009 (and the updated AS2890.6:2022), where vehicles are to enter and exit the site in a forward direction at all times.

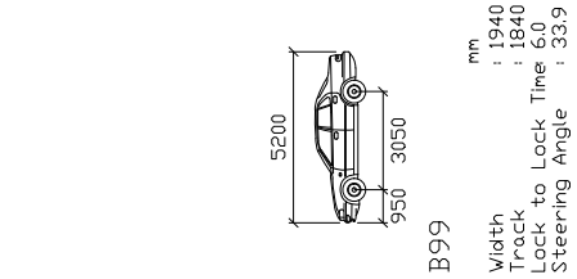
- The subject site has good access to existing public transport services.

- The proposed development will not have adverse impact on parking in the surrounding area.

Appendix 'A' – Proposed Development Plans


Top of Ramp RL 47.0
Bin Storage
Bin Storage 19 m²
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
Basement Carpark Ramp
2.5m Headroom Accessible
Basement Car Park 25 Car Spaces
Line of Building Above
Bottom of Ramp RL 44.0
Traffic Convex Mirror
Safe Walkway to Stairs and Lift
Staff Spaces 2400mm width Rear to Kerb
DA Drawings - A.06 - Basement Plan - Rev A - 29/10/2024 - 1:200 at A3
7-9 Banksia Rd, Greenacre
Lockhart - Krause Architects

Appendix 'B' – Vehicle Swept Paths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mm
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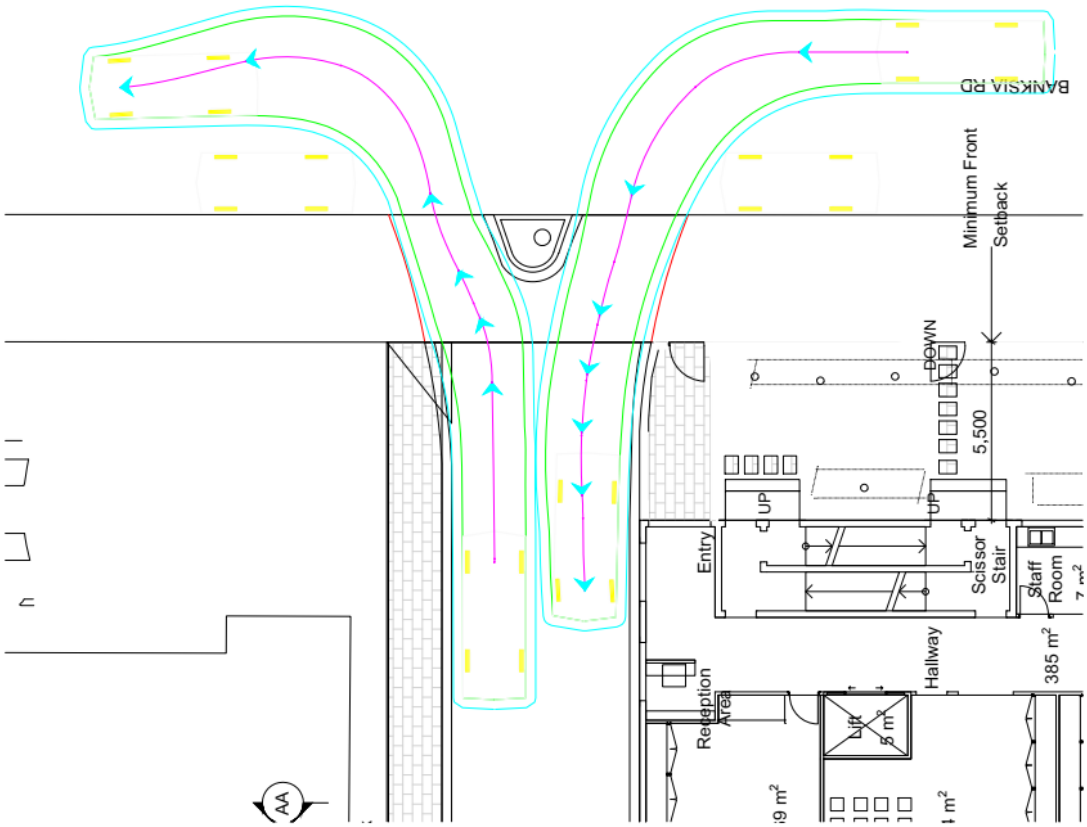
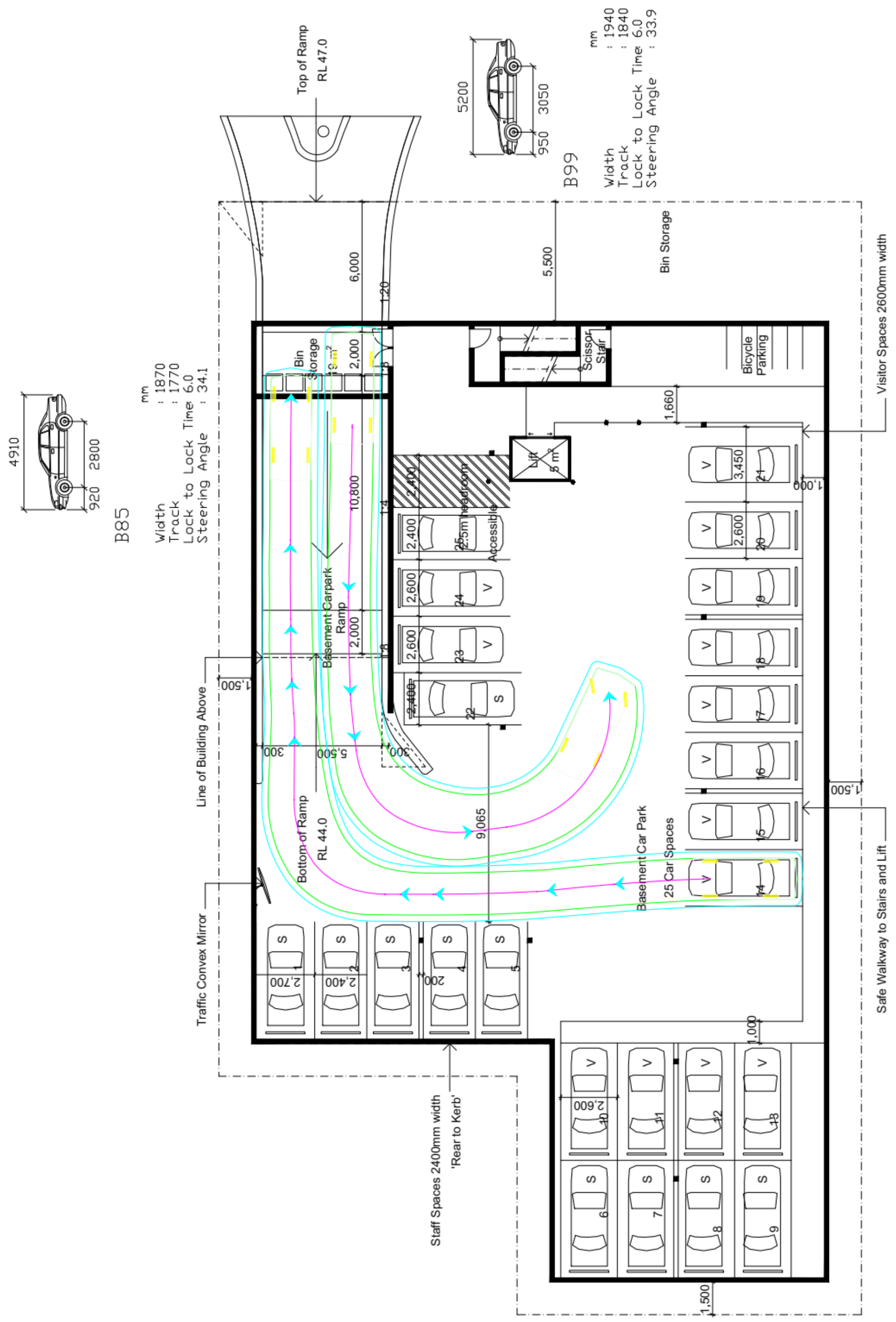
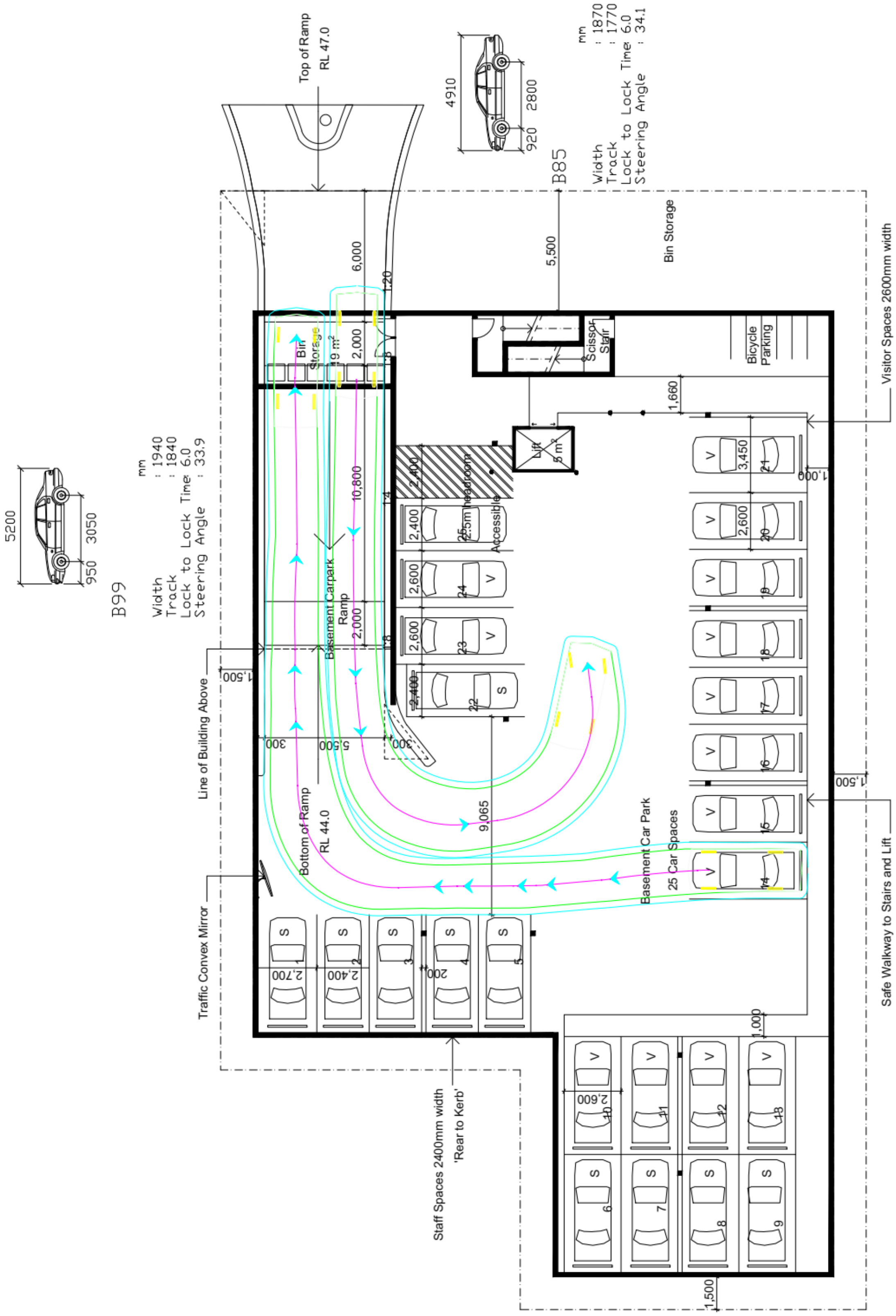
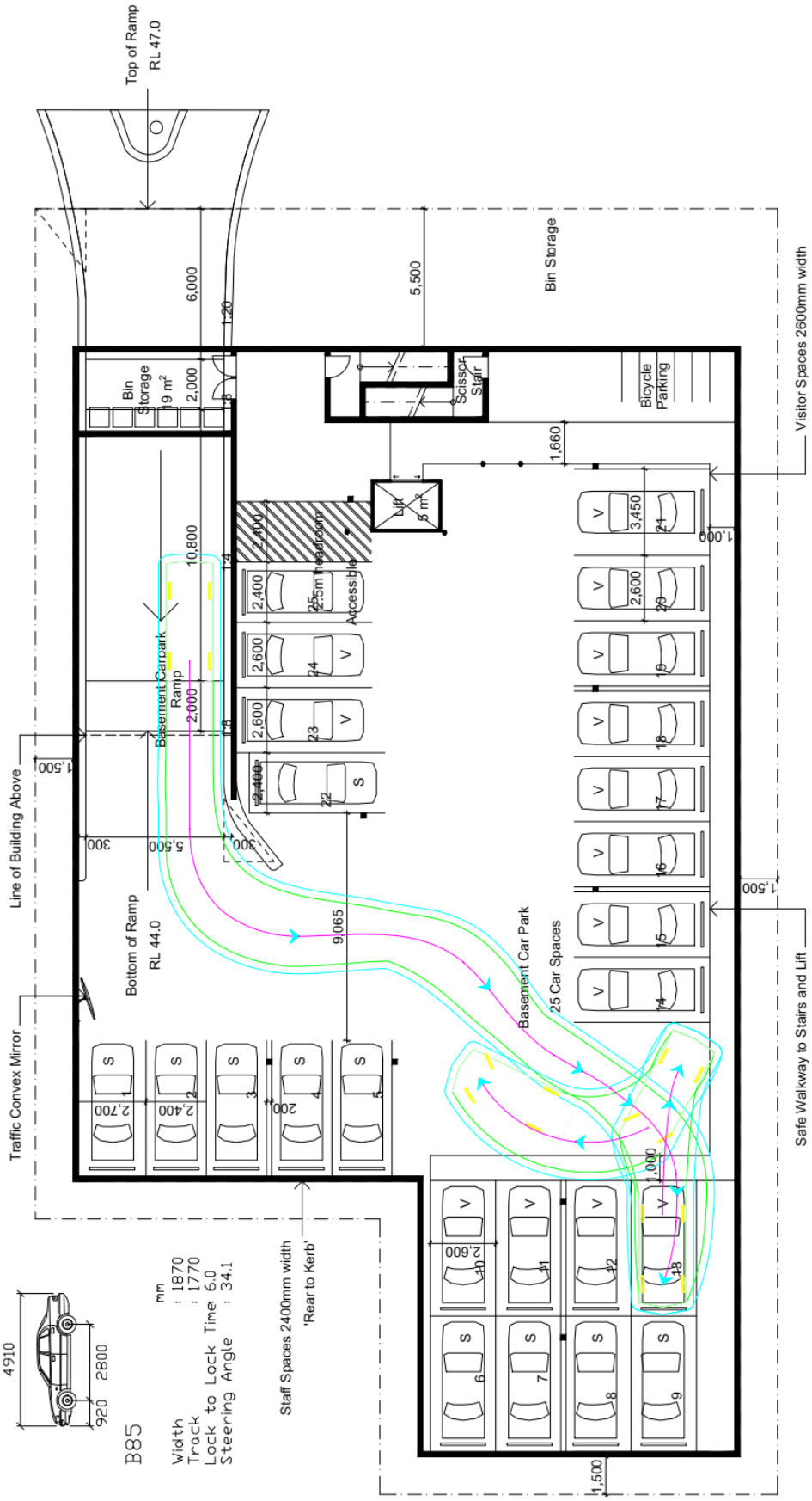
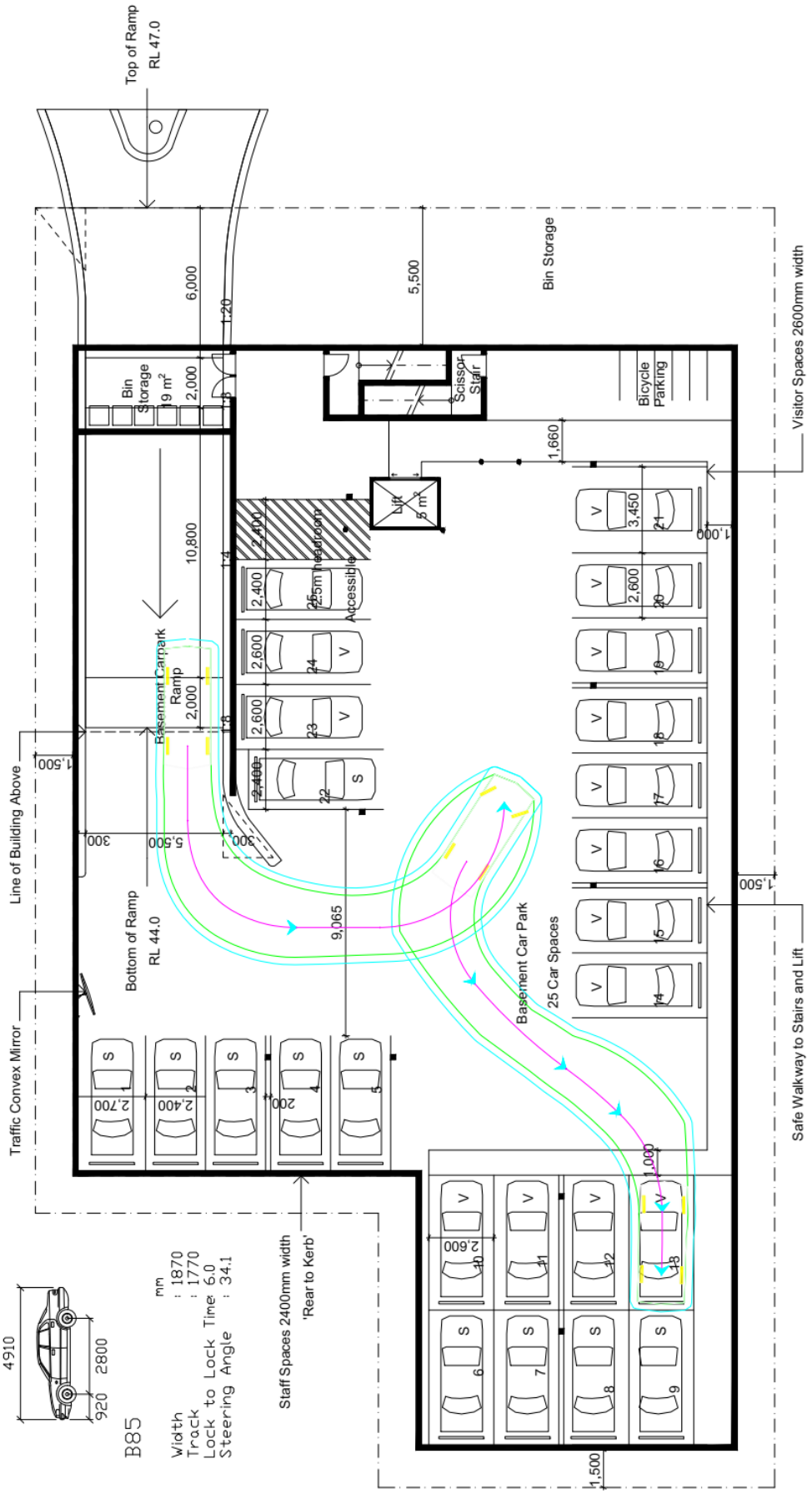
Lock to Lock Time: 6.0
Steering Angle : 33.9

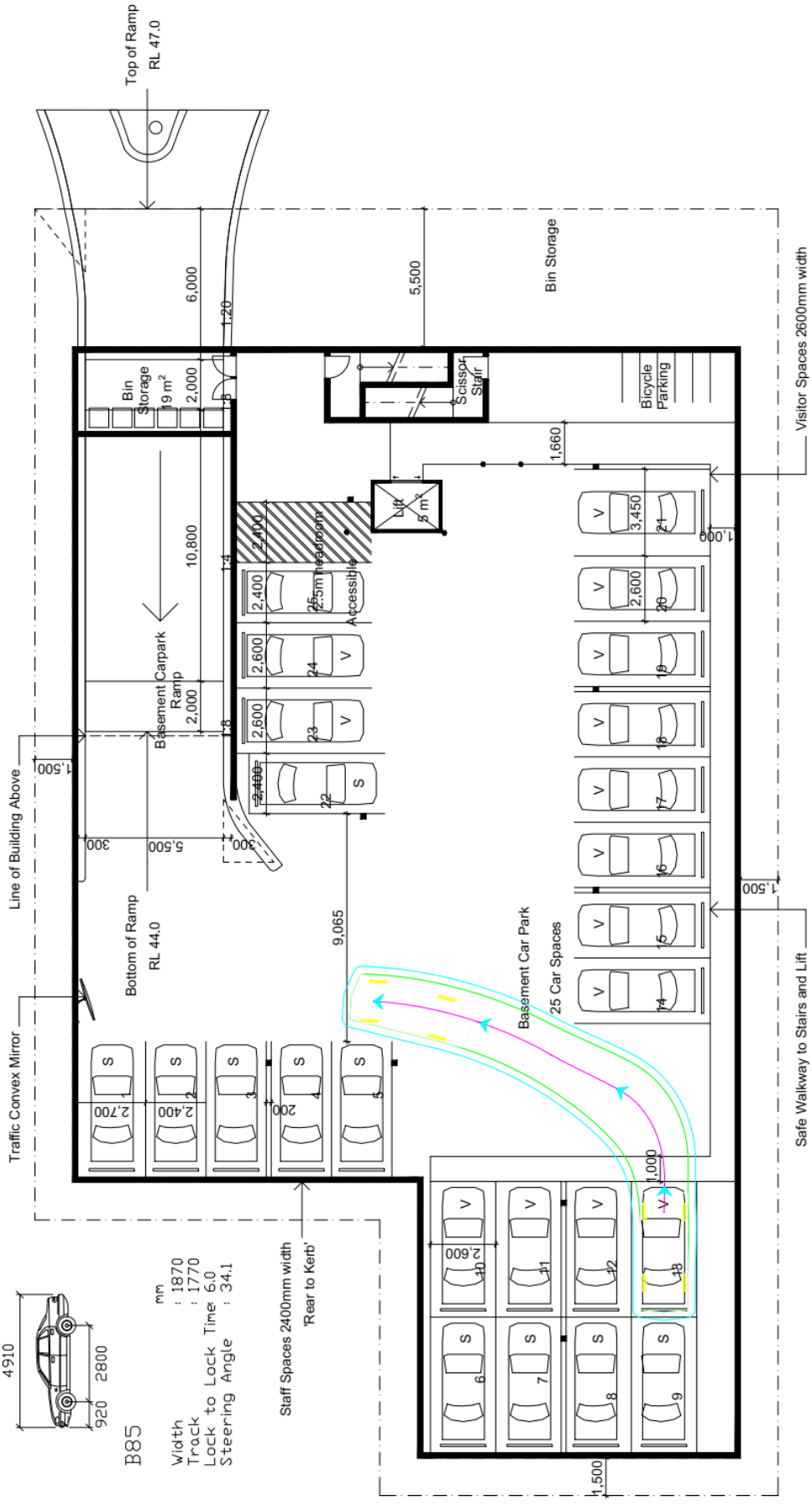

BANKSIA RD
Minimum Front Setback
DOWN
5,500
UP
UP
Entry
Scissor Stair
Staff Room
Hallway
385 m²
Reception Area
Lift
AA

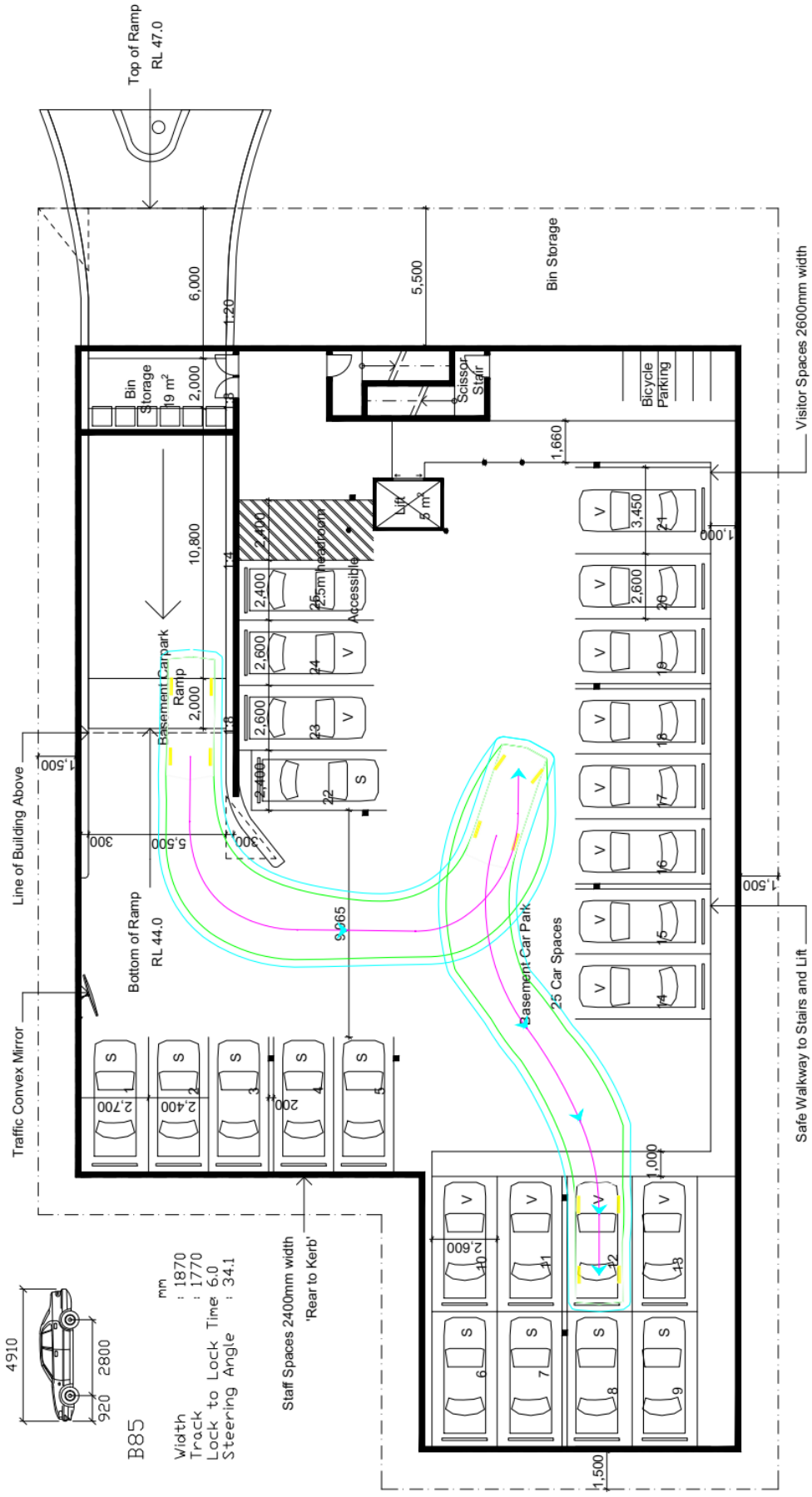

Top of Ramp
RL 47.0
B85
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1
B99
Width : 1940
Track : 1840
Lock to Lock Time 6.0
Steering Angle : 33.9
Bin Storage
Scissor Stair
Bicycle Parking
Lift 5 m²
2.5m headroom
Accessible
Basement Carpark Ramp
Line of Building Above
Bottom of Ramp
RL 44.0
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
Visitor Spaces 2600mm width
Safe Walkway to Stairs and Lift
Staff Spaces 2400mm width
'Rear to Kerb'

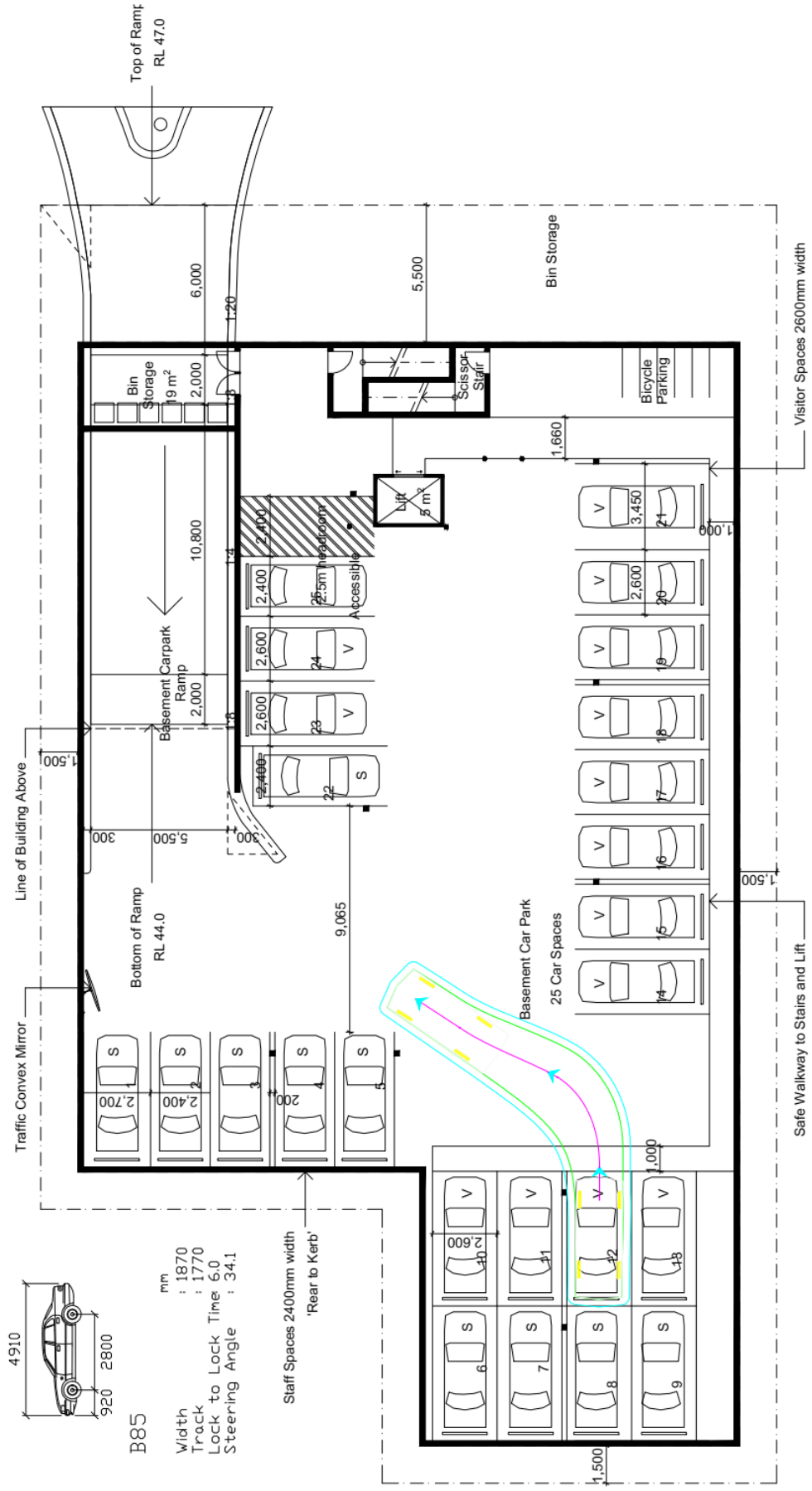

Top of Ramp
RL 47.0
B85
Width
Track
Lock to Lock Time
Steering Angle
B99
Bin Storage
Visitor Spaces 2600mm width
Bicycle Parking
Scissor Stair
Lift
5 m²
2.5m headroom
Accessible
Basement Carpark Ramp
Line of Building Above
Bottom of Ramp
RL 44.0
Basement Car Park
25 Car Spaces
Safe Walkway to Stairs and Lift
Traffic Convex Mirror
Staff Spaces 2400mm width
'Rear to Kerb'

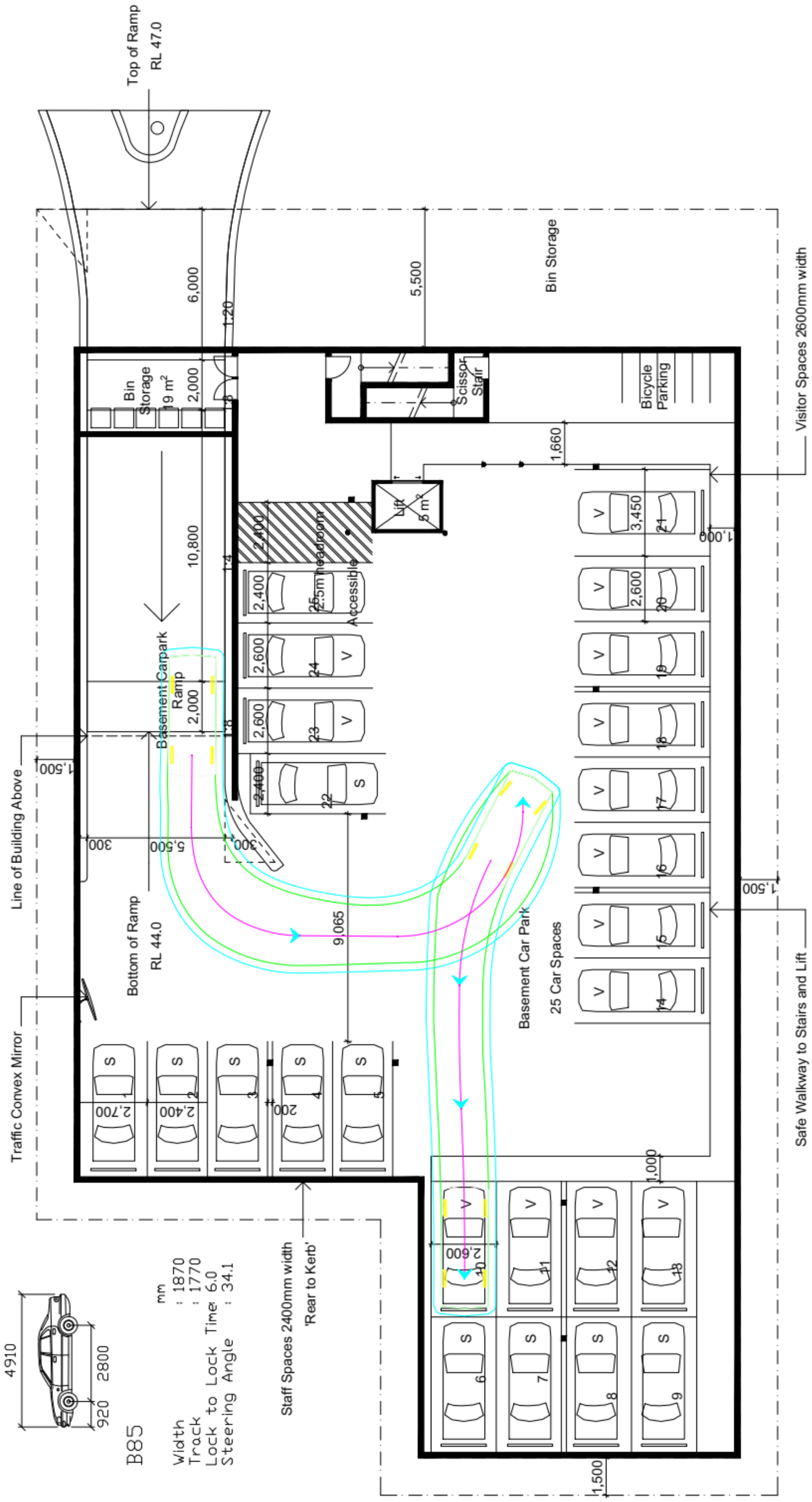

Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage 19 m²
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 5 m²
2,400
2.5m headroom
Accessible
10,800
1:4
Basement Carpark Ramp
2,000
1:6
2,600
3,450
2,600
1,000
1,500
300
5,500
300
Line of Building Above
Bottom of Ramp
RL 44.0
9,065
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
Safe Walkway to Stairs and Lift
2,700
2,400
200
1,000
2,600
Staff Spaces 2400mm width
'Rear to Kerb'
1,500
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1

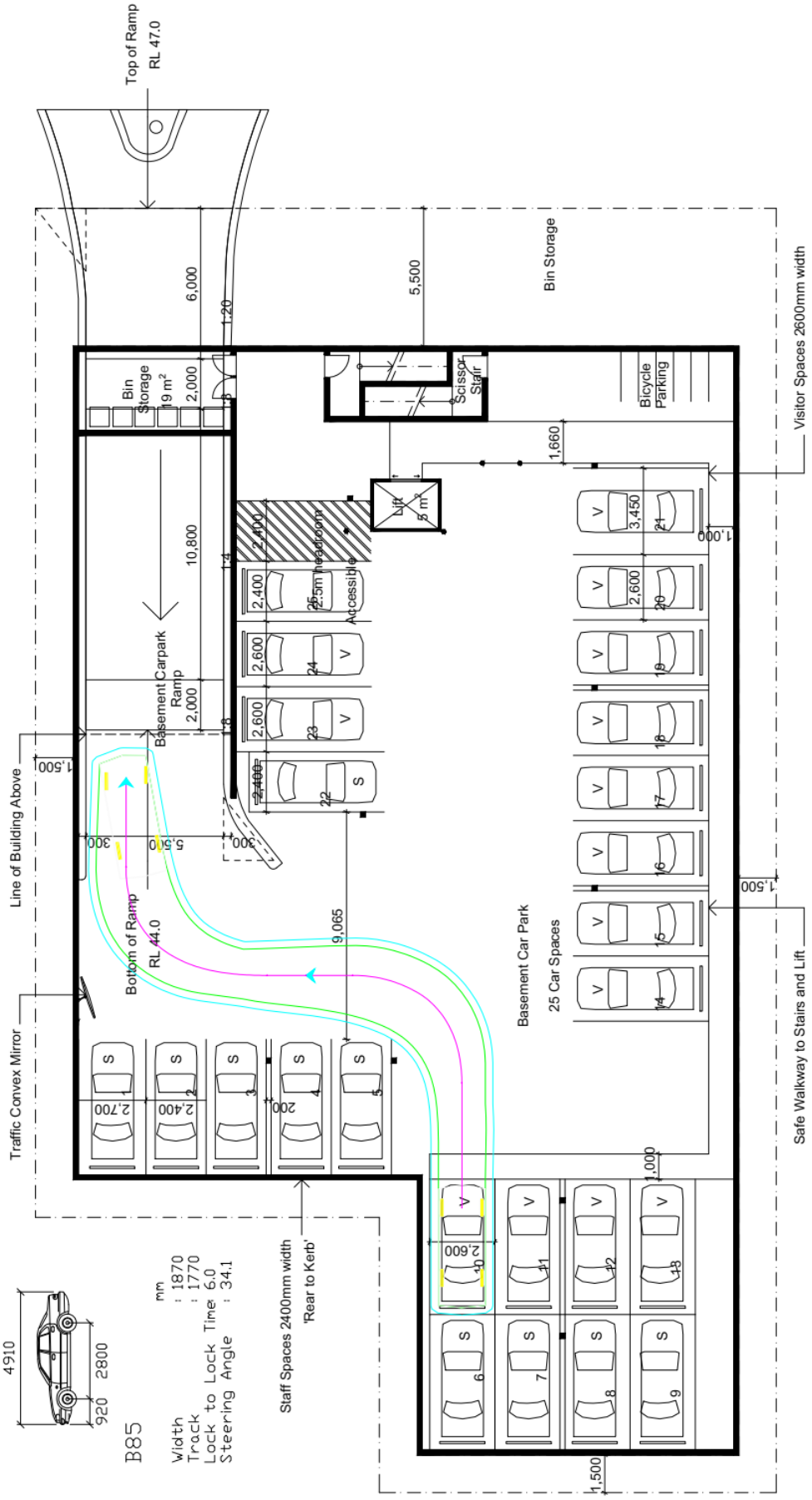

Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage 19 m²
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 5 m²
10,800
1:4
2,400
25m headroom
Accessible
2,400
2,600
2,600
2,400
3,450
2,600
1,000
Basement Carpark Ramp
2,000
1:8
1,500
Line of Building Above
300
5,500
300
9,065
Bottom of Ramp
RL 44.0
Basement Car Park
25 Car Spaces
1,500
Safe Walkway to Stairs and Lift
Traffic Convex Mirror
2,700
2,400
200
1,000
2,600
Staff Spaces 2400mm width
'Rear to Kerb'
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1
1,500

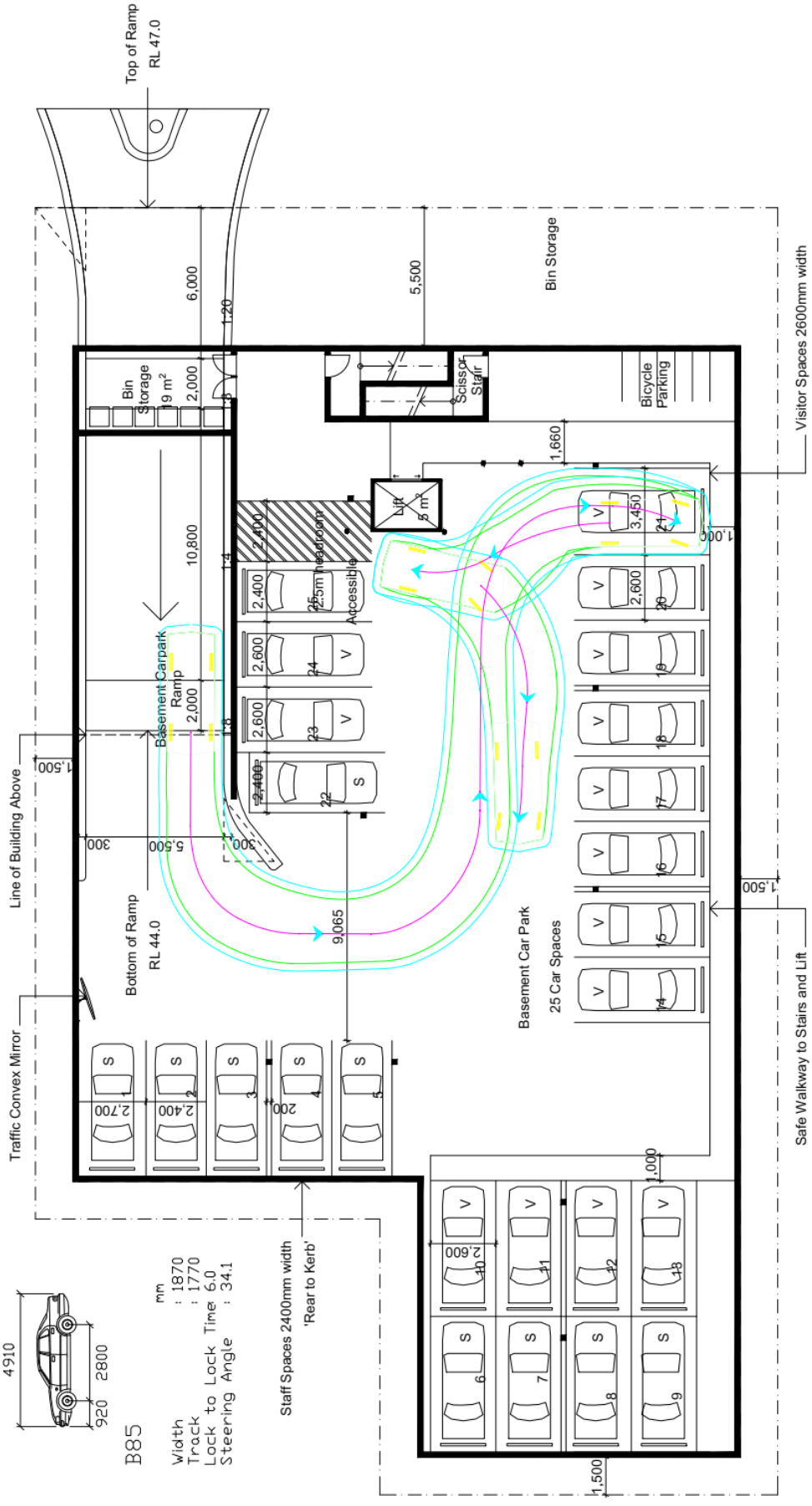

Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage 19 m²
2,000
1:8
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 5 m²
2,400
25m headroom
Accessible
10,800
1:4
2,400
2,600
2,600
2,400
Basement Carpark Ramp
2,000
1:8
3,450
2,600
1,000
1,500
300
5,500
300
Line of Building Above
Bottom of Ramp
RL 44.0
9,065
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
2,700
2,400
200
1,000
2,600
Staff Spaces 2400mm width
'Rear to Kerb'
Safe Walkway to Stairs and Lift
1,500
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time: 6.0
Steering Angle : 34.1

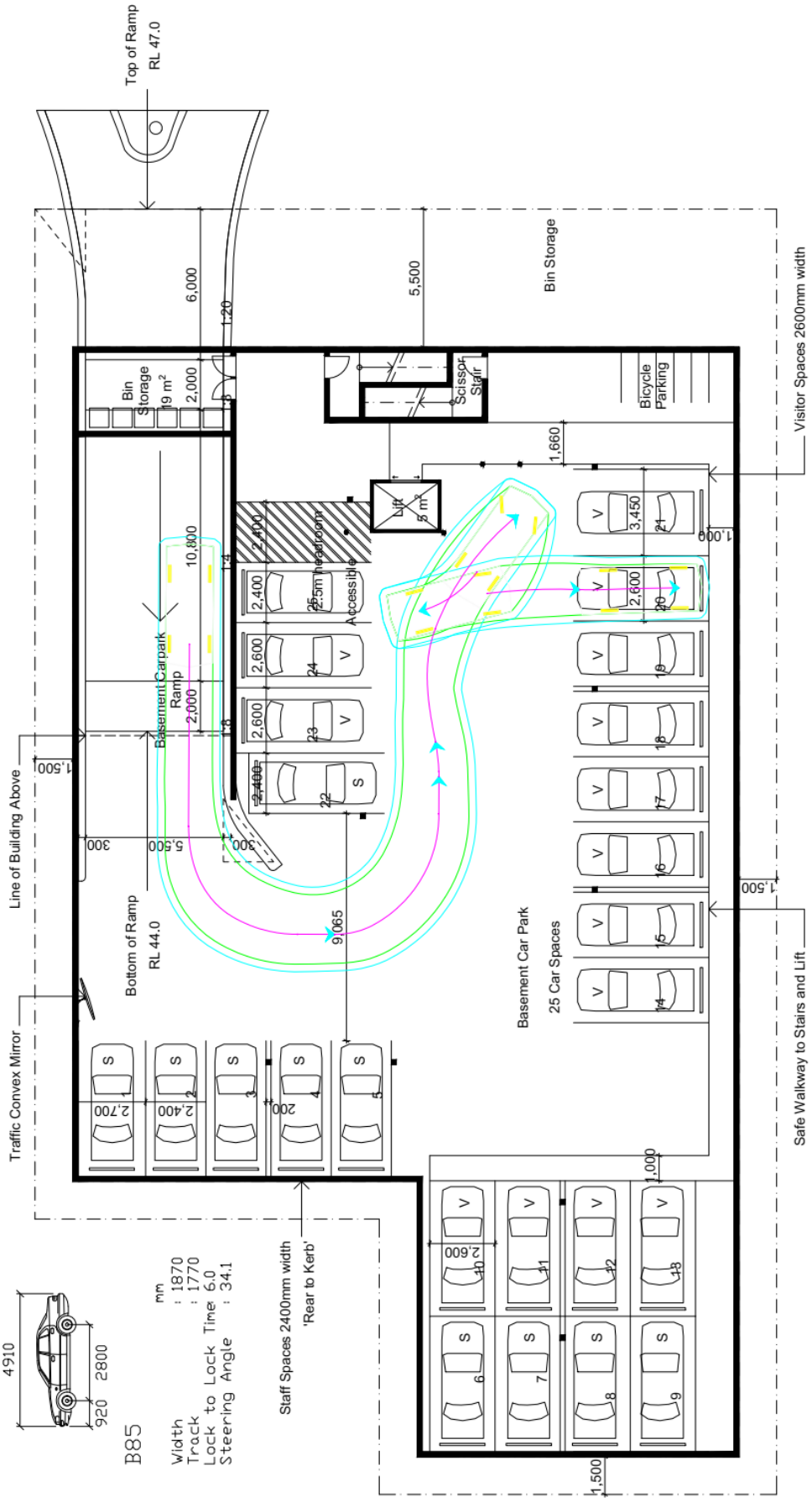

Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Visitor Spaces 2600mm width
Bin Storage 9 m²
2,000
Scissor Stair
Bicycle Parking
1,660
Lift 5 m²
10,800
2,400
2.5m headroom
Accessible
3,450
2,600
Basement Carpark Ramp
1,000
1,500
Line of Building Above
300
5,500
9,965
Bottom of Ramp
RL 44.0
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
Safe Walkway to Stairs and Lift
2,700
2,400
200
2,600
1,000
Staff Spaces 2400mm width
'Rear to Kerb'
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1

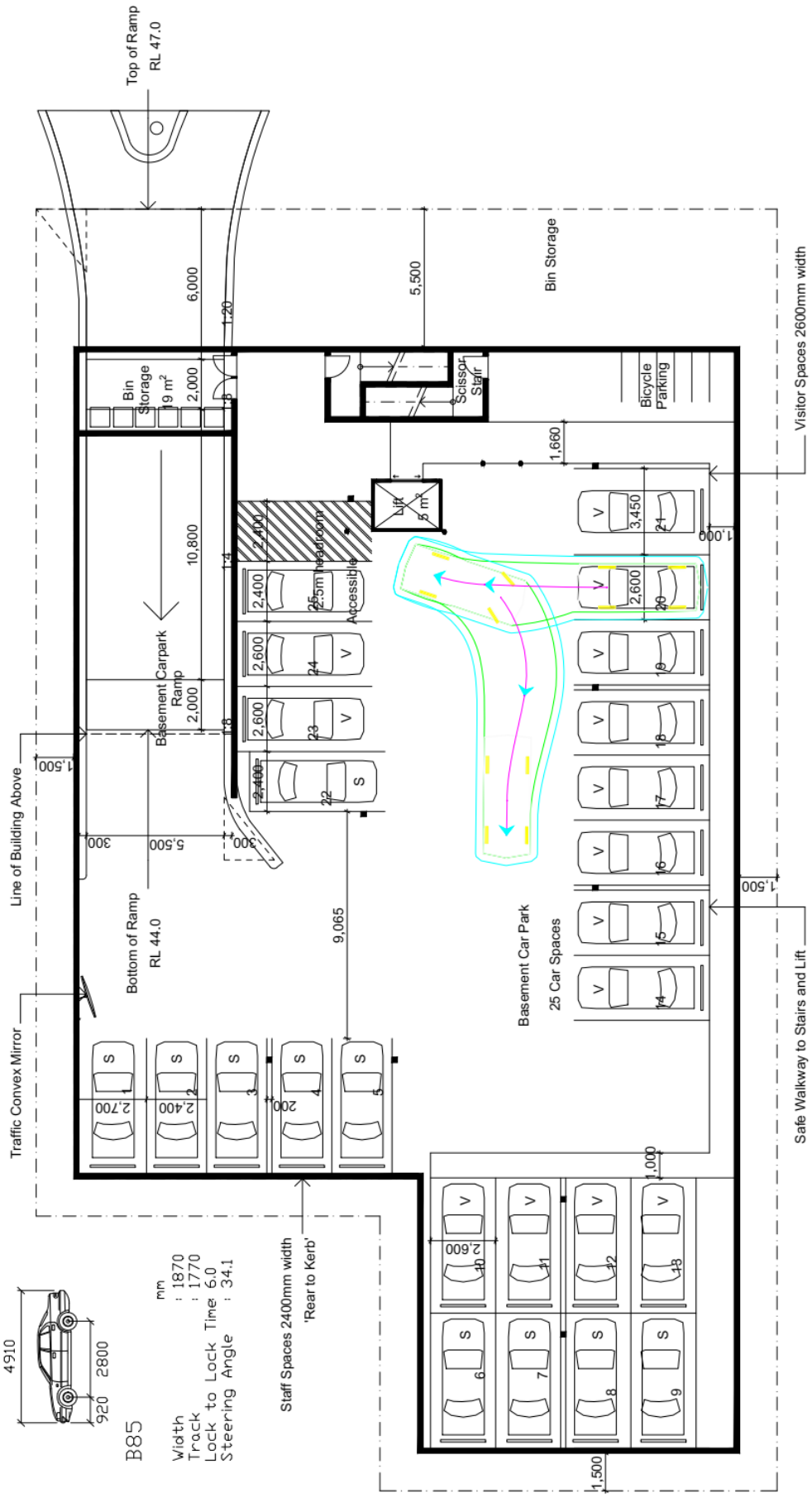

Top of Ramp RL 47.0
6,000
1:20
5,500
Bin Storage
Visitor Spaces 2600mm width
Bin Storage 19 m²
2,000
Scissor Stair
Bicycle Parking
1,660
Lift 5 m²
10,800
1:4
2,400
2.5m headroom
Accessible
Basement Carpark Ramp
2,000
2,600
2,400
2,600
3,450
2,600
1,000
1,500
Line of Building Above
5,500
300
300
Bottom of Ramp RL 44.0
9,065
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
2,700
2,400
200
1,000
Safe Walkway to Stairs and Lift
2,600
Staff Spaces 2400mm width 'Rear to Kerb'
1,500
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1

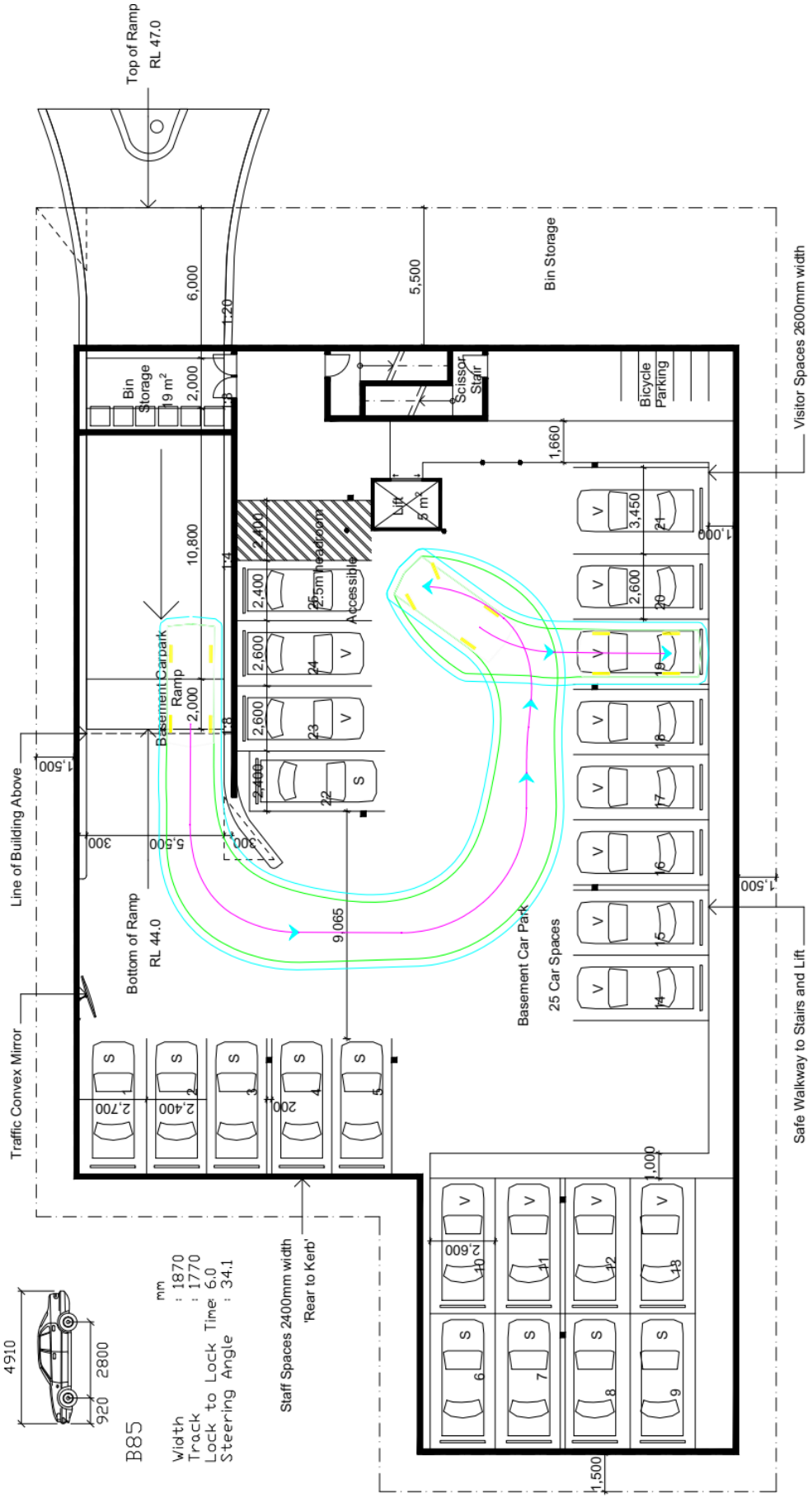

Top of Ramp
RL 47.0
Bin Storage
Visitor Spaces 2600mm width
Bin Storage 19 m²
Scissor Stair
Bicycle Parking
Lift 5 m²
2.5m headroom
Accessible
Basement Carpark Ramp
Line of Building Above
Bottom of Ramp
RL 44.0
Traffic Convex Mirror
Basement Car Park
25 Car Spaces
Safe Walkway to Stairs and Lift
Staff Spaces 2400mm width
'Rear to Kerb'
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1
4910
2800
920

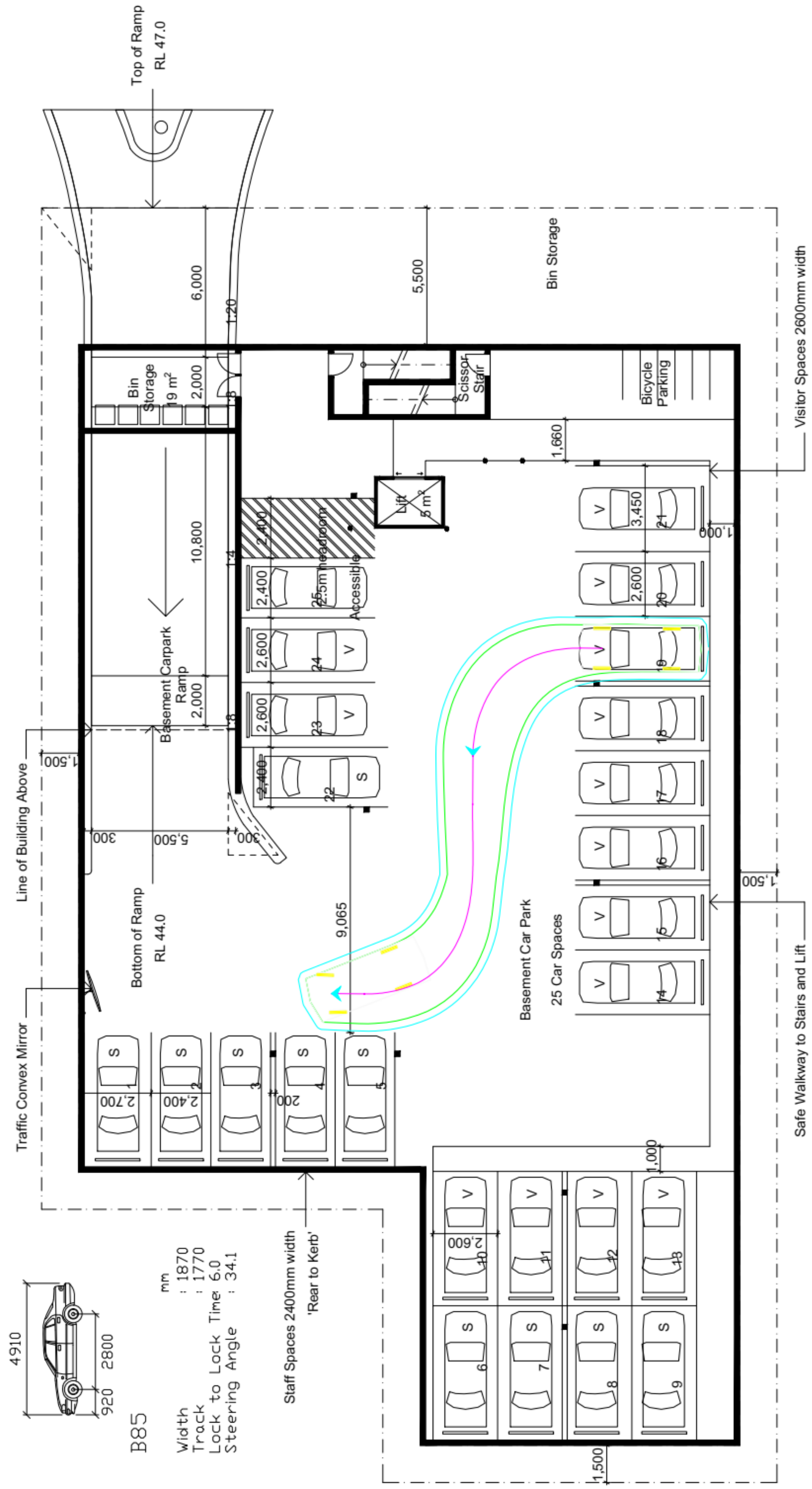

Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage
19 m²
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift
8 m²
10,800
1:4
2,400
25m headroom
Accessible
2,400
2,600
2,600
2,400
3,450
2,600
1,000
Basement Carpark Ramp
2,000
1:8
1,500
Line of Building Above
300
5,500
300
9,065
Bottom of Ramp
RL 44.0
Basement Car Park
25 Car Spaces
1,500
Traffic Convex Mirror
2,700
2,400
200
1,000
2,600
Staff Spaces 2400mm width
'Rear to Kerb'
Safe Walkway to Stairs and Lift
1,500
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1

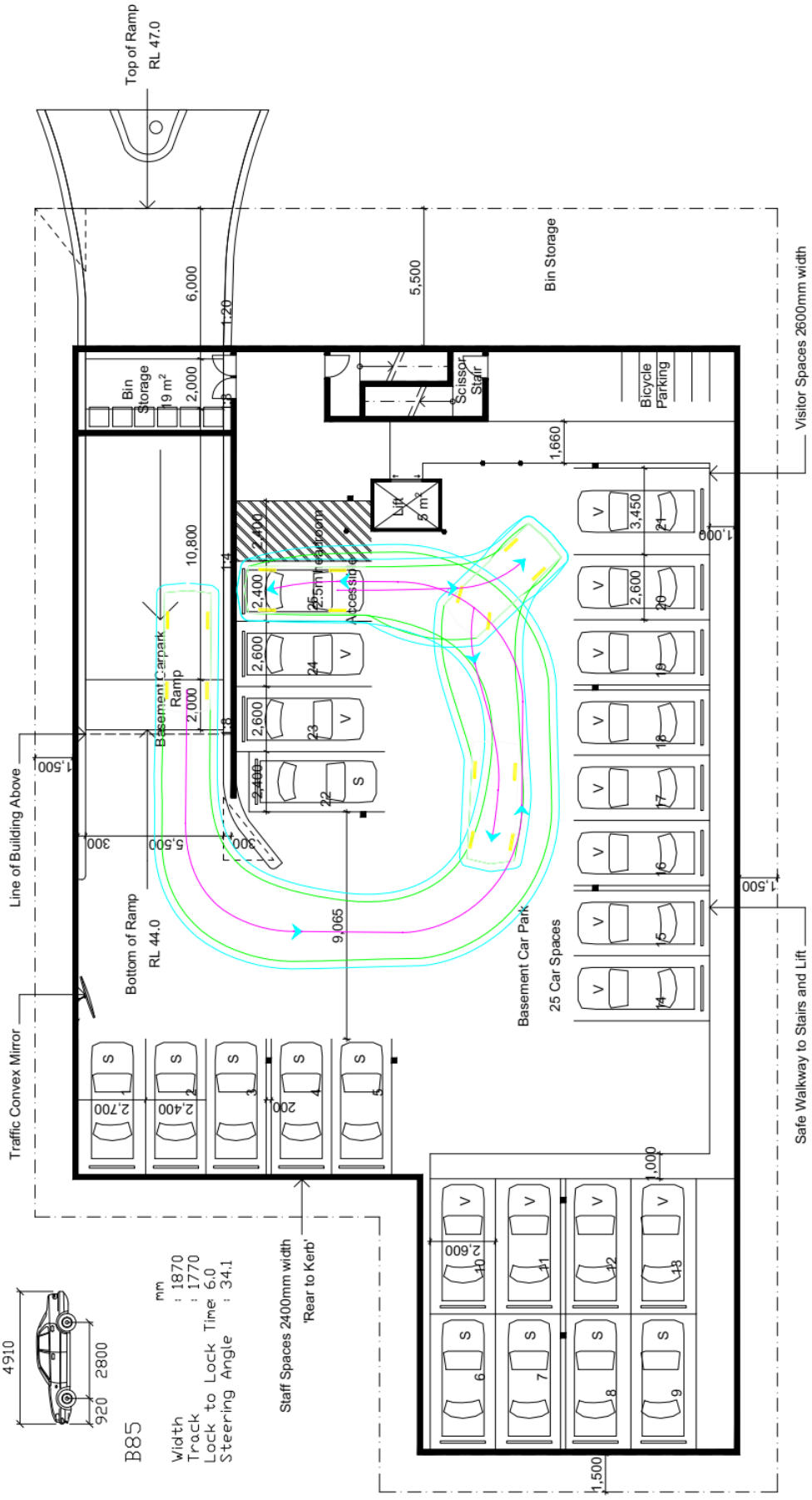

Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage 19 m²
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 5 m²
2,400
2.5m headroom
Accessible
10,800
1:4
Basement Carpark Ramp
2,000
1:8
1,500
5,500
300
300
Line of Building Above
Bottom of Ramp
RL 44.0
9,065
Basement Car Park
25 Car Spaces
1,000
Traffic Convex Mirror
Safe Walkway to Stairs and Lift
2,700
2,400
200
2,600
Staff Spaces 2400mm width
'Rear to Kerb'
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1

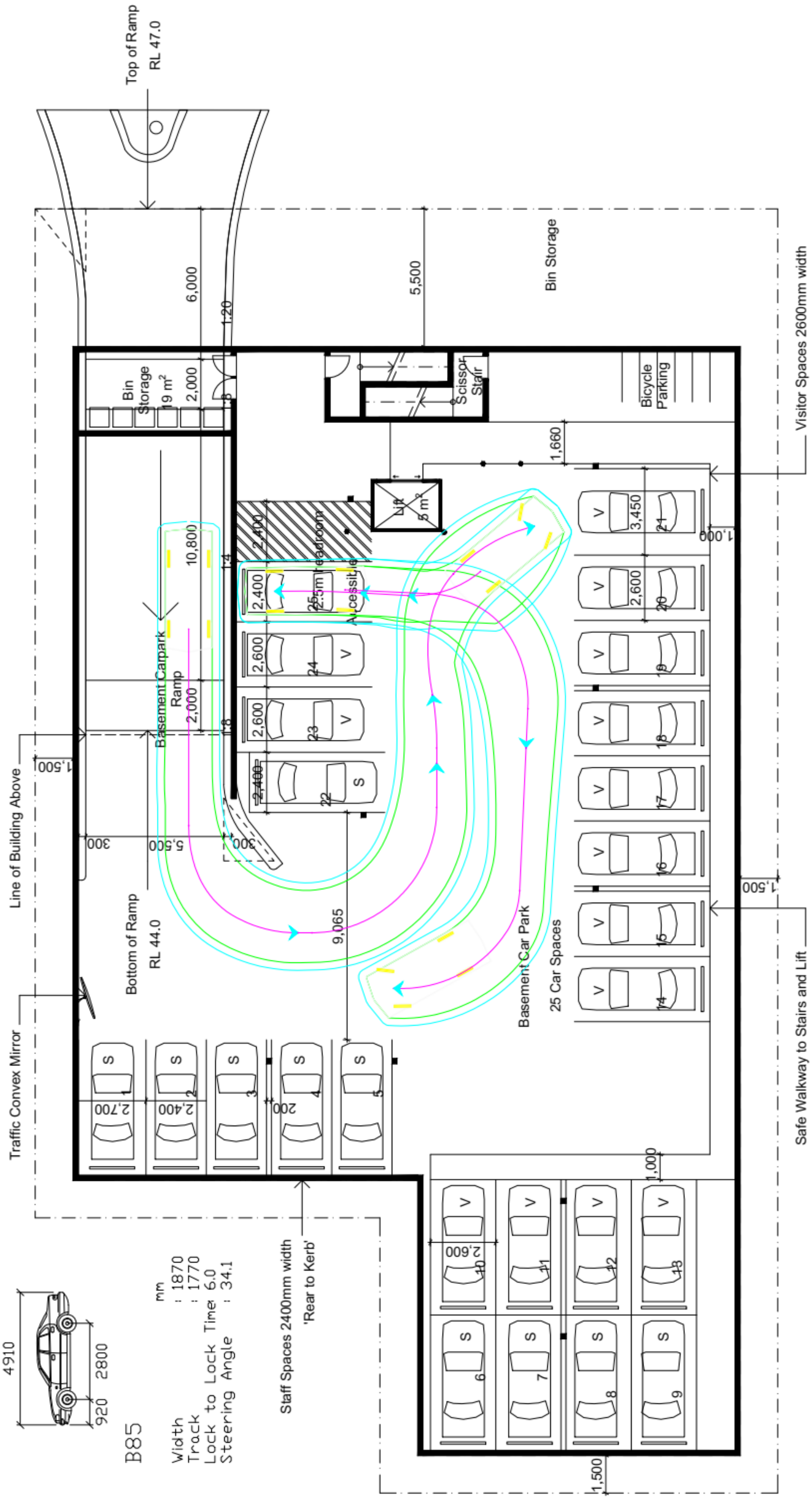

Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage 19 m²
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 5 m²
2,400
2.5m headroom
Accessible
10,800
1:4
Basement Carpark Ramp
2,000
1:8
2,600
3,450
1,000
1,500
Line of Building Above
300
5,500
300
9,065
Bottom of Ramp
RL 44.0
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
2,700
2,400
200
1,000
2,600
Staff Spaces 2400mm width
'Rear to Kerb'
Safe Walkway to Stairs and Lift
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1


Top of Ramp
RL 47.0
6,000
1.20
5,500
Bin Storage
Bin Storage 9 m²
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 5 m²
10,800
1:4
2,400
2.5m headroom
Accessible
3,450
21
1,000
2,600
20
2,400
25
2,600
24
2,600
23
2,400
22
Basement Carpark Ramp
2,000
1:8
19
18
17
16
15
14
1,500
Line of Building Above
300
5,500
300
Bottom of Ramp
RL 44.0
9,065
Basement Car Park
25 Car Spaces
1,500
Traffic Convex Mirror
Safe Walkway to Stairs and Lift
2,700
2,400
200
1,000
2,600
10
11
12
13
6
7
8
9
1,500
Staff Spaces 2400mm width
'Rear to Kerb'
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1

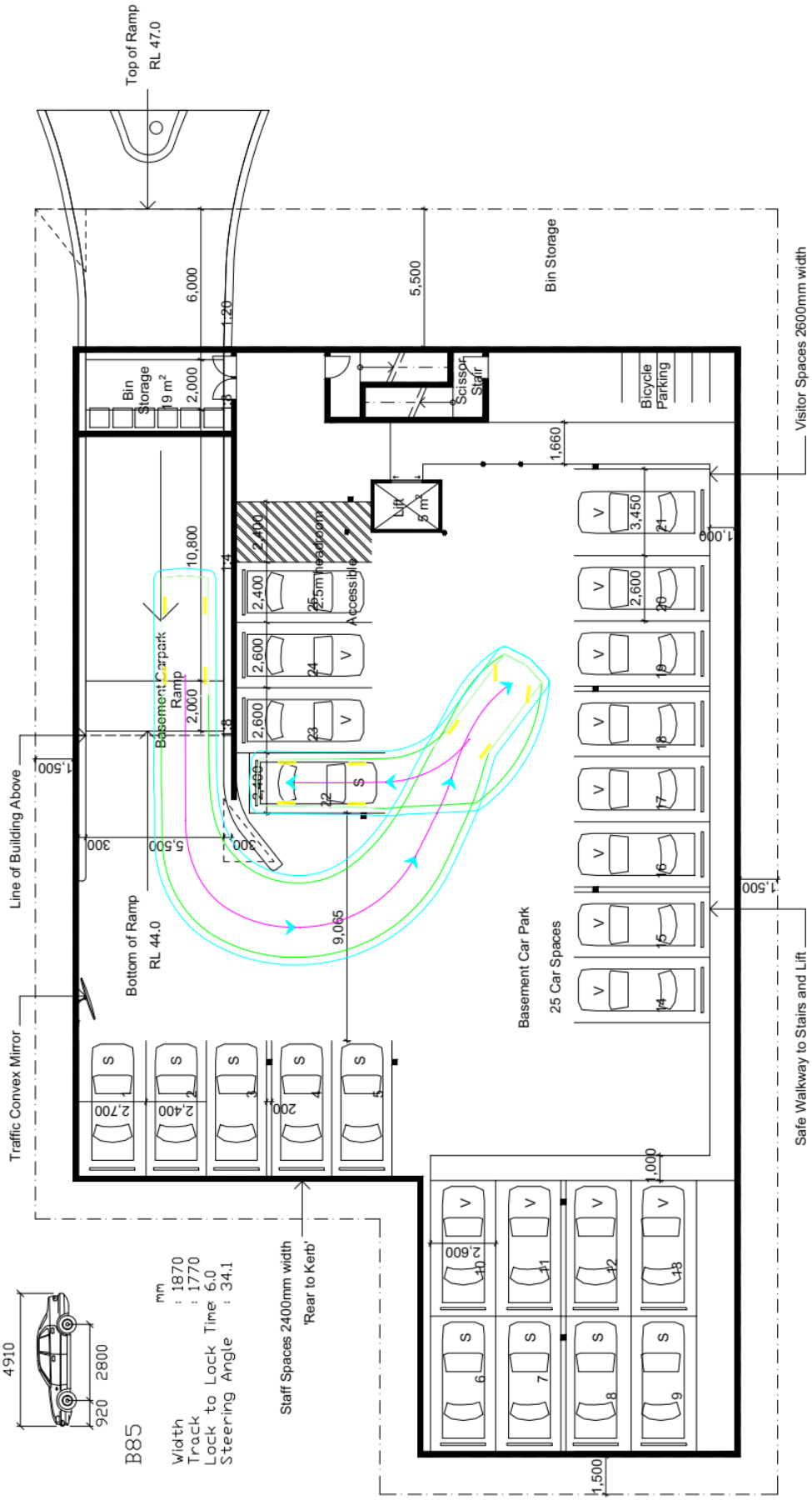

Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Visitor Spaces 2600mm width
Bin Storage 9 m²
2,000
Scissor Stair
Bicycle Parking
1,660
Lift 5 m²
10,800
1:4
2,400
2.5m headroom
Accessible
3,450
2,600
1,000
Basement Carpark Ramp
1:8
1,500
300
5,500
Line of Building Above
Bottom of Ramp
RL 44.0
9,065
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
Safe Walkway to Stairs and Lift
2,700
2,400
200
1,000
2,600
Staff Spaces 2400mm width
'Rear to Kerb'
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1


Top of Ramp
RL 47.0
Bin Storage
Bin Storage 19 m²
Scissor Stair
Bicycle Parking
Lift 5 m²
Visitor Spaces 2600mm width
Basement Carpark Ramp
2.5m headroom
Accessible
Line of Building Above
Bottom of Ramp
RL 44.0
Traffic Convex Mirror
Basement Car Park
25 Car Spaces
Safe Walkway to Stairs and Lift
Staff Spaces 2400mm width
'Rear to Kerb'
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time : 6.0
Steering Angle : 34.1
4910
2800
920


Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage 19 m²
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 5 m²
2,000
2.5m Headroom
Accessible
10,800
1:4
2,400
2,600
Basement Carpark Ramp
2,000
1:8
1,500
Line of Building Above
300
5,500
300
Bottom of Ramp
RL 44.0
9,065
Basement Car Park
25 Car Spaces
1,000
Traffic Convex Mirror
2,700
2,400
200
Staff Spaces 2400mm width
'Rear to Kerb'
2,600
1,500
Safe Walkway to Stairs and Lift
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1



Top of Ramp
RL 47.0
6,000
5,500
Bin Storage
1,20
Bin Storage 19 m2
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 5 m2
2,400
2.5m headroom
Accessible
10,800
Basement Carpark Ramp
2,000
2,600
3,450
1,000
1,500
Line of Building Above
300
5,500
Bottom of Ramp
RL 44.0
9,065
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
2,700
2,400
200
1,000
Safe Walkway to Stairs and Lift
Staff Spaces 2400mm width
'Rear to Kerb'
B85
4910
920
2800
mm
Width : 1870
Track : 1770
Lock to Lock Time : 6.0
Steering Angle : 34.1


Top of Ramp
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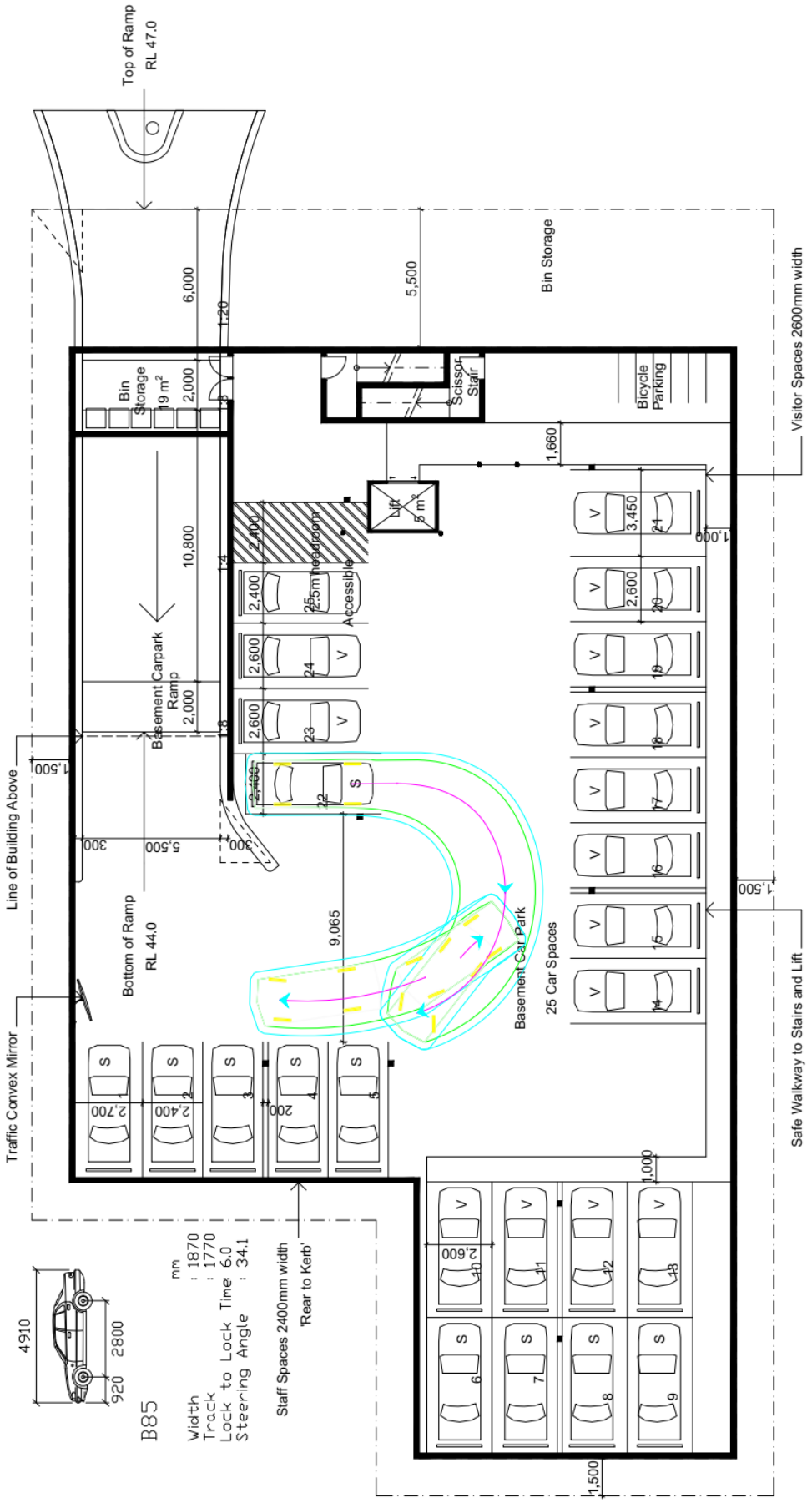
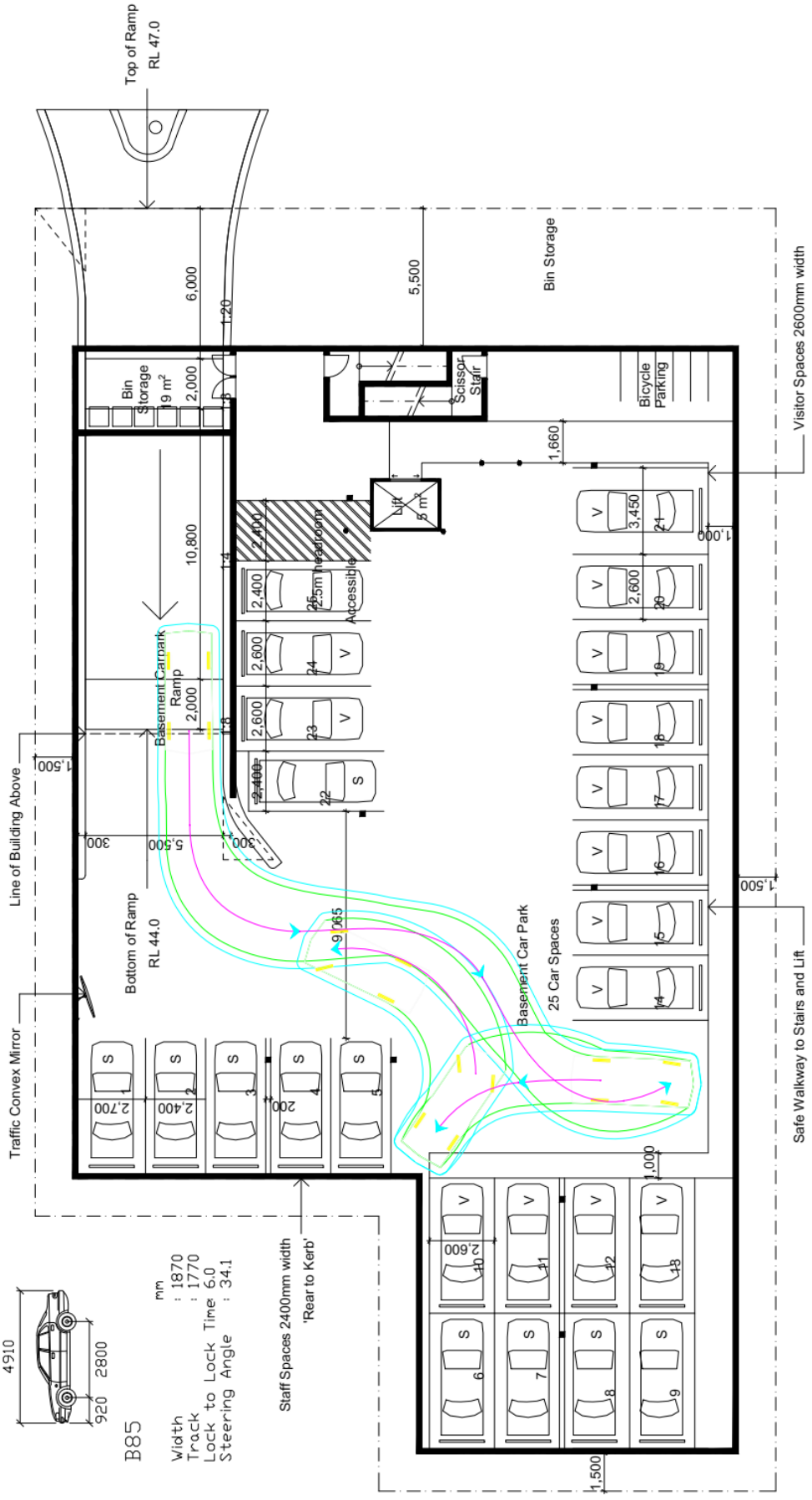
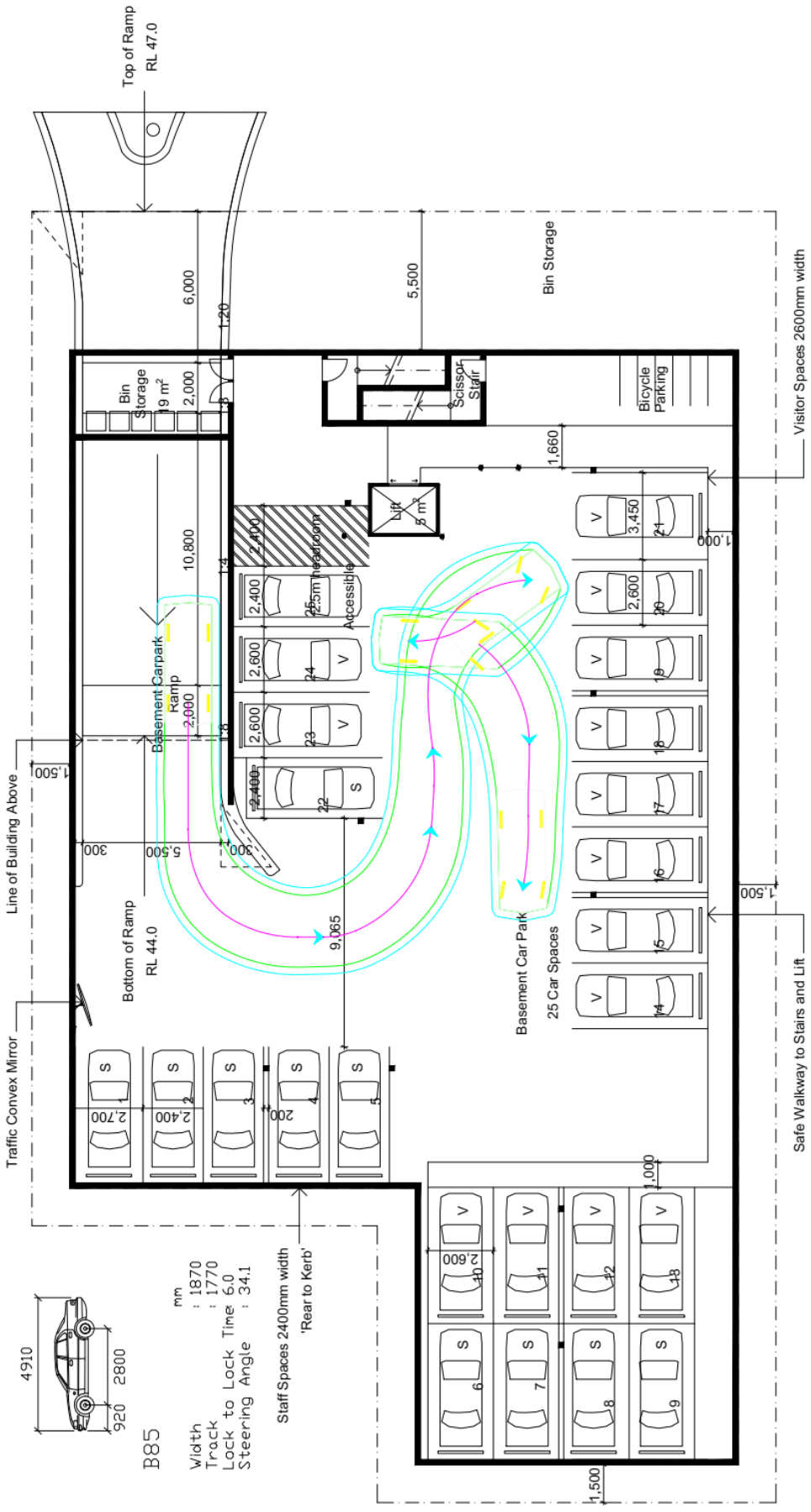
6,000
1:20
5,500
Bin Storage
Bin Storage 9 m²
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 5 m²
2,400
2.5m headroom
Accessible
10,800
1:4
Basement Carpark Ramp
2,000
1:8
1,500
Line of Building Above
300
5,500
300
Bottom of Ramp
RL 44.0
9,065
Basement Car Park
25 Car Spaces
1,500
Traffic Convex Mirror
2,700
2,400
200
1,000
Safe Walkway to Stairs and Lift
Staff Spaces 2400mm width
'Rear to Kerb'
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time: 6.0
Steering Angle : 34.1
1,500


Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage 19 m²
2,000
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 8 m²
2,400
2.5m headroom
Accessible
10,800
1:4
Basement Carpark Ramp
2,000
1,500
Line of Building Above
300
5,500
300
9,065
Bottom of Ramp
RL 44.0
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
Safe Walkway to Stairs and Lift
2,700
2,400
200
1,000
2,600
1,500
Staff Spaces 2400mm width
'Rear to Kerb'
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1


Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage 19 m²
2,000
Scissor Stair
Bicycle Parking
1,660
Visitor Spaces 2600mm width
Lift 5 m²
10,800
1:4
2,400
25m headroom
Accessible
3,450
1,000
2,600
Basement Carpark Ramp
2,000
1:8
1,500
Line of Building Above
300
5,500
300
9,065
Bottom of Ramp
RL 44.0
Basement Car Park
25 Car Spaces
Traffic Convex Mirror
2,700
2,400
200
1,000
Safe Walkway to Stairs and Lift
Staff Spaces 2400mm width
'Rear to Kerb'
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1


Top of Ramp
RL 47.0
6,000
1:20
5,500
Bin Storage
Bin Storage 9 m²
2,000
1:8
Scissor Stair
Bicycle Parking
Visitor Spaces 2600mm width
1,660
Lift 8 m²
10,800
1:4
2,400
2.5m headroom
Accessible
3,450
1,000
2,600
Basement Carpark Ramp
2,000
1:8
1,500
300
5,500
300
Line of Building Above
Bottom of Ramp
RL 44.0
9,065
Basement Car Park
25 Car Spaces
1,500
Traffic Convex Mirror
2,700
2,400
200
1,000
2,600
Safe Walkway to Stairs and Lift
Staff Spaces 2400mm width
'Rear to Kerb'
1,500
4910
2800
920
B85
mm
Width : 1870
Track : 1770
Lock to Lock Time 6.0
Steering Angle : 34.1

Appendix 'C' – SIDRA Intersection Analysis

MOVEMENT SUMMARY – 8.00am – 9.00am – Base Year 2024 – Banksia Road / Waterloo Road

Pre-Development

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: Waterloo Road															
1	L2	All MCs	22	3.0	22	3.0	0.162	4.2	LOS A	0.0	0.0	0.00	0.04	0.00	55.8
2	T1	All MCs	287	3.0	287	3.0	0.162	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	56.7
Approach			309	3.0	309	3.0	0.162	0.3	NA	0.0	0.0	0.00	0.04	0.00	56.7
North: Waterloo Road															
8	T1	All MCs	238	3.0	238	3.0	0.129	0.0	LOS A	0.0	0.2	0.03	0.03	0.03	58.6
9	R2	All MCs	6	3.0	6	3.0	0.129	3.5	LOS A	0.0	0.2	0.03	0.03	0.03	56.1
Approach			244	3.0	244	3.0	0.129	0.1	NA	0.0	0.2	0.03	0.03	0.03	58.5
West: Banksia Road															
10	L2	All MCs	100	3.0	100	3.0	0.081	6.6	LOS A	0.1	0.9	0.36	0.60	0.36	46.1
Approach			100	3.0	100	3.0	0.081	6.6	LOS A	0.1	0.9	0.36	0.60	0.36	46.1
All Vehicles			654	3.0	654	3.0	0.162	1.2	NA	0.1	0.9	0.07	0.12	0.07	51.2

Post-Development

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: Waterloo Road															
1	L2	All MCs	33	2.0	33	2.0	0.168	4.2	LOS A	0.0	0.0	0.00	0.06	0.00	54.1
2	T1	All MCs	287	3.0	287	3.0	0.168	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	55.4
Approach			320	2.9	320	2.9	0.168	0.4	NA	0.0	0.0	0.00	0.06	0.00	55.3
North: Waterloo Road															
8	T1	All MCs	238	3.0	238	3.0	0.129	0.0	LOS A	0.0	0.2	0.03	0.03	0.03	58.5
9	R2	All MCs	6	3.0	6	3.0	0.129	3.6	LOS A	0.0	0.2	0.03	0.03	0.03	56.0
Approach			244	3.0	244	3.0	0.129	0.1	NA	0.0	0.2	0.03	0.03	0.03	58.5
West: Banksia Road															
10	L2	All MCs	115	2.6	115	2.6	0.093	6.6	LOS A	0.1	1.1	0.37	0.61	0.37	46.1
Approach			115	2.6	115	2.6	0.093	6.6	LOS A	0.1	1.1	0.37	0.61	0.37	46.1
All Vehicles			679	2.9	679	2.9	0.168	1.4	NA	0.1	1.1	0.07	0.14	0.07	50.5

MOVEMENT SUMMARY – 8.00am – 9.00am – Base Year 2024 – Banksia Road / Noble Avenue

Pre-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows [HV %]	Arrival Flows [Total veh/h]	Arrival Flows [HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Aver. Back Of Queue [Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Noble Avenue															
1	L2	All MCs	8	3.0	8	3.0	0.232	4.1	LOS A	0.6	4.0	0.16	0.42	0.16	43.8
2	T1	All MCs	289	3.0	289	3.0	0.232	3.9	LOS A	0.6	4.0	0.16	0.42	0.16	41.9
3	R2	All MCs	14	3.0	14	3.0	0.232	6.9	LOS A	0.6	4.0	0.16	0.42	0.16	38.9
Approach			312	3.0	312	3.0	0.232	4.0	LOS A	0.6	4.0	0.16	0.42	0.16	41.9
East: Banksia Road															
4	L2	All MCs	18	3.0	18	3.0	0.044	6.1	LOS A	0.1	0.6	0.49	0.59	0.49	42.4
5	T1	All MCs	13	3.0	13	3.0	0.044	5.9	LOS A	0.1	0.6	0.49	0.59	0.49	44.3
6	R2	All MCs	6	3.0	6	3.0	0.044	9.0	LOS A	0.1	0.6	0.49	0.59	0.49	42.1
Approach			37	3.0	37	3.0	0.044	6.5	LOS A	0.1	0.6	0.49	0.59	0.49	43.1
North: Noble Avenue															
7	L2	All MCs	53	3.0	53	3.0	0.307	4.1	LOS A	0.8	5.8	0.19	0.43	0.19	38.7
8	T1	All MCs	347	3.0	347	3.0	0.307	3.9	LOS A	0.8	5.8	0.19	0.43	0.19	41.8
9	R2	All MCs	13	3.0	13	3.0	0.307	7.0	LOS A	0.8	5.8	0.19	0.43	0.19	43.3
Approach			413	3.0	413	3.0	0.307	4.0	LOS A	0.8	5.8	0.19	0.43	0.19	41.6
West: Banksia Road															
10	L2	All MCs	29	3.0	29	3.0	0.061	5.8	LOS A	0.1	0.8	0.46	0.57	0.46	42.6
11	T1	All MCs	22	3.0	22	3.0	0.061	5.6	LOS A	0.1	0.8	0.46	0.57	0.46	41.8
12	R2	All MCs	2	3.0	2	3.0	0.061	8.6	LOS A	0.1	0.8	0.46	0.57	0.46	42.2
Approach			54	3.0	54	3.0	0.061	5.8	LOS A	0.1	0.8	0.46	0.57	0.46	42.3
All Vehicles			815	3.0	815	3.0	0.307	4.3	LOS A	0.8	5.8	0.21	0.44	0.21	41.9

Post-Development

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h]	Demand Flows [HV %]	Arrival Flows [Total veh/h]	Arrival Flows [HV %]	Deg. Satn v/c	Aver. Delay sec	Level of Service	Aver. Back Of Queue [Veh. veh]	Aver. Back Of Queue [Dist m]	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: Noble Avenue															
1	L2	All MCs	8	3.0	8	3.0	0.257	4.2	LOS A	0.6	4.6	0.23	0.44	0.23	43.5
2	T1	All MCs	289	3.0	289	3.0	0.257	4.0	LOS A	0.6	4.6	0.23	0.44	0.23	41.5
3	R2	All MCs	28	1.4	28	1.4	0.257	7.6	LOS A	0.6	4.6	0.23	0.44	0.23	38.3
Approach			326	2.9	326	2.9	0.257	4.3	LOS A	0.6	4.6	0.23	0.44	0.23	41.5
East: Banksia Road															
4	L2	All MCs	31	1.8	31	1.8	0.083	6.6	LOS A	0.2	1.2	0.51	0.63	0.51	44.7
5	T1	All MCs	21	1.8	21	1.8	0.083	6.4	LOS A	0.2	1.2	0.51	0.63	0.51	46.9
6	R2	All MCs	19	1.0	19	1.0	0.083	9.7	LOS A	0.2	1.2	0.51	0.63	0.51	44.7
Approach			71	1.6	71	1.6	0.083	7.4	LOS A	0.2	1.2	0.51	0.63	0.51	45.5
North: Noble Avenue															
7	L2	All MCs	67	2.3	67	2.3	0.336	4.5	LOS A	0.9	6.4	0.26	0.44	0.26	38.2
8	T1	All MCs	347	3.0	347	3.0	0.336	4.1	LOS A	0.9	6.4	0.26	0.44	0.26	41.5
9	R2	All MCs	13	3.0	13	3.0	0.336	7.2	LOS A	0.9	6.4	0.26	0.44	0.26	43.1
Approach			427	2.9	427	2.9	0.336	4.3	LOS A	0.9	6.4	0.26	0.44	0.26	41.3
West: Banksia Road															
10	L2	All MCs	29	3.0	29	3.0	0.072	6.0	LOS A	0.1	1.0	0.49	0.58	0.49	42.9
11	T1	All MCs	31	2.2	31	2.2	0.072	6.1	LOS A	0.1	1.0	0.49	0.58	0.49	42.3
12	R2	All MCs	2	3.0	2	3.0	0.072	8.9	LOS A	0.1	1.0	0.49	0.58	0.49	42.6
Approach			62	2.6	62	2.6	0.072	6.1	LOS A	0.1	1.0	0.49	0.58	0.49	42.7
All Vehicles			886	2.8	886	2.8	0.336	4.7	LOS A	0.9	6.4	0.28	0.46	0.28	42.0

MOVEMENT SUMMARY – 3.15pm – 4.15pm – Base Year 2024 – Banksia Road / Waterloo Road

Pre-Development

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: Waterloo Road															
1	L2	All MCs	61	3.0	61	3.0	0.181	4.2	LOS A	0.0	0.0	0.00	0.10	0.00	50.6
2	T1	All MCs	282	3.0	282	3.0	0.181	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	52.6
Approach			343	3.0	343	3.0	0.181	0.8	NA	0.0	0.0	0.00	0.10	0.00	52.3
North: Waterloo Road															
8	T1	All MCs	298	3.0	298	3.0	0.164	0.1	LOS A	0.0	0.3	0.04	0.05	0.04	57.7
9	R2	All MCs	11	3.0	11	3.0	0.164	3.9	LOS A	0.0	0.3	0.04	0.05	0.04	54.0
Approach			308	3.0	308	3.0	0.164	0.2	NA	0.0	0.3	0.04	0.05	0.04	57.7
West: Banksia Road															
10	L2	All MCs	135	3.0	135	3.0	0.109	6.6	LOS A	0.2	1.3	0.37	0.61	0.37	46.1
Approach			135	3.0	135	3.0	0.109	6.6	LOS A	0.2	1.3	0.37	0.61	0.37	46.1
All Vehicles			786	3.0	786	3.0	0.181	1.5	NA	0.2	1.3	0.08	0.17	0.08	49.7

Post-Development

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: Waterloo Road															
1	L2	All MCs	69	2.6	69	2.6	0.186	4.2	LOS A	0.0	0.0	0.00	0.11	0.00	49.8
2	T1	All MCs	282	3.0	282	3.0	0.186	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	51.8
Approach			352	2.9	352	2.9	0.186	0.8	NA	0.0	0.0	0.00	0.11	0.00	51.5
North: Waterloo Road															
8	T1	All MCs	298	3.0	298	3.0	0.164	0.1	LOS A	0.0	0.3	0.04	0.05	0.04	57.7
9	R2	All MCs	11	3.0	11	3.0	0.164	3.9	LOS A	0.0	0.3	0.04	0.05	0.04	53.9
Approach			308	3.0	308	3.0	0.164	0.2	NA	0.0	0.3	0.04	0.05	0.04	57.6
West: Banksia Road															
10	L2	All MCs	147	2.7	147	2.7	0.119	6.6	LOS A	0.2	1.4	0.37	0.61	0.37	46.1
Approach			147	2.7	147	2.7	0.119	6.6	LOS A	0.2	1.4	0.37	0.61	0.37	46.1
All Vehicles			807	2.9	807	2.9	0.186	1.7	NA	0.2	1.4	0.08	0.18	0.08	49.4

MOVEMENT SUMMARY – 3.15pm – 4.15pm – Base Year 2024 – Banksia Road / Noble Avenue

Pre-Development

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: Noble Avenue															
1	L2	All MCs	26	3.0	26	3.0	0.444	4.5	LOS A	1.4	9.9	0.34	0.44	0.34	43.1
2	T1	All MCs	506	3.0	506	3.0	0.444	4.3	LOS A	1.4	9.9	0.34	0.44	0.34	41.0
3	R2	All MCs	22	3.0	22	3.0	0.444	7.4	LOS A	1.4	9.9	0.34	0.44	0.34	37.4
Approach			555	3.0	555	3.0	0.444	4.4	LOS A	1.4	9.9	0.34	0.44	0.34	41.0
East: Banksia Road															
4	L2	All MCs	20	3.0	20	3.0	0.092	7.7	LOS A	0.2	1.4	0.63	0.67	0.63	41.3
5	T1	All MCs	32	3.0	32	3.0	0.092	7.4	LOS A	0.2	1.4	0.63	0.67	0.63	43.4
6	R2	All MCs	13	3.0	13	3.0	0.092	10.5	LOS A	0.2	1.4	0.63	0.67	0.63	41.0
Approach			64	3.0	64	3.0	0.092	8.1	LOS A	0.2	1.4	0.63	0.67	0.63	42.4
North: Noble Avenue															
7	L2	All MCs	73	3.0	73	3.0	0.489	4.6	LOS A	1.7	11.9	0.36	0.44	0.36	37.2
8	T1	All MCs	514	3.0	514	3.0	0.489	4.3	LOS A	1.7	11.9	0.36	0.44	0.36	40.9
9	R2	All MCs	34	3.0	34	3.0	0.489	7.4	LOS A	1.7	11.9	0.36	0.44	0.36	42.7
Approach			620	3.0	620	3.0	0.489	4.5	LOS A	1.7	11.9	0.36	0.44	0.36	40.8
West: Banksia Road															
10	L2	All MCs	2	3.0	2	3.0	0.075	7.6	LOS A	0.2	1.1	0.62	0.64	0.62	41.4
11	T1	All MCs	48	3.0	48	3.0	0.075	7.3	LOS A	0.2	1.1	0.62	0.64	0.62	40.2
12	R2	All MCs	2	3.0	2	3.0	0.075	10.4	LOS A	0.2	1.1	0.62	0.64	0.62	41.1
Approach			53	3.0	53	3.0	0.075	7.4	LOS A	0.2	1.1	0.62	0.64	0.62	40.3
All Vehicles			1292	3.0	1292	3.0	0.489	4.8	LOS A	1.7	11.9	0.37	0.46	0.37	41.0

Post-Development

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: Noble Avenue															
1	L2	All MCs	26	3.0	26	3.0	0.470	4.7	LOS A	1.5	10.8	0.40	0.46	0.40	42.8
2	T1	All MCs	506	3.0	506	3.0	0.470	4.5	LOS A	1.5	10.8	0.40	0.46	0.40	40.7
3	R2	All MCs	36	1.9	36	1.9	0.470	8.0	LOS A	1.5	10.8	0.40	0.46	0.40	36.9
Approach			568	2.9	568	2.9	0.470	4.7	LOS A	1.5	10.8	0.40	0.46	0.40	40.7
East: Banksia Road															
4	L2	All MCs	33	1.8	33	1.8	0.136	8.1	LOS A	0.3	2.1	0.65	0.69	0.65	42.8
5	T1	All MCs	37	2.6	37	2.6	0.136	7.7	LOS A	0.3	2.1	0.65	0.69	0.65	44.6
6	R2	All MCs	25	1.5	25	1.5	0.136	11.1	LOS A	0.3	2.1	0.65	0.69	0.65	42.7
Approach			95	2.0	95	2.0	0.136	8.8	LOS A	0.3	2.1	0.65	0.69	0.65	43.6
North: Noble Avenue															
7	L2	All MCs	86	2.5	86	2.5	0.518	4.9	LOS A	1.8	12.7	0.42	0.46	0.42	36.8
8	T1	All MCs	514	3.0	514	3.0	0.518	4.5	LOS A	1.8	12.7	0.42	0.46	0.42	40.6
9	R2	All MCs	34	3.0	34	3.0	0.518	7.6	LOS A	1.8	12.7	0.42	0.46	0.42	42.5
Approach			634	2.9	634	2.9	0.518	4.7	LOS A	1.8	12.7	0.42	0.46	0.42	40.5
West: Banksia Road															
10	L2	All MCs	2	3.0	2	3.0	0.086	7.8	LOS A	0.2	1.3	0.64	0.66	0.64	41.6
11	T1	All MCs	55	2.7	55	2.7	0.086	7.7	LOS A	0.2	1.3	0.64	0.66	0.64	40.5
12	R2	All MCs	2	3.0	2	3.0	0.086	10.6	LOS A	0.2	1.3	0.64	0.66	0.64	41.3
Approach			59	2.7	59	2.7	0.086	7.8	LOS A	0.2	1.3	0.64	0.66	0.64	40.6
All Vehicles			1356	2.9	1356	2.9	0.518	5.1	LOS A	1.8	12.7	0.43	0.49	0.43	40.9

MOVEMENT SUMMARY – 8.00am – 9.00am – Future Year 2034 – Banksia Road / Waterloo Road

Pre-Development

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: Waterloo Road															
1	L2	All MCs	27	3.0	27	3.0	0.195	4.2	LOS A	0.0	0.0	0.00	0.04	0.00	55.8
2	T1	All MCs	345	3.0	345	3.0	0.195	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	56.7
Approach			371	3.0	371	3.0	0.195	0.3	NA	0.0	0.0	0.00	0.04	0.00	56.6
North: Waterloo Road															
8	T1	All MCs	285	3.0	285	3.0	0.156	0.1	LOS A	0.0	0.2	0.03	0.04	0.03	58.2
9	R2	All MCs	8	3.0	8	3.0	0.156	4.0	LOS A	0.0	0.2	0.03	0.04	0.03	55.1
Approach			293	3.0	293	3.0	0.156	0.2	NA	0.0	0.2	0.03	0.04	0.03	58.1
West: Banksia Road															
10	L2	All MCs	120	3.0	120	3.0	0.104	6.9	LOS A	0.2	1.2	0.41	0.64	0.41	45.9
Approach			120	3.0	120	3.0	0.104	6.9	LOS A	0.2	1.2	0.41	0.64	0.41	45.9
All Vehicles			784	3.0	784	3.0	0.195	1.3	NA	0.2	1.2	0.07	0.13	0.07	51.0

Post-Development

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: Waterloo Road															
1	L2	All MCs	39	2.0	39	2.0	0.202	4.2	LOS A	0.0	0.0	0.00	0.06	0.00	54.1
2	T1	All MCs	345	3.0	345	3.0	0.202	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	55.4
Approach			384	2.9	384	2.9	0.202	0.4	NA	0.0	0.0	0.00	0.06	0.00	55.3
North: Waterloo Road															
8	T1	All MCs	285	3.0	285	3.0	0.156	0.1	LOS A	0.0	0.2	0.03	0.04	0.03	58.1
9	R2	All MCs	8	3.0	8	3.0	0.156	4.1	LOS A	0.0	0.2	0.03	0.04	0.03	54.9
Approach			293	3.0	293	3.0	0.156	0.2	NA	0.0	0.2	0.03	0.04	0.03	58.1
West: Banksia Road															
10	L2	All MCs	138	2.6	138	2.6	0.119	6.9	LOS A	0.2	1.4	0.41	0.64	0.41	45.9
Approach			138	2.6	138	2.6	0.119	6.9	LOS A	0.2	1.4	0.41	0.64	0.41	45.9
All Vehicles			815	2.9	815	2.9	0.202	1.4	NA	0.2	1.4	0.08	0.15	0.08	50.3

MOVEMENT SUMMARY – 8.00am – 9.00am – Future Year 2034 – Banksia Road / Noble Avenue

Pre-Development

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: Noble Avenue															
1	L2	All MCs	10	3.0	10	3.0	0.280	4.1	LOS A	0.7	5.2	0.19	0.42	0.19	43.6
2	T1	All MCs	347	3.0	347	3.0	0.280	3.9	LOS A	0.7	5.2	0.19	0.42	0.19	41.8
3	R2	All MCs	16	3.0	16	3.0	0.280	7.0	LOS A	0.7	5.2	0.19	0.42	0.19	38.7
Approach			374	3.0	374	3.0	0.280	4.0	LOS A	0.7	5.2	0.19	0.42	0.19	41.8
East: Banksia Road															
4	L2	All MCs	21	3.0	21	3.0	0.056	6.7	LOS A	0.1	0.8	0.54	0.63	0.54	42.0
5	T1	All MCs	15	3.0	15	3.0	0.056	6.4	LOS A	0.1	0.8	0.54	0.63	0.54	44.0
6	R2	All MCs	8	3.0	8	3.0	0.056	9.5	LOS A	0.1	0.8	0.54	0.63	0.54	41.7
Approach			44	3.0	44	3.0	0.056	7.1	LOS A	0.1	0.8	0.54	0.63	0.54	42.8
North: Noble Avenue															
7	L2	All MCs	63	3.0	63	3.0	0.372	4.2	LOS A	1.1	7.6	0.23	0.43	0.23	38.3
8	T1	All MCs	417	3.0	417	3.0	0.372	4.0	LOS A	1.1	7.6	0.23	0.43	0.23	41.6
9	R2	All MCs	15	3.0	15	3.0	0.372	7.0	LOS A	1.1	7.6	0.23	0.43	0.23	43.2
Approach			495	3.0	495	3.0	0.372	4.1	LOS A	1.1	7.6	0.23	0.43	0.23	41.4
West: Banksia Road															
10	L2	All MCs	36	3.0	36	3.0	0.077	6.3	LOS A	0.2	1.1	0.51	0.59	0.51	42.3
11	T1	All MCs	27	3.0	27	3.0	0.077	6.0	LOS A	0.2	1.1	0.51	0.59	0.51	41.3
12	R2	All MCs	3	3.0	3	3.0	0.077	9.1	LOS A	0.2	1.1	0.51	0.59	0.51	41.9
Approach			64	3.0	64	3.0	0.077	6.3	LOS A	0.2	1.1	0.51	0.59	0.51	41.9
All Vehicles			978	3.0	978	3.0	0.372	4.4	LOS A	1.1	7.6	0.25	0.45	0.25	41.7

Post-Development

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: Noble Avenue															
1	L2	All MCs	10	3.0	10	3.0	0.312	4.3	LOS A	0.8	6.0	0.27	0.44	0.27	43.3
2	T1	All MCs	347	3.0	347	3.0	0.312	4.1	LOS A	0.8	6.0	0.27	0.44	0.27	41.3
3	R2	All MCs	34	1.4	34	1.4	0.312	7.7	LOS A	0.8	6.0	0.27	0.44	0.27	37.9
Approach			392	2.9	392	2.9	0.312	4.4	LOS A	0.8	6.0	0.27	0.44	0.27	41.2
East: Banksia Road															
4	L2	All MCs	37	1.8	37	1.8	0.107	7.2	LOS A	0.2	1.6	0.57	0.65	0.57	44.2
5	T1	All MCs	25	1.8	25	1.8	0.107	7.0	LOS A	0.2	1.6	0.57	0.65	0.57	46.6
6	R2	All MCs	23	1.0	23	1.0	0.107	10.3	LOS A	0.2	1.6	0.57	0.65	0.57	44.2
Approach			85	1.6	85	1.6	0.107	7.9	LOS A	0.2	1.6	0.57	0.65	0.57	45.0
North: Noble Avenue															
7	L2	All MCs	81	2.3	81	2.3	0.409	4.7	LOS A	1.2	8.5	0.31	0.44	0.31	37.8
8	T1	All MCs	417	3.0	417	3.0	0.409	4.2	LOS A	1.2	8.5	0.31	0.44	0.31	41.2
9	R2	All MCs	15	3.0	15	3.0	0.409	7.3	LOS A	1.2	8.5	0.31	0.44	0.31	42.9
Approach			513	2.9	513	2.9	0.409	4.4	LOS A	1.2	8.5	0.31	0.44	0.31	41.0
West: Banksia Road															
10	L2	All MCs	35	3.0	35	3.0	0.092	6.5	LOS A	0.2	1.3	0.54	0.61	0.54	42.6
11	T1	All MCs	37	2.2	37	2.2	0.092	6.6	LOS A	0.2	1.3	0.54	0.61	0.54	41.8
12	R2	All MCs	3	3.0	3	3.0	0.092	9.4	LOS A	0.2	1.3	0.54	0.61	0.54	42.3
Approach			75	2.6	75	2.6	0.092	6.7	LOS A	0.2	1.3	0.54	0.61	0.54	42.3
All Vehicles			1064	2.8	1064	2.8	0.409	4.8	LOS A	1.2	8.5	0.33	0.47	0.33	41.7

MOVEMENT SUMMARY – 3.15pm – 4.15pm – Future Year 2034 – Banksia Road / Waterloo Road

Pre-Development

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: Waterloo Road															
1	L2	All MCs	73	3.0	73	3.0	0.217	4.2	LOS A	0.0	0.0	0.00	0.10	0.00	50.6
2	T1	All MCs	339	3.0	339	3.0	0.217	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	52.5
Approach			412	3.0	412	3.0	0.217	0.8	NA	0.0	0.0	0.00	0.10	0.00	52.3
North: Waterloo Road															
8	T1	All MCs	357	3.0	357	3.0	0.198	0.1	LOS A	0.1	0.4	0.04	0.05	0.04	57.3
9	R2	All MCs	13	3.0	13	3.0	0.198	4.3	LOS A	0.1	0.4	0.04	0.05	0.04	53.0
Approach			370	3.0	370	3.0	0.198	0.2	NA	0.1	0.4	0.04	0.05	0.04	57.3
West: Banksia Road															
10	L2	All MCs	162	3.0	162	3.0	0.139	6.9	LOS A	0.2	1.6	0.41	0.64	0.41	45.8
Approach			162	3.0	162	3.0	0.139	6.9	LOS A	0.2	1.6	0.41	0.64	0.41	45.8
All Vehicles			944	3.0	944	3.0	0.217	1.6	NA	0.2	1.6	0.09	0.18	0.09	49.5

Post-Development

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: Waterloo Road															
1	L2	All MCs	83	2.6	83	2.6	0.223	4.2	LOS A	0.0	0.0	0.00	0.11	0.00	49.8
2	T1	All MCs	339	3.0	339	3.0	0.223	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	51.8
Approach			422	2.9	422	2.9	0.223	0.8	NA	0.0	0.0	0.00	0.11	0.00	51.5
North: Waterloo Road															
8	T1	All MCs	357	3.0	357	3.0	0.198	0.1	LOS A	0.1	0.4	0.05	0.05	0.05	57.3
9	R2	All MCs	13	3.0	13	3.0	0.198	4.4	LOS A	0.1	0.4	0.05	0.05	0.05	52.8
Approach			370	3.0	370	3.0	0.198	0.3	NA	0.1	0.4	0.05	0.05	0.05	57.2
West: Banksia Road															
10	L2	All MCs	177	2.7	177	2.7	0.152	6.9	LOS A	0.3	1.8	0.42	0.64	0.42	45.8
Approach			177	2.7	177	2.7	0.152	6.9	LOS A	0.3	1.8	0.42	0.64	0.42	45.8
All Vehicles			969	2.9	969	2.9	0.223	1.7	NA	0.3	1.8	0.09	0.19	0.09	49.2

MOVEMENT SUMMARY – 3.15pm – 4.15pm – Future Year 2034 – Banksia Road / Noble Avenue

Pre-Development

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: Noble Avenue															
1	L2	All MCs	32	3.0	32	3.0	0.543	4.8	LOS A	1.9	13.9	0.43	0.46	0.43	42.7
2	T1	All MCs	608	3.0	608	3.0	0.543	4.6	LOS A	1.9	13.9	0.43	0.46	0.43	40.5
3	R2	All MCs	27	3.0	27	3.0	0.543	7.6	LOS A	1.9	13.9	0.43	0.46	0.43	36.6
Approach			666	3.0	666	3.0	0.543	4.7	LOS A	1.9	13.9	0.43	0.46	0.43	40.6
East: Banksia Road															
4	L2	All MCs	24	3.0	24	3.0	0.127	8.8	LOS A	0.3	2.1	0.71	0.72	0.71	40.5
5	T1	All MCs	38	3.0	38	3.0	0.127	8.6	LOS A	0.3	2.1	0.71	0.72	0.71	42.7
6	R2	All MCs	15	3.0	15	3.0	0.127	11.6	LOS A	0.3	2.1	0.71	0.72	0.71	40.2
Approach			77	3.0	77	3.0	0.127	9.3	LOS A	0.3	2.1	0.71	0.72	0.71	41.6
North: Noble Avenue															
7	L2	All MCs	87	3.0	87	3.0	0.598	4.8	LOS A	2.4	17.1	0.46	0.46	0.46	36.4
8	T1	All MCs	616	3.0	616	3.0	0.598	4.6	LOS A	2.4	17.1	0.46	0.46	0.46	40.3
9	R2	All MCs	40	3.0	40	3.0	0.598	7.6	LOS A	2.4	17.1	0.46	0.46	0.46	42.3
Approach			744	3.0	744	3.0	0.598	4.8	LOS A	2.4	17.1	0.46	0.46	0.46	40.2
West: Banksia Road															
10	L2	All MCs	3	3.0	3	3.0	0.102	8.6	LOS A	0.2	1.6	0.69	0.69	0.69	40.6
11	T1	All MCs	58	3.0	58	3.0	0.102	8.4	LOS A	0.2	1.6	0.69	0.69	0.69	39.1
12	R2	All MCs	3	3.0	3	3.0	0.102	11.4	LOS A	0.2	1.6	0.69	0.69	0.69	40.3
Approach			63	3.0	63	3.0	0.102	8.5	LOS A	0.2	1.6	0.69	0.69	0.69	39.2
All Vehicles			1550	3.0	1550	3.0	0.598	5.1	LOS A	2.4	17.1	0.47	0.48	0.47	40.4

Post-Development

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: Noble Avenue															
1	L2	All MCs	32	3.0	32	3.0	0.577	5.1	LOS A	2.2	15.4	0.51	0.48	0.51	42.4
2	T1	All MCs	608	3.0	608	3.0	0.577	4.8	LOS A	2.2	15.4	0.51	0.48	0.51	40.1
3	R2	All MCs	43	1.9	43	1.9	0.577	8.3	LOS A	2.2	15.4	0.51	0.48	0.51	36.1
Approach			682	2.9	682	2.9	0.577	5.1	LOS A	2.2	15.4	0.51	0.48	0.51	40.1
East: Banksia Road															
4	L2	All MCs	39	1.8	39	1.8	0.188	9.3	LOS A	0.4	3.2	0.74	0.74	0.74	41.9
5	T1	All MCs	44	2.6	44	2.6	0.188	8.9	LOS A	0.4	3.2	0.74	0.74	0.74	43.9
6	R2	All MCs	30	1.5	30	1.5	0.188	12.3	LOS A	0.4	3.2	0.74	0.74	0.74	41.8
Approach			114	2.0	114	2.0	0.188	10.0	LOS A	0.4	3.2	0.74	0.74	0.74	42.8
North: Noble Avenue															
7	L2	All MCs	104	2.5	104	2.5	0.636	5.3	LOS A	2.6	18.7	0.55	0.49	0.55	35.8
8	T1	All MCs	616	3.0	616	3.0	0.636	4.9	LOS A	2.6	18.7	0.55	0.49	0.55	40.0
9	R2	All MCs	40	3.0	40	3.0	0.636	8.0	LOS A	2.6	18.7	0.55	0.49	0.55	42.0
Approach			760	2.9	760	2.9	0.636	5.1	LOS A	2.6	18.7	0.55	0.49	0.55	39.8
West: Banksia Road															
10	L2	All MCs	3	3.0	3	3.0	0.119	9.0	LOS A	0.3	1.9	0.72	0.71	0.72	40.7
11	T1	All MCs	66	2.7	66	2.7	0.119	8.9	LOS A	0.3	1.9	0.72	0.71	0.72	39.2
12	R2	All MCs	3	3.0	3	3.0	0.119	11.8	LOS A	0.3	1.9	0.72	0.71	0.72	40.4
Approach			71	2.7	71	2.7	0.119	9.0	LOS A	0.3	1.9	0.72	0.71	0.72	39.4
All Vehicles			1627	2.9	1627	2.9	0.636	5.6	LOS A	2.6	18.7	0.55	0.51	0.55	40.3