Amber

Traffic & Transportation Direction

Bar, Dining and Function Centre

29 Grey Street, Clarence Town

Traffic Impact Assessment

October 2023

Reference: 739 rep 231003 final

Bar, Dining and Function Centre

29 Grey Street, Clarence Town

Traffic Impact Assessment

Prepared for: Williams River Steel

Status: Final report

Date: 3 October 2023

Reference: 739 rep 231003 final

Revision	Date	Description	Author	Reviewed	Approved
A	19/09/23	Draft 01	Rico Kobelt	Tom Dwyer	Michael Willson
A	03/10/23	Final	Rico Kobelt	Tom Dwyer	Michael Willson

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1. Introduction

Amber Organisation Pty Ltd has been engaged by Williams River Steel to advise on the traffic and parking matters of the proposed bar, dining and function centre development at 29 Grey Street, Clarence Town.

The proposal involves the construction of a single-storey restaurant and bar with courtyard. A total of eight car parking spaces, including one accessible space, are proposed on-site. Access to the site is provided via double-width crossovers to Grey Street and Queen Street. As part of the proposal, six existing unsealed parking spaces along Queen Street are proposed to be sealed along with external improvements to the existing building. However, no internal works or land use changes are proposed to the existing building.

This report has been prepared to address the traffic and parking impacts of the proposed development. It is based on surveys and observations at the site and our experience of similar developments elsewhere.

2. Transport Environment

2.1 Site Location

The site is located on the northwestern corner of the intersection of Grey Street and Queen Street in Clarence Town. Figure 1 shows the location of the site in relation to the surrounding transport network.

Figure 1: Site Location

Source: OpenStreetMap

The site and immediate surrounding area are zoned Business Zone – Local Centre (E1) with land uses in adjacent areas predominantly being Residential – General Residential (R1) and Environmental Management (C3). A mix of commercial and retail uses area located along Grey Street (such as the IGA supermarket, Erringhi hotel, newsagency, and medical centre) with a church located opposite the site.

Figure 2 shows an aerial photograph view of the site and the surrounding area. It shows the nature of the surrounding land uses as well as the generally wide road reserves of Clarence Town, and the associated opportunities for on-street parking.

Figure 2: Aerial Photograph

Source: Nearmap

The site is currently occupied with an existing building at the southeast corner which is currently being used as a hairdresser. An unsealed parking area is provided on-site adjacent to the building with access from Queen Street and Grey Street.

2.2 Road Network

Grey Street is a local road under the care and management of Dungog Shire Council. It runs in a north-south alignment between Glen William Road and its termination in the south. In the vicinity of the site, it has an undivided sealed carriageway with a width of approximately 20.0 metres, accommodating two-way traffic and unrestricted parking on both sides.

Queen Street is also local road under the management of Dungog Shire Council. It operates in an east-west alignment between Rifle Street to a courtbowl to the east of Grey Street (as shown in Figure 2), and continues between Durham Street and Russell Street. Along the site frontage it has an undivided sealed carriageway with a width of 7.5 metres, accommodating two-way traffic. East

of Grey Street it has a sealed width of approximately 15.5 metres, which allows increased opportunities for on-street parking.

The **intersection of Grey Street and Queen Street** is priority controlled by way of Give Way signs. Motorists exiting Queen Street give way to traffic on Grey Street.

2.3 Parking Conditions

There is a range of on and off-street parking opportunities near the site which includes on-street kerbside parking on Grey Street, on Queen Street to the east of Grey Street, as well as the off-street car parking spaces at the frontage of the existing building.

To better understand the current parking demands near the site, a parking occupancy survey was undertaken using aerial photography. The areas surveyed are shown in Figure 3 shows the on-street parking areas within 150 metres of the site.

Figure 3: Aerial Parking Survey Areas

Source: Nearmap

There is capacity for approximately 173 spaces within the parking survey area. The results of parking survey are presented within Table 1.

Table 1: Aerial Image Parking Survey Results

Date (Time)	Parking Demand	Approx. Available Parking
Wednesday 28 December 2022 (12:23pm)	29	144
Tuesday 13 December 2022 (5:49pm)	21	152
Wednesday 23 November 2022 (3:34pm)	29	144
Sunday 3 April 2022 (1:05pm)	51	122
Thursday 8 July 2021 (11:58am)	40	133
Average	**34**	**139**

The survey results show that on-street parking demands are generally low and there is capacity in public parking in on-street parking areas within convenient walking distance to the site.

2.4 Traffic Conditions

Given the nature of the existing land uses in Clarence Town and the surrounding area, traffic volumes on local roads around the site are expected to be within their capacity without significant levels of congestion.

More broadly, the road network in Clarence Town is generally in a grid pattern which presents options for motorists travelling through the area.

2.5 Sustainable Transport

The 1271, 2245 and 2361 bus services operated by CDC NSW Hunter Valley Buses operate between Clarence Town and nearby townships. A bus stop is located on Grey Street approximately 140 metres north from the site.

2.6 Crash History

To gain an understanding of any existing road safety issues, a review was conducted of the TfNSW Centre for Road Safety Crash and Casualty Statistics database. The crash database provides the location and severity of all injury and fatal crashes for the five-year period from 2017 to 2021.

The review was undertaken in an area within 150 metres of the intersection of Grey Street and Queen Street on all approaches. The crash search revealed no crashes. As such, it is concluded that the road network is currently operating in a relatively safe manner.

3. The Proposal

The proposal involves the construction of a single-story bar, dining and function centre development comprising:

- 809 sqm net floor area, with an internal floor area of 600 sqm and 209sqm in an outdoor courtyard.
- A total of eight car parking spaces, including one accessible space, on-site.
- New access via double-width crossovers to Grey Street and Queen Street.
- Sealing of six existing unsealed parking spaces adjacent to the existing at the corner of Grey Street and Queen Street.
- External improvements to the existing building on the site, including a new awning and paths.
- New pedestrian access path to Grey Street.
- An area for waste storage and loading.

No internal works or land use changes are proposed to the existing building as part of the proposal.

4. Parking Requirement

Part C, Section 20 of the *Dungog Shire Development Control Plan (DCP)* outlines the off-street parking requirements for land uses with the requirements for the proposed land use outlined in Table 2.

Table 2: DCP Car Parking Requirement

Use	Gross Floor Area / Number of seats	Parking Rate	Parking Requirement
Restaurant & Reception establishments	600sqm / 197 seats	1 space per 7sqm of gross floor area, OR 1 space per 3 seats WHICHEVER IS GREATER	86 spaces / 66 spaces
Total			**86 spaces**

As shown, the proposal has a requirement to provide 86 car parking spaces. It is proposed to provide eight car parking spaces on-site. Accordingly, the proposal seeks a reduction of 78 car parking spaces.

In order to understand the implications of parking demands generated by the proposal, the likely future operational characteristics have been estimated as presented below.

4.1 Proposed Operation

Based on our experience of similar restaurant and pub type developments, and the size of the proposal, the expected number of staff and patrons for various times of the week are provided in Table 3.

Table 3: Expected Operating Characteristics

Time Period	Time	Number of Staff			Number of Patrons
		Kitchen	Bar	Total	
Weekday Business Hours	11am to 5pm	2	2	4	23-35
Weekday Evenings (Monday – Thursday)	5pm to late	3	3	6	50-60
Friday Evenings (After Work Drinks)	5pm to 7pm	3	4	7	80-120
Friday Evenings (Meal and Night Out)	7pm to late	4	4	8	120-200
Saturday Day (Lunch and Afternoon Drinks)	11am to 6pm	3	4	7	80-120
Saturday Evening (Meal and Night Out)	6pm to late	4	4	8	120-200
Sunday Day	11am to 5pm	2	2	4	23-35
Sunday Evenings	5pm to late	3	3	6	50-60

The expected operating characteristics indicate that the pub is anticipated to accommodate a modest number of patrons during weekday business hours and Sundays, with higher parking demands during Friday evenings and Saturdays.

4.2 Car Parking Characteristics

The car parking demand for the pub would vary throughout the week based on the expected number of patrons and the type of customer that would be attracted to the venue. An assessment of the parking characteristics for the relevant time periods is discussed below.

4.2.1 Weekdays Business Hours

During weekday business hours the site is expected to generate a lower parking demand as compared to evenings and weekends with patrons expected to be staff working in the local area or existing visitors who would already be parked within the nearby on/off-street car parking and walk to the site.

4.2.2 Weekday Evenings

During weekday evenings (including Fridays) there is expected to be two main groups of patrons which includes:

- Customers visiting the venue for after work drinks which typically occurs from 5pm to 7pm; and
- Customers visiting the venue for a meal and potentially a night out (more applicable to Friday evenings) which typically occurs from 7pm to 12am.

A proportion of customers that attend the pub for after work drinks are expected to already be located within the CBD as workers or visitors to the area. Customers that attend the venue later in the evening are expected to be standalone visitors to the pub and would be accessing the site as a single purpose trip associated with the proposal.

4.2.3 Weekends

Customers that attend the pub during weekends are assumed to be standalone visitors to the pub. Whilst there is likely to be some customers already in the local area during the day, it has been assumed that patrons represent a single purpose trip associated with the proposal for the purpose of the analysis.

4.3 Car Parking Rate

4.3.1 Staff

In order to provide a worst-case scenario, it has been assumed that all staff drive to the site. It is noted that survey data collected by Amber for other similar uses indicates a typical staff parking demand of 0.5 spaces per staff member.

4.3.2 Patrons

The Guide to Traffic Engineering Developments essentially states that research indicates the demand for parking varies substantially for uses similar to pubs and cannot readily be related to building floor areas. The determination of the number of parking spaces required is therefore based on the characteristics of the proposed development.

The parking demand for patrons during weekday business hours is considered lower given the pub would be visited by staff and visitors who are already in the local area with fewer driving to the site as a standalone trip. Outside of these times the parking rate for patrons has been based on an empirical assessment of other similar uses.

Available survey data indicates that a standalone pub typically generates a parking demand of 0.3 spaces per patron. For the purposes of this assessment, the patron parking demand during the peak Friday evening and Saturday periods has been assumed to be 0.3 spaces per patron.

During the after-work drinks period the parking rate has been conservatively adopted as 0.15 spaces per patron (a 50% reduction) to allow for patrons that are already within the local area.

4.4 Parking Demand

The expected car parking rates have been applied to the number of staff and patrons expected to be on-site and are shown within Table 4. The total off-site car parking demand has been calculated based on the eight on-site parking spaces being shared between staff and customers.

The results show that during weekday business hours the site is expected to generate no off-site parking demand given the staff parking demand is accommodated on-site and the patron parking demand is lower than other operating periods.

During weekday evenings the site is expected to generate an off-site parking demand of up to 17 spaces during the after works drinks period, which would increase to a maximum demand of 60 spaces during Friday evenings when patrons attend the pub for a meal and night out.

A similar maximum parking demand is expected on Saturday evenings with a lower parking demand of 35 spaces during the day. Lower demands are expected on Sundays as a result of the lower patronage.

Table 4: Expected Car Parking Demands

Time Period	Time	Type	Number (Maximum)	Rate	Parking Demand	Total Off-Site Parking Demand
Weekday Business Hours	11am to 5pm	Staff	4	1 space per staff	4 spaces	0 spaces
		Patrons	35	0.1 spaces per patron	4 spaces	
Weekday Evenings (Monday – Thursday)	5pm to 7am	Staff	6	1 space per staff	6 spaces	7 spaces
		Patrons	60	0.15 spaces per patron	9 spaces	
Weekday Evenings (Monday – Thursday)	7pm to 12am	Staff	6	1 space per staff	6 spaces	16 spaces
		Patrons	60	0.3 spaces per patron	18 spaces	
Friday Evenings (After Work Drinks)	5pm to 7pm	Staff	7	1 space per staff	7 spaces	17 spaces
		Patrons	120	0.15 spaces per patron	18 spaces	
6+Friday Evenings (Meal and Night Out)	7pm to 12am	Staff	8	1 space per staff	8 spaces	60 spaces
		Patrons	200	0.3 spaces per patron	60 spaces	
Saturday Day (Lunch and Afternoon Drinks)	11am to 6pm	Staff	7	1 space per staff	7 spaces	35 spaces
		Patrons	120	0.3 spaces per patron	36 spaces	
Saturday Evening (Meal and Night Out)	6pm to 12am	Staff	8	1 space per staff	8 spaces	60 spaces
		Patrons	200	0.3 spaces per patron	60 spaces	
Sunday Day	11am to 5pm	Staff	4	1 space per staff	4 spaces	7 spaces
		Patrons	35	0.3 spaces per patron	11 spaces	
Sunday Evenings	5pm to 12am	Staff	6	1 space per staff	6 spaces	16 spaces
		Patrons	60	0.3 spaces per patron	18 spaces	

Table 4 shows that the expected car parking demands vary of the week with demands highest during the evenings and on weekends, with a peak on Friday and Saturday nights.

4.5 On-Street Parking

Parking survey data has been provided within Section 2.3 which shows that there was a minimum of 122 parking spaces available on-street within 150 metres of the site and confirm there is capacity in public parking in on-street parking areas within convenient walking distance to the site.

During weekday evenings the parking demand is expected to gradually increase as workers in the area finish after work drinks and patrons arrive for a meal/night out. During this time the parking demand in the area is gradually decreasing as workers leave the area, resulting in parking becoming available for use by staff and patrons.

4.6 Summary

In summary, the assessment outlined above indicates that:

- The proposed use would generate a negligible parking demand during weekday business hours.
- During weekends and evenings, the surrounding parking experiences a low parking demands, resulting in there being ample on-street parking available for use by staff and patrons.

Accordingly, the proposed reduction of 78 car parking spaces against the relevant DCP requirements is considered appropriate.

5. Car Park Layout

5.1 Access Arrangements

An assessment of the site access arrangements against the requirements of AS/NZS 2890.1:2004 and the aims, objectives and controls of the DCP, is provided below:

- All vehicles are able to enter and exit the site in a forward direction.
- Areas to accommodate pedestrian sight splays adjacent to the accessways are provided.
- The proposed crossovers have been positioned clear of the intersection of Grey Street and Queen Street, and provide for two-way access with a minimum width of 6.0 metres, in line with the requirements outlined in the DCP (ref p14).
- The proposed formalisation of the parking spaces at the frontage of the existing building will improve the safety and access as compared to the existing operation.

The assessment indicates that the access has been designed in accordance with the dimensional requirements and intent of AS/NZS 2890.1:2004 and the DCP.

5.2 Car Park Layout

An assessment of the car park layout against the requirements of AS/NZS 2890.1:2004 and the DCP is provided below:

- The parking spaces have all been designed with a width of 2.6 metres and a length of 5.4 metres, accessed via a minimum aisle width of 6.1 metres, meeting the dimensional requirements for 'Class 3' users.
- The parking spaces at the frontage of the existing building have also been designed in accordance with the requirements for 'Class 3' users with a width of 2.6 metres and a length of 5.4 metres.
- The two on-site parallel parking spaces have dimensions in accordance with the requirements of AS/NZS 2890.1:2004 with widths of 2.1 metres and lengths of 6.2 metres and 5.4 metres for the end bay.
- The accessible parking space has been provided with a width of 2.4 metres and a length of 5.4 metres, with an associated shared area and bollard, in accordance with AS/NZS 2890.6:2022. It is also noted that the provision for accessible parking spaces meets the requirements of Section 16.4.3 of the DCP.

The assessment indicates that the car park layout has been designed appropriately and in accordance with the dimensional requirements of AS/NZS 2890.1:2004, AS/NZS 2890.6:2022 and the DCP.

5.3 Swept Path Assessment

In order to confirm the appropriateness of access arrangements and parking layout, a swept path assessment has been prepared using the B99 (99.8th percentile vehicle) and B85 vehicle (85th percentile vehicle) to ensure vehicles are able to access the site and parking spaces.

The assessment is provided in Appendix A, and found that the site and each space could be accessed (ingress and egress) in a satisfactory manner.

Accordingly, the car park layout and access arrangements are suitably designed.

6. Waste Collection and Loading

Part C of the Dungog DCP requires the following in relation to loading:

> *All developments involving the erection of new buildings involving significant change of use and/or generating significant extra heavy vehicle movements are required to provide on-site loading and unloading facilities, except:*
>
> *i dwelling houses*
>
> *ii residential flats with access other than from a main or country road.*

An area for waste storage and loading is proposed adjacent to the southern wall of the proposed building. Waste and loading activities are proposed to occur in off-peak periods when the on-site parking area is clear using small trucks.

In order to confirm the appropriateness of access to the waste and loading area a swept path assessment has been prepared using the 6.4 metre long Small Rigid Vehicle (SRV as defined by AS/NZS 2890.2:2018) to ensure small trucks are able to access the dedicated waste storage and loading area.

In addition, to test accessibility for larger loading vehicle, a swept path assessment of an 8.8 metre long Medium Rigid Vehicle (MRV as defined by AS/NZS 2890.2:2018) was undertaken. This was undertaken using the internal accessway between Queen Street and Grey Street and undertaking loading / unloading activities within the accessway.

The assessment is provided in Appendix A, and found that the wates storage / loading area, and site more broadly, could be accessed (ingress and egress) in a satisfactory manner by a mix of suitable loading vehicles.

Accordingly, the waste collection and loading arrangements for the proposal are concluded to be appropriate.

7. Traffic Assessment

The *RTA Guide to Traffic Engineering Developments* provides guidance on the expected traffic generating rates for a range of land uses. The rate closest to the proposed land use is the 'restaurants' land use. Based on the size and location of the proposal, and our experience with similar developments, trip generation rates for a peak hour would be expected to be as follows:

- *Restaurants* *5 vehicle trips per 100sqm of Gross Floor Area*

Application of the rate above results in a total of up to 30 vehicle trips in a peak hour, which would be split between trips to and from the site.

A total of 30 trips in a peak hour is a modest level of traffic and represents approximately 1 vehicle movement every 2 minutes, on average. The surrounding road network is able to accommodate the increase in vehicle movements without any adverse impact to traffic operations or safety.

8. Conclusion

Amber Organisation has reviewed the traffic and parking matters of the proposed mixed-use development at 29 Grey Street, Clarence Town. The proposal involves the construction of a single-single-storey restaurant and bar with courtyard. A total of eight car parking spaces, including one accessible space, are proposed on-site. Access to the site is provided via double-width crossovers to Grey Street and Queen Street. Six existing unsealed parking spaces adjacent to the existing building at the corner of Grey Street and Queen Street are also proposed to be sealed along with improvement to the existing building.

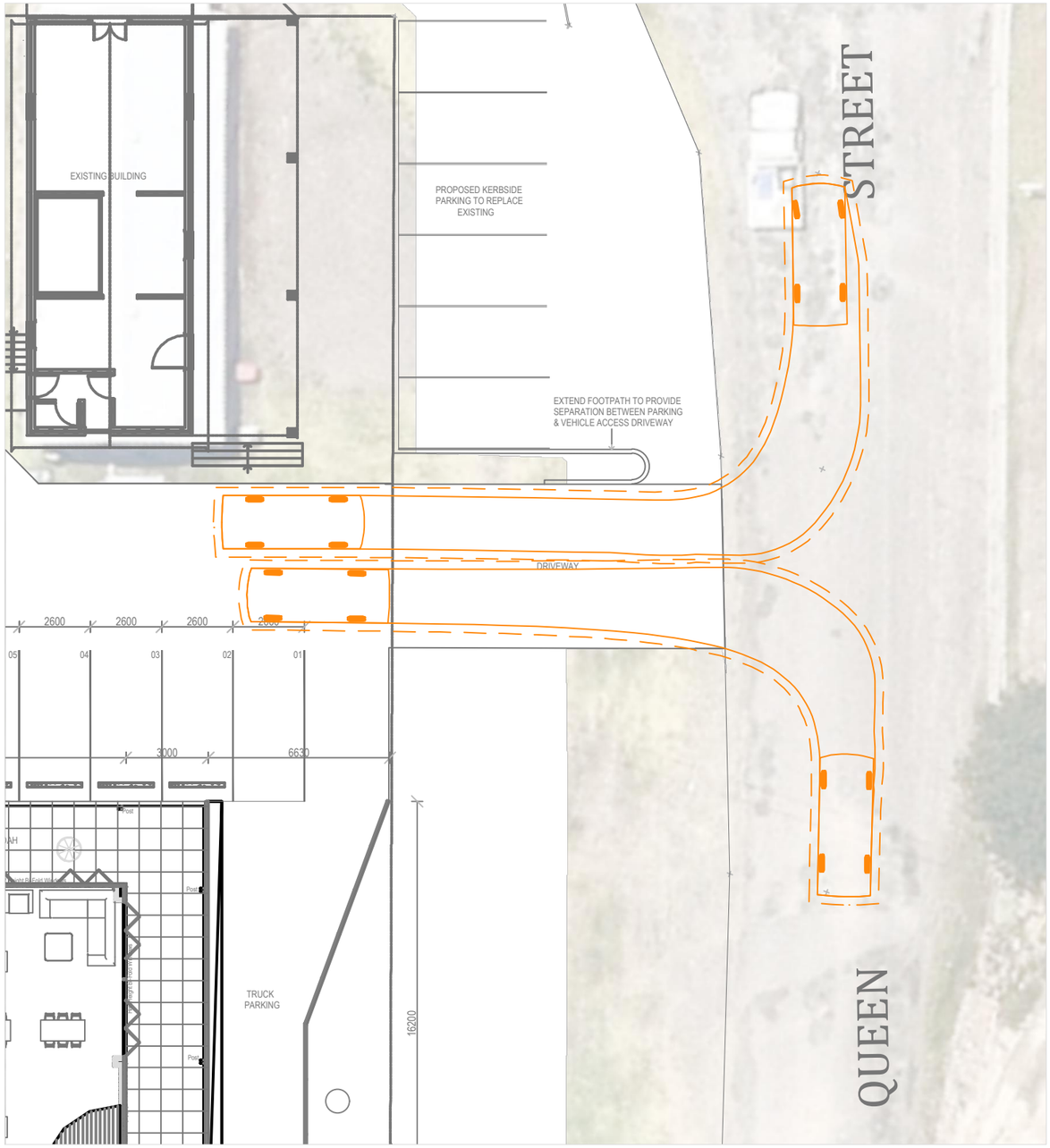
Based on the above assessment, the following conclusions are provided:

- The site generates a parking requirement of 86 spaces based on relevant DCP requirements. The proposed provision of eight on-site spaces is considered appropriate given that there is ample capacity in nearby on-street parking, including approximately 173 spaces within 150 metres of site, which would be suitable for staff and customers.
- The site is expected to generate up to 30 vehicle trips in a peak hour which can be readily accommodated on the surrounding road network;
- The site access involves new access to Grey Street and Queen Street and is suitably designed to accommodate two-way vehicle movements;
- The car park layout has been designed in accordance with relevant requirements of the Australian Standards and the Dungog DCP, and suitable access is provided to the individual parking spaces; and
- Waste collection and loading arrangements are considered appropriate.

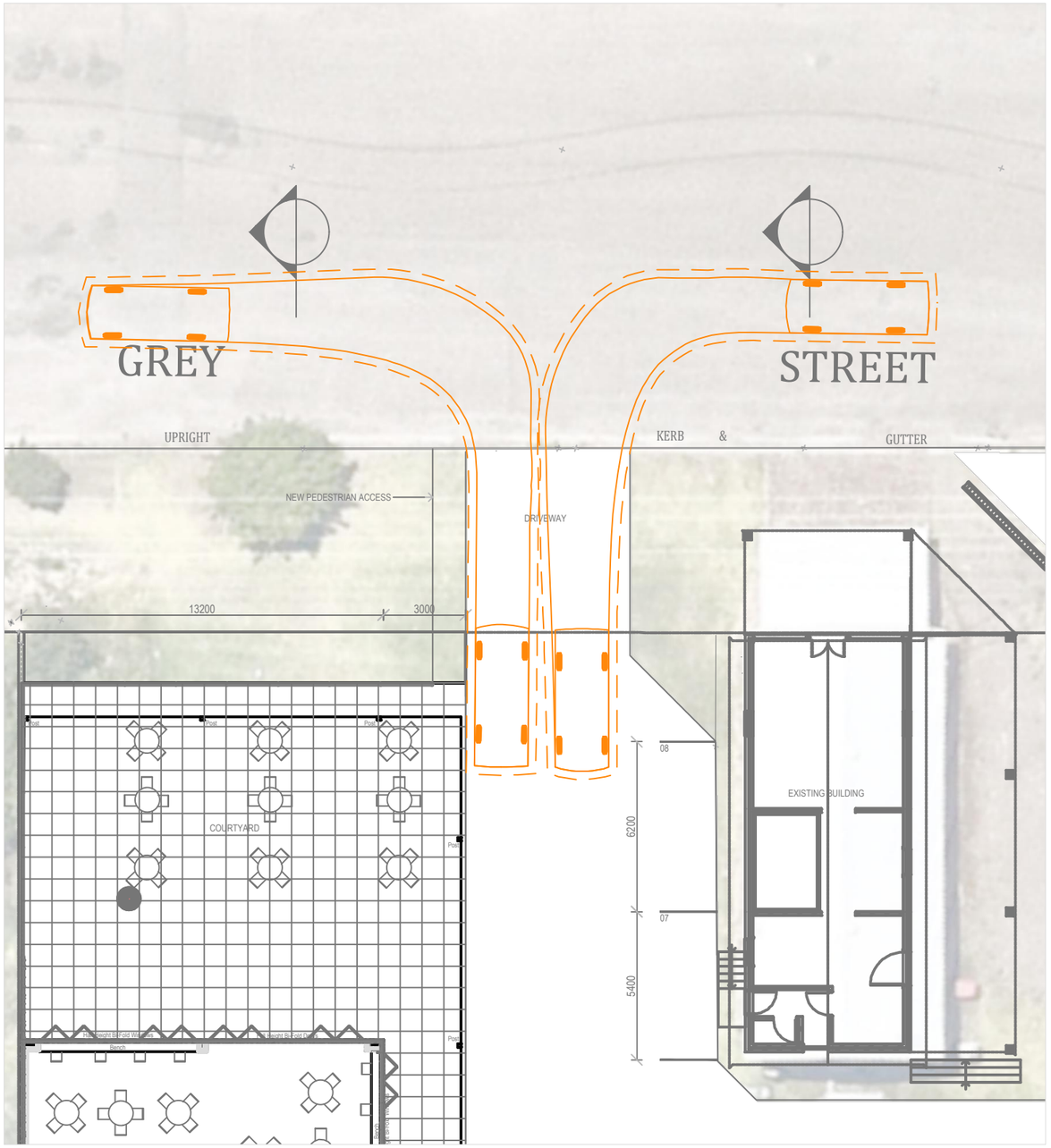
Therefore, it is concluded that the traffic and parking aspects of the proposed development are satisfactory, and the development would not be expected to have a significant impact on the safety or operation of the surrounding traffic and transport network.

Appendix A

Swept Path Assessment



Queen Street Entry/Exit



Grey Street Entry/Exit

Vehicle Envelope

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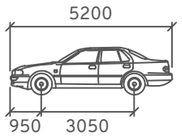
Reverse Manoevure

Min. Design Speed 5km/h

B99



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Lock to Lock	: 6.0s
Steering Angle	: 33.9

Mixed Use Development

29 Grey Street, Clarence Town

Swept Path Assessment

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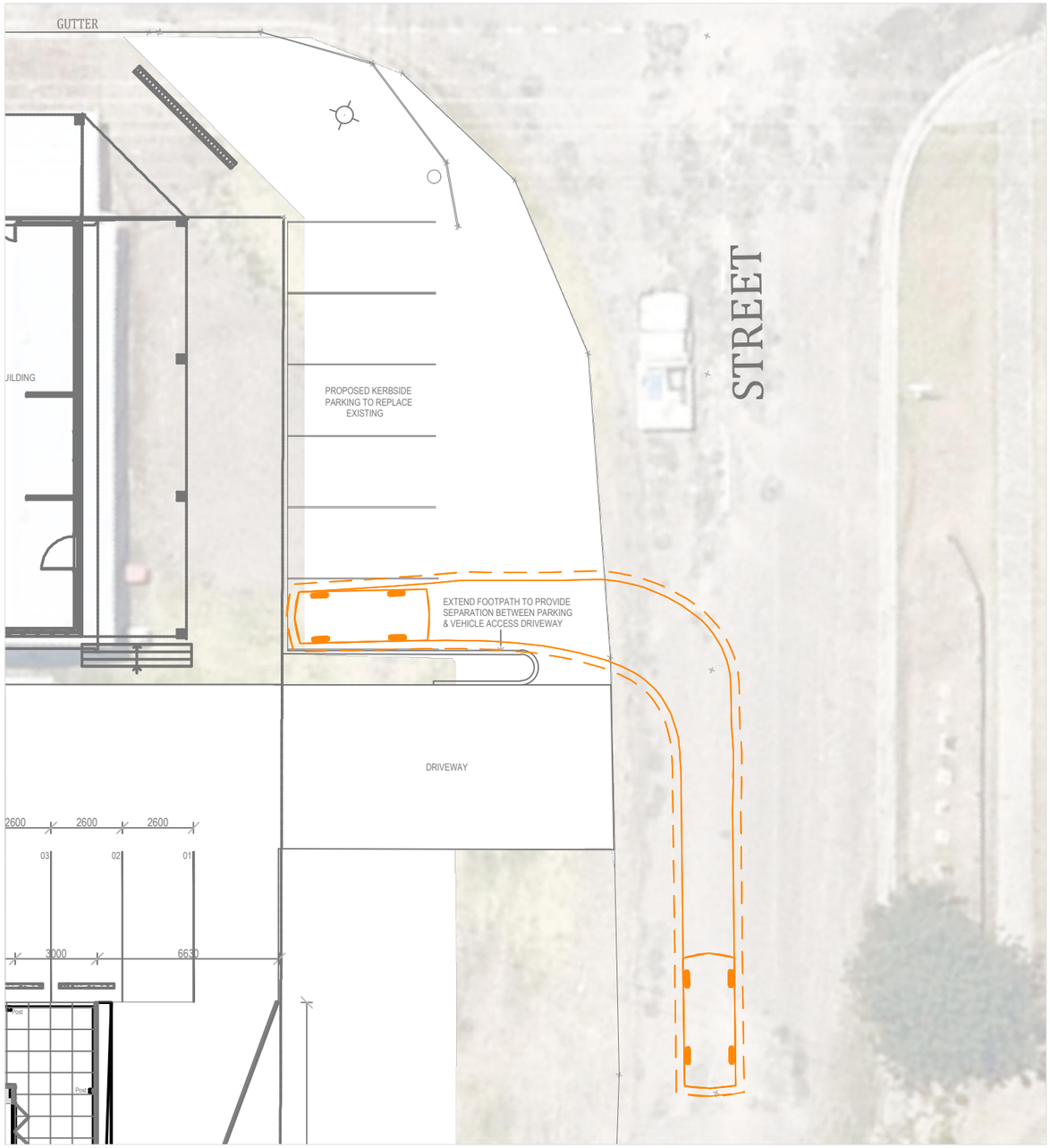
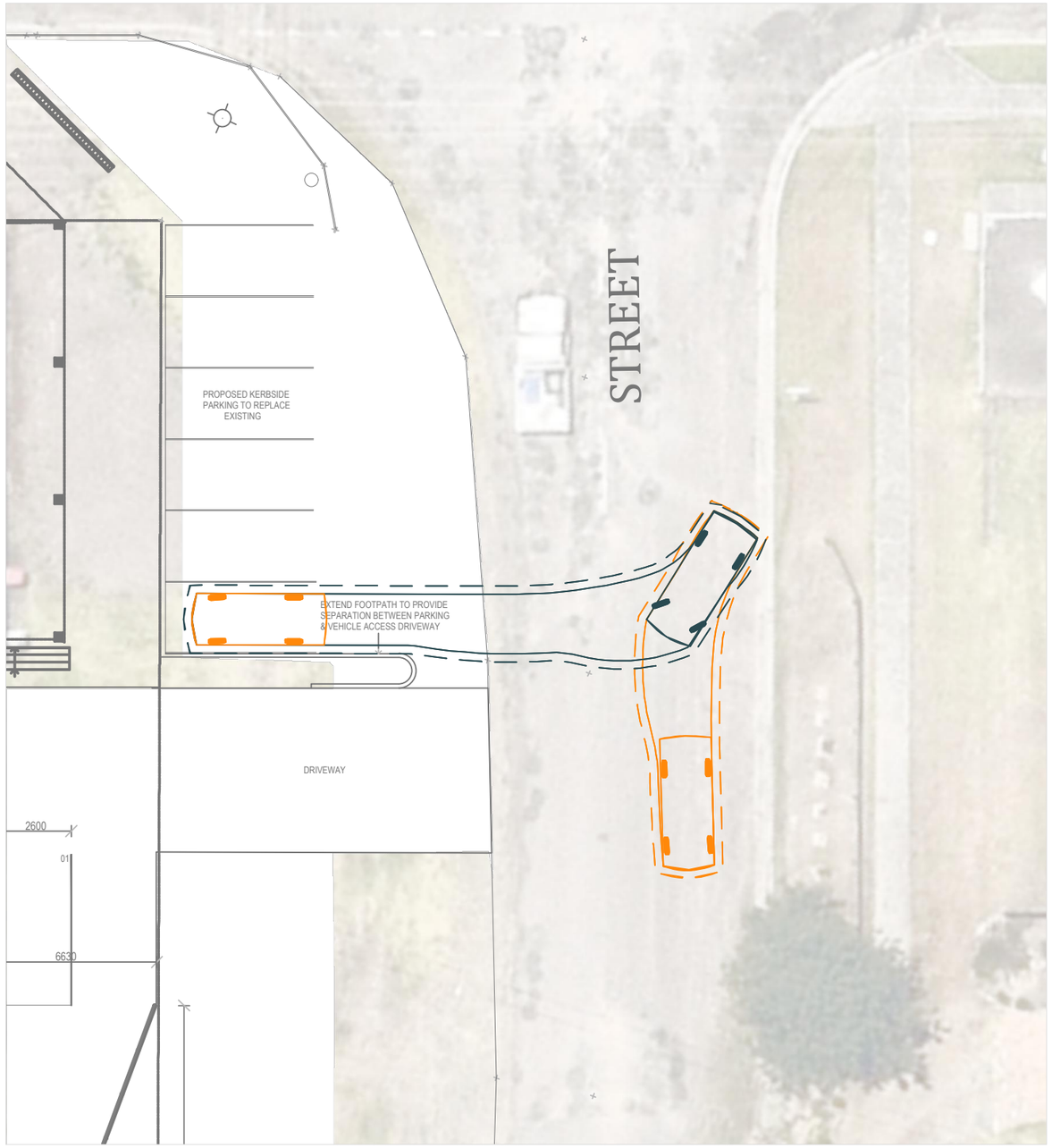
DATE: 19/09/2023
DWG NO: 739 S01C
SCALE at A3: 1:200

Amber 01



Entry Manoeuvre



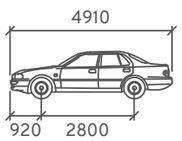
Exit Manoeuvre

Vehicle Envelope

300mm Clearance

Reverse Manoeuvre

Min. Design Speed 5km/h



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Steering Angle	: 34.1
Height	: 2100

Mixed Use Development

29 Grey Street, Clarence Town

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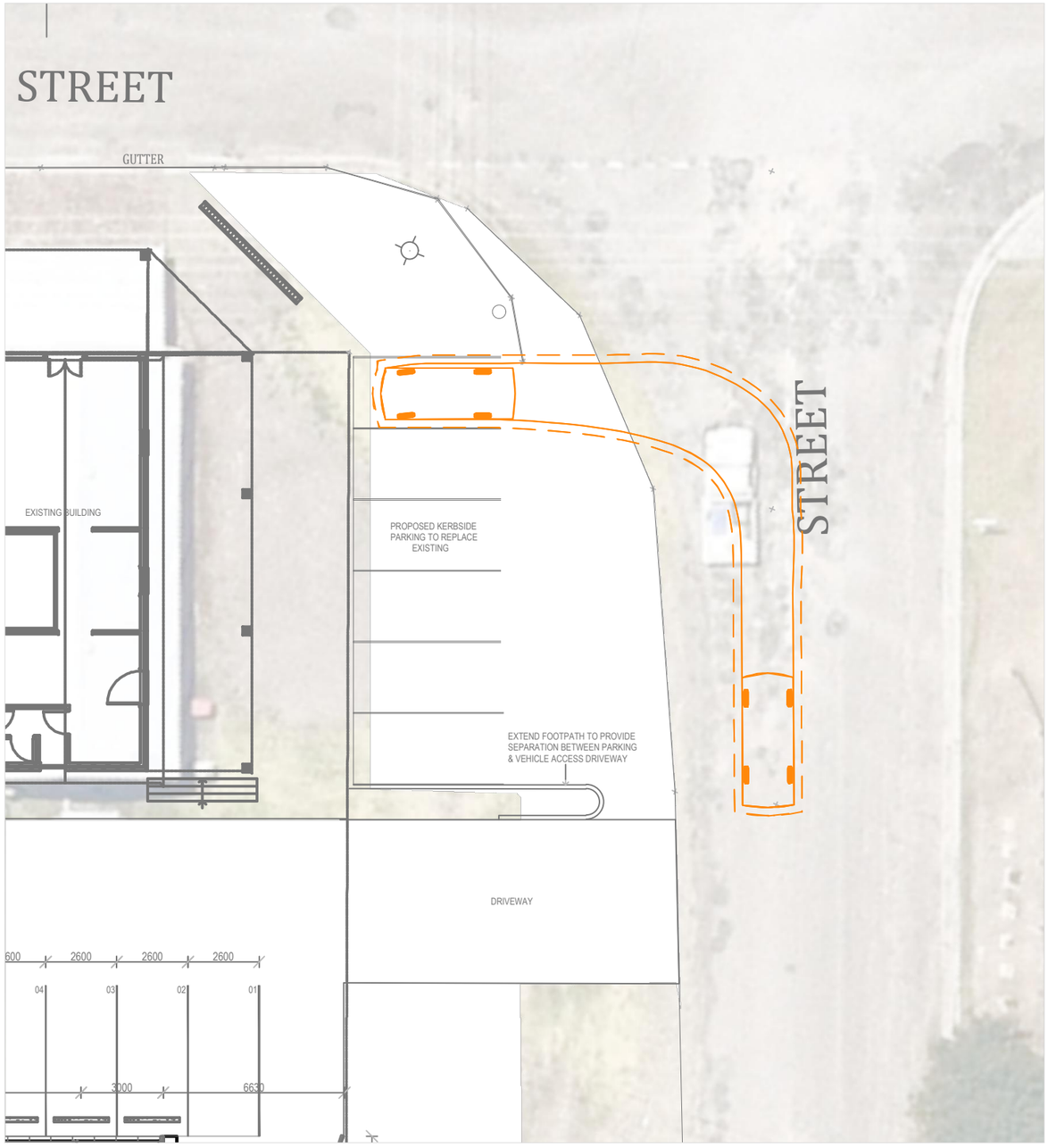

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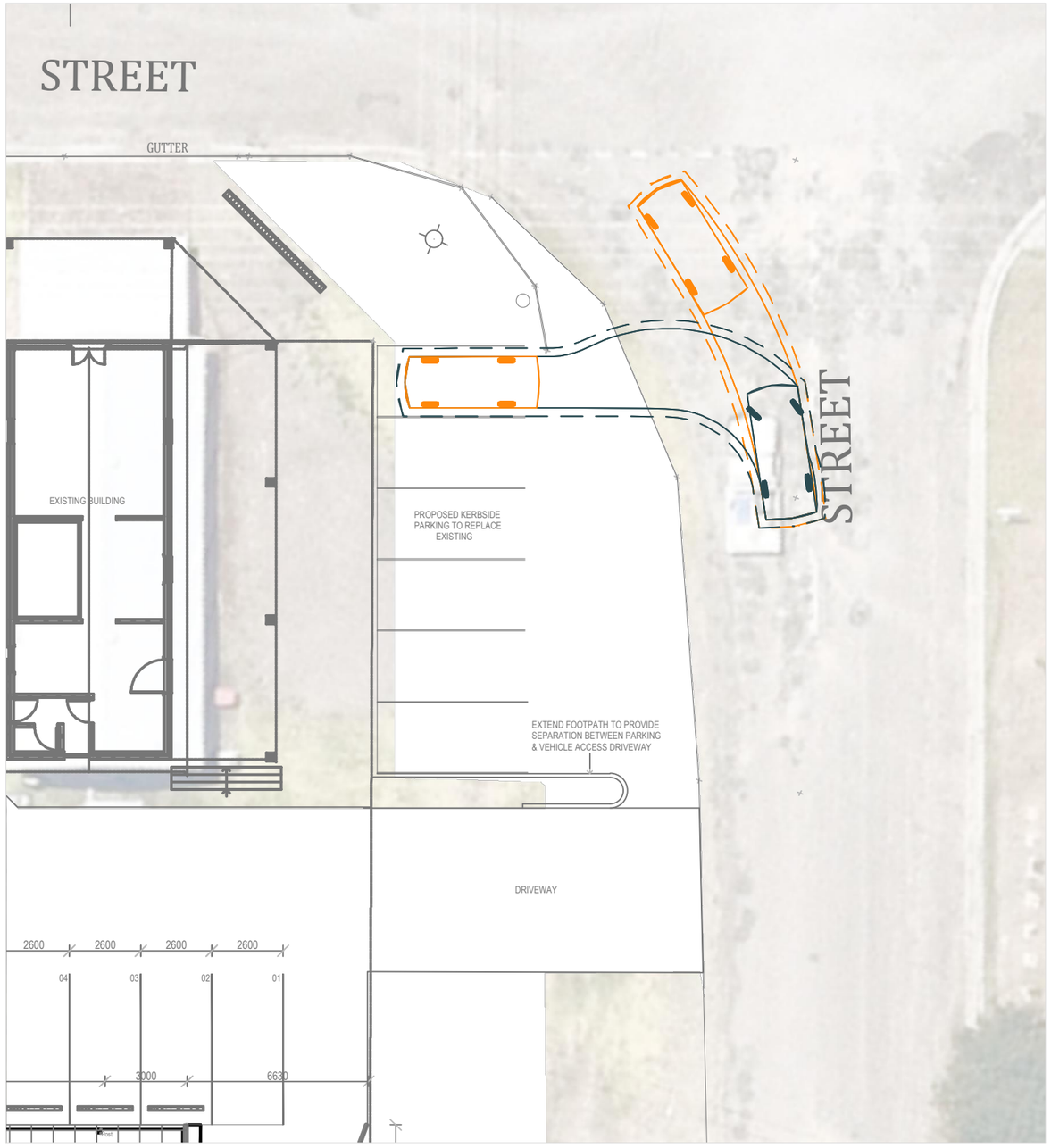


Exit Manoeuvre

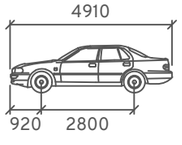
Vehicle Envelope

300mm Clearance

Reverse Manoevure

Min. Design Speed 5km/h

B85



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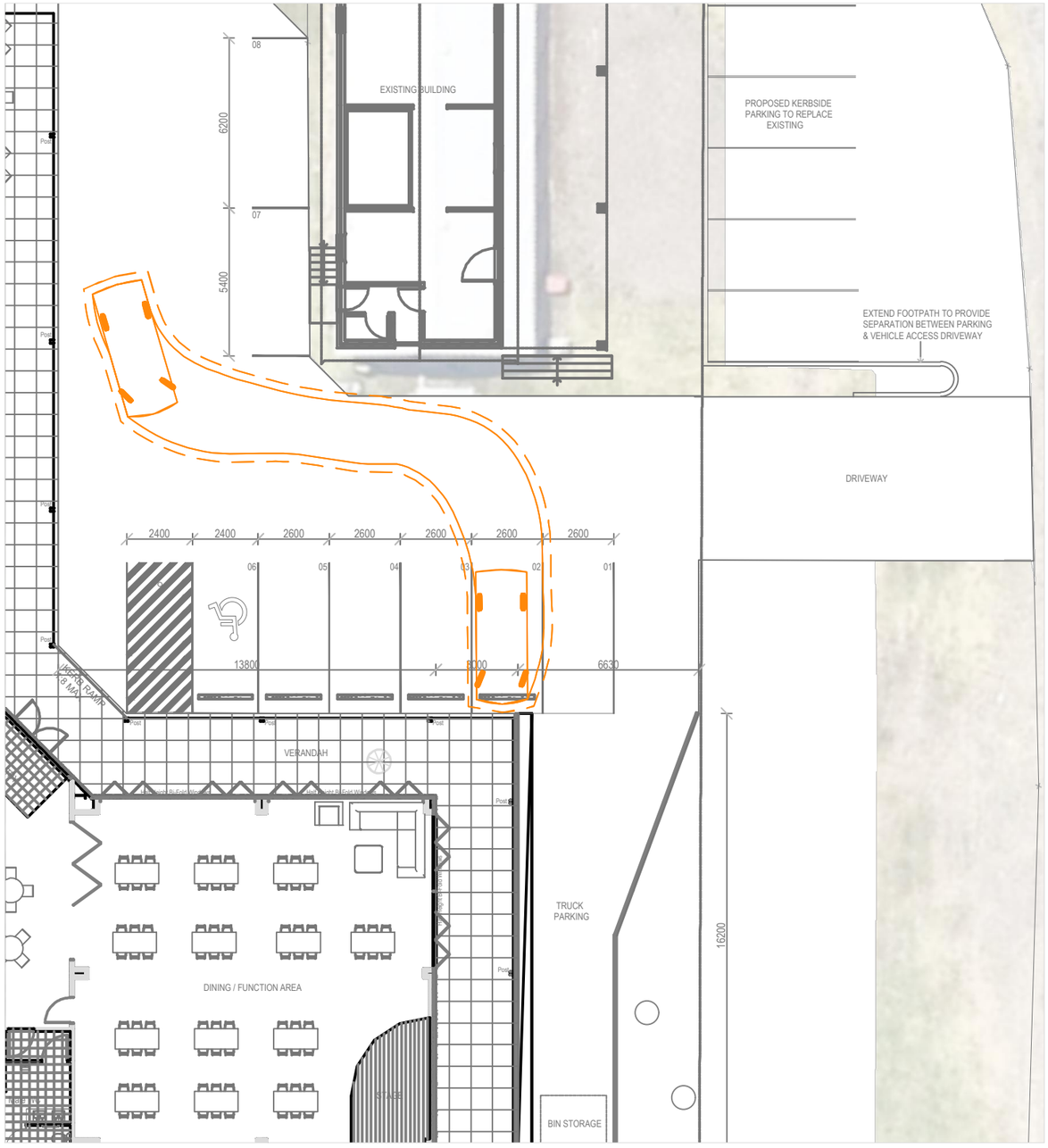
Amber 03



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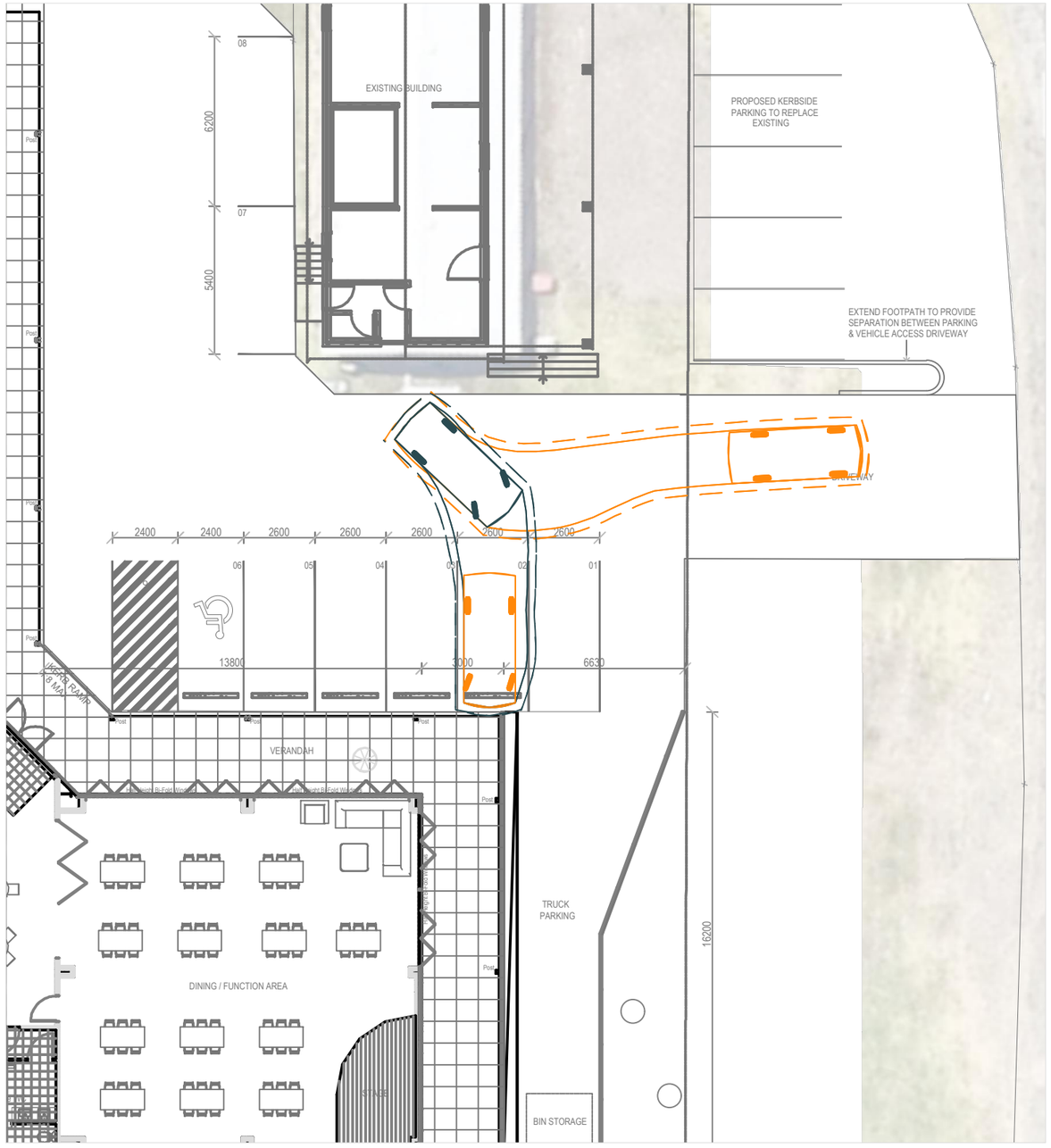

Exit Manoeuvre

Vehicle Envelope

300mm Clearance

Reverse Manoevure

Min. Design Speed 5km/h

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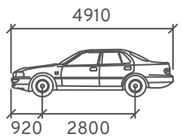

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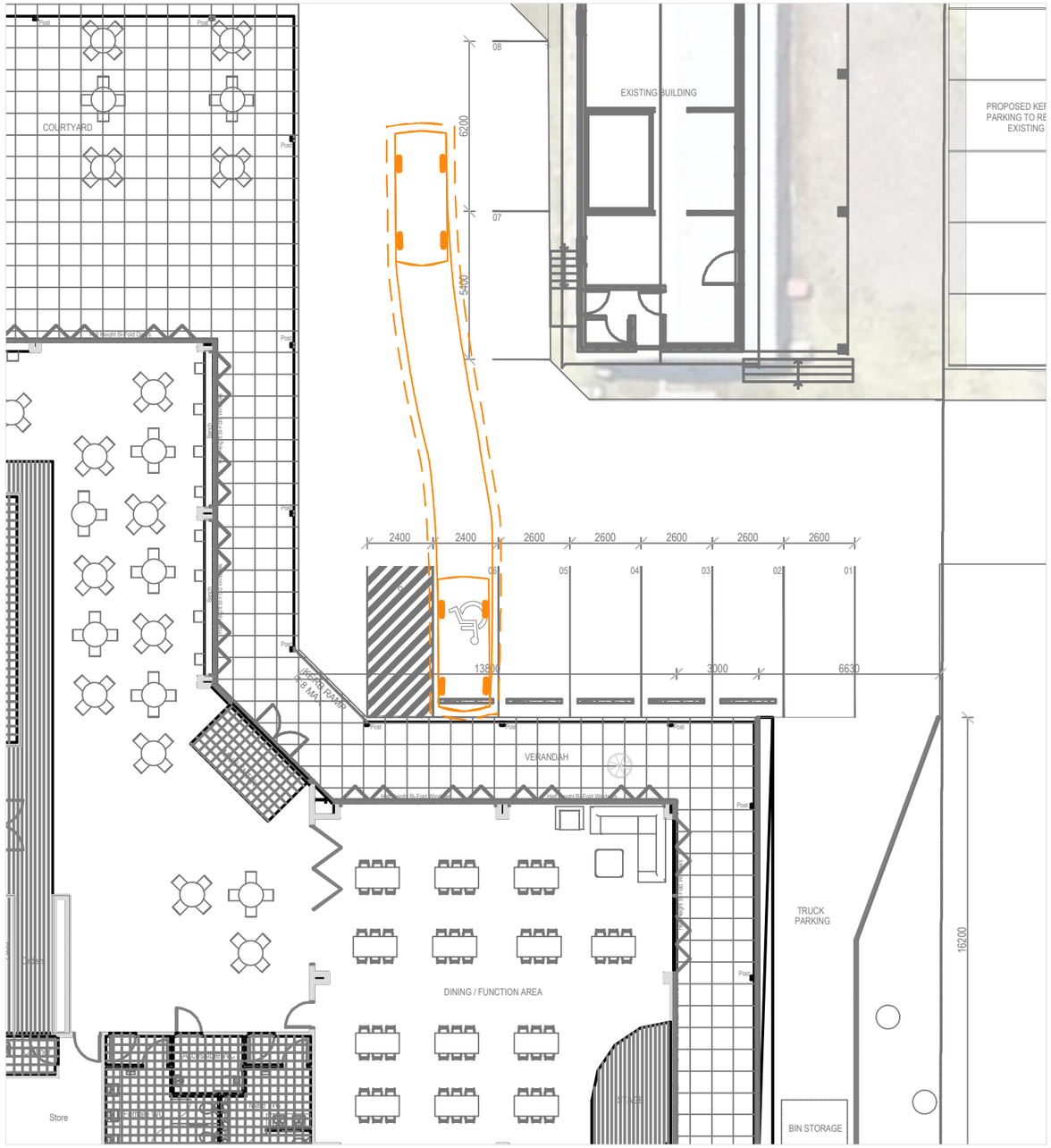
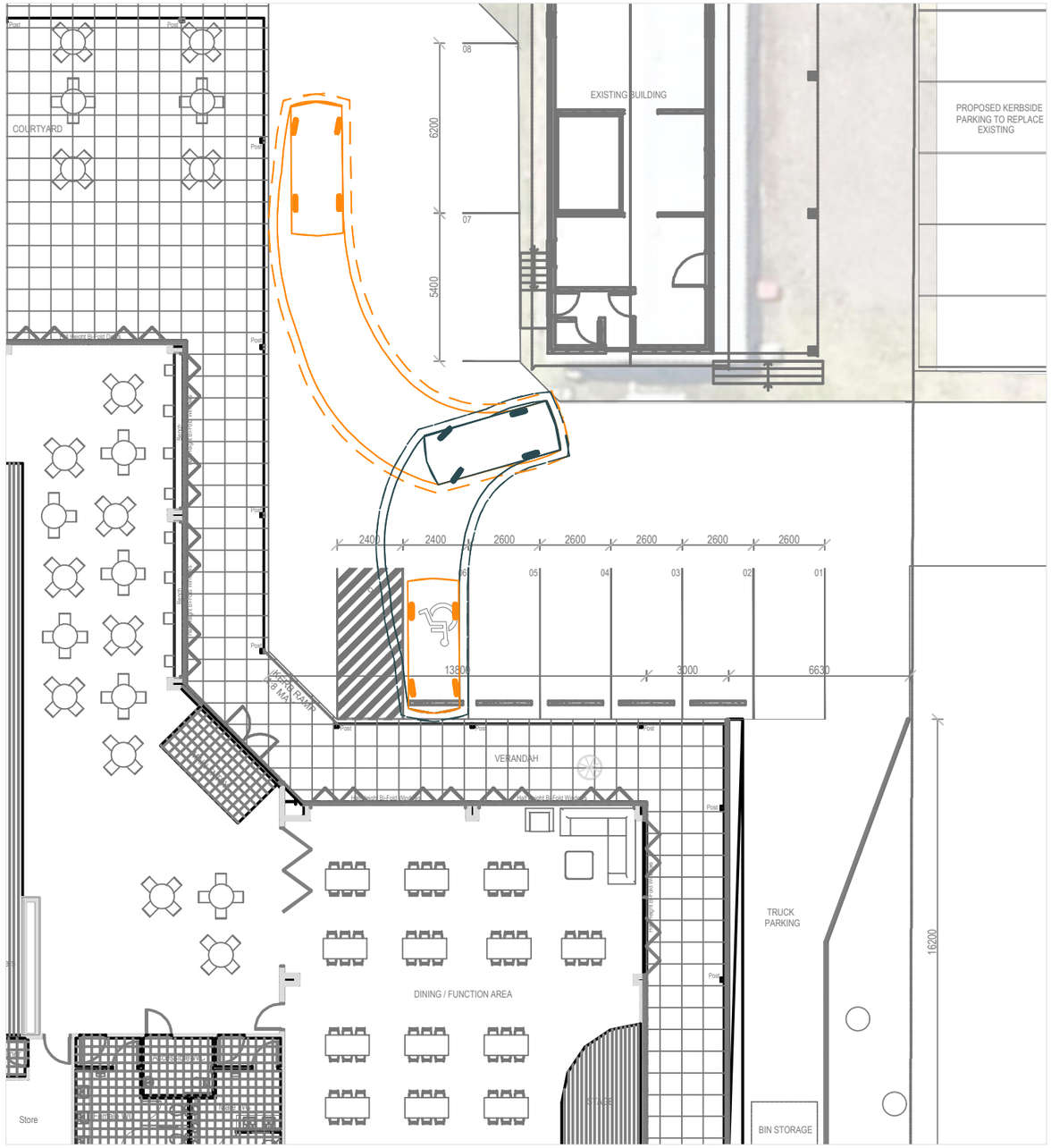


Entry Manoeuvre



Exit Manoeuvre

Vehicle Envelope

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Reverse Manoeuvre

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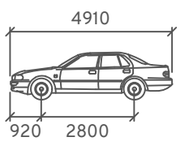

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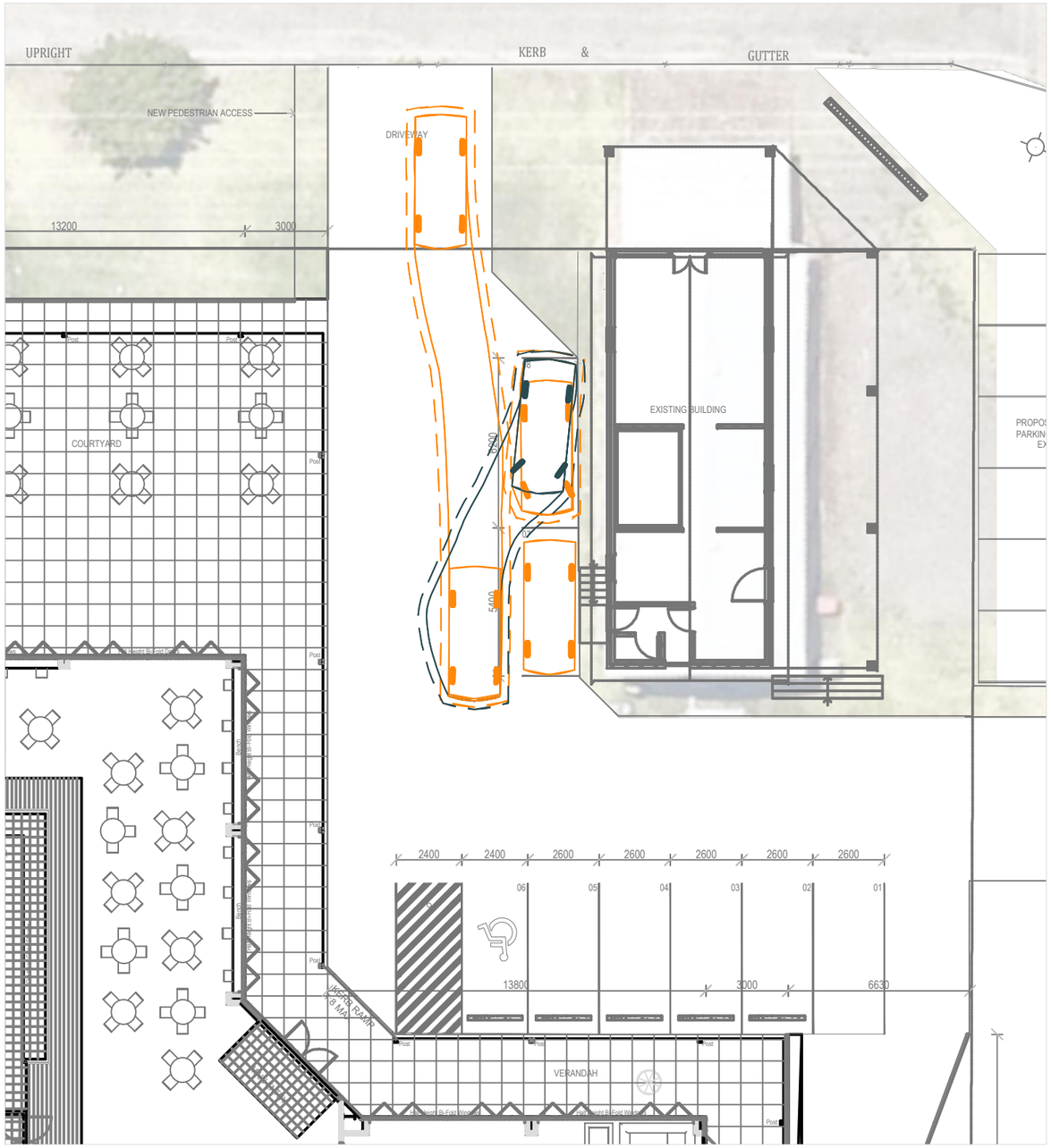
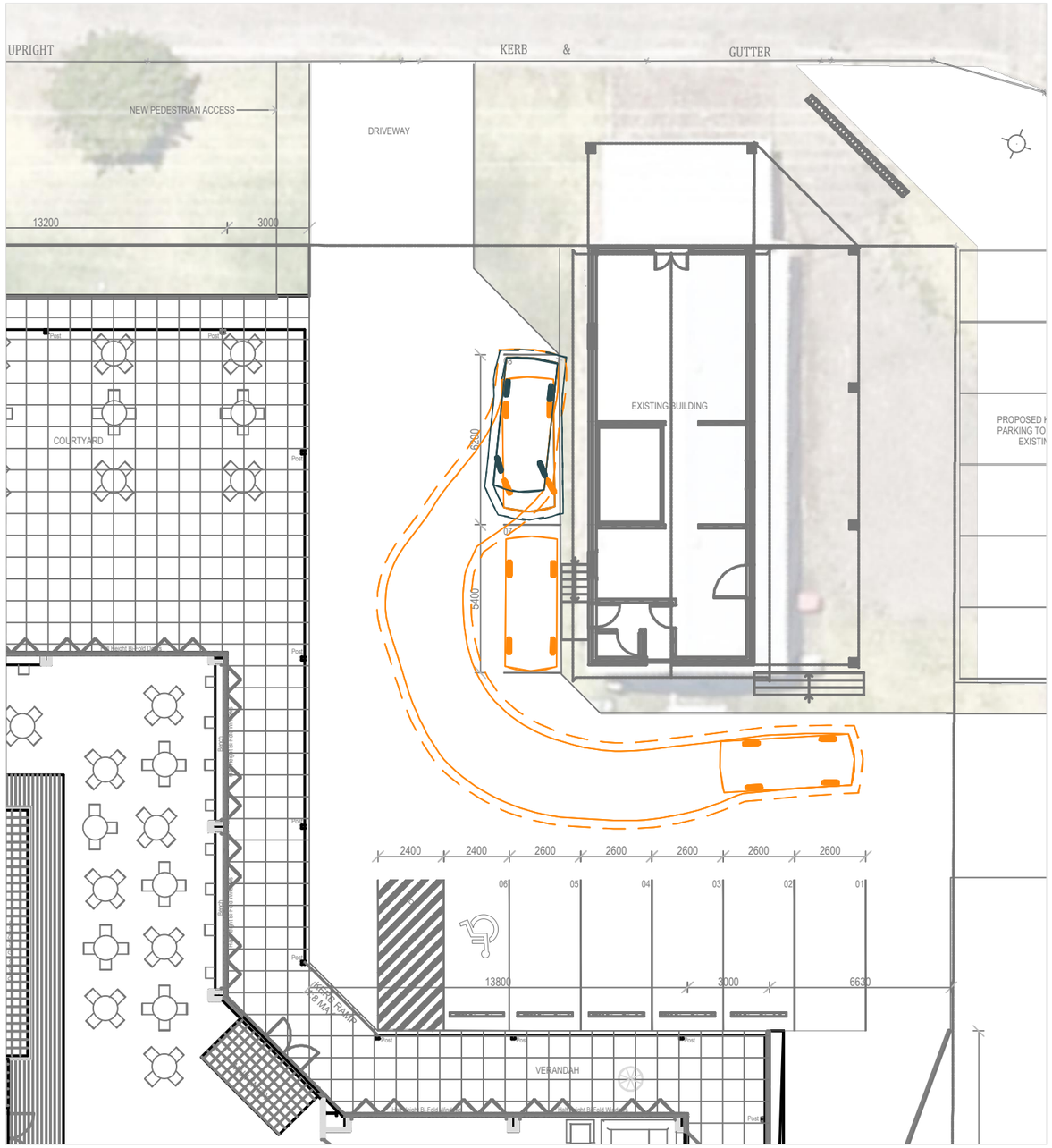
SCALE at A3: 1:200

Amber 05



Entry Manoeuvre



Exit Manoeuvre

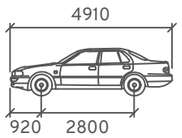
Vehicle Envelope

300mm Clearance

Reverse Manoeuvre

Min. Design Speed 5km/h

B85



	mm
Width	: 1870
Track	: 1770
Lock to Lock	: 6.0s
Steering Angle	: 34.1
Height	: 2100

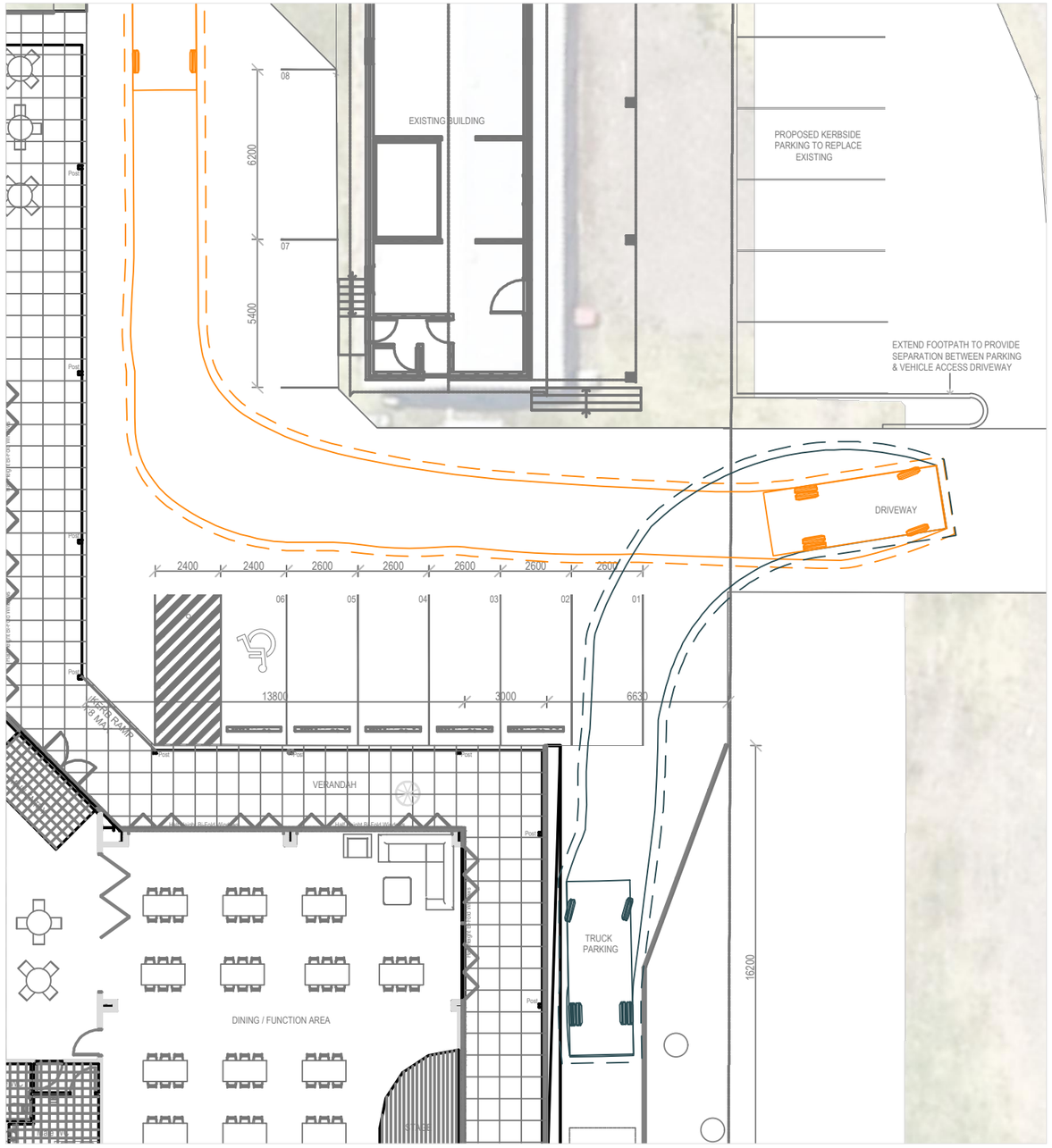
Mixed Use Development

29 Grey Street, Clarence Town

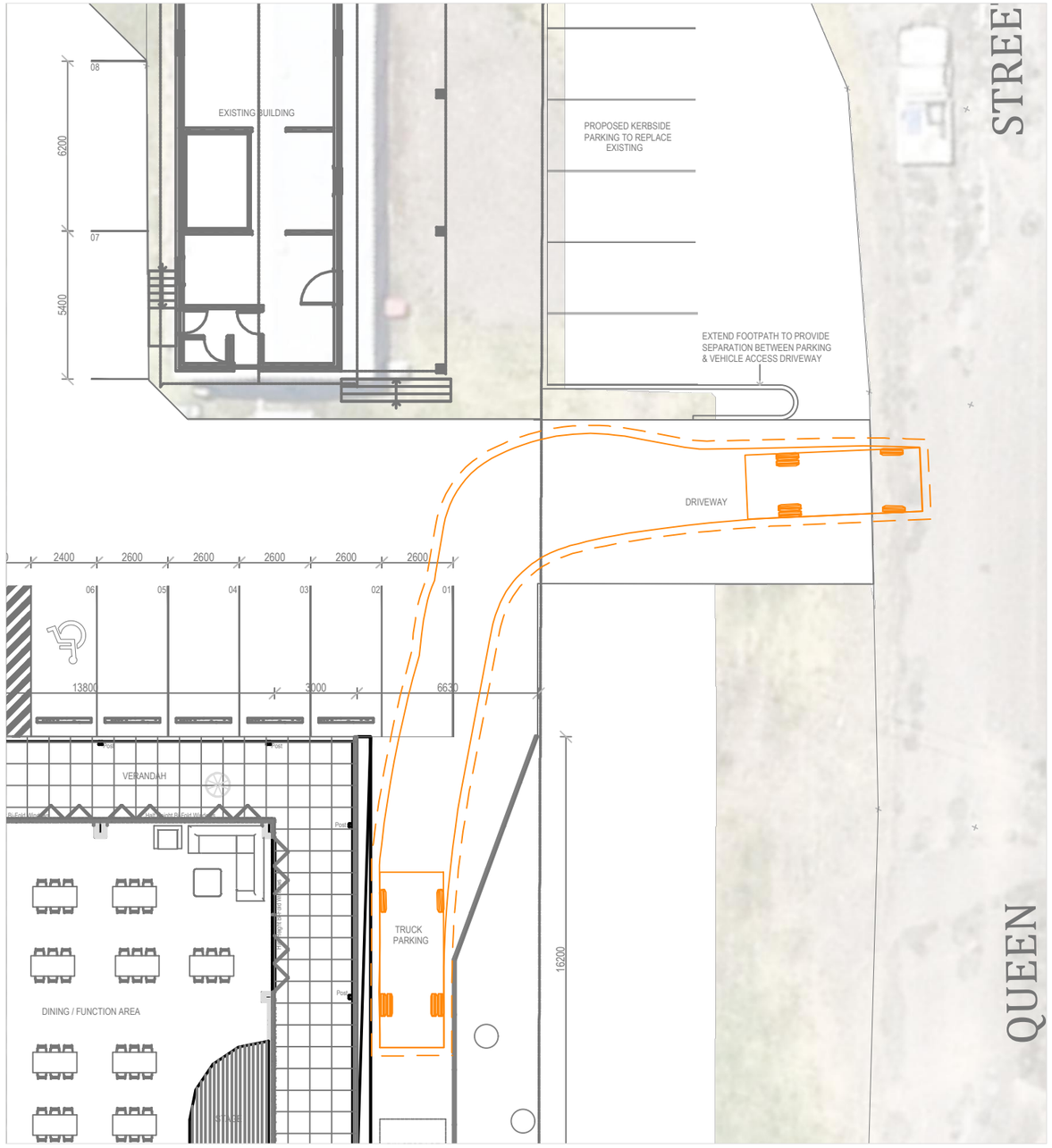
Swept Path Assessment

DRAWN: RK
DATE: 19/09/2023
DWG NO: 739 S01C
SCALE at A3: 1:200

Amber 06



Entry Manoeuvre



Exit Manoeuvre

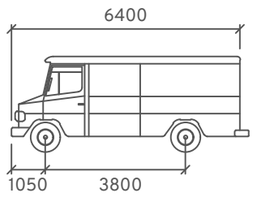
Vehicle Envelope

300mm Clearance

Reverse Manoevure

Min. Design Speed 5km/h

SRV



	mm
Width	: 2300
Track	: 2300
Lock to Lock	: 6.0s
Steering Angle	: 38.0

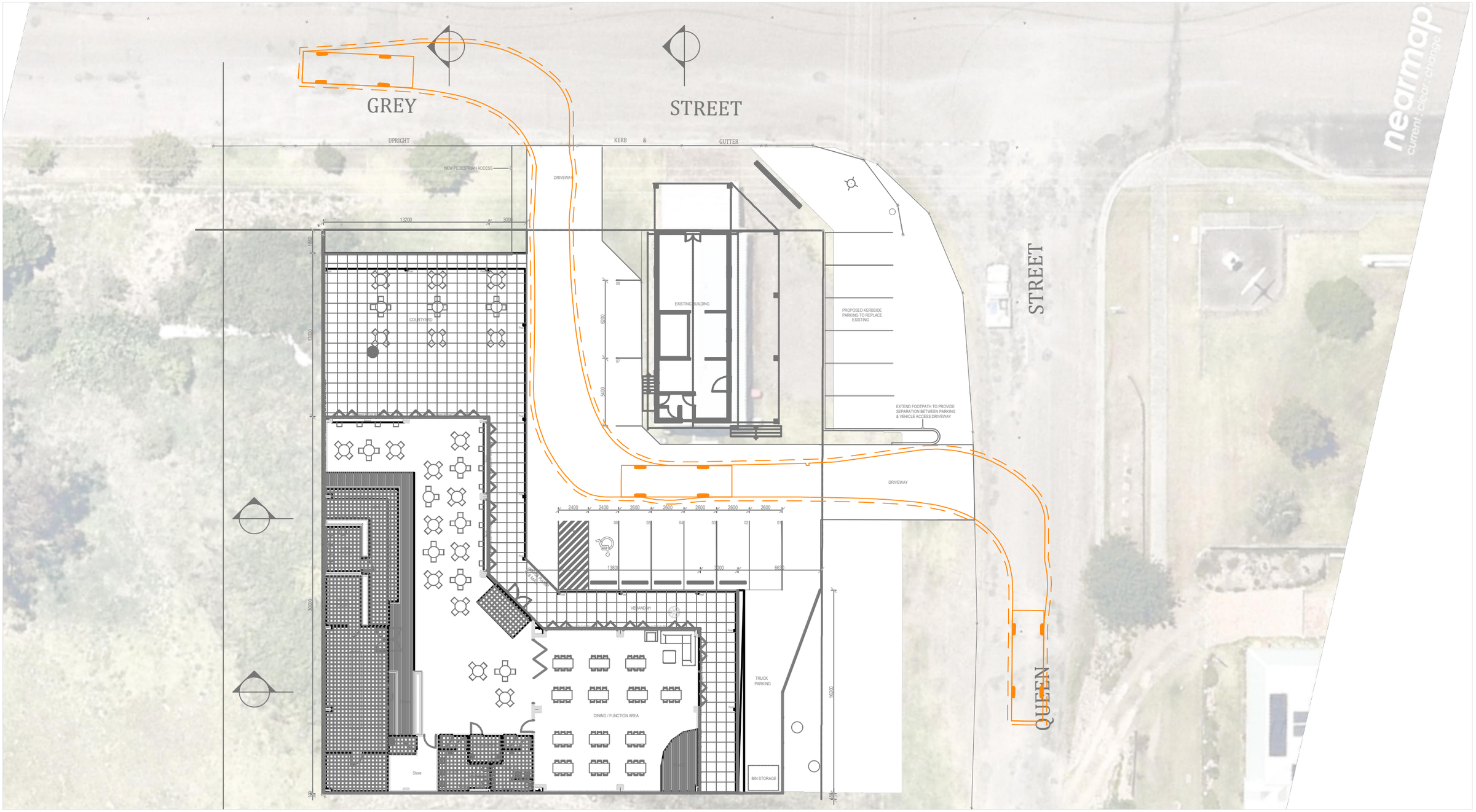
Mixed Use Development

29 Grey Street, Clarence Town

Swept Path Assessment - Access to on-site loading area

DRAWN: RK
DATE: 19/09/2023
DWG NO: 739 S01C
SCALE at A3: 1:200

Amber 07



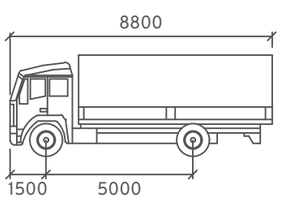
Vehicle Envelope

300mm Clearance

Reverse Manoevure

Min. Design Speed 5km/h

MRV



	mm
Width	: 2500
Track	: 2500
Lock to Lock	: 6.0s
Steering Angle	: 34.0

Mixed Use Development

29 Grey Street, Clarence Town

Swept Path Assessment - Loading using accessway

DRAWN: RK
DATE: 19/09/2023
DWG NO: 739 S01C
SCALE at A3: 1:300

Amber 08