JMT CONSULTING

Newcastle Airport – New Premium Car Park

Transport Assessment

Prepared for:

Newcastle Airport Pty Limited

20 May 2022

PROJECT INFORMATION

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Client:	Newcastle Airport Pty Limited
Project Number:	2204
Prepared By:	JMT Consulting

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1 Introduction

1.1 Background

JMT Consulting has been engaged by COX Architecture on behalf of Newcastle Airport Pty Ltd (NAPL) to prepare a transport assessment to support a Development Application (DA) for a new premium car park at Newcastle Airport.

1.2 Proposal description

The proposed scope of the DA is illustrated in Figure 1 below and includes the following:

- Reconfiguration of existing 'Short Stay 1' car park to provide for a new premium car park containing 161 parking spaces
- New pedestrian pathways linking the car park to other parts of the airport including the terminal buildings and adjoining short and long stay car parking areas
- New diagonal road at the eastern boundary of the new car park to provide for revised vehicle circulation in and around the airport forecourt area
- Changes to entry and exit arrangements for vehicles accessing the new premium car park

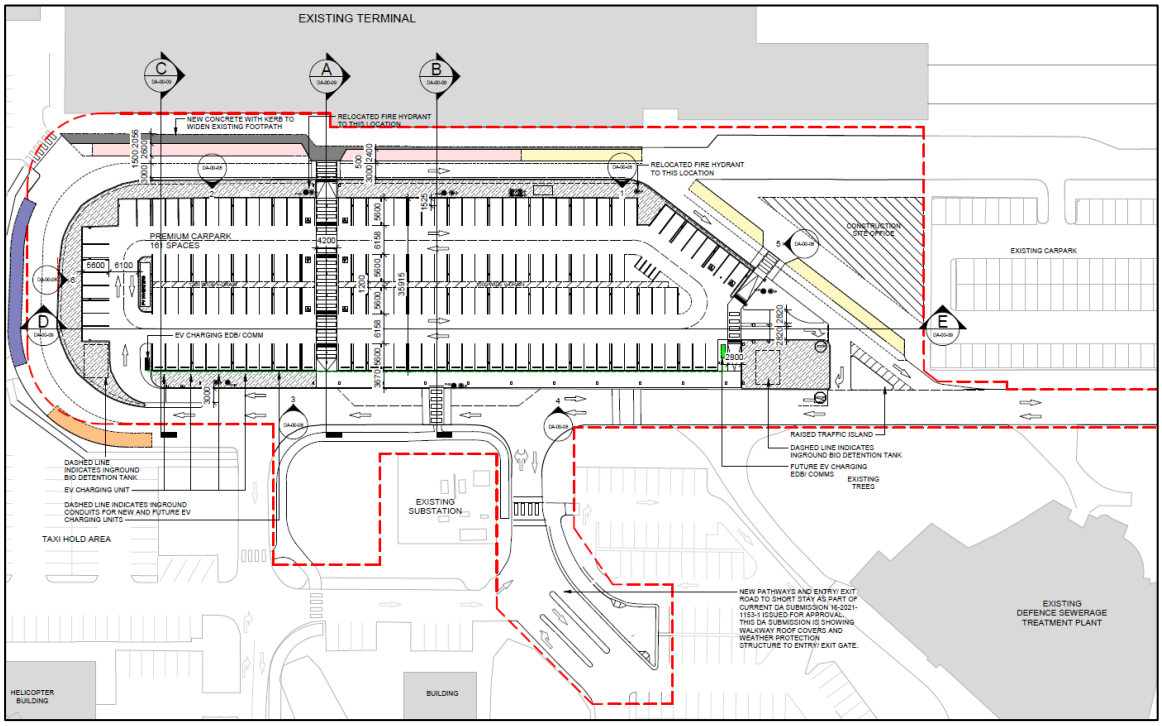


Figure 1 Proposed scope of works

1.3 Background

Newcastle Airport serves as a significant gateway to the Hunter region, servicing a total catchment of around 1.1 million people. Planned upgrades to the Airport, including an upgrade to a Code E taxiway to cater for long-range, wide-bodied aircraft, will facilitate international routes and an uplift in freight activity. The proposed new premium car park will support the strategically founded expansion and ongoing success of Newcastle Airport.

NAPL has seen sustained growth in passenger numbers over recent years and in 2016 finalised a strategic 20-year master plan for the airport site. This master plan forecasts that passenger growth will continue and sets out the direction for the development of the airport infrastructure that will be required to support such growth. To support the move to high levels of demand, expansion of the forecourt and road network is required to add capacity and provide space for the planned terminal expansion project (subject to a separate DA approval under 16-2008-940-4).

1.4 Report purpose

The purpose of this report is to describe the traffic and transport implications of the proposal, including:

- Suitability of revised car park access arrangements and internal vehicle circulation, with consideration to requirements outlined in relevant Australian Standards
- Overall changes in car parking provision for Newcastle Airport as a result of the proposal
- Description of the new circulation roadway fronting the airport terminal buildings and it's interface with the existing Williamtown Drive
- Proposed changes to drop off / pick up arrangements
- Pedestrian connections to/from the new premium car park
- Traffic implications on the broader road network as a result of the proposal

2 Transport Assessment

2.1 Proposed vehicle access and circulation

The application largely retains existing vehicle circulation arrangements in and around the terminal buildings as indicated in Figure 2 below. Key changes resulting from the proposal include:

- New vehicle entry and exit points to/from the premium car park to provide for safer and more efficient vehicle manoeuvring
- Dual exit points at the eastern end of the premium car park to accommodate efficient vehicle egress from the siite
- Realignment of existing loop road circulation roadway to facilitate entry/exit to the premium car park and accommodate the future terminal expansion. This road realignment when compared to current conditions is separately shown in Figure 3 on the following page.

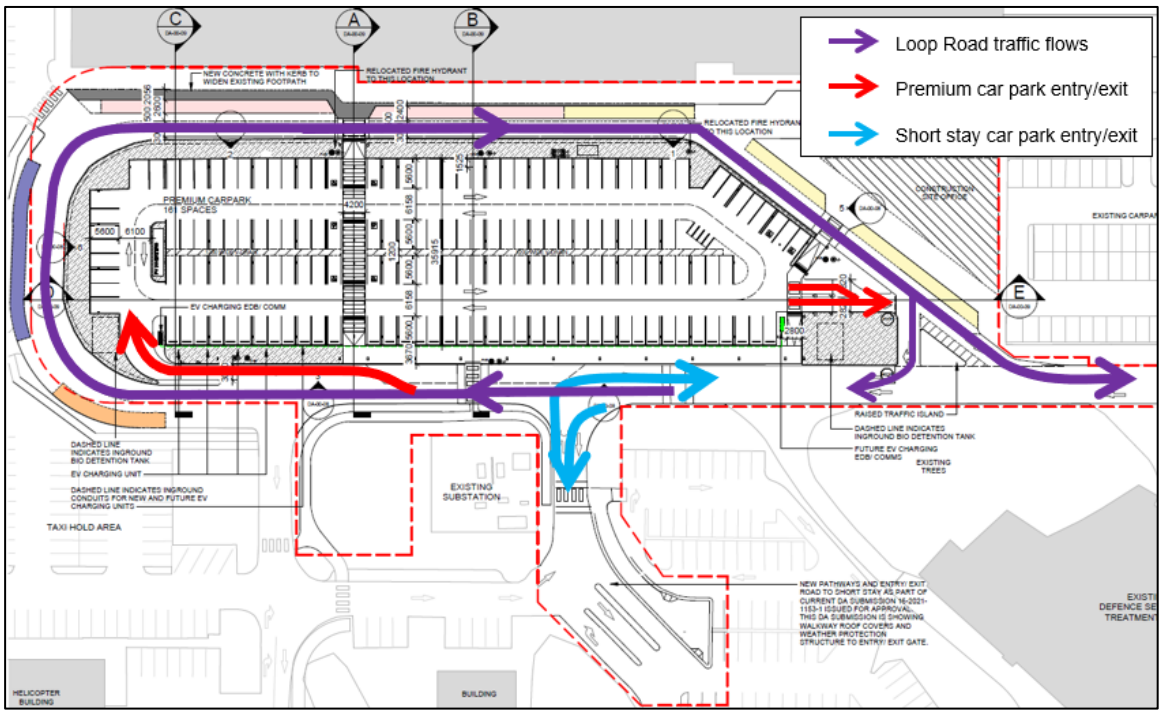


Figure 2 Proposed vehicle circulation

The roadways have all been designed to accommodate the swept path of the design vehicle (12.5m bus) travelling around the loop road and back onto Williamtown Drive. Swept path analysis has also been carried out for the 'B99' passenger vehicle entering, exiting and manoeuvring within the new premium car parking area. This swept path analysis is provided in Appendix A.

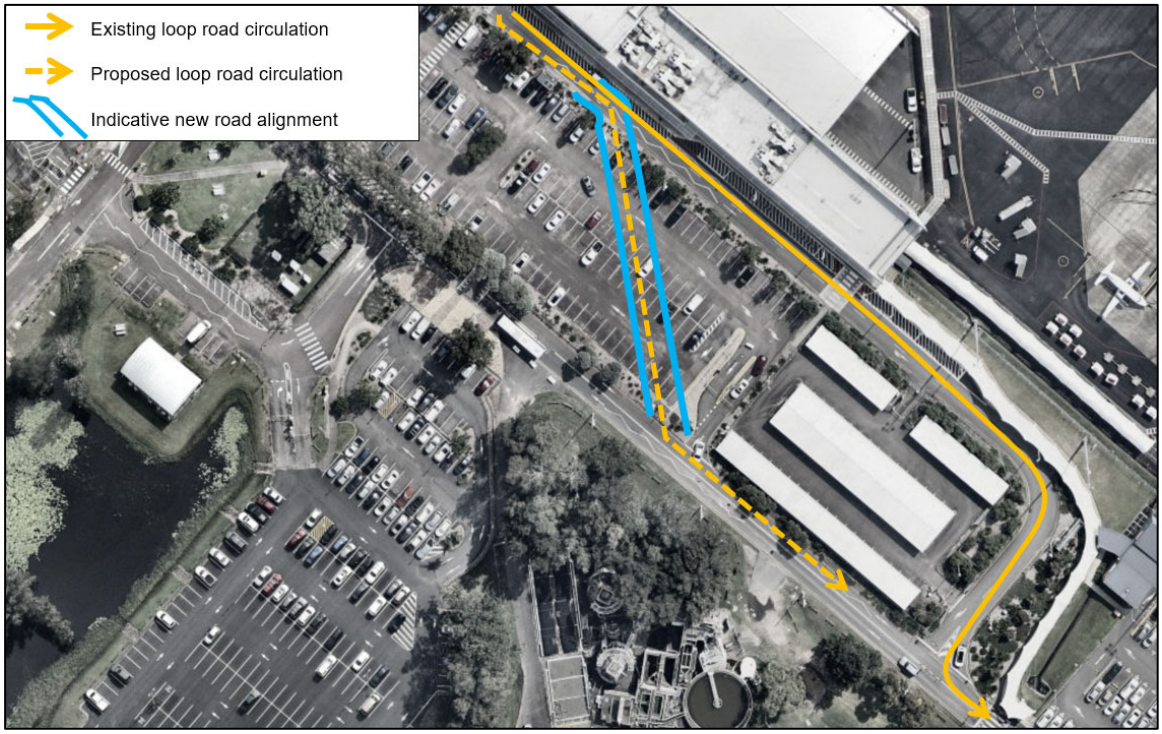


Figure 3 Proposed loop road realignment

2.2 Car park design

All parking spaces within the premium car park have been designed to comply with the requirements of 'AS/NZS 2890.1:2004 Parking facilities – Off-street car parking'. The parking dimensions are proposed to be larger than that required by AS/NZS 2890.1 (minimum required parking space dimensions are 2.5m wide by 5.4m long in accordance with User Class of 2). Minimum aisle widths shall be in accordance with AS/NZS 2890.1, which is 5.8m for 90 degree parking arrangements. The car park provides for:

- 2.7m wide parking spaces
- 5.6m long parking spaces; and
- 6.15m wide parking aisles

The car park design also complies with AS2890.6-2009 with respect to parking space dimensions and the provision of shared zones.

2.3 Road safety

The proposal, specifically the realignment of the existing loop road in front of the arrivals terminal, will provide for a safer environment for road users. Under existing arrangements buses turning left from the loop road onto Williamtown Drive must cross the road centre-line and travel in the opposing traffic lane for a short distance as shown in Figure 4. As indicated in Figure 5 the proposal to realign the loop road will allow for buses to turn left without having to cross the centre-line – improving safety for all road users.

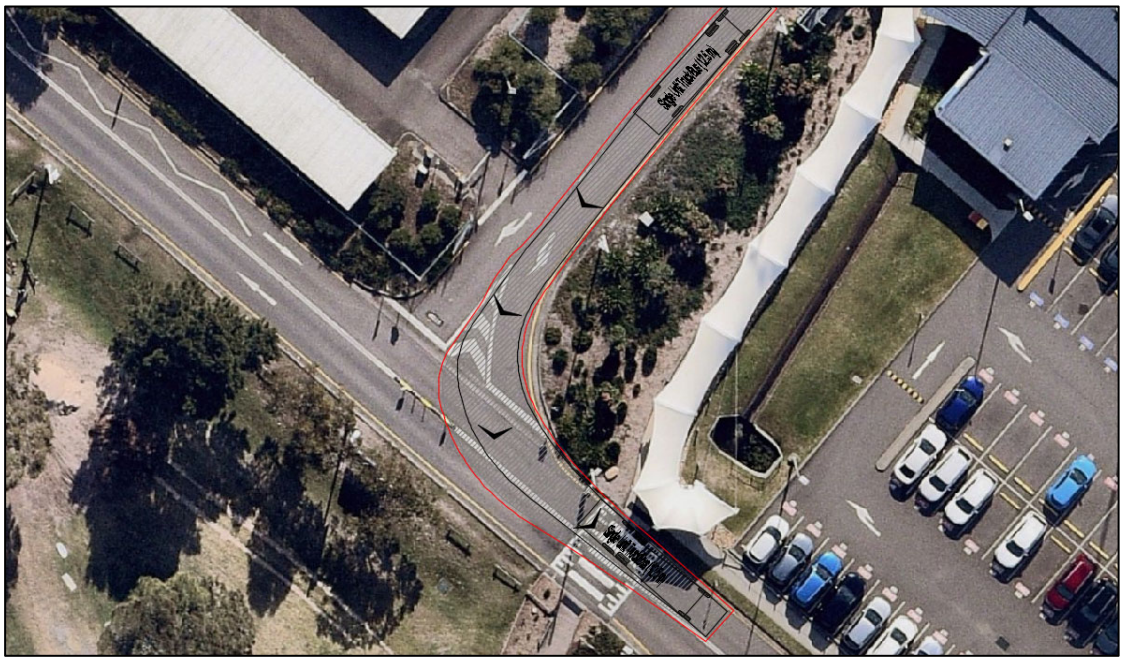


Figure 4 Existing bus swept path onto Williamtown Drive

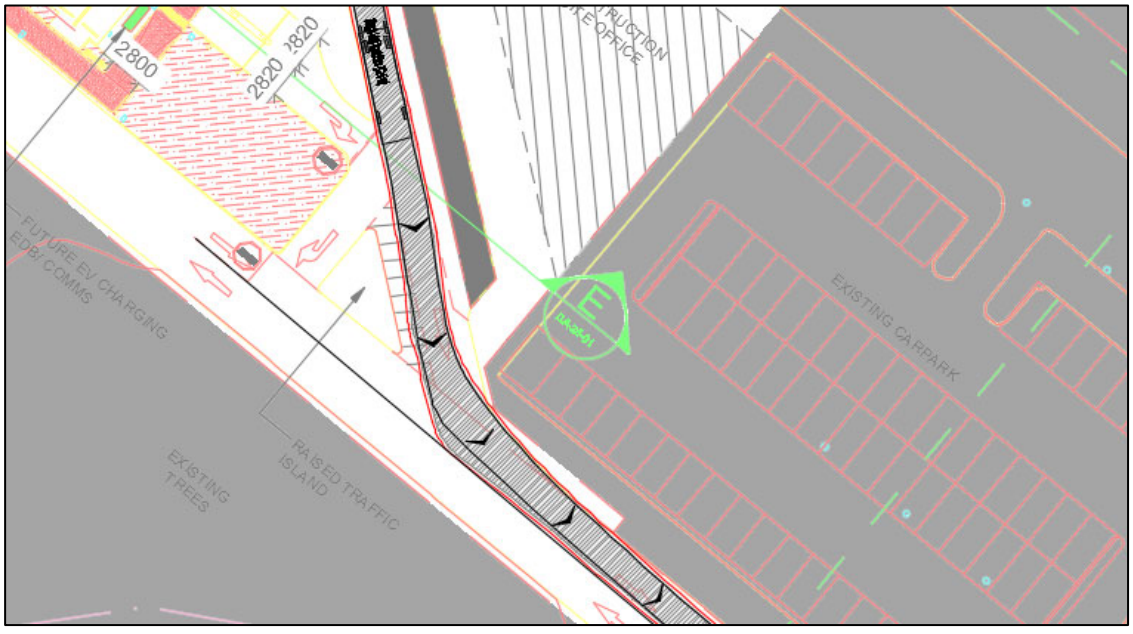


Figure 5 Future bus swept path onto Williamtown Drive

A further improvement to road safety as a result of the proposal is the relocation of the car park entry boom-gate to better align with westbound traffic movements on Williamtown Drive. Currently the entry boom gate to the car park is located at the end of a sharp curve in the roadway (see Figure 6) which results in vehicles not being correctly positioned to collect their parking ticket from the machine. NAPL staff have indicated that this arrangement also has resulted in a number of incidents over many years with vehicles clashing with the existing infrastructure, with bollards installed in recent years to act as a protective device. Along with a more suitable entry boom-gate location, the proposal also involves widening of the existing car park entry to provide for safer and more efficient vehicle manoeuvring into the car park itself as shown in Figure 7.

Figure 6 Existing car park entry point from Williamtown Drive

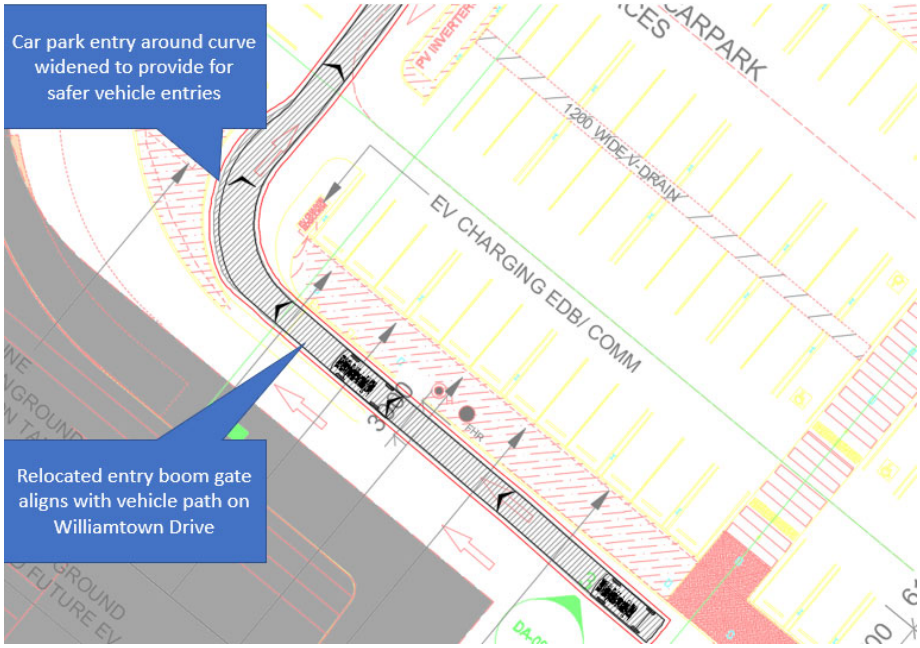


Figure 7 Proposed car park entry point from Williamtown Drive

2.4 Road layout

Currently the road layout in front of the terminal buildings consists of a single traffic lane with an adjoining green hatched 'buffer zone' to provide additional manoeuvring area for vehicles and pedestrians, as shown in Figure 8.

Figure 8 Existing road layout

The proposed road layout will be largely consistent with that currently in place outside the terminal buildings (see Figure 9), which will include

- A drop off / pick up lane
- A single traffic lane
- Retention of a green hatched buffer zone around the loop road

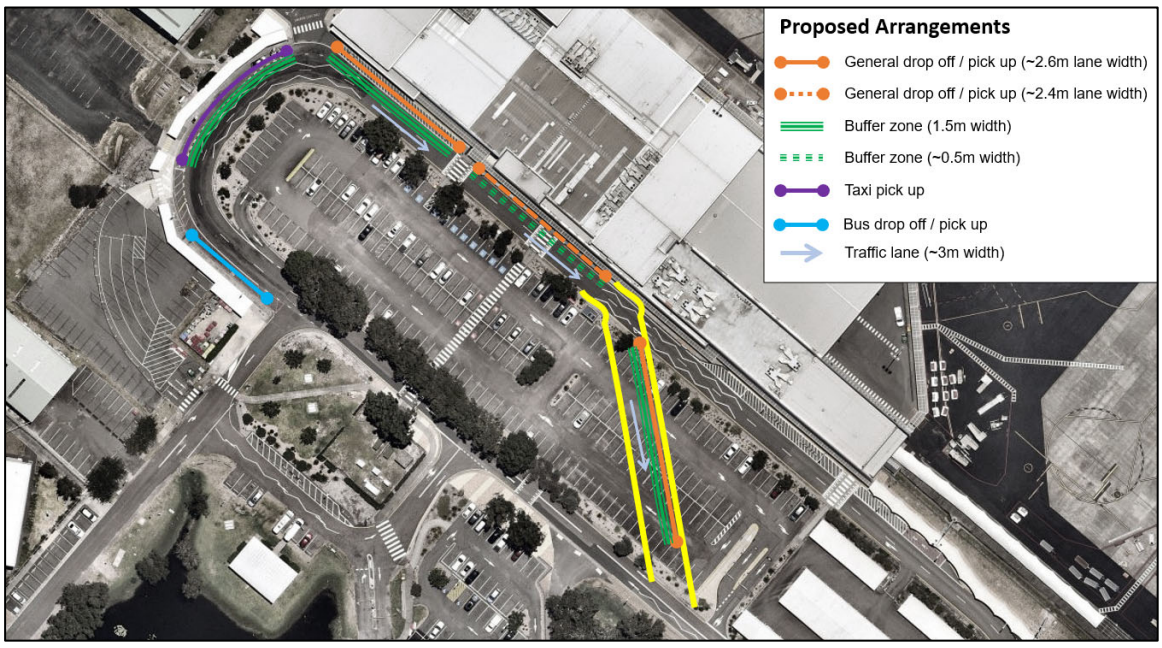


Figure 9 Proposed road layout

2.5 Drop off / pick up capacity

The extent of kerbside space available for drop off and pick up will remain unchanged compared to current conditions. As part of the future Airport Terminal upgrade project (subject to a separate DA) additional space for kerbside drop off and pick up will explored to accommodate the anticipated growth in airport traffic. The proposal for the new premium car park will not in itself increase pick up and drop off demand, and therefore given the amount of space available for this use will remain unchanged no impacts are anticipated from the proposal.

2.6 Pedestrian connections

The proposal builds on the existing network of pedestrian pathways and crossings within the site to enhance connectivity through the new premium car park as illustrated in Figure 10 below. Existing pedestrian crossing points are maintained on Williamtown Drive and the loop road, with an additional crossing point to be provided at the eastern end of the realigned loop road. Within the car park a nearly 3m wide internal pedestrian pathway will be provided to connect the existing departures terminal building with the short stay car parking areas to the south of the car park. Pedestrian connections in an east-west direction will also be provided to connect with the existing bus stops as well as the arrivals terminal building and rental car park.

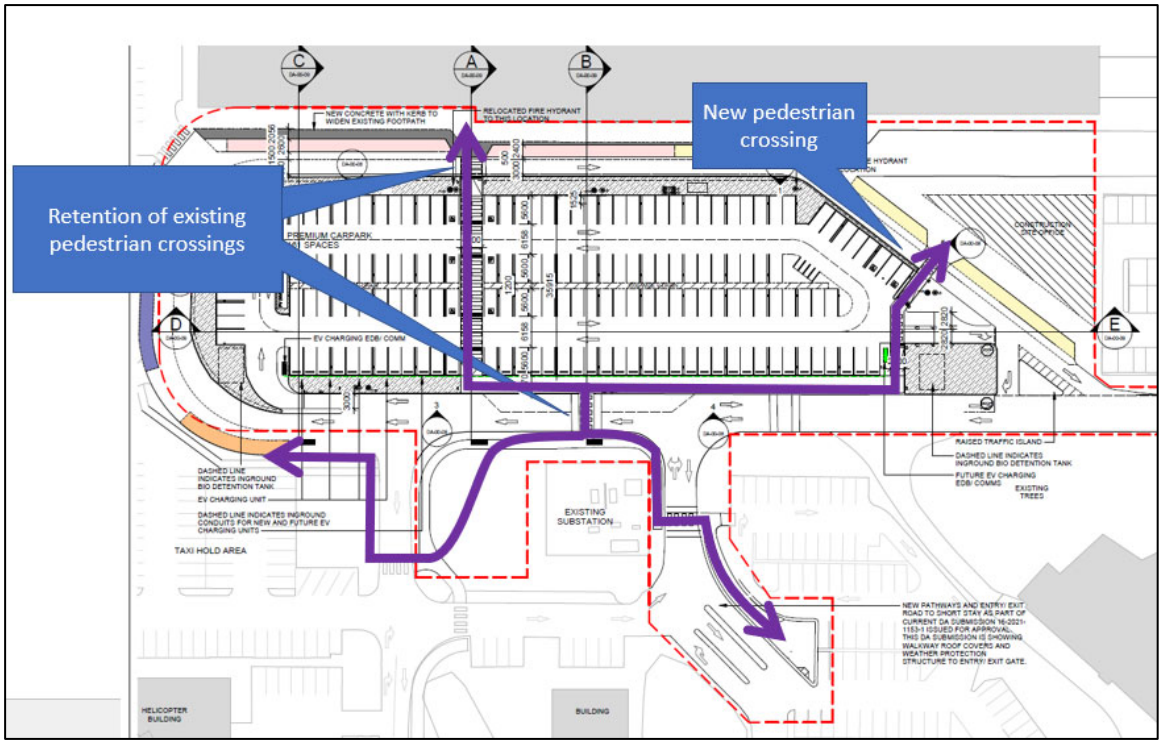


Figure 10 Proposed pedestrian connections

2.7 Parking implications

The proposal would see the existing 233 spaces within the Short Stay 1 car park replaced with a 161 space premium car park – a net reduction of 72 parking spaces. This net reduction in car parking will be offset however by the proposed extension to existing short and long stay carpark facilities proposed as part of a separate DA (16-2021-1153-1) lodged in January 2022. This separate application proposes approximately 1,080 additional parking spaces, of which 186 spaces will be built prior to the closure of the existing short stay 1 car park. This car park extension will service the continued growth of Newcastle Airport. The extent of this car park extension is indicated in Figure 11 below.

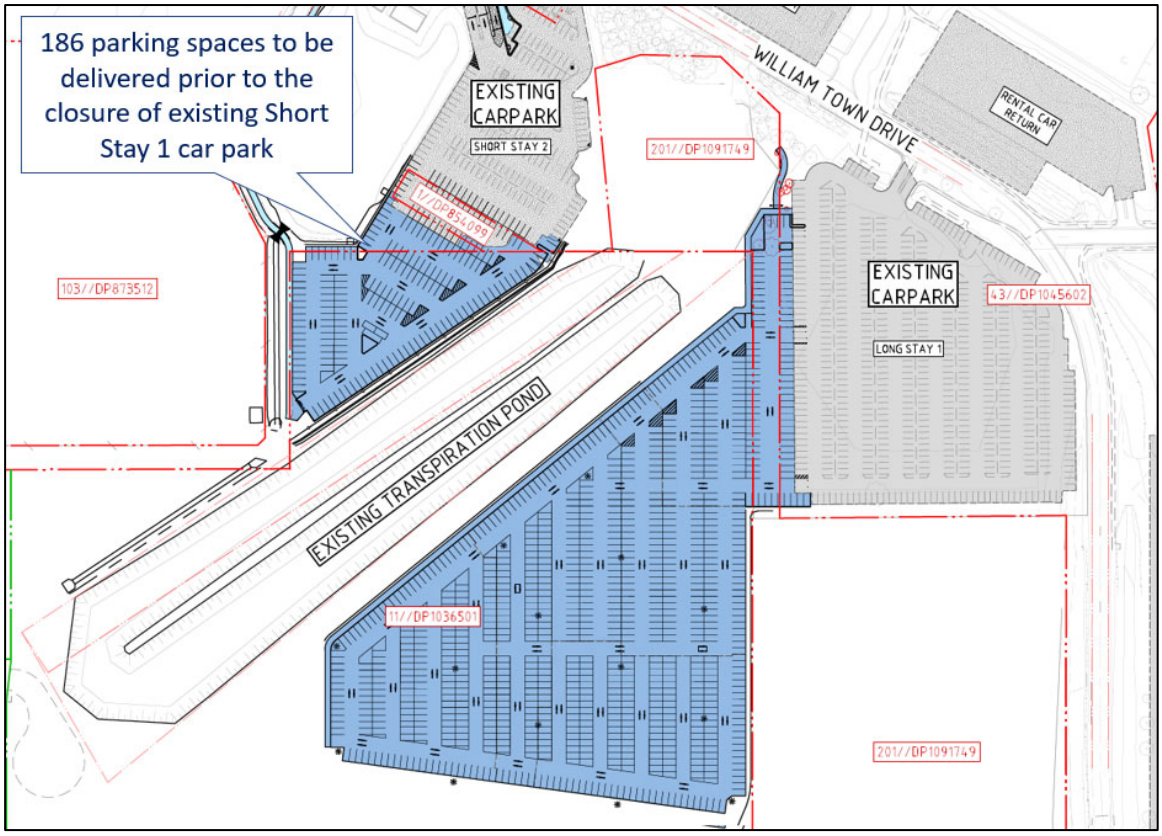


Figure 11 Car park extension proposed under DA-16-2021-1153-1

Source: Northrop, modified by JMT Consulting

Given that the small net reduction in car parking spaces as a result of the premium car park DA will be more than offset by the car park extension proposal to the south, there are not considered to be any parking implications associated with the subject proposal.

2.8 Traffic implications

There is no expected traffic generation as part of the proposed premium car park upgrade. Regional Traffic Impact Assessments have already been undertaken for the Terminal upgrade and Astra Aerolab as part of the Development Application for each of those projects, and subsequently any required traffic improvements or upgrades have already been conditioned by their respective Development Consents.

3 Summary

This transport assessment report has been prepared by JMT Consulting to describe the traffic and transport implications of the proposed new premium car park at Newcastle Airport. The proposal will accommodate a new 161 space premium car park (replacing the existing 233 space short stay 1 car park) with associated changes in the roadways servicing the site.

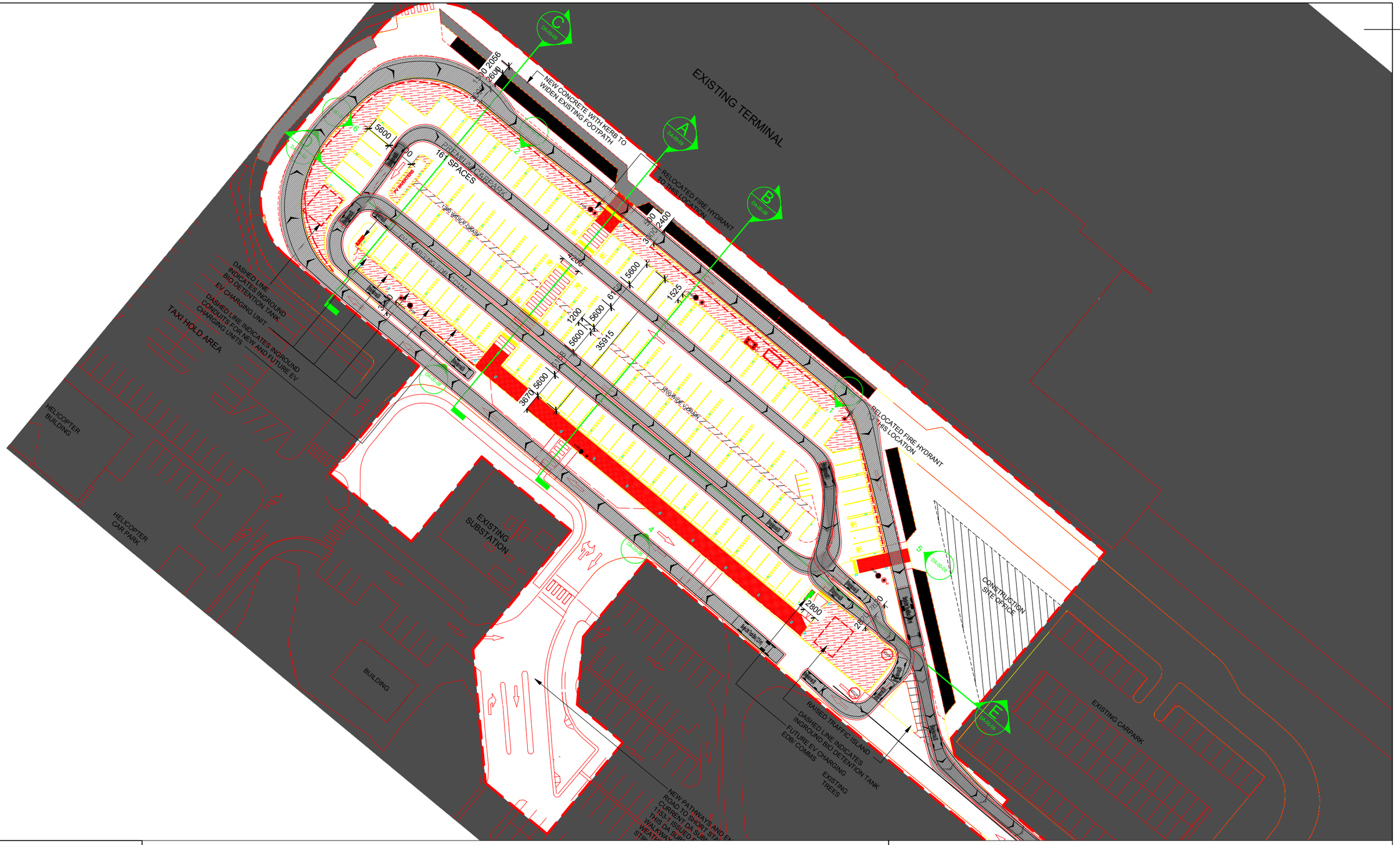
The proposal will provide for improved vehicle circulation and safety through the relocation of boom gate infrastructure to better align with vehicle movement paths. Further the realigned loop road will allow for buses to turn left onto Williamtown Drive without having to cross the road centre-line which is an improvement from the current situation.

All parking spaces within the premium car park have been designed to comply with the requirements of the relevant Australian Standards. Vehicle swept path analysis confirms there is sufficient manoeuvring area for large passenger vehicles within the car park, including through to the dual exit boom gates located at the eastern end of the car park. The design also makes provision for good levels of pedestrian connectivity through the car park, including a new pedestrian crossing point of the loop road at the eastern end of the car park. The extent of kerbside space available for drop off and pick up will remain unchanged compared to current conditions.

While the proposal will result in a net reduction of 72 spaces compared to current conditions, this reduction will be more than offset by the separate proposal to enhance parking capacity by more than 1,000 spaces to the south of Williamtown Drive – of which 186 spaces will be built prior to the closure of the existing short stay 1 car park. The proposal will not generate any additional traffic movements, with separate traffic analysis undertaken to support the Airport Terminal upgrade and the Astra Aerolab aero-business development.

Based on the above key findings, it is considered that the proposal's impact on the transport network will be acceptable.

Appendix A: Vehicle Swept Path Analysis



Job Title
Newcastle Airport

Client
COX Architecture

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PO Box 99, Kingsford NSW 2032

Drawing Title
Premium Car Park DA
Turning Paths

Drawing No
2204_15

Date
20.05.22

Legend
- Body Envelope
- 300mm Envelope
- Wheel Envelope

Job No
2204

Scale at A3
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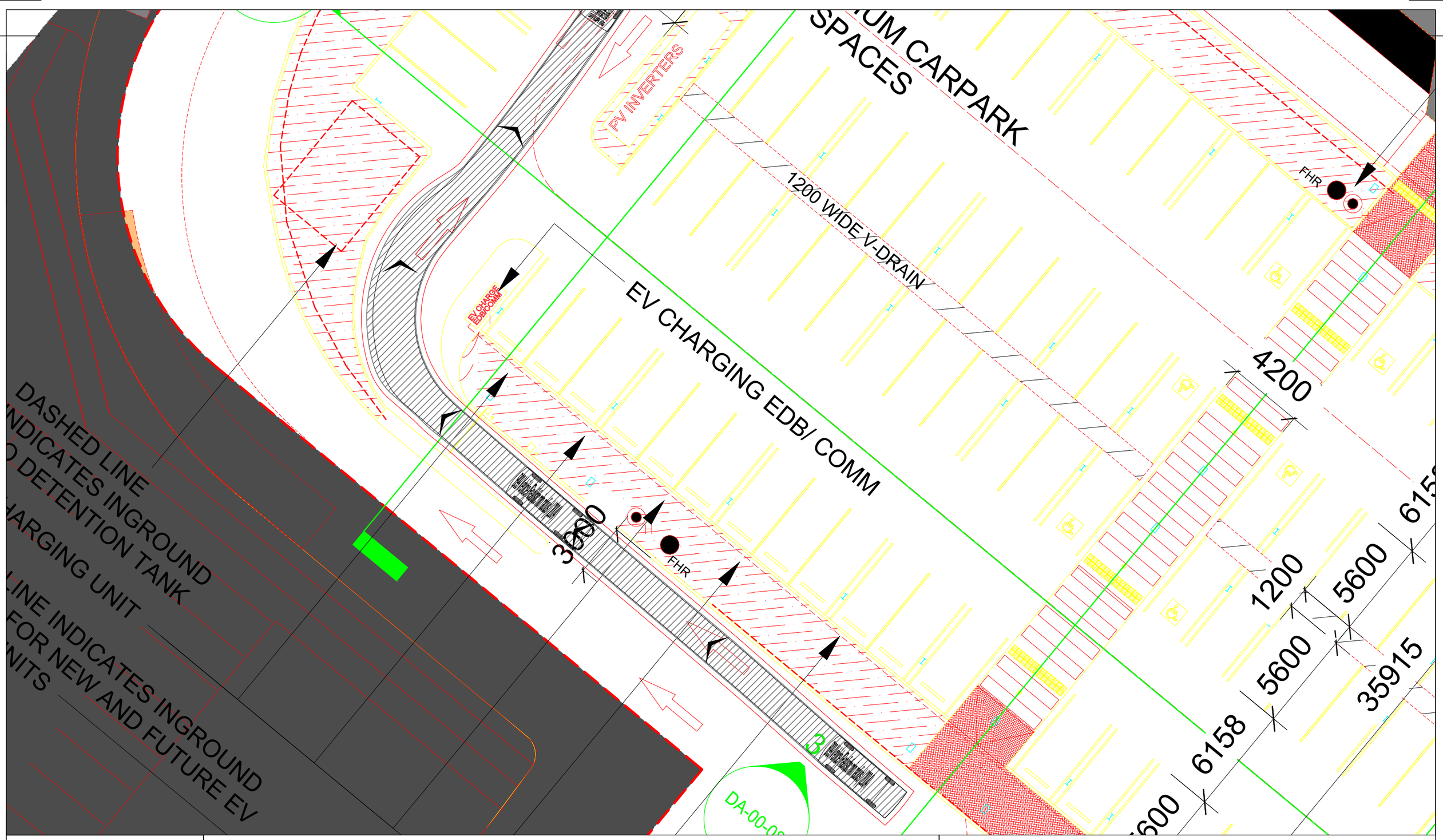
Vehicle type(s)

B99 Vehicle (8m min radius) (2004)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	8.000m

Single Unit Truck/Bus (12.5 m)

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	3.600m
Min Body Ground Clearance	0.409m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m



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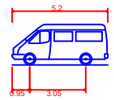

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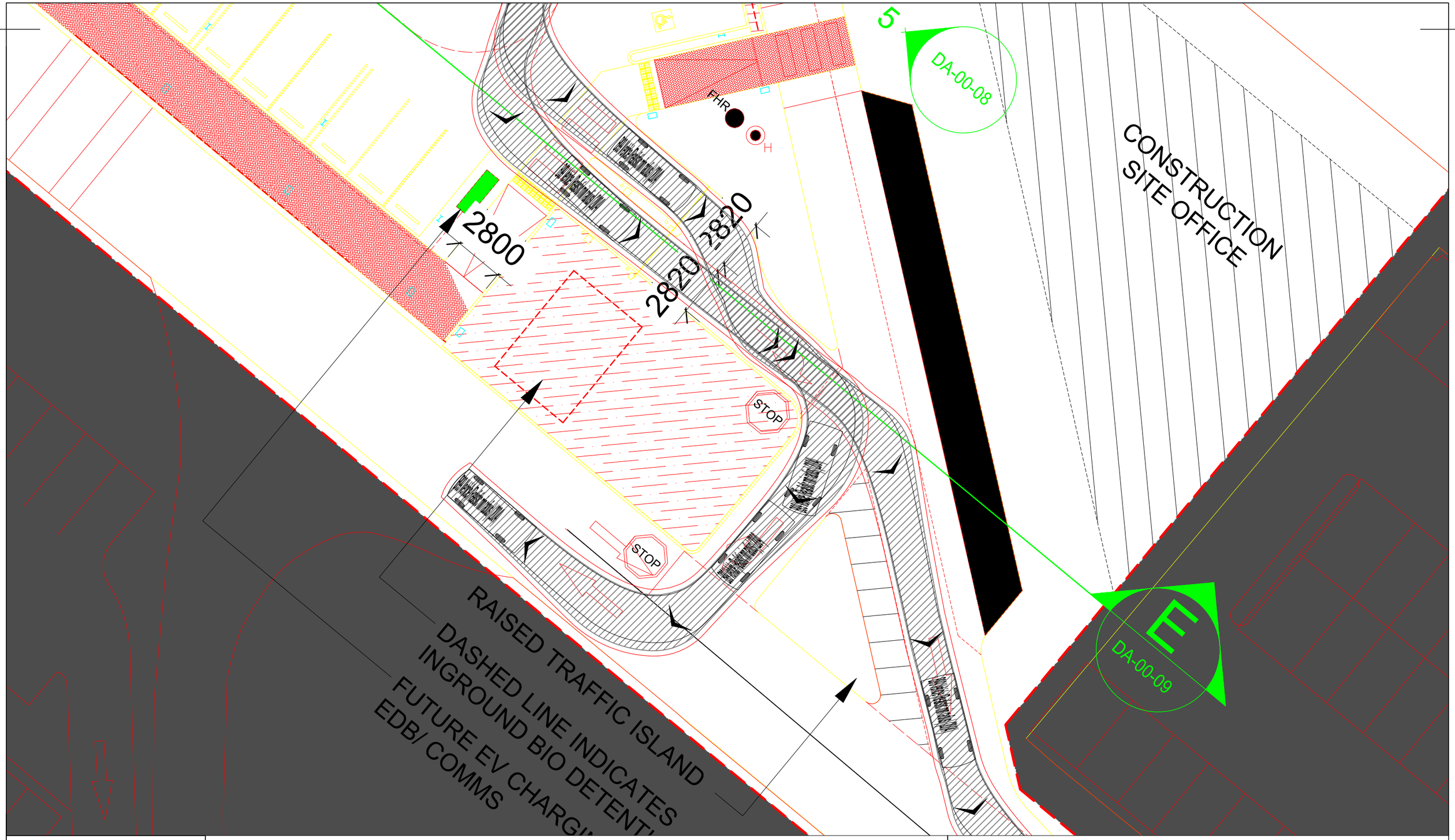

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Job Title
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Drawing Title
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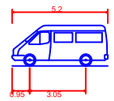

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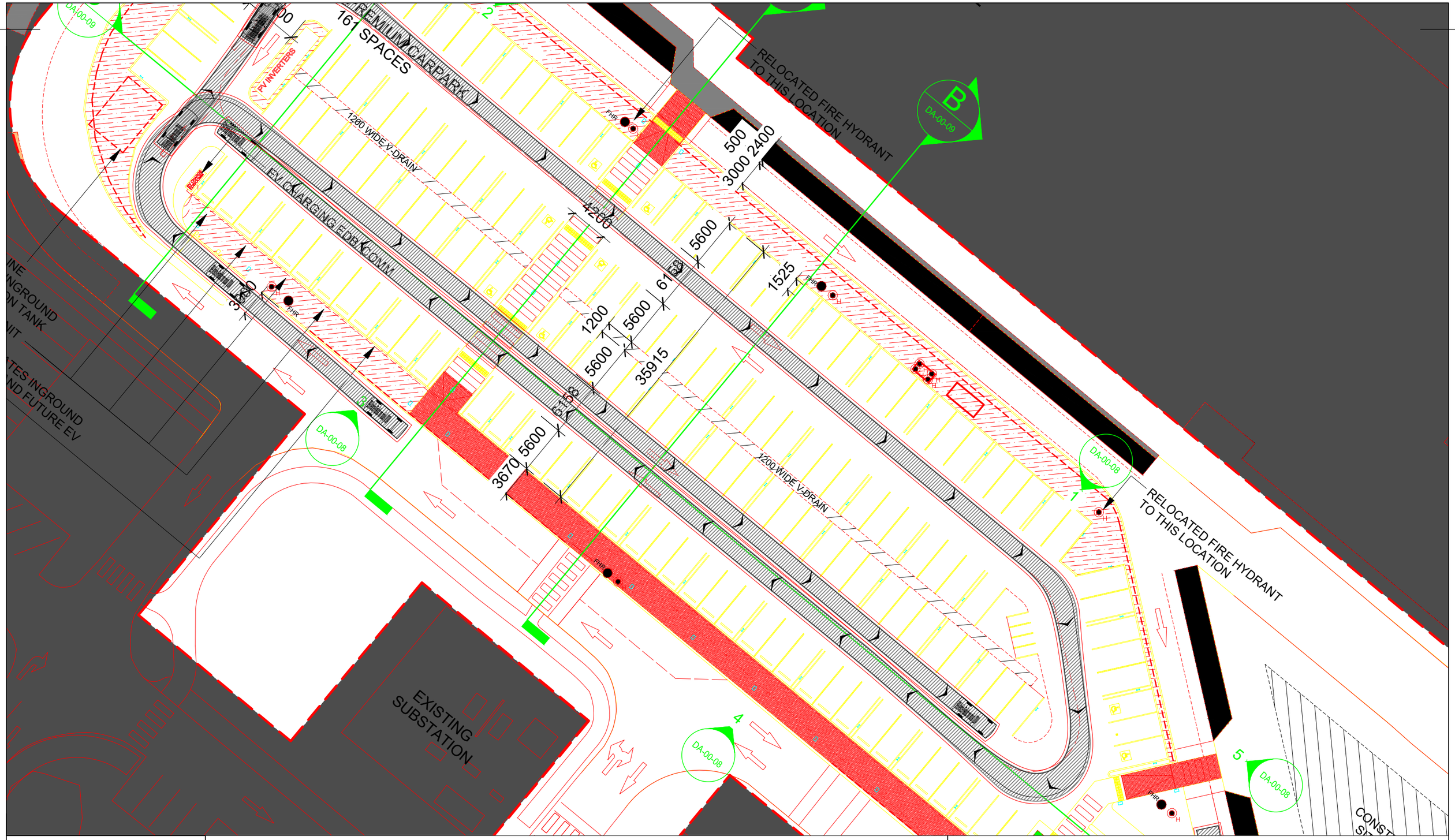

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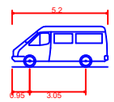

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