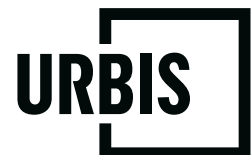




CIVIC CENTRE AT HARRY CHAN AVENUE, DARWIN

Traffic Impact Statement

Prepared for
DCOH
22/11/2024



URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

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Report Number	3

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1. INTRODUCTION

Urbis has been commissioned by DCOH to provide traffic engineering advice regarding the Proposed Darwin Civic Centre at 17 Harry Chan Avenue, Darwin. This traffic impact statement (TIS) outlines the traffic and transport impacts of the proposed development.

The purpose of this report is to assess the traffic and transport components of the proposed development against the requirements of the Northern Territory Planning Scheme 2020 (NT) and relevant Australian Standards (AS2890).

This report addresses the following:

- Active and public transport
- Internal traffic arrangements, including:
 - Parking provision
 - Servicing requirements
 - Access locations
 - Servicing provisions
- External traffic impacts on the road network

2. DEVELOPMENT OVERVIEW

2.1. SITE LOCATION

The proposed development is situated adjacent to the Darwin City Council. Additionally, there is a Civic Square located to the north and north-west and Christ Church Cathedral to the south. The subject site is shown on Figure 1 in context with the local road network.

Figure 1. Site Location



Source: Nearmap

The subject site currently functions as a public car park with up to 95 spaces as a combination of City of Darwin (COD) vehicles, staff and public car parking. As part of the proposal, the current car parking area will be replaced by a Civic Centre with multi-storey public car park. This proposed development will include a library, Chambers, offices and provision for a future café space. Table 1 presents the characteristics of the current and proposed land uses for the proposed redevelopment.

Table 1. Development Current and Proposed Land Uses

Existing site	
Land used	Yield
Public and Private Car Parking	95 Spaces
Proposed Land Uses	
Land used	Yield (net floor area)
Café (future provision)	401 m ²
Library	751 m ²
Chambers	764 m ²
CoD Tenancy	2,928 m ²
DCOH Tenancy	10,625 m ²
Total area	15,469 m²

3. EXISTING ROAD ENVIRONMENT

The subject site has frontage along Harry Chan Avenue, Esplanade, and Smith Street, as depicted in Figure 1. According to the City of Darwin's road ownership plan, these roads are classified into two categories: City of Darwin roads and Northern Territory Government roads. The majority of the roads within the vicinity of the site are controlled by Darwin City Council.

The roads surrounding the subject site are managed by the City of Darwin and are classified as local roads according to the Northern Territory Government's Road hierarchy maps.

Table 2 provides a summary of the surrounding road network's characteristics, including road hierarchy, geometry, and speed limits.

Table 2. Surrounding Road Network

Road Name	Hierarchy	Cross Section	Posted Speed Limit
Harry Chan Avenue	City of Darwin Road / Local Roads	Two lanes, two ways undivided, with on street parking	50km/h*
Esplanade	City of Darwin Road/ Local Roads	Two lanes, two ways undivided, with on street parking	50km/h*
Smith Street	City of Darwin Road/ Local Roads	Two lanes, two ways undivided, with on street parking	50km/h*

*Source: City of Darwin, New Speed Limits in Darwin CBD Map

4. EXISTING TRANSPORT NETWORK

4.1. ACTIVE TRANSPORT NETWORK

Pedestrian footpaths are provided both sides of the local surrounding roads. There are existing footpaths along the boundary of Harry Chan Avenue, Esplanade, and Smith Street. Furthermore, there is an on-road Cycle Lane along Kitchener Drive within 400m walking distance of the site, as well as a non-continuous cycle path on Esplanade.

As shown in Figure 2 , the subject site enjoys excellent pedestrian connectivity, with crossings linking it to the nearby local park (to the west and northwest).

Figure 2. Existing Active and Public Transport Network 400m & 800m Walking Radius



Source: Open Street Map

4.2. PUBLIC TRANSPORT NETWORK

Access to public transport from the site is considered excellent. The Darwin bus interchange is located approximately 145 metres (2-minute walking distance) from the site. Additionally, there are bus stops along Harry Chan Avenue and Kitchener Drive within 400 metres of the proposed site, with frequencies ranging from every 23 minutes to once an hour during peak hours.

Table 3 reports the existing nearby bus stops within 400m of the site. The locations of these stops are shown on Figure 2.

Table 3. Nearby Bus Stops

Stop ID	Stop Name	Bus Routes	Destinations	Frequency
951	Kitchen Drive Outbound	14	Darwin to Darwin via Cullen Bay and Darwin Waterfront	Weekdays: Every 23 mins, 45 mins, and hourly Weekends: 45 mins and hourly
Darwin (DRW)	DRW (Adjacent to Darwin Interchange)	GX680	Broome to Darwin	All timetables are subject to change without notice This stop is on request only, advance booking is required
Darwin (DRW)	DRW (Adjacent to Darwin Interchange)	GX882	Broome to Darwin	All timetables are subject to change without notice This stop is on request only, advance booking is required
Darwin Interchange	Darwin Interchange	4,5,6,7,8, 10,14,15,21,22,25,28, OL1, and OL2	Various Destinations	Weekdays: 20 mins, 30 mins to hourly Weekends: 30 mins and hourly

The Darwin Bus Interchange is a major hub for public bus transportation in the Northern Territory, located at Harry Chan Avenue (approximately 3 minutes walk from the subject site). It connects various parts of Darwin and the surrounding regions through approximately 14 bus routes (including routes 4,5,6,7,8, 10,14,15,21,22,25,28, OL1, and OL2). These routes include express services such as the OL1 and OL2 orbital routes, which provide faster transit between Darwin, Palmerston, and Casuarina. Additionally, other routes link key areas including Rapid Creek, Fannie Bay, and Stuart Park, providing a comprehensive coverage across the nearby regions, as per CDC Northern Territory website.

5. CAR PARKING AND INTERNAL TRAFFIC MANAGEMENT

5.1. PARKING PROVISION

5.1.1. Car Parking

Northern Territory Planning Scheme (Part 5, Table 5.9.2.11) provides Minimum Number of Car Parking Spaces Required Within Zone CB in Darwin for specific land uses. The parking requirement for the subject development is listed below in Table 4.

Table 4 Land Use Parking Requirements – Car Parking

Land Use	Northern Territory Planning Scheme Requirement	NCC People with Disability (PWD) Parking Requirements	Yield	Parking Requirement	Parking Provision
Library (Community Centre) or (Place of assembly)	2 for every 100m ² of net floor area	1 space per 50 car park spaces	751 m ²	15 spaces 1 PWD space	460 spaces 10 PWD spaces
<i>Future Provision</i> Café	2 for every 100m ² of net floor area*	1 space per 50 car park spaces	401 m ²	8 spaces 1 PWD space	
Office	2 for every 100m ² of net floor area*	1 space per 100 parking spaces for Class 5 (office)	14,317 m ²	286 spaces 3 PWD spaces	
Total	-	-	15,469 m²	309 Car park spaces 5 PWD parking spaces	460 Car park spaces 10 PWD parking spaces

*Only 1 parking space required where a building has a net floor area of up to 500m²

The Northern Territory Planning Scheme requires a minimum number of 309 parking spaces for the site in accordance with requirements. This site provides a total of 460 parking spaces with an additional 16 motorcycle spaces. Therefore, the provision is compliant.

According to the National Construction Code (NCC) Table D3.5, the subject site should provide 5 PWD spaces. 10 PWD parking spaces have been included, fully satisfying the accessibility requirements outlined by the NCC for PWD parking.

5.1.2. Bicycle Parking

The Northern Territory Planning Scheme provides bicycle parking rates for specific land uses. The requirements for the subject development are listed below in Table 5.

Table 5 Land Use Bicycle Parking Requirements

Land Use	Yield	Northern Territory Planning Scheme Requirement	Bicycle Parking Requirement	Bicycle Parking Provision
Library (non-residential building)	751 m ² (22 staff)	1 space per 300m ² net floor area + 1 shower for up to 50 staff, plus 1 additional shower for up to every 50 staff thereafter.	3 spaces <1 shower	51 spaces 5 female showers 5 male showers
<i>Future Provision</i> Café (non-residential building)	401 m ² (3 staff estimated)	1 space per 300m ² net floor area + 1 shower for up to 50 staff, plus 1 additional shower for up to every 50 staff thereafter.	1 space <1 shower	
Office	14,317 m ² (1,367 staff)	1 space per 300m ² net floor area + 1 shower for up to 1,500m ² net floor area, plus 1 additional shower for up to every 1,500m ² thereafter.	48 spaces 10 showers	
Total			52 spaces 10 showers	51 spaces 5 female showers 5 male showers

The subject site is required to provide End-of-Trip facilities in line with planning scheme requirements, including a minimum of 52 bicycle parking / storage spaces, at least 10 showers, and accompanying lockers and change areas.

The current plans indicate 51 bicycle spaces internal to the building, 25 spaces externally and 10 showers, split evenly between male and female. This satisfies the requirement.

Bicycle spaces shall be provided in accordance with AS2890.3 dimensions and spacing.

5.2. VEHICULAR ACCESS

5.2.1. Access Points

Vehicular access will be provided via Harry Chan Avenue, with entry points positioned along the northern and south-eastern boundaries of the site.

The proposed access points include one designated for heavy vehicles (servicing) on the northern side of the site and another for light vehicles (cars).

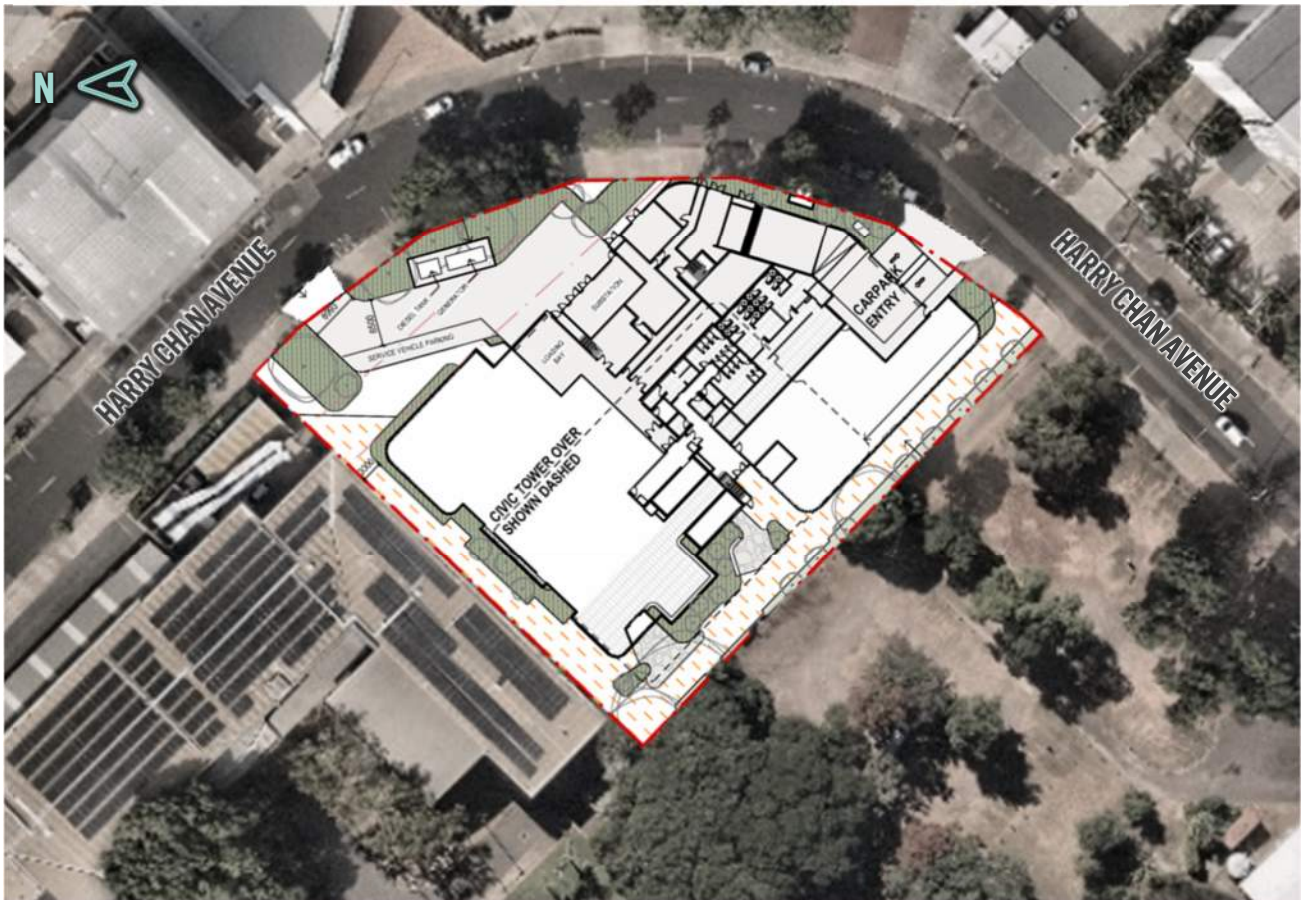
The characteristics of these access points are as follows:

1. Heavy vehicle access point, approximately 7.0 metres wide at the property boundary, designed for all-movement traffic.
2. Light vehicle driveway, approximately 9.5 metres wide at the property boundary with a splitter island to separate vehicle paths, also designed for all-movement traffic.

The lot layout and access locations to the site are shown on Figure 3.

The Library pickup and drop-off will occur within the car park area.

Figure 3. Lot Layout and Site Access Points



5.2.2. Access Points Location

The review of the proposed access locations is outlined in below.

Table 6. Typical Driveway Requirements

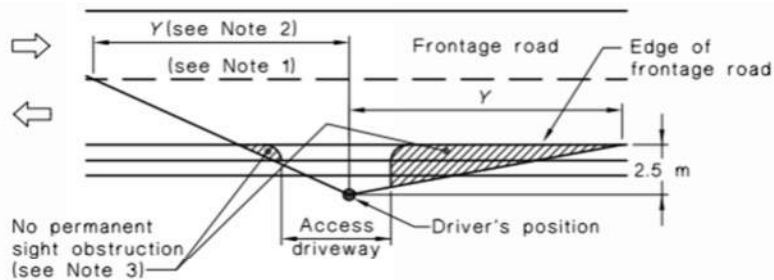
Design Component	Northern Territory Planning Scheme Requirement	Proposed Provision	Compliance
Distance from an adjacent driveway	3.0m	Northern Driveway: 4.0m Eastern Driveway: 12.7m	Compliant
Sight Distance	50km/h (AS2890.1) - 69m Desirable - 45m Minimum	Northern Driveway: Approx 50m West Approx 55m East Eastern Driveway:	Compliant with Minimum. See section 5.2.2.1 for further discussion

Design Component	Northern Territory Planning Scheme Requirement	Proposed Provision	Compliance
		Approx 65m North Approx 45m South	
Entry / Exit Width	Servicing vehicles – up to 12.5m (AS2890.2) Light vehicles –6.0m – 8.0m for entry and exit with 1 to 3m separation (AS2890.1 Category 4)	Northern Driveway: 7.0m Eastern Driveway: 3.6m entry and 4.9m exit with 1m separation	Performance Solution – See section 5.2.2.2
Minimum Queuing Provision	8 vehicles for parking capacity 460 spaces (AS2890.1)	63m (10 vehicles from property boundary to future boom gate)	Compliant
Pedestrian Sight Triangle	2.5m by 2.0m on the egress side of a driveway	2.5m by 2.0m on the egress side of the driveway	Compliant

5.2.2.1. Sight Distance Requirements

The sight distances at the site access points have been reviewed for compliance with AS2890.1 standards. For a road with a speed limit of 50 km/h, the desirable sight distance is 69m and the minimum distance is 45m, as shown in Figure 4.

Figure 4. AS2890.1 Sight Distance Requirements



Frontage road speed (Note 4) km/h	Distance (Y) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2 nd and 3 rd columns
100	139	160	
110	153	190	

Source: AS2890.1

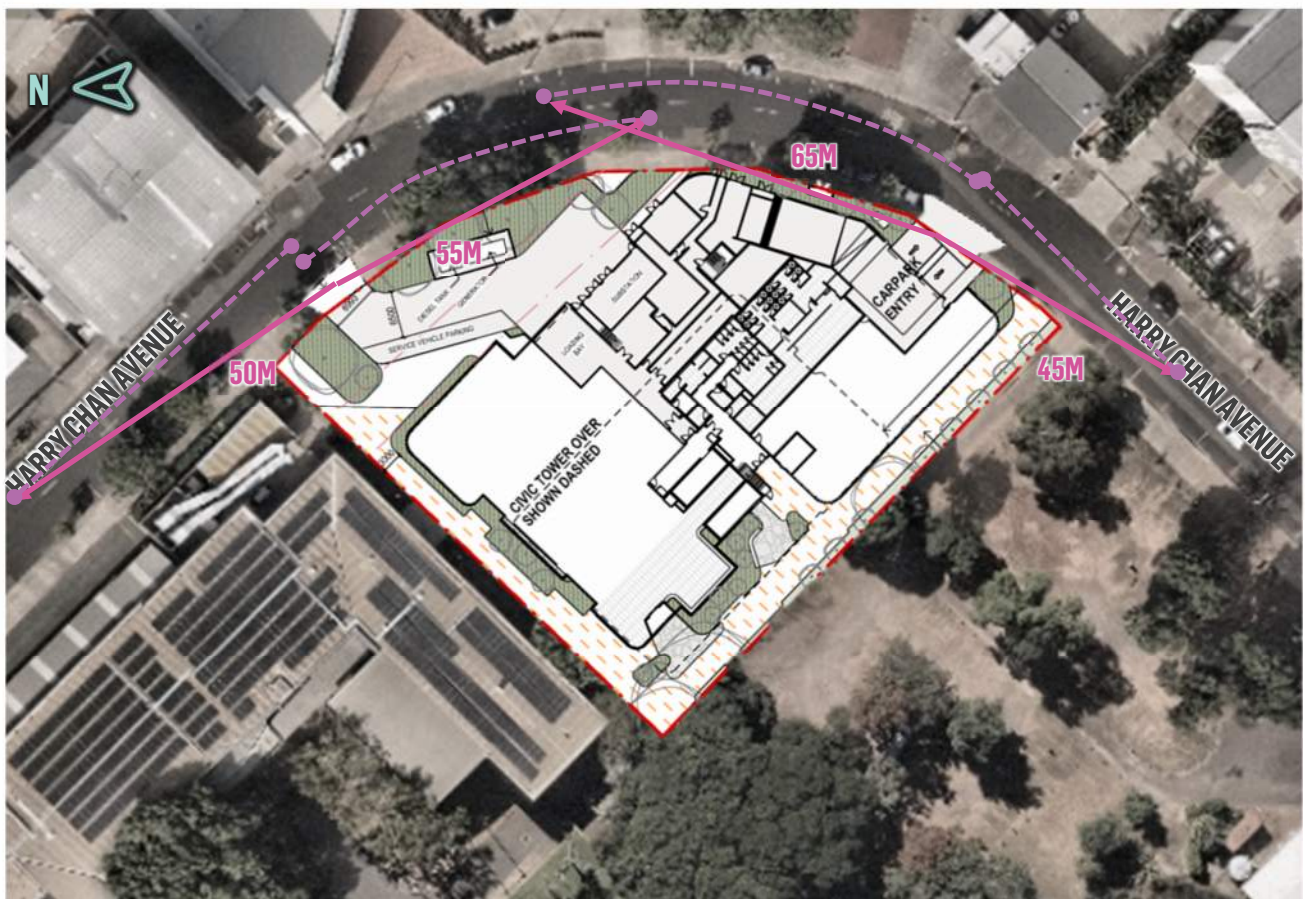
As shown in Figure 5, the southern car park access point on Harry Chan Avenue meets the minimum requirement, providing sight distances of 65 metres to the north and 45 metres to the south.

The northern servicing access point, for heavy vehicle use, meets the minimum sight distance requirements when considering the removal of the existing trees within the site. To the west, there is 50m sight distance and to the east there is 55m, as illustrated on Figure 5.

However, it is important to note that if the on-street parking spaces are occupied, the sight distance for both accesses will be affected. For the car park access, sightlines would be reduced to approximately 17 metres, which does not meet AS2890.1 standards. Similarly, for the servicing access, the sightlines would be reduced to 23m. However, on-street parking is a normal component of urban streets and part of the existing road form. The proposed access is located slightly north of the existing car park access, which is also subject to the on-street parking being a temporary obstruction for sight lines. Drivers will usually edge towards the carriageway when there is on-street parking, to see beyond the vehicle bodies. Therefore, the access sight lines are considered to be appropriate.

According to the City of Darwin CBD Speed Limit map, the posted speed limit is 50 km/h. However, due to the presence of on-street parking and the curved road geometry, the actual speeds are expected to be lower than the posted speed. Given the lower operating speeds in this area, the assessed sight distances would be conservative.

Figure 5. Sight Distance



5.2.2.2. Driveway Widths

The driveway designs have been informed from swept path assessment of design vehicles. For the servicing access, this has been designed to accommodate a 10m long refuse collection vehicle which also covers the 8.8m long medium rigid vehicle and smaller heavy vehicles which would service the site. This is discussed further in Section 5.4 and demonstrated in the swept paths at Appendix B.

The car park access has been designed for light vehicles (B99) to enter and exit the site simultaneously. The access widths are demonstrated at Appendix B to safely manoeuvre across the crossover and via the ramp to the parking areas.

5.3. PARKING DESIGN

Reference is made to the AS2890.1 parking design and Northern Territory Planning Scheme requirements for the parking design review. Table 7 identifies the characteristics of the proposed parking module(s) and the corresponding design requirement.

Table 7 Parking Design Compliance

Design Component	AS2890.1 Requirement	Northern Territory Planning Scheme Requirement	Provision	Compliance
Car Park Bay Length				
Standard	5.4m	5.5m	5.5m	Compliant
PWD	5.4m	-	5.5m	Compliant
Motorcycle	2.5m	-	2.5m	Compliant
Car Park Bay Width				
Standard	2.6m (User Class 3) 2.4m (User Class 1)	2.5m -	2.5m	Compliant
PWD	2.4m plus 2.4m shared area	-	2.5m plus 2.4m shared area	Compliant
Motorcycle	1.2m	-	1.2m	Compliant
Aisle Width:				
Parking Aisle	5.8m (two way) 3.7m (45 degree one way)	-	6.0m-6.5m (two way) 4.2m (one way)	Compliant Compliant Compliant
Ramp Width	5.5m width + 2 x 0.3m kerb clearance (6.1m total)	-	6.2m + 2 x 0.3m kerbs	Compliant
AS2890.1 Parking Envelope Clearances	Obstructions permitted between 0.75m and 1.75m of the aisle	-	Columns located 0.75m from the aisle	Compliant
Parking Envelope Door	0.3m	-	0.3m	Compliant

Design Component	AS2890.1 Requirement	Northern Territory Planning Scheme Requirement	Provision	Compliance
Opening Clearances				
Parking Aisle Extension	1.0m beyond last bay	1.0m beyond last bay	1.0m beyond bay	Compliant
Maximum Gradients Ramp (public car park)	1:6 (more than 20m length) 1:5 (up to 20m length)		1:6	Compliant
Height Clearance	2.2m over car parks 2.5m over PWD spaces 4.5m over loading bay	4m over loading bay	4.5m clearance	Compliant

See **Appendix B** for enclosed swept path analysis for access points, ramps and parking areas.

5.4. SERVICING ARRANGEMENT

5.4.1. Planning Standards

The preferred service vehicle provision that is outlined within the Northern Territory Planning Scheme is shown in Table 8 below.

Table 8. Design Vehicle Requirements

Design Component	Northern Territory Planning Scheme Requirement
Office	1 loading bay for every 2,000m ² of the total net floor area, or part thereof
Café (Food premises restaurant)	1 loading bay for every 2,000m ² of the total net floor area, or part thereof
Library (Place of Assembly)	1 loading bay for every 2,000m ² of the total net floor area, or part thereof

Furthermore, the Planning Scheme outlines that each bay should have minimum dimensions of 7.5 metres in length, 3.5 metres in width, and a height clearance of 4 metres are required.

5.4.2. Service Bay Provision

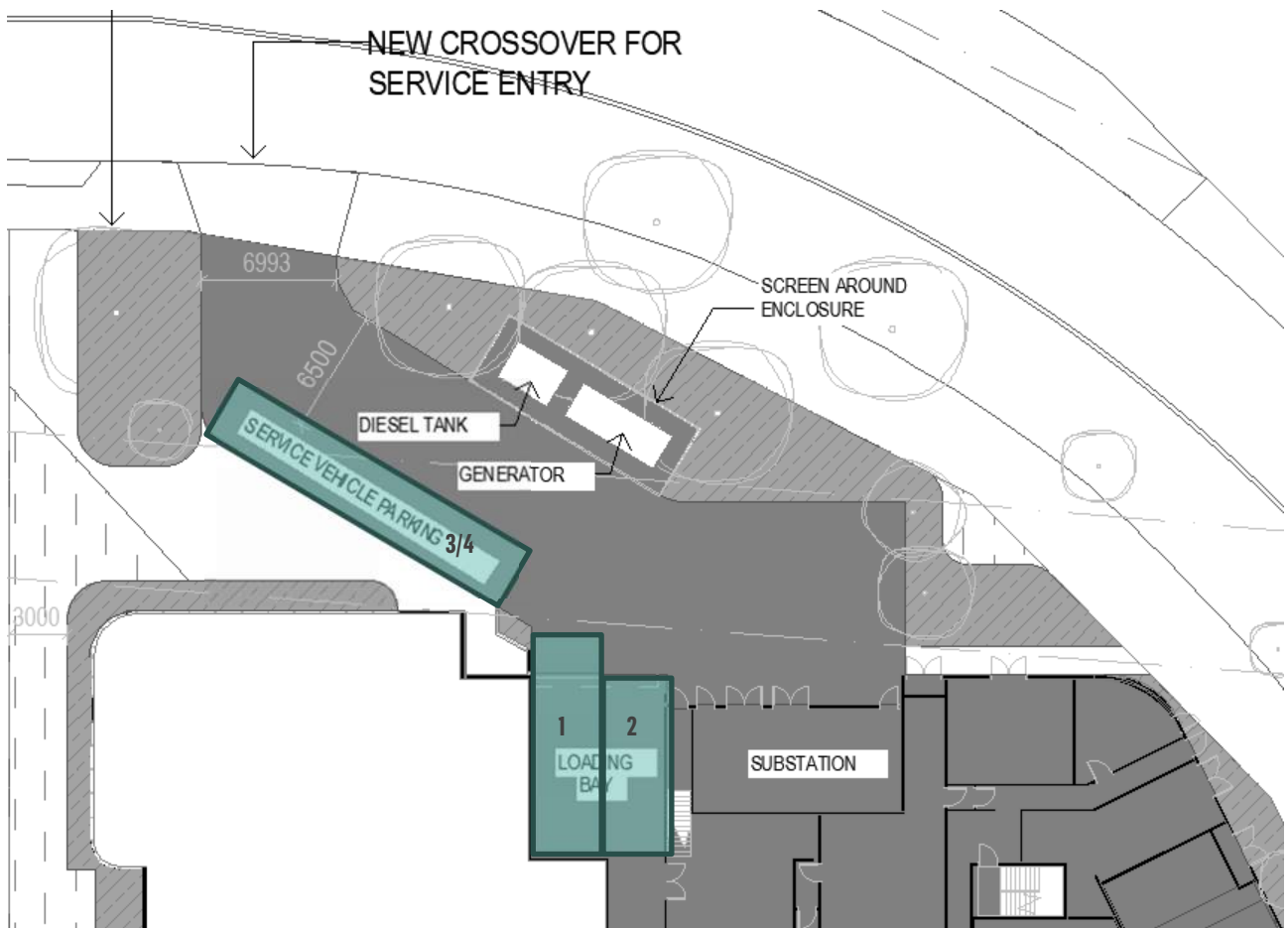
The proposed uses for this site involve moderate-scale commercial and community use precinct, which generate less frequent and less intensive servicing needs than the planning scheme specifies. This differs

from high-density retail or industrial zones that require higher servicing capacity due to continuous or heavy-duty operations. The scale of the development would result in efficiencies of scale and therefore a reduced requirement for the overall number of loading dock spaces. The loading dock provision is outlined in Table 9 below and illustrated on Figure 6.

Table 9 Loading Dock Provision

Loading Dock ID	Dimension	Height Clearance	Use
1	3.5m x 7.5m	4.5m min	Waste Collection and General Large Vehicle Bay
2	3.5m x 7.5m	4.5m min	General Large Vehicle Bay
3&4	3.5m x 15m (shared)	Clear to sky	Small Vehicle Loading, Overflow Large Vehicle Loading and Waiting Bay

Figure 6 Loading Dock Arrangement



Source: CA Architects

Moreover, the three proposed bays will allow staggered scheduling of deliveries and services, mitigating any potential bottlenecks. With effective scheduling, the site's design supports safe and efficient access, minimising queuing or conflicts among service vehicles. It is recommended that a service vehicle management plan that incorporates the following characteristics be implemented to facilitate the operation of the loading area.

- All deliveries would be managed by the Facilities Management Team of the proposed building. All loading docks would be shared by all tenants and deliveries booked in via a central booking system.
- The loading by larger vehicles and refuse collection would be prioritised via the two undercover bays. Where vehicles overstay their slot or arrive outside of their allocated slot they would either unload from the parallel loading bay or wait on in the parallel loading bay for a slot at an undercover loading bay to become available
- Smaller vehicles (Vans/Utes etc) would be directed to use the parallel loading dock and use the turning area to undertake a three-point turn.
- The northern access and area would be restricted to loading and service vehicles only.

See **Appendix B** for enclosed swept path analysis.

6. TRAFFIC IMPACT ASSESSMENT

6.1. TRIP GENERATION

For the purposes of assessing the future traffic demands and impacts of the site for the office land use, Urbis refers to the NSW 'Guide to Traffic Generating Developments: Updated Traffic Surveys, 2013' for the office land use. The manual recommends using specific generation rates, for planning purposes, for different development types.

With regards to the library, there are no standard trip rates to apply. Therefore, a first principles approach has been adopted based on turnover of the required number of parking spaces. It has been assumed that each space will turnover once during the peak periods, resulting in two trips per space.

For the future proposed café, this is expected to serve an ancillary use for the precinct, resulting in predominantly walking trips from nearby uses. Therefore, no specific traffic generation is estimated for this use.

Table 10 below identifies the trip generation rates applied to the site. This trip rate has been applied to both AM and PM peaks.

Table 10 Traffic Generation – Development

Land Use	Trip Rate	Yield	Peak Hour Trips	IN / Out Split	Peak Hour In / Out Trips
Library	2 trips per parking space	751 m ² 15 spaces	AM Peak: 30 trips PM Peak: 30 trips	50% / 50%	15 trips in / 15 trips out per peak
Office	AM Peak: 1.6 per 100 sq.m GFA PM Peak: 1.2 per 100 sq.m GFA	14,317 m ²	AM Peak: 229 trips PM Peak: 172 trips	AM Peak: 80% / 20% PM Peak: 30% / 70%	AM Peak: 183 trips in / 46 trips out PM Peak: 52 trips in / 120 trips out
<i>Future provision Cafe</i>	N/A	401 m ²	-	N/A	-
Total			AM Peak: 259 trips PM Peak: 202 trips		AM Peak: 198 trips in / 61 trips out PM Peak: 67 trips in / 135 trips out

It is estimated that the development will generate 259 trips in the AM peak and 202 trips in the PM peak.

The development replaces an existing car park with 95 spaces, which is reasoned to generate 95 trips per peak (1 trip per space). Therefore, the net additional traffic from the development is estimated to be:

- AM Peak: 103 trips in (95 trips reduced from existing use) / 61 trips out = 164 trips
- PM Peak: 66 trips in / 40 trips out (95 trips reduced from existing use) = 106 trips

The traffic impact of the additional trips is considered to be appropriate in the city centre area. At the highest case, being the AM trips into the site, this results in approximately 2 trips per minute, which is not considered to be unreasonable.

The site will service not only the proposed uses of office and library, but also the surrounding existing commercial uses within the civic centre. Therefore, there is a community benefit with impacts driven by users not related to the proposed development uses.

As a result, the traffic impacts are considered to be suitable and within the character of the surrounding road network, with detailed analysis not required.

7. SUMMARY

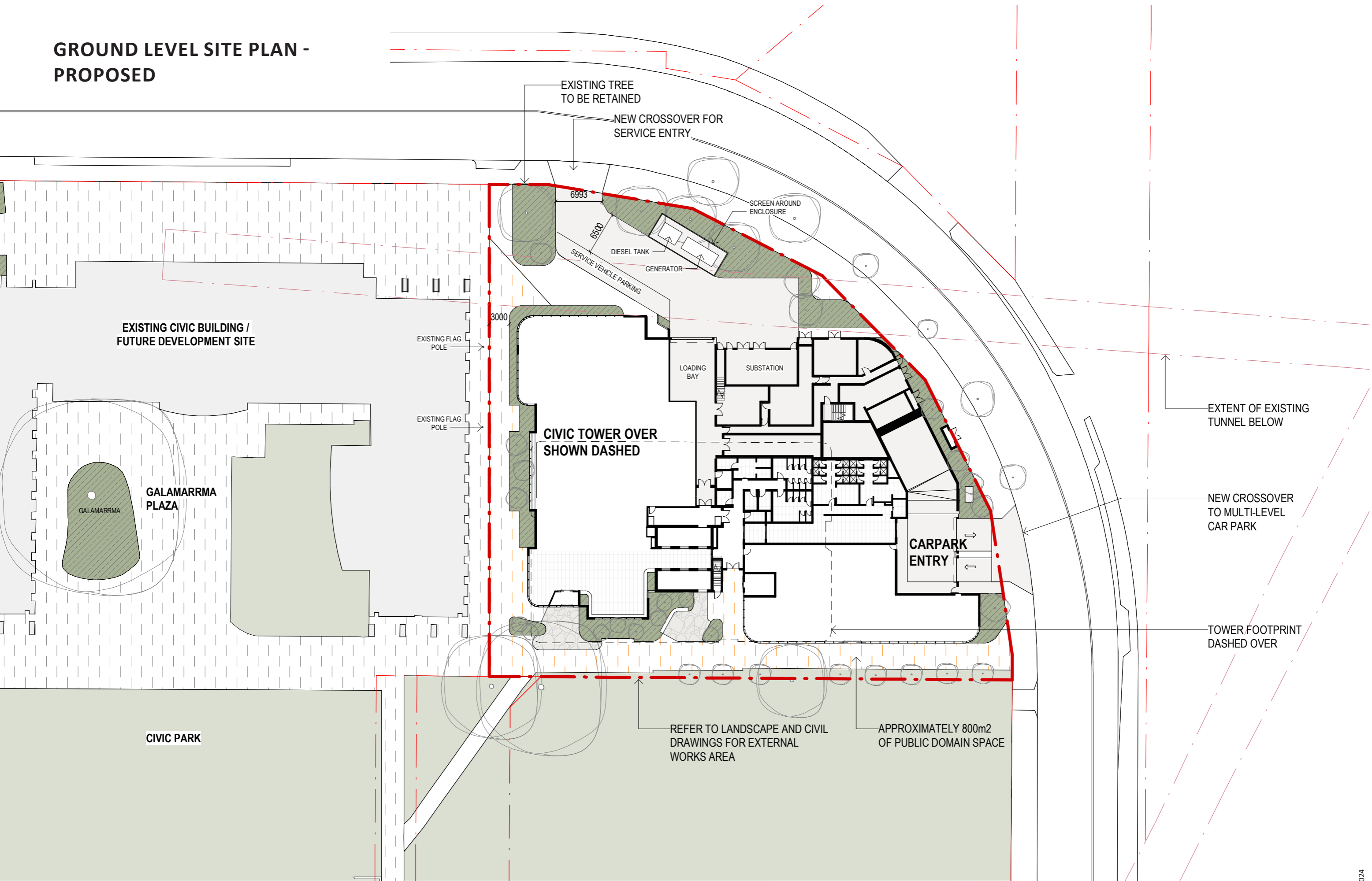
This traffic impact statement has been prepared to report the traffic and transport impacts of the proposed development. The following key points outline the findings of this assessment:

- The site proposes to deliver a Civic Centre facility at 17 Harry Chan Avenue, Darwin.
- Access is provided via two crossovers to Harry Chan Drive, being separate servicing and car park accesses. Access design and provision meets the requirements of AS2890.1 and Northern Territory Planning Scheme and have been demonstrated to be appropriate via swept path assessment.
- A total of 460 carparks and 16 motorcycle parks are provided. Urbis consider the proposed parking provisions to be adequate to comply with the Northern Territory Planning Scheme prescribed parking rates.
- The development provides 51 bicycle spaces internal to the building, 25 spaces externally and 10 showers for end of trip facilities. This is compliant with the NT planning scheme requirements.
- The parking areas have been designed to comply with the NT planning scheme provisions and Australian Standards 2890 series.
- Loading and service vehicle provision has been accommodated within the proposed design. The operation of the loading dock is recommended to be controlled by facilities management and a loading dock management plan should be implemented.
- Active and public transport facilities are available within 400m of the site providing convenient access to sustainable travel modes.
- The subject site is estimated to generate 294 trips during the AM peak hour and 202 trips during the PM peak hour. Based on the development replacing an existing car park, it is estimated that the net increase in traffic on the road network will 164 trips in the AM and 106 trips in the PM. When considering the directional split of trips, this results in approximately two additional vehicles per minute by direction which is considered to be appropriate.

Based on the assessment contained within this report, Urbis see no traffic engineering reason why the development should not be approved.

APPENDIX A DEVELOPMENT PLANS

GROUND LEVEL SITE PLAN - PROPOSED



Darwin Civic Centre Redevelopment



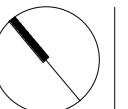
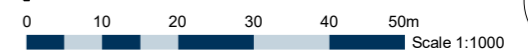
CA Architects

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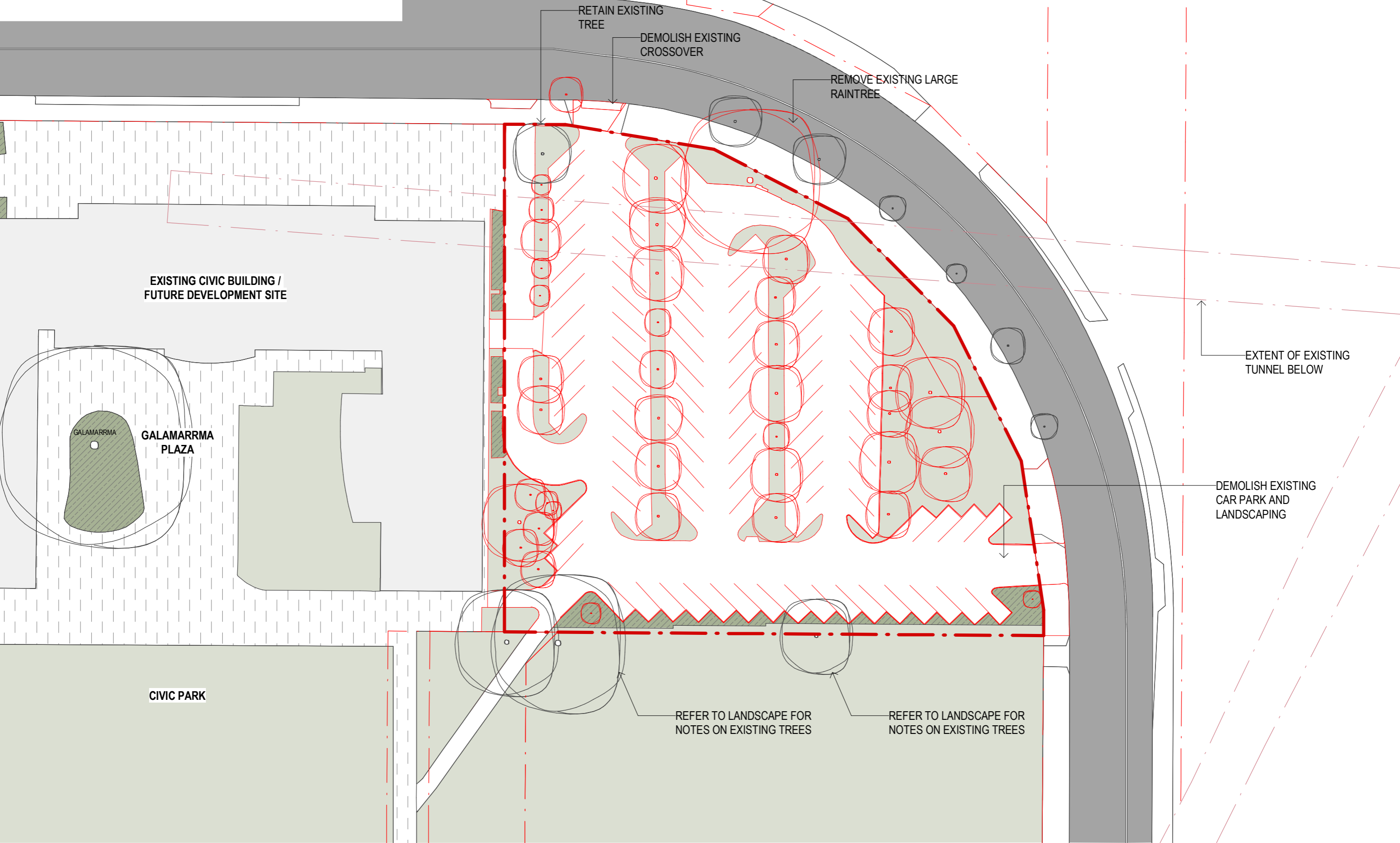
Ground Level Site Plan - Proposed

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 Drawn: JH Check: CA

DCOH 1 : 500 @ A3



SITE PLAN - EXISTING + DEMOLITION



EXISTING CIVIC BUILDING /
FUTURE DEVELOPMENT SITE

GALAMARRMA
GALAMARRMA
PLAZA

CIVIC PARK

RETAIN EXISTING
TREE

DEMOLISH EXISTING
CROSSOVER

REMOVE EXISTING LARGE
RAINTREE

EXTENT OF EXISTING
TUNNEL BELOW

DEMOLISH EXISTING
CAR PARK AND
LANDSCAPING

REFER TO LANDSCAPE FOR
NOTES ON EXISTING TREES

REFER TO LANDSCAPE FOR
NOTES ON EXISTING TREES

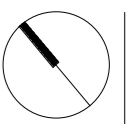


**Darwin Civic Centre
Redevelopment**

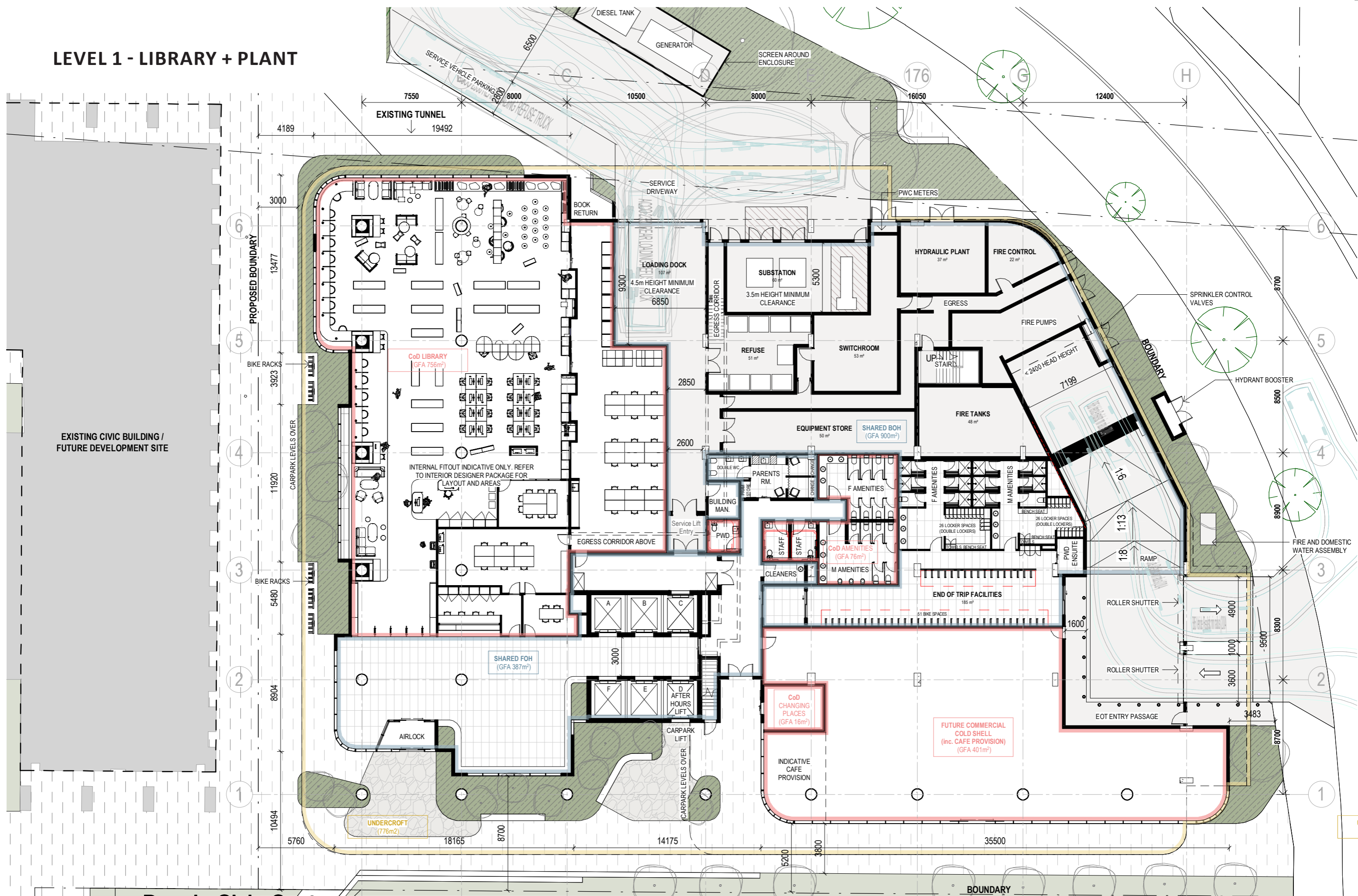
CA Architects
Caïms | Brisbane | Townsville | Darwin
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Site Plan - Existing + Demolition
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Drawn: JH Check: CA

DCOH 1 : 500 @ A3
0 10 20 30 40 50m
Scale 1:1000



LEVEL 1 - LIBRARY + PLANT



**Darwin Civic Centre
Redevelopment**



CA Architects

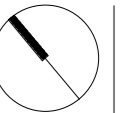
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e: reception@caarchitects.com.au t: +617 4031 6367

Level 1

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DA ISSUE

DCOH 1 : 250 @ A3

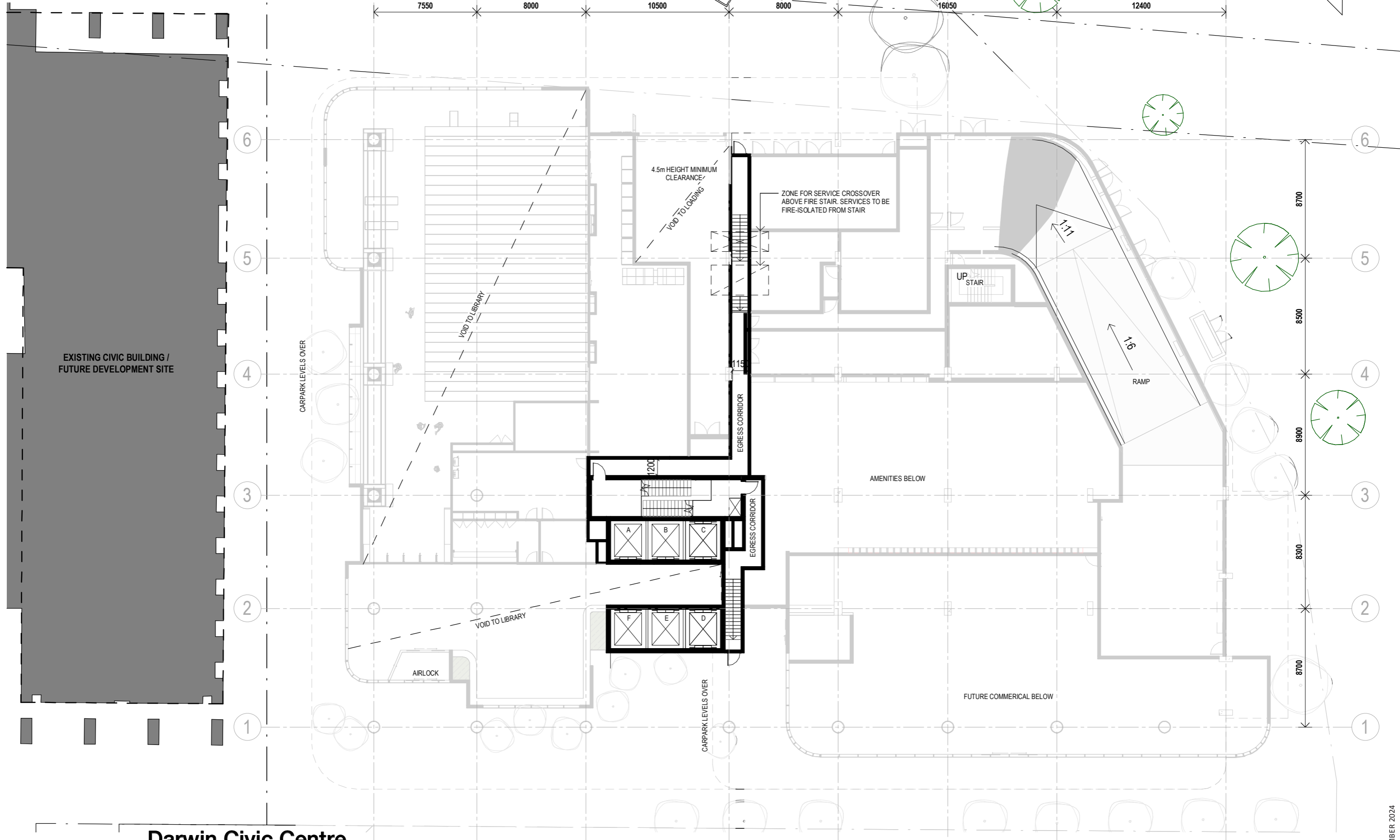


UNDE
7

NOVEMB

7

LEVEL 1.5



**Darwin Civic Centre
Redevelopment**

CA Architects

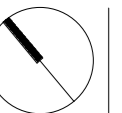
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Level 1.5

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Drawn: FT Check: JH

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DA ISSUE

DCOH 1 : 250 @ A3



LEVEL 2- CHAMBERS + CP2

DARWIN CITY COUNCIL

CARPARKING NUMBERS

CAR PARK TYPE	NUMBER
---------------	--------

Level 2	
2.3x5.4 - Small Car	1
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	36
	39

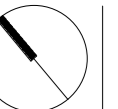
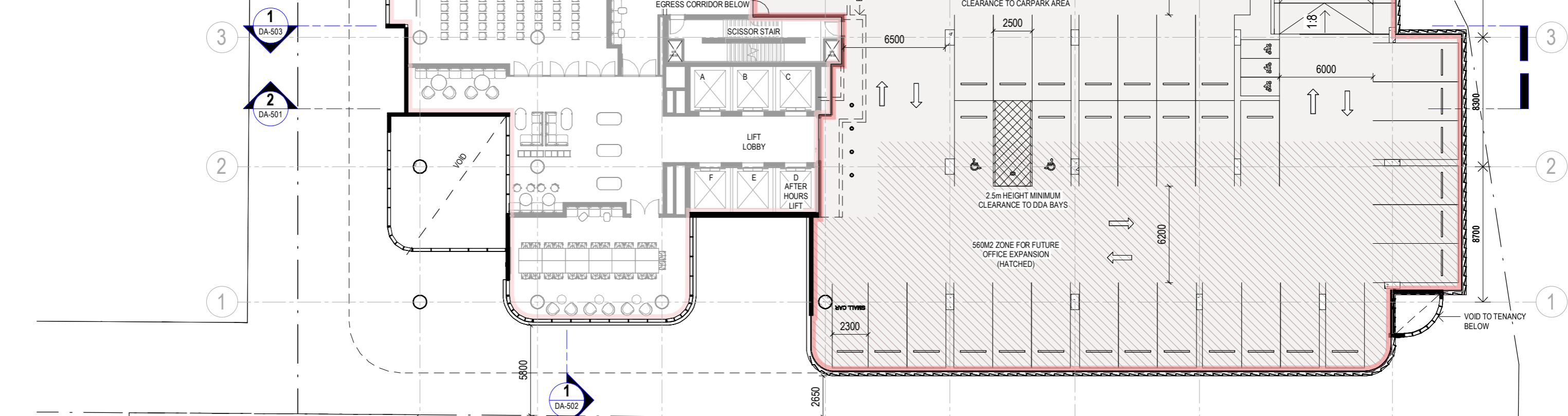
Level 3	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	100
	102

Level 4	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	106

Level 5	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	106

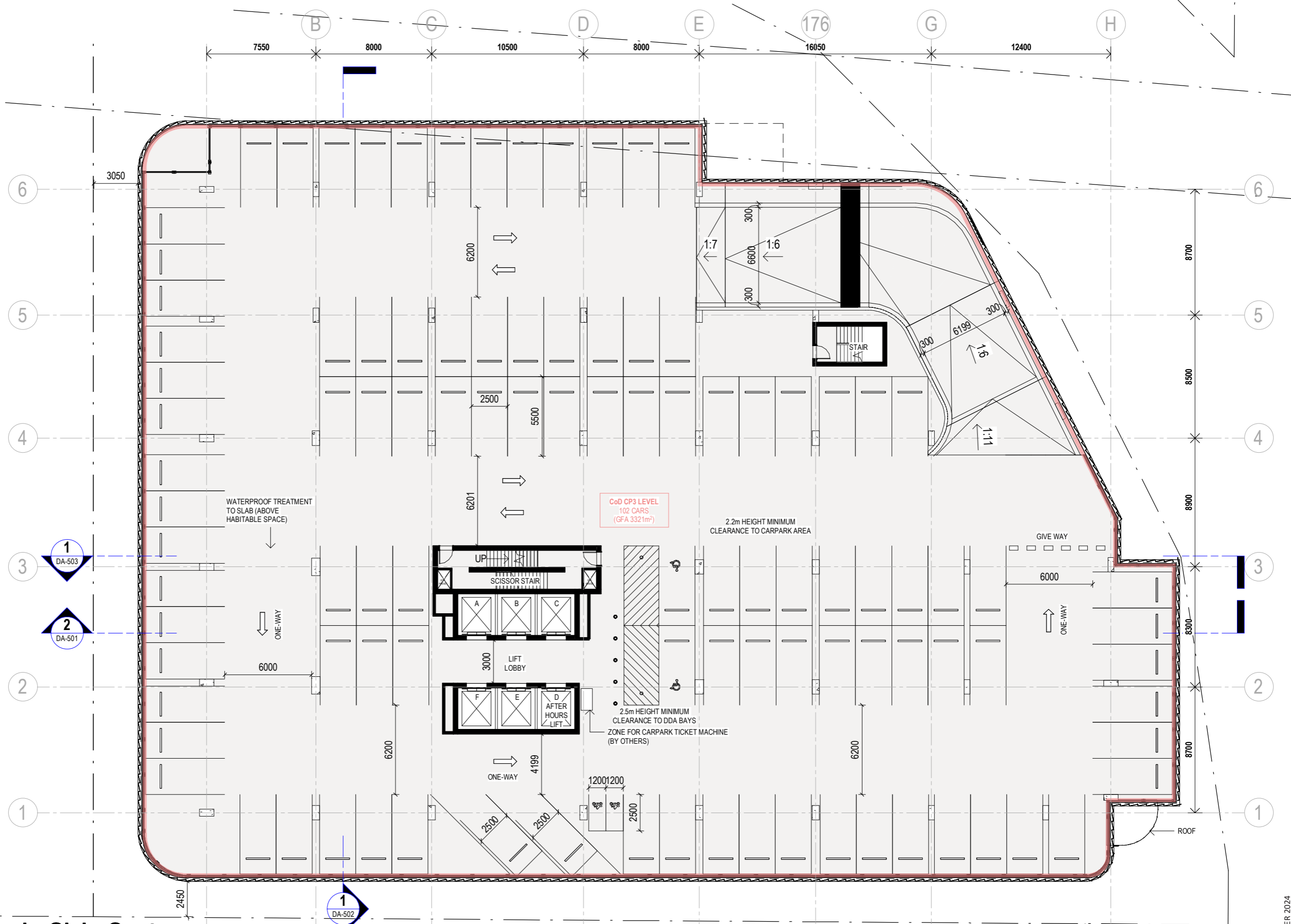
Level 6	
2.3x5.0 - Small Car (no wheel stop)	1
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	107

Grand total: 460 460



LEVEL 3- CP3

CARPARKING NUMBERS	
CAR PARK TYPE	NUMBER
Level 2	
2.3x5.4 - Small Car	1
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	36
	39
Level 3	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	100
	102
Level 4	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	106
Level 5	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	106
Level 6	
2.3x5.0 - Small Car (no wheel stop)	1
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	107
Grand total: 460	460



GENERAL NOTE:
2.2M CLEAR TO CARPARKS

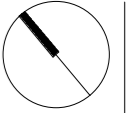
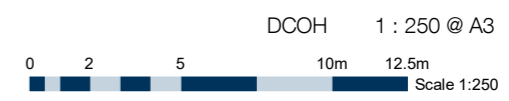
Darwin Civic Centre Redevelopment



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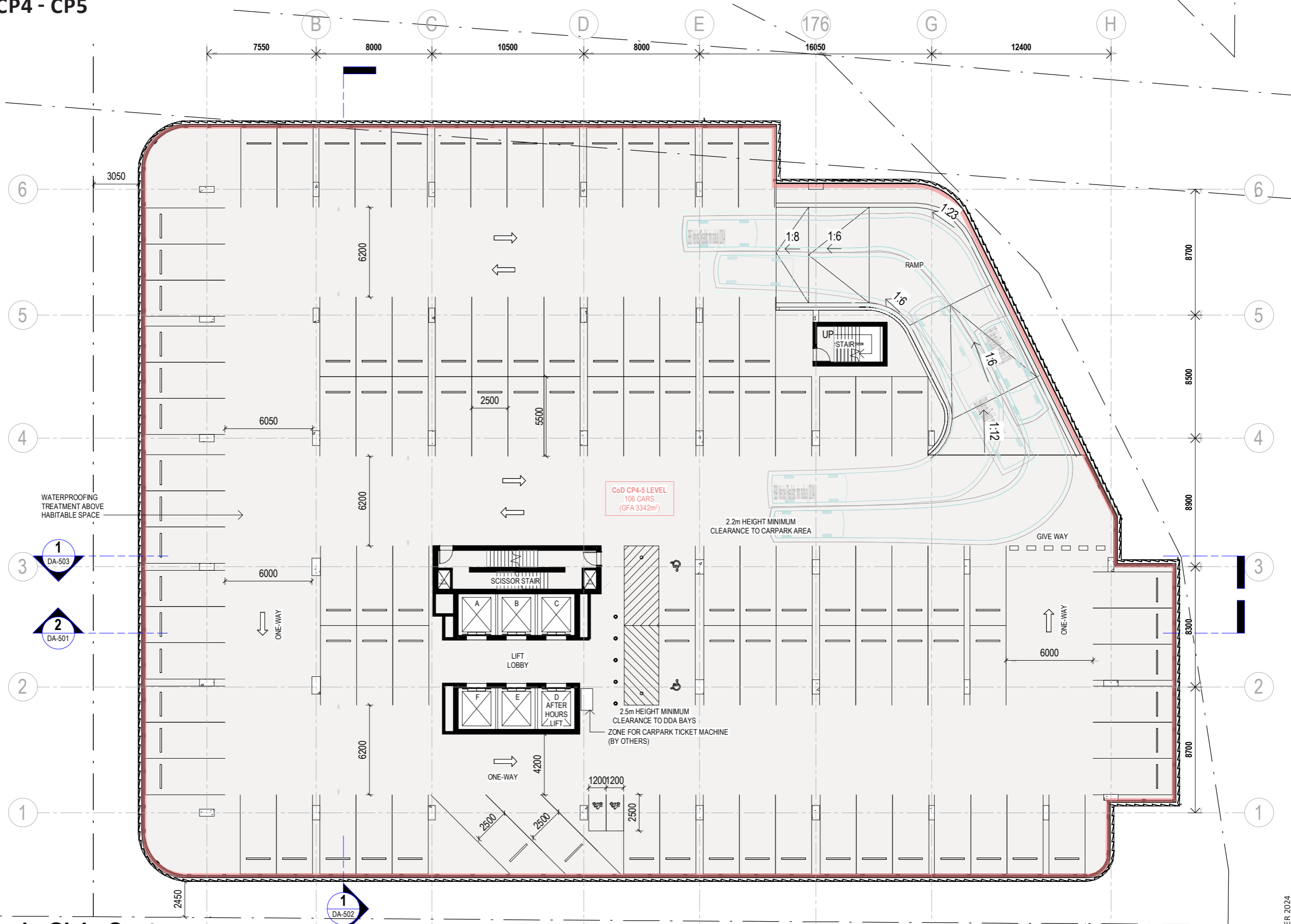
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Drawn: FT Check: JH

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DA ISSUE



LEVEL 4 & 5- CP4 - CP5

CARPARKING NUMBERS	
CAR PARK TYPE	NUMBER
Level 2	
2.3x5.4 - Small Car	1
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	36
	39
Level 3	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	100
	102
Level 4	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	106
Level 5	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	106
Level 6	
2.3x5.0 - Small Car (no wheel stop)	1
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	107
Grand total:	460



CoD CP4-5 LEVEL
106 CARS
(GFA 3342m²)

GENERAL NOTE:
2.2M CLEAR TO CARPARKS

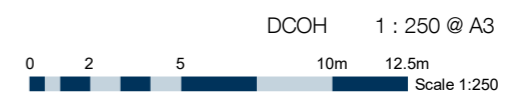
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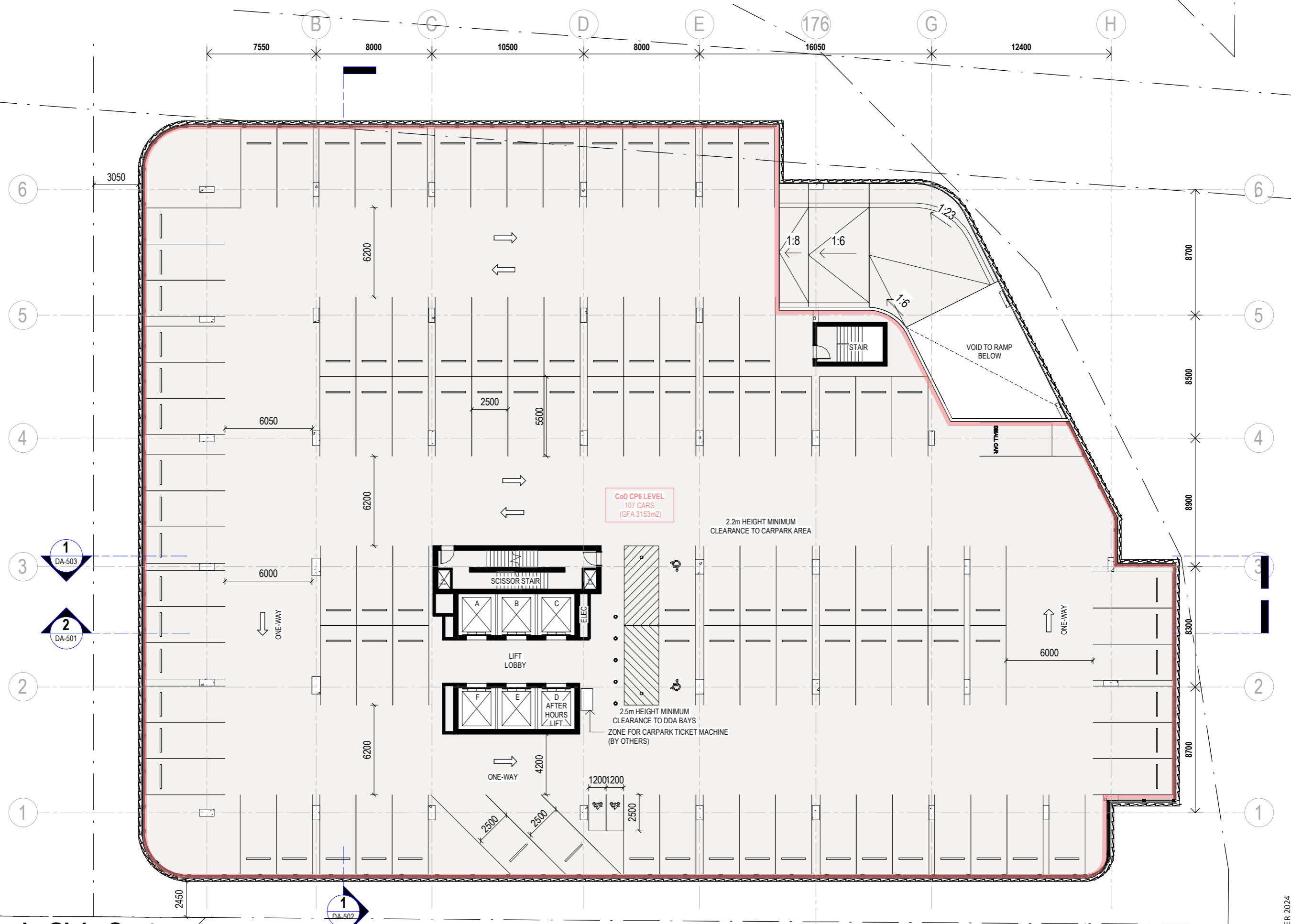
Level 4-5 - CP
2248_DA DA-105 Rev 3
Drawn: FT Check: JH

21/11/2024 5:00:46 PM
DA ISSUE



LEVEL 6- CP6

CARPARKING NUMBERS	
CAR PARK TYPE	NUMBER
Level 2	
2.3x5.4 - Small Car	1
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	36
	39
Level 3	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	100
	102
Level 4	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	106
Level 5	
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	106
Level 6	
2.3x5.0 - Small Car (no wheel stop)	1
2.5x5.5 - Disabled	2
2.5x5.5 - Standard Car	104
	107
Grand total: 460	460



GENERAL NOTE:
2.2M CLEAR TO CARPARKS

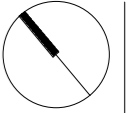
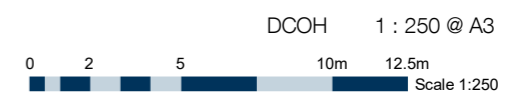
Darwin Civic Centre Redevelopment



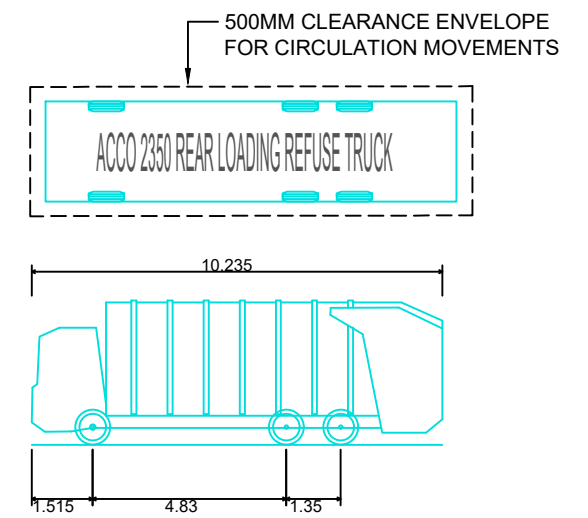
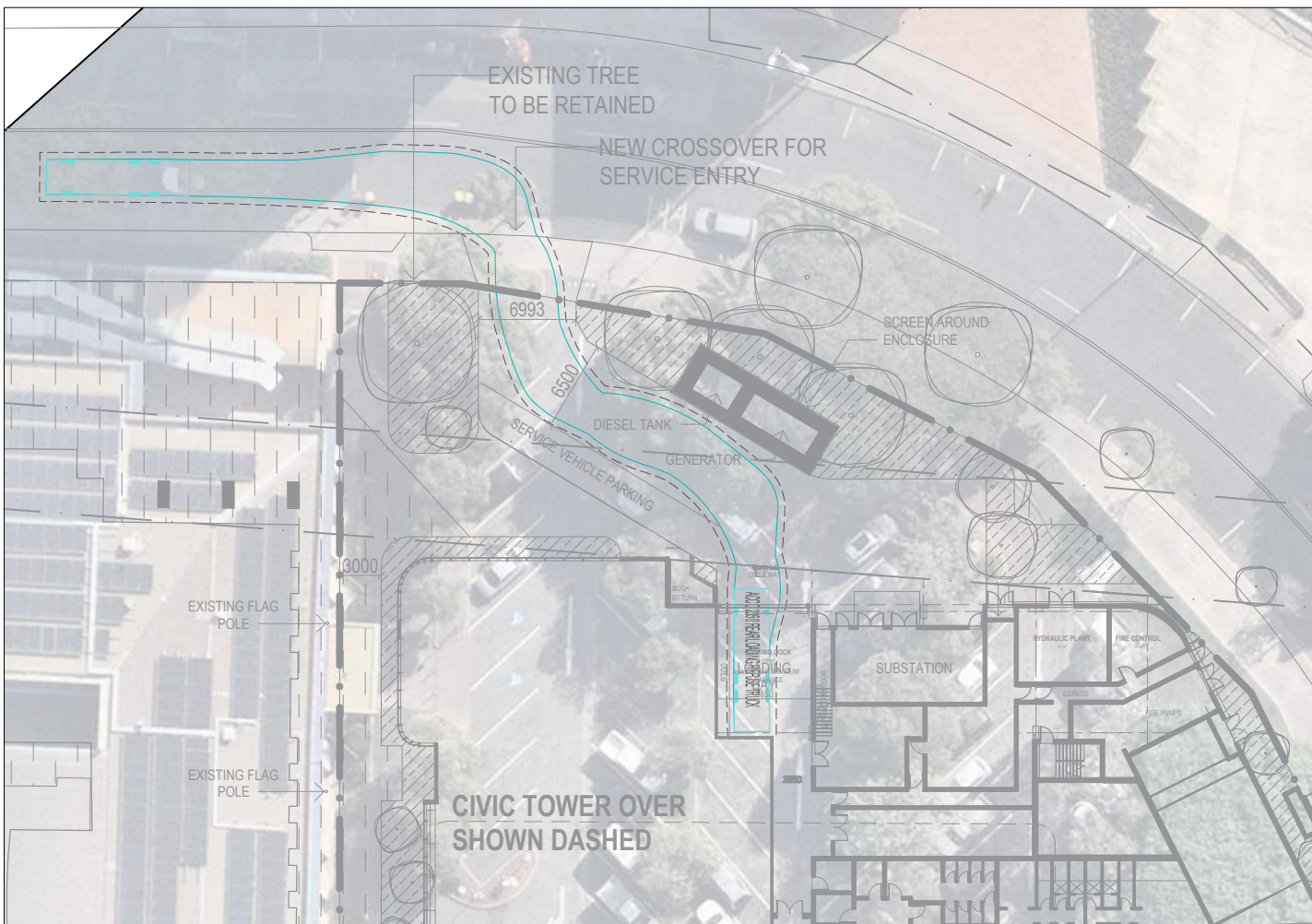
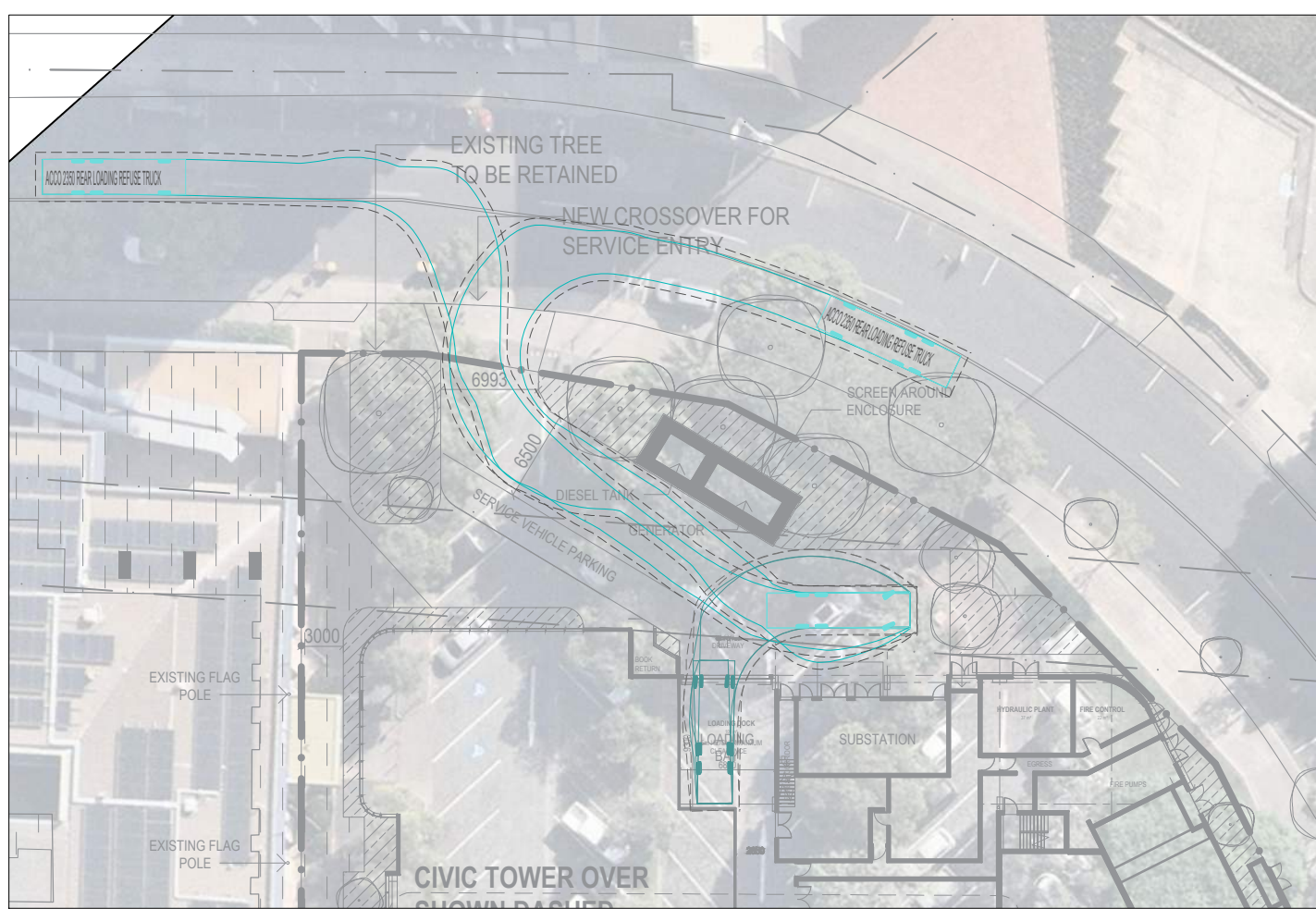
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Level 6 - CP
2248_DA DA-106 Rev 3
Drawn: FT Check: JH

21/11/2024 5:00:49 PM
DA ISSUE



APPENDIX B SWEPT PATH DRAWINGS



ACQO 2350 REAR LOADING REFUSE TRUCK	
Overall Length	10.235m
Overall Width	2.500m
Overall Body Height	3.600m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to curb Turning Radius	9.757m

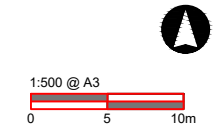
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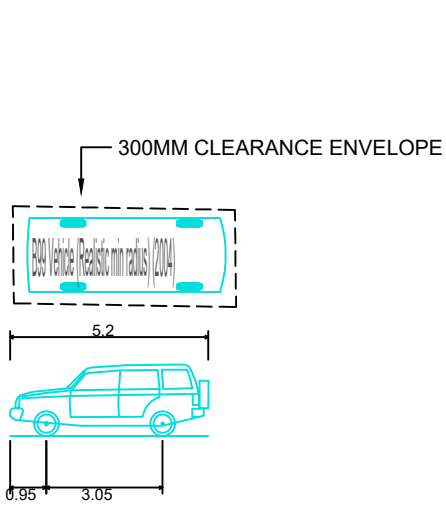
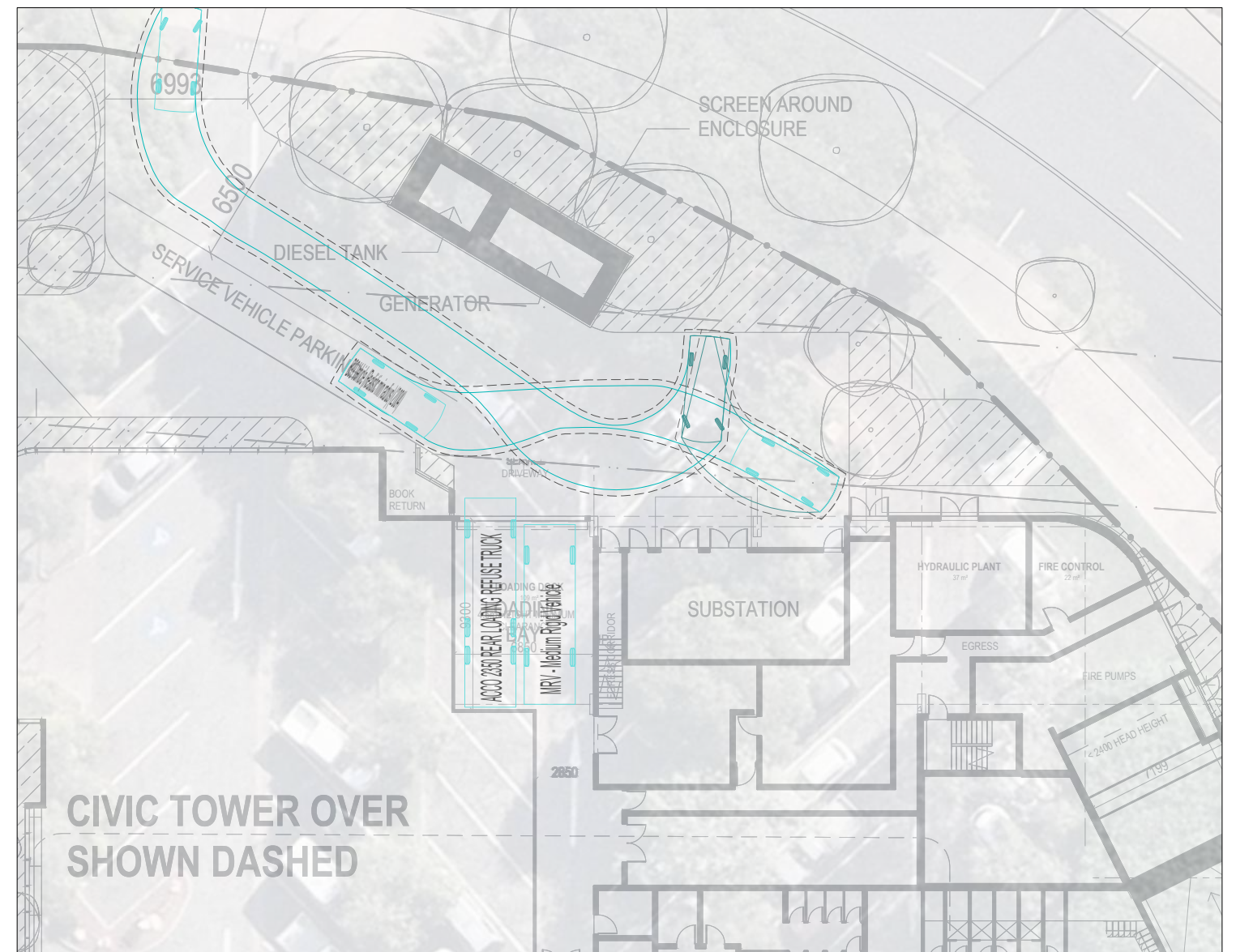
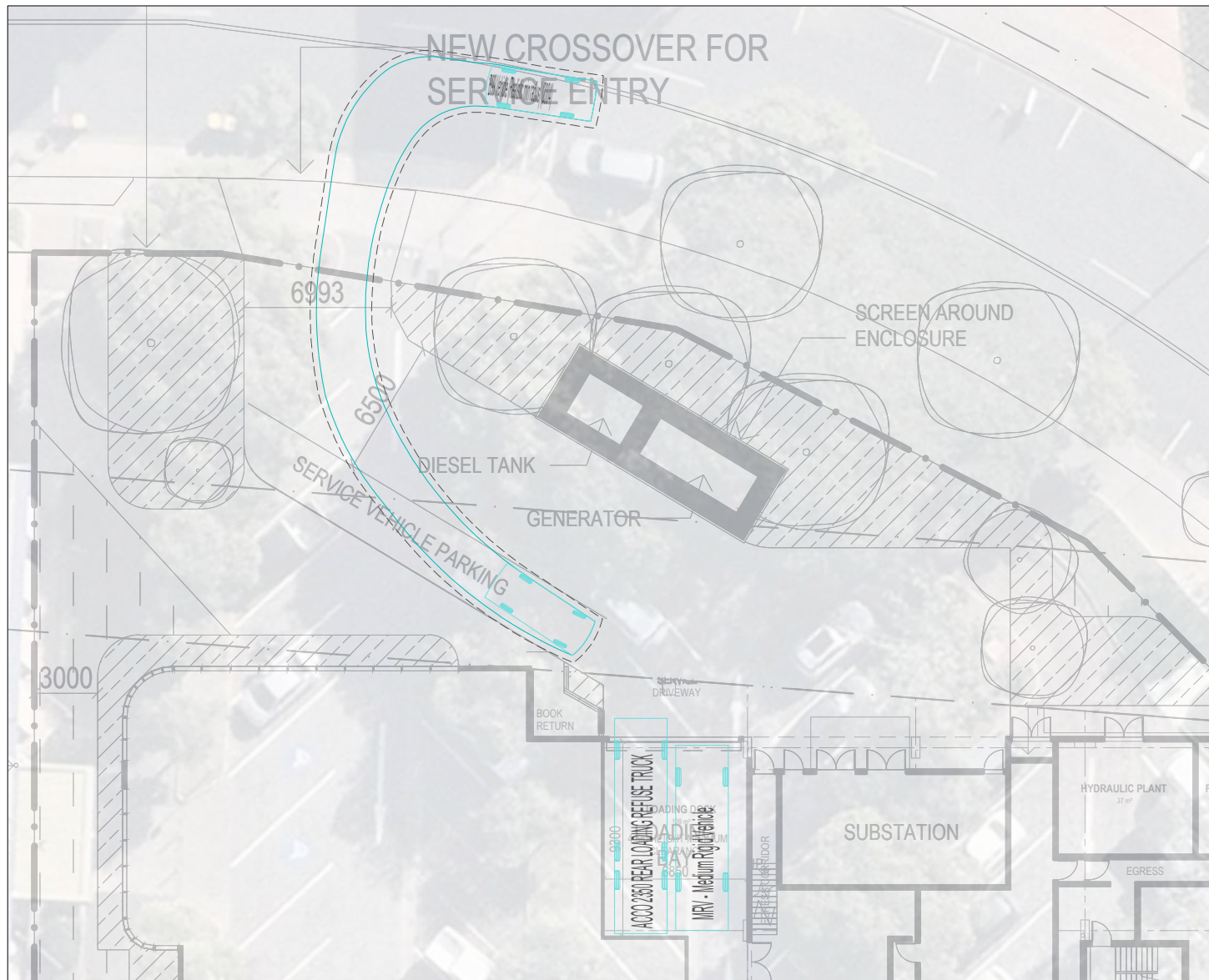


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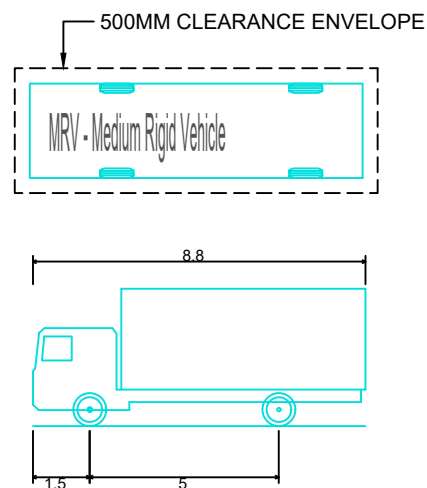
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DCOH

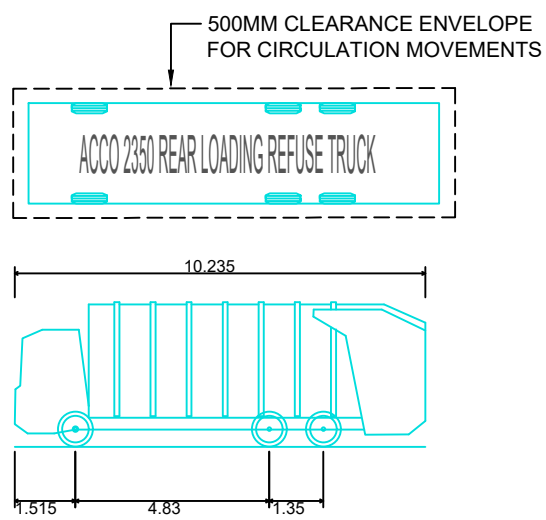




B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5.200m
 Overall Width 1.940m
 Overall Body Height 1.878m
 Min Body Ground Clearance 0.272m
 Track Width 1.840m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6.250m



MRV - Medium Rigid Vehicle
 Overall Length 8.800m
 Overall Width 2.500m
 Overall Body Height 3.633m
 Min Body Ground Clearance 0.428m
 Track Width 2.500m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 10.000m



ACCO 2350 REAR LOADING REFUSE TRUCK
 Overall Length 10.235m
 Overall Width 3.600m
 Overall Body Height 3.600m
 Min Body Ground Clearance 0.304m
 Track Width 2.500m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 9.757m

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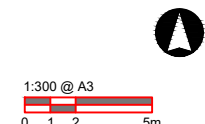
Darwin Civic Centre
 Van Manoeuvring (B99)

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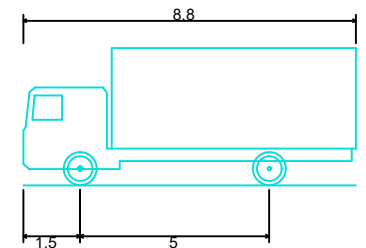
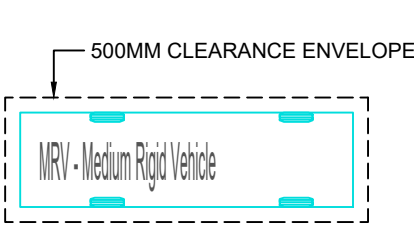
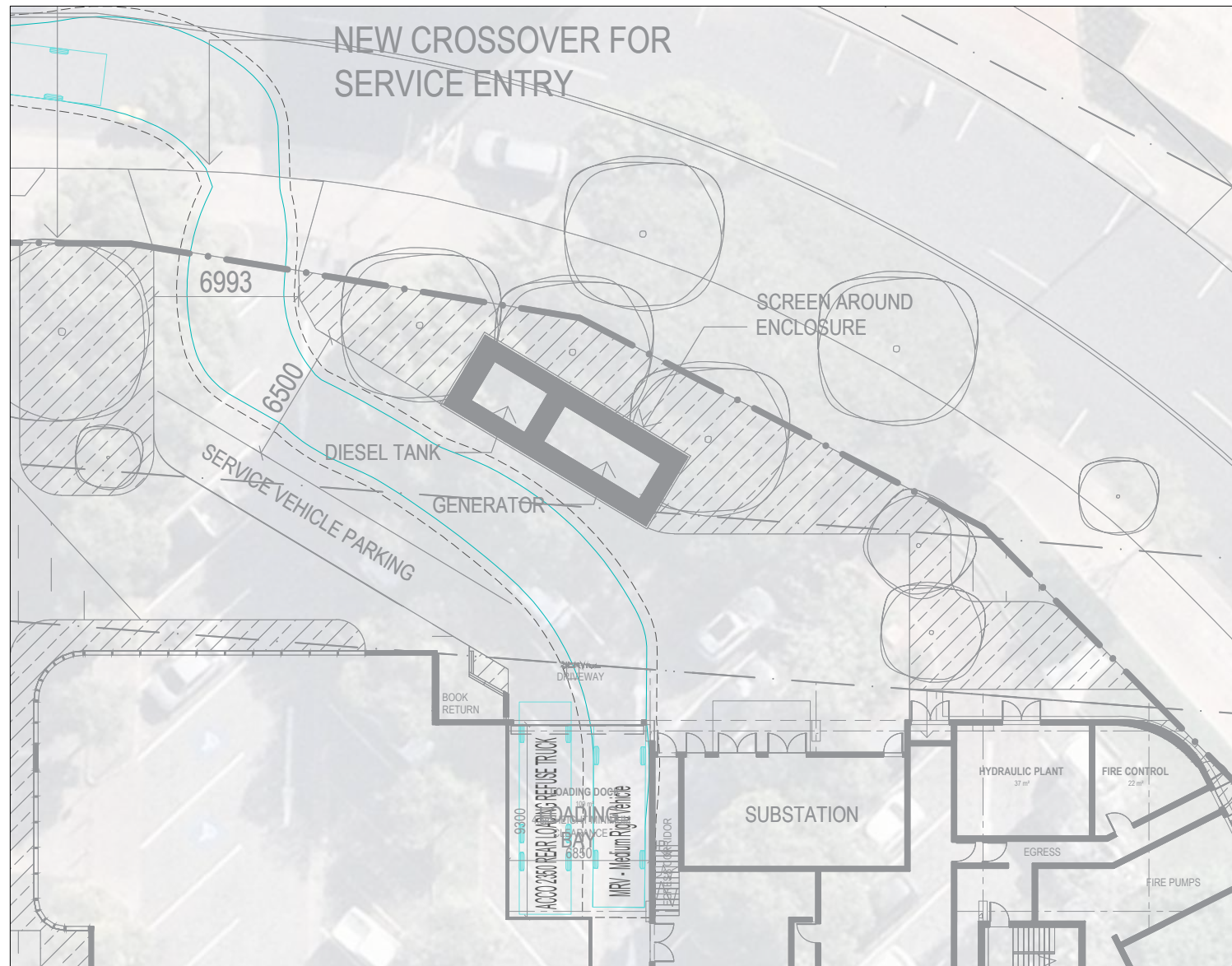
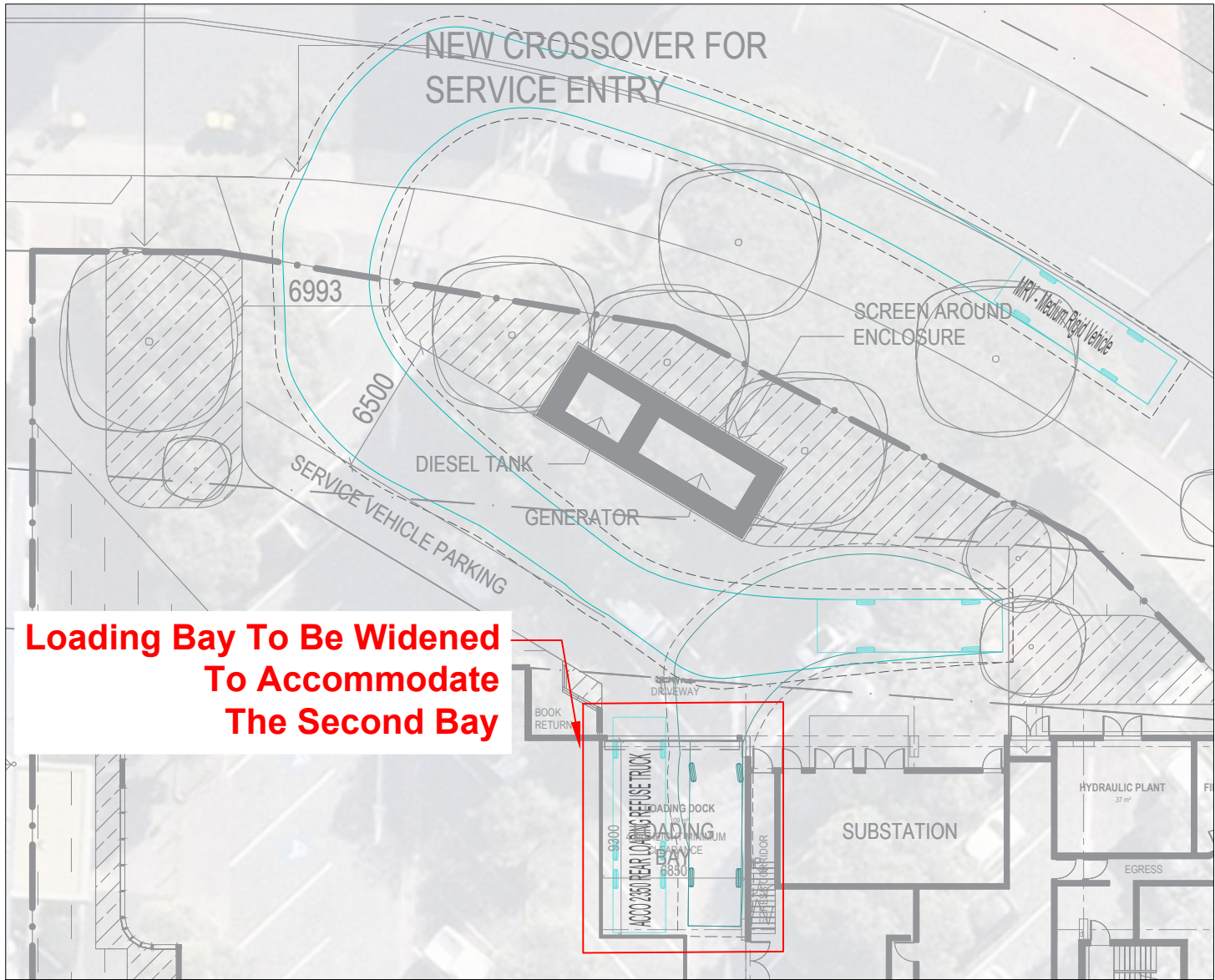
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A	Swept Paths	N.Y.	A.S.	21/11/2024

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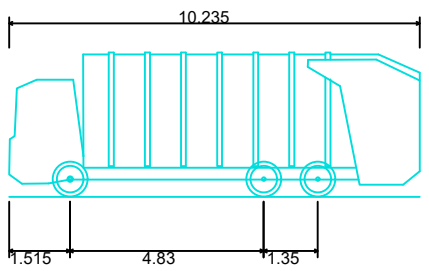
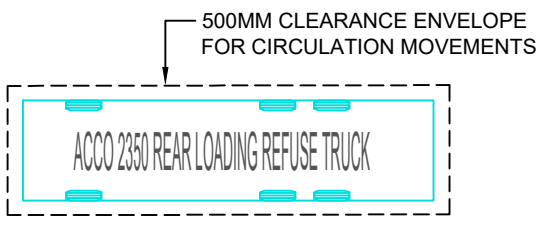
DCOH



PROJECT NO. P0056187
 DATE 22/11/2024
 DRAWING NO. 02
 REVISION B



MRV - Medium Rigid Vehicle	
Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	3.633m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.000m



ACCO 2350 REAR LOADING REFUSE TRUCK	
Overall Length	10.235m
Overall Width	2.500m
Overall Body Height	3.600m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	9.757m

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Darwin Civic Centre
MRV Entering & Exiting

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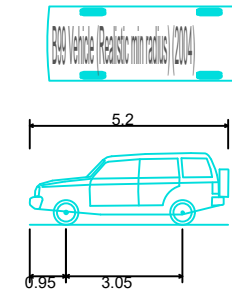
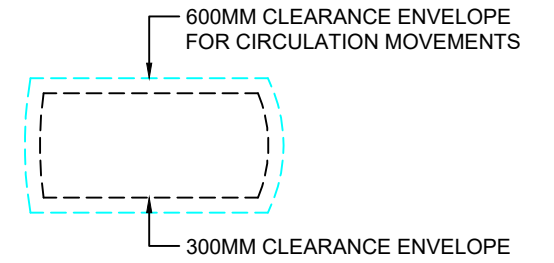
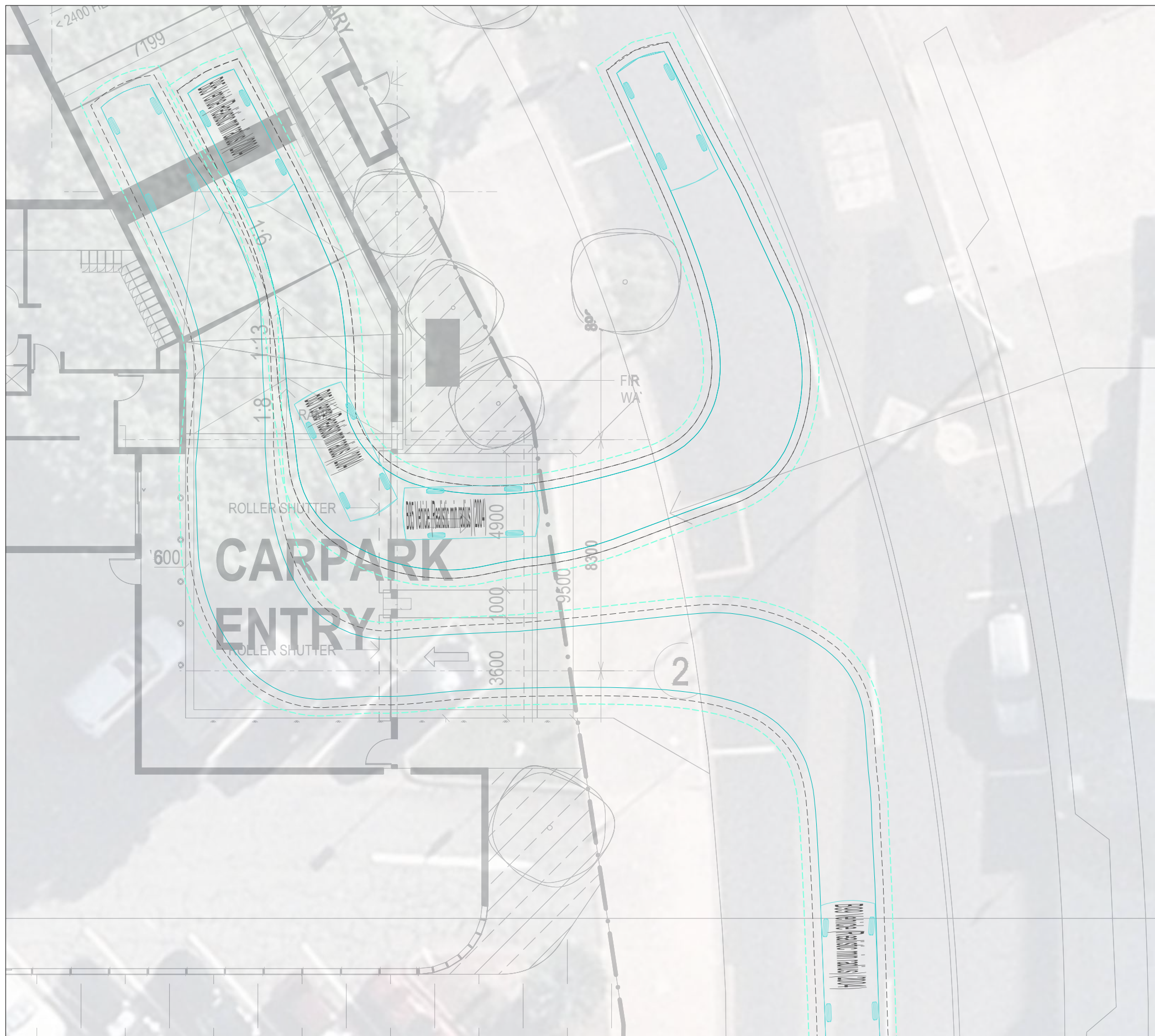
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A	Swept Paths	N.Y.	A.S.	21/11/2024
REV	DESCRIPTION	DWN	CHK	DATE

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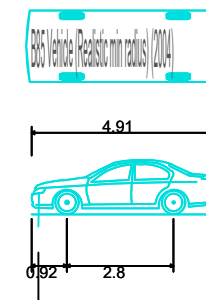
DCOH



PROJECT NO. P0056187
DATE 22/11/2024
DRAWING NO. 03
REVISION B



B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5.200m
 Overall Width 1.940m
 Overall Body Height 1.878m
 Min Body Ground Clearance 0.272m
 Track Width 1.840m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6.250m

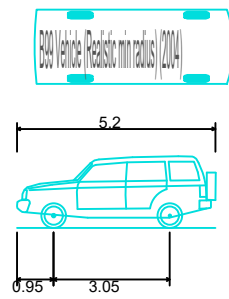
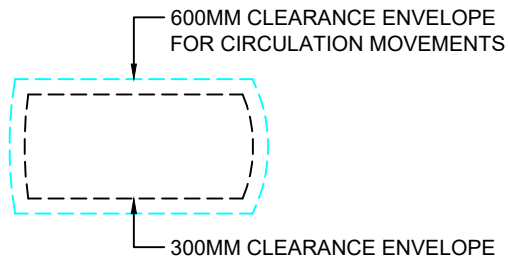
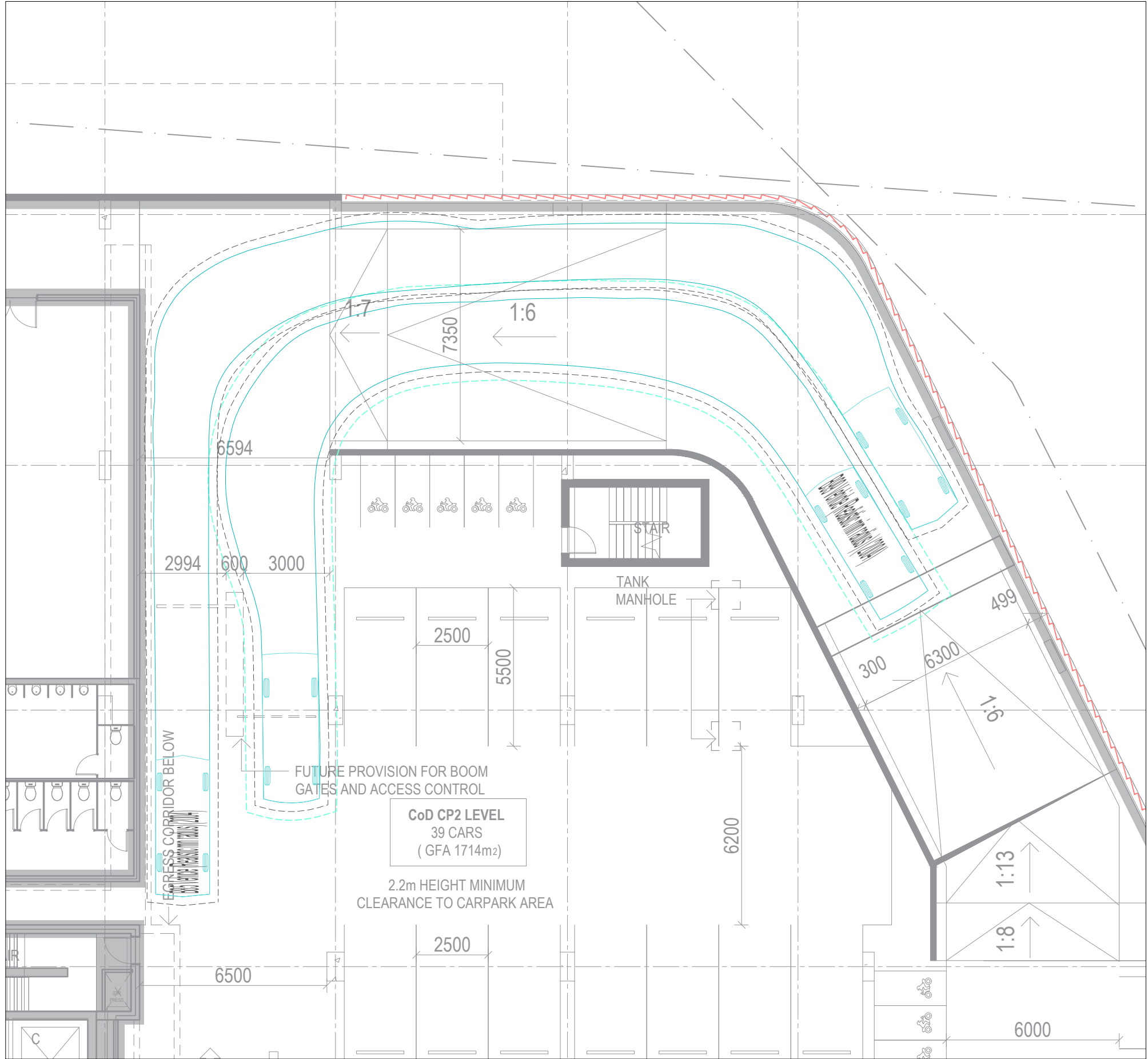


B85 Vehicle (Realistic min radius) (2004)
 Overall Length 4.910m
 Overall Width 1.421m
 Overall Body Height 1.421m
 Min Body Ground Clearance 0.159m
 Track Width 1.770m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 5.750m

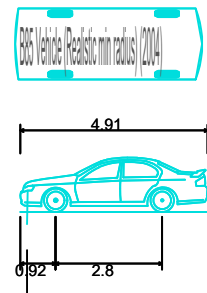
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REV	DESCRIPTION	LDWN	CHK	DATE
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A	Swept Paths	N.Y.	A.S.	21/11/2024

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B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5.200m
 Overall Width 1.940m
 Overall Body Height 1.878m
 Min Body Ground Clearance 0.272m
 Track Width 1.840m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6.250m



B85 Vehicle (Realistic min radius) (2004)
 Overall Length 4.910m
 Overall Width 1.870m
 Overall Body Height 1.421m
 Min Body Ground Clearance 0.159m
 Track Width 1.770m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 5.750m

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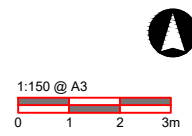
Darwin Civic Centre
Ramp Circulation - Level 2 Boom Gate

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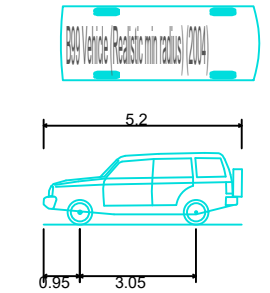
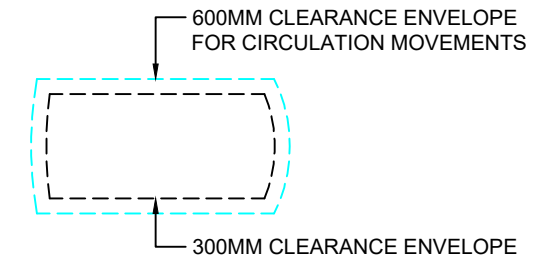
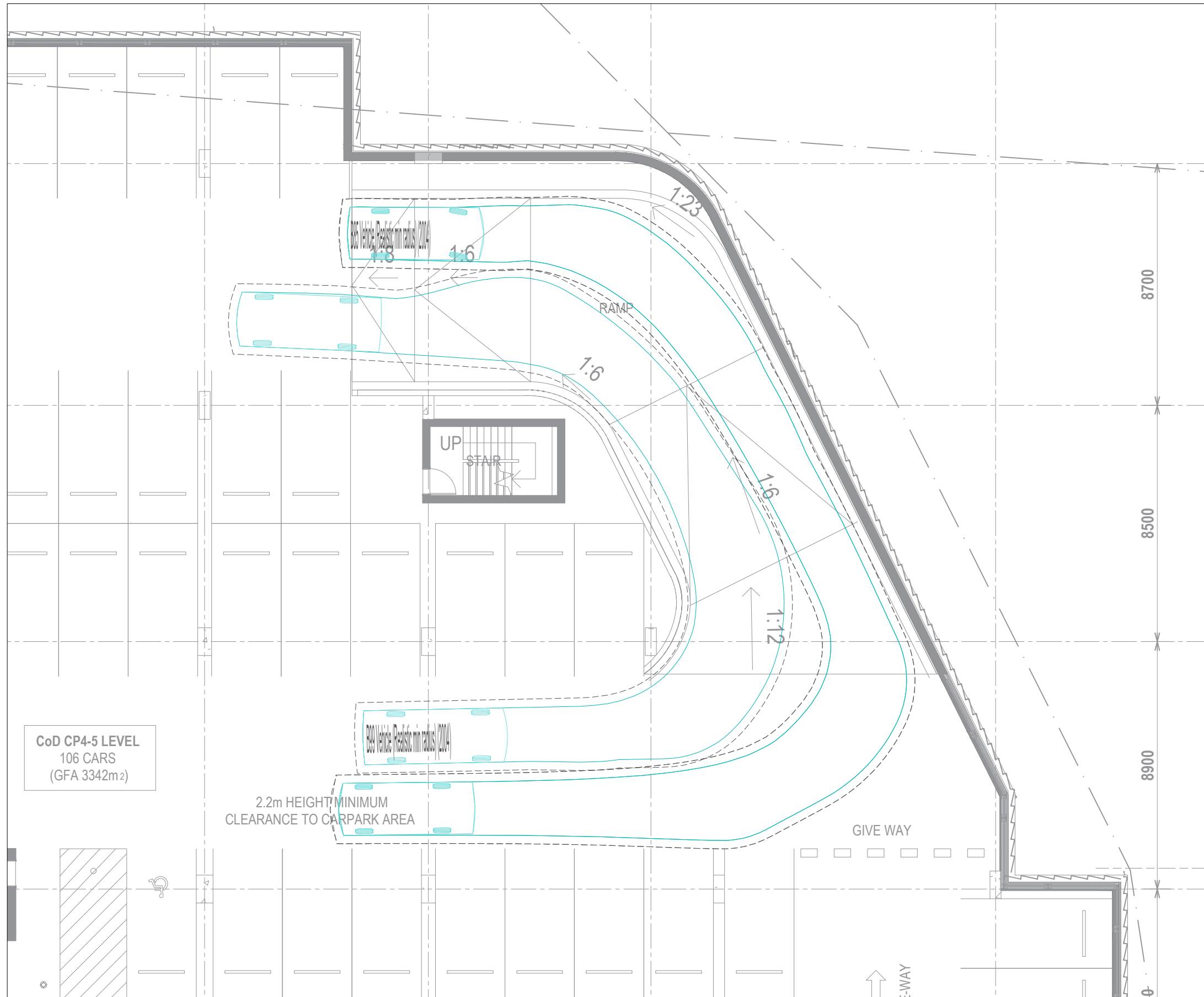
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B	Swept Paths	N.Y.	A.S.	22/11/2024
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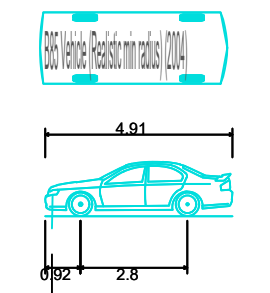
DCOH



PROJECT NO. P0056187	DATE 22/11/2024
DRAWING NO. 05	REVISION B



B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5.200m
 Overall Width 1.940m
 Overall Body Height 1.878m
 Min Body Ground Clearance 0.272m
 Track Width 1.840m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6.250m



B85 Vehicle (Realistic min radius) (2004)
 Overall Length 4.910m
 Overall Width 1.870m
 Overall Body Height 1.421m
 Min Body Ground Clearance 0.159m
 Track Width 1.770m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 5.750m

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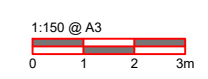
Darwin Civic Centre
 Ramp Circulation

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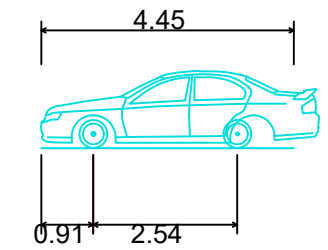
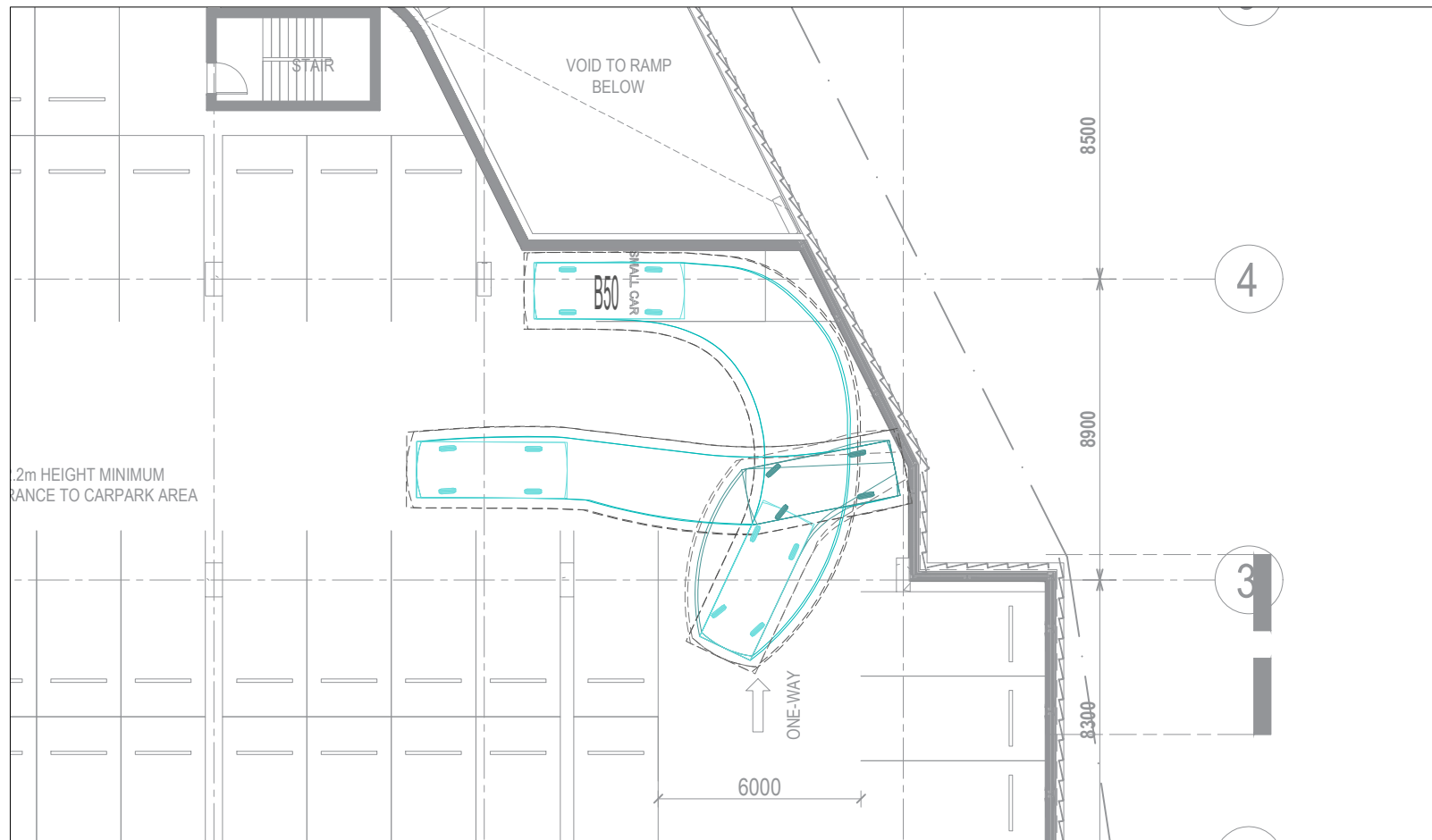
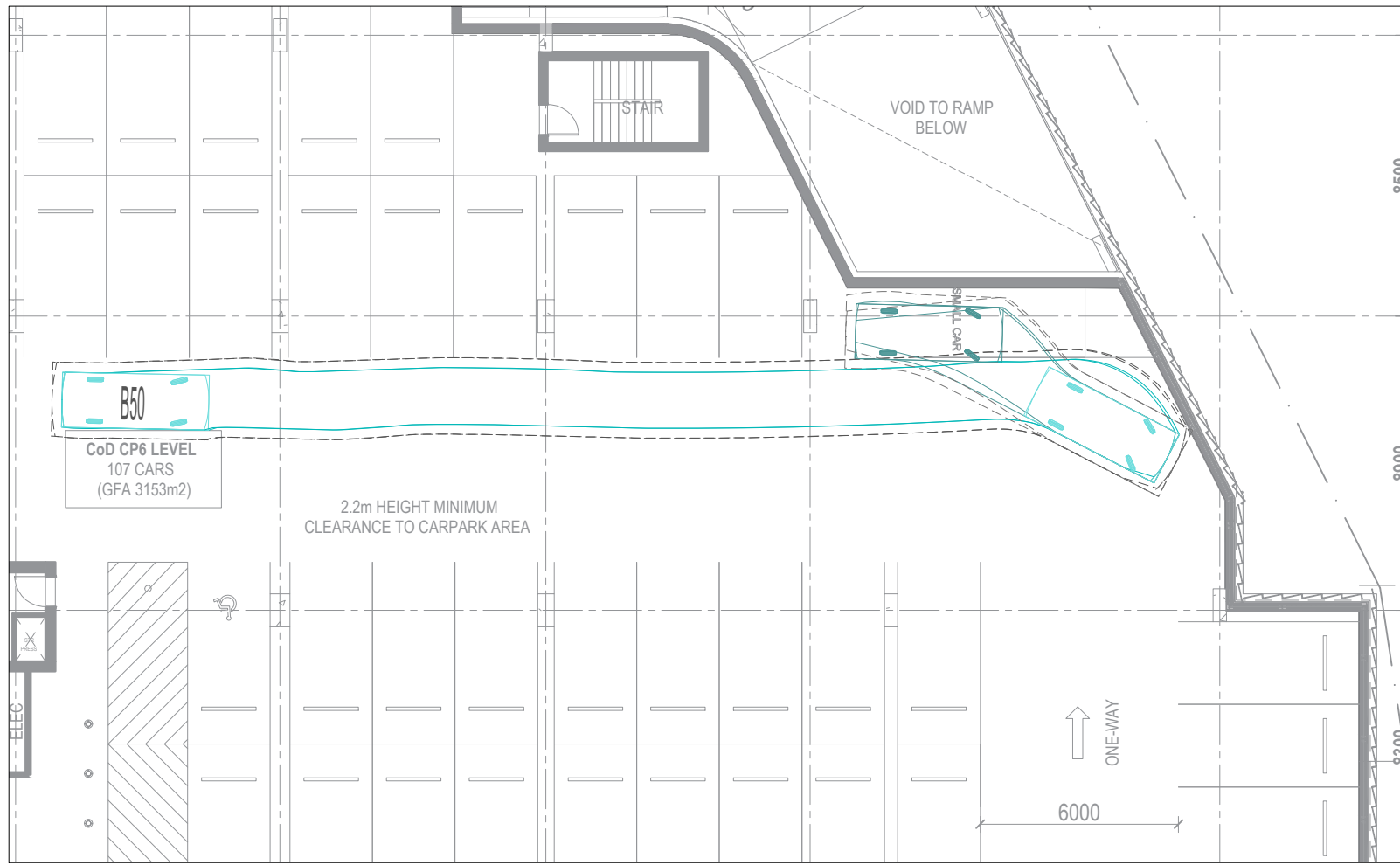
REV	DESCRIPTION	DWN	CHK	DATE
B	Swept Paths	N.Y.	A.S.	22/11/2024
A	Swept Paths	N.Y.	A.S.	21/11/2024

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DCOH



PROJECT NO. P0056187
 DATE 22/11/2024
 DRAWING NO. 06
 REVISION B



B50	
Overall Length	4.450m
Overall Width	1.660m
Overall Body Height	1.356m
Min Body Ground Clearance	0.094m
Track Width	1.400m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	5.600m

ALL DRAWINGS ARE DESIGNED TO BE PRINTED AND READ IN COLOUR
 IT IS THE CONTRACTORS' RESPONSIBILITY TO PRINT DRAWINGS IN COLOUR TO AVOID ANY POTENTIAL DISCREPANCIES IF DRAWINGS ARE PRINTED IN BLACK AND WHITE



Darwin Civic Centre
Small Car Bay - Level 6

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DCOH

REV	DESCRIPTION	DWN	CHK	DATE
A	Small Car Swept Paths	N.Y.	A.S.	21/11/2024

1:200 @ A3



PROJECT NO. P0056187	DATE 21/11/2024
DRAWING NO. 07	REVISION A

