



**Sydney International Convention Exhibition
and Entertainment Precinct (SICEEP)
Darling Square - NE Plot
Traffic, Transport and Accessibility - Addendum Report**



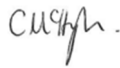
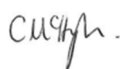
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1. Introduction

1.1. Background

This addendum report supports an application made under section 96 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to modify Development Consent, SSD 6626 relating to the development of the North East Plot of Darling Square which is part of the Sydney International Convention, Exhibition and Entertainment Precinct (SICEEP).

Development Consent SSD 6626 was granted on 16 April 2015 by the delegate of the Minister for Planning for the following components of development:

- site preparation works including demolition of existing Sydney Entertainment Centre;
- staged construction of 8 storey, 19 storey and 41 storey buildings, including a 5 storey podium, to be used for:
 - 2,050m² retail floor space at ground floor level;
 - 445 above ground car parking spaces and storage; and
 - 581 residential apartments
- various public domain improvements including:
 - provision of footpath treatment to the northern and eastern frontages and associated landscaping along the northern boundary; and
 - interim surface treatments to the southern and western frontages.

This section 96 application (the Modification Application) constitutes the first modification to the consent. This Modification Application follows the approval and current assessment of a number of SSDAs within the SICEEP site as set out in Table 1-1.

Table 1-1: Status of initial SICEEP SSD DAs

DA No	Description of Application	Status
12_5752	SICEEP Core Facilities – Exhibition Centre, Convention Centre, The Theatre, Event Deck and Tumbalong Park	Approved: 22 August 2013
MOD 1	S96(1A) - various	Approved: 20 February 2014
MOD 2	S96(1A) – various	Approved: 18 July 2014
MOD 3	S96(1A) – various	Approved: 1 July 2015
13-5878	Darling Square Concept Proposal	Approved: 5 December 2013
MOD 1	S96(1A) – various	Approved: 26 November 2015
MOD 2	S96(1A) – various	Approved: 4 October 2016
6010	Western Plot (Student Accommodation – Building W2)	Approved: 7 May 2014
MOD 1	S96(2) – various	Approved: 1 April 2016
6013	North-West Plot (Public car park/ commercial office building)	Approved: 7 May 2014
MOD 1	S96(2) – various	Approved: 20 July 2015
MOD 2	S96(1A) – various	Approved: 26 November 2015
MOD 3	S96(1A) – various	Under Assessment

DA No	Description of Application	Status
6011	South-West Plot (Mixed Use Residential Development)	Approved: 21 May 2014
MOD 1	S96(1A) – various	Approved: 27 July 2015
6116	ICC Hotel	Approved: 15 June 2014
MOD 1	S96(1A) – various	Approved: 8 July 2015
6626	North-East Plot (Mixed Use Residential Development)	Approved: 16 April 2015
MOD 1	S96(1A) – various	Subject of this application
6831	ICC Hotel fit-out, façade lighting system and subdivision	Approved: 16 October 2015
7133	Western Plot (Student Accommodation – Building W1)	Approved: 1 April 2016
7021	North Plot (Community and Retail Building and Public Open Space)	Under Assessment
6633	South East Plot (Mixed Use Residential Development)	Under Assessment

1.2. Overview of Proposed Modifications

This Modification Application seeks approval for the following amendments:

- internal amendments to the podium levels, including the provision of new public amenities and additional service parking spaces;
- minor internal revisions to some residential apartments; and
- minor external amendments at the upper and lower levels, including refined interfaces with the public domain.

A range of other minor amendments resulting from design development, including amendments made in light of the continual design of surrounding buildings and public domain elements, are illustrated on the amended Architectural Drawings. These changes are to be expected in any project, especially given the nature and scale of the approved North East Plot development.

1.3. Site Description

The SICEEP Site is located within Darling Harbour. Darling Harbour is a 60 hectare waterfront precinct on the south-western edge of the Sydney Central Business District that provides a mix of functions including recreational, tourist, entertainment and business.

With an area of approximately 20 hectares, the SICEEP Site is generally bound by the Light Rail Line to the west, Harbourside shopping centre and Cockle Bay to the north, Darling Quarter, the Chinese Garden and Harbour Street to the east, and Hay Street to the south (refer to Figure 1-1).

The Darling Square Site is:

- located in the south of the SICEEP Site, within the northern portion of the suburb of Haymarket;
- bounded by the Powerhouse Museum to the west, the Pier Street overpass and Little Pier Street to the north, Harbour Street to the east, and Hay Street to the south; and
- irregular in shape and occupies an area of approximately 37,701m².

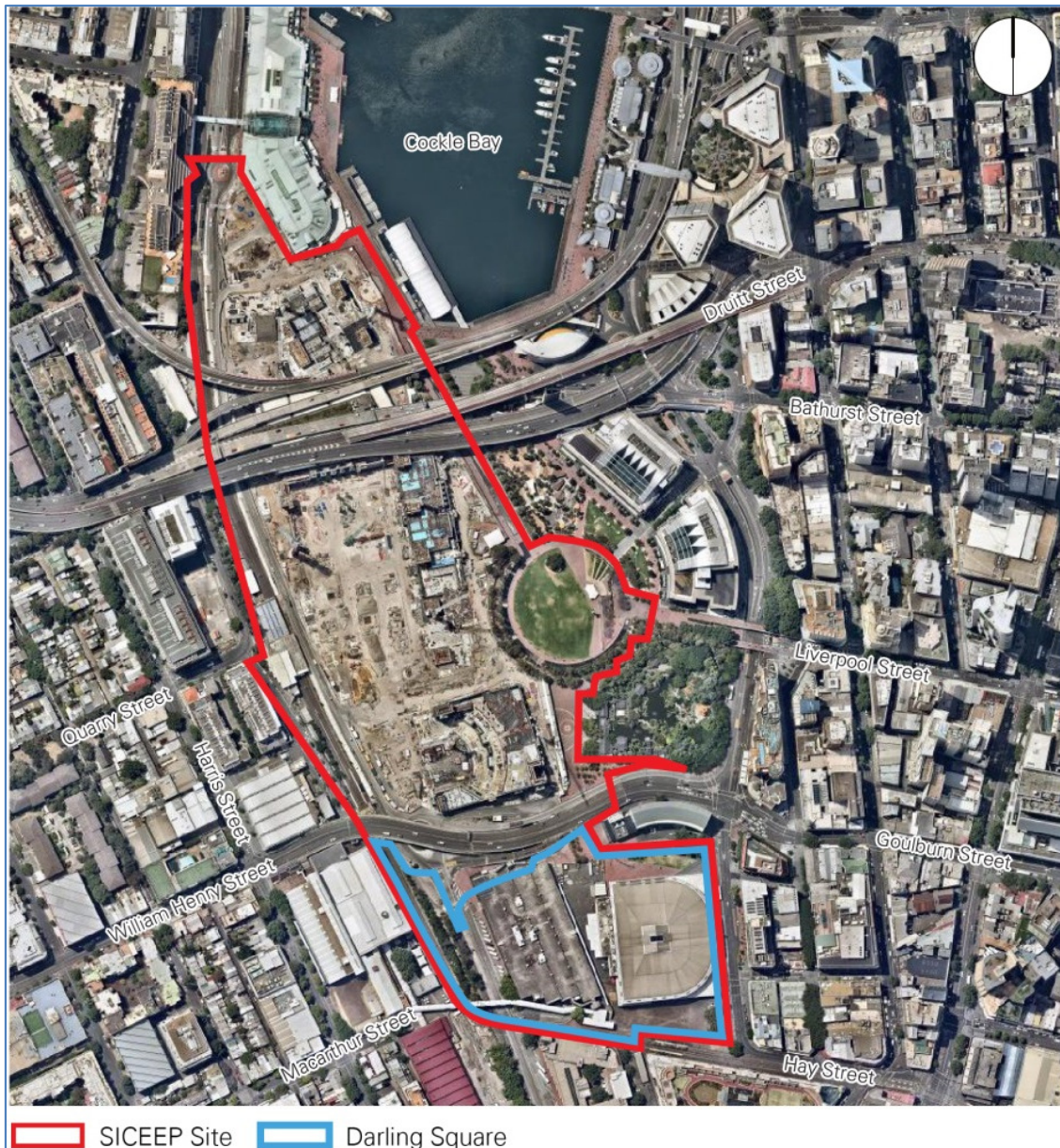


Figure 1-1: Aerial Photograph of the SICEEP Site

The Modification Application Site relates to the North East Plot and surrounds as detailed within the drawings submitted in support of Modification Application. **Figure 2** illustrates the North East Plot in the approved Concept Proposal.

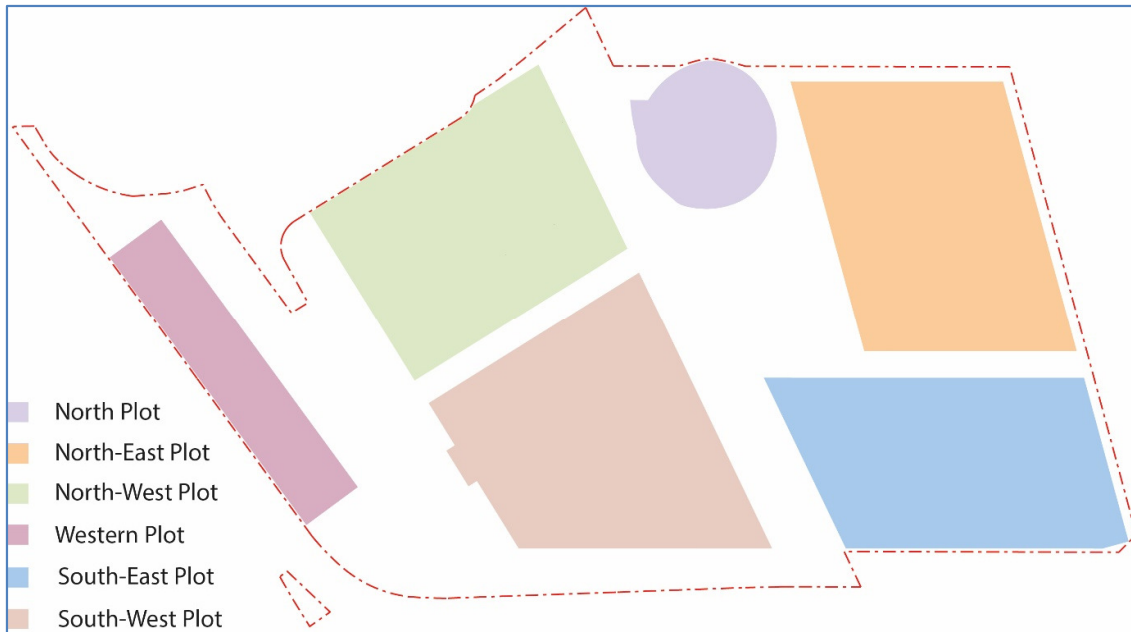


Figure 1-2: Darling Square Plots

2. Proposed Modifications to Servicing Arrangements

This report addresses proposed modifications to the allocation of car parking and arrangements for service vehicles. These modifications are addressed below.

2.1. Proposed Modification to Car Parking Allocation

The current proposal involves the amalgamation of a number of apartments resulting in a reduction in the total number of units from 581 to 577. This affects the car parking requirement.

The car parking requirement for the current approval and the proposal is presented in Table 2-1. The maximum allowable number of spaces falls from 469 to 464. The current proposal retains the 445 spaces as already approved. This is less than the maximum allowable and hence is acceptable.

Table 2-1: Car Parking Allocation under Current Approval and Current Proposal

	Units	Maximum spaces allowed per unit	Maximum car spaces allowed	Allocation of car spaces
Current Approval				
1 bedroom	251	0.5	125.5	97
2 bedroom	303	1	303	301
3 bedroom + study	27	1.5	40.5	47
Total	581		469	445
Current Proposal				
1 bedroom	251	0.5	125.5	106
2 bedroom	301	1	301	301
3 bedroom + study	25	1.5	37.5	38
Total	577		464	445

2.2. Proposed Modification to Servicing Arrangements

The original proposal for the North East Plot contained a loading dock capable of accommodating two standard medium rigid vehicles (MRV). It is now proposed that service vehicles associated with the day to day operations on the North Plot utilise an expanded service area in the North East Plot.

Room has been made available at ground level for additional service vehicles by relocation of a fire water storage tank. The additional service vehicle bays are not required for servicing the North East Plot. The proposed provision of service vehicle parking within the North East Plot building is:

- 2 x Van Bays – New
- 4 x SRV Bays – New
- 1 x 8.8 metre MRV bay (Part of North East Plot DA)

- 1 x 10.3 metre MRV bay (Part of North East Plot DA)

The implications of the shared arrangements are discussed in Chapter 3.

Details of loading areas for the North Plot under the proposed modification are shown in Figure 2-1. Swept paths for each loading bay are also shown (Further details in Appendix A). Boom gates will separate residential and service vehicle parking.

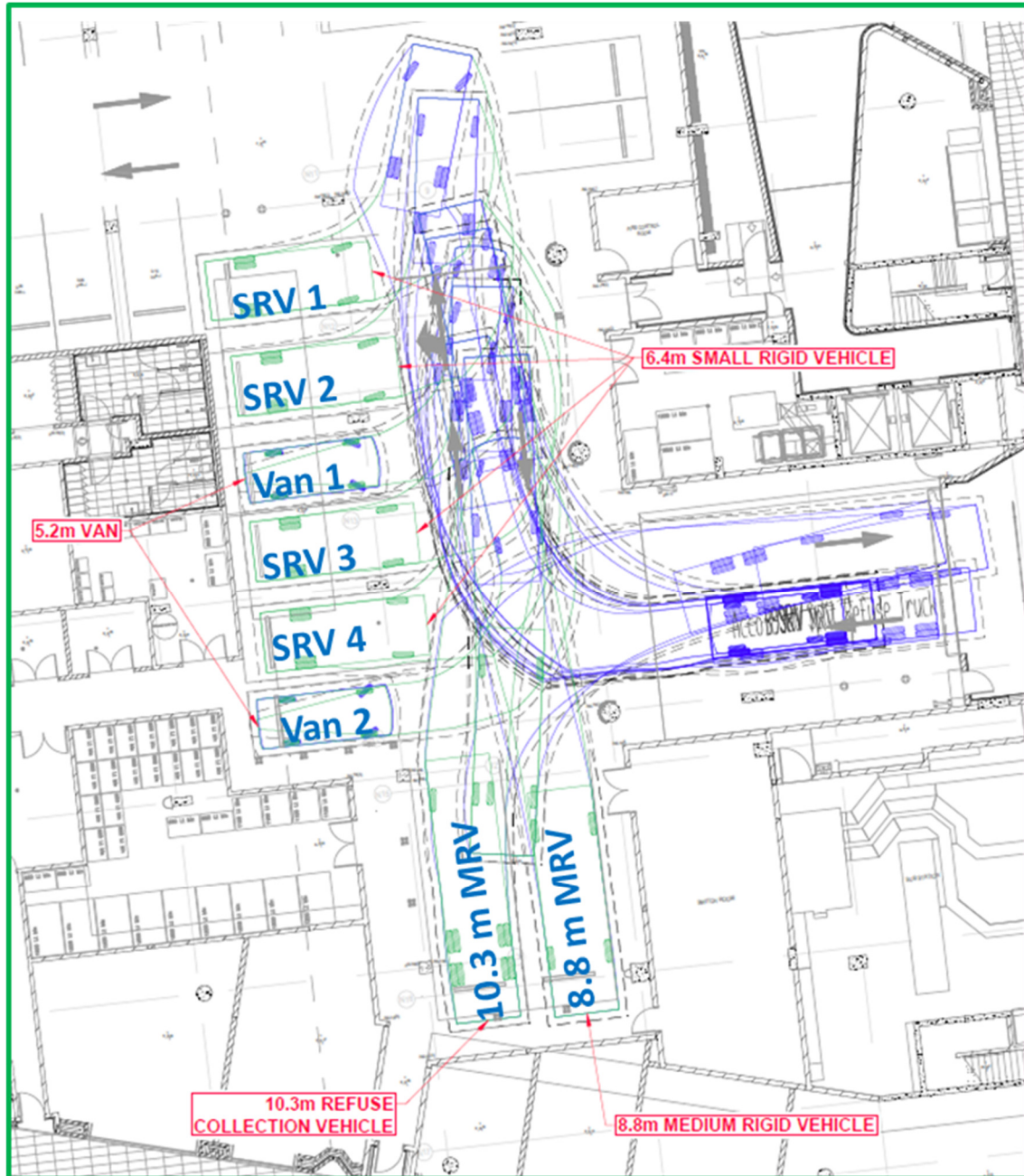


Figure 2-1: Details of Loading Areas within the North East Plot (proposed modification)

3. Updated Floor Areas and Estimates of Service Vehicle Demands

Estimates of service vehicle demands are presented below taking into account the shared use of the expanded service area within the North East Plot to accommodate servicing requirements within both the North East Plot and the North Plot.

3.1. Updated Floor Areas

The floor areas for the North East Plot and the North Plot have been recalculated to accord with the latest plans. The changes are presented below.

Table 3-1: Floor Areas

Land Use	Previously Assumed	Current Proposal
North East Plot		
Apartments	581 dwellings	577 dwellings
Retail	1,823m ² GFA	1,976m ² GFA
North Plot		
Ground Floor Market	31 tenancies	18 tenancies
Mezzanine Food and Beverage	486m ² GFA	500m ² GFA
Restaurant and Bar	555m ² GFA	841m ² GFA

The library and child care centre within the North Plot are unchanged

3.2. Estimates of Service Vehicle Demands

Previous assessments prepared by TTM Consulting provided a broad overview of service vehicle requirements based on compliance with various codes and surveys plus assumed delivery times. These estimates have been re-examined given the proposal to schedule and co-ordinate deliveries and waste removals for the North East Plot and the North Plot. Details of the analysis and resultant demands is presented in the following sections.

3.2.1. North East Plot Domestic Waste Vehicles

Vehicles collecting domestic waste have been estimated using rates from the City of Sydney Policy for Waste Minimisation in new developments. Average loads are 10,000 litres per vehicle. This results in a demand for 8 collections per week (see Table 3-2).

Table 3-2: North East Plot Domestic Waste Vehicles

Waste Type	Rate per week (litres/unit)*	Units	Volume / week (litres)	Waste vehicles / week
General Waste	80	577	46,160	5
Mixed Recycling	40		23,080	3
Total Slots Required per week for domestic waste services				8
*Source: City of Sydney Policy for Waste Minimisation in new developments				

*Source: City of Sydney Policy for Waste Minimisation in new developments

3.2.2. North East Plot Retail Waste Vehicles

Vehicles collecting waste associated with the retail component of the North East Plot have been estimated using rates from the NSW EPA “Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities” (2012). One general and one recycling waste vehicle is allowed for each day for each waste type. This is a worst case scenario.

Table 3-3: North East Plot Retail Waste Vehicles

Waste Type	Rate per day (litres/100m2)*	Area (GFA)	Volume / day (litres)	Waste Vehicles / day
General Waste	80	1,975.87	1,581	1
Mixed Recycling	70		1,383	1
Total Slots Required per day week for retail waste services				2

*Source: Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (2012)

3.2.3. North Plot Service Vehicles (excluding waste)

North Plot service vehicles have been estimated using data from a number of sources. This includes:

1. Ground Floor Market deliveries are based on deliveries surveyed for kiosks at Erina Fair, Craigieburn Central, and Sunshine Plaza. The average daily deliveries were 1.22 vehicles per stall assuming all deliveries occurred during the five day work week.
2. The vehicle mix for deliveries to the ground floor markets is 68% vans or cars and 38 % small rigid vehicles. This is based on surveys undertaken at South Melbourne markets.
3. The mezzanine food and beverage and the restaurant deliveries are based on a typical 60 seat / 180 m2 restaurant receiving 2 rounds of deliveries per day (1 Van and 1 SRV per round). That is, 4 deliveries per day per 180 m2. This is conservatively high as the rooftop restaurant will likely result in some consolidation of deliveries.
4. One delivery is assigned to the library. This is the daily book delivery and collection service.
5. Two deliveries are assigned to the child care centre (one laundry and one food).

The resultant demands by vehicle type are presented in Table 3-4.

Table 3-4: Service Bay Requirements for North Plot (excluding waste)

Land Use	Measure	Quantity	Vehicle Mix		
			Car/Van	SRV	MRV
Ground Floor Market	Stalls	18	68%	32%	0%
Mezzanine Food and Beverage	m2 GFA	500	50%	0%	50%
Library	Deliveries	1	100%	0%	0%
Child Care Centre	Deliveries	2	100%	0%	0%
Restaurant and Bar	m2 GFA	841	50%	0%	50%
Land Use	Deliveries per day		1 Hour Slots required per day		
			Car/Van	SRV	MRV
Ground Floor Market	1.22 / stall		15	7	0
Mezzanine Food and Beverage	2 per 180m2 GFA		3	0	3
Library	1/day		1	0	0
Child Care Centre	2/day		2	0	0
Restaurant and Bar	2 per 180m2 GFA		5	0	5
Total Slots Required per day			26	8	8

3.2.4. North Plot Waste Vehicles

Waste vehicles have been estimated for the North Plot based on volumes contained in the waste management plan¹. These volumes are presented below.

Table 3-5: North Plot Waste Volume

Waste Type	Volume/day (litres)	Bins x Capacity per bin
General Waste	1,585	2,380
Mixed Recycling*	3,163	4,600
Organics Recycling*	1,238	1,800
Recycling (total)	4,401	6,400

Assuming separate collection of general, mixed recycling, and organic recycling results in up to 8 waste collections per day (see Table 3-6).

Table 3-6: North Plot Waste Vehicles

Waste Type	Rate	Volume per day (litres)	Vehicles per day
General Waste	1 truck per 10 m ³ (10,000 litres) compacted volume	1,585	1
Mixed Recycling	1 truck per 10 m ³ (10,000 litres) compacted volume	3,163	1
Organics Recycling	1 truck per 10 m ³ (10,000 litres) compacted volume	1,238	1
Total Slots Required per day for waste services			3

3.3. Total Service and Waste Vehicles

As indicated earlier in this report it is proposed that 7 deliveries and waste collection is managed by allocation of time slots. One hour times slots are proposed during the following periods:

- Vans and small rigid vehicles – 18 one hour slots between 4.00 am and 10.00 pm.
- 12 one hour slots for medium rigid and Waste Vehicles between 6.00 am and 6.00 pm.

The 4.00 am start for the small rigid vehicles is based on observations at Melbourne South Market. The 6.00 am start and finish for medium rigid and waste vehicles is keeping large vehicles movements to occurring during daylight hours.

Table 3-7 presents the resultant weekly demands and available one hour slots. It can be seen that the proposed supply satisfies the demands. There are ample spare slots for the small rigid vehicles which be used as a buffer should demand exceed those forecast. There is also spare capacity within the standard medium rigid vehicle space for removalists (20 hours per weekday). Removalists would also have the opportunity to use spare capacity over the weekend.

¹ Source: The North Plot & The Square Waste Management Plan” by Waste Audit and Consultancy Services, dated May 2015.

Table 3-7: Summary of one hour slot requirements

Location	Vehicle Type	Daily	5 Day Week	Available	Satisfied
North Plot	Van	26	130	180	Yes
	SRV	8	40	360	Yes
	MRV	8	40	60	Yes
	MRV Waste	3	15	-	-
North East Plot Retail	MRV Waste	2	10	-	-
North East Plot Residential	MRV Waste	-	8	-	-
All Plots (MRV Waste Only)	MRV Waste	-	33	60	Yes

4. Summary of the Modifications

4.1. Allocation of Car Parking

The amalgamation of a number of apartments has resulted in a reduction in the total number of units and hence maximum allowable parking spaces. The current total parking provision is below the reduced maximum requirements. Hence there is no need to reduce the parking provision for the revised unit mix.

4.2. Service Area

An expanded service vehicle area is proposed within the North East Plot. It comprises:

- 2 x Van Bays – New
- 4 x SRV Bays – New
- 1 x 8.8 metre MRV bay (Part of North East Plot DA)
- 1 x 10.3 metre MRV bay (Part of North East Plot DA)

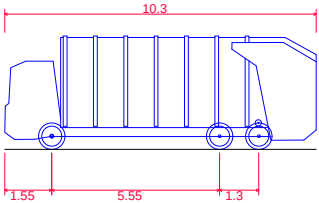
The proposed allocation of one hour slots provides sufficient capacity to accommodate service and waste vehicles associated with both the North Plot and the North East Plot.

There are no adverse impacts on the operations of the North East Plot as a result of the changes.

Appendix A Service Vehicle Swept Paths

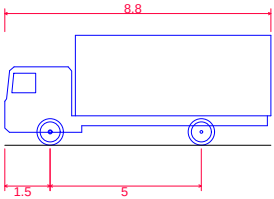


DESIGN VEHICLES



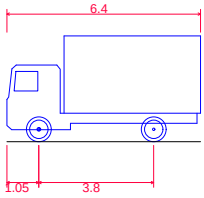
Acco 2350 Split Refuse Truck

Overall Length	10.300m
Overall Width	2.500m
Track Width	2.500m
Wall to Wall Turning Radius	11.300m



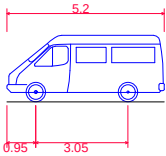
MRV - Medium Rigid Vehicle

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	4.00 sec
Curb to Curb Turning Radius	10.000m



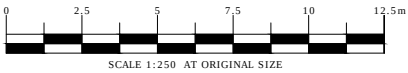
SRV - Small Rigid Vehicle

Overall Length	6.400m
Overall Width	2.330m
Overall Body Height	3.500m
Min Body Ground Clearance	0.398m
Track Width	2.330m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	7.100m



B99 Vehicle / VAN (Realistic 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	6.250m



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