DEPARTMENT OF PLANNING, LANDS AND HERITAGE		
DATE	FILE	
08-Apr-2021	SDAU-010-20	

Access Management Plan

120 Marine Parade

CW1077400

Prepared for Gary Dempsey Developments

31 March 2021





Cardno[®]

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Document Information

Prepared for	Gary Dempsey Developments
Project Name	120 Marine Parade
File Reference	CW1077400-TR-R02-C- Access_Management_Plan
Job Reference	CW1077400
Date	31 March 2021
Version Number	С

Author(s):

La:

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Approved By:		
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Team Leader – Traffic Engineering		

Document History

Effective Date	Description of Revision	Prepared by	Reviewed by
27/11/2020	For Issue	Brian Sii	Jacob Martin
1/12/2020	Minor Update	Brian Sii	Scott Lambie
31/03/2021	Updated site plan	Brian Sii	Scott Lambie
	Effective Date 27/11/2020 1/12/2020 31/03/2021	Effective DateDescription of Revision27/11/2020For Issue1/12/2020Minor Update31/03/2021Updated site plan	Effective DateDescription of RevisionPrepared by27/11/2020For IssueBrian Sii1/12/2020Minor UpdateBrian Sii31/03/2021Updated site planBrian Sii

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1 Introduction

1.1 Background

Cardno was commissioned by Gary Dempsey Developments to prepare an Access Management Plan (AMP) for the proposed multi-residential development located at 120 Marine Parade, Cottesloe. The proposed development will have access of Marine Parade, via an approximately 3.0 m wide, 11m long, one-way driveway.

The purpose of this AMP is to identify the transport-related constraints and propose strategies to ensure traffic operation and safety is maintained.

1.2 Proposed Development

The proposed development will consist of 14 apartments, one (1) café, and a total of 33 car parking bays (27 basement parking bays and 6 ground floor).

Two of the ground floor car bays are proposed to be allocated to café staff, while the remaining 31 car parking bays will be allocated among the 14 apartments.

2 Vehicle Access Arrangement

2.1 Access Function and Driveway Geometry

All vehicles will access the Site via the existing driveway fronting Marine Parade. All vehicles, except for waste truck movements will enter and exit the Site in forward gear.

The driveway is designed to accommodate one-lane, two-way traffic flow through a managed access arrangement.

The pedestrian interface will be designed to reinforce pedestrian priority, by retaining the grade and material of the pedestrian path across the driveway (in accordance with the WALGA's *Crossover Guidelines*). Adequate visibility to pedestrians is provided at the path interface, consistent with the requirements of Australian Standards AS2890.1.

2.2 Waste Collection

Waste collection would occur on-site, during late evening / early morning when residential vehicles are unlikely to use the driveway. The waste truck will reverse into the driveway, with the help of a spotter, to service the bins before exiting the Site in forward gear. These bins will be lined up against the wall to facilitate collection.

This process is likely to obstruct the driveway for only a few minutes, and is not expected to significantly affect operation of the driveway. The 10m waste truck design vehicle swept path is shown in **Figure 2-1**.

All infrastructure within the truck swept path shall be kept at-grade, or be trafficable, to accommodate the truck movement, including the central median island.



3 Vehicle Lift Operation

3.1 Lift Specification

A vehicle lift has been proposed for this development to provide access to the basement car parking levels. The chosen lift is designed to accommodate a B99 vehicle, with a platform size of $5.6m(L) \times 2.45m(W)$, and shaft size $6.1m(L) \times 3.1m(W)$.

3.2 Car Lift Operation Procedure and Time

The proposed lift system operates via hydraulics, and managed such that the lift remains on the lowest level (B2) in its idle state. Residents will be issued with remote that will allow for calling of lift while in their vehicle.

Based on this, Cardno has the procedure and time required for different lift usage as listed below:

Table 3-1 Ground to Ground	(Accessing the rear carpark)
----------------------------	------------------------------

Action Time	
Approach lift, press button	
Lift Travel from B2	16
Door Open	5
<u>Enter lift</u>	2
<u>Exit Lift</u>	2
Door Close	5
Total Travel Time	37

Table 3-2	Ground to B1 (Entering I	B1 Carpark)
Action		Time
<u>Approach</u>	n lift, press button	
Lift Trave	l from B2	16
Door Ope	en	5
<u>Enter lift,</u>	press button	5
Door Clos	se	5
Average 1	Travel Time	8
Travel Tin	ne Contingency*	5
Door Ope	en	5
<u>Exit Lift</u>		5
Door Clos	se	5
Total Trav	vel Time	63

Table 3-3	Ground to B2 (Enterin	g B2 Carpark)
Action		Time
Approach I	i <u>ft, press button</u>	
Lift Travel f	rom B2	16
Door Open		5
<u>Enter lift, p</u>	ress button	5
Door Close		5
Average Tra	avel Time	16
Travel Time	e Contingency*	5
Door Open		5
<u>Exit Lift</u>		5
Door Close		5
Total Trave	el Time	74

Table 3-4 B1 to Ground (Exiting B1 Carpark)

Action	Time
Approach lift, press button	
Lift Travel from B2	8
Door Open	5
Enter lift, press button	5
Door Close	5
Average Travel Time	8
Travel Time Contingency*	5
Door Open	5
<u>Exit Lift</u>	5
Door Close	5
Total Travel Time	55

Table 3-5 B1 to Ground (with lift positioned at Ground)

Action	Time
Approach lift, press button	
Lift Travel from G	8
Door Open	5
Enter lift, press button	5
Door Close	5
Average Travel Time	8
Travel Time Contingency*	5
Door Open	5
<u>Exit Lift</u>	5
Door Close	5
Total Travel Time	55

Table 3-7B2 to Ground (with lift positioned at Ground)

Action	Time
Approach lift, press button	
Lift Travel from G	16
Door Open	5
Enter lift, press button	5
Door Close	5
Average Travel Time	16
Travel Time Contingency*	5
Door Open	5
<u>Exit Lift</u>	5
Door Close	5
Total Travel Time	74

Table 3-6	B2 to	Ground	(Exiting	B2	Carpark)	

Action	Time
Approach lift, press button	
Lift Travel from B2	0
Door Open	5
Enter lift, press button	5
Door Close	5
Average Travel Time	16
Travel Time Contingency*	5
Door Open	5
<u>Exit Lift</u>	5
Door Close	5
Total Travel Time	58

This assessment indicates that the cycle time for the car lift would be between 37s and 74s (average approximately 60s) depending on the movement required. Given that the maximum demand is anticipated to be in the order of 4-5 vehicle movements in the peak hour (residential only), there is minimal likelihood that any conflict would occur during lift operation.

However, the potential for interactions between residents has been considered, and is discussed further in **Section 4** below.

4 Access Management Strategy

4.1 Proposed Infrastructure

Due to the proposed one-way driveway and the lack of sufficient space to create a waiting bay within the Site, a traffic light is considered necessary to ensure drivers entering the Site are informed of potential opposing vehicle movements. This traffic light would be installed where it is visible from the road, to stop drivers from entering the Site when the lift is in-use.

Within the car park, flashing lights visible from both approach and departure aisles would be sufficient and will be installed at the lift entry/exit. This system will notify drivers in the basement levels of any lift activity.

4.2 Scenario 1 – Vehicle Leaving the Basement

Scenario / Status	Actions (Vehicle in basement)
Warning light flashing before vehicle leaves the parking bay	Remain in the parking bay until flashing light is off, then proceed to activate the lift
Warning light turned on after vehicle exit the parking bay.	Stop vehicle in a position where travel path of the vehicle exiting the lift is not obstructed (Figure 4-1), proceed to activate the lift and reposition the vehicle.
Car lift activated simultaneously by drivers on the ground floor (inbound) and basement.	Vehicle in the basement to give-way and reverse into position where travel path of the vehicle exiting the lift is not obstructed, before proceeding to re-activate the lift.



Figure 4-1 Scenario 1 – exiting vehicle give-way to entering vehicle

4.3 Scenario 2 – Vehicle Entering from the Street

Scenario / Status	Actions (Vehicles on Ground Floor)
Vehicle approaching the Site driveway while warning light flashing and siren beeping. (On- street bays available)	Vehicle to park and wait in on-street bays adjacent to the Site until flashing light and siren is off, then proceed to enter the driveway and activate the lift.
Vehicle approaching the Site driveway, while warning light flashing and siren beeping. (On-street bays not available)	Vehicle to circulate around the block and attempt to enter the Site again after the light and siren is turned off, before proceeding to activate the lift. Potential circulation route shown in (Figure 4-2)
Car lift activated simultaneously by drivers on the ground floor and basement.	Car lift will manoeuvre to the Ground Floor to allow vehicle approaching from the street to access the lift.
	Vehicle in the basement to give-way and reverse into position where travel path of the vehicle exiting the lift is not obstructed, before proceeding to re-activate the lift.

Figure 4-2

Potential routes to circulate around the block



5 Education and Management

5.1 Scheduled Maintenance

It is expected that the car lift will be serviced every quarter to ensure smooth operation throughout the lifespan of the car lift. Due to the development only having one car lift, scheduled maintenance shall be scheduled outside of the peak periods to ensure minimum impact to the general car park operation.

Sufficient notice will be provided to all residents to avoid any congestion and allow residents to make alternative arrangements (find alternative carpark for overnight) should vehicle usage be required during the maintenance period.

5.2 Line Marking and Signage

It is important that sufficient signage and linemarking be provided within the car parks to improve the operational flow and remind drivers of any constraints within the car park.

5.2.1 Limited Aisle Width and Extended Lift Structure

Due to the limited space available, vehicle accessing the parking bay located to the north west of both basement car parks may required to perform multiple movement when entering and exiting the parking bay as shown in **Figure 5-1**. It is recommended that this parking bay be marked as 'Small Parking Bay'.

Additionally, the corner of the car lift will be installed with reflective/contrast paint or tape to alert drivers of the extended car lift structure.

Figure 5-1 North-west bay Swept Path



5.3 Residents Acknowledgement

The operation of the proposed carpark is rather unusual and not commonly experienced by most drivers in Perth. Hence, it is important that all future residents are provided with sufficient education and car park operation briefing prior to settlement.

This could be completed by a carpark run-through session, or provide brochure summarising the important notes when using the carpark and car lift.

6 Summary

This Access Management Plan has been prepared to demonstrate how the site access will be managed appropriately to improve the safety of both drivers and pedestrians within and in the vicinity of the Site. The following summarises important notes to ensure smooth traffic operation of the Site.

- > All vehicles will access and egress the Site in forward gear, except for waste truck. Waste truck will reverse into the Site, with the help of a spotter and exit the Site in forward gear.
- > Waste collection would occur during late evening / early morning, outside of the peak periods to minimise the impact on the driveway operation.
- > All residents shall be provided with a remote to ensure a smoother traffic operation of the Site.
- > The cycle time for the car lift is calculated to be between 37s to 74s (average 60s). Given the low expected demand of the lift (4-5 movements during the peak hour), there is minimum likelihood that any conflict would occur during lift operation.
- > Warning/flashing lights shall be installed at the Site entrance, and at both sides of the lift on all levels to provide sufficient warning to the driver.
- Sufficient signs and warning indication shall be provided to alert drivers of the confined area within the basement.