

July 2020  
Final Rev 1

## Duncan Street Nursing Home

Prepared For:  
Burswood Care

## Transport Impact Statement Report



## DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Prepared By	Checked By	Approved By
0	0	25/09/2018	Draft Report	SGY	GTT	SGY
1	0	22/10/2019	Revised Draft	SGY	GTT	SGY
2	0	23/10/2019	Final Report	SGY	GTT	SGY
2	1	17/07/2020	Final Report Revision 1	SGY	GTT	SGY

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## **1. INTRODUCTION**

### **1.1 BACKGROUND**

Burswood Care Pty Ltd has commissioned Donald Veal Consultants to prepare this Transport Impact Statement report to support their Development Application for a Nursing Home at 16, 18 & 20 Duncan Street in Victoria Park.

### **1.2 SCOPE OF THIS REPORT**

The structure and scope of this Transport Statement are in accordance with Volume 4 (Individual Developments) of the Western Australian Planning Commission's Transport Impact Assessment Guidelines (2016).

## 2. EXISTING SITE CONDITIONS

### 2.1 LOCATION

The development site is located at the intersection of Duncan Street with Shepperton Road, in Victoria Park. The general locality is shown below, with the site location shown in more detail in **Figure 2.2**.



Figure 2.1: General Locality Plan Source: Nearmap



Figure 2.2: Site Location Source: Nearmap

## 2.2 CURRENT LAND USES

The subject site, also known as 16,18 & 20 Duncan Street, Victoria Park, is presently occupied by an existing Nursing Home based in a single storey building and a second residential property. The existing nursing home provides approximately 30 beds and around 12 on-site parking bays. See **Photo 1**.



**Photo 1: Existing single storey buildings on the site.**

Other land uses in the general vicinity of the site include residential properties, a Catholic College and the Victoria Park Central shopping centre.

## 2.3 ACCESS ARRANGEMENTS

The site is currently accessed via two crossovers onto Duncan Street. See **Photo 2**.



**Photo 2: Existing site accesses off Duncan Street.**

## 2.4 ADJACENT ROAD NETWORK

The road network adjacent the site consists primarily of Duncan Street and Shepperton Road, with their functional road hierarchy shown in **Figure 2.3**.



**Figure 2.3: MRWA Functional Road Hierarchy**



**Figure 2.4: Speed limits.**

Shepperton Road is classified as a Primary Distributor in Main Roads WA's (MRWA) Metropolitan Road Hierarchy, with a speed limit of 60 km/h in the vicinity of the subject site. (See **Figure 2.4**).

Duncan Street runs south west / north east. Adjacent the site, it is classified as a Local Distributor, and is subject to the urban default speed limit of 50 km/h. There is a 40km/h school zone to the north east.

Duncan Street is generally constructed as a single carriageway with one lane in each direction, but widens to two lanes approaching the Shepperton Road signalised intersection, with a short kerbed median.

See **Photos 3 & 4**.



**Photo 3: Short section of kerbed median on Duncan Street approach.**



**Photo 4: Duncan Street widening near the signalised intersection.**

## 2.5 EXISTING TRAFFIC VOLUMES

The latest traffic flow data for Shepperton Road and Duncan Street near the site was extracted from MRWA’s Traffic Map. See **Table 2.1**.

**Table 2.1: MRWA traffic counts**

Location	AAWT: Shepperton Road					
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
SE of Duncan St	30,594	32,573	-	29,960	-	-
NW of Duncan St	-	33,095	-	29,820	-	-
Location	AAWT: Duncan Street					
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
North of Shepperton Road	-	-	-	3,523	3,420	-

## 2.6 CRASH HISTORY

The MRWA Crash Analysis Reporting System (CARS) was interrogated for crash data within a 40m locus of the signalised intersection of Duncan Street with Shepperton Road, for the latest five year period from January 2015 to December 2019.

The results of the search showed that there have been 38 recorded crashes in this area, in the last 5 years. It should be noted that some upgrade works were carried out to the intersection in early 2018, including the removal of a bus embayment outside the site on Shepperton Road. Only 10 crashes have been recorded since January 2018, with only 3 of these occurring in 2019.

Of the 38 crashes recorded, 7 required hospital treatment, and 4 medical attention. The remaining 27 crashes involved property damage only (21 major and 6 minor). Sixteen of the crashes were thru-right crashes at the intersection. One crash involved a pedestrian and 15 involved vehicles travelling in the same direction.

In the same reporting period, there has been only one crash at the intersection of Duncan Street with Teague Street. This was a thru-thru crash which occurred on a Sunday afternoon and resulted in property damage only.

## **2.7 PLANNED CHANGES TO THE ROAD NETWORK**

The signalised intersection of Shepperton Road and Duncan Street, which is adjacent the site, has been upgraded in the last couple of years.

We are not aware of any further planned changes to the road network in the immediate vicinity of the site.

### 3. PROPOSAL

#### 3.1 PROPOSED DEVELOPMENT

The proposed development will consist primarily of a 120-bed Nursing Home. It would also include associated facilities such as a café and a hair salon, as well as dining and kitchen areas, a ground floor office and training rooms and roof top terraces.

Figure 3.1 shows the design plan of the proposed ground floor layout. Similar layout plans for the other floors are attached in Appendix A.

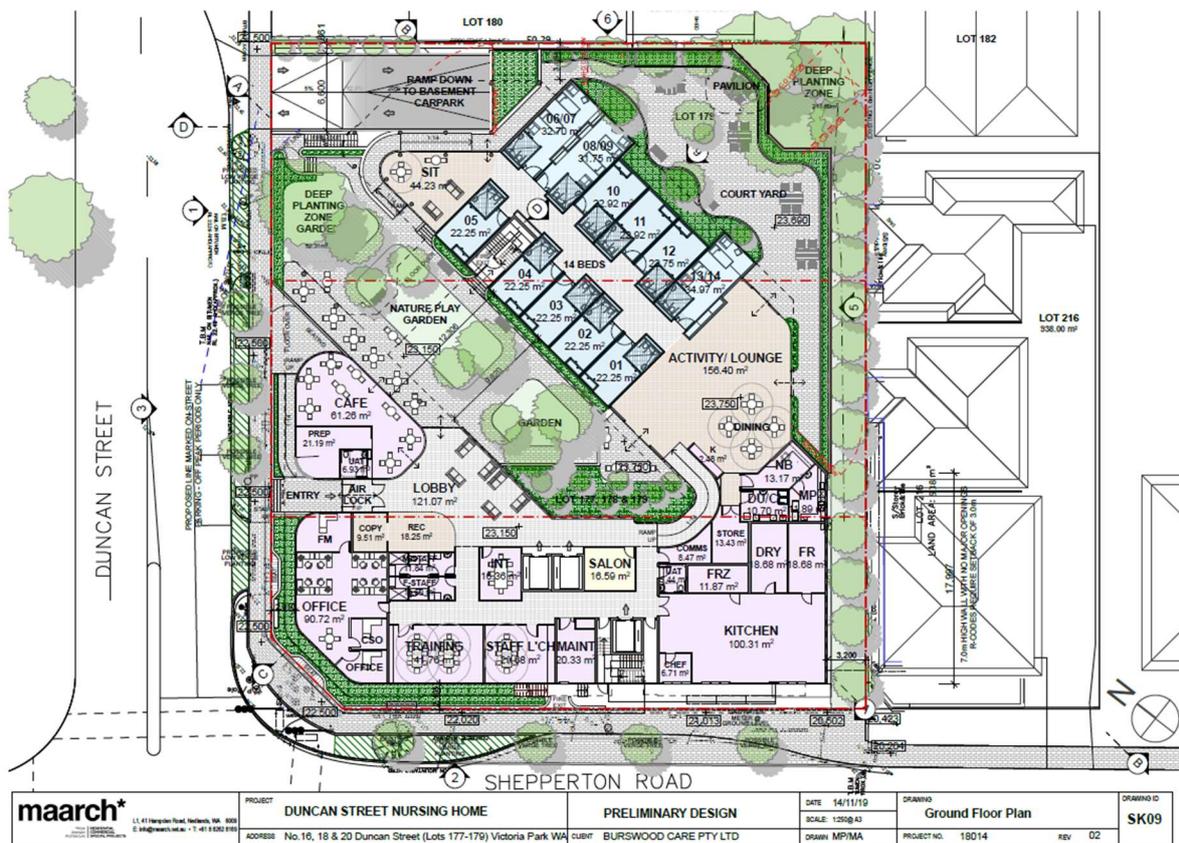


Figure 3.1: Ground floor layout plan

#### 3.2 DRIVEWAY ACCESS

The existing driveways will be closed, and a new crossover will be provided onto Duncan Street at the northern end of the property. This crossover will be two-way and will provide access for ambulances and service vehicles as well as both access and egress to the basement parking areas.

#### 3.3 PARKING

All car parking for the Nursing Home will be accommodated within the basement area, accessed by a ramp from the new northern Duncan Street crossover. The parking layout for the basement level is shown in Figure 3.2.

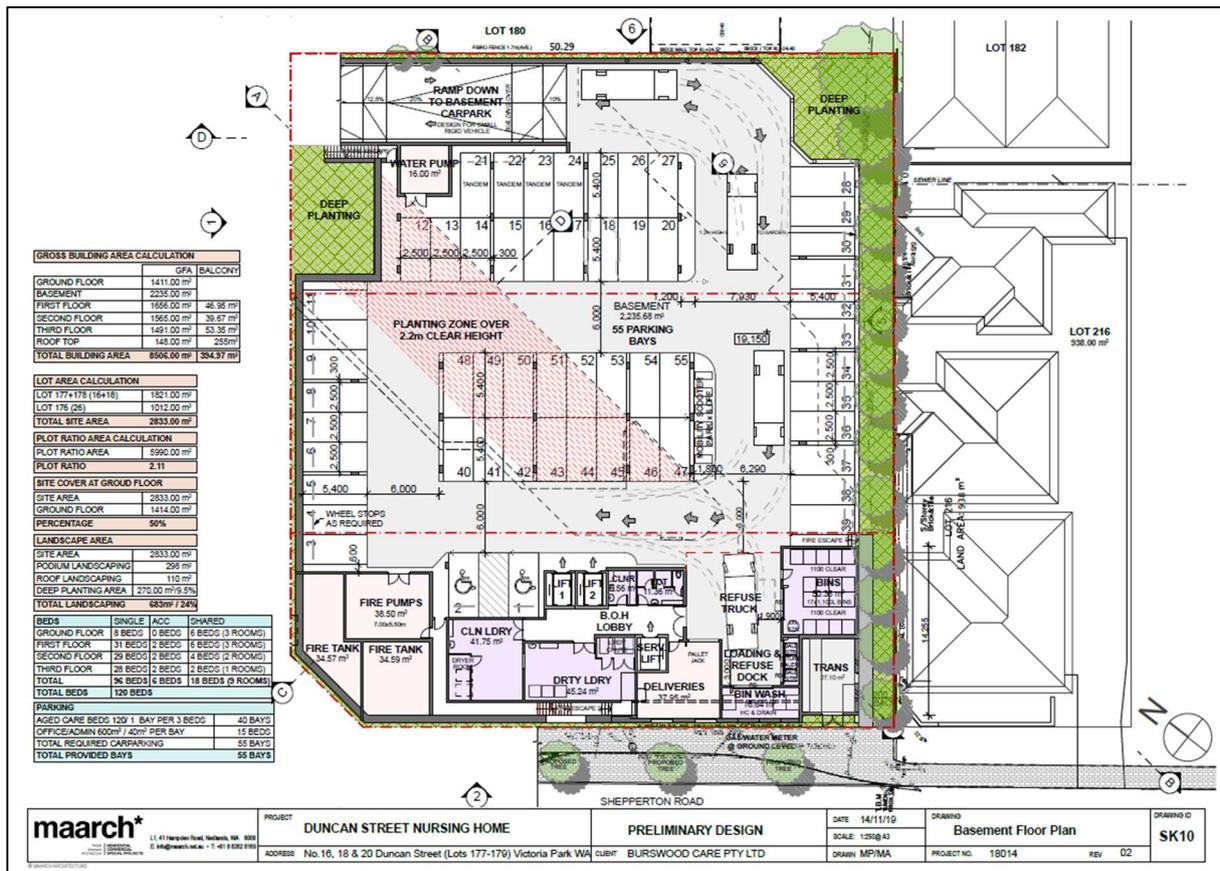


Figure 3.2: Proposed Basement parking layout.

The layout plans indicate that 55 parking bays will be provided on site, including 2 ACROD which will be constructed and marked to AS28890.6 Off street parking for people with disabilities.

The parking provision required in accordance with the Town of Victoria Park’s Local Planning Policy No. 23 is shown in Table 3.1 below.

Table 3.1: Parking Provision Requirements as per the Town of Victoria Park’s Local Planning Policy No.23

ACTIVITY/USE	NUMBER OF PARKING BAYS
<b>Institutional home/nursing home</b>	1 for every 40 square metres of net administration/office floor area and consulting/treatment areas, plus 1 for every 3 beds provided.

With 120 beds and approximately 600 m<sup>2</sup> total office and administration space being provided, this would suggest that the required number of bays would be 40 + 15 = 55.

The Preliminary design drawings show 55 bays being provided. Four tandem bays are shown and these will be assigned for staff parking only.

## 4. TRAFFIC IMPACT

### 4.1 TRIP GENERATION

#### 4.1.1 Existing development

In order to determine the actual impact of the development on the adjacent road network, it is necessary to identify the net increase in trips being generated.

The existing development currently consists of a smaller Nursing Home, with approximately 30 beds. As no actual counts are available at the existing facility it would be reasonable to make an estimate of the current trip generation on a pro-rata basis, based on the current and future number of beds being provided. i.e. the increase from 30 beds to 120 beds will be in the region of 75% of the trip generation calculated for the proposed development.

#### 4.1.2 Proposed Development

The trip generation of the proposed facility has been estimated based on rates for 'Housing for aged and disabled persons' published by the RTA in NSW.

This gives:-

- Daily vehicle trips = 1 - 2 per dwelling; and
- Evening peak hour vehicle trips = 0.1 - 0.2 per dwelling.

The figures at the lower end of the above rates are based on research conducted by the RTA. This research concentrates on *subsidised* developments (often run by religious organisations). Generation rates of *resident funded* developments are often greater, as indicated at the higher end of the range.

However, these rates appear, by the use of the unit 'dwellings', to be based more on individual residences, where residents retain rather more independence, and are therefore perhaps more likely to drive. The residential arrangements at the Nursing Home under consideration here consist more of bedrooms within a supervised facility, and it is unlikely that any residents will be driving. The main trip generators are therefore expected to be staff movements and residents' visitors.

With 120 beds being provided, even at the higher end of these rates, there would be around 24 trips in the peak period, plus potentially up to 37 more if all AM and all day staff were to arrive or leave in the AM peak period.

The number of peak hour trips to be generated by the development is therefore estimated to be a maximum of around 61 with the net increase over and above existing trips being only around 75% of this (46 trips).

The estimated peak hour trip generation is therefore above 10 trips in the peak hour, but well below 100 trips. WAPC's Transport Assessment Guidelines suggest that a development generating this level of

traffic only needs a brief, non-technical transport impact statement, with no requirement for in depth analysis.

## 4.2 TRIP DISTRIBUTION

An absolute maximum of 61 trips has been identified for the expanded centre in the AM peak hour, with 37 of these representing *all* staff arriving at the site by single occupant private car in this period. However, it is likely that this figure will be much lower, with some staff sharing lifts or arriving by other modes such as bus or train. A more reasonable figure might be 25 to 30 staff vehicles arriving.

The remaining 24 trips would primarily be attributed to visitors, mostly arriving, and the occasional new patient arrival.

Based on the above, it is reasonable to expect that the majority of AM peak hour trips would be entering the site, on a ratio of perhaps 80/20. All staff and visitor vehicles will enter and leave the site by the new northern crossover on Duncan Street.

Given the location of the Nursing Home, it is expected that the majority of vehicles approaching the site would do so from Shepperton Road, therefore turning right into the site from Duncan Street.

The resulting AM peak hour trip distribution scenario might therefore be as shown in **Figure 4.1**.



**Figure 4.1: AM Peak Hour trip distribution.**

### 4.3 IMPACT ON THE ADJACENT ROAD NETWORK

**Figure 4.1** shows approximately one vehicle turning right into the site every two minutes during the peak period. It is not considered likely that traffic would queue significantly back along Duncan Street in the peak period, and there should be plenty of opportunity for drivers to turn into and out of the site.

In any case, Duncan Street eastbound is sufficiently wide in this location, at around 5.9m width, to allow through traffic to pass to the left of any right turning vehicles.

It can be readily seen that even the worst case scenario of 46 additional peak hour trips generated by the expanded aged care centre will have no meaningful impact on the mid-block capacity of the local road network, or the operation of the signalised intersection of Duncan Street with Shepperton Road.

There are 40km/h school zones currently posted on Teague Street and Harper Street, adjacent the Ursula Frayne Catholic College, with pick up and drop off occurring primarily on these streets. The AM peak period of the development is likely to coincide to some extent with the school drop off period, although staff may well arrive earlier. However, the more intense peak for schools is the afternoon pick up, when all students tend to leave in a much shorter period, and this is not expected to coincide with a peak period for the development.

With only a maximum of 11 peak hour trips utilising the section of Duncan Street north of Shepperton Road, the additional number of trips using Teague Street, or Sunbury Road, as a result of the development is expected to be minimal. The resulting impact on their intersections with Duncan Street is therefore considered to be negligible.

### 4.4 SERVICE VEHICLES

Service vehicles would consist of delivery vehicles no larger than the small rigid vehicle (6.4m). These are expected to access the site up to 3 times a week for delivery of produce, with certain deliveries stored in the deliveries room.

Refuse collection trucks would also visit the site on a weekly basis. There will be sufficient bins provided for 1 weekly recycling pickup and 1 weekly waste pickup. These would be carried out by private contractors, with vehicles attending the site only at specified times, within off-peak periods.

The loading dock in the Basement will also be used for ambulance access, when picking up unwell patients or deceased persons from the property, when required.

The small delivery trucks and refuse vehicles would be able to access the site via the ramps, then turn around within the parking aisles to access the loading and refuse dock, before leaving again in a forward gear.

As can be seen in the swept path drawings, trucks using the entry ramp will take up most of the driveway. A vehicle at the bottom of the ramp would therefore have to wait for the truck to pass before using the ramp. Note that as per AS2890.2 (2018) Off street parking for Commercial Vehicles Cl. 3.2.2 the full

width of the driveway may be used for entering and leaving the site for the 'occasional service' vehicle. Occasional service is defined as 'service by a nominated design vehicle less than once per day'.

Achievement of the required vertical clearances for the relevant service vehicles to use the ramp as designed has also been checked and confirmed. Vertical clearances for both the SRV and the proposed refuse vehicle are satisfied, with clearance at the 'pinch points' just above 3700mm. Height clearances for the SRV and refuse vehicle are 3.5m and 3.4m, respectively. The minimum ground clearance of the SRV is 0.398m as per AS2890.2 2018 Table 5.1. The refuse vehicle used for the site **must** have a minimum ground clearance of 300mm.

The swept path diagrams are attached in **Appendix B**.

#### **4.5 SITE SPECIFIC SAFETY ISSUES.**

No site specific safety issues were identified.

## 5. SUSTAINABLE TRANSPORT ACCESS

### 5.1 PEDESTRIANS AND CYCLISTS

Footpaths are provided along both sides of both Duncan Street and Shepperton Road near the site.

Bicycle parking will be provided in accordance with the requirements of the Town of Victoria Park’s Local Planning Policy No. 23.

### 5.2 PUBLIC TRANSPORT

There are a number of public transport services with bus stops within walking distance of the site in both directions along Shepperton Road.

Victoria Park railway station lies around 350m to the north east of the site, along Duncan Street.

Given the level of accessibility of the site via public transport, it is expected that some staff, and a proportion of visitors, may choose to travel to and from the Nursing Home either by bus or train.

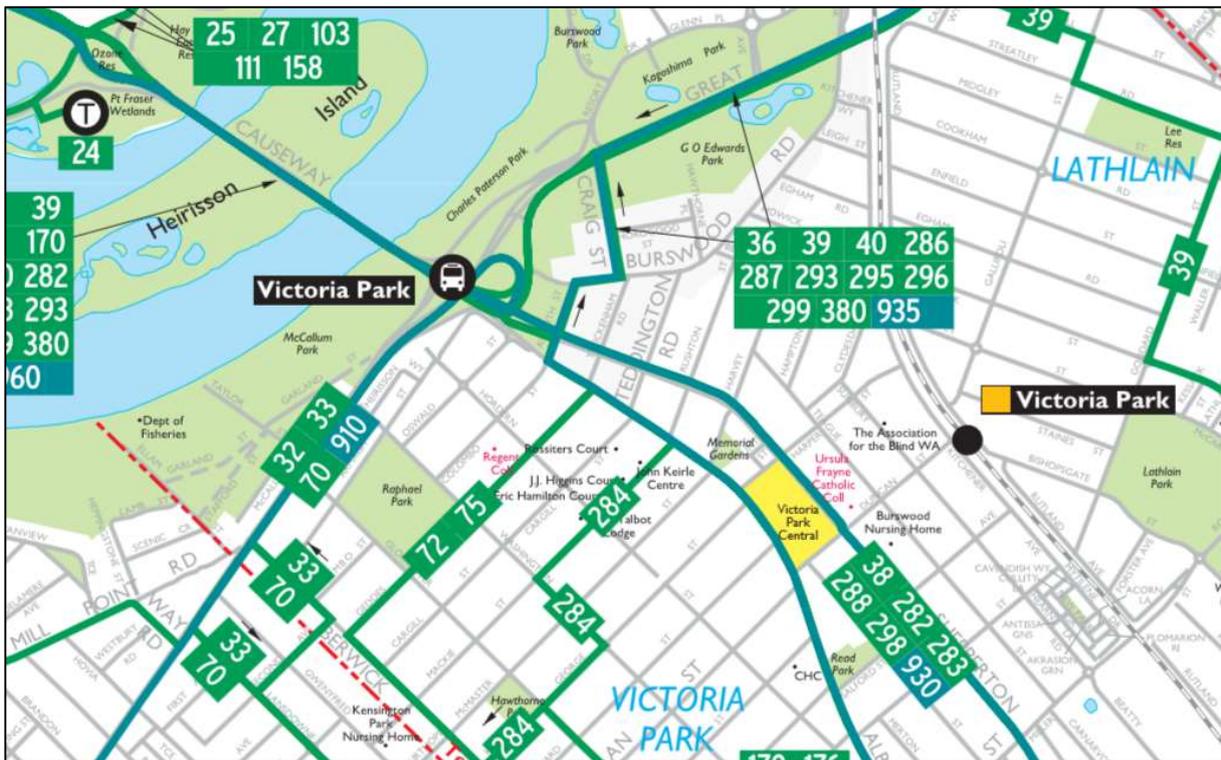


Figure 5.1: Public Transport in the vicinity of the site.

## 6. SUMMARY

Burswood Care Pty Ltd has commissioned Donald Veal Consultants to prepare this Transport Impact Statement report to support their Development Application for an expanded Nursing Home at 16, 18 & 20 Duncan Street in Victoria Park.

The site is currently accessed via two separate crossovers onto Duncan Street. These accesses will be closed, whilst a new two-way access will be provided at the northern end of the site for all movements.

A total of 55 parking bays are proposed, catering for residents and visitors. These will be provided within the basement area, accessed by ramps from the new northern Duncan Street crossover.

The number of peak hour trips to be generated by the development is estimated to be a maximum of around 61 with the net increase over and above existing trips being only around 75% of this (46). As such, the forecast trip generation falls well below the threshold for warranting any detailed analysis of traffic impact.

The expansion is not expected to have any significant impact on the mid-block capacity of Duncan Street, nor on the operation of the adjacent signalised intersection with Shepperton Road. The forecast impact on the intersections of Teague Street and Sunbury Road with Duncan Street is considered to be negligible.

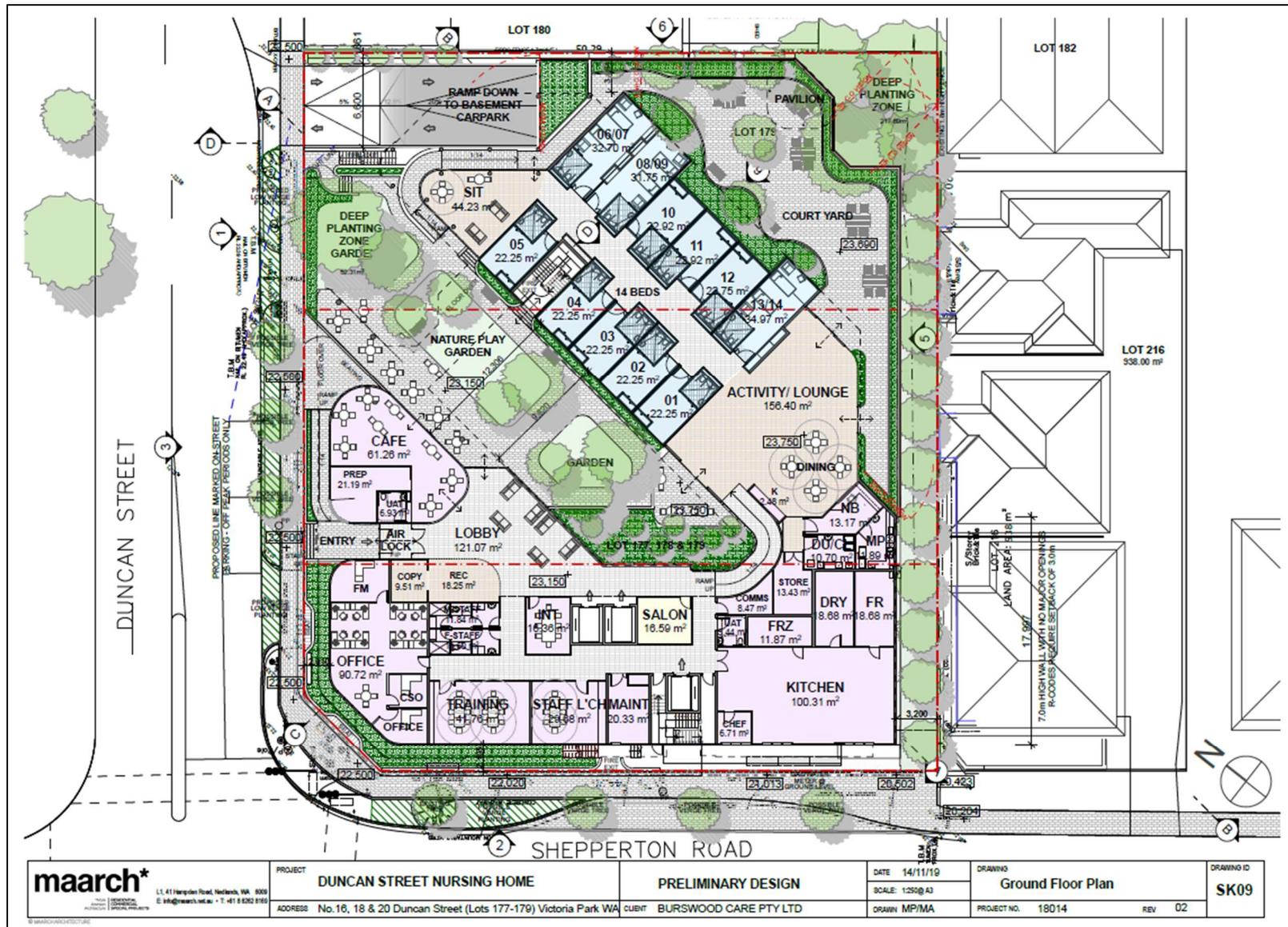
It is expected that staff arrivals in the morning will occur prior to the drop off period for the nearby college, whilst they will not be expected to leave until well after the afternoon student pick up time.

Parking provision meets the requirements of the Town of Victoria Park's Local Planning Policy No. 23, whilst the small number of service and refuse vehicles will be able to enter and leave the designated loading area in forward gear.

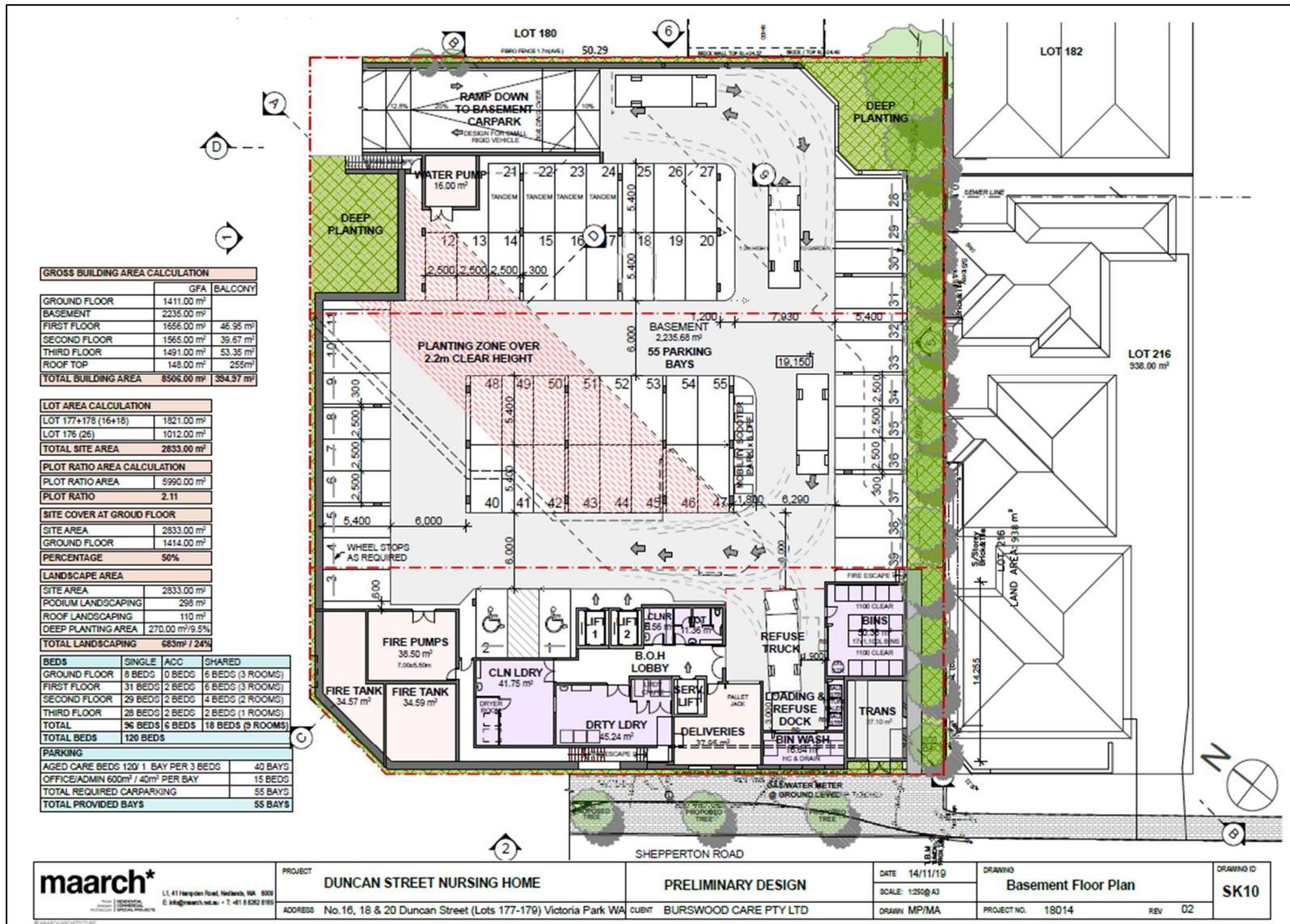
We therefore support the development proposal in terms of traffic and transport impacts on the adjacent road network.

## **APPENDIX A: LAYOUT PLANS**

Client: Burswood Care Pty Ltd  
Project: Duncan St Nursing Home, TIS

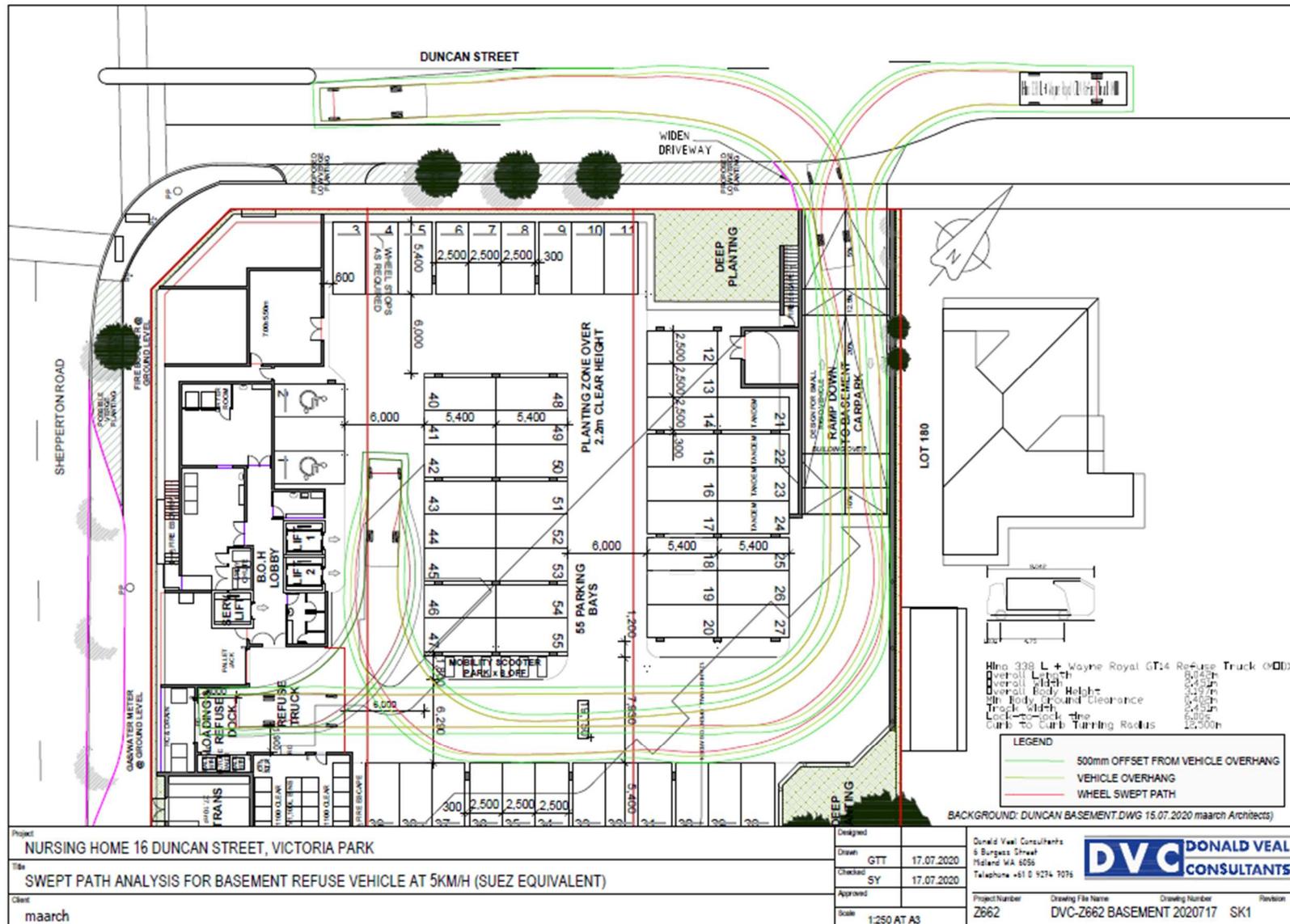


Client: Burswood Care Pty Ltd  
 Project: Duncan St Nursing Home, TIS

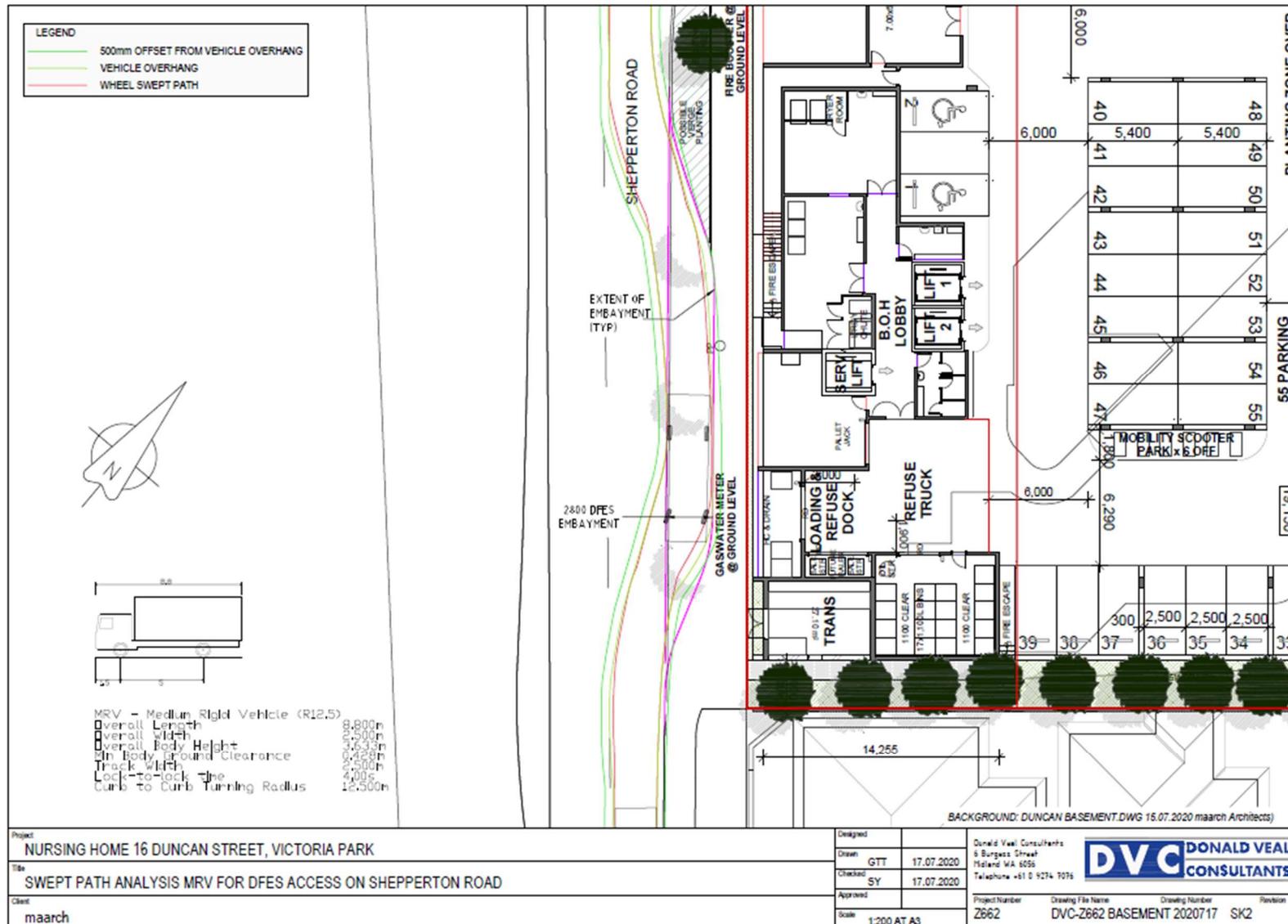


## **APPENDIX B: SWEEP PATH DIAGRAMS**

Client: Burswood Care Pty Ltd  
Project: Duncan St Nursing Home, TIS



Client: Burswood Care Pty Ltd  
Project: Duncan St Nursing Home, TIS



Client: Burswood Care Pty Ltd  
 Project: Duncan St Nursing Home, TIS

