ROAD DELAY SOLUTIONS

Proposed Warehouse/Industrial Facilities

Proposed Lot 2

Horsley Drive Business Park

Operational Traffic Management Plan

Prepared for...

FRASERS PROPERTY

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Author	Glen Varley (*Road Delay Solutions Pty Ltd*)……
Signed	……
Reviewed	Paul Solomon (Frasers Property)……
Date	29 April 2016……

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ROAD DELAY SOLUTIONS PTY LTD, 2/12 Flitton Valley Close | FRENCHS FOREST NSW 2086 | AUSTRALIA
A.B.N. 40 127 220 964

gvarley@bigpond.com 0414 800 912

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INTRODUCTION

Road Delay Solutions Pty Ltd has been engaged by *Frasers Property* to assess and report operational traffic arrangements to be implemented for the warehouse/industrial facility complex within the Horsley Drive Business Park (HDBP) being proposed Lot 2 (refer to *Figure 1*).

LOCATION AND ROAD NETWORK

Located on Copland Close, 245m west of Cowpasture Road within the *Western Sydney Parklands* catchment, Wetherill Park, and identified as proposed Lot 2 occupying a total area of 34,538m^2 (3.45384ha), as indicated in *Figure 3*.

The site is generally bounded by Cowpasture Road to the east, Copland Close to the south and currently vacant lands to the west and north.

Figure 1 **HDBP Location Context**
Source *Google Earth 2015*

The HDBP is situated approximately…

- *2.4 km of the M7/The Horsley Drive Interchange,*
- *7 km from the M4/M7 interchange,*
- *9 km from the M4/Prospect Highway Interchange, and*
- *18 km's from the junction of the M5 and M7 Motorways, providing business with good connectivity with the Sydney CBD, Port Botany and other significant Regional Centres.*

The M7 Motorway, The Horsley Drive and Cowpasture Road form part of a broader recognised B-Double and heavy vehicle network of roads which support the site, as defined on the *RMS* website…

www.rms.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map

Access to the HDBP will be via the dual lane circulating roundabout on Cowpasture Road at Copland Close, as shown in *Figure 3*.

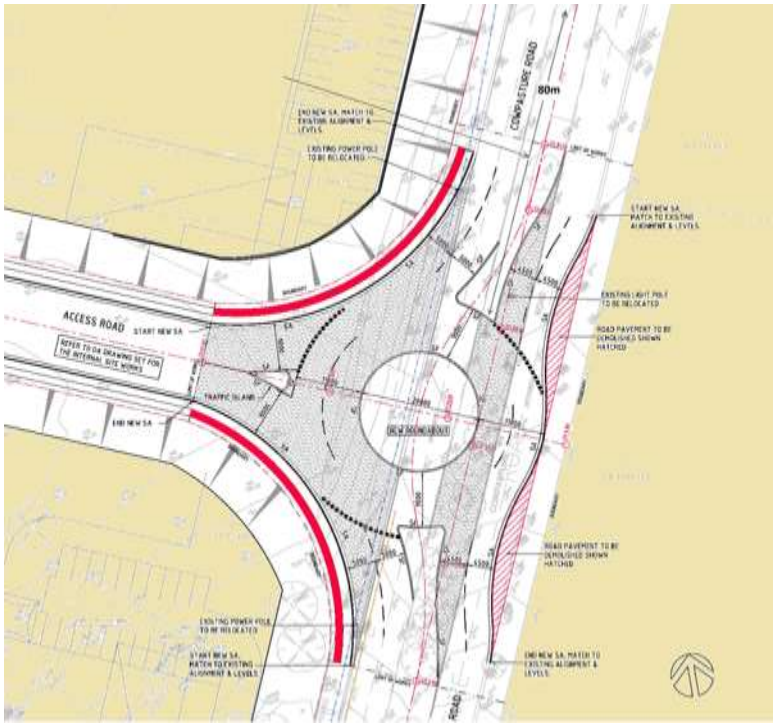
The horizontal and vertical sight lines, at the Copland Close roundabout, have been assessed, on site, and found to be adequate and in accordance with the required *RMS* guidelines, as outlined in the *Traffic Impact Assessment*.

The heavy vehicle movements within the roundabout have been assessed in accordance with AUSTROADS guidelines and found to be satisfactory.

Figure 2 Approved Heavy Vehicle Corridors

Source RMS, 2016

Figure 3 **Copland Close Roundabout on Cowpasture Road**
Source *Frasers Property 2015*



THE DEVELOPMENT

The site is intended for general warehousing, distribution and industrial uses. The Lot 2 development footprint and proposed structure of the site is presented in *Figure 4*.

The development, being the construction of two warehouse, distribution and industrial facilities on Lot 2 of the HDBP, Wetherill Park, will consist of…

- *A total site area of 34,538m^2 (3.4538ha),*
- *A warehouse facility 1 for distribution and industrial uses with a total floor area of 8,355m^2,*
- *Office space 1 of 550m^2,*
- *A warehouse facility 2 for distribution and industrial uses with a total floor area of 9,315m^2,*
- *Office space 2 of 550m^2, and*
- *A site occupation rate, excluding awnings of 54.3%.*

The site is intended for general retail commodity warehousing and distribution and industrial uses.

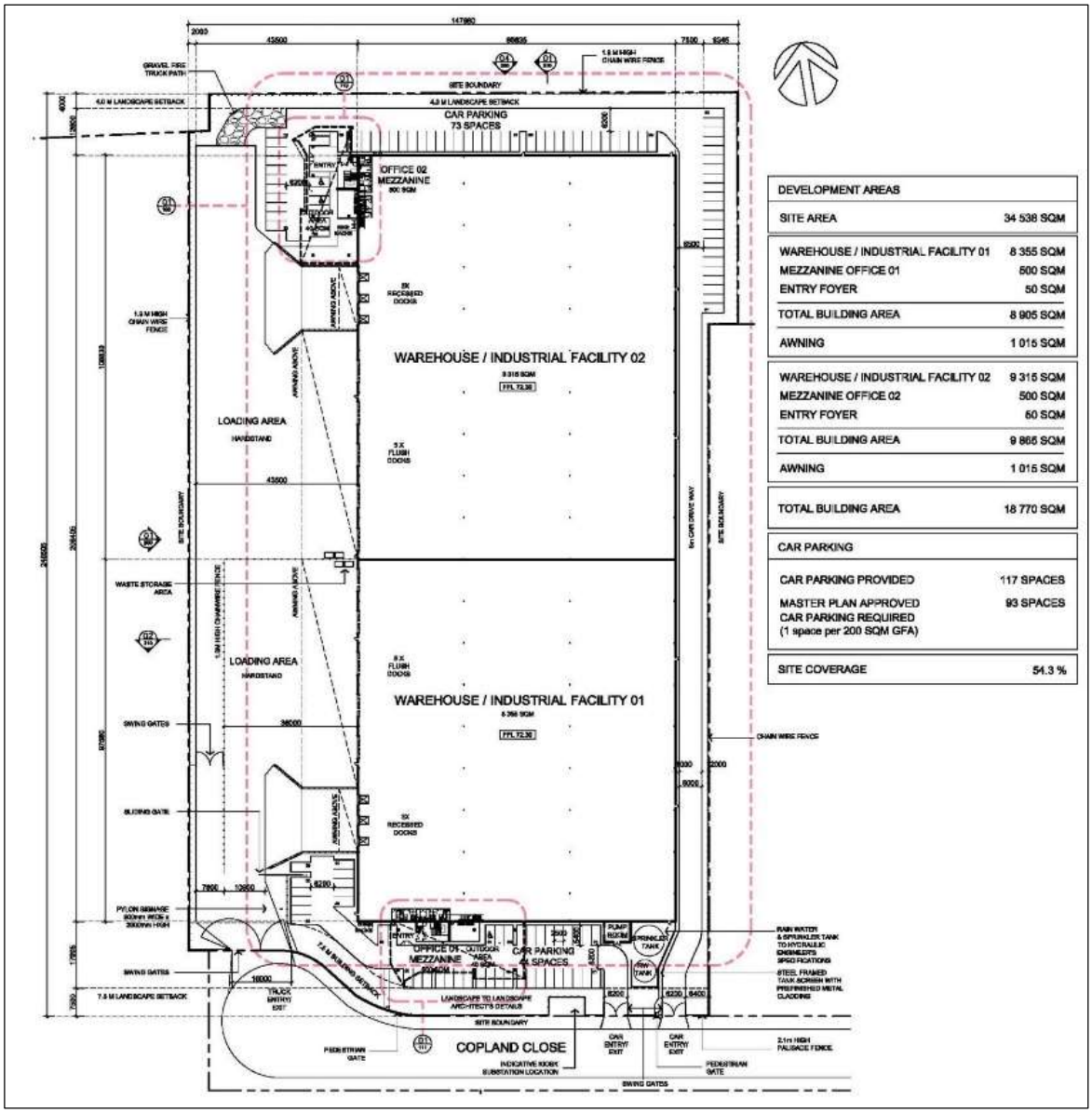
No 'direct to public' retail sale operations are envisaged on the site at this time, with acceptance sought for 24 hour, seven (7) days a week operation.

The proposed Facility 1 affords employees and visitors access to 44 parking spaces, inclusive of one (1) dedicated disabled space, within a secure car park facility to the south of the site.

The proposed Facility 2 affords employees and visitors access to 73 parking spaces, inclusive of two (2) dedicated disabled spaces, within a secure car park facility, to the north of the site.

Figure 4 The Development Footprint

Source *Frasers Property, 2016*



REFERENCES

This report has been prepared in accordance with the following reference materials…

- *AUSTROADS Guide to Traffic Engineering Practice*
- *The Traffic Impact Assessment prepared by Road Delay Solutions*
- *Fairfield City Council City Wide DCP*
- *RMS Guides and Technical Directions.*

SITE SPECIFIC VEHICLE GENERATION

Given this development must follow the prescribed path of consultation and referral, as outlined in *Schedule 1* of SEPP 11, the trip generation rate adopted for this DA follows the *RMS Guide to Traffic Generating Developments*, as shown in *Figure 5*.

Figure 5 **Lot 2 RMS Traffic Generation Rates**
Source *RMS, 2016*

Speculative Development Component	Area (m^2)	Daily RMS Trip Rate	AM Peak Hour RMS Trip Rate	Peak Hour Generation (vph)
Facility 1	8,355	4/100m^2 (GFA)	0.5/100m^2 (GFA)	37
Office 1	550	10/100m^2 (GFA)	2/100m^2 (GFA)	10
Facility 2	9,315	4/100m^2 (GFA)	0.5/100m^2 (GFA)	52
Office 2	550	10/100m^2 (GFA)	2/100m^2 (GFA)	10
TOTAL	**18,770**	817		**110**

NB: No retail operations are envisaged at the site.

Based on the *RMS* guide, the development will generate 817 vehicle trips daily, with 220 vehicle trips, including heavy vehicles trips, occurring during the morning and evening commuter peak periods, combined.

Generally, the morning peak hour generation can be split in the ratio 85/15 between inbound and outbound trips respectively, while the evening peak hour trips can be split 15/85, as shown...

- *110 vehicle trips during the morning peak = 93 inbound, 17 outbound, and*
- *110 vehicle trips during the evening peak = 17 inbound, 93 outbound.*

The traffic generation, pertaining to the operational requirements of the development, have been based on the known operational characteristics of comparable facilities.

TRAVEL TO AND FROM THE SITE

The Horsley Drive and/or Cowpasture Road will constitute the principle approach corridors to Copland Close. Both The Hosley Drive and Cowpasture Road are approved Class 10 heavy vehicle roads by the *RMS* and National Heavy Vehicle Register (NHVR) at http://gis.nhvr.gov.au/journeyplanner/

Three (3) intersections link The Horsley Drive and Cowpasture Road to Copland Close…

- *The Horsley Drive and Cowpasture Road – Traffic Signal Controlled,*
- *Cowpasture Road and Newton Road Roundabout Controlled, and*
- *Cowpasture Road and Copland Street – Roundabout Conntrolled.*

Each intersection has been modelled, under the vehicle demands of the fully developed HDBP, utilising the Sidra program and found to operate a satisfactory Level of Service (LoS) during the morning and evening commuter peak periods.

However, during the evening peak, when modelled with the total traffic generation projected under full development of the HDBP, suggests…

- *The dual lane circulating roundabout at the intersection of Cowpasture Road with Copland Close will operate at a good LoS 'A',*
- *The Newton Road intersection with Cowpasture Road, which currently reports oversaturation, will remain oversaturated with the critical movement identified as the left turn from Newton Road onto Cowpasture Road. The oversaturation of the movement results in a 95th percentile queue length of some 343 metres in the westbound approach. Currently the intersection reports a queue length of 258 metres,*
- *The Horsley Drive intersection with Cowpasture Road reports a LoS 'D' but with a southbound right turn queue length in Cowpasture Road of 397 metres. Currently, the 95th percentile queue length is in the order of 324 metres. Site observations revealed that the queue clears regularly, generally within two cycles of the traffic signals and develops again over three (3) cycles. This pattern of queue forming was observed to occur over a 40 to 50 minute period during the evening peak, after which time the vehicle demands on the dual lane right turn movement onto Horsley Drive dissipates appreciably.*

A Workplace Trip Map and Site Accessibilty Plan will be made available to all contractors and suppliers upon induction.

Figure 6 Workplace Trip Map
Source *Road Delay Solutions, 2016*

Figure 7 Lot 2 Site Location and Accessibility Plan
Source *Frasers Property, 2016*

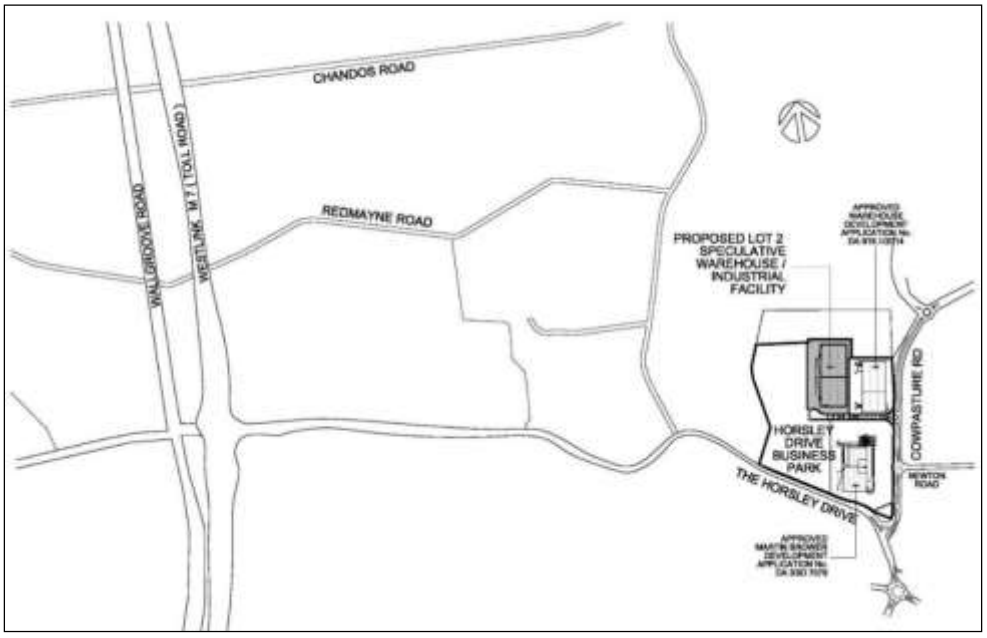
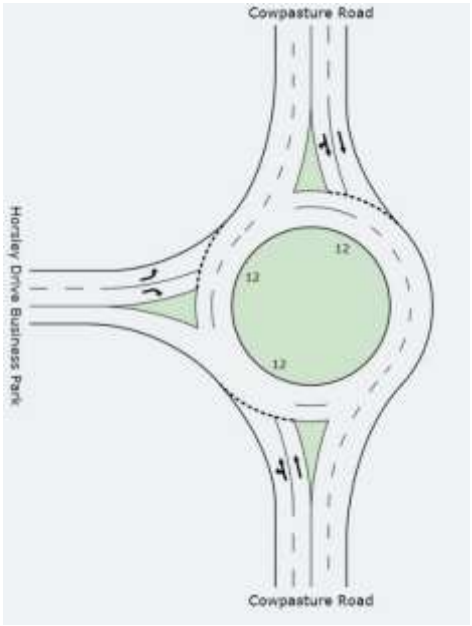
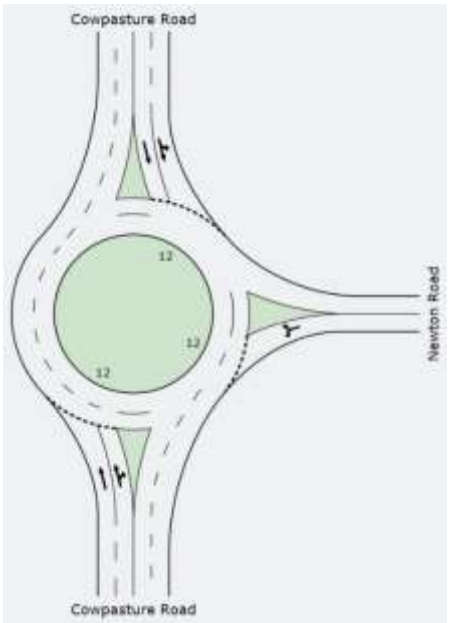
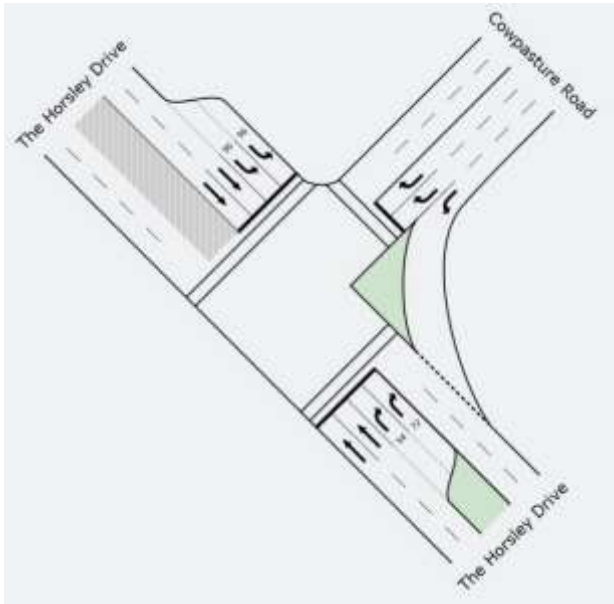


Figure 8 **Intersection Performance under Full Development of HDBP**

Source *Road Delay Solutions, 2015*

Cowpasture Road and HDBP						Cowpasture Road and Newton Road						The Horsley Drive and Cowpasture Road					
																	
AM			PM			AM			PM			AM			PM		
DS	AVD *(secs)*	LoS	DS	AVD *(secs)*	LoS	DS	AVD *(secs)*	LoS	DS	AVD *(secs)*	LoS	DS	AVD *(secs)*	LoS	DS	AVD *(secs)*	LoS
0.501	8.6	A	0.716	11.2	A	0.538	9.4	A	1.062	27.8	A	0.897	28.9	C	0.942	50.7	D

SITE ACCESS

Access to the Facility 1, 44 passenger vehicle car park, is proposed via a gated, two way, driveway on Copland Close, some 159m west of the Cowpasture Road roundabout, as shown in *Figure 2*.

Access to the proposed Facility 2, 73 passenger vehicle car park, is proposed via a gated, two way, driveway from Copland Close, some 143m west of the Cowpasture Road roundabout, as shown in *Figure 2*.

The heavy vehicle entry and exit for both facilities is proposed from Copland Close, and thence via a dedicated driveway which intersects the the cul-de-sac head, some 254m west of the Cowpasture Road roundabout.

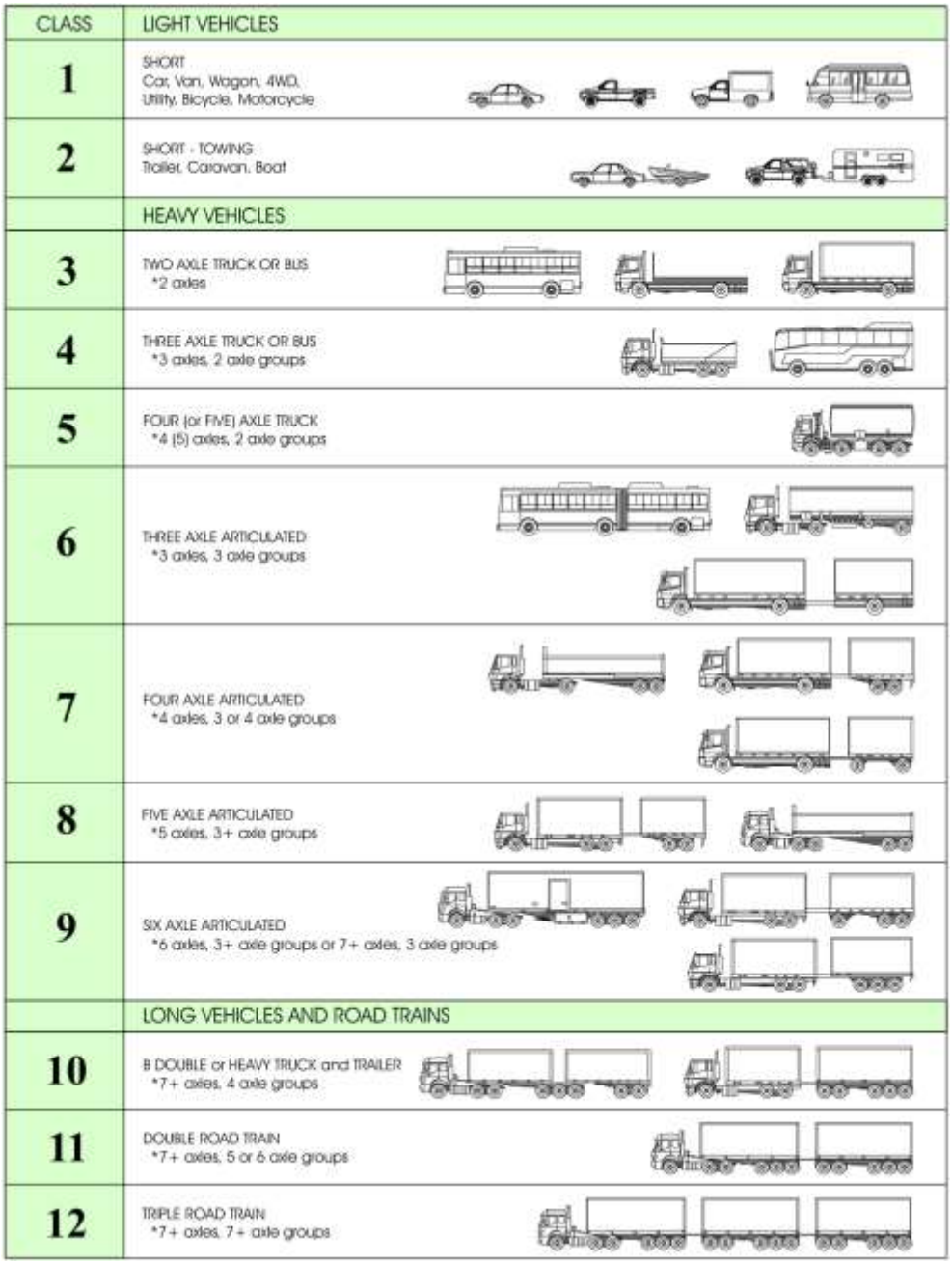
The dedicated, heavy vehicle access driveway has been designed to accommodate the intended ingress and egress of vehicle classes 1 through 10 (*refer to the vehicle classification chart*) to both facilities.

The heavy vehicle driveway security gate, for Facility 2, has been strategically located to prevent the incidence of entering vehicles from queueing back onto Copland Close. Closely adhered to arrival schedules will minimise the potential of vehicle coincidence and conflict between the two facilities. Under no circumstances will blocking of the driveway or queueing onto Copland Close be tolerated.

All vehicle movements to and from the site must be conducted in a forward direction. No reversing to or from Copeland Close is permitted.

Figure 9 **Vehicle Classification Chart**

Source *Austroads, 2016*



FIRE SERVICES

Fire services may enter or leave the site via the heavy vehicle driveway in Copland Close, some 245m west of the Cowpasture Road roundabout, and enter or leave via the car park entry/exit for facility 2, as circumstances permit. This will enable fire trucks to have the capability of circumnavigating the facilities in either direction as circumstances permit.

Provision is made via a gravel fire truck path on the northwestern corner of the site, as shown in *Figure 4*, to effect unrestrictive fire truck movement around the perimeter of the site.

PUBLIC TRANSPORT

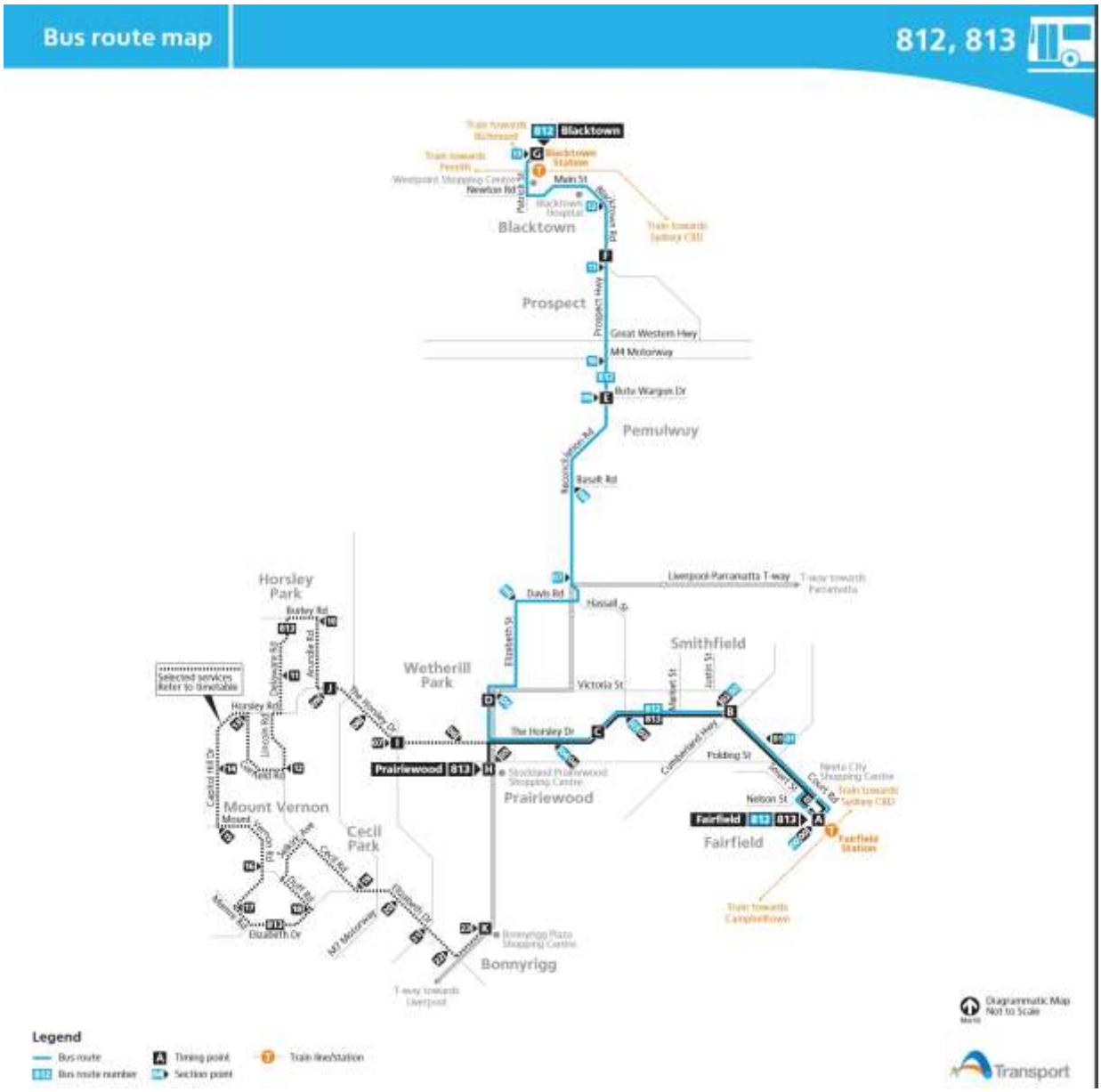
Alternative public transport options will be available through the use of current bus services being Route 812, 813 and 814. These services, which operate at 30 minute intervals on weekdays and hourly on weekends, provide access to Blacktown and Fairfield Railway Stations.

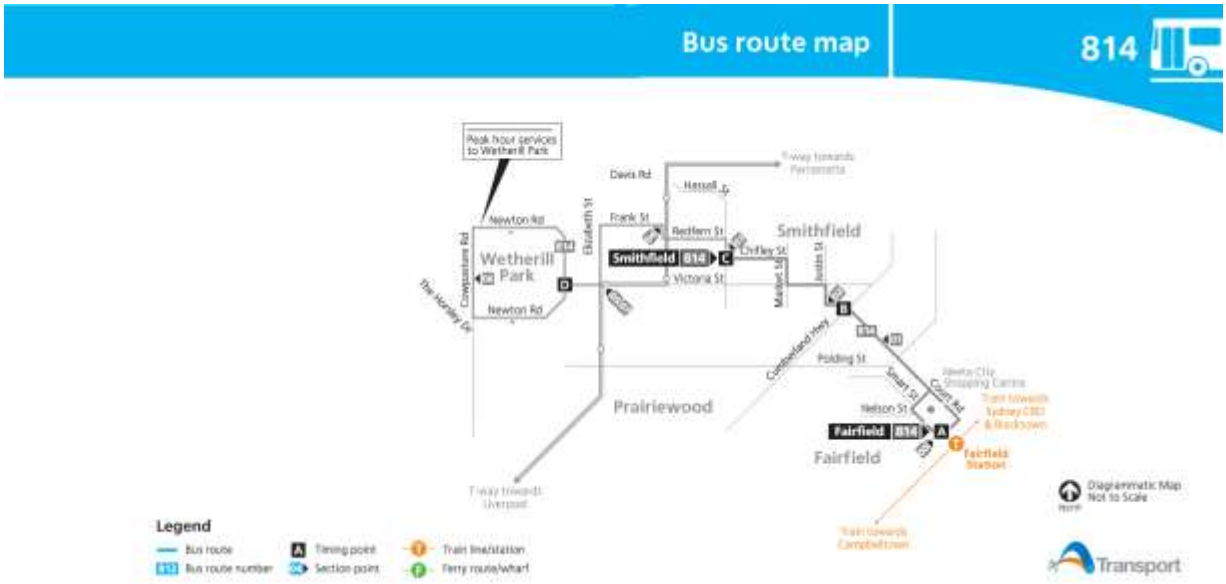
A bus stop is located 5-6 minutes walk south from the site on the Horsley Drive and 10 minutes walk northeast from the site on Victoria Street. Details and maps of available bus services will be supplied to contractors and suppliers during induction.

Carpooling will be encouraged during site induction to minimise the impact on the surrounding road network.

Car sharing is not encouraged and no dedicated car share spaces will be allocated within either car park. The nature of car sharing would encourage access, onto the site, by unauthorised persons collecting the car share vehicle. Access to the site is restricted to authorised personnel only for security purposes.

Figure 10 **Bus Services**
Source *Transport NSW, 2016*





PEDESTRIANS AND CYCLISTS

Pedestrian and bicycle activity around the site is currently low and it is not anticipated either facility will significantly increase demand.

Pedestrian and bicycle entry to each facility will be permitted via the respective car park driveway. All pedestrian bicycle entries will be directed to the respective facility offices where they will be directed by designated line marked walkways to the hardstand area to ensure separation from all moving vehicles and hazards.

No pedestrian or bicycle access is permitted via the heavy vehicle driveways.

Vehicle arrival and departure activity, associated with each facility may on occasion, coincide with pedestrian and cycle movements around the site. Any potential conflict will be consistant and regulated within the current *Motor Traffic Act*.

DRIVER CODE OF CONDUCT

Drivers are to observe the following instructions when accessing the site…

- *All drivers are to be aware of all other road users and exercise due care and caution when approaching and leaving the construction site.*
- *All vehicles may utilise any one or combination of regulated corridors supplied to them during site induction and specified on the RMS website www.rms.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map*
- *All drivers of vehicles entering or leaving the respective carparks are to enter from Copland Close and keep to the left. Under no circumstances are vehicles to block the access or cause and/or promote queueing on Copland Close.*
- *All drivers of heavy vehicles are to enter from Copland Close and keep to the left of their respective driveway. Under no circumstances are vehicles to block the access or cause and/or promote queueing on Copland Close.*
- *All drivers must not be under the influence of Drugs or Alcohol when in control of a vehicle.*
- *All drivers must obey any signposted internal speed limits and all signposted directions, at all times.*
- *All drivers are to avoid, where possible, travelling during morning and afternoon commuter travel peaks to minimise impact on the surrounding road network.*

INTERNAL VEHICLE MOVEMENTS

Types of Vehicles

A combination of light vehicles, B-Doubles, 19 metre semi-trailers and forklifts will occupy the site, with most vehicle activity centered on three primary areas.

- *Truck parking area,*
- *The car park, and*
- *The loading docks.*

The site has the capacity to accommodate all vehicles movements within its boundaries, preventing queuing on both the internal and external roadways, in particular, Copland Close.

Parking Spaces

Facility 1 has provision for 44 parking spaces inclusive of one (1) dedicated disabled space.

Facility 2 has provision for 73 parking spaces, inclusive of two (2) dedicated disabled spaces.

Each parking space, with the exception of the disabled spaces, is 2.5m wide with a depth of 5.4m.

It should be noted, reduced parking rates have been accepted by Council and the RMS for the site. Any change to this reduced parking level in the future will require review.

Truck/ trailer parking is permitted on the hardstand area for each respective facility as designated by the repective tenants.

Loading Docks

The loading docks are located to the west of each facility and can accommodate 19 metre articulated vehicles.

B-Double or Class 10 vehicles will not access the loading docks. They will be directed to align, parallel with the respective facility and material handling will occur from the side.

Forklifts will generally be used within the facility itself and will only enter the hardstand to perform material handling for the side loaded B-Doubles.

CONSULTATION

This Operational Traffic Management Plan (OTMP) will accompany the Development Application (DA) for the Speculative Warehouse/Industrial Facility, Lot 2 of the Horsley Drive Business Park (HDBP), during which time, a copy of the OTMP will be forwarded by *Road Delay Solutions* on behalf of *Frasers Property* to emergency service operators and stakeholders in the road network operation for their concurrence.

These particular emergency services and stakeholders are listed below…

NSW Police

Darryl OLSEN
Senior Constable Traffic coordinator
Fairfield Local Area Command
P 02 9728 8365 | olse1dar@police.nsw.gov.au

NSW Ambulance

Paul Turner
Acting Zone Manager
Illawarra & South Western Sector
Level 1/45 Forbes Street Liverpool NSW 2170
P 02 8783 5287 | M 0422 007 983 | pturner@ambulance.nsw.gov.au

NSW Rural Fire Service

Inspector Justin Back
Operational Services Coordinator
Cumberland Zone NSW RURAL FIRE SERVICE
Headquarters P 02 8741 5555

NSW Fire Brigade

Superintendent Selwyn Mathias
Zone Commander Metropolitan West 2
Fire & Rescue NSW
110-114 Wigram Street, Harris Park, NSW 2150
PO Box H4, Harris Park, NSW = 2150
E selwyn.mathias@fire.nsw.gov.au
T= (02) 9895 4605 M 0419 995 298 F (02) 9895 4688

Transport NSW

Steven Lyras
Major Projects Interface Officer Infrastructure and Services Division
25 Garden St Eveleigh NSW 2015
T 8396 1476 | M 0466 525 422

Top Tyres

133-139 Cowpasture Rd
Wetherill Park NSW 2164
Phone: 97563335

Austral Wright Metals

133-139 Cowpasture Rd
Wetherill Park NSW 2164
Phone: 9827 0790