

Our Ref: CG130031:WB
 Contact: William Bull

13 June 2018

G2 Urban Group
 670 Mt Alexander Road
Moonee Ponds VIC 3039

Attention: Giovanni Gattini

Cardno Victoria Pty Ltd
 ABN 47 106 610 913

Level 4
 501 Swanston Street
 Melbourne 3000
 Australia

Phone +61 3 8415 7777
 Fax +61 3 8415 7788

www.cardno.com

Dear Giovanni,

**EAST BRUNSWICK VILLAGE
 ADJUSTMENTS TO PROPOSED DEVELOPMENT SCHEDULE**

Cardno has been engaged to review the proposed adjustments to the dwelling breakdown within the East Brunswick Village development. Table 1-1 below shows a comparison between the previous dwelling breakdown, which is found within the latest Traffic and Transport Assessment dated 10 November 2017, and the latest development schedule.

Table 1-1 Net Change between previous Development Schedule and the latest schedule for Residents

Component		Previous Application	Proposed Schedule	Net Change
Dwelling	1 Bedroom	206 dwellings	238 dwellings	+32 dwellings
	1 Bedroom + Study	167 dwellings	96 dwellings	-71 dwellings
	1 Bedroom + Home Office	2 no.	3 no	+1 no.
	2 Bedroom	405 dwellings	413 units	+8 dwellings
	3 Bedroom	8 dwellings	22 units	+14 dwellings
	Total	788 dwellings	772 units	-16 dwellings

Table 1-1 above demonstrates that there is proposed to be a slight increase in two and three bedroom dwellings but overall there will be a reduction in the total number of dwellings.

The proposed parking provision for the residential component of East Brunswick Village is to remain the same as the previous assessment, which specifies 838 car parking spaces allocated for residential use. Table 1-2 below outlines the breakdown of the parking allocation to each of the dwelling types.

Table 1-2 Proposed Residential Parking Allocation

Component	ITP Car Parking Requirement Rate	Previous Application	ITP Previous Allocation Parking Requirements	Proposed Schedule	ITP Proposed Allocation Parking Requirements
1 Bedroom dwelling	0.64 spaces per dwelling	375 dwellings	240 spaces	337 dwellings	216 spaces
2 Bedroom dwelling	1.0 space per dwelling	405 dwellings	405 spaces	413 dwellings	413 spaces
3 Bedroom dwelling	1.5 spaces per dwelling	8 dwellings	12 spaces	22 dwellings	22 spaces
Total		788 dwellings	657 spaces	772 dwellings	651 spaces

Table 1-2 shows that the proposed amended development has a similar ITP parking requirement to the previously approved scheme, also Table 1-1 shows there is proposed to be a slight increase in two and three bedroom dwellings but overall there will be a reduction in the total number of dwellings.

It is concluded that the residential component and the residential parking provision remain similar to that previously proposed. The amended development is recommended for approval.

I trust this information is of assistance.

Yours sincerely,



Andrew Carr
Principal - Traffic Transport & Parking
for Cardno
Direct Line: +61 3 8415 7739
Email: andrew.carr@cardno.com.au

Traffic and Transport Assessment

East Brunswick Village

CG130031

Prepared for
Banco Group of Companies

10 November 2017



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Contact Information

Cardno Victoria Pty Ltd
Trading as Cardno
ABN 47 106 610 913

150 Oxford Street, Collingwood
Victoria 3066 Australia

Telephone: (03) 8415 7777
Facsimile: (03) 8415 7788
International: +61 3 8415 7777

victoria@cardno.com.au
www.cardno.com

Document Control

Version	Date	Author	Author Initials	Reviewer	Reviewer Initials
F05	10/11/17	William Bull	WB	Andrew Carr	AC

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1 Introduction

Cardno has been retained by the Banco Group of Companies to prepare a Traffic and Transport Assessment for the proposed redevelopment of land at 149 & part of 127-139 Nicholson Street, Brunswick East. These land titles form part of the wider East Brunswick Village Development Plan area.

Cardno has previously prepared a traffic and transport assessment (CG130031REP001F02, dated 27th March 2014) for a mixed-use development application on the land titles at 127-129 Nicholson Street & 139 Nicholson Street, Brunswick East, which at the time of that development application were known as the “Banco land”. That development application was subsequently approved and Planning Permit MPS/2013/979 was issued by Moreland City Council on 8th April, 2015.

Since that time, the Applicant has purchased the land title to the north of the Banco land (149 Nicholson Street) and has prepared a revised set of architectural plans that incorporate this title into the development. In addition, several alterations have been made to the layout and mix of land uses on the Banco land which can typically be considered as Section 72 alterations.

In the course of preparing this assessment, the subject site and its environs have been inspected, plans of the development have been examined, and relevant information from the East Brunswick Village Development Plan has been reviewed.

2 Background

The subject site forms part of the East Brunswick Village (EBV) Development Plan area, which is comprised of 127-129, 139 and 149 Nicholson Street, 2 Elm Grove and 98 John Street, Brunswick East.

The EBV Development Plan area is part of the land subject to Amendment C92 to the Moreland Planning Scheme which rezoned land and introduced new overlays, including the Development Plan Overlay (DPO Schedule 11). Amendment C92 was approved by the Minister for Planning in January 2011.

The EBV Development Plan was submitted to Council in October 2011 for Council's consideration and an application for review was lodged with VCAT, appealing the time taken by Council to decide on the EBV Development Plan.

In an order dated 3 September 2012, VCAT determined that the EBV Development Plan was satisfactory, subject to some minor changes. The applicant provided an updated version of the Development Plan to Council, which Council endorsed on 4 October 2012.

In accordance with Section 3.0 of DPO Schedule 11, an Integrated Transport Plan was prepared by Cardno to accompany the application (Ref: CG111076Rep001ITPF11, dated 11 September 2012).

The Integrated Transport Plan detailed the traffic and parking impacts of the Development Plan and included an indicative development schedule and car parking provision, access considerations, appropriate car parking rates, and anticipated traffic generation and impact.

The Amendment C92 area, the EBV Development Plan area and the subject site are shown in Figure 2-1.

Figure 2-1 Amendment C92 Area, EBV Development Plan Area and Subject Site

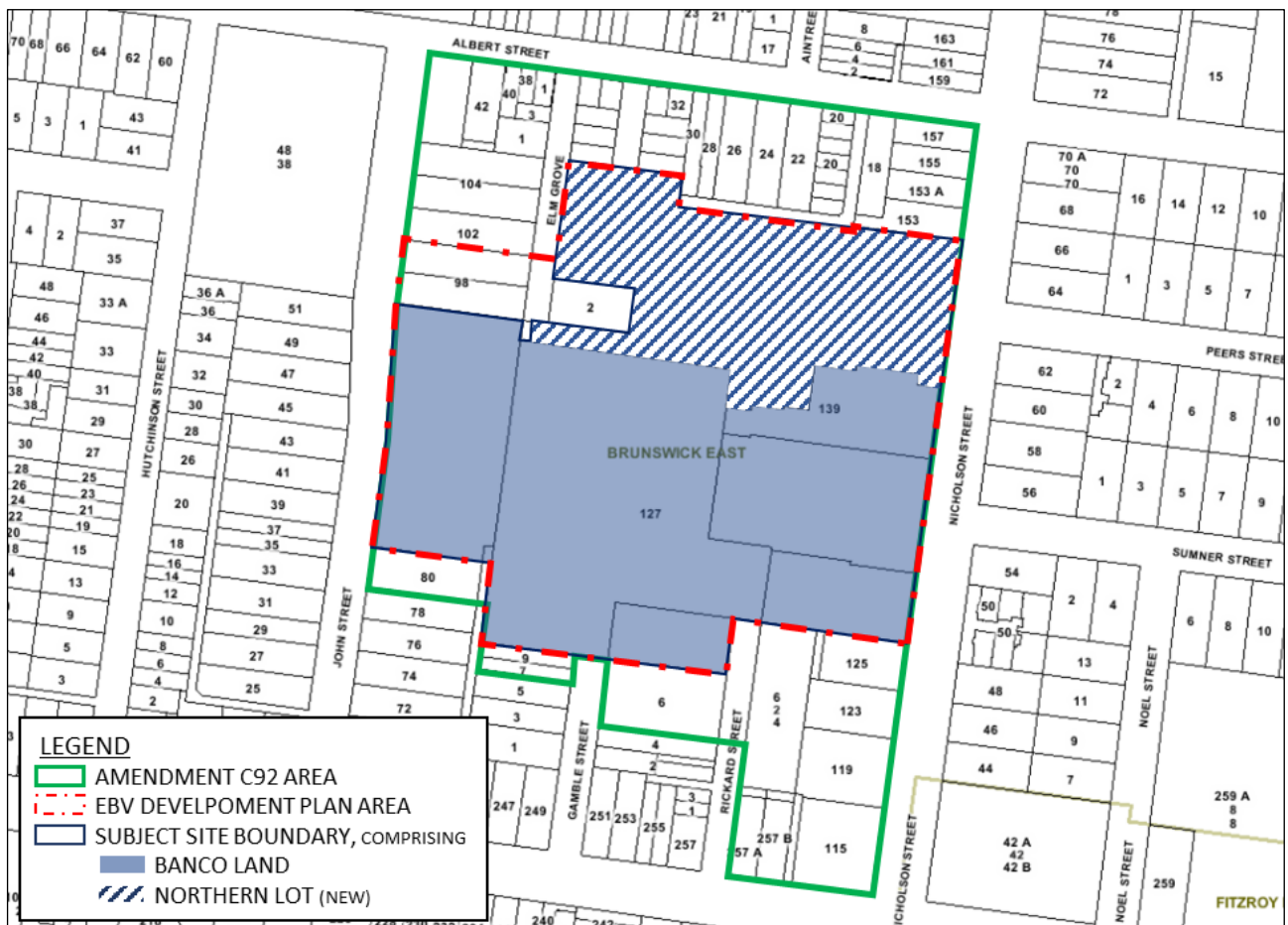


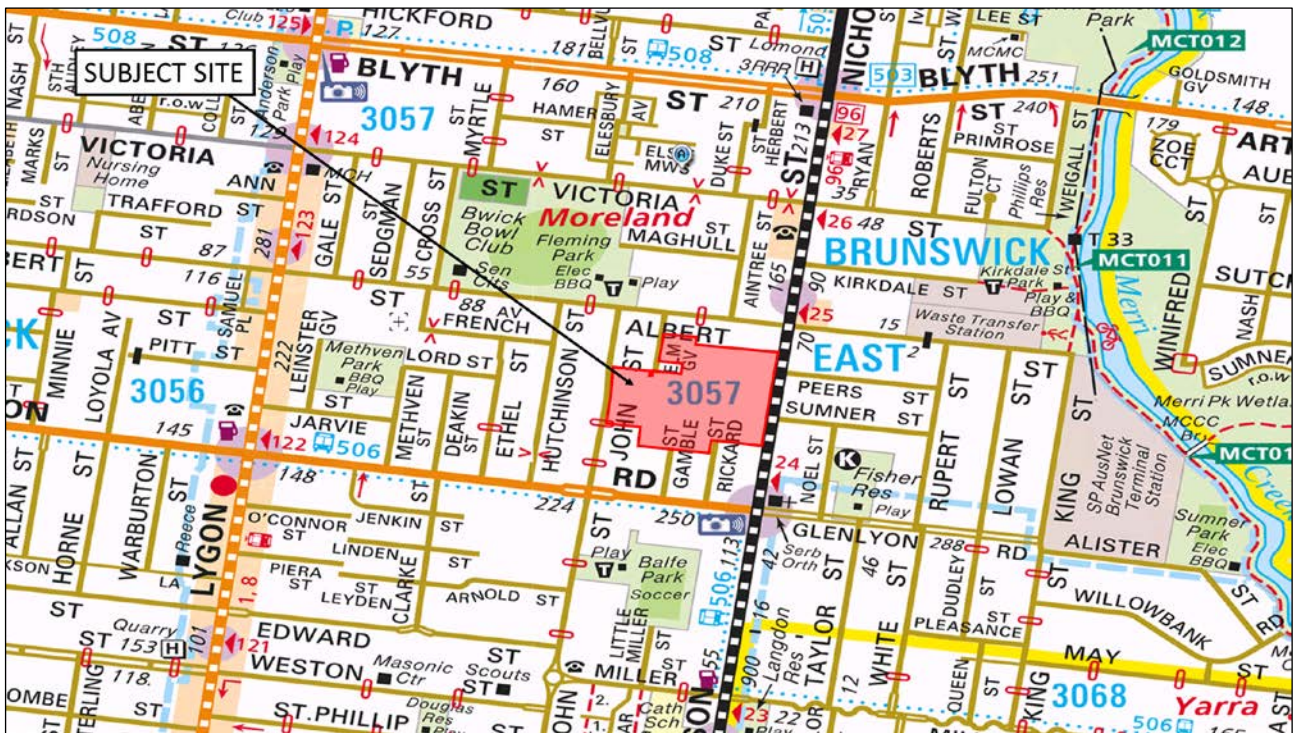
Figure 2-1 illustrates the subject site comprises all the titles within the EBV Development Plan area, except for 98-100 John Street, and 2 Elm Grove.

3 Existing Conditions

3.1 Location and Land Use

The subject site is located on the western side of Nicholson Street, approximately 250 metres north of Glenlyon Road and 50 metres south of Albert Street in Brunswick East. Figure 3-1 illustrates the location of the site and the surrounding street network.

Figure 3-1 Site Locality Plan



Source: Melway

The site is irregularly shaped and has street frontages of approximately 150 metres to Nicholson Street along the eastern site boundary, and 90 metres to John Street along the western site boundary. The site also has abutments to the cul-de-sacs of Rickard Street, Gamble Street and Elm Grove, which intersect and terminate at the subject site boundary.

The site has historically been used for a variety of industrial uses and it is understood that the buildings are currently either unused/vacant or have a reduced level of usage. Land uses surrounding the EBV Development Plan area are generally residential and industrial in nature. Notable land uses within close proximity of the site include Fleming Park approximately 150 metres north-west of the site, and the Lygon Street shopping strip approximately 450 metres west of the site.

3.2 Road Network

3.2.1 Nicholson Street

Nicholson Street is a VicRoads declared primary state arterial route which is classified as a road zone (RDZ1) in the Planning Scheme and extends in a north-south alignment from Spring Street in Melbourne to Albion Street in Brunswick East.

Nicholson Street in the vicinity of the site accommodates a single two-way carriageway of approximately 14 metres width, which comprises two lanes in each direction. The central lanes are shared with trams and parking is permitted in the kerbside lanes outside of Clearway times (6:30am – 9:30am Monday-Friday on the eastern kerbside and 4:00pm – 6:30pm Monday-Friday on the western kerbside).

A 40km/h speed limit applies along Nicholson Street at the site frontage between 7:00am and midnight, 7 days a week. The photographs at Figure 3-2 and Figure 3-3 illustrate the typical configuration of Nicholson Street in the vicinity of the site

Figure 3-2 Nicholson Street, looking north from Albert Street



Figure 3-3 Nicholson Street, looking south from Albert Street



3.2.2 John Street

John Street is a local road under the jurisdiction of Moreland City Council which extends in a north-south alignment from St Phillip Street at its southern end to Albert Street at its northern end.

In the vicinity of the subject site, John Street accommodates a two-way carriageway of approximately 10.5 metres width, permitting parallel kerbside parking on both sides of the carriageway clear of traffic. The default speed limit along John Street is 50km/h.

The photograph at Figure 3-4 illustrates the existing configuration of John Street in the vicinity of the site.

Figure 3-4 John Street, looking north from Glenlyon Road



3.2.3 Rickard Street

Rickard Street is a local street under council jurisdiction which extends north from Glenlyon Road for approximately 100 metres, terminating at the southern boundary of the subject site.

Rickard Street has a carriageway width of approximately 7.3 metres, which accommodates two-way traffic movement and permits parallel kerbside parking on both sides of the street. The default speed limit along Rickard Street is 50km/h.

The photograph at Figure 3-5 illustrates the existing configuration of Rickard Street in the vicinity of the site.

Figure 3-5 Rickard Street, looking north from Glenlyon Road



3.2.4 Gamble Street

Gamble Street is a local street under council jurisdiction which extends north from Glenlyon Road for approximately 75 metres before terminating at the southern boundary of the site.

Gamble Street has a carriageway width of approximately 7.3 metres which accommodates two-way traffic movement and permits parallel kerbside parking on both sides of the street. The default speed limit along Gamble Street is 50km/h

The photograph at Figure 3-6 illustrates the existing configuration of Gamble Street to the south of the site

Figure 3-6 Gamble Street, looking north from Glenlyon Road



3.2.5 Elm Grove

Elm Grove is a local road under council jurisdiction, extending south from Albert Street for approximately 90 metres before terminating at the northern boundary of the subject site.

Elm Grove has a carriageway width of approximately 5.5 metres which accommodates two-way traffic movements. Parallel kerbside parking is permitted in various locations along the eastern side of the street outside of weekday business hours. The default speed limit along Elm Grove is 50km/h.

The photograph at Figure 3-7 illustrates the existing configuration of Elm Grove in the vicinity of the site.

Figure 3-7 Elm Grove, looking south from Albert Street



3.3 Sustainable Transport

3.3.1 Public Transport

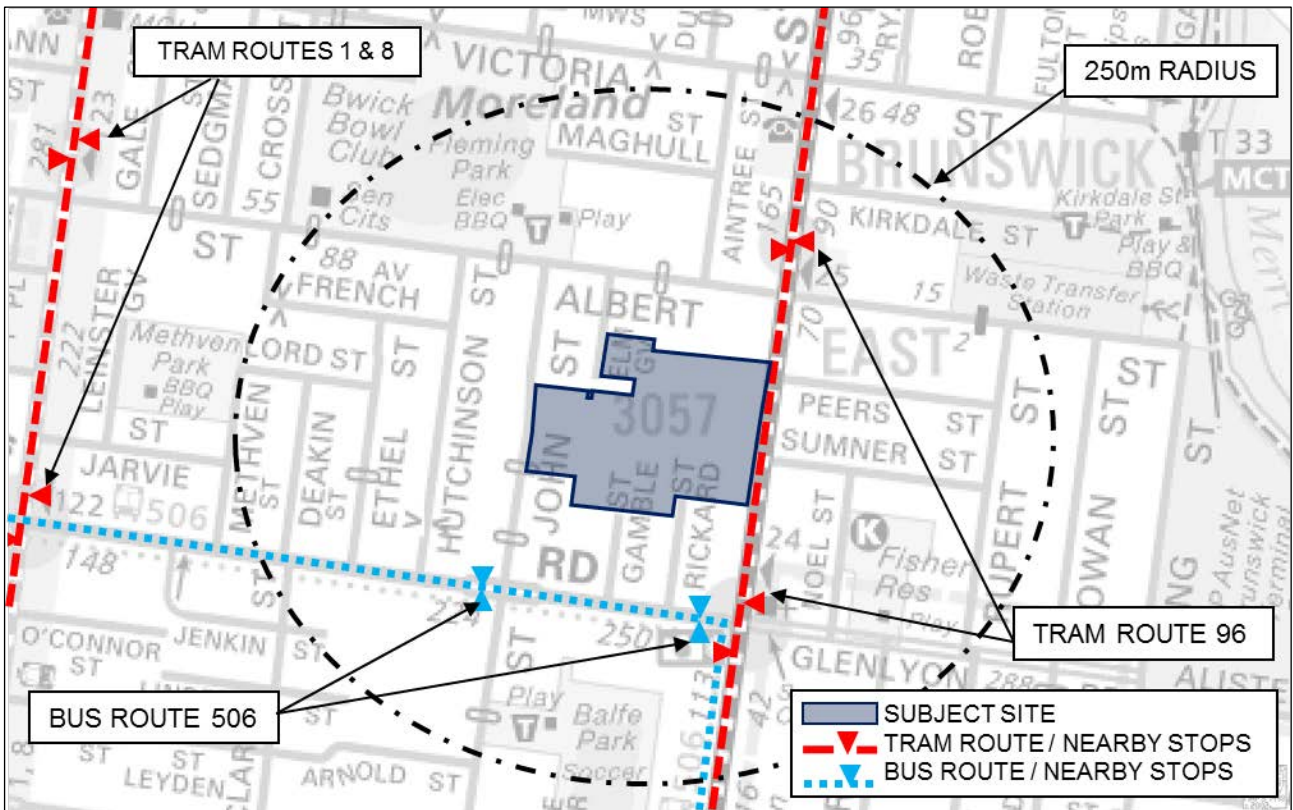
The site is well served by public transport, with trams passing along the Nicholson Street frontage of the site, and along Lygon Street approximately 450 metres west of the site. Bus services are available on Blyth Street and Glenlyon Road to the north and south of the site respectively. The nearest train stations are Brunswick Station and Merri Station.

A summary of the public transport in the vicinity of the site is provided in Table 3-1 and illustrated in Figure 3-8.

Table 3-1 Public Transport

Service	Route No's	Route	Nearest Stop	Approximate Walking Distance / (Time)
Tram	1	East Coburg – South Melbourne Beach	Glenlyon Rd / Lygon St	600 metres (7-8 mins)
	8	Moreland - Toorak	Albert St / Lygon St	
	96	East Brunswick – St Kilda Beach	Glenlyon Rd / Nicholson St Albert St / Nicholson St	150 metres (1-2 mins)
Bus	506	Moonee Ponds – Westgarth Station via Brunswick	Nicholson St / Glenlyon Rd John St / Glenlyon Rd	150 metres (12 mins)
	508	Alphington – Moonee Ponds via Northcote & Brunswick	Nicholson St / Blyth St Bellvue St / Blyth St	550 metres (6-7 mins)
Train	Upfield Line		Brunswick Station	1.7 kilometres (21 mins)
	South Morang Line		Merri Station	1.8 kilometres (22 mins)

Figure 3-8 Public Transport Map



3.3.2 Bicycle Network

Melbourne's Principal Bicycle Network (PBN) was established in 1994 and provides maps of major bicycle routes around Melbourne and surrounding suburbs. The PBN maps show a network of cycle routes that provide access and connectivity between key destinations and have recently been updated by VicRoads, with input from all metropolitan Councils and key stakeholders such as Bicycle Network Victoria and Parks Victoria.

The principal bicycle network in the immediate vicinity of the site is illustrated in Figure 3-9 and indicates that the subject site has good access to these facilities.

Figure 3-9 Principal Bicycle Network

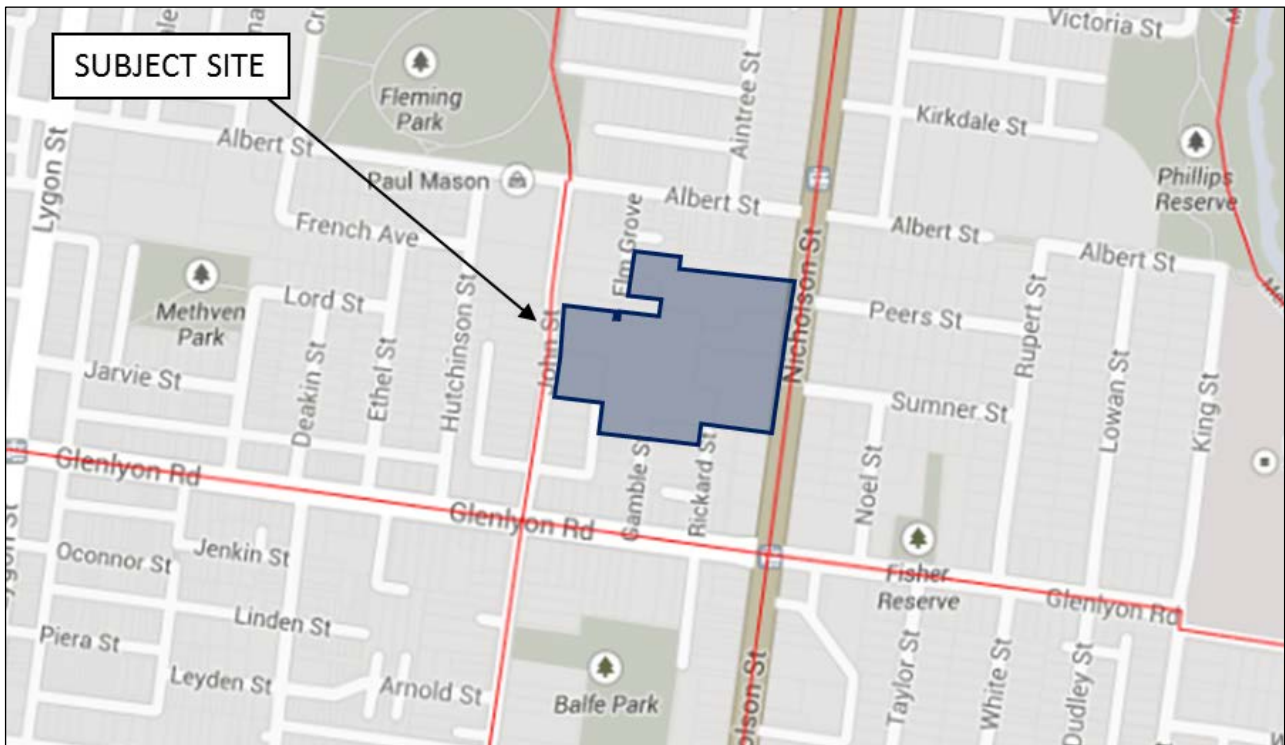


Figure 3-9 shows that along the site frontages, both John Street and Nicholson Street are identified as part of the PBN. Glenlyon Road, which is accessible from both Nicholson Street and John Street or by filtering through Gamble Street or Rickard Street, is also identified as part of the PBN, and provides dedicated on-street bicycle lanes.

In addition, the Merri Creek Trail (a 25 kilometre trail which follows the Merri Creek from the Main Yarra Trail at Dights Falls to the Western Ring Road path at Moomba Park) is located approximately 550 metres to the east of the site, and is accessible via Glenlyon Road.

3.3.3 Share Car

Car sharing schemes allow users to hire a motor vehicle for private use when required. Share cars are stored in public and private car parking spaces known as 'pods' throughout the city. The primary point of difference between car sharing schemes and car rental companies is that share car users join as members and can book the vehicle online for as little as one hour. Once the user is finished with the vehicle, they can return it to the car parking space from which it was collected.

Car sharing schemes offer a viable alternative to residents who do not wish to own a motor vehicle or only require a motor vehicle for infrequent use. It is becoming increasingly popular with residents of inner city developments where parking availability is both restrictive and expensive.

There are several companies which operate car share schemes throughout Melbourne and the number of share car pods throughout the site is being increased as demand grows. Currently there are 18 share car pods located within the nearby vicinity of the subject site. The location of these pods is summarised in Table 3-2 and illustrated in Figure 3-10.

Table 3-2 Number and location of nearby Car share vehicles

Provider	Location	No. of Cars
Green Share Car	Cnr Lygon Street & Blyth Street	1 car
	Cnr Lygon Street & Glenlyon Street	1 car
	Cnr Lygon Street & Barkly Street	1 car
	310 Park Street	1 car
FlexiCar	Glenlyon Road, east of Nicholson Street	1 car
	Cnr Hickford Street and Nicholson Street	1 car
	Blyth Street, east of Lygon Street	1 car
	149 Glenlyon Road	1 car
	Cnr Lygon Street & Barkly Street	1 car
	Park Street, west of Nicholson Street	1 car
Go Get	Rupert Street near Sumner Street	1 car
	Melville Street near Clausen Street	1 car
	Glenlyon Road near John Street	1 car
	Bruce Street, near Glenlyon Street	1 car
	Victoria Street, near Lygon Street	1 car
	Blyth Street, near Lygon Street	1 car
	Glenlyon Road, near Lygon Street	1 car
	Lygon Street, near Brunswick Street	1 car
Total		18 vehicles

Figure 3-10 Car Share Pod Locations



4 Proposed Development

4.1 General

The development currently approved on the “Banco land” portion of the subject site comprises two (2) stages. Stage 1 generally comprises the eastern car parks and buildings above, whilst Stage 2 comprises the western car parks and buildings above. Minor additions and alterations are proposed to these stages that would generally be considered as Section 72 modifications.

The current proposal is for a third stage (Stage 3), which is proposed to be developed on the northern lot that has been incorporated into the subject site. The inclusion of this land into the subject site has increased the overall site area, allowing for the expansion of the approved basement car parking levels beneath the new stage of the proposed development.

As a result of these modifications, the public car park has been expanded to accommodate the additional spaces required for commercial uses. Car parking for the residential and offices uses has been rearranged into common areas which are located in close proximity to the allocated land uses.

Table 4-1 summarises the approved development schedule for Stages 1 & 2, the current overall development schedule, and the net change in land uses (which is effectively stage 3) as a result of the expanded planning application.

Table 4-1 Net Change Between Approved & Current Development Schedules (Stage 3)

Component		Approved Development (Stages 1 & 2)	Current Application (Stages 1, 2 & 3)	Net Change (Stage 3)
Dwellings	1 Bedroom	252 dwellings	206 dwellings	- 46 dwellings
	1 Bedroom + Study	nil	167 dwellings	+ 167 dwellings
	1 Bedroom + Home Office	5 no.	2 no.	- 3 no.
	2 Bedroom	352 dwellings	405 dwellings	+ 53 dwellings
	3 Bedroom	2 dwellings	8 dwellings	+ 6 dwellings
	Total	611 dwellings	788 dwellings	+ 177 dwellings
Medical Centre		nil	545.2sq.m	+ 545.2sq.m
Office		nil	2,549.8sq.m	+ 2,549.8sq.m
Specialty Retail		2,721sq.m	5,638.7sq.m	+ 2,917.7sq.m
Supermarket		2,958.5sq m	2,958.5sq.m	nil

It is noted that the specialty retail use floor area presented in Table 4-1 above includes 574.7sq.m of rooftop cinema/bar floor area. For the purposes of the traffic assessment conducted herein, the classification of the rooftop cinema/bar floor area as specialty retail is considered to be conservative, and therefore appropriate.

The land uses proposed for development on the subject site are generally in accordance with those outlined in the East Brunswick Village Development Plan, albeit with some variation in the yield of each component and the inclusion of medical suites.

Based on the above table, the inclusion of stage 3 into the development application will provide:

- > 177 additional dwellings;
- > 545.2sq.m of medical suites;
- > 2,549.8sq.m of office floor area; and
- > 2,917.7sq.m of additional specialty retail floor area (including 574.7sq.m of rooftop cinema/bar floor area).

4.2 Car Parking

In accordance with the EBV Development Plan, resident and retail parking is to be provided in centralised basement car parks for the subject site, with some additional on-street spaces on Main Street, with the plans for the basement parking attached within Appendix A.

Table 4-2 summarises the approved car parking for stages 1 & 2, the current overall car parking schedule, and the net change in car parking, which is effectively the car parking provision attributable to the stage 3 uses.

Table 4-2 Car Parking Provision

Component	Approved Development (Stages 1 & 2)	Current Application (Stages 1, 2 & 3)	Net Change (Stage 3)
Resident Parking	525 spaces	838 spaces	+ 313 spaces
Retail Parking	223 spaces	281 spaces (incl. on-street parking and car wash spaces)	+ 58 spaces
Office Parking	0 spaces	62 spaces	+ 62 spaces
Total	748 spaces	1,181 spaces	+ 433 spaces

4.3 Site Access

The access strategy for the Development Plan is detailed in the Integrated Transport Plan prepared by Cardno. The proposed access arrangements are generally in accordance with the Development Plan as follows.

Primary access to the site is proposed via a signalised access at Nicholson Street and the proposed internal access road 'Main Street'. The interim and ultimate designs of the intersection are detailed in the Integrated Transport Plan prepared by Cardno, and are discussed further in Section 5.9 of this document.

'Main Street' provides access to the on-street car parking (18 spaces) and two separate ramps, one of which leads to the resident parking within the east basement car park level 2, and one of which leads to the retail parking within the east basement car park level 1.

Residential access for the John Street basement car parking area is available via two crossovers to John Street at the northern and southern boundaries of the site, with a restricted internal access through to the east part of the site. Vehicles within the basement car park are able to access the east basement car park internally, and subsequently enter and exit via the signals at Nicholson Street as required. It is noted however, that the internal connection does not allow vehicles that park within the east basement car park to access the John Street basement car park. This effectively limits the number of vehicles which are able to use the two John Street crossovers to only those designated to the John Street basement areas (262 spaces).

A left in/left out only access to Nicholson Street (level with Peers Street) provides access to a basement ramp for the residential and office parking areas, and also provides service vehicle access to two loading bays located on the northern portion of the site. This access also provides a bollard controlled connection to Main Street to the south.

It is proposed that John Street access would only be available for residents of Lot 5, Lot 6 and Lot 7. These lots are located at the west end of the development and have a total of around 262 car spaces. It is anticipated that 262 residential car spaces would generate not more than 917 vehicles movements per day accessing via John Street, which is less than the ITP requirement of not more than 1,000 vehicle movements per day.

In addition to the above, bicycle and pedestrian access will be available via Gamble Street, Main Street at John Street, Rickard Street and Elm Grove. Emergency service vehicle access will be available via Main Street at John Street as required. The John Street end of Main Street is not to be used by vehicles other than emergency service vehicles, with access to be controlled by removable bollards.

4.4 Bicycle Parking

A total of 967 bicycle spaces are proposed, distributed as follows:

- > 129 visitor spaces at ground level;
- > 340 resident/retail/office employee spaces in basement level 1;
- > 498 resident spaces in basement level 2.

4.5 Loading

Two loading bays are provided on the northern portion of the site, accessed via the left in/left out only access to Nicholson Street (level with Peers Street). One loading bay is provided for the specialty retail uses in the northeast corner of the site for vehicles up to an 8.8m Medium Rigid Vehicle (MRV) size, with a second loading bay provided for the supermarket/retail components further into the site away from Nicholson Street. This second northern loading bay will accommodate vehicles of up to 19m Articulated Vehicle (AV) size.

In addition, two loading bays are located at the southern boundary of the site, including one for the supermarket and one for the specialty retail, both accessible via Rickard Street. Cardno have been advised that these loading bays will be used by vehicles no larger than a 12.5 metre Heavy Rigid Vehicle (HRV) size.

5 Design Considerations

5.1 Car Space Dimensions

Car spaces have generally been designed in accordance with the requirements of Design Standard 2 of Clause 52.06-8 of the Moreland Planning Scheme. Car spaces have dimensions of not less than:

- > 2.6 metres width;
- > 4.9 metres length; and
- > 6.4 metre wide aisle.

To assist the opening of car doors, columns have generally been located outside of the door opening zone and car spaces adjacent to walls have generally either been widened by 0.3 metres or offset from the wall by 0.3 metres, in accordance with Diagram 1 of Clause 52.06-8.

Parallel car spaces have dimensions of 2.3 metres width, 6.7 metres in length with access via a 6.6 metre wide aisle. These dimensions are in accordance with the Moreland Planning Scheme requirements for parallel parking spaces.

All car parking spaces located at the end of a blind aisle have the minimum 1m aisle extension required by the Australian Standard for Parking Facilities *Part 1: Off-street car parking facilities* (AS2890.1).

5.2 Disabled Car Spaces

As required by Design Standard 2 of Clause 52.06-8, the disabled spaces have generally been designed in accordance with the Australian Standard for Parking Facilities *Part 6: Off-street parking for people with disabilities* (AS2890.6), with a width of not less than 2.4 metres and an adjacent shared area of not less than 2.4 metres width.

Disabled person parking spaces are 5.4 metres long, in accordance with AS2890.6 recommendations. It is noted however that Clause 52.06-8 allows for disabled spaces to encroach into the accessway width by 0.5 metres, resulting in an effective space length of 4.9 metres.

The Building Code of Australia (BCA) Part D3 requires that disabled parking for retail uses be provided at a rate of 1 space for every 50 car parking spaces or part thereof. For the 281 retail spaces, this equates to a requirement to provide six disabled spaces, which is satisfied by the proposed six disabled spaces to be located within the basement retail car park.

Disabled persons parking is located near lifts and escalators within the retail basement parking area to facilitate convenient access.

5.3 Car Park Access

Access into the retail car parking is to be controlled via ticket machines and boom gates, or some similar form of access control. Three lanes separated by medians are proposed at the boom gates, with one lane each for ingress and egress and a third lane in the middle, the direction of which can be changed in accordance with the peak directional flow. The carriageway of each lane is in excess of 3 metres, with the width of each lane between walls in excess of 3.6 metres.

Swept path diagrams have been prepared by Cardno and are attached in Appendix B, which illustrates the swept path operation of the boom gate control area.

It is understood that access to the resident car parking is to be restricted by doors offset 6 metres from the beginning of the ramps and controlled by remotes.

Resident car park access via John Street is to be strictly limited to residents parking in the west car park basement, in accordance with the approved Integrated Transport Plan, and this access restriction is to be achieved by only allowing those residents to have a means of activating the John Street access. The proposed provision of controlled/restricted access for John Street removes the need for an internal access control between the west and east residential car parks.

The number of resident car spaces with access available via John Street is to be not more than 275 spaces (262 proposed), equating to not more than 1,000 vehicle movements per day, in accordance with the approved Integrated Transport Plan. There is to be no non-residential parking access via John Street. The development traffic distribution to John Street is discussed further in Section 9.2 of this report.

The development includes a resident car park access ramp, to be located north of Lot 6. This ramp has been proposed to maintain the level of resident car park access proposed in the previous application. It effectively replaces resident access that was previously proposed to occur via the retail car park: residential car park access is no longer proposed via the retail car park. The access location facilitates resident vehicle access via Nicholson Street, as per the previous application, and will not direct any further traffic via John Street.

In some instances, the sight triangles proposed at the car park egress points are less than that recommended by AS2890.1. Where this is the case, convex mirrors will be fitted to allow exiting vehicles to sight pedestrians, along with an audio visual warning alarm to alert pedestrians of exiting vehicles. Warning signage may also be provided at car park egress points advising both pedestrians and drivers to beware.

5.4 Pedestrian Access

A number of stairwell and lift cores are located throughout the car park for access to the development. A pedestrian path is proposed through the retail car park, leading towards the travelator.

5.5 Ramp Grades and Design

All ramp grades have been designed in accordance with Design Standard 3 of Clause 52.06-8, with grades no steeper than 1:6, grade changes no greater than 12.5% and transitions of at least 2 metres where required. All ramp grades are measured on the inside radius of curves.

Ramp grades of not more than 1:8 are proposed for the John Street basement residential car park access ramps from John Street, and the retail car park access ramp accessed via Main Street.

The first 6 metres of all ramps leading up to the ground level have been graded at 1:20 to provide a 'flat' section on which a vehicle is able to prop and yield to pedestrians and vehicles within the roadway. This is in excess of the requirements of Design Standard 3 of Clause 52.06-8 which requires the first 5 metres into a site to be graded no steeper than 1:10.

All ramps accommodate two-way access, with carriageway widths of not less than 6.3 metres and widths between walls of not less than 6.9 metres. Swept path diagrams have been prepared and are attached in Appendix B, which illustrate the operation of the proposed ramps.

5.6 Height Clearances

Height clearances throughout the residential car parks are in excess of 2.1 metres, as required by Design Standard 1 of Clause 52.06-8. Furthermore, as required by Clause 2.4 of AS2890.6, height clearance within the retail car park is to be not less than 2.2 metres, with not less than 2.5 metres above the disabled car spaces.

A height clearance of not less than 4.5 metres is provided over loading bays in accordance with AS2890.2 recommendations, and in excess of Planning Scheme requirements.

5.7 Loading

Swept path diagrams have been prepared and attached in Appendix B to illustrate the accessibility of two of the loading bays as follows:

- > 19m AV design vehicle access to the northern supermarket/retail loading dock;
- > 8.8m MRV design vehicle access to the northern specialty retail loading dock.

It is noted that the two loading docks accessed via Rickard Street are in accordance with the previously submitted assessment.

5.8 Internal Access Roads

The internal access road cross-sections have generally been designed in accordance with the internal road cross-sections within the Integrated Transport Plan prepared by Cardno.

The internal access roads are suitable for two-way access, with carriageway widths of at least 5.5 metres and widths in excess of 6.1 metres between walls. The carriageway width is widened to approximately 12 metres wide at the Main Street/Nicholson Street intersection to allow for three traffic lanes (1 inbound lane and 2 outbound lanes).

The internal street cross sections are in accordance with the requirements of the Metropolitan Fire Brigade (MFB), which requires a clear trafficable width of not less than 3.5 metres. It is noted however, that the MFB have indicated that they are currently required to provide a “first response” service in this area, and as a consequence may on occasion have to respond to a medical emergency utilising a large ladder truck. As such, the internal road network has been designed to accommodate the manoeuvring requirements of an 11.8 metre MFB ladder truck. Swept paths have been prepared and are attached in Appendix B to show that a practical outcome is achievable for future MFB ladder truck access requirements.

A high level of pedestrian permeability is also provided throughout the site.

5.9 Main Street/Nicholson Street Intersection

The Integrated Transport Plan prepared by Cardno detailed an ultimate access layout for the Main Street/Nicholson Street signalised intersection, which requires authorities to acquire land not owned by the applicant, shown by Cardno drawing CG111076/T01/P1.

Interim access layouts were subsequently prepared which can be implemented until such time as the required land is available and the authorities proceed with constructing the ultimate access layout. The interim access layouts are attached in Appendix C, as Cardno drawings CG111076/T05/P2 and CG111076/T05/P3.

5.10 Waste Collection

There are multiple bin rooms located within Basement 1 and Basement 2 of the subject site and it is proposed to collect waste from these rooms via a 6.35m Wastewise Mini design vehicle, or similar.

Swept path assessments have been prepared demonstrating vehicle access for a waste collection vehicle to all of the on-site waste bin storage rooms and are attached within Appendix B.

6 Loading Considerations

6.1 Loading Requirements – Clause 52.07

Clause 52.07 of the Moreland Planning Scheme outlines the requirements for the loading and unloading of vehicles, and specifies loading requirements for developments which include the manufacture, servicing, storage or sale of goods or materials. It specifies that:

No building or works may be constructed for the manufacture, servicing, storage or sale of goods or materials unless:

- > Space is provided on the land for loading and unloading vehicles as specified in Table 6-1;
- > The driveway to the loading bay is at least 3.6 metres wide; and
- > The driveway that provides access to the loading bay is at least 3.6 metres wide.

A permit may be granted to reduce or waive these requirements if either:

- > The land area is insufficient; or
- > Adequate provision is made for loading and unloading vehicles to the satisfaction of the responsible authority.

Table 6-1 Planning Scheme Loading Requirements – Clause 52.07

Floor Area of Building	Minimum Loading Bay Dimensions	
2,600sq.m or less in single occupation	Area	27.4sq.m
	Length	7.6 m
	Width	3.6 m
	Height Clearance	4.0 m
For ever additional 1,800sq.m or part	Additional 18sq.m	

Considering the above, the retail and supermarket components of the proposed development each require a loading bay in accordance with the above requirements. All proposed loading bays exceed the minimum dimensional requirements of the Moreland Planning Scheme, and are thus considered appropriate.

It is noted that the specialty retail loading bays will be shared by the various tenancies on the site. This type of operation is commonplace for similar mixed use developments and will be managed by the site operator and/or body corporate as applicable.

7 Bicycle Parking Considerations

7.1 Bicycle Parking Requirements – Clause 52.34-3

The statutory bicycle parking requirements for a number of uses are listed within Clause 52.34-3 of the Moreland Planning Scheme. Those relevant to the proposal are applied to the development schedule in Table 7-1.

Table 7-1 Overall Development Bicycle Parking Requirements – Clause 52.34-3

Component	Requirement	Number / Size	Requirement
Dwellings	In developments of four or more storeys, 1 to each 5 dwellings for residents	788 dwellings*	158 resident spaces
	In developments of four or more storeys, 1 to each 10 dwellings for visitors		79 visitor spaces
Medical Centre	1 to each 8 practitioners for employees	545.2sq.m (6 practitioners)	1 employee spaces
	1 to each 4 practitioners for visitors		2 visitor spaces
Office	1 to each 300sq.m of net floor area if the net floor area exceeds 1,000sq.m for employees	2,549.8sq.m	9 employee spaces
	1 to each 1,000sq.m of net floor area if the net floor area exceeds 1,000sq.m for visitors		3 visitor spaces
Shop	1 to each 600sq.m of leasable floor area if the leasable floor area exceeds 1,000sq.m for employees	8,022.5sq.m	13 employee spaces
	1 to each 500sq.m of leasable floor area if the leasable floor area exceeds 1,000sq.m for shoppers		16 shopper spaces
Total			281 spaces

*: includes two home-offices

Table 7-1 shows that the development has a requirement to provide a total of 281 bicycle parking spaces, comprising 158 resident spaces, 23 employee spaces and 100 visitor/shopper spaces.

The development proposes a total of 967 bicycle spaces, distributed as follows:

- > 129 visitor spaces at ground level;
- > 340 resident/retail/office employee spaces in basement level 1;
- > 498 resident spaces in basement level 2.

The proposed bicycle parking provision is in excess of the requirements of Clause 52.34 of the Moreland Planning Scheme, and is therefore considered appropriate.

Additionally, Clause 52.34-3 requires the provision of employee showers in accordance with requirements detailed in Table 7-2.

Table 7-2 Shower Requirements – Clause 52.34-3

Rate	Number	Requirement
If 5 or more employee bicycle spaces are required, 1 shower for the first 5 employee bicycle spaces, plus 1 to each 10 employee bicycle spaces thereafter.	23 employee spaces	3 showers

All showers should be provided with access to a change room, or should incorporate a combined change room with the shower. Based on Table 7-2, at least 3 showers and change rooms should be provided for employees. Given that a change room with three showers is provided on basement level 1, the proposal is considered to comply with the above Planning Scheme requirements.

8 Car Parking Considerations

8.1 Statutory Car Parking Requirements – Clause 52.06-5

The subject site is located within a Parking Overlay (PO) area which is subject to the Parking Overlay – Precinct 1 Schedule (PO1). The minimum number of car parking spaces required for a development located within the Parking Overlay is specified by Schedule 1 to the Parking Overlay of the Moreland Planning Scheme. Schedule 1 to the Parking Overlay stipulates the following:

- > *“For all uses listed in Table 1 of Clause 52.06-5, the number of car parking spaces required for a use is calculated using the Rate in Column B of that Table”.*

Based on the Column B rates stipulated by Table 1 of Clause 52.06-5 of the Moreland Planning Scheme, the statutory car parking requirement is calculated for the overall development in Table 8-1 below.

Table 8-1 Statutory Car Parking Requirements – Clause 52.06-5

Component	Car Parking Requirement Rate (Column B)	Area / No.	Car Parking Requirement
Dwellings	1 space to each one or two bedroom dwelling for residents	780 dwellings*	780 spaces
	2 spaces to each three or more bedroom dwelling	8 dwellings	16 spaces
	0 spaces to each 5 dwellings for visitors	788 dwellings	0 spaces
Medical centre	3.5 spaces to each 100sq.m of leasable floor area	545.2sq.m	19 spaces
Office	3 spaces to each 100sq.m of net floor area	2,549.8sq.m	76 spaces
Shop	3.5 spaces to each 100sq.m of leasable floor area	5,638.7sq.m	197 spaces
Supermarket	5 spaces to each 100sq.m of leasable floor area	2,958.5sq.m	147 spaces
Total		-	1,235 spaces

*: includes two home offices.

Based on the above, the overall development generates a statutory car parking requirement for 1,235 spaces, comprising 796 resident spaces, 76 spaces for the office uses, with 363 spaces required for the medical centre, shop and supermarket uses.

The overall development proposes to provide a total of 1,181 car parking spaces to be allocated as follows:

- > 838 spaces for residents;
- > 62 spaces for office uses;
- > 281 spaces for the medical centre, shop and supermarket uses.

Clause 52.06-6 states that an application to reduce or waive the requirement for car spaces must be accompanied by a Car Parking Demand Assessment, which includes an assessment of the following:

- > *The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.*
 - *The variation of car parking demand likely to be generated by the proposed use over time.*
 - *The short-stay and long-stay car parking demand likely to be generated by the proposed use.*
 - *The availability of public transport in the locality of the land.*
 - *The convenience of pedestrian and cyclist access to the land.*
 - *The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.*
 - *The anticipated car ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.*

- *Any empirical assessment or case study.*

Clause 52.06-6 then states that before a permit may be granted to reduce or waive the parking requirement, the responsible authority must consider the following, as appropriate:

- > *The Car Parking Demand Assessment.*
- > *Any relevant local planning policy or incorporated plan.*
- > *The availability of alternative car parking in the locality of the land, including:*
 - *Efficiencies gained from the consolidation of shared car parking spaces.*
 - *Public car parks intended to serve the land.*
 - *On street parking in non-residential zones.*
 - *Streets in residential zones specifically managed for non-residential parking.*
- > *On street parking in residential zones in the locality of the land that is intended to be for residential use.*
- > *The practicality of providing car parking on the site, particularly for lots of less than 300 square metres.*
- > *Any adverse economic impact a shortfall of parking may have on the economic viability of any nearby activity centre.*
- > *The future growth and development of any nearby activity centre.*
- > *Any car parking deficiency associated with the existing use of the land.*
- > *Any credit that should be allowed for car parking spaces provided on common land or by a Special Charge Scheme or cash-in-lieu payment.*
- > *Local traffic management in the locality of the land.*
- > *The impact of fewer car parking spaces on local amenity, including pedestrian amenity and the amenity of nearby residential areas.*
- > *The need to create safe, functional and attractive parking areas.*
- > *Access to or provision of alternative transport modes to and from the land.*
- > *The equity of reducing the car parking requirement having regard to any historic contributions by existing businesses.*
- > *The character of the surrounding area and whether reducing the car parking provision would result in a quality/positive urban design outcome.*
- > *Any other matter specified in a schedule to the Parking Overlay.*
- > *Any other relevant consideration.*

8.2 East Brunswick Village Development Plan Car Parking Rates

The Integrated Development Plan prepared for East Brunswick Village by Cardno outlined appropriate car parking requirement rates for several land uses in accordance with Council recommendations.

Those rates relevant to the land uses proposed within the overall development are summarised in Table 8-2.

Table 8-2 Overall Development Car Parking Requirement (ITP Car Parking Rates)

Component	Car Parking Requirement Rate	Area / No.	Car Parking Requirement
Dwellings	0.64 spaces to each one bedroom dwelling*	375 dwellings	240 spaces
	1 space to each two bedroom dwelling	405 dwellings	405 spaces
	1.5 spaces to each three bedroom dwelling	8 dwellings	12 spaces
Medical Suites	3.5 spaces to each 100sq.m of leasable floor area (not specified in ITP - Planning Scheme Column B rates used)	545.2sq.m	19 spaces
Office	2.5 spaces (or more) to each 100sq.m of net floor area	2,549.8sq.m	63 spaces
Shop	3.5 spaces to each 100sq.m of leasable floor area	5,638.7sq.m	197 spaces
Supermarket	4 spaces to each 100sq.m of leasable floor area	2,958.5sq.m	118 spaces
Total			1,054 spaces

* Several '1 bedroom + study' apartments are proposed. The studies within these apartments are not separate rooms, therefore these apartments are considered as 1 bedroom apartments for planning purposes.

Based on the above, the overall development generates a car parking requirement for 1,054 spaces. Given that 1,181 spaces are proposed, the car parking provision for the overall development is considered to be appropriate.

8.3 Car Parking Allocation and Comparison to ITP Parking Rates

The parking provision and allocation is discussed herein based on the development plans TP12, TP13, TP14 and TP15 dated 27th October 2017. These plans show an indicative on-site parking provision of 1,181 spaces. Table 8-3 shows a summary of the parking locations and an indicative allocation of the on-site parking.

Table 8-3 On-site Parking Provision and Indicative Allocation

Component		Basement 2	Basement 1	On-Street	Sub Total
Lot 1	Residential	72	0	0	72
Lot 2	Residential	154 (incl 2 electric vehicle charge spaces)	0	0	154
Lot 3	Residential	15	60	0	75
Lot 4	Residential	163	0	0	163
Lot 5	Residential	0	123	0	123
Lot 6	Residential	58	0	0	58
Lot 7	Residential	0	81	0	81
Lot 8	Office	0	62	0	62
Lot 9	Residential	63	0	0	63
Lot 10	Residential	0	49	0	49
Retail	Coles	0	120	0	120
Retail	Other	0	118 (incl 2 electric vehicle charge spaces)	0	118
Retail	Other/Medical	0	19	0	19
Retail	Car Wash	0	6	0	6
On Street		0	0	18	18
Totals		525	638	18	1,181

The above table shows a parking provision of 1,181 spaces. Table 8-4 shows a summary of the parking provision and indicative allocation by use.

Table 8-4 Parking Allocation Summary

Component	Parking Spaces
Residential	838
Retail	275
Car Wash/ Retail	6
Office	62
Total	1,181

Table 8-5 shows the ITP parking rates.

Table 8-5 ITP Parking Rates

Component	ITP Parking Rate	
Bedsit	0.5	Per bedsit
1 bedroom apartment	0.64	Per Apartment
2 bedroom apartment	1.0	Per Apartment
3 bedroom apartment	1.5	Per Apartment
Office	2.5	Per 100qsm leasable
Retail	3.5	Per 100qsm leasable
Supermarket	4	Per 100qsm leasable

Compared with the earlier scheme, the office component has been reduced while a component of medical consulting suites is now proposed for which a parking rate of 3.5 spaces per 100 square metres has been adopted.

Application of the above parking rates to the proposed development indicates a parking provision of around 1,054 spaces which is satisfied by the proposed provision of around 1,181 spaces.

The preceding shows that the overall parking provision of around 1,181, as shown by the development plans TP12, TP13, TP14 and TP15 dated 27th October 2017, satisfies the overall ITP parking provision requirement of 1,054 spaces with a surplus of around 127 spaces.

Table 8-6 shows a comparison of the ITP parking rates parking (Table 8-5) and an indicative parking allocation.

Table 8-6 Comparison of ITP Parking and Indicative Parking Allocation

Component	ITP Rates Parking	Allocation	Change
Dwellings: 1 or 2 bedroom	645	826	+ 181
Dwellings: 3 bedroom	12	12	0
Medical	19	0	-19
Office	63	62	-1
Shop	197	161 @	-36
Supermarket	118	120	+2
Totals	1,054	1,181	+127

@: includes 138 basement 1 spaces, 18 on-street and 6 car wash spaces

The preceding table shows that the indicative parking allocation, as shown by the development plans TP12, TP13, TP14 and TP15 dated 27th October 2017, is generally in accordance with the component ITP parking provision requirements.

It is concluded that the overall parking provision and the indicative parking allocation are generally in accordance with the ITP parking rates, and that a practical parking outcome is achieved.

The medical consulting suite parking requirement for around 19 spaces is expected to occur during regular business hours, Monday to Friday. This demand would be satisfied through the sharing of the shop parking provision.

9 Traffic Considerations

9.1 Traffic Impact

A detailed assessment of the traffic impacts of the EBV Development Plan was undertaken as part of the Integrated Transport Plan prepared by Cardno. The assessment determined that the road network would continue to operate satisfactorily following full development of the EBV Development Plan area.

The peak hour traffic generation forecast for the full EBV Development Plan yield, as documented in Integrated Transport Plan (ITP) prepared by Cardno, is compared against the currently proposed overall development yield in Table 9-1 below.

It is noted that the traffic generation rates used in the ITP had been specifically agreed upon prior to undertaking the assessment. These rates are replicated below and used for the assessment conducted herein. As there was no medical centre use assessed in the ITP, the peak hour traffic generation was calculated by first principle as follows:

- > 19 car parking spaces required for medical centre use by Planning Scheme;
- > It is assumed that the medical centre will be staffed by no more than six practitioners at any one time, all of whom are allocated a car parking space (six spaces total). It is also assumed that practitioners will not make trips in the peak hour periods;
- > It is assumed that the remaining twelve car parking spaces provided for patients will turnover twice an hour (assumed 30 minute appointments). This gives a trip generation rate of four vehicles per hour per space (two trips in, two trips out);
- > 13 spaces x 4vph = 52vph total. This is considered to be a conservative estimate, as it is likely that trips to the medical centre would be part of a multi-purpose trip (i.e. customers may visit the supermarket/shops as well).

Table 9-1 Traffic Generation Comparison

Component	ITP Peak Hour Trip Rate	ITP Assessment		Current Proposal		Difference (Peak Hour Trips)
		Yield	Peak Hour Trips	Yield	Peak Hour Trips	
Apartments	0.362 per dwelling	1,050 dwellings	380vph	788 dwellings	285vph	-95vph
Medical Centre	-	-	-	539.3sq.m	52vph*	+52vph
Office	0.015 per sq.m	7,000sq.m	105vph	2,549.8sq.m	38vph	-67vph
Specialty Retail	0.056 per sq.m	4,000sq.m	224vph	5,638.7sq.m	316vph	+92vph
Supermarket	0.1 per sq.m	3,000sq.m	300vph	2,958.5sq.m	296vph	-4vph
TOTAL	-	-	1,009vph	-	987vph	-22vph

*: Forecast as per first principles assessment above.

Table 9-1 shows that the proposed overall development is forecast to generate in the order of 987 trips during peak hour periods, 22 fewer than estimated in the ITP assessment for the EBV Development Plan area. Given the above, the impact of the proposal on the surrounding road network will be less than that of the EBV Development Plan, which was determined to be satisfactory.

9.2 Development Traffic Distribution to John Street

Further to the above, the traffic assessment conducted within the ITP limited traffic accessing John Street from the subject development to 1,000vpd, which is equivalent to 100 peak hour trips. The traffic distribution for the John Street access locations was calculated to assess whether or not the proposed development is still consistent with this requirement. The quantity of traffic that will utilise the John Street access was calculated as follows:

- > There are 262 residential car parking spaces within the John Street basement car park area, which are to have access via the John Street crossovers available, along with access via Nicholson Street;
- > As the traffic generation rates utilised in the ITP traffic assessment were based upon the number of dwellings, a traffic generation rate was calculated based upon the number of associated car parking spaces;
- > Residential traffic generation = 295vph/851 car parking spaces = 0.35vph per car parking space;
- > 262 car parking spaces x 0.35vph per car parking space = 92vph. This is equivalent to around 917 vehicles per day.

The calculations above show that around 917vpd are forecast to use the John Street development accesses, which is less than the 1,000vpd cap. Allowing only vehicles associated with the west residential car parking to have access to John Street guarantees a traffic distribution outcome that accords with the ITP requirement for not more than 1,000 vehicle movements per day from the subject development accessing John Street. The herein estimated 917 vehicle movements per day via John Street is a conservative upper bound estimate, as vehicles accessing the John Street basement residential car parking also have the option to access via Nicholson Street.

It is reiterated that only the residential car parking spaces within the John Street basement car park area are to have access available via the John Street crossovers.

9.3 DPO11 Precinct Traffic Discussion

The DPA traffic distribution is consistent with the C92 Panel recommendation that not less than 80 percent of the traffic would access via either Nicholson Street or Glenlyon Road. The intent of this is to ensure that not more than 1,200 DPA generated vehicle movements per day occur via John Street.

Section 8.2 indicates that the full development of the DPA would result in post development traffic volumes in Elm Grove and John Street that are within those anticipated for full development of C92. The current development application is not expected to take up all available traffic capacity, leaving sufficient capacity to accommodate around 80 to 120 apartments with parking accessing via John Street, and the current application does not use Elm Grove leaving most of the Elm Grove capacity for other potential development.

It is noted that a number of the lots located within the non-DPA part of the C92 Amendment area have already been redeveloped/developed as multi-level residential. Traffic from these lots is included within the assessments as part of the *existing* traffic.

The approach adopted in assessing the DPA traffic generation is consistent with the approach adopted by GTA for the C92 Panel Assessment (dated 7th December 2009), which focussed on the traffic generation of the proposed "Neighbourhood Activity Centre". The assessed traffic volumes are both similar and comparable.

The approach adopted in assessing the DPA traffic generation is consistent with the approach adopted by Traffix Group for the C92 Panel Assessment (dated December 2009), which focussed on the traffic generation of the proposed "Neighbourhood Activity Centre". The assessed traffic volumes are both similar and comparable.

It is concluded that the anticipated development traffic is in accordance with the C92 Amendment traffic assessments, and does not prejudice future development within the DP011 area.

10 Conclusions

Based on the foregoing analysis, it is concluded that:

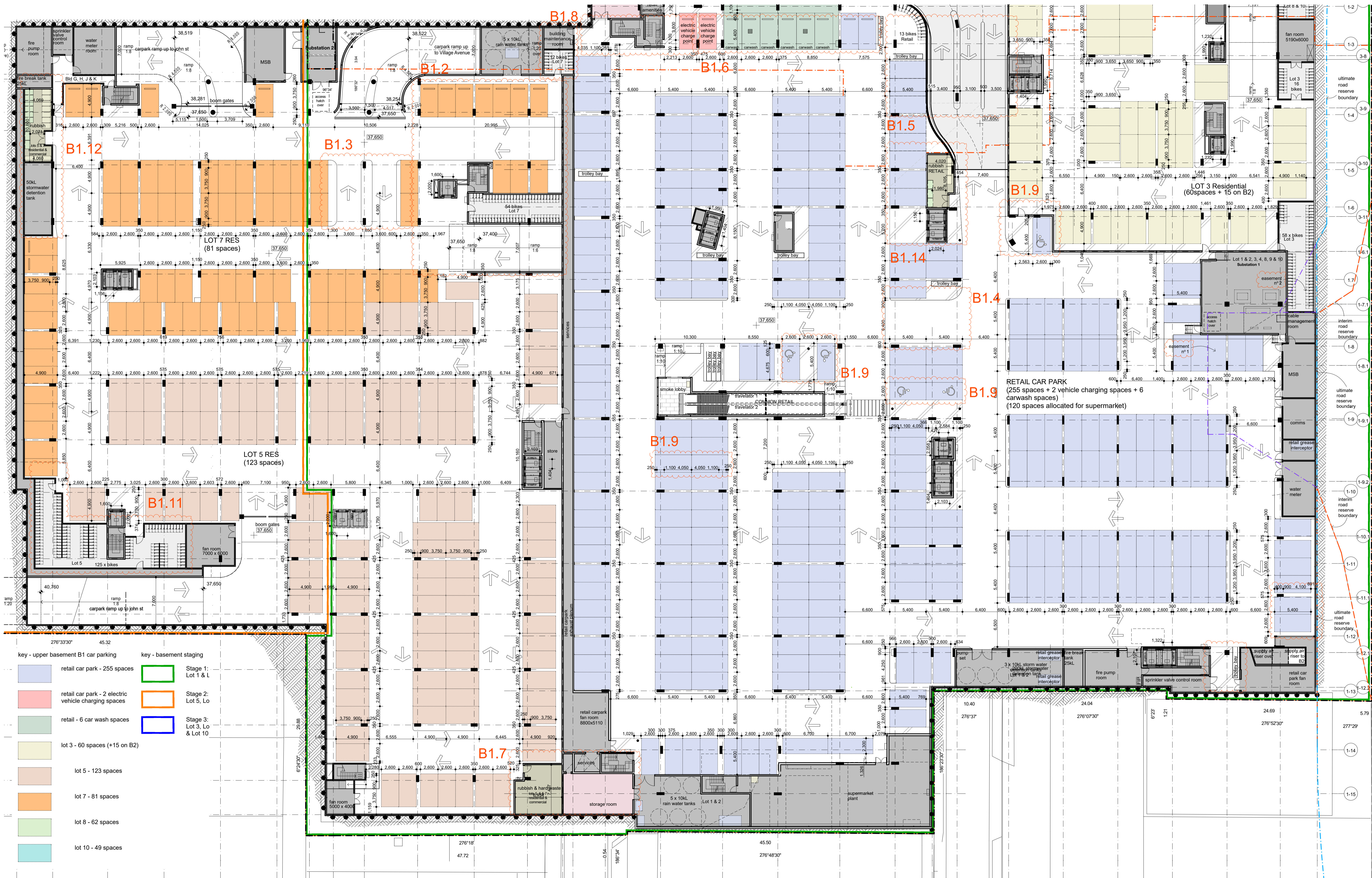
- > It is proposed to develop the site generally in accordance with the East Brunswick Village Development Plan, with most uses (i.e. dwellings, specialty retail, supermarket) generally reducing in number or size;
- > The proposed site access arrangements are generally in accordance with the East Brunswick Village Development Plan, with primary access via a new signalised intersection between the internal access road (Main Street) and Nicholson Street, a left in/left out only access to Nicholson Street, and restricted residential access via two crossovers to John Street;
- > The design of the car parking areas, circulation and access arrangements proposed for the development is generally in compliance with the relevant requirements of Clause 52.06-8 of the Moreland Planning Scheme and AS2890.1;
- > A total of 1,181 car parking spaces are proposed across the site, including 838 resident spaces, 62 office spaces, and 281 spaces for supermarket, specialty retail, and medical centre uses. The proposed car parking provision is sufficient to cater for the anticipated car parking demands associated with the site;
- > The overall parking provision of around 1,181 satisfies the overall ITP parking provision requirement of 1,054 spaces with a surplus of around 127 spaces.
- > A total of 967 bicycle parking spaces are proposed for the development, which exceeds the requirements of Clause 52.34 of the Moreland Planning Scheme;
- > The four loading bays proposed across the site are considered adequate to cater for the loading requirements of the respective tenants. The loading provisions for the site are generally in compliance with the relevant requirements of AS2890.2 and Clause 52.07 of the Moreland Planning Scheme, and are therefore considered to be appropriate;
- > The anticipated development traffic to John Street is well within the bounds identified within the ITP. Only vehicles associated with the west residential car park will have access to John Street;
- > Given that the yield and traffic generation forecast for the proposed development is reduced when compared to that of the East Brunswick Village Development Plan, the impact of traffic generated by the proposal on the surrounding road network will be less than that of the Development Plan, which was determined to be satisfactory.
- > The anticipated development traffic is in accordance with the C92 Amendment traffic assessments, and does not prejudice future development within the DP011 area.

East Brunswick Village

APPENDIX

A

BASEMENT CAR PARKING LAYOUT

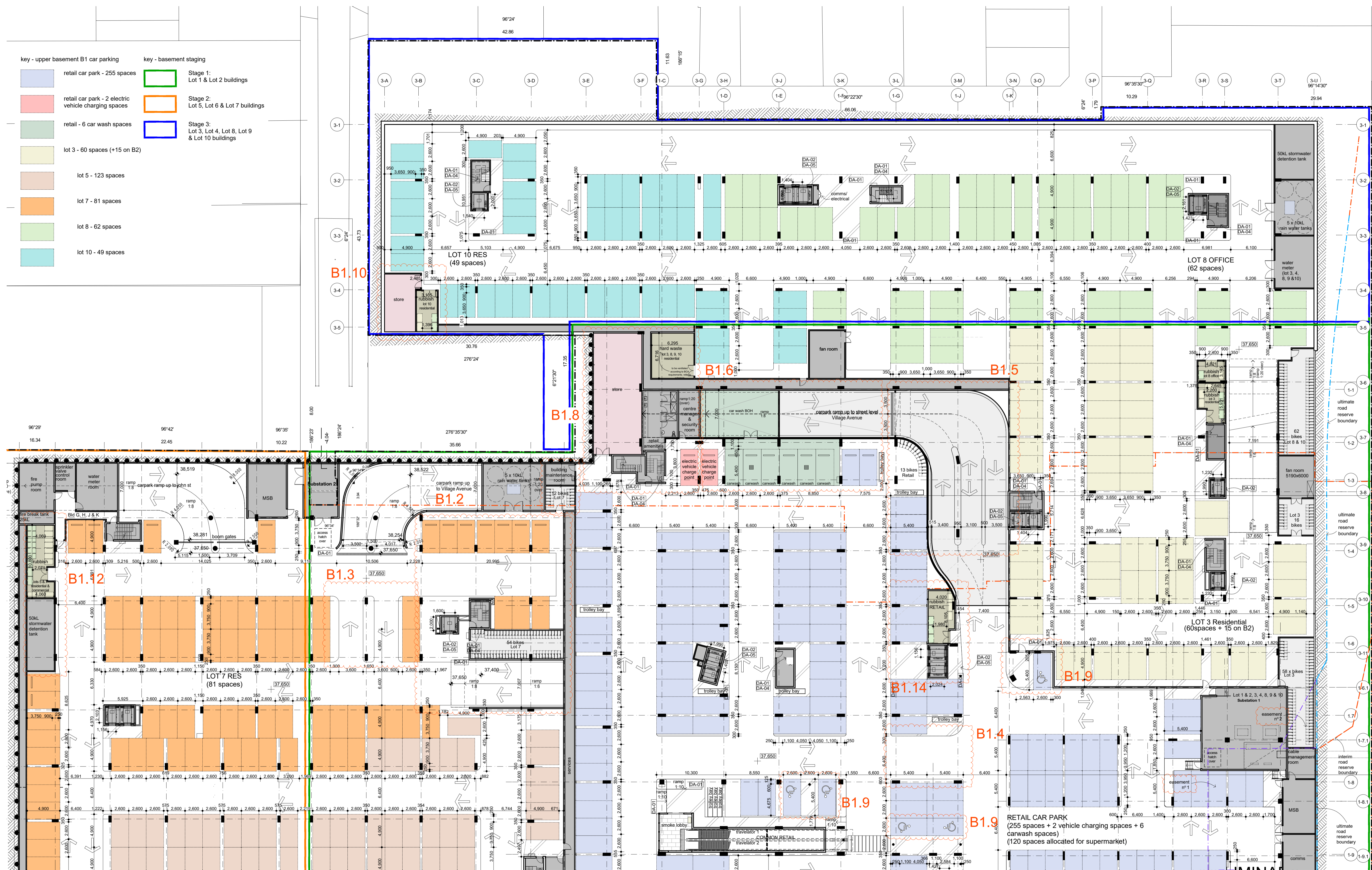


- key - upper basement B1 car parking
- retail car park - 255 spaces
 - retail car park - 2 electric vehicle charging spaces
 - retail - 6 car wash spaces
 - lot 3 - 60 spaces (+15 on B2)
 - lot 5 - 123 spaces
 - lot 7 - 81 spaces
 - lot 8 - 62 spaces
 - lot 10 - 49 spaces
- key - basement staging
- Stage 1: Lot 1 & L
 - Stage 2: Lot 5, Lo
 - Stage 3: Lot 3, Lo & Lot 10

basement 1 detail plan
 scale 1:250

B1.1. Removed all small storage rooms and over-burner stores
 B1.2. Relocated ramp to lower basement from west basement
 B1.3. Reconfiguration of Lot 7 car parking
 B1.4. Reconfiguration of retail car parking to improve traffic circulation
 B1.5. Redesignated retail exit ramp to increase head clearance
 B1.6. Relocated Car Wash, added BOH to car wash
 B1.7. Removed bike room and added hard rubbish room and services storage
 B1.8. Reconfiguration of retail amenities and added centre management & security room
 B1.9. Relocated disabled car parking
 B1.10. Removed storage room and relocated lot 10 bin room

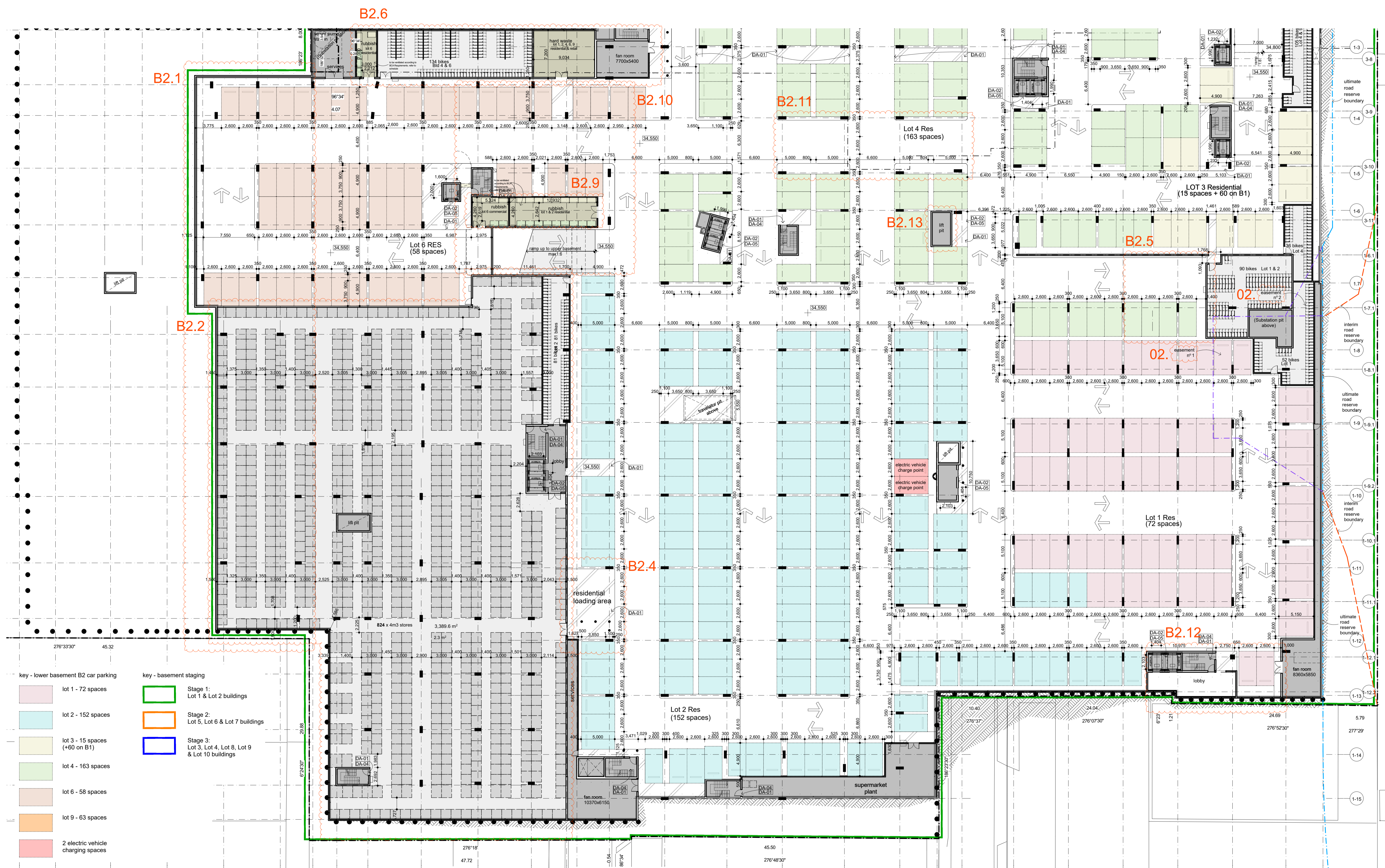
B1.11. Removed storage room and replaced it with relocated lot 5 bike room
 B1.12. Relocation and reconfiguration of lot 5 & 7 bin rooms
 B1.13. Rotated lot 4 lift



basement 1 detail plan
scale 1:250

This plan has been endorsed to detail staging only and does not constitute endorsement of design details, including but not limited to, floor layouts, setbacks, road works, landscaping and open space.

- B1.1. Removed all small storage rooms and over-bonnet stores
- B1.2. Relocated ramp to lower basement from west basement
- B1.3. Reconfiguration of lot 7 car parking
- B1.4. Reconfiguration of retail car parking to improve traffic circulation
- B1.5. Redesign retail exit ramp to increase head clearance
- B1.6. Relocated Car Wash, added BOH to car wash
- B1.7. Removed bike room and added hard rubbish room and services storage
- B1.8. Reconfiguration of retail amenities and added centre management & security room & added hard rubbish room
- B1.9. Relocated disabled car parking
- B1.10. Removed storage room and relocated lot 10 bin room
- B1.11. Removed storage rooms and replaced it with relocated lot 5 bike room
- B1.12. Relocation and reconfiguration of lot 5 & 7 bin rooms
- B1.13. Relocated lot 4 lift



- key - lower basement B2 car parking
- lot 1 - 72 spaces
 - lot 2 - 152 spaces
 - lot 3 - 15 spaces (+60 on B1)
 - lot 4 - 163 spaces
 - lot 6 - 58 spaces
 - lot 9 - 63 spaces
 - 2 electric vehicle charging spaces

- key - basement staging
- Stage 1: Lot 1 & Lot 2 buildings
 - Stage 2: Lot 5, Lot 6 & Lot 7 buildings
 - Stage 3: Lot 3, Lot 4, Lot 8, Lot 9 & Lot 10 buildings

basement 2 detail plan
scale 1:250

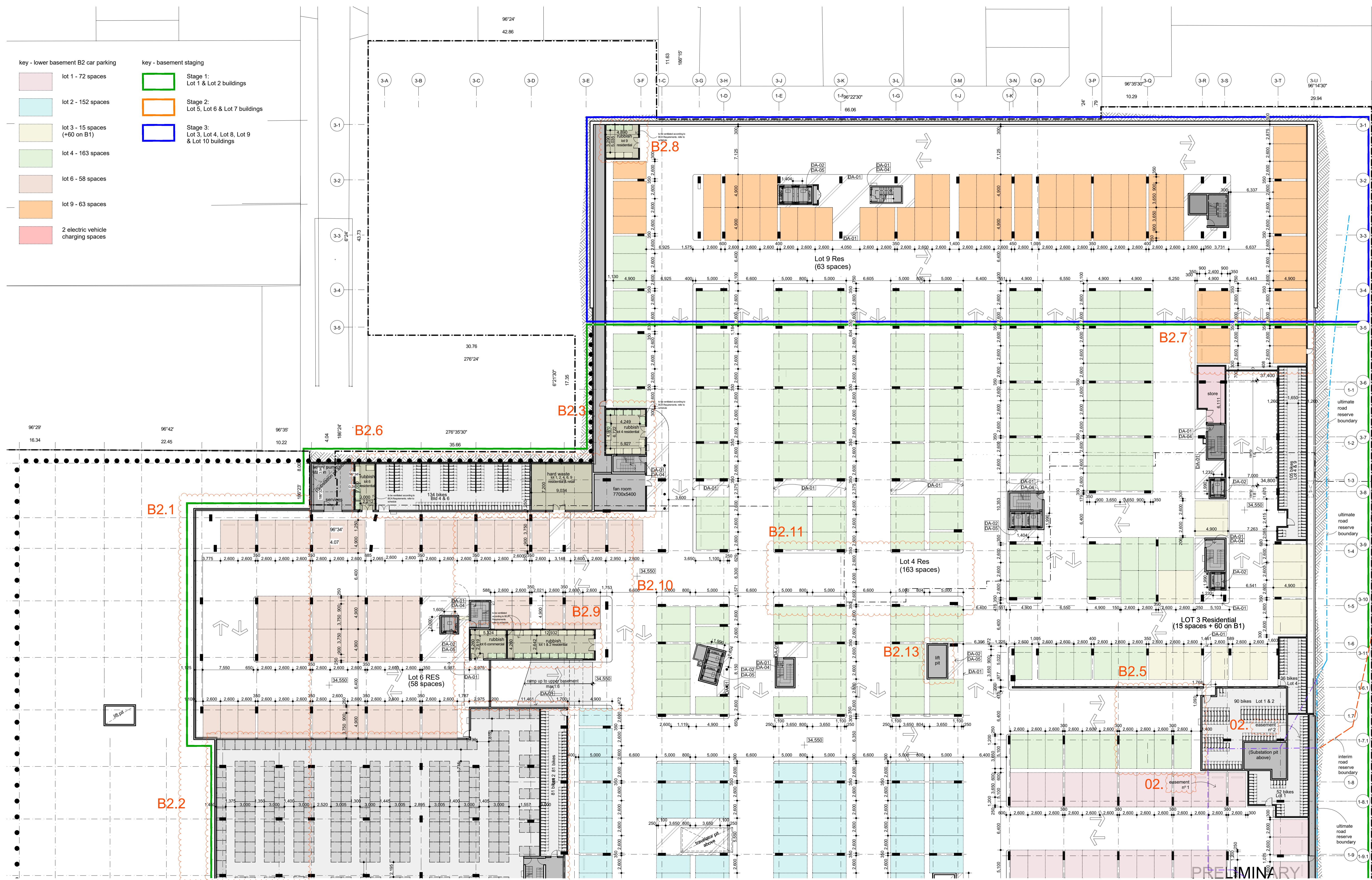
B2.1 Extended basement to the west
B2.2 Removed all small storage rooms and over-horned stores and combined all development storage cages into extended storage room, reconfiguration of storage cages
B2.3 Relocated Lot 4 bin room
B2.4 Extended storage loading area and reconfiguration of Lot 2 car spaces
B2.5 Removed storage room and added Lot 1 car spaces
B2.6 Removed storage room and replaced it with added hard waste room, relocated lot 4 & 6 bike room and lot 6 bin room
B2.7 Relocated Lot 9 bin room closer to Lot 9 car spaces, reconfiguration of lot 9 car parking
B2.8

B2.9 Removed bike room and relocated Lot 1 and Lot 2 bin rooms
B2.10 Relocated west basement ramp to upper basement, reconfiguration of Lot 6 car parking
B2.11 Reconfiguration of Lot 4 car spaces to match ramp relocation changes
B2.12 Added Lot 1 residential lift lobby, reconfiguration of car spaces
B2.13 Relocated lot 4 lift pit

Note:
Basement water tank capacities total 190KL

PRELIMINARY
JAMRCHITECTS®





- key - lower basement B2 car parking
- lot 1 - 72 spaces
 - lot 2 - 152 spaces
 - lot 3 - 15 spaces (+60 on B1)
 - lot 4 - 163 spaces
 - lot 6 - 58 spaces
 - lot 9 - 63 spaces
 - 2 electric vehicle charging spaces
- key - basement staging
- Stage 1: Lot 1 & Lot 2 buildings
 - Stage 2: Lot 5, Lot 6 & Lot 7 buildings
 - Stage 3: Lot 3, Lot 4, Lot 8, Lot 9 & Lot 10 buildings

basement 2 detail plan

scale 1:250
 This plan has been endorsed to detail staging only and does not constitute endorsement of design details, including but not limited to, floor layouts, setbacks, road works, landscaping and open space.

PROJECT/ PROPOSED MIXED USE DEVELOPMENT
DRAWING/ BASEMENT 2 DETAIL PLAN PART B
CLIENT/ BANARAS CONSTRUCTION MANAGEMENT & DEVELOPMENT PTY LTD
ADDRESS/ 149 & Part 127-139 NICHOLSON STREET, EAST BRUNSWICK, VIC

SCALE/
DATE/ 27/10/2017
LEVEL 2
 7 HOWARD STREET RICHMOND VICTORIA 3121 AUSTRALIA

JAM ARCHITECTS PTY LTD
 T 61 3 9429 7744 F 61 3 9429 3955
 jamarchitects.com.au

JAM ARCHITECTS
TP13
 JOB NUMBER/ 1416
 REVISION/ O - 27.10.17

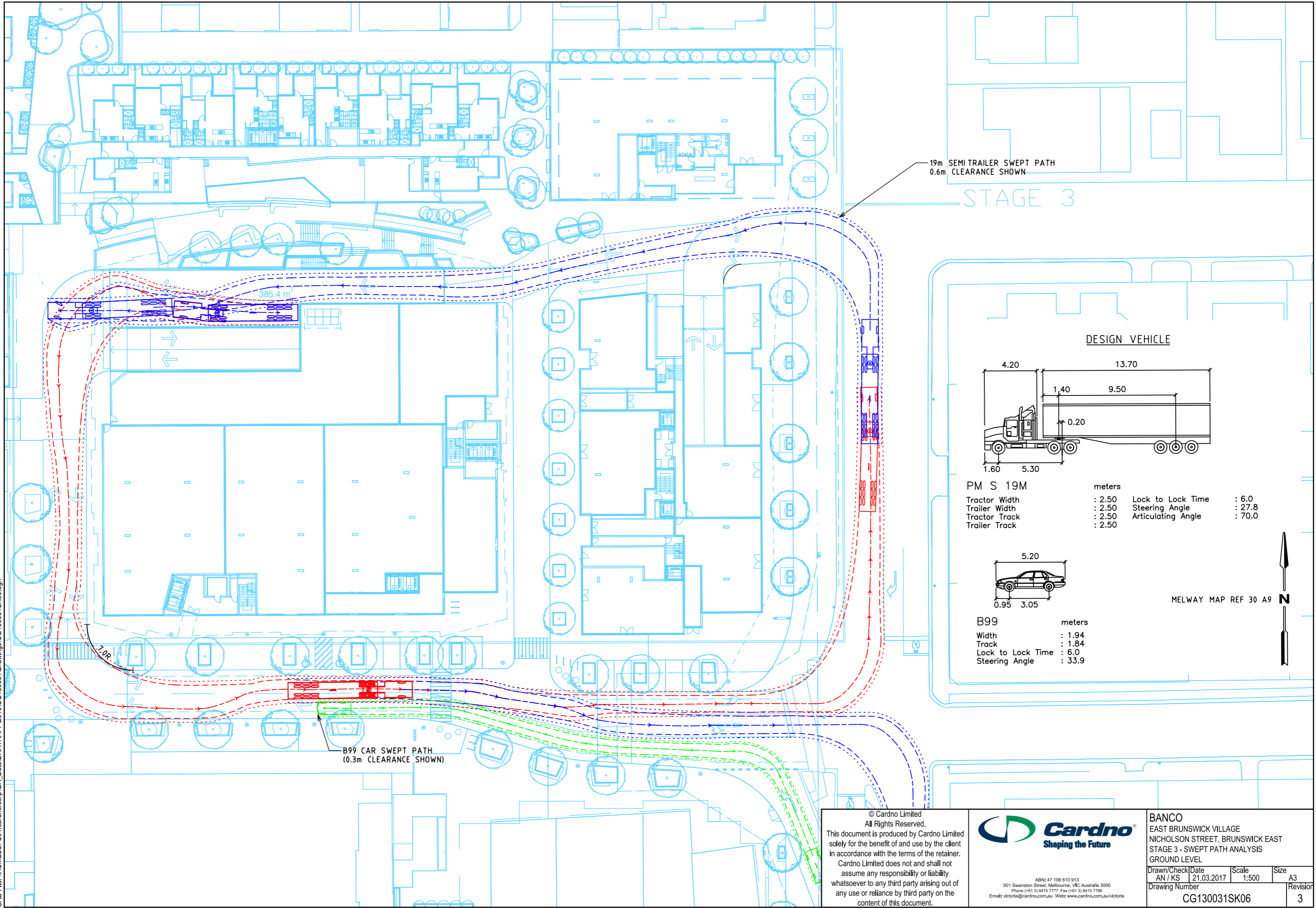
- B2.1: Extended basements to the west
- B2.2: Removed all small storage rooms and over-hoist stores and combined all development storage cages into extended storage room, reconfiguration of storage cages
- B2.3: Relocated Lot 4 bin room
- B2.4: Extended storage loading area and reconfiguration of Lot 2 car spaces
- B2.5: Removed storage room and added Lot 1 car spaces
- B2.6: Removed storage room and replaced it with added hard waste room, relocated lot 4 & 6 bike room and lot 6 bin room
- B2.7: Removed storage room and replaced it with relocated lot 4 & 9 bike room
- B2.8: Relocated Lot 9 bin room closer to Lot 9 car spaces, reconfiguration of lot 9 car parking
- B2.9: Relocated bike room and relocated Lot 1 and Lot 2 bin rooms
- B2.10: Relocated west basement ramp to upper basement, reconfiguration of Lot 6 car parking
- B2.11: Reconfiguration of Lot 4 car spaces to match ramp relocation changes
- B2.12: Relocated Lot 1 residential lift lobby, reconfiguration of car spaces
- B2.13: Relocated lot 4 lift pit

East Brunswick Village

APPENDIX

B

SWEPT PATH DIAGRAMS

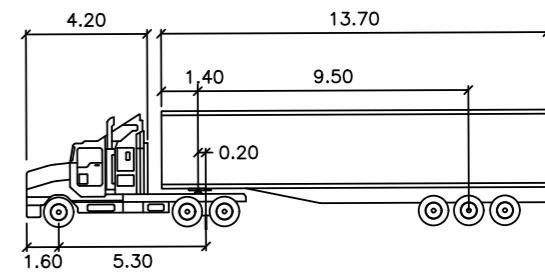


19m SEMI TRAILER SWEEP PATH
0.6m CLEARANCE SHOWN

STAGE 3

385.4 m²

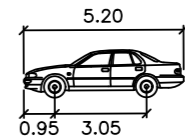
DESIGN VEHICLE



PM S 19M

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



B99

meters

Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

MELWAY MAP REF 30 A9 N

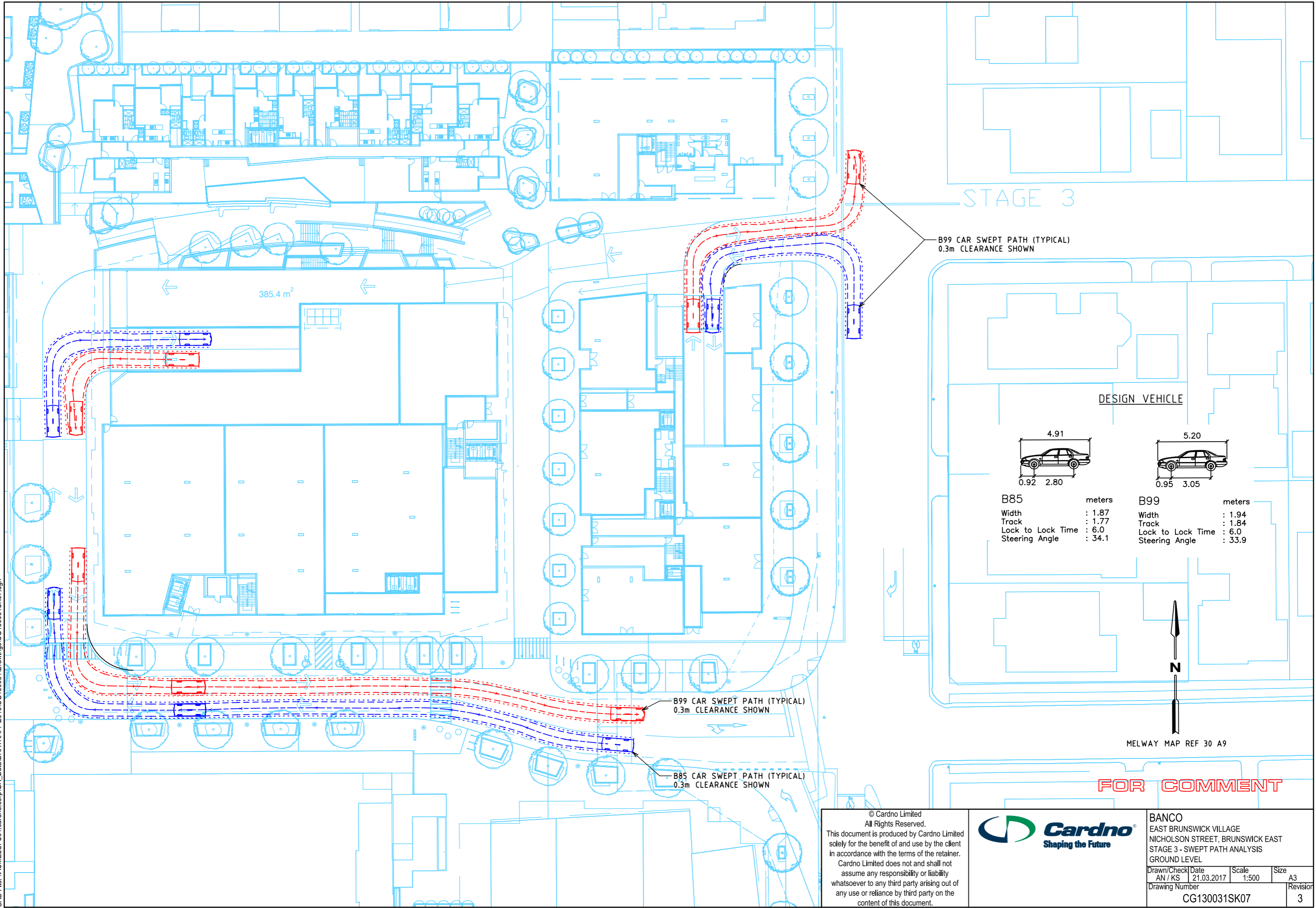


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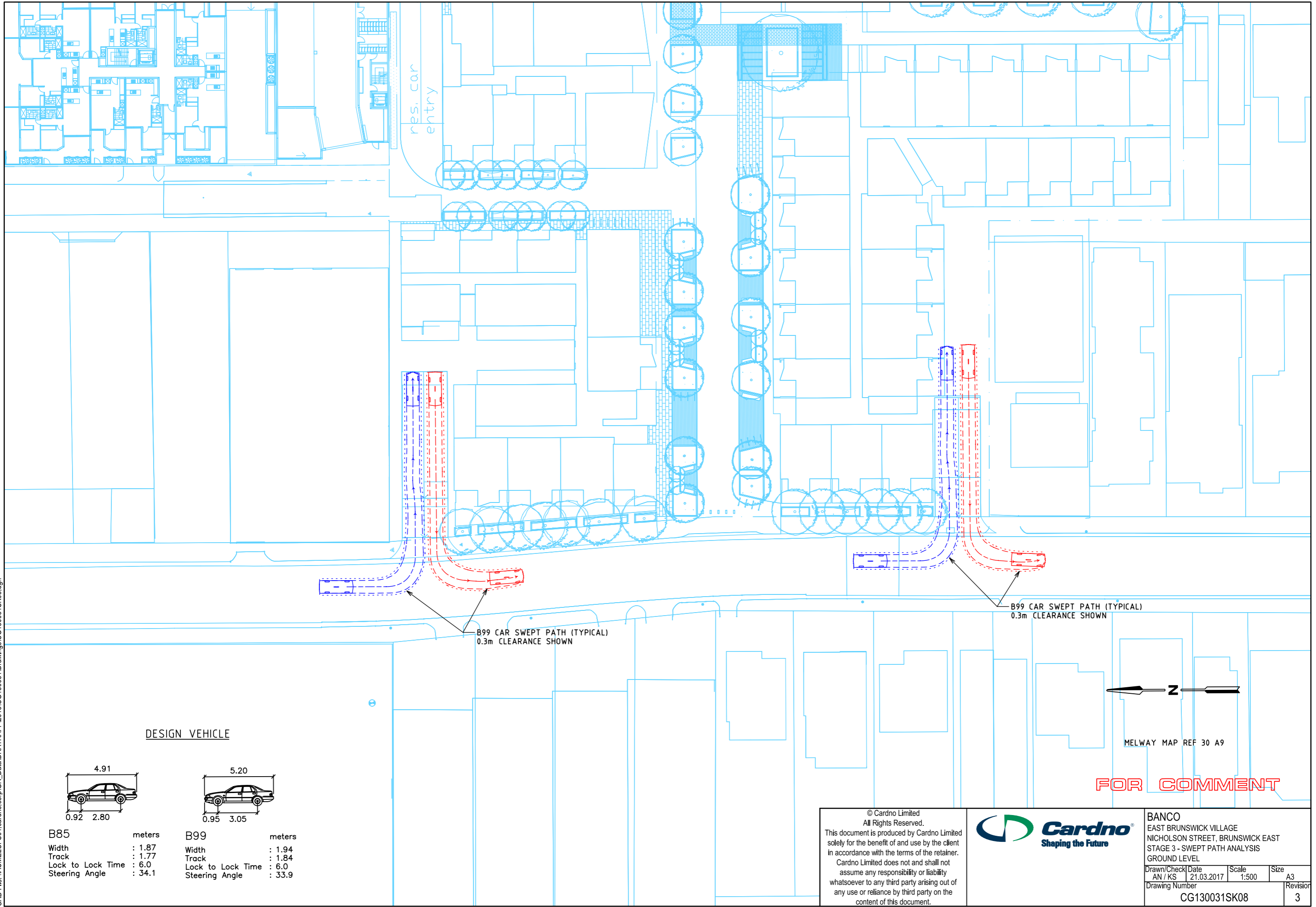
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Drawn/Check/Date	Scale	Size	
AN / KS 21.03.2017	1:500	A3	
Drawing Number	Revision		
CG130031SK06	3		



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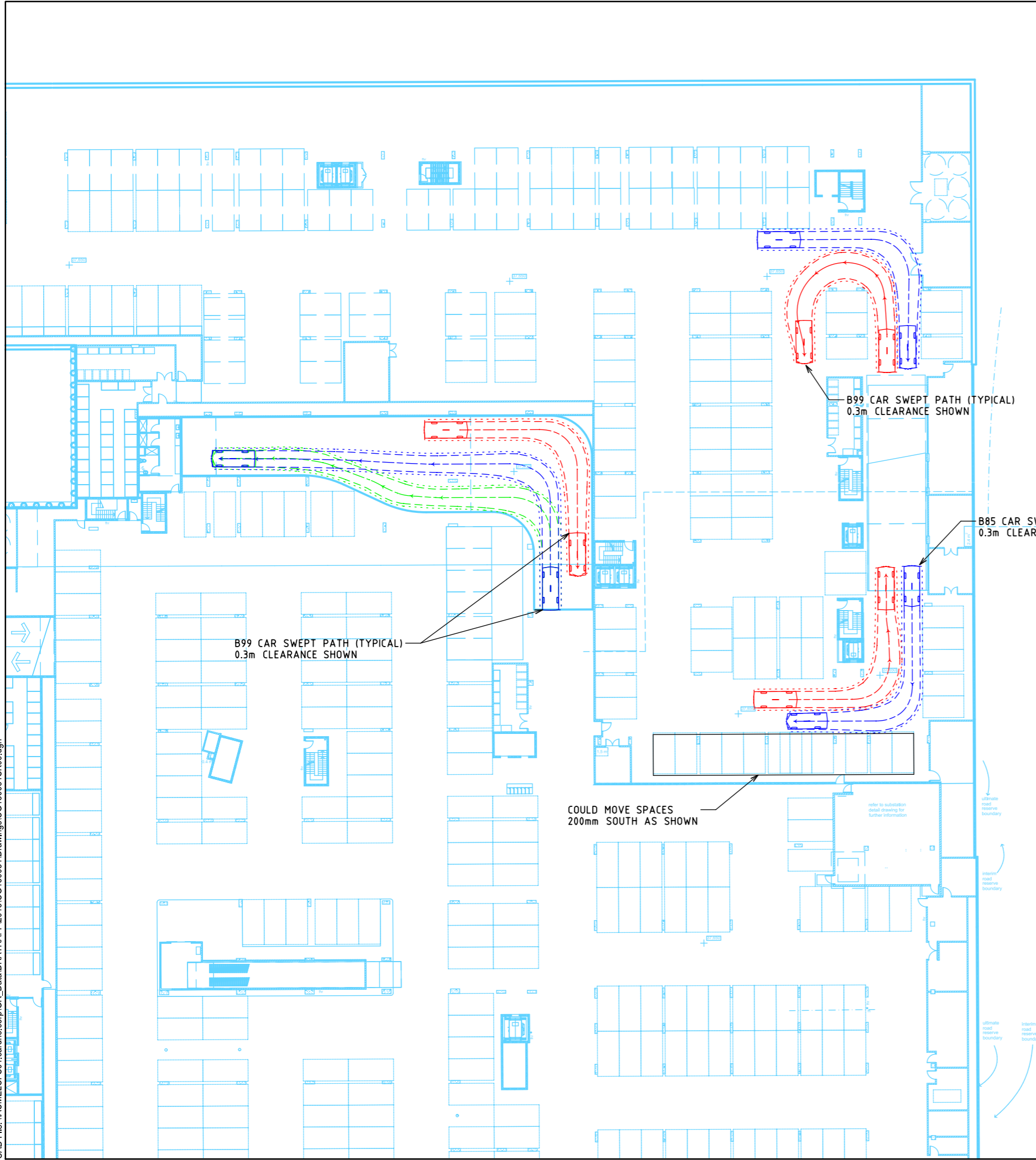
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EAST BRUNSWICK VILLAGE			
NICHOLSON STREET, BRUNSWICK EAST			
STAGE 3 - SWEPT PATH ANALYSIS			
GROUND LEVEL			
Drawn/Check	Date	Scale	Size
AN / KS	21.03.2017	1:500	A3
Drawing Number			Revision
CG130031SK07			3



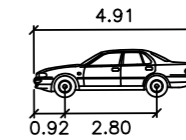
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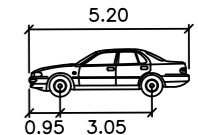
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NICHOLSON STREET, BRUNSWICK EAST			
STAGE 3 - SWEEP PATH ANALYSIS			
GROUND LEVEL			
Drawn/Check	Date	Scale	Size
AN / KS	21.03.2017	1:500	A3
Drawing Number			Revision
CG130031SK08			3



DESIGN VEHICLE



B85 meters
 Width : 1.87
 Track : 1.77
 Lock to Lock Time : 6.0
 Steering Angle : 34.1



B99 meters
 Width : 1.94
 Track : 1.84
 Lock to Lock Time : 6.0
 Steering Angle : 33.9



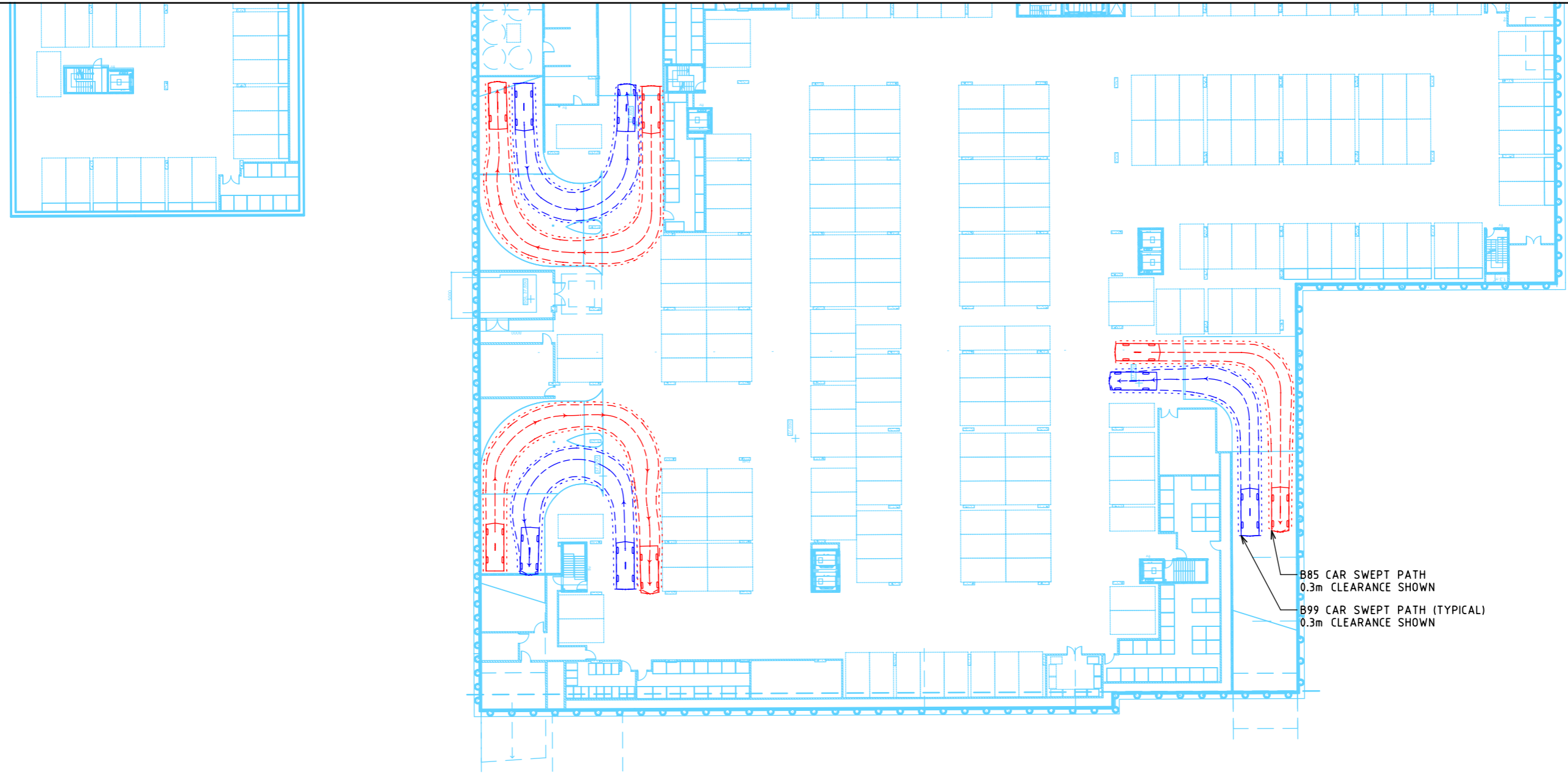
MELWAY MAP REF 30 A9

FOR COMMENT

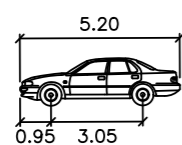
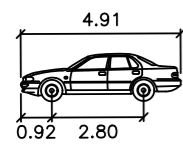
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BANCO			
EAST BRUNSWICK VILLAGE			
NICHOLSON STREET, BRUNSWICK EAST			
STAGE 3 - SWEEP PATH ANALYSIS			
BASEMENT 1 LEVEL			
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AN / KS	20.03.2017	1:500	A3
Drawing Number			Revision
CG130031SK09			3



DESIGN VEHICLE



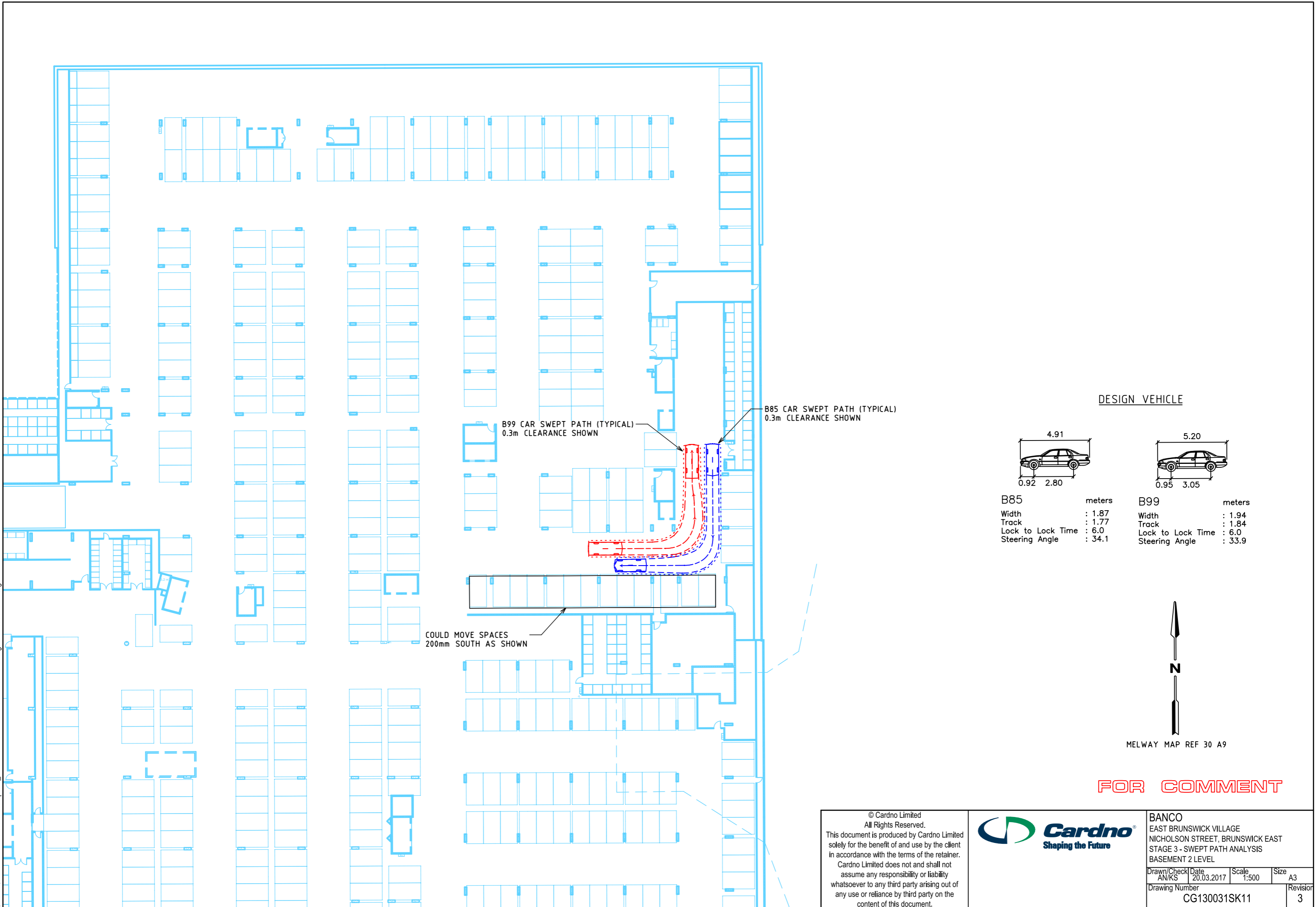
Vehicle	Width (meters)	Track (meters)	Lock to Lock Time (meters)	Steering Angle (degrees)
B85	4.91	1.87	6.0	34.1
B99	5.20	1.94	6.0	33.9



MELWAY MAP REF 30 A9

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Drawing Number				Revision	
CG130031SK10				3	

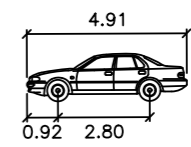


B99 CAR SWEEP PATH (TYPICAL)
0.3m CLEARANCE SHOWN

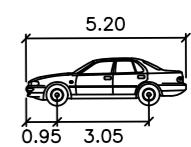
B85 CAR SWEEP PATH (TYPICAL)
0.3m CLEARANCE SHOWN

COULD MOVE SPACES
200mm SOUTH AS SHOWN

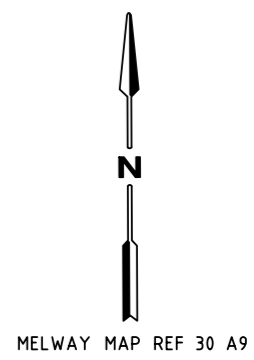
DESIGN VEHICLE



B85 meters
Width : 1.87
Track : 1.77
Lock to Lock Time : 6.0
Steering Angle : 34.1



B99 meters
Width : 1.94
Track : 1.84
Lock to Lock Time : 6.0
Steering Angle : 33.9



MELWAY MAP REF 30 A9

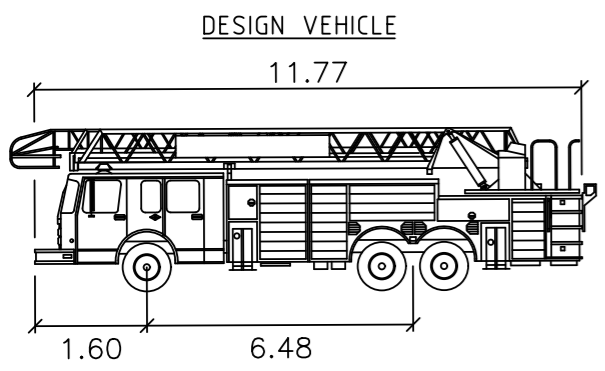
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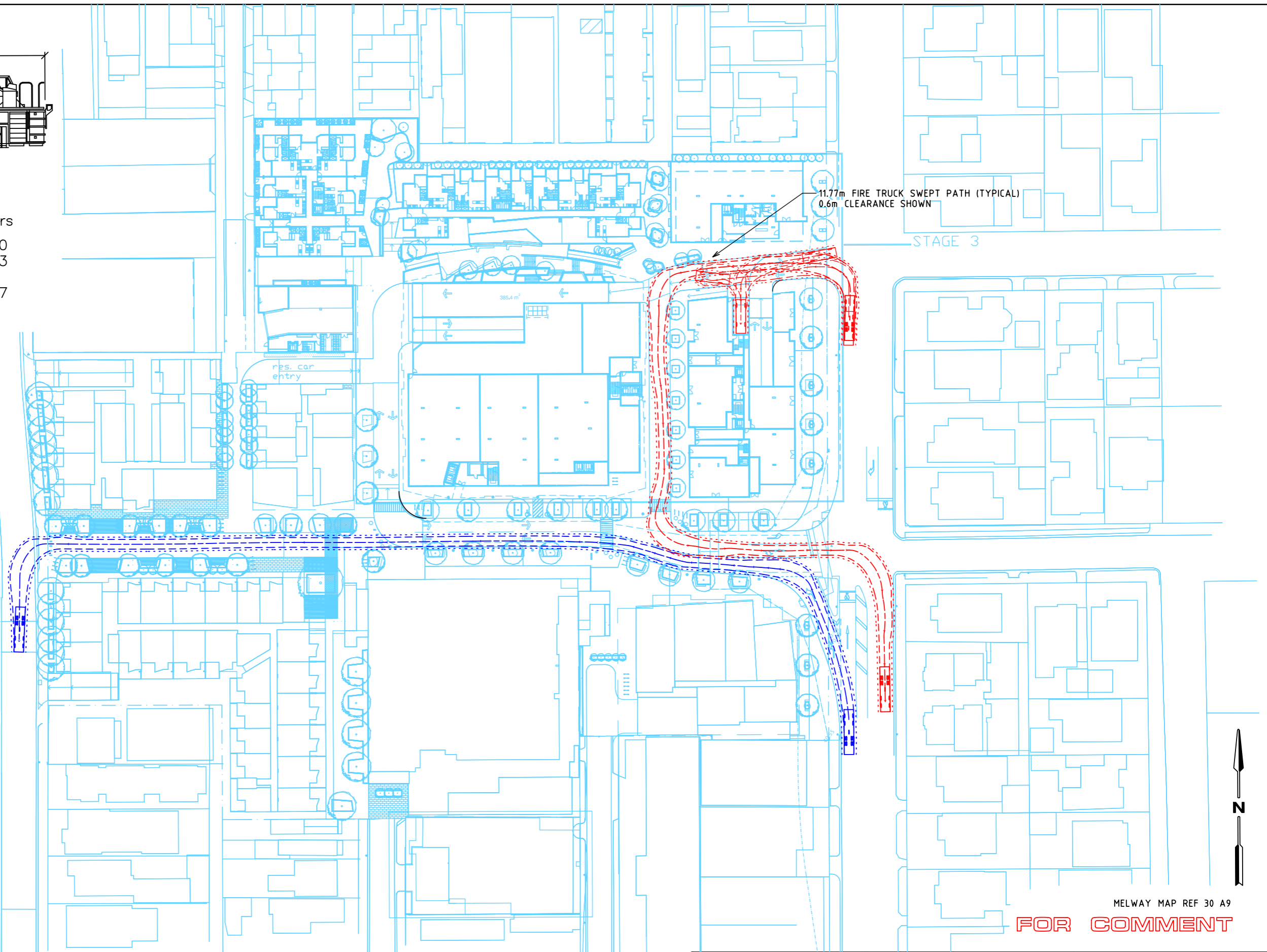


BANCO			
EAST BRUNSWICK VILLAGE			
NICHOLSON STREET, BRUNSWICK EAST			
STAGE 3 - SWEEP PATH ANALYSIS			
BASEMENT 2 LEVEL			
Drawn/Check	Date	Scale	Size
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Drawing Number			Revision
CG130031SK11			3

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DATE PLOTTED: 21/03/2017 11:33:41 AM
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SCANIA P113HLmeters
Width : 2.50
Track : 2.43
Lock to Lock Time : 6.0
Steering Angle : 33.7



11.77m FIRE TRUCK SWEEP PATH (TYPICAL)
0.6m CLEARANCE SHOWN

STAGE 3

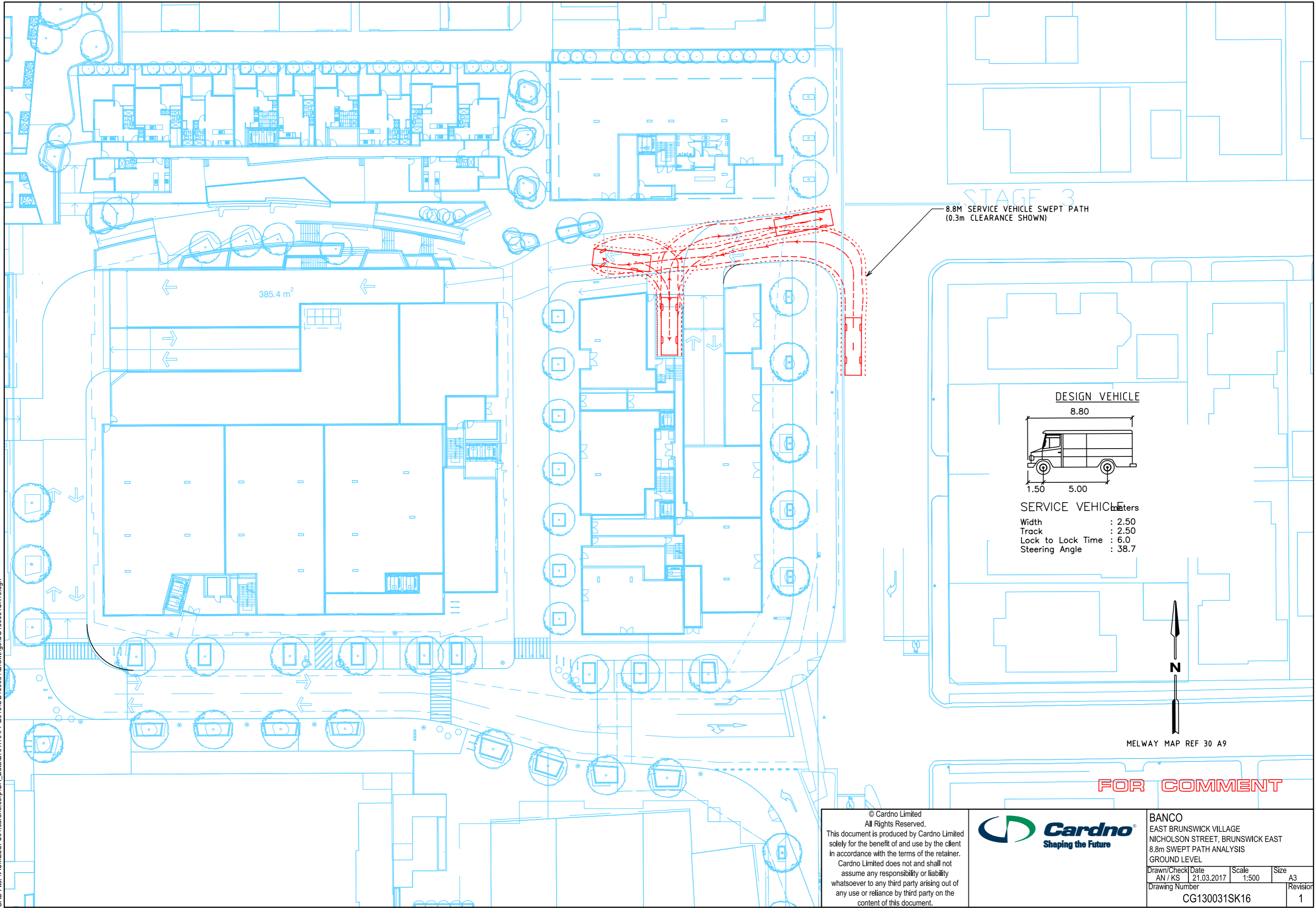
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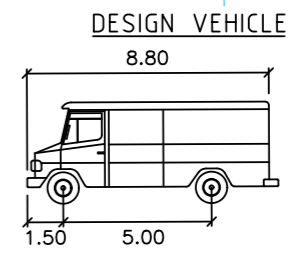
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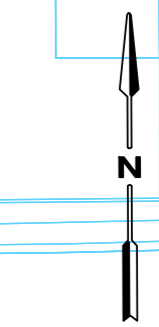
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AN / KS	21.03.2017	1:1000	A3
Drawing Number			Revision
CG130031SK12			2



8.8M SERVICE VEHICLE SWEEP PATH
(0.3m CLEARANCE SHOWN)



SERVICE VEHICLE meters
Width : 2.50
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 38.7



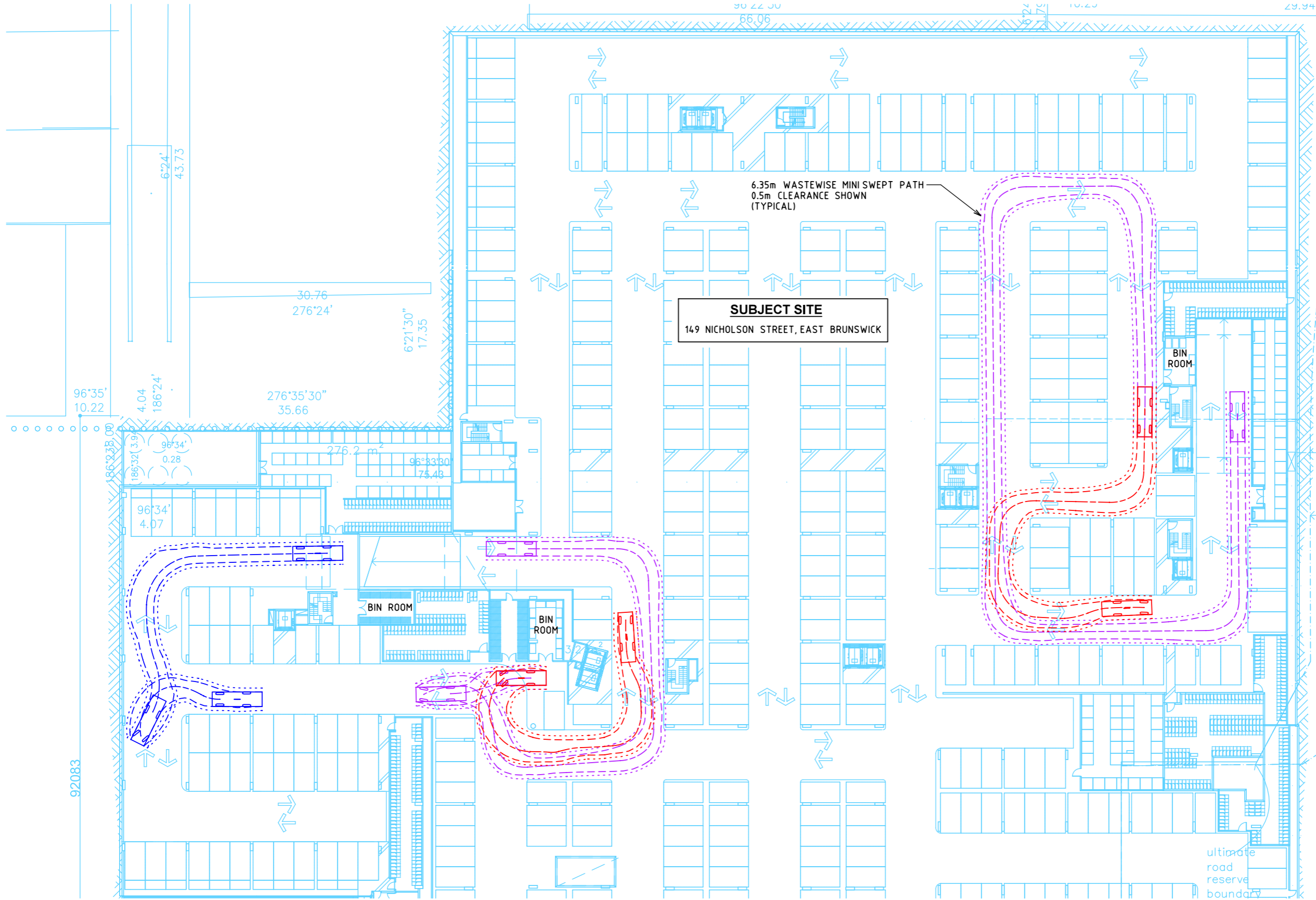
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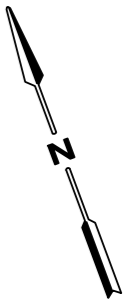
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BANCO			
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NICHOLSON STREET, BRUNSWICK EAST			
8.8m SWEEP PATH ANALYSIS			
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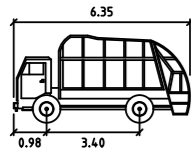


NICHOLSON STREET



MELWAY MAP REF 30 A8

DESIGN VEHICLE



WASTEWISE 6.35 meters

Width	: 1.85
Track	: 1.85
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

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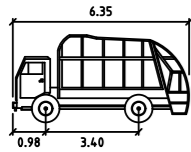


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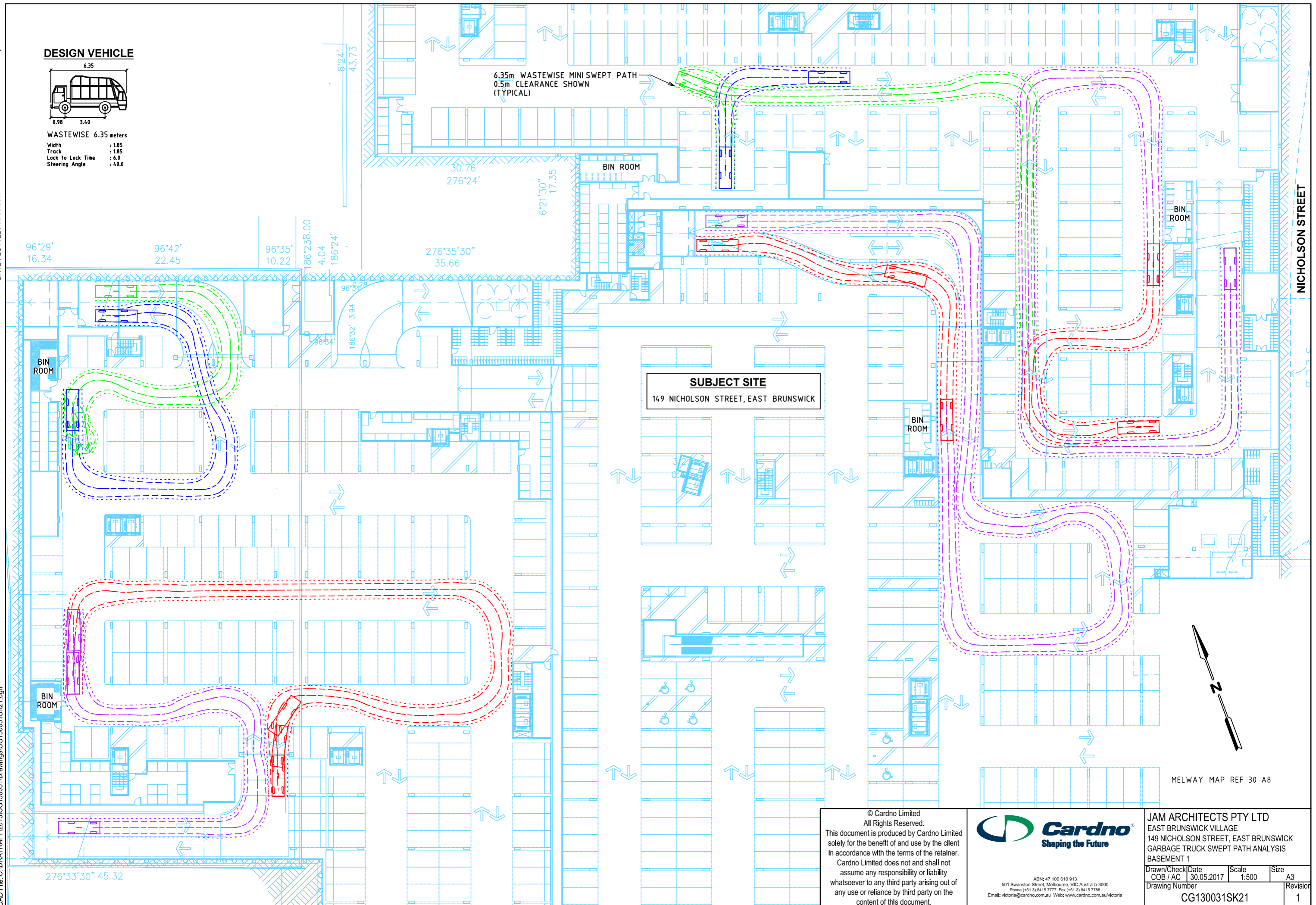
JAM ARCHITECTS PTY LTD			
EAST BRUNSWICK VILLAGE			
149 NICHOLSON STREET, EAST BRUNSWICK			
GARBAGE TRUCK SWEEP PATH ANALYSIS			
BASEMENT 2			
Drawn/Check/Date	Scale	Size	
COB / AC 30.05.2017	1:500	A3	
Drawing Number	Revision		
CG130031SK20			1

BY: User:coney.bowen
DATE PLOTTED: 30/05/2017 5:42:06 PM
CAD File: C:\DRATRAFF\2013\CG130031\Drawings\CG130031SK21.dgn

DESIGN VEHICLE



WASTEWISE 6.35 meters
Width : 1.85
Track : 1.85
Lock to Lock Time : 6.0
Steering Angle : 40.0



6.35m WASTEWISE MINI SWEEP PATH
0.5m CLEARANCE SHOWN
(TYPICAL)

SUBJECT SITE
149 NICHOLSON STREET, EAST BRUNSWICK

MELWAY MAP REF 30 A8

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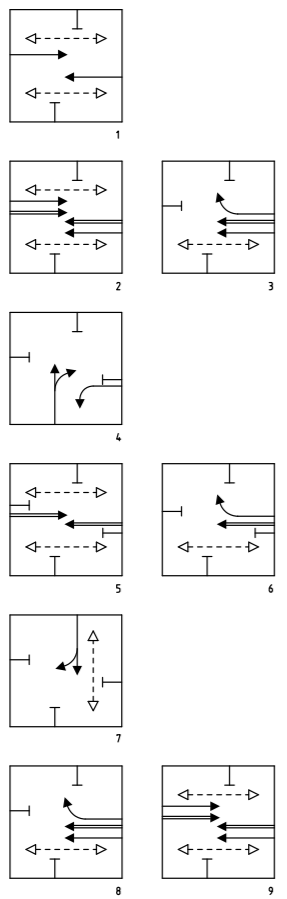
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East Brunswick Village

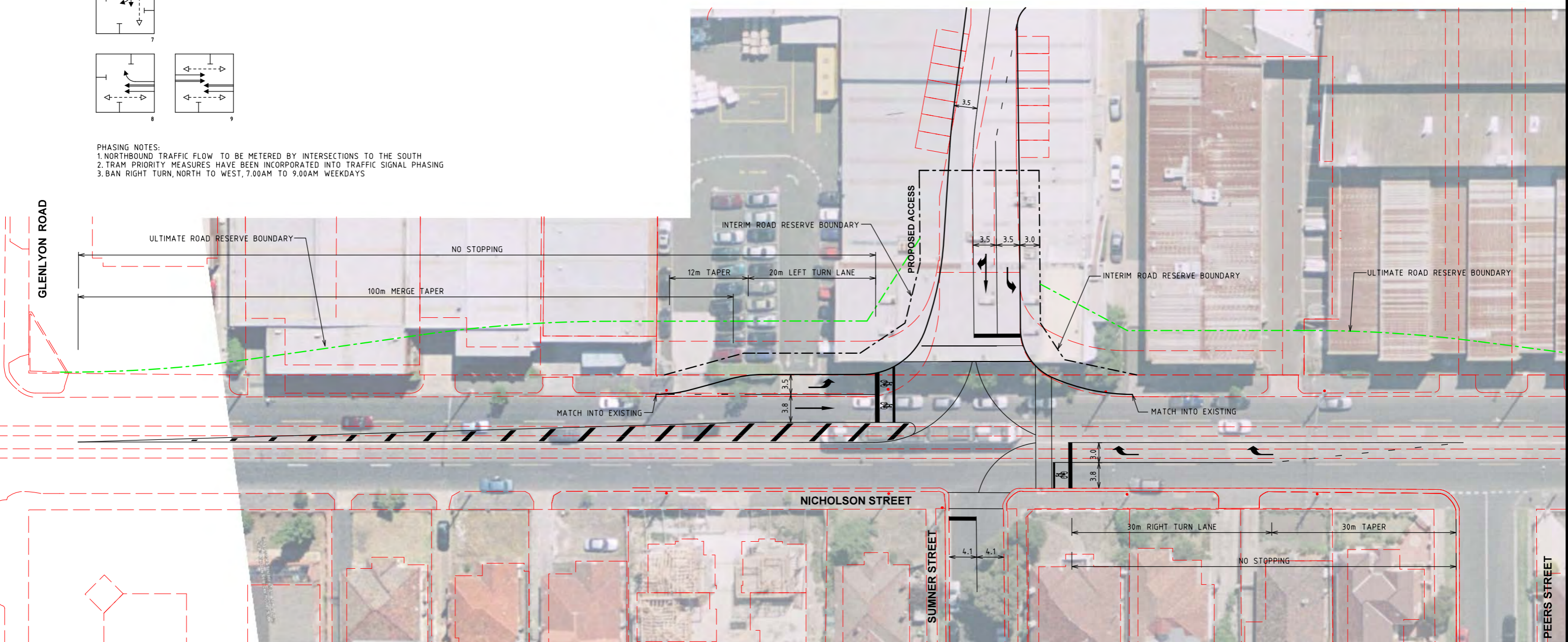
APPENDIX

C

MAIN STREET/NICHOLSON STREET
INTERIM ACCESS LAYOUT



PHASING NOTES:
 1. NORTHBOUND TRAFFIC FLOW TO BE METERED BY INTERSECTIONS TO THE SOUTH
 2. TRAM PRIORITY MEASURES HAVE BEEN INCORPORATED INTO TRAFFIC SIGNAL PHASING
 3. BAN RIGHT TURN, NORTH TO WEST, 7.00AM TO 9.00AM WEEKDAYS



DATE PLOTTED: 11/08/2011 2:18:01 PM BY: jw@cardno.com.au

Rev	Date	Description	Drawn	Appr.	Rev	Date	Description	Drawn	Appr.
P2	11.08.11	AMENDED LANE CONFIGURATION	TCW	AC					
P1	06.07.11	ISSUED FOR INFORMATION	KS	AC					

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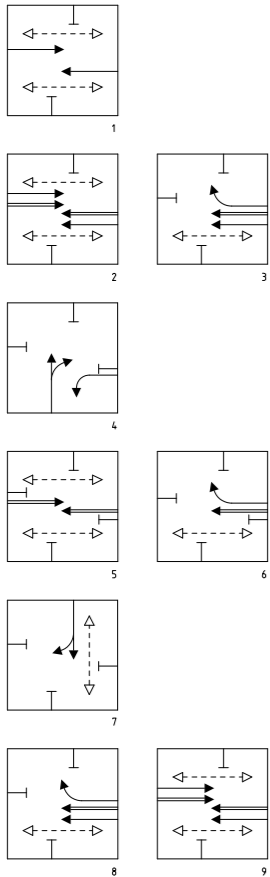
WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE.

GENERAL NOTES
 1. BASE INFORMATION SUPPLIED BY: GODDISON & ASSOCIATES LICENSED SURVEYORS, REF No. 12892
 2. ALL DIMENSIONS TO FACE OF KERB AND CHANGES TO FULL PEDESTAL SURVEY
 3. ALL DIMENSIONS TO FACE OF KERB AND CHANGES TO FULL PEDESTAL SURVEY
 4. ALL DIMENSIONS TO FACE OF KERB AND CHANGES TO FULL PEDESTAL SURVEY
 5. PUBLIC LIGHTING AND TRAFFIC SIGNAL DESIGN SUBJECT TO DETAIL DESIGN STAGE.



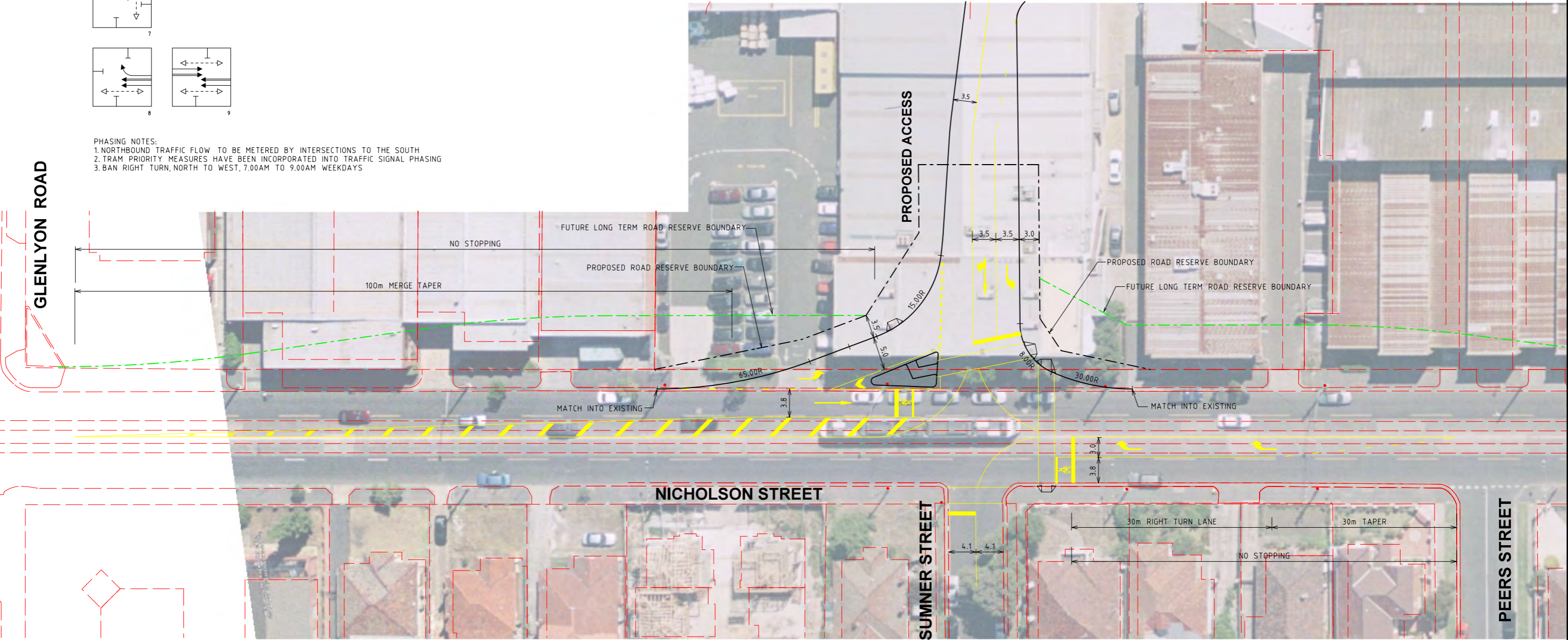
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Designed	TCW
Checked	AC
Authorised	AC

Client	BANCO GROUP OF COMPANIES PTY LTD		
Project	PROPOSED MIXED USE DEVELOPMENT 127 - 137 NICHOLSON STREET BRUNSWICK		
Title	NICHOLSON STREET / SUMMER STREET PROPOSED ACCESS TREATMENT CONCEPT LAYOUT PLAN		
Status	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Date	06.07.11	Scale	1:250
Project Number	CG111076	Sheet Number	T 05
		Revision	P2



PHASING NOTES:
 1. NORTHBOUND TRAFFIC FLOW TO BE METERED BY INTERSECTIONS TO THE SOUTH
 2. TRAM PRIORITY MEASURES HAVE BEEN INCORPORATED INTO TRAFFIC SIGNAL PHASING
 3. BAN RIGHT TURN, NORTH TO WEST, 7.00AM TO 9.00AM WEEKDAYS

GLENLYON ROAD



NICHOLSON STREET

SUMMER STREET

PEERS STREET

Rev	Date	Description	Drawn	Appr.	Rev	Date	Description	Drawn	Appr.
P3	12.07.12	ADDED LEFT TURN LANE	TCW	AC					
P2	11.08.11	AMENDED LANE CONFIGURATION	TCW	AC					
P1	06.07.11	ISSUED FOR INFORMATION	KS	AC					

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 2. ALL DIMENSIONS TO FACE OF KERB U.N.O
 3. NICHOLSON ST SPEED ZONE 60KM/H
 4. PUBLIC LIGHTING AND TRAFFIC SIGNAL DESIGN SUBJECT TO DETAIL DESIGN STAGE.



Drawn	TCW
Designed	TCW
Checked	AC
Authorised	AC

Client: **BANCO GROUP OF COMPANIES PTY LTD**
 Project: **PROPOSED MIXED USE DEVELOPMENT 127 - 137 NICHOLSON STREET BRUNSWICK**
 Title: **NICHOLSON STREET / SUMMER STREET PROPOSED ACCESS TREATMENT CONCEPT LAYOUT PLAN**

PRELIMINARY			
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Date	06.07.11	Scale	1:250
Project Number	CG111076	Sheet Number	T 05
Revision			P3