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22 May 2019

Anne Hollensen
Development Planner
Planning and Building Department
City of Whitehorse
379/397 Whitehorse Road
NUNAWADING VIC
3131

Dear Anne,

Proposed Mixed-Use Development
160 Whitehorse Road, Blackburn
Response to Request for Information

Ratio Consultants has reviewed the correspondence received from the City of Whitehorse, dated 3 May 2019, in response to the application for a mixed-use development on the site located at 160 Whitehorse Road, Blackburn.

We provide the following response to each of the traffic and car parking issues raised:

6. a. Further details of how access to visitor car spaces will be achieved, in particular how visitors who successfully gain access to the basement at the intercom will be allowed through the ticket machine and boom gates, and how, if a visitor finds that the resident is not at home, they will be able to exit the car park without having to pay.

Specific details of how different users will access the site would be outlined within a Car Parking Management Plan (CPMP), which could be prepared as a Condition of Permit.

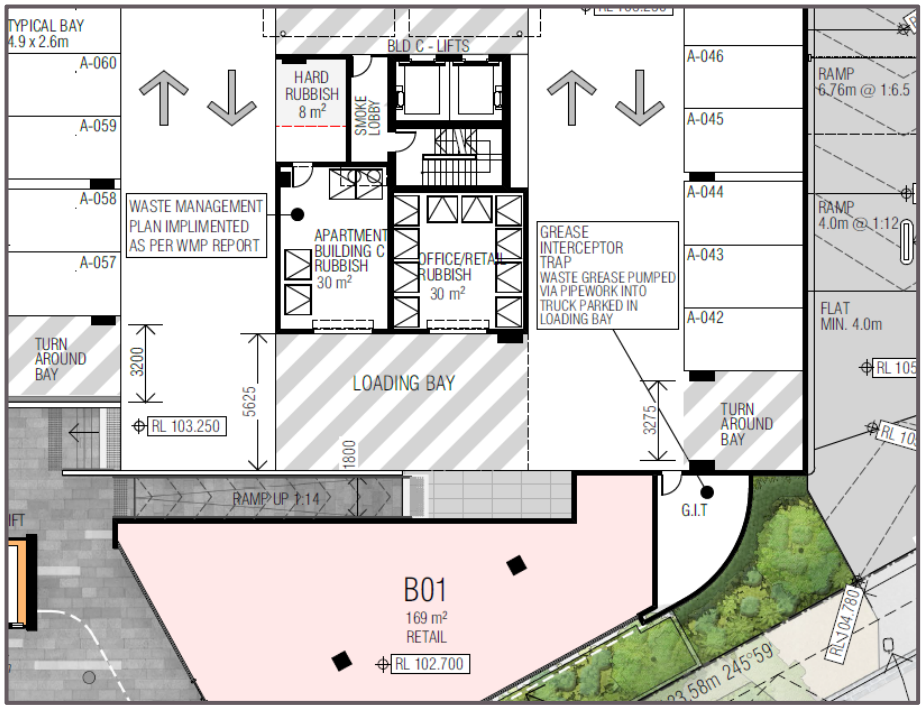
Notwithstanding this, the access arrangements for visitors will generally be as follows:

— Access to visitor car parking spaces would be controlled via the proposed ticketing machine and boom gate during operating hours of the retail tenancies. It is understood from information provided via the Applicant that a graduated parking system will be considered which enables users of the car park to park for free for a certain time period. After this time period users of the public car park (including visitors) would be required to pay.
— Outside of the operating hours of the retail tenancies, residential visitors would access the basement car park via the intercom system.

6. b. Details of how access to waste collection area/grease traps will be achieved by waste collection vehicles (i.e. via the intercom). When propped, the grease removal truck, must not block access to or from car spaces.

The Grease Intercept Trap (GIT) is located near the loading bay within Basement 1, as illustrated in Figure 1 below.

Figure 1: Grease Intercept Trap (GIT)



Grease collection vehicles will be able to prop within the loading bay when collecting grease and accordingly will not block access to or from any car parking spaces.

The grease collection vehicle will be able to access the site via a swipe card or remote-control unit.

6. c. Details of the dimensions of grease collection vehicles and swept path diagrams demonstrating vehicle turning movements and access to grease trap connection points.

The exact dimensions of the grease collection vehicle that accesses the subject site will be dependent on the contractor that is ultimately engaged by the Owners Corporation.

Notwithstanding this, Ratio Consultants has been provided with information from Stows Waste Management (a contractor that offers

grease removal services in Melbourne) which suggests that there are a range of different size vehicles which perform grease removal services.

The smallest of the vehicles in Stows Waste Management's vehicle fleet is the MAZDA T4600 grease removal truck which has a maximum height of 2.15 metres and a length of approximately 5.0 metres.

A grease removal vehicle of this size would be able to comfortably enter and exit the site in a suitable manner, noting that the basement car park has been designed to accommodate the larger 6.4 metre Small Rigid Vehicle (SRV as defined by AS2890.2) which requires a height clearance of 3.5 metres.

The swept path assessment undertaken in Appendix A demonstrates the ability for the MAZDA T4600 grease removal truck to enter and exit the site in a suitable manner (modelled based on a B99 vehicle given the dimensions of this vehicle).

B. The provision of one loading bay serving the large office tenancy and 13 commercial tenancies and supporting six waste collections per week is insufficient, and likely to result in either waste or delivery vehicles propping in the aisles and blocking access to car spaces, when two or more such vehicles attend the site at one time.

Whilst office tenancies typically do not generate a large amount of deliveries, it is anticipated that the office tenancies will occasionally attract vans and small trucks for the delivery of goods.

To facilitate these deliveries, it is proposed to provide a dedicated loading bay within the office car park. The loading bay is able to accommodate a 6.4 metre long SRV which would be sufficient to cater for the vast majority of deliveries associated with the office tenancies.

The swept path assessment attached in Appendix B demonstrates the ability for the SRV to access the office loading bay in a suitable manner.

G. It does not appear that shower facilities for cyclists visiting either the supermarket or other commercial premises have been provided, contrary to the requirements of Clause 52.34 bicycle facilities.

Table 2 to Clause 52.34-5 of the Whitehorse Planning Scheme outlines the requirements for shower facilities and has been extracted and shown in Figure 2.

Figure 2: Table 2 to Clause 52.34-5 Showers

USE	EMPLOYEE/RESIDENT	VISITOR/SHOPPER/STUDENT
Any use listed in Table 1	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.	None

As can be seen above, Table 2 to Clause 52.34 does not require shower facilities for customers of the supermarket or other short-term visitors.

In regards to employee shower facilities, the table states the following:

If 5 or more employee bicycle spaces are required, None 1 shower for the first 5 employee bicycle spaces, plus 1 to each 10 employee bicycle spaces thereafter

A total of 50 employee bicycle parking spaces are required to be provided for the development which results in a requirement to provide six showers. The architectural plans show a total of 10 showers for employee use which exceeds this requirement and is therefore considered satisfactory.

H. a. Concern that no disabled car spaces have been provided for the use of residents. Please note that all disabled access and disabled car parking requirements are to comply with Part D3 of the Building Code of Australia, Australian Standard 1428.1 and the Australian Disability Discrimination Act 1992

There is no requirement to provide disabled car parking spaces for residents under the Building Code of Australia (BCA), and accordingly none have been proposed.

It is proposed to provide a total of 6 disabled car parking spaces for the development, arranged as follows:

— 4 disabled spaces for the office; and
— 2 disabled spaces for the retail and supermarket components of the development.

The provision of disabled parking for the commercial uses complies with the requirement of the BCA and is considered acceptable.

H.b. Disabled car space serving the office at Basement Levels 1 and 2 is located too far from the lift

The architectural plans have been updated to move the disabled car parking spaces serving the office at Basement Levels 1 and 2 closer to the passenger lifts.

It is considered that the revised location of the disabled car parking spaces provides convenient access to the passenger lifts for disabled users.

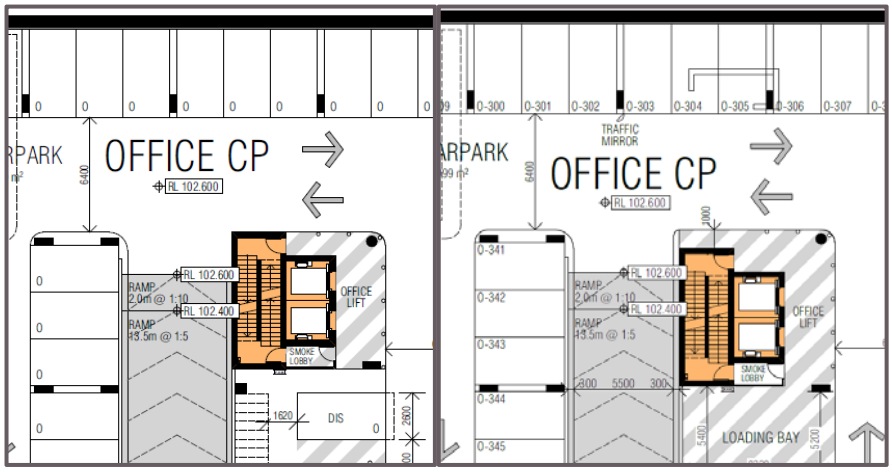
H.c. Officer car park at Basement Level 1 provides poor visibility between vehicles emerging from the down ramp and on-coming traffic due to the wall provided to the stair core

The stair core adjacent to office car park ramp from Basement Level 1 to Basement Level 2 has been shifted back from the aisle by 1.0 metre. The revised position of the stair core will enable opposing vehicles to observe each other and adequately manage a conflict in the event that two opposing vehicles meet at this internal intersection.

Furthermore, it is proposed to provide a convex mirror at this location to further improve sightlines between opposing vehicles.

The changes to this internal intersection are highlighted in Figure 3.

Figure 3: Changes to Internal Intersection



Accordingly, it is considered that suitable sightlines are now provided at this internal intersection to appropriately manage any conflicts between opposing vehicles.

H.d. If the loading bay is in use, the access aisles to the east and west become blind aisles with no provision for cars to turn to exit in a forwards direction if all the car spaces are full.

Clause 2.4.2 of AS/NZS2890.1 provide guidance in relation to blind aisles and states the following:

'In car parks open to the public, the maximum length of a blind aisle shall be equal to the width of six 90-degree spaces plus 1 m, unless provision is made for cars to turn around at the end and drive out forwards'

There are four points within the section of the car park open to the public where the blind aisle currently exceeds the length of six 90-degree parking spaces (including the access aisles to the east and west of the loading bay as mentioned by Council).

The architectural plans have been amended to provide turnaround areas within each of these dead-end aisles to ensure that vehicles are able to turnaround in the event that all car parking is occupied.

A swept path assessment has been undertaken (attached at Appendix C) which demonstrates the ability for the B85 vehicle turn turnaround within these bays.

H.e. The operation and requirements of the ticket machine are not clear.

The operation and requirements of the ticket machine would be detailed within a Car Parking Management Plan (CPMP) which could be prepared as condition of Permit.

H.f. The position of the ticket machine and intercom require precision driving for waste and delivery vehicles to manouevre around them.

The swept path assessment undertaken within Appendix B of the Traffic Impact Assessment Report (TIAR) demonstrates that the largest vehicle anticipated to access the basement car park (a 6.4 metre long Small Rigid Vehicle as defined by AS2890.2) is able to manoeuvre around the ticket machine and intercom (upon entry and exit to the site) in a suitable manner, with 300mm clearance to these obstructions as required by the Australian Standard. The swept paths of a 6.4 metre long Small Rigid Vehicle have been updated on the latest architectural plans and attached at Appendix D.

Accordingly, it is considered that the position of the ticket machine and intercom is satisfactory.

It is also noted that the position of the ticket machine and intercom has not changed from the architectural plans that received a Planning Permit (Permit No. WH/2017/277).

H.g. Concern that the waste truck is required to reverse within the basement car park.

The inclusion of a turnaround bays within Basement 1 has removed the need for the waste collection vehicle to reverse any significant distance within the car park.

A swept path assessment is attached at Appendix E of this letter which demonstrates the ability for the waste collection vehicle to manoeuvre within these turnaround areas and depart the site in a forward direction.

H.h. Driver sight lines at the loading supermarket bay are not clear, and additional alerts such as a flashing light may be required to avoid pedestrian conflicts.

Driver sightlines at the supermarket loading bay are as follows:

— On the eastern side of the loading bay a pedestrian sight triangle measuring 2.0 metres along the road frontage and extending 2.5 metres into the site will be provided in accordance with Design Standard 1 of Clause 52.06 of the Whitehorse Planning Scheme. Any

landscaping / fencing within this splay will remain below 900mm in height or remain more than 50% clear of visual obstruction.

— On the western side of the loading bay a pedestrian sight triangle is unable to be provided within the boundaries of the site due to the location of the property boundary. Notwithstanding, a woven wire fence is proposed for the first 2.5 metres along the property boundary from the frontage, which is more than 50% clear of visual obstruction and will enable sightlines between service vehicles departing the loading bay and any pedestrians walking along the frontage.

Whilst it is noted that a flashing light system would assist in managing the conflict between pedestrians and service vehicles, a security door is not currently proposed to the loading bay and accordingly it would be difficult for the flashing light system to be activated.

It is instead proposed to provide appropriate signage adjacent to the loading bay to manage the conflict between pedestrians and service vehicles. The type and location of signage would be outlined within the Car Parking Management Plan which could be included as a condition of Permit.

H.i. There are a number of different car spaces sharing the basement and wayfinding signage and linemarking will be critical to assist visitors

A detailed signage and line-marking plan would be prepared for the development within the Car Parking Management Plan which could be included as a condition of Permit.

H.j. The Basement Level 1 aisle to the east of the ticket machine does not provide for a turning bay if all car spaces are full.

As discussed above, a turnaround area has been provided at the end of the aisle located to the east of the ticket machine. This will enable vehicles to turn around and depart in a forward direction in the event that all car parking spaces within this section of Basement 1 are occupied.

The swept path assessment demonstrating this manoeuvre is shown in Appendix B of this Letter.

H.k. Pedestrian priority areas should be provided to limits conflicts between vehicles and pedestrians within the car park.

Pedestrian priority areas and appropriate line-marking for pedestrian pathways would be outlined within the Car Parking Management Plan which could be included as a condition of Permit.

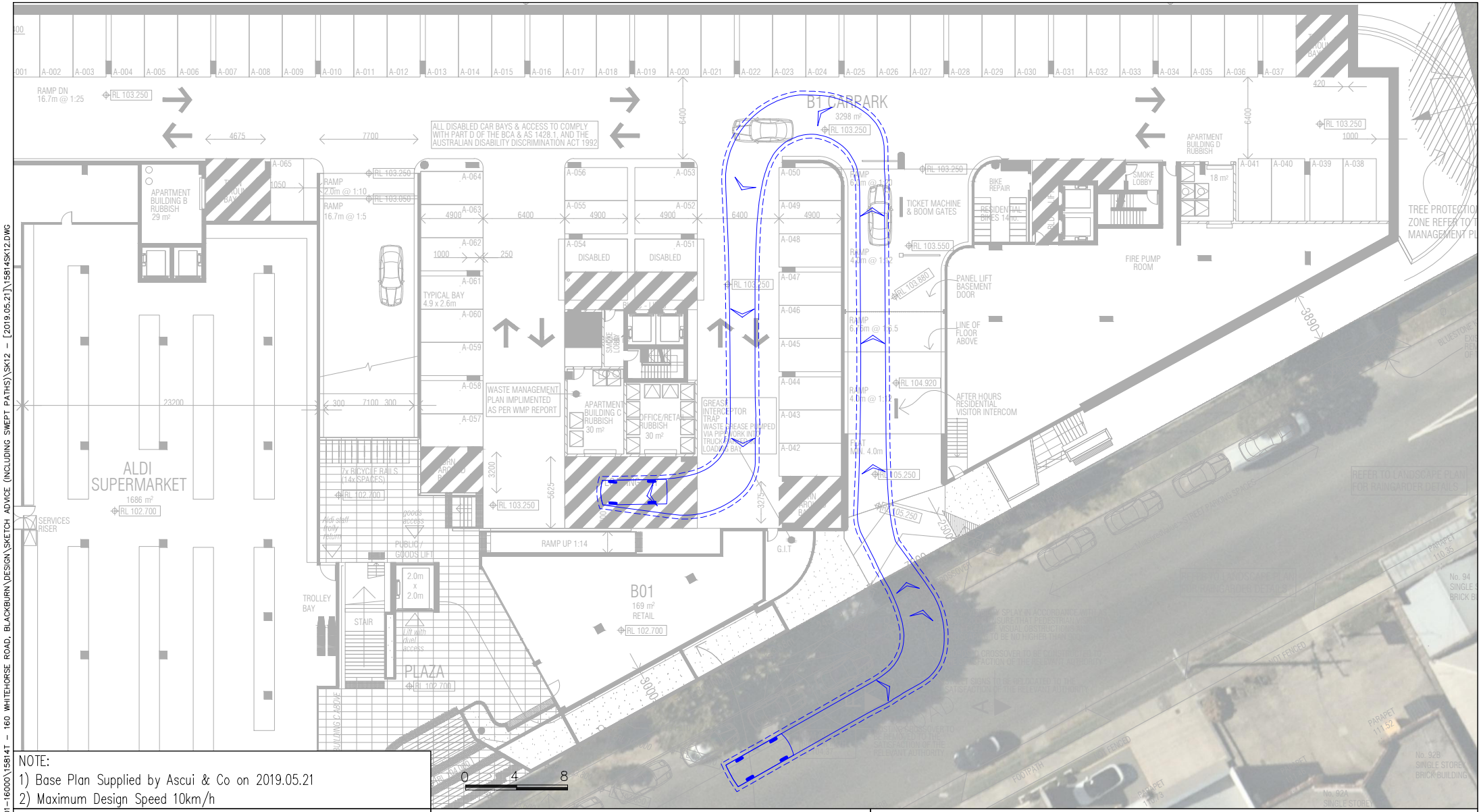
H.l. There is a column located in front of one of the motorbike bays in Basement 3.

The architectural plans have been updated to relocate the motorbike bay which is currently located in front of the column in Basement 3.

The information above and attached is considered to have addressed the traffic concerns raised. Should you wish to discuss anything further, please contact the undersigned or James McKenzie on 03 9429 3111.

Russell Fairlie
Director: Traffic
Ratio Consultants Pty Ltd

Appendix A **Grease Truck Swept Path**



NOTE:
1) Base Plan Supplied by Ascui & Co on 2019.05.21
2) Maximum Design Speed 10km/h

ratio:

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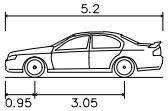
B99 Vehicle (AS/NZS2890.1:2004)

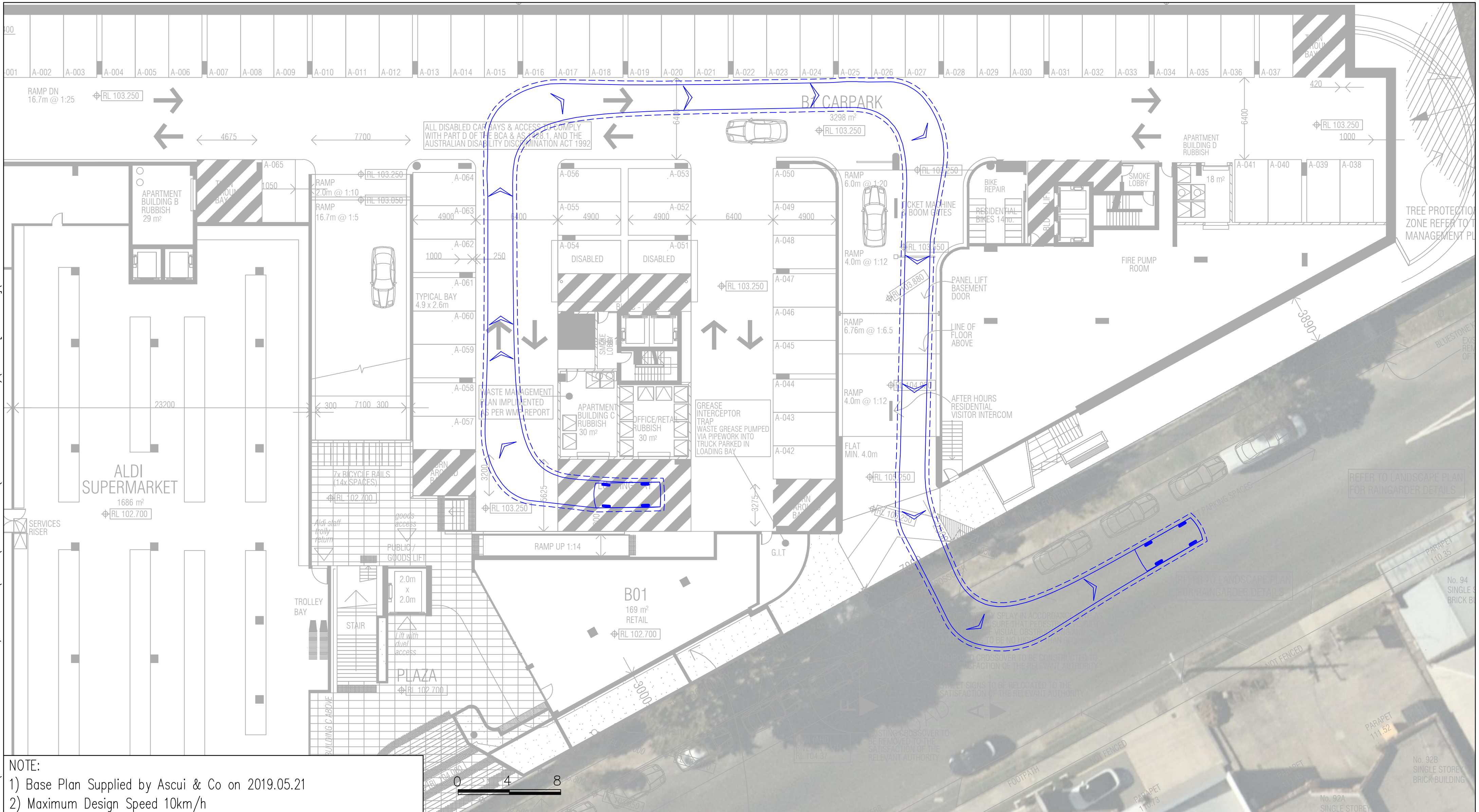


VEHICLE ENVELOPE (FORWARD)
300mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
300mm CLEARANCE (REVERSE)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

Proposed Mixed-Use Development
160 Whitehorse Road, Blackburn
GREASE TRUCK SWEPT PATH

RATIO REFERENCE	SHEET No.	SCALE	DATE
15814SK12/JM	1 of 8	1:400@A4	21/05/2019



NOTE:
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2) Maximum Design Speed 10km/h

Y:\15501-16000\15814T - 160 WHITEHORSE ROAD, BLACKBURN\DESIGN\SKETCH ADVICE (INCLUDING SWEPT PATHS)\SK12 - [2019.05.21]\15814SK12.DWG
21/05/2019 5:04:20 PM

ratio:
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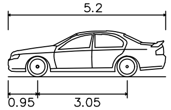
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

B99 Vehicle (AS/NZS2890.1:2004)



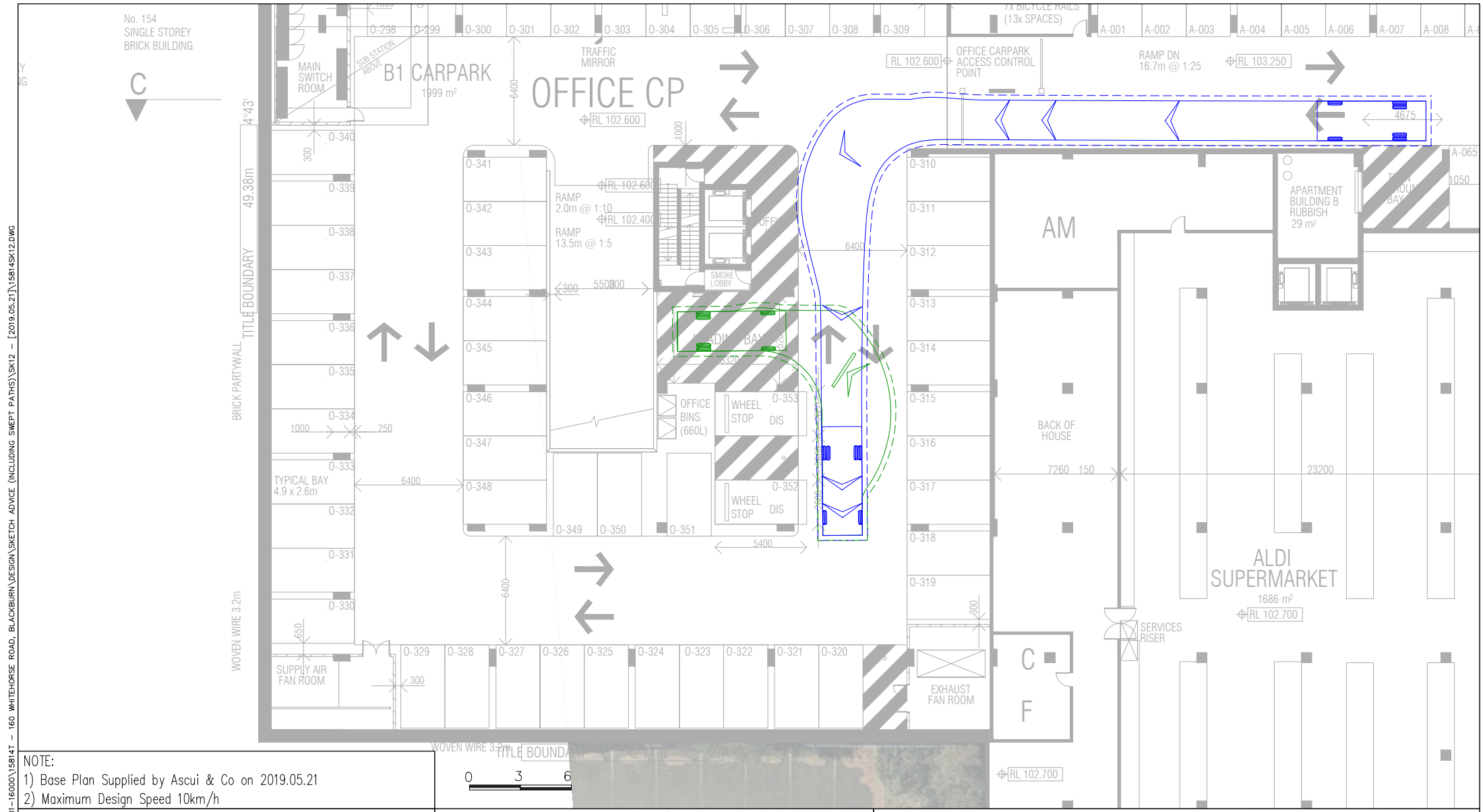
VEHICLE ENVELOPE (FORWARD)
300mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
300mm CLEARANCE (REVERSE)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

Proposed Mixed-Use Development
160 Whitehorse Road, Blackburn
GREASE TRUCK SWEPT PATH

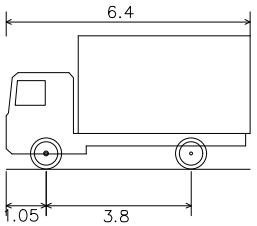
RATIO REFERENCE	SHEET No.	SCALE	DATE
15814SK12/JM	2 of 8	1:400@A4	21/05/2019

Appendix B **Office Loading Bay Swept Paths**



NOTE:
1) Base Plan Supplied by Ascui & Co on 2019.05.21
2) Maximum Design Speed 10km/h

SRV – Small Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Overall Length	6.400m
Overall Width	2.330m
Track Width	2.330m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	7.100m

ratio:
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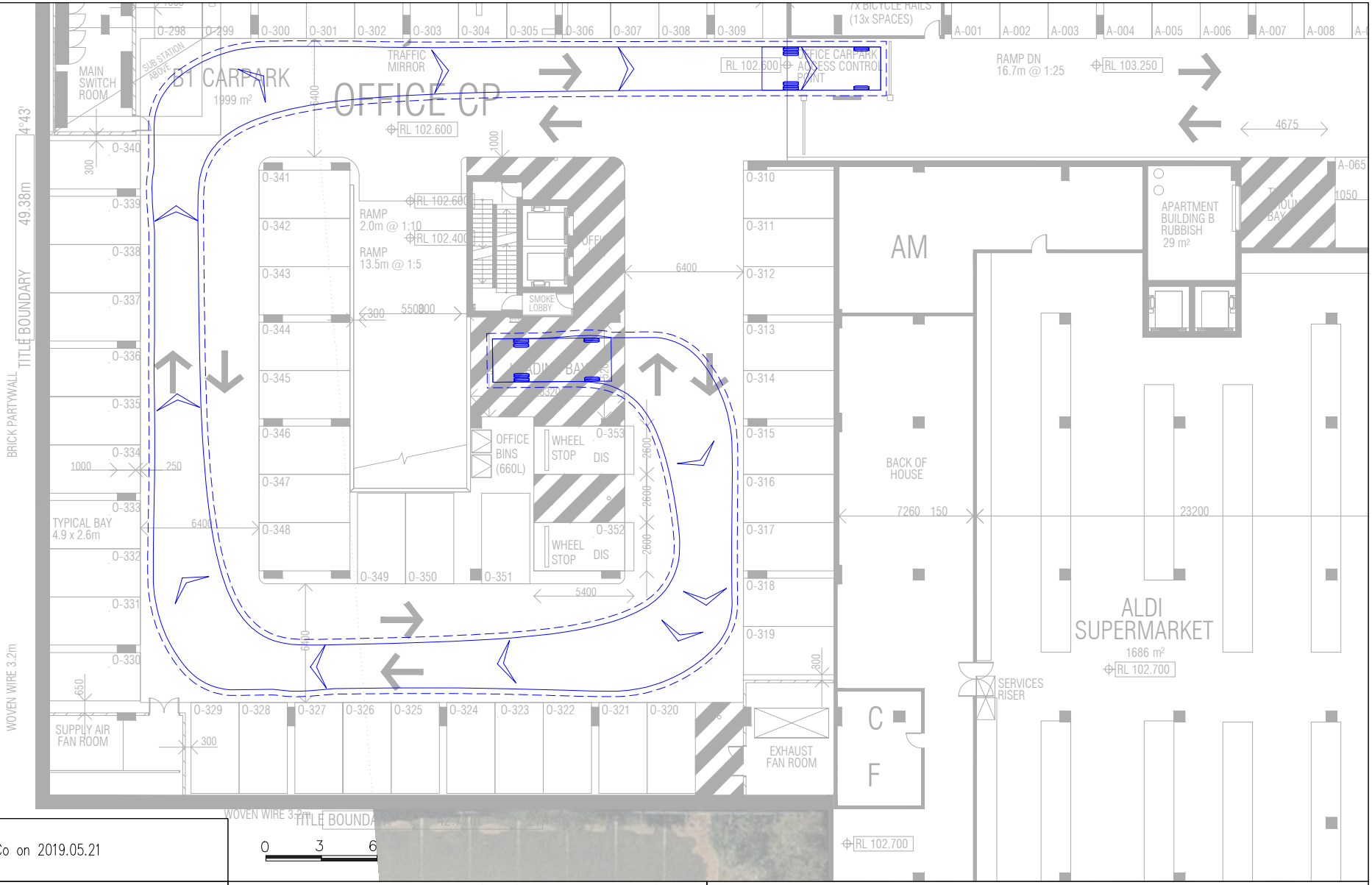
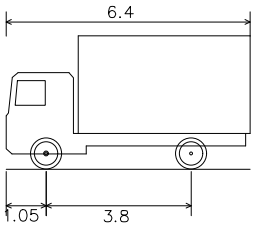
Proposed Mixed-Use Development
160 Whitehorse Road, Blackburn
OFFICE LOADING SWEPT PATH

RATIO REFERENCE	SHEET No.	SCALE	DATE
15814SK12/JM	3 of 8	1:300@A4	21/05/2019



NOTE:
1) Base Plan Supplied by Ascui & Co on 2019.05.21
2) Maximum Design Speed 10km/h

SRV – Small Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Overall Length	6.400m
Overall Width	2.330m
Track Width	2.330m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	7.100m

ratio:
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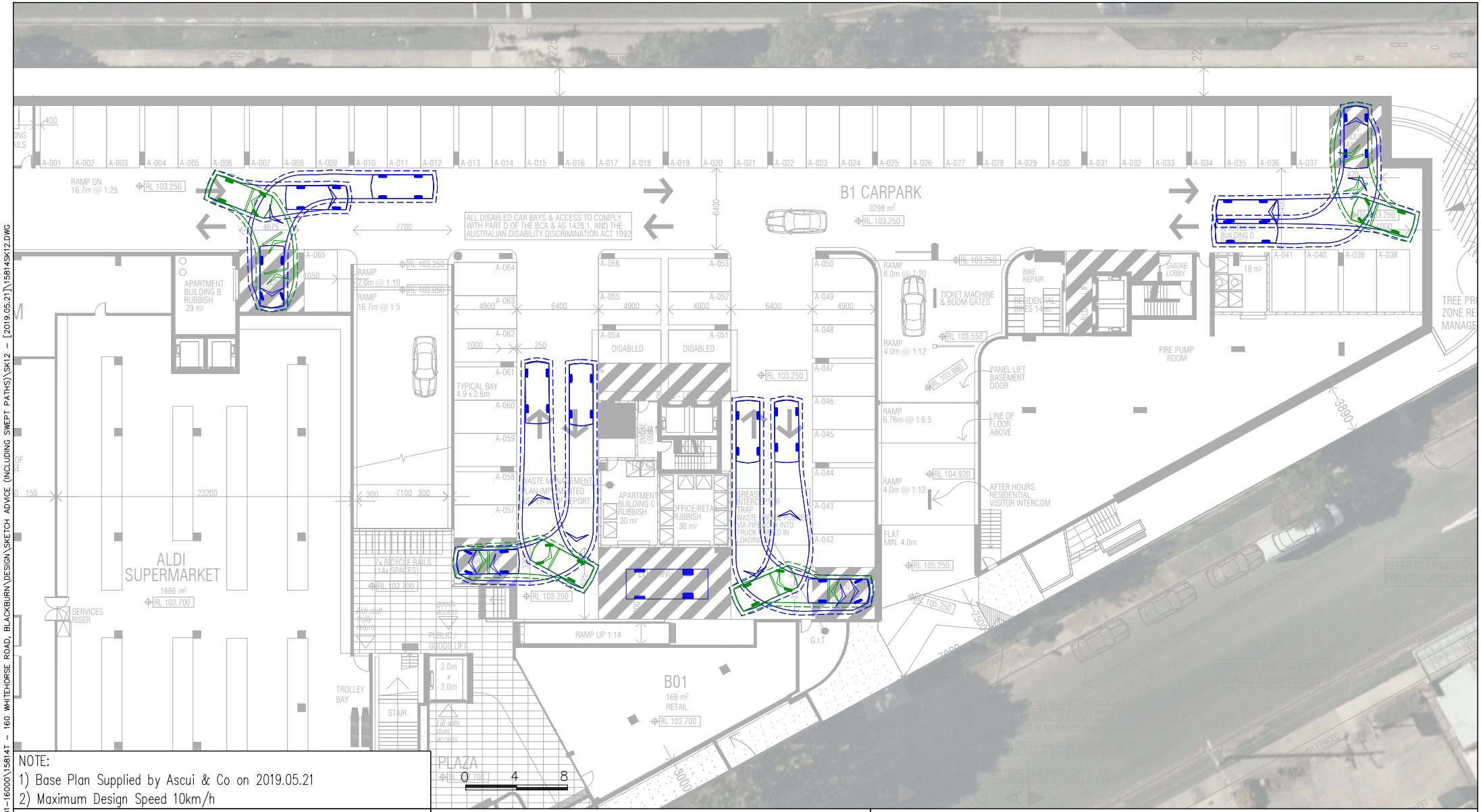
Proposed Mixed-Use Development
160 Whitehorse Road, Blackburn
OFFICE LOADING SWEPT PATH

RATIO REFERENCE	SHEET No.	SCALE	DATE
15814SK12/JM	4 of 8	1:300@A4	21/05/2019

Appendix C **Swept Path Assessment – Turnaround Bays**



NOTE:
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2) Maximum Design Speed 10km/h

ratio:

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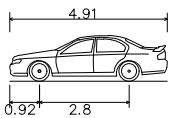
B85 Vehicle (AS/NZS2890.1:2004)



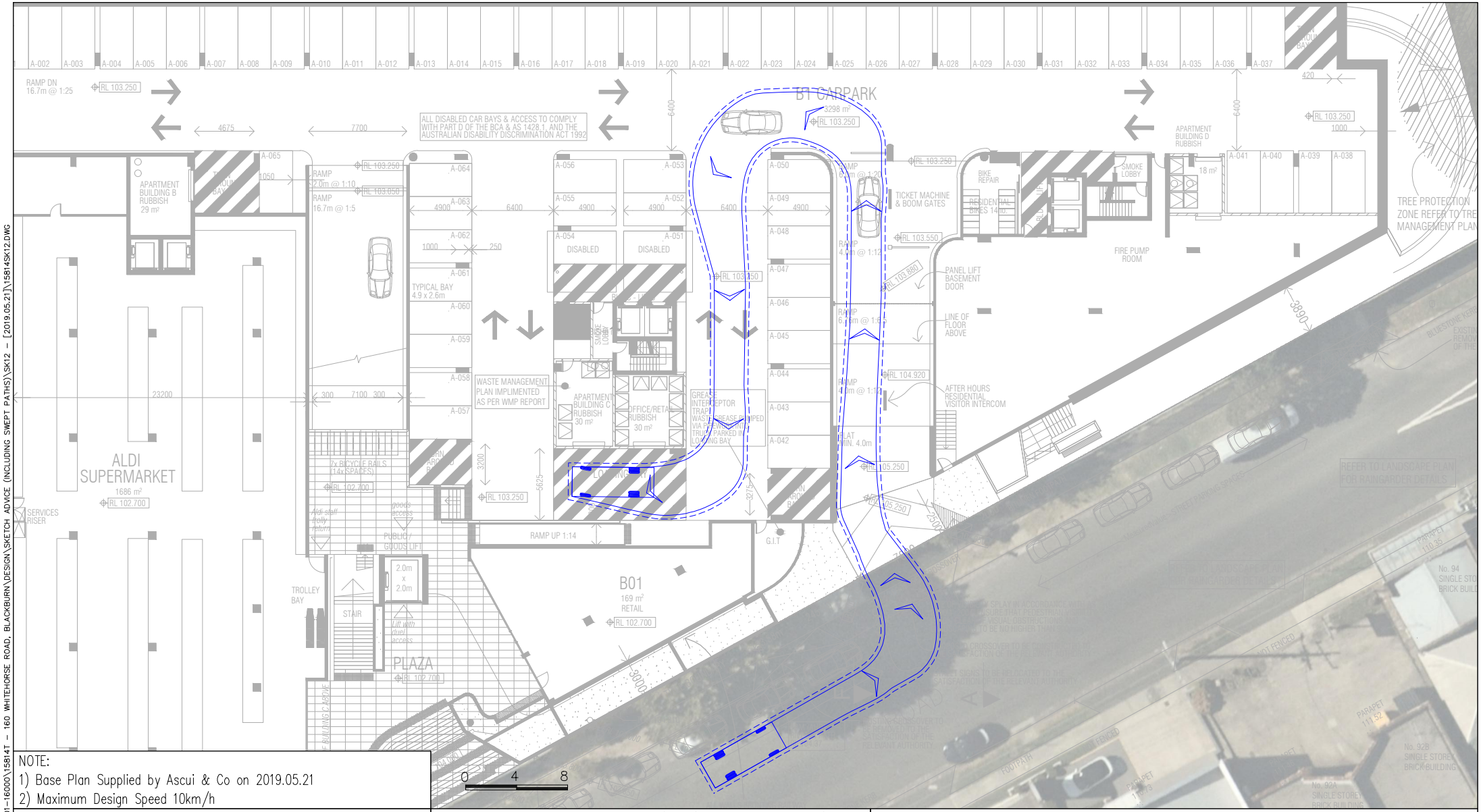
VEHICLE ENVELOPE (FORWARD)
300mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
300mm CLEARANCE (REVERSE)

Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

Proposed Mixed-Use Development
160 Whitehorse Road, Blackburn
SWEPT PATH ASSESSMENT TURNAROUND BAYS

RATIO REFERENCE	SHEET No.	SCALE	DATE
15814SK12/JM	5 of 8	1:400@A4	21/05/2019

Appendix D **Swept Path Assessment – Circulation around Intercom & Ticket Machine**



NOTE:
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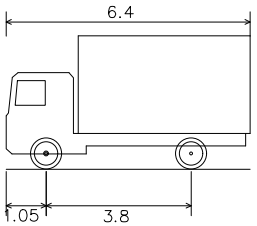
2) Maximum Design Speed 10km/h

SRV – Small Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Overall Length	6.400m
Overall Width	2.330m
Track Width	2.330m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	7.100m

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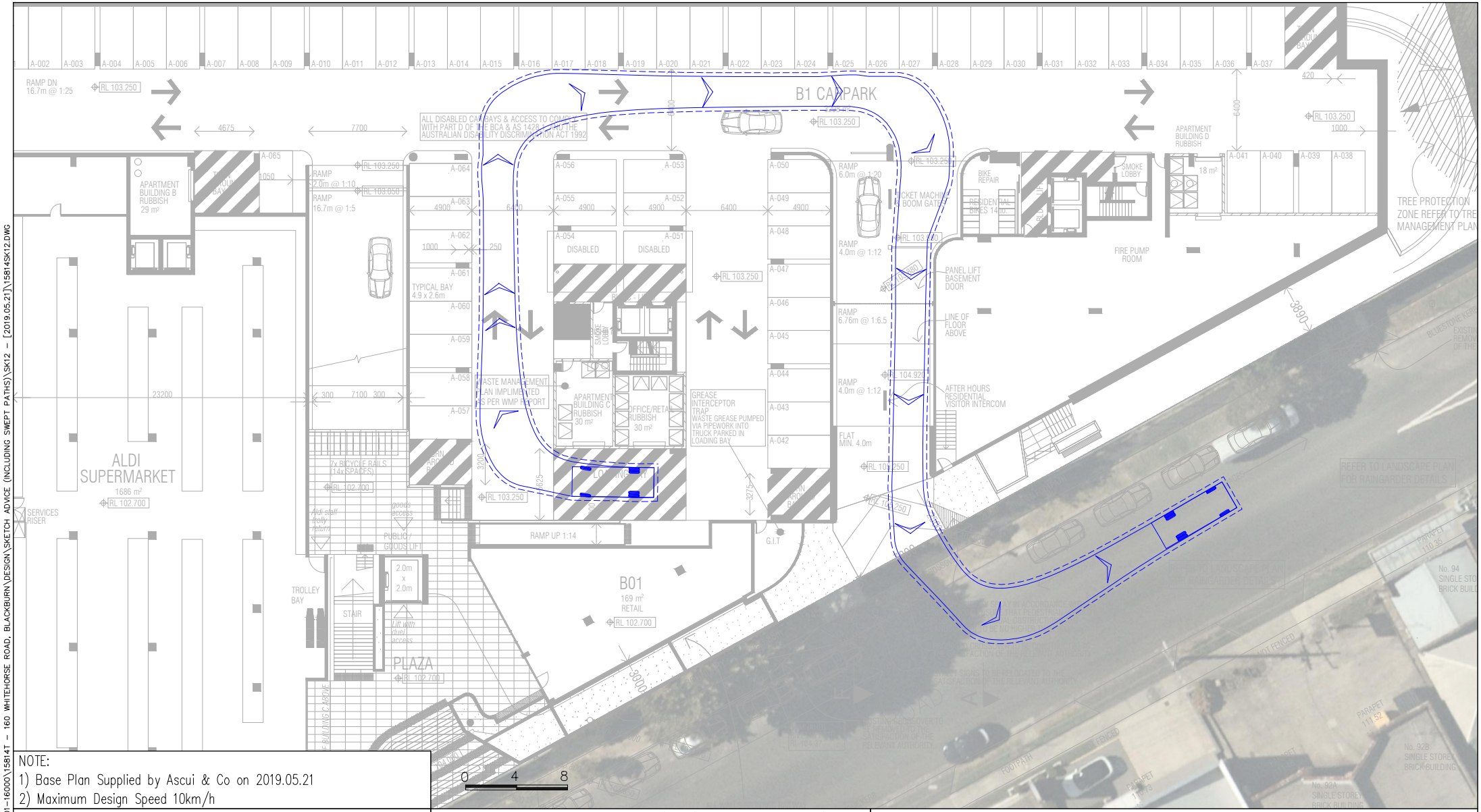
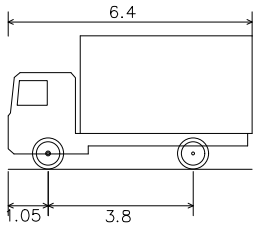
Proposed Mixed-Use Development
160 Whitehorse Road, Blackburn
SRV SWEPT PATHS

RATIO REFERENCE	SHEET No.	SCALE	DATE
15814SK12/JM	6 of 8	1:400@A4	21/05/2019



NOTE:
1) Base Plan Supplied by Ascui & Co on 2019.05.21
2) Maximum Design Speed 10km/h

SRV – Small Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Overall Length	6.400m
Overall Width	2.330m
Track Width	2.330m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	7.100m

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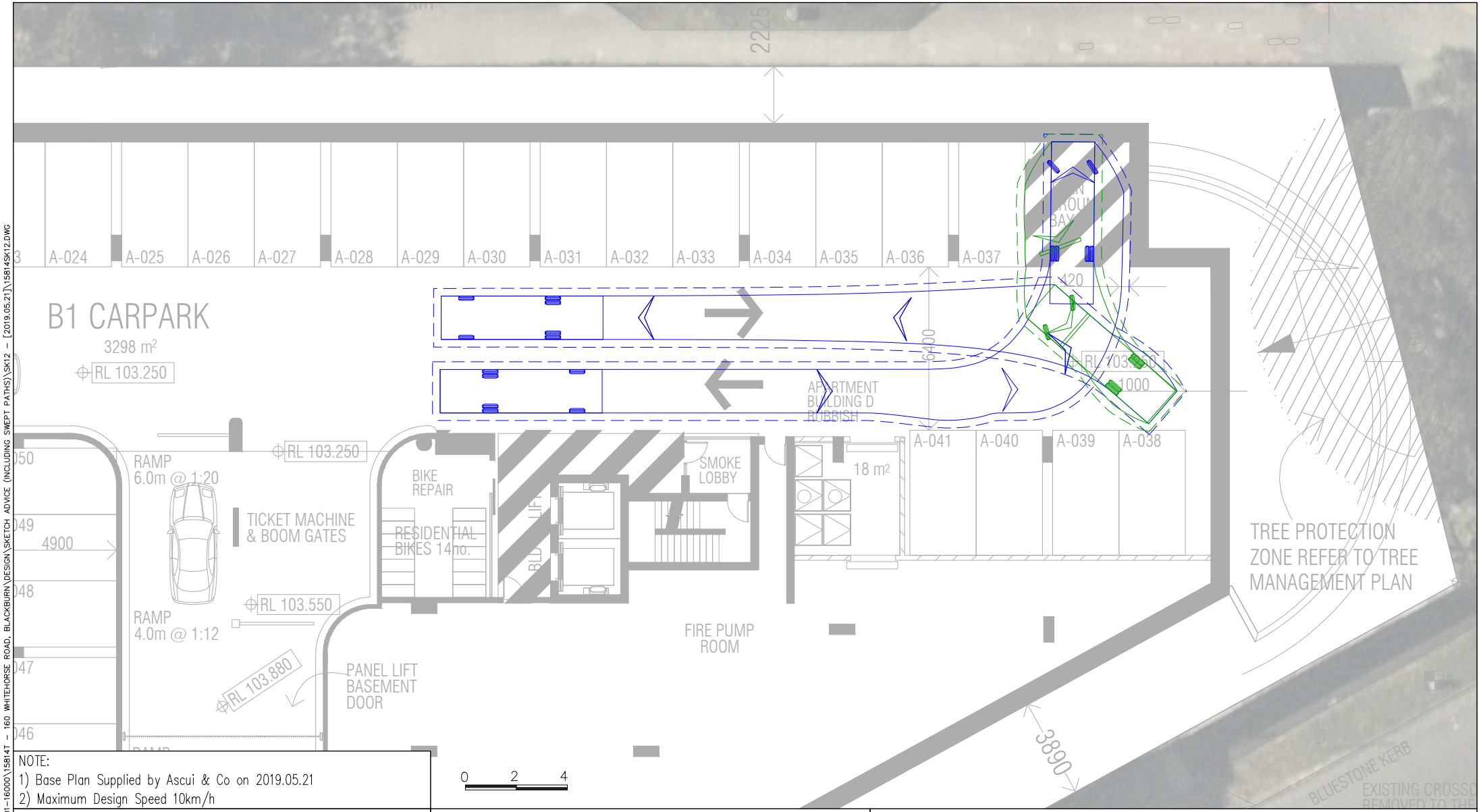
Proposed Mixed-Use Development
160 Whitehorse Road, Blackburn
SRV SWEPT PATHS

RATIO REFERENCE	SHEET No.	SCALE	DATE
15814SK12/JM	7 of 8	1:400@A4	21/05/2019

Appendix E **Swept Path Assessment – Waste Truck Circulation**



NOTE:
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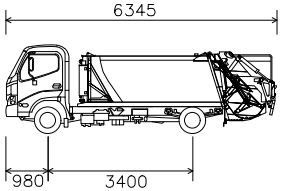
2) Maximum Design Speed 10km/h

Mini-Rear Loader Waste Collection Vehicle



VEHICLE ENVELOPE (FORWARD)
300mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
300mm CLEARANCE (REVERSE)

Overall Length	6.345m
Body Width	1.700m
Overall Body Height	2.080m
Min Body Ground Clearance	0.205m
Track Width	1.670m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.450m

ratio:
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Proposed Mixed-Use Development
160 Whitehorse Road, Blackburn
WASTE COLLECTION TURNAROUND BAY

RATIO REFERENCE	SHEET No.	SCALE	DATE
15814SK12/JM	8 of 8	1:200@A4	21/05/2019