Traffix Group

Our Reference: G28252L-03A

30 September 2020

Best Hooper Lawyers
Level 9, 451 Little Bourke Street
MELBOURNE VIC 3000

Attention: Dominic Scally

Dear Mr Scally,

430-434 Neerim Road, Murrumbeena – Proposed Mixed Use Development Traffic Engineering Assessment

Introduction

Further to your instructions, please find following our traffic engineering assessment of the proposed mixed use development at 430-434 Neerim Road, Murrumbeena.

Proposal

The following is an assessment of the plans circulated for the VCAT hearing, prepared by C. Kairouz Architects & Associates Incorporating (Revision FF, dated 31st August, 2020). These plans are attached at Appendix A.

The proposal is for a mixed use development, comprising two retail tenancies on the ground level (total floor area of 485m^2) and 97 student housing apartments above.

The proposal includes a total of 20 car spaces within a single basement level, including:

- 1 x DDA compliant car space,
- 5 x spaces within a Klaus Trendvario 6100 car stacker system (or similar), and
- 14 x spaces within a Klaus Trendvario Combination 6100 with 6100+ car stacker system (or similar).

Car parking is allocated as follows:

- 18 spaces to the student housing units (at a rate of 0.19 car spaces per unit), and
- 2 spaces to the retail tenancies (one space per tenancy).

Statutory Car Parking Requirement

The site is located within the Principal Public Transport Network Area and is also subject to Parking Overlay – Precinct 2-2 (P02) under Clause 45.09 the Glen Eira Planning Scheme.

Schedule 2 to the Parking Overlay sets out specific car parking rates for 'student housing' and is therefore applicable to this proposed use.

The assessment of car parking requirements associated with the proposal is set out in Table 1.

Table 1: Statutory Car Parking Requirements (Clause 45.09 and Clause 52.06 – Column B)

Use	No. / Size	Statutory Requirement	No of Spaces Required	Car Parking Provision	Reduction/ Surplus
Student Housing Units/Beds	97	0.4 car spaces to each bed available	38	18	- 20
Shop	485m^2	3.5 spaces to each 100m^2 of LFA	16	2	- 14
Total			**54**	**20**	**- 34**

Based on the table above, the development is required to provide 54 car spaces under the Planning Scheme, including 38 car spaces for the student housing units and 16 car spaces for the retail tenancies.

Based on the provision and allocation of 20 car spaces, the proposal requires a reduction for 34 car spaces under the Planning Scheme, including 20 student housing spaces and 14 retail tenancy spaces.

Review of Car Parking Layout and Access Arrangements

The proposed parking layout has been assessed under the relevant sections of the Planning Scheme and the Australian Standard for off-street parking facilities (AS2890.1-2004), where relevant.

The relevant Planning Scheme clauses are:

- Clause 52.06-9 (Design standards for car parking),
- AS2890.1-2004, where relevant, and
- AS2890.6-2009, where relevant.

Clause 52.06-9 Design Standard 1 – Accessways

- Access to the site is provided via a 3.6m wide accessway to Melbourne Street in accordance with Clause 52.06-9 (Design Standard 1) and AS2890.1-2004 for a one-lane, two-way accessway.
- All vehicles will be able to enter and exit the carpark in a forwards direction in accordance with Clause 52.06-9 (Design Standard 1).
- A minimum headroom clearance of at least 2.2m is provided along the ramp in accordance with AS2890.1-2004, which also exceeds the 2.1m headroom requirement of Clause 52.06-9.
- A pedestrian sight triangle is provided on the west side of the accessway, in accordance with Clause 52.06-9 and AS2890.1-2004. A pedestrian sight triangle has not been provided on the east side, as the accessway is located on the property boundary, and the sight triangle would fall over adjacent land.

  In order to facilitate sight lines to the east, a convex mirror can be provided on the west side of the accessway. This can be accommodated as a condition of permit.

- A passing area along the ramp is not required under the Planning Scheme, as it is not more than 50m in length and does not connect to a Road Zone. Furthermore, the traffic volume generated by the development would not warrant a passing area.

Clause 52.06-9 Design Standard 2 – Car Parking Spaces

- The DDA space is provided in accordance with the requirements of AS2890.6-2009.
- This decision point is not relevant to the remainder of the car spaces, as these spaces are provided within a mechanical car stacker system. The detailed review of this system is provided at Design Standard 4 below.

Clause 52.06-9 Design Standard 3 – Gradients

- A maximum ramp grade of 1 in 10 (10%) is provided over the first 5.0m, measured from the property boundary in accordance with Clause 52.06-9.
- Grade changes are provided at a maximum of 1 in 8 (12.5%) in accordance with Clause 52.06-9.
- A maximum grade of 1 in 4 (25%) is provided through the mid-section of the ramp, which accords with Clause 52.06-9 for a private carpark.

Clause 52.06-9 Design Standard 4 – Mechanical Car Parking

The Planning Scheme sets out Design standards for car parking under Clause 52.06-9. Under this clause, mechanical parking must be provided in accordance with the following:

> *Design standard 4: Mechanical parking*
>
> *Mechanical parking may be used to meet the car parking requirement provided:*
>
> - *At least 25 per cent of the mechanical car parking spaces can accommodate a vehicle height of at least 1.8 metres.*
> - *Car parking spaces that require the operation of the system are not allocated to visitors unless used in a valet parking situation.*
> - *The design and operation is to the satisfaction of the responsible authority.*

The proposed car parking arrangement will accommodate a total of 19 car spaces within the following systems:

- 5 x spaces within a Klaus TrendVario 6100 car stacker system (or similar). This system provides a ground level row of parking and below ground row of parking.
- 14 x spaces within a Klaus Trendvario Combination 6100 with 6100+ car stacker system (or similar). This system includes a front and a rear system, both accommodating 7 spaces. Spaces are accommodated in a ground level row of parking and below ground row of parking for the front and rear systems.

This style of system operates by having one 'free' space within the system to shift cars on the ground level left or right to bring cars on the other levels to ground level for retrieval. The car stacker system must include the use of a remote control to ensure ease of use for drivers and to reduce delays within the basement associated with drivers exiting their vehicles to access a switchboard. A copy of the mechanical car stacker specifications is provided at Appendix B.

A summary of the car stacker system proposed in this development is provided in the table below.

Table 2: Review of Car Stacker Specifications

Characteristic		Specifications
Suitable System		Klaus Trendvario 6100 (and 6100+)
Type of system		Shuffle style car stacker
Type of system		2 level independent shuffle parker with 1 spare space
Specifications Attached		Appendix C
Number of spaces		19 spaces, including a 5 x space system and a 14 x space tandem system
Grid Unit		2.9m
Usable Platform Width		2.7m (Complies with Planning Scheme and AS2890.1-2004)
Minimum Access Aisle Width		7.3m measured to the face of the doors (Exceeds Clause 52.06-9)
Unit length		5.5m (accommodates B85 design car)
Headroom Clearance		2.3m
Pit Depth		2.3m (Note 1)
Car Height	Entry Level	2.1m
	Pit Level	1.8m
% of mechanical spaces accommodating 1.8m car heights		19/19 (100% - complies with Clause 52.06-9, Design Standard 4)
Note 1	The pit depth is currently not detailed on the plans. The pit depth would need to be 2.3m to allow a vehicle up to 1.8m high to be accommodated.	

The accessibility of each of the car spaces has been tested using AutoTurn for the B85 design vehicle as required by AS2890.1-2004. A copy of these swept paths is attached at Appendix C.

Bicycle Parking

Clause 22.09 of the Glen Eira Planning Scheme specifies the bicycle parking requirements for student housing developments. This clause requires bicycle parking to be provided at a rate of 1 space to every 3 beds.

Accordingly, the development is required to provide 32 bicycle spaces for the student housing component of the development.

Clause 52.34 of the Glen Eira Planning Scheme specifies the bicycle parking requirement for retail tenancies at the following rates:

- 1 space to each 300m^2 of leasable floor area for staff, and

- 1 space to each 500m^2 of leasable floor area for customers.

Based on the above, the retail component requires 3 spaces to be provided.

Accordingly, the development overall is required to provide 35 spaces.

The plans provide 60 bicycle spaces, including 10 spaces on the ground level for visitors and 50 spaces in the basement for staff and residents, exceeding the minimum requirements under the Planning Scheme.

Over 20% of bicycle parking is provided as horizontal rails therefore meeting the requirements of AS2890.3.2015.

Bicycle parking has been designed in accordance with AS2890.3-2015.

Traffic Impacts

Student accommodation units typically generate traffic movements at a rate of 3 vehicle trip ends per apartment with a car space per day. This is reflective of the fact that students are unlikely to use their car to travel to University. This equates to a daily traffic generation of 54 vehicle trip ends per day for the 18 apartments allocated a car space.

Typically, 10% of this traffic can be expected in the AM and PM commuter peak hours, which equates to 5 vehicle trip ends in each peak hour.

Assuming the 2 retail spaces generate 1 movement each during the AM and PM commuter peak hours, the total traffic generation for this development is 7 movements during the peak hours and 58 movements across a typical day.

Loading and Waste Collection

Waste collection will occur within the basement for the student housing component. Swept path diagrams for this vehicle entering and exiting the basement are provided at Appendix C. Waste collection for the retail component of the development will occur on-street.

Loading will be accommodated on-street for the development. This is consistent with the historical operation of the site.

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Summary

a) the statutory car parking requirement for the site is 54 car spaces under the Planning Scheme, including 38 student housing spaces and 16 retail spaces,

b) the provision of 20 car spaces results in a reduction of 34 spaces being sought by the development under the Planning Scheme, including 20 student housing spaces and 14 retail spaces,

c) the car parking layout and access arrangements generally comply with the requirements of the Planning Scheme (except for the provision of a sight triangle on the east side of the accessway,

d) the bicycle parking provision exceeds the relevant requirements of the Planning Scheme and the Australian Standards,

e) waste collection can occur within the basement carpark for the student housing component and will occur on-street for the retail tenancies, and

f) loading will be accommodated on-street consistent with the historical operation of the site.

We trust that the above information satisfied your requirements. If you have any questions or require any additional information, please contact the undersigned at Traffix Group on 9822 2888.

Yours faithfully,

TRAFFIX GROUP PTY LTD

Matthew Woollard

Associate

Appendix A

VCAT Plans

ARCHITECTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL CONSULTANTS AND ENGINEERING DRAWINGS AND DETAILS. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS IF IN DOUBT ASK, DO NOT GUESS. CONTRACTORS MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING ANY WORK OR PREPARING SHOP DRAWINGS. ANY DISCREPANCIES MUST BE REPORTED TO THE ARCHITECT FOR CLARIFICATION AND APPROVAL IN WRITING.

DRAWING: PROPOSED BASEMENT FLOOR PLAN

PROJECT: Project Name

LOCATION: 430-434 NEERIM ROAD, MURRUMBEENA

CLIENT: VIVACE

AMENDMENT:

No.	Description	Date
AA	Update for VCAT	15-05-2020
BB	Updated massing. Update to ramp	18-06-2020
CC	Updated design	01-07-2020
DD	Updated design	10-07-2020

DATE: 31/08/2020

SCALE: 1 : 100

JOB N° : Project Number

DRAWN : Author

No in SET: A102 Rev DD

ISSUE: TOWN PLANNING

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C.KAIROUZ ARCHITECTS & ASSOCIATES INCORPORATING

MURRUMBEENA ROAD

PROPOSED NEW BENCH SEAT

PROPOSED NEW BENCH SEAT

PROPOSED NEW STREET TREE IN EXISTING PIT

NEW CANOPY OVER

NEW CANOPY OVER

AHD. 43520

0° 03' 40" 40.63 m
PROPERTY BOUNDARY

FIRE BOOSTER

RETAIL 1

RETAIL 2

PROPOSED NEW SPAVING TREATMENT EXTENDING TO THE NEW CROSSOVER

4590

PROPERTY BOUNDARY 291° 14' 40" 19.21 m

AHD. 43700

Retail 312 m²

Retail 2 173 m²

90° 00' 00" 18.52 m
PROPERTY BOUNDARY

PROPOSED NEW STREET TREE IN NEW PIT WITH BRICK BANDING

7600

AHD. 43550

NEERIM ROAD

EXISTING BENCH SEAT

PROPOSED NEW STREET TREE IN EXISTING PIT

Mail boxes

VISITORS BIKES (10)

DN

UP

Res. Lobby 96 m²

Back of house 42 m²

WATER METRES

GAS METRES

RETAIL WASTE 11M²

CARPARK VENT

AHD. 44350

4500

ENTRY

STORAGE

DIS. TOILET

1:8

1:4

RAMP

1:4.5

1:10

AHD. 43600

AHD. 43850

NEW CROSSOVER

EXISTING BENCH SEAT

NEW CANOPY OVER

EASEMENT

180° 03' 40" 27.78 m

PROPERTY BOUNDARY

181° 48' 40" 19.82 m

8400 8400 8400 8400 8900

F E D C B A

436

438

440

25

Retail Waste
Retail
Res. Lobby
Plant/ Services
Loading Bay
Laundry
Common Room
Back of house
2 bed
1 bed

G : GENERAL
R: RECYCLING
C: CARDBOARD

ARCHITECTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL CONSULTANTS AND ENGINEERING DRAWINGS AND DETAILS. DO NOT SCALE DRAWINGS. USE FIGURED DIMENSIONS IF IN DOUBT ASK, DO NOT GUESS. CONTRACTORS MUST VERIFY ALL DIMENSIONS ON SITE BEFORE COMMENCING ANY WORK OR PREPARING SHOP DRAWINGS. ANY DISCREPANCIES MUST BE REPORTED TO THE ARCHITECT FOR CLARIFICATION AND APPROVAL IN WRITING.

DRAWING: 442

PROPOSED GROUND FLOOR PLAN

PROJECT: Project Name

LOCATION: 430-434 NEERIM ROAD, MURRUMBEENA

CLIENT: VIVACE

AMENDMENT:

No.	Description	Date
AA	Update for VCAT	15-05-2020
BB	Updated massing. Update to ramp	18-06-2020
CC	Updated design	01-07-2020
DD	Updated design	10-07-2020
EE	Update design	19-08-2020

DATE: 31/08/2020

SCALE: 1 : 100

JOB N° : Project Number

DRAWN : Author

No in SET: A103 Rev EE

ISSUE: TOWN PLANNING

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Appendix B

Car Stacker Specifications

KLAUS multiparking

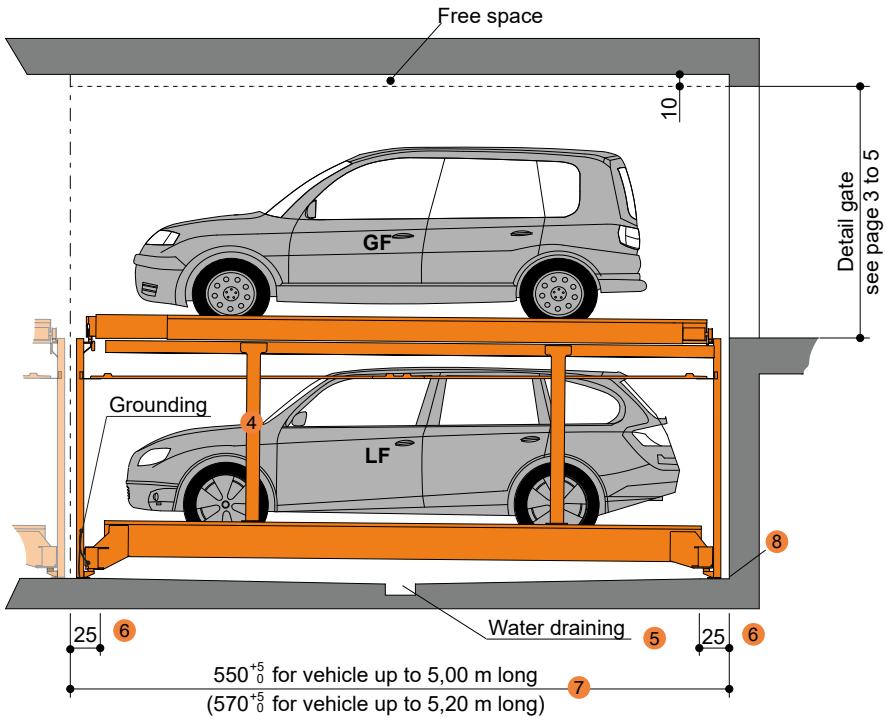
KLAUS Multiparking GmbH
Hermann-Krum-Straße 2
D-88319 Aitrach
Fon +49 (0) 7565 508-0
Fax +49 (0) 7565 508-88
info@multiparking.com
www.multiparking.com

PRODUCT DATA

trendvario 6100+

2000 kg / 2600 kg [1] / 3000 kg [1]

Building version without detail gate



Gate variants see pages 3 to 5

Loadable up to 3000 kg! Individual parking spaces can even be loaded retrospectively!

Dimensions

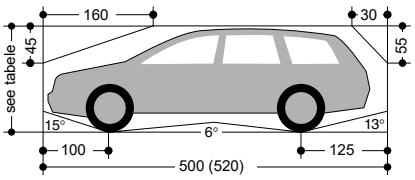
All space requirements are minimum [2] finished dimensions.
Tolerances for space requirements +3 0 dimensions in cm.

Suitable for

Standard passenger vehicle:
Limousine, Station Sagon, SUV, Van according to clearance and maximum surface load.

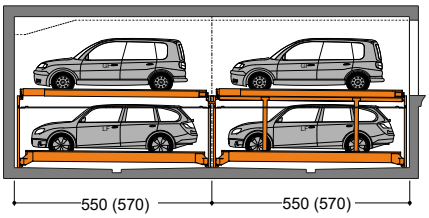
Width [3]	190 cm	190 cm	190 cm
Weight	max. 2000 kg	max. [1] 2600 kg	max. [1] 3000 kg
Wheel load	max. 500 kg	max. 650 kg	max. 750 kg

Clearance profile

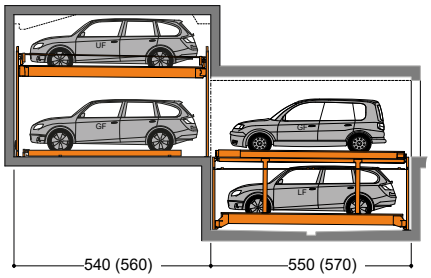


Examples KombiSystem

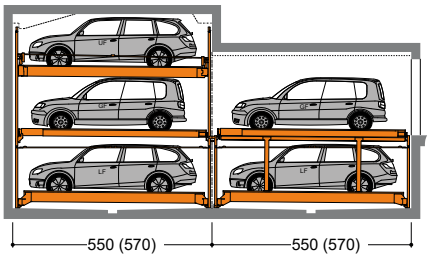
Combination 6100 with 6100+



Combination 6200+ with 6100+



Combination 6300 with 6100+



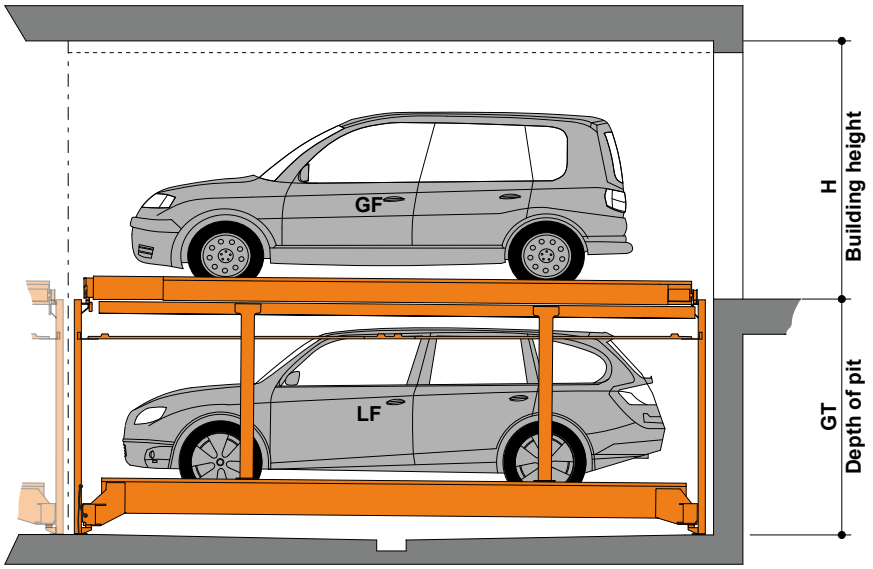
1. Maximum load possible at additional cost.
2. To follow the minimum finished dimensions, make sure to consider the tolerances according to VOB, part C (DIN 18330 and 18331) and the DIN 18202
3. Vehicle width for platform width 230 cm. If wider platforms are used it is also possible to park wider vehicle.
4. Potential equalization from foundation grounding connection to system (provided by the customer).
5. Slope with drainage channel and sump.
6. Tolerances for the evenness of the carriageway (floor) must be strictly complied with in accordance with DIN 18202, chart 3, line 3..
7. For convenient use of your parking space and due to the fact that the cars keep becoming longer we recommend a pit length of 570 cm .
8. At the transition section between pit floor and walls no hollow mouldings/coves are possible. If hollow mouldings/coves are required, the systems must be designed smaller or the pits accordingly wider.

If sprinklers are required make sure to provide the necessary free spaces during the planning stage.

TrendVario 6100+ | Code number 589.65.720-001 | Version 01.2020

Height dimensions

The permissible vehicle height GF must be 10 cm larger than vehicle height LF.



Type	GT	Vehicle height LF	Vehicle height GF 200	205	210	215	220	225	230	235	240	245	
6100+ / 200	200	150	220	225	230	235	240	245	250	255	260	265	H - Building height
6100+ / 205	205	155	220	225	230	235	240	245	250	255	260	265	
6100+ / 210	210	160	220	225	230	235	240	245	250	255	260	265	
6100+ / 215	215	165	220	225	230	235	240	245	250	255	260	265	
6100+ / 220	220	170	220	225	230	235	240	245	250	255	260	265	
6100+ / 225	225	175	220	225	230	235	240	245	250	255	260	265	
6100+ / 230	230	180	220	225	230	235	240	245	250	255	260	265	
6100+ / 235	235	185	220	225	230	235	240	245	250	255	260	265	
6100+ / 240	240	190	220	225	230	235	240	245	250	255	260	265	
6100+ / 245	245	195	220	225	230	235	240	245	250	255	260	265	
6100+ / 250	250	200		225	230	235	240	245	250	255	260	265	

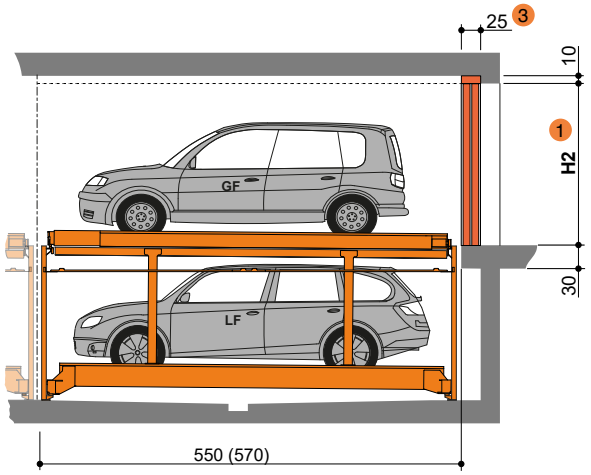
Example of configuration

Example : Vehicle height LF 175 cm & Vehicle height GF 225 cm
Type : 6100+ / 225
Depth of pit (GT) : 225 cm
Building height : 245 cm

Type	GT	Vehicle height LF	Vehicle height GF 200	205	210	215	220	225	230	235	240	245	
6100+ / 200	200	150	220	225	230	235	240	245	250	255	260	265	H - Building height
6100+ / 205	205	155	220	225	230	235	240	245	250	255	260	265	
6100+ / 210	210	160	220	225	230	235	240	245	250	255	260	265	
6100+ / 215	215	165	220	225	230	235	240	245	250	255	260	265	
6100+ / 220	220	170	220	225	230	235	240	245	250	255	260	265	
6100+ / 225	225	175	220	225	230	235	240	245	250	255	260	265	
6100+ / 230	230	180	220	225	230	235	240	245	250	255	260	265	

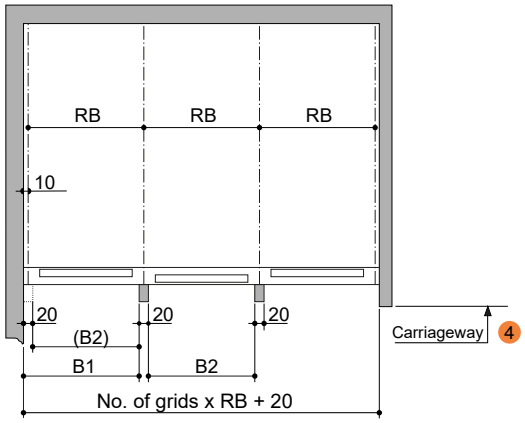
Garages with sliding gates | Widths dimensions

Sliding gate behind columns



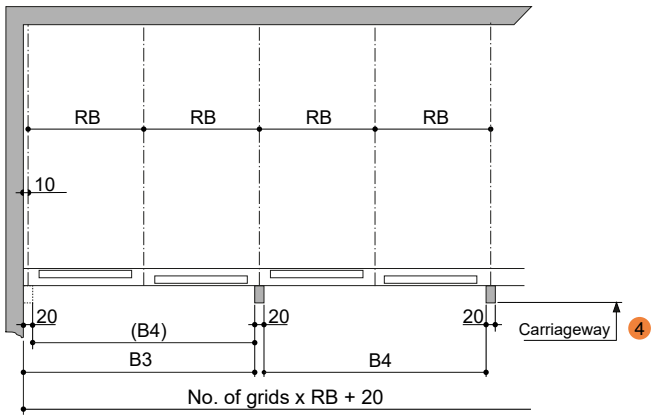
Vehicle height GF	H2
200	210
205	215
210	220
215	225
220	230
225	235
230	240
235	245
240	250
245	255

Columns per each grid unit



Usable platform width	RB 2	B1	B2
230	250	250	230
240	260	260	240
250	270	270	250
260	280	280	260
270	290	290	270

Columns every second grid unit



Usable platform width	RB 2	B3	B4
230	250	500	480
240	260	520	500
250	270	540	250
260	280	560	540
270	290	580	560

In accordance with ASR A1.7, an inspection book is required for a gate with electric drive that is intended for commercial use. Prior to commissioning and annually thereafter, the gate must be inspected by a qualified expert and the findings recorded in the inspection book.The inspection must be performed independently of any maintenance work.

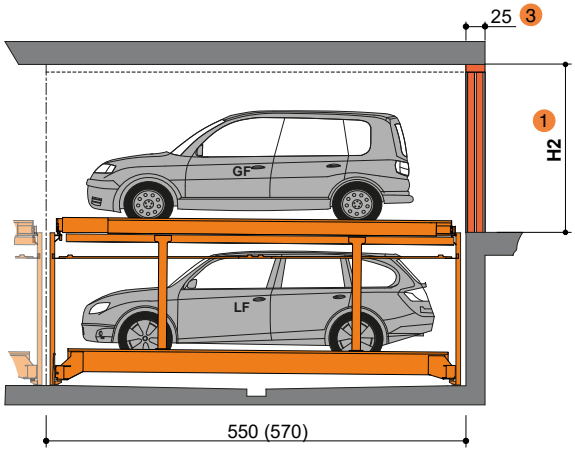
We generally recommend our maximum platform width of 270 cm for corner boxes and boxes with dividing walls.
The adjoining grid must be taken into account during planning. Narrower platform widths can cause problems during operation (depending on the vehicle type, access situation and individual driving behaviour).

For large limousinesand SUVs, the access lanes may need to be widened (especially in the case of corner boxes with an insufficient manoeuvring radius)

1 Minimum clear height H2 to local regulations.
2 RB = Grid unit width **must** strictly conform to dimensions quotes!
3 Only applies to manually operated gates. The electrically driven gates must have 35 cm.
4 Observe minimum carriageway width according to local regulations.

Garages with sliding gates | Widths dimensions

Sliding gate between columns

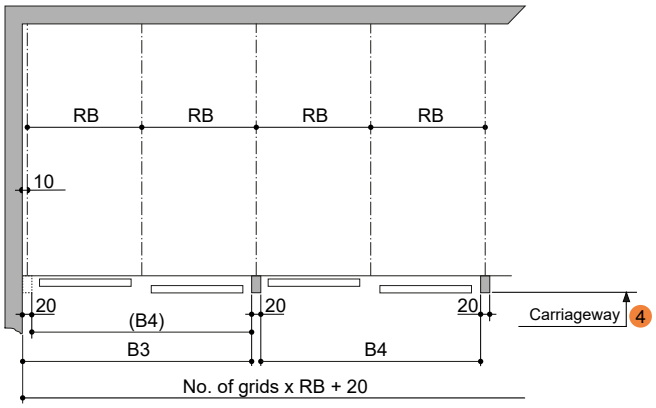


Vehicle height GF	H2
200	220
205	225
210	230
215	235
220	240
225	245
230	250
235	255
240	260
245	265

Columns per each grid unit

Not applicable!

Columns every second grid unit



Usable platform width	RB 2	B3	B4
230	250	500	480
240	260	520	500
250	270	540	250
260	280	560	540
270	290	580	560

In accordance with ASR A1.7, an inspection book is required for a gate with electric drive that is intended for commercial use. Prior to commissioning and annually thereafter, the gate must be inspected by a qualified expert and the findings recorded in the inspection book.The inspection must be performed independently of any maintenance work.

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The adjoining grid must be taken into account during planning. Narrower platform widths can cause problems during operation (depending on the vehicle type, access situation and individual driving behaviour).

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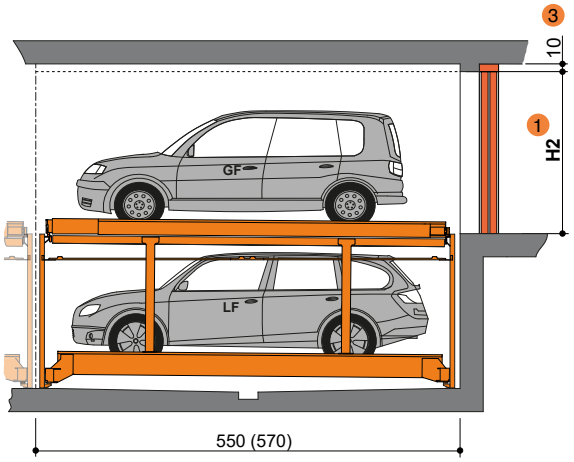
2 RB = Grid unit width **must** strictly conform to dimensions quotes!
3 Only applies to manually operated gates. The electrically driven gates must have 35 cm.
4 Observe minimum carriageway width according to local regulations.

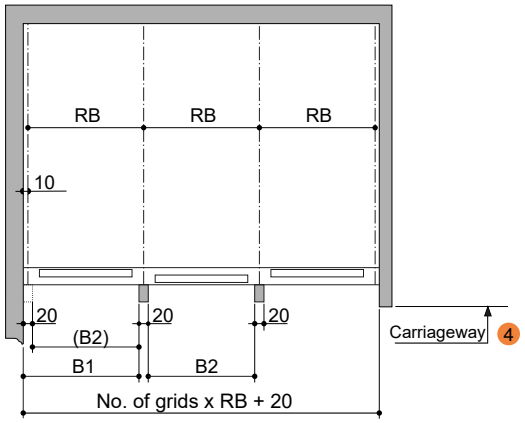
Garages with sliding gates | Widths dimensions

Sliding gate in front of columns



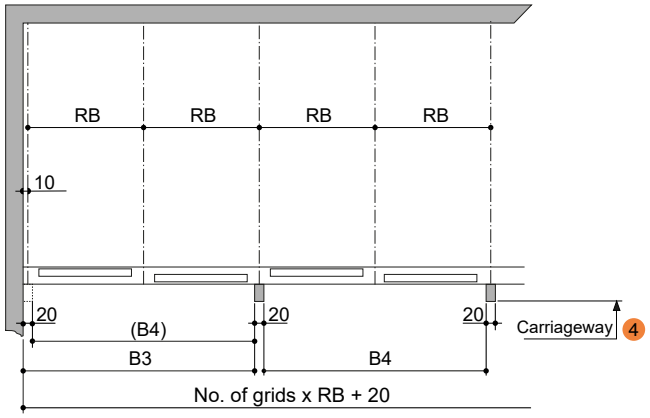
Vehicle height GF	H2
200	210
205	215
210	220
215	225
220	230
225	235
230	240
235	245
240	250
245	255

Columns per each grid unit



Usable platform width	RB 2	B1	B2
230	250	250	230
240	260	260	240
250	270	270	250
260	280	280	260
270	290	290	270

Columns every second grid unit



Usable platform width	RB 2	B3	B4
230	250	500	480
240	260	520	500
250	270	540	250
260	280	560	540
270	290	580	560

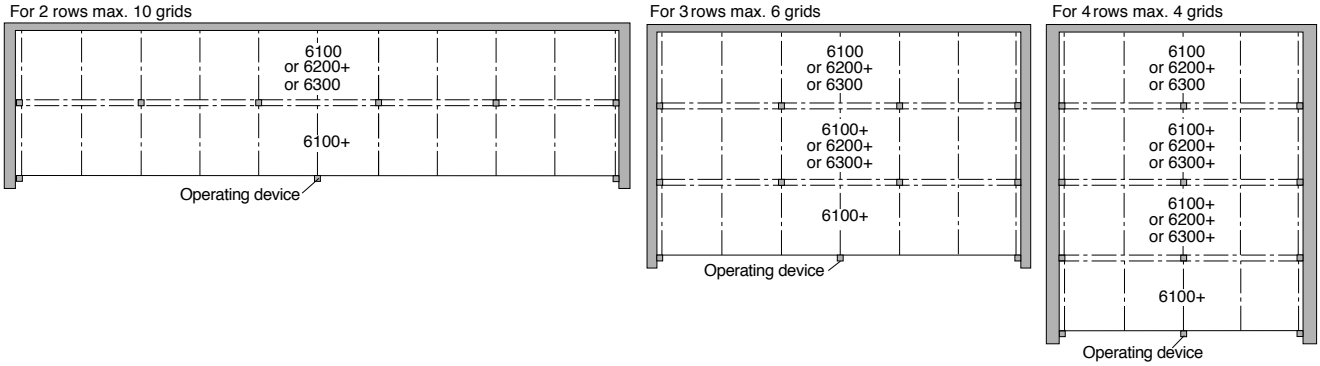
In accordance with ASR A1.7, an inspection book is required for a gate with electric drive that is intended for commercial use. Prior to commissioning and annually thereafter, the gate must be inspected by a qualified expert and the findings recorded in the inspection book.The inspection must be performed independently of any maintenance work.

We generally recommend our maximum platform width of 270 cm for corner boxes and boxes with dividing walls.
The adjoining grid must be taken into account during planning. Narrower platform widths can cause problems during operation (depending on the vehicle type, access situation and individual driving behaviour).

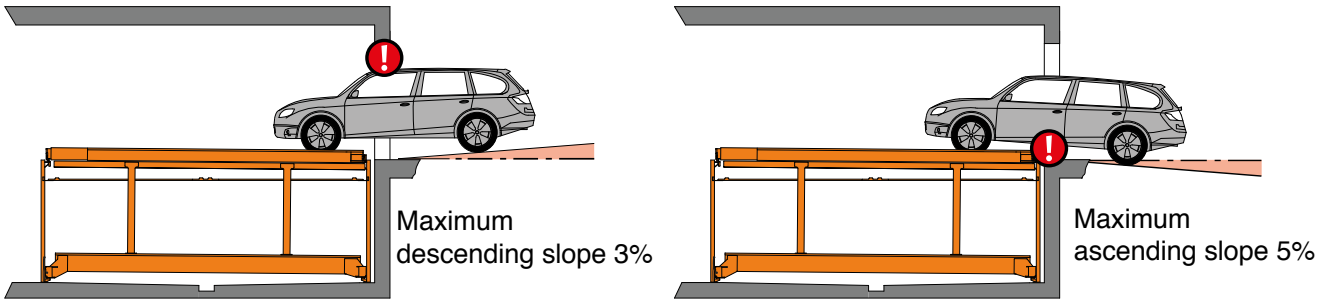
For large limousinesand SUVs, the access lanes may need to be widened (especially in the case of corner boxes with an insufficient manoeuvring radius)

1 Minimum clear height H2 to local regulations.
2 RB = Grid unit width **must** strictly conform to dimensions quotes!
3 Only applies to manually operated gates. The electrically driven gates must have 35 cm.
4 Observe minimum carriageway width according to local regulations.

Arrangement of the grid combination system

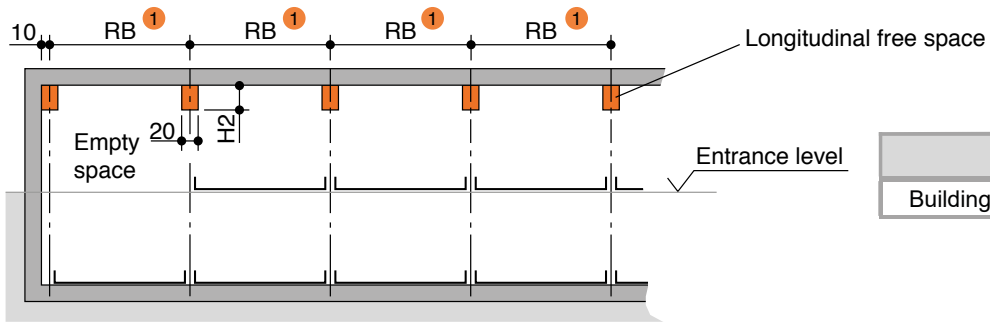


Approach



The illustrated maximum approach angle must not be exceeded. Incorrect approach angle will cause serious maneouvring & positioning problems on the parking system for which the local agency of KLAUS Multiparking accepts no responsibility.

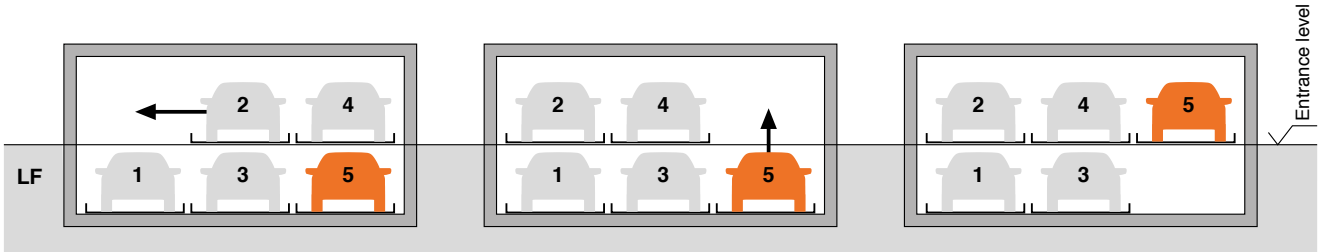
Longitudinal free space



H2 2	H2 max
Building height - 305	45

Function with standard numbering and identification of parking levels

e.g. for parking space No. 5: Check first that all doors are closed, then select No. 5 on operating panel.



For driving the vehicle off platform No. 5 the ground floor parking platforms are shifted to the left

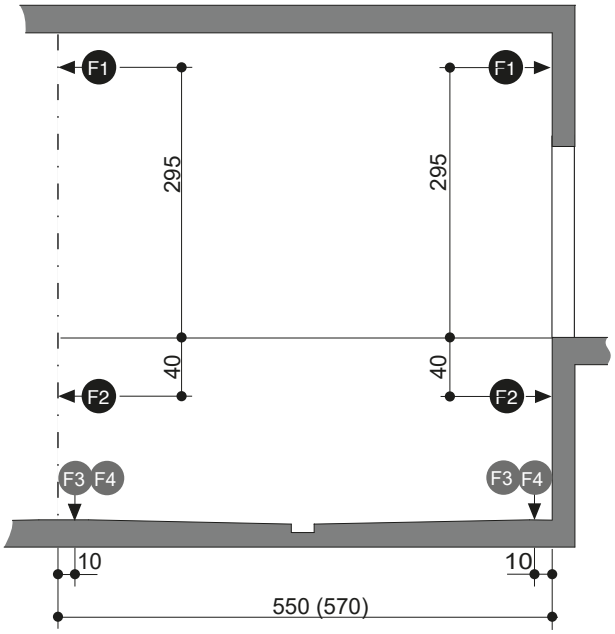
The empty space is now below the vehicle which shall be driven off the platform. The platform No. 5 will be loweredt.

The vehicle on platform No. 5 can now be driven off the platform.

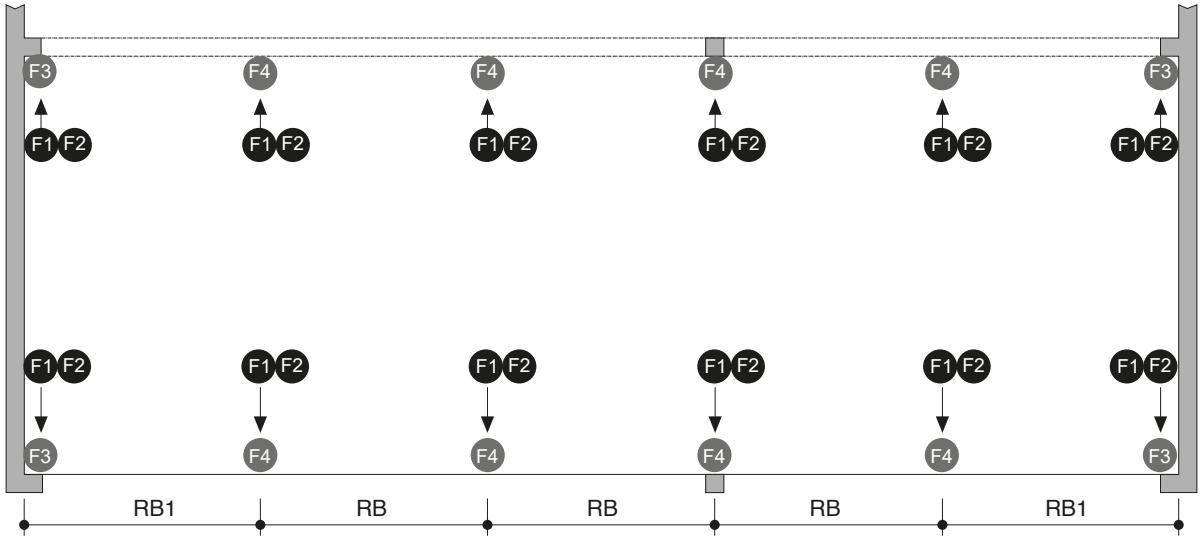
1 RB = Grid unit width **must** strictly conform to dimensions quotes!

2 Building height see page 2.

Load plan



Load plan – top view



Usable platform width	RB [1]	RB1
230	250	260
240	260	270
250	270	280
260	280	290
270	290	300

Platform load

Platform load [2]	F1	F2	F3	F4
2000 kg	±0,5	±2,5	+21	+42
2600 kg	±0,8	±2,5	+27	+54
3000 kg	±1,0	±2,5	+29	+57

The system is dowelled to the floor and walls. The drilling depth in the base plate is approx. 15cm.
The drilling depth in the walls is approx. 12cm.

The base plate and walls must be made of concrete (concrete quality min. C20/25)!

The dimensions of the support points are rounded. If the exact location is required, please contact KLAUS Multiparking.

1 RB = Grid unit width **must** strictly conform to dimensions quotes!

2 All forces in kN

Technical data

Field of application

By default, the system are only for a fixed number of users.
IIf different users use the system (e.g. short-time parkers in office buildings or hotels) the Multiparking system needs to be adjusted.
If required, would you please contact us

Available documents

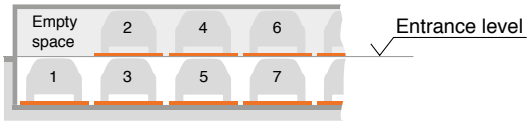
– wall recess plans
– maintenance offer/contract
– declaration of conformity
– test sheet on airborne and slide borne sound

Units

Low-noise power units mounted to rubber-bonded-to metal mountings are installed. Nevertheless we recommend that parking system's garage be built separately from the dwelling.

Numbering

Standard numbering of the parking spaces:



Initial position: lower floor platform No. 1 at entrance level (covering of pit; safety regulation).

Different numbering is only possible at extra cost

Please take note of the following specifications:

– In general, the empty space must be arranged to the left.
– The numbers must be provided 8 – 10 weeks before the delivery date.

Environmental conditions

Environmental conditions for the area of multiparking systems:
Temperature range -10 to +40°C.
Relative humidity 50% at a maximum outside temperature of +40°C.

If lifting or lowering times are specified, they refer to an environmental temperature of +10°C and with the system set up directly next to the hydraulic unit. At lower temperatures or with longer hydraulic lines, these times increase.

Sound insulation

Normal sound insulation:

As per DIN 4109-1 sound insulation in building construction:
The Maximum sound level in living rooms and bedrooms must not exceed 30 dB (A).
User noises are not subject to the requirements (DIN 4109-1, section 9).

The following measures are required to comply with this value:
- Sound protection package according to offer/order (KLAUS Multiparking GmbH).
- Minimum sound insulation of the building of min. R'w = 57 dB (service/item to be provided by the customer)

Increased sound insulation (special agreement):

As per VDI 4100 sound insulation in building construction:
The Maximum sound level in living rooms and bedrooms must not exceed25 dB (A).
User noises are not subject to the requirements (VDI 4100, paragraph 1).

The following measures are required to comply with this value:
- Sound protection package according to offer/order (KLAUS Multiparking GmbH).
- Minimum sound insulation of the building of min. R'w = 62 dB (service/item to be provided by the customer)

Note: User noises are basically noises that can be individually influenced by users of our multiparking systems.
These include, for example, driving on the platform, slamming vehicle doors, engine and brake noises.

Electrically driven gates

In accordance with ASR A1.7 commercially used power-driven doors must be subjected to annual inspections. We urgently recommend concluding a maintenance agreement that includes this service for the entire system.

Building application documents

According to LBO and GaVo (garage regulations) the Multiparking systems are subject to approval. We will provide the required building application documents.

Care

To avoid damages resulting from corrosion, make sure to follow our cleaning and care instructions and to provide good ventilation of your garage.

Corrosion protection

See separate sheet regarding corrosion protection.

CE-Certification

The systems on offer comply with DIN EN 14010 and EC Machine Directive 2006/42/EC. Furthermore, this system underwent voluntary conformity testing by TÜV SÜD.

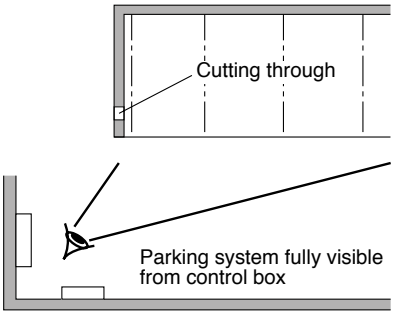
Electrical data

Control box

The control box must be accessible at all times from outside!

Dimensions approx. 40 x 60 x 30 cm.

Cutting through of wall from control box to parking system (contact the local agency of KLAUS Multiparking for clarification).



Electrical supply to the control box / Foundation earth connector

Suitable electrical supply min. 5 x 2,5 mm2 (3 PH+N+PE) to control box with main fuse 3 x 16 A slow or over-current cut-out 3 x 16 A.
Trigger characteristic K or C. DIN/VDE and local regulations must be taken into consideration.

Suitable electrical supply to the control box must be provided by the customer during installation. The functionality can be monitored on site by our fitters together with the electrician. If this cannot be done during installation for some reason for which the customer is responsible, the customer must commission an electrician at their own expense and risk.

In accordance with DIN EN 60204 (Safety of Machinery. Electrical Equipment), grounding of the steel structure is necessary, provided by the customer (distance between grounding max. 10 m)

Operating device

Easy-to-survey positioning (e.g. on column).

Protection against unauthorized use.

May also be recessed in wall if required.

To be performed by the customer

Safety fences

Any constraints that may be necessary according to DIN EN ISO13857 in order to provide protection, for pathways directly in front, next to or behind the unit. This is also valid during construction.

Numbering of parking spaces

Consecutive numbering of parking spaces.

Building services

Any required lighting, ventilation, fire extinguishing and fire alarm systems as well as clarification and compliance with the relevant regulatory requirements.

Drainage

For the middle area of the pit we recommend a drainage channel, which you connect to a floor drain system or sump (50 x 50 x 20 cm). The drainage channel may be inclined to the side, however not the pit floor itself (longitudinal incline is available). In the interests of environmental protection we recommend painting the pit floor. Oil and petrol separators must be provided according to the statutory provisions when connecting to the public sewage system!

Wall cuttings

Any necessary wall cuttings.

Electrical supply to the control box / Foundation earth connector

Suitable electrical supply to the control box must be provided by the customer during installation. The functionality can be monitored on site by our fitters together with the electrician. If this cannot be done during installation for some reason for which the customer is responsible, the customer must commission an electrician at their own expense and risk.

In accordance with DIN EN 60204 (Safety of Machinery. Electrical Equipment), grounding of the steel structure is necessary, provided by the customer (distance between grounding max. 10 m)

Strip footings

If due to structural conditions strip footings must be effected, the customer shall provide an accessible platform reaching to the top of the said strip footings to enable and facilitate themounting work.

Gate suspensions

The lintel height H2 (see page 3 to 5) is absolutely necessary. With different heights, additional fixings (gate suspensions) are required for extra charge.

Gate shields

Gate shields that may be necessary. If desired, they can be ordered from KLAUS Multiparking for an additional charge..

Description

General description

Multiparking system providing independent parking spaces for cars, one on top of the other and side by side.

The system is a drive-though system combined with TrendVario 6100, 6100+,6200+, 6300 and 6300+ (for details about these systems please refer to the relevant product data sheets).

Dimensions are in accordance with the underlying dimensions of parking pit, height and width.

The parking bays are accessed horizontally (installation deviation ± 1%).

Along the complete width of the parking automat an approach lane (driving lane in accordance with local regulations) must be available. Parking spaces are arranged on two different levels, one level on top of the other.

The platforms of the lower floor (LF) are moved vertically, the platforms on the ground floor (GF) horizontally. At approach level there is always one parking space less available. This vacant space is used for shifting the ground floor (GF) parking spaces sideways, thus enabling the lower platform (LF) parking space located below to be lifted to approach/ground level. Consequently, a unit of three parking spaces (1 on the ground floor, 2 on the lower floor) is the smallest unit available for this parking system.

For safety reasons the platforms can only be moved behind locked gates.

All necessary safety devices are installed. This consists mainly of a chain monitoring system, locking lever for the upper platforms and locked gates The gates can only be opened if the selected parking space has reached the park position.

A steel framework mounted to the floor consisting of:

– Columns (arranged in rows)
– Cross and longitudinal members
– running rails for the transversely movable ground floor (GF) platforms

Platforms consisting of:

– Platform profiles
– Adjustable wheel stops
– Canted access plate
– Side members
– Traverses
– Bride (only LF)
– Screws, nuts, washer, distance tubes, etc.

Lifting device for lower floor (LF) platforms:

– Hydraulic cylinder with solenoid valve
– Chain wheels
– Chains
– Limit switches
– The platforms are suspended on four points and guided along the supports using plastic sliding bearings

Drive unit of transversely movable platforms on the ground floor (GF):

– Gear motor with chain wheel
– Chains
– Running and guide rollers (low-noise)
– Power supply via cable chain

Hydraulic unit consisting of:

– Hydraulicpower unit (low-noise, installed onto a console with a rubber-bonded-to-metal mounting)
– Hydraulic oil reservoir
– Oil filling
– Internal geared wheel pump
– Pump holder
– Clutch
– AC-motor (3,0 kW, 230/400 V, 50 Hz)
– Motor circuit breaker
– Test manometer
– Pressure relief valve
– Hydraulic hoses (which reduce noise transmission onto the hydraulic pipe

Control system:

– Central control panel (operating device) used to select the desired parking space
– Electric wiring is made from the electric cabinet by the manufacturer

Description

Sliding gates

Size

Sliding gate, dimensions: approx. 2500 mm x 2000 mm(width x height).

Frame

– Frame construction with vertical centre stay bar made from extruded aluminium profiles (anodized, layer thickness approx 20 µm).
– To open the doors a recessed grip is integrated in the aluminium profile.
– A rubber lip is used for the finishing of the closing edge to the building.

Standard gate panel

Perforated steel plate
– Thickness 1 mm, RV 5/8, galvanized, layer thickness: approx. 20 µm
– Ventilation cross-section of the panel approx. 40%
– Not suitable for outdoor garages

Alternative gate panel

Perforated aluminium plate
– Thickness 2 mm, RV 5/8 E6/EV1, anodized, layer thickness: approx. 20 µm.
– Ventilation cross-section of the panel approx. 40%

Beaded steel plate
– Thickness 1mm, galvanized, layer thickness: approx. 20 µm .
– additional power coating, layer thickness: approx. 25 µm on the outside and approx. 12 µm [0.0005''] on the inside.
– Colour options for the outside (building view): RAL 1015 (light ivory), RAL 3003 (ruby), RAL 5014 (pigeon blue), RAL 6005 (moss green), RAL 7016 (anthracite grey), RAL 7035 (light grey), RAL 7040 (window grey), RAL 8014 (sepia), RAL 9006 (white aluminium), RAL 9016 (traffic white)
– Inside of the gates in light grey

Plain aluminium sheet
– Thickness 2 mm, E6/EV1, anodized, layer thickness: approx. 20 µm.

Wooden panelling
– Nordic spruce in grade A
– vertical tongue and groove boards
– preimpregnated colourless

Verbundsicherheitsglas
– VSG aus ESG 8/4 mm

Wire grating
– Mesh size 12 x 12 mm

Running rails

– The running gear of each gates consists of 2 twin-pair rolling gadgets, adjustable in height
– The running rails of the gates are fixed to brackets or the concrete lintel, or on a building-specific gate suspension using ceiling fittings
– The guide consists of 2 plastic rollers mounted to a base plate, which is dowelled to the floor
– Running rails, ceiling fittings and guide roller base plate are hot-dip galvanized

Gate actuation

Standard:
– Manually, i.e. the gate is opened and closed by hand

Alternatively:
– Electric drive via electric motor mounted to the rail system at the turning point of the sliding gates. The drive pinion engages into the chain mounted to the gate.

For safety reasons the movement of the platforms is always made behind locked gates. Position sensing, i.e. “gate open” and “gate closed” is effected by electric signalers.

Separation (if necessary):

– Upon request

Please note:

Gatepanels (on the side, cover for running rails, etc.) and gate suspensions are not included in the standard version but can be delivered against surcharge as special equipment.

We reserve the right to change this specification without further notice

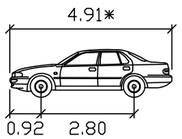
KLAUS Multiparking reserves the right in the course of technical progress to use newer or other technologies, systems, processes, procedures or standards in the fulfillment of their obligations other than those originally offered provided the customer derives no disadvantage from their so doing

Appendix C

Swept Path Diagrams

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



85th percentile
(AS/NZS 2890.1:2004)

Width	: 1.87m
Track	: 1.77m
Kerb to Kerb Radius	: 11.5m

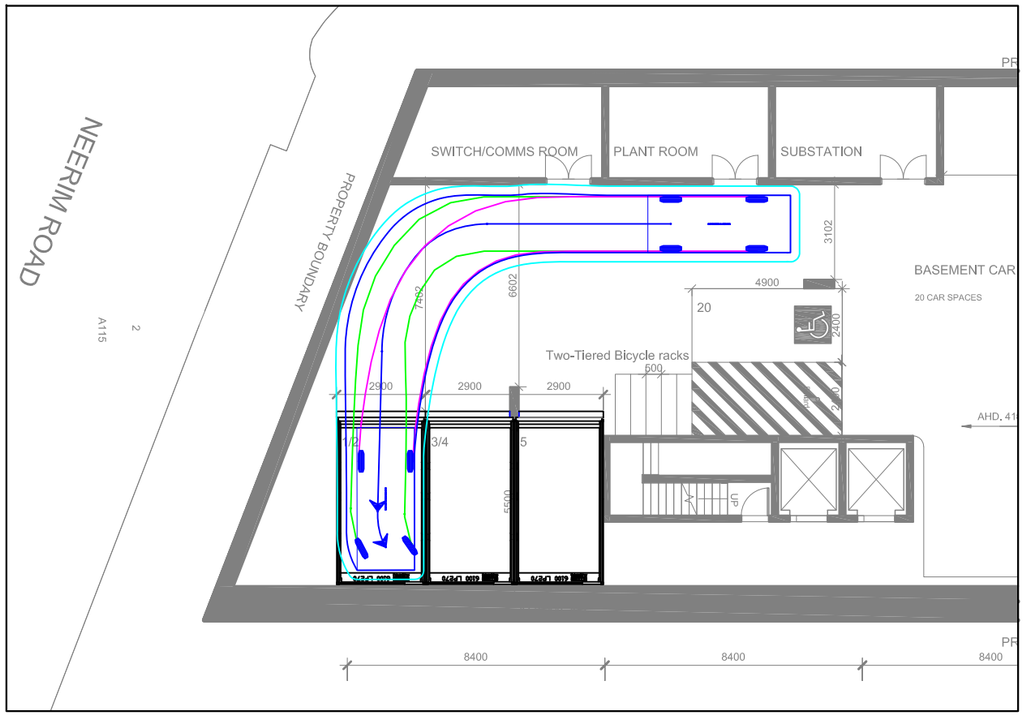
* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004

LEGEND

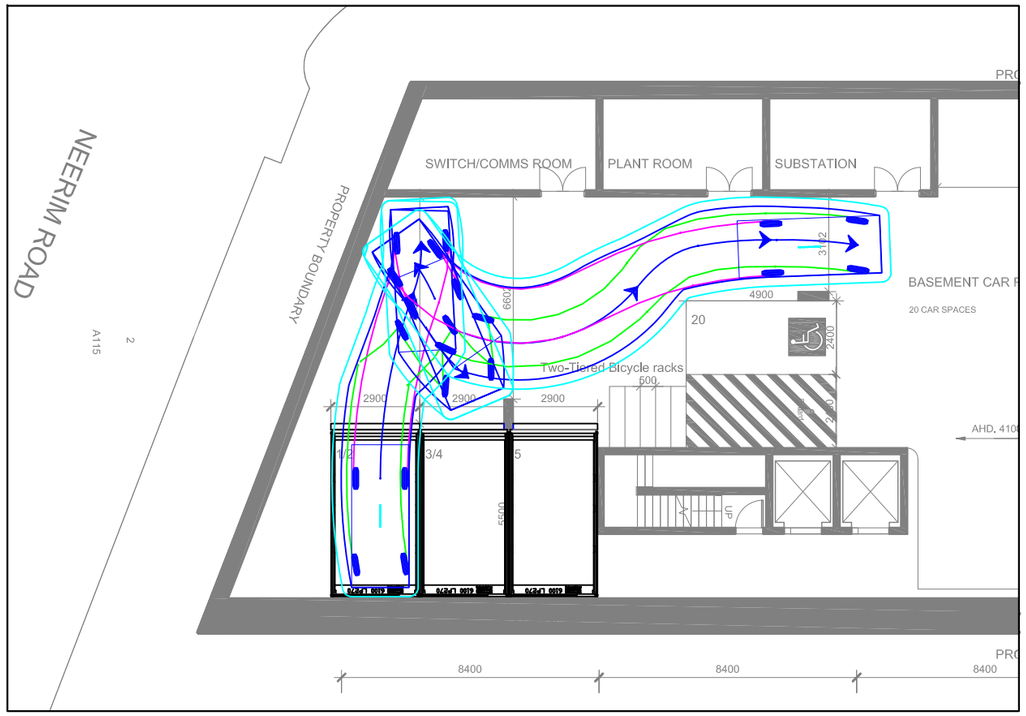
- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

PRELIMINARY ONLY
NOT FOR CONSTRUCTION

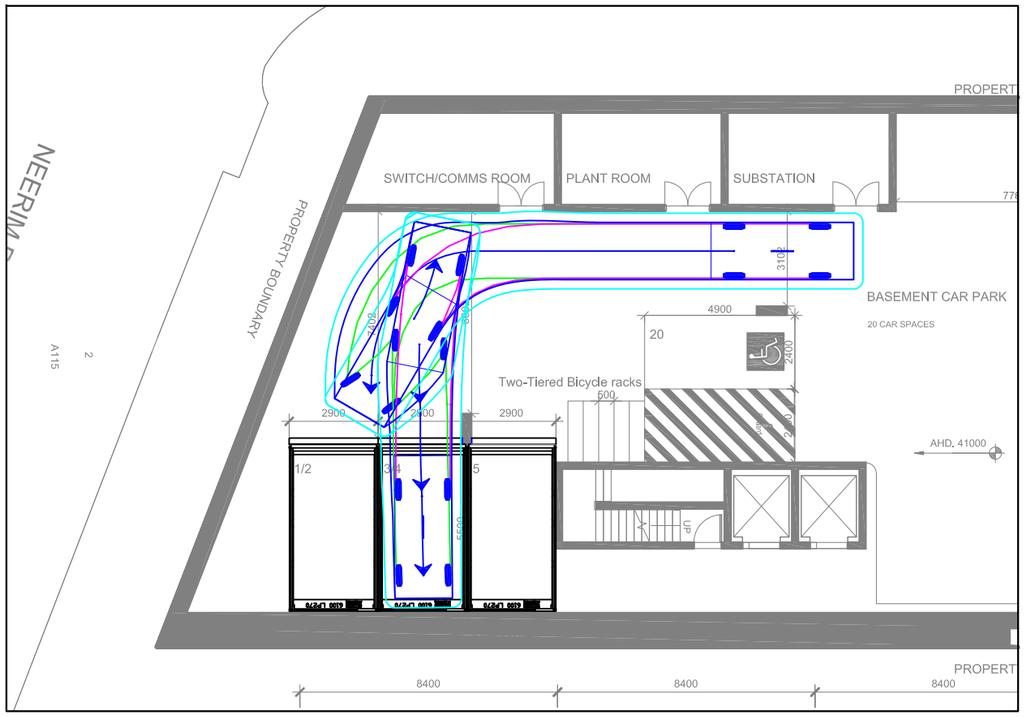
CAR SPACE 1 - INGRESS



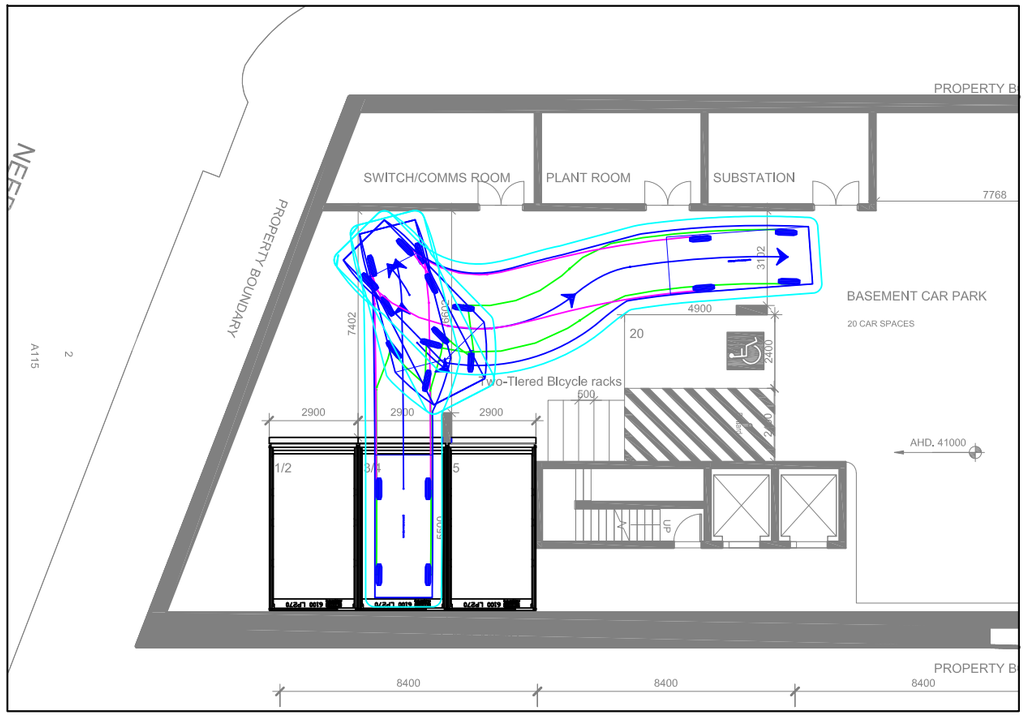
CAR SPACE 1 - EGRESS



CAR SPACE 2 - INGRESS



CAR SPACE 2 - EGRESS



REV.	REVISION NOTES	REVISION DATE

GENERAL NOTES:
INFORMATION BASED ON "430-434 Neerim Road,Murrumbeena_Option 2-5 - Sheet - A102 - PROPOSED BASEMENT FLOOR PLAN.dwg"

DESIGNED BY: Y. LEOW 8 SEP 2020
CHECKED BY: C. DUNSTAN 8 SEP 2020
FILE NAME: G28252-02.dwg
ISSUE: A

Traffix Group
Level 28, 459 Collins Street
MELBOURNE VICTORIA 3000
TEL : (03) 9822-2888

430-434 NEERIM ROAD, MURRUMBEENA

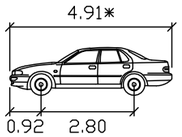
B85 DESIGN CAR SWEPT PATHS

PROPOSED MIXED USE DEVELOPMENT

SCALE: 1:200 (A3) 0 2 4
SHEET NO.: 01/03
DRAWING NO.: G28252-02

VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



85th percentile
(AS/NZS 2890.1:2004)

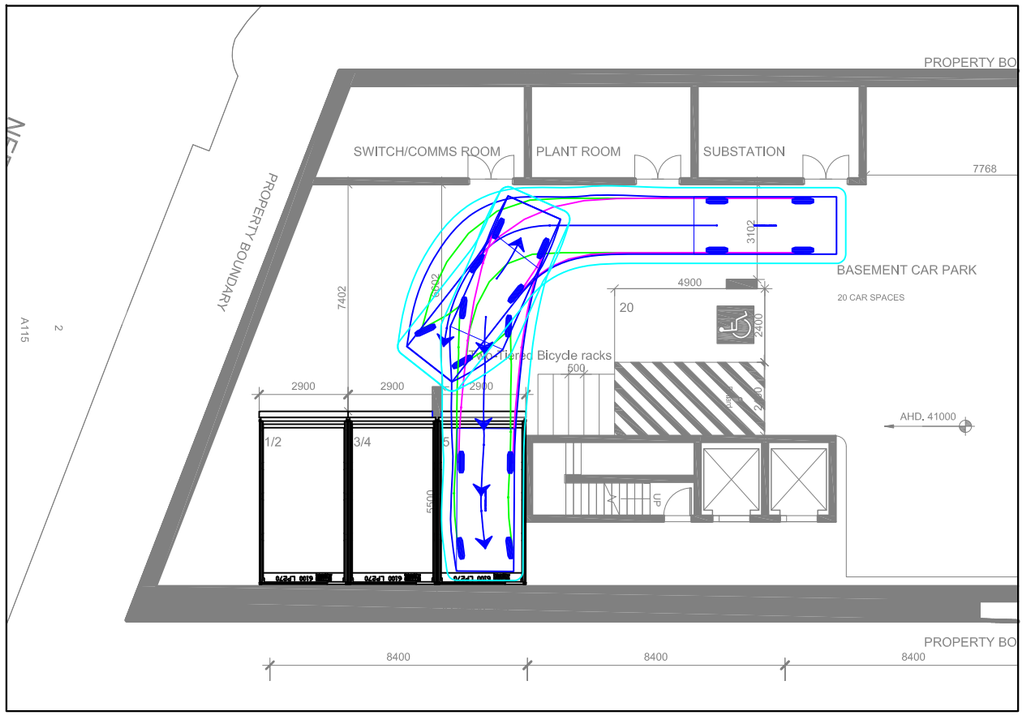
Width	: 1.87m
Track	: 1.77m
Kerb to Kerb Radius	: 1.5m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004

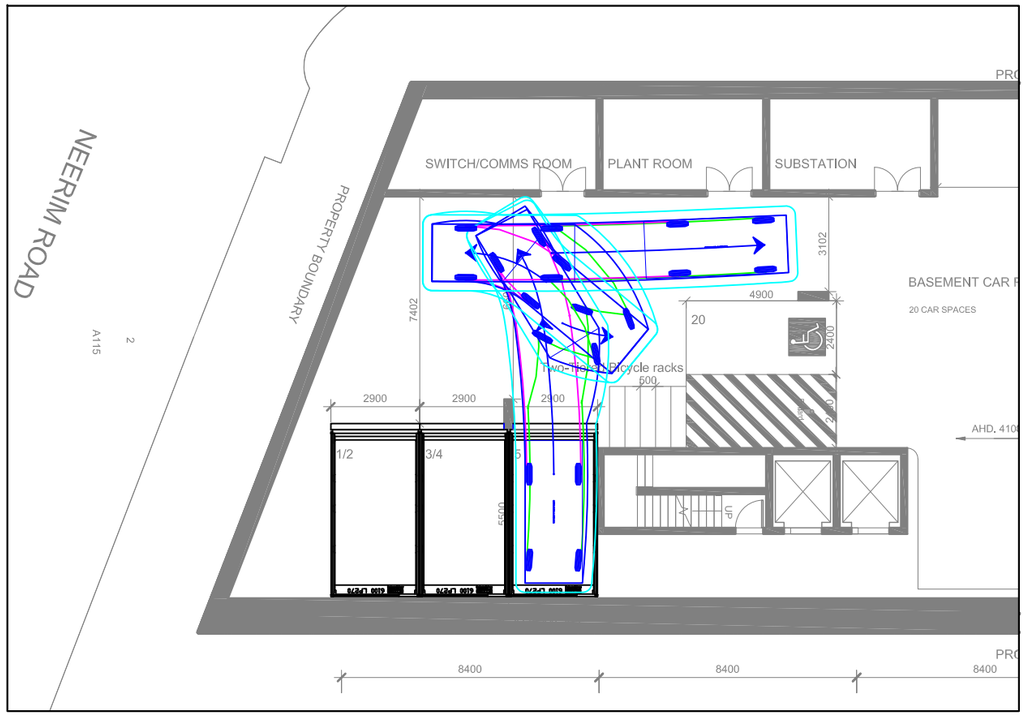
LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

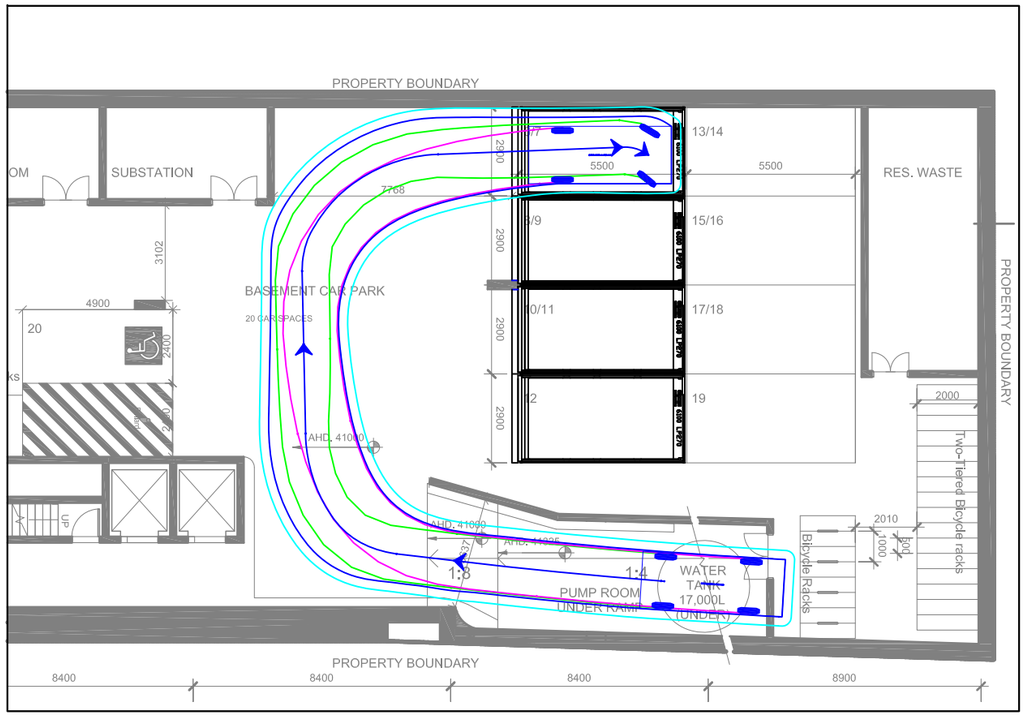
CAR SPACE 3 - INGRESS



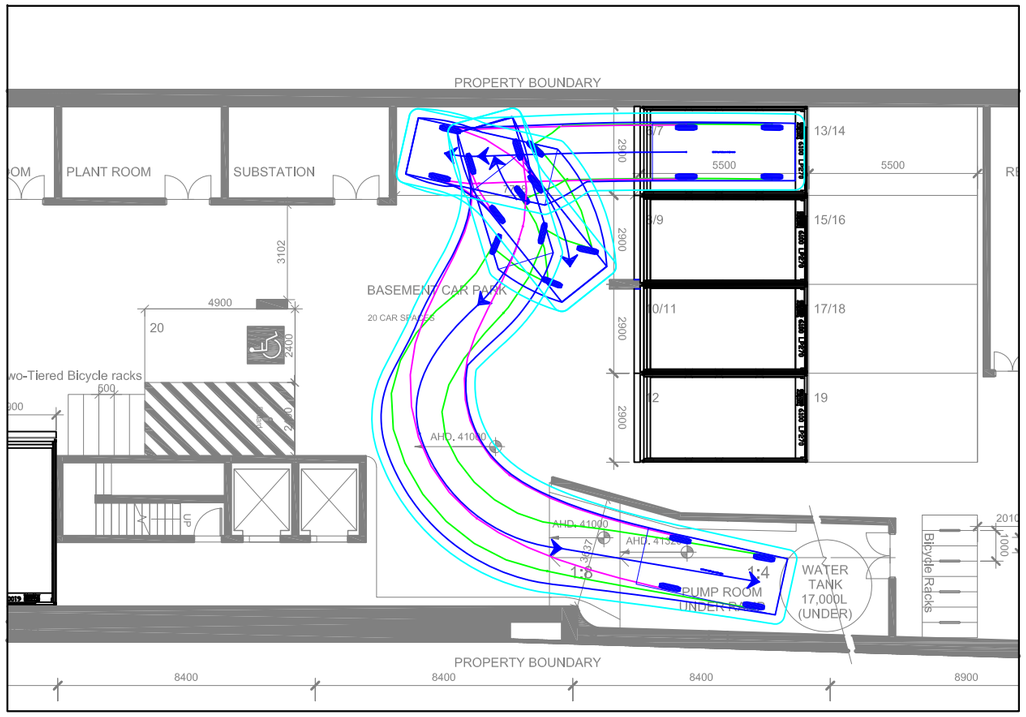
CAR SPACE 3 - EGRESS



CAR SPACE 4 - INGRESS



CAR SPACE 4 - EGRESS



N

PRELIMINARY ONLY
NOT FOR CONSTRUCTION

REV.	REVISION NOTES	REVISION DATE

GENERAL NOTES:
INFORMATION BASED ON "430-434 Neerim Road,Murrumbeena_Option 2-5 - Sheet - A102 - PROPOSED BASEMENT FLOOR PLAN.dwg"

DESIGNED BY: Y. LEOW 8 SEP 2020

CHECKED BY: C. DUNSTAN 8 SEP 2020

FILE NAME: G28252-02.dwg

ISSUE: A

Traffix Group
Level 28, 459 Collins Street
MELBOURNE VICTORIA 3000
TEL : (03) 9822-2888

430-434 NEERIM ROAD, MURRUMBEENA

B85 DESIGN CAR SWEPT PATHS

PROPOSED MIXED USE DEVELOPMENT

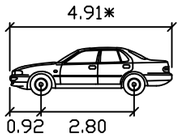
SCALE: 1:200 (A3) 0 2 4

SHEET NO.: 02/

DRAWING NO.: G28252-02

VEHICLE USED IN SIMULATION

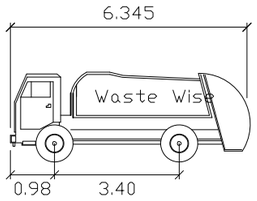
(VEHICLE SPEED - 5KM/H)



85th percentile
(AS/NZS 2890.1:2004)

Width	: 1.87m
Track	: 1.77m
Kerb to Kerb Radius	: 11.5m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004



Waste Wise Mini (Hino 300)

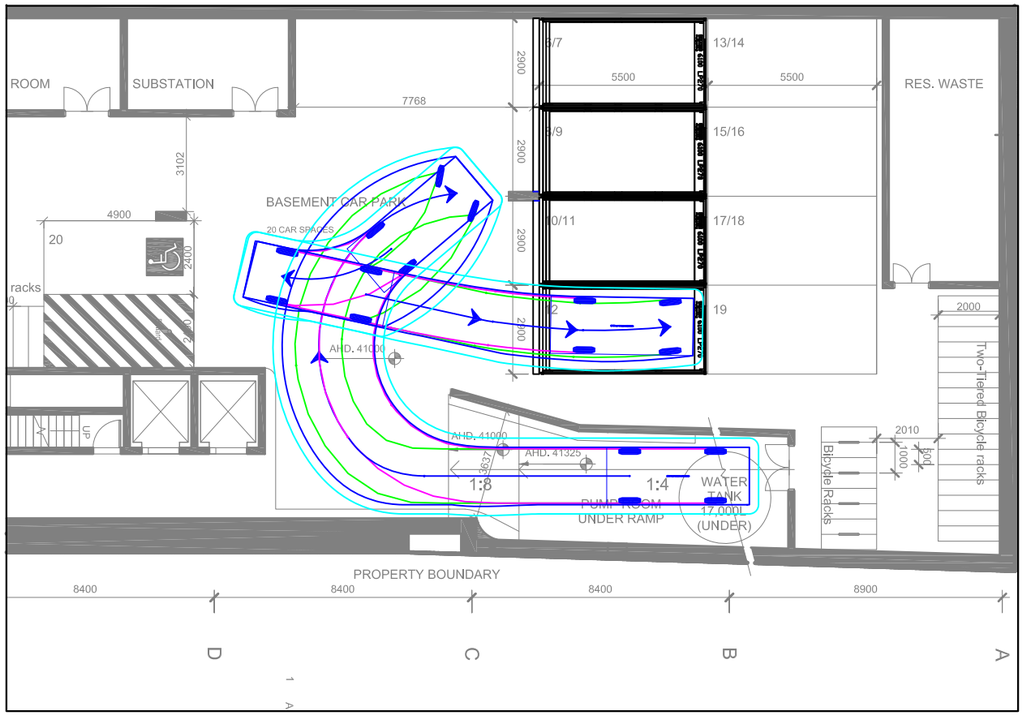
Width	: 1.7m
Front Track	: 1.4m
Rear Track	: 1.44m
Kerb to Kerb Radius	: 12.4m

LEGEND
- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

N

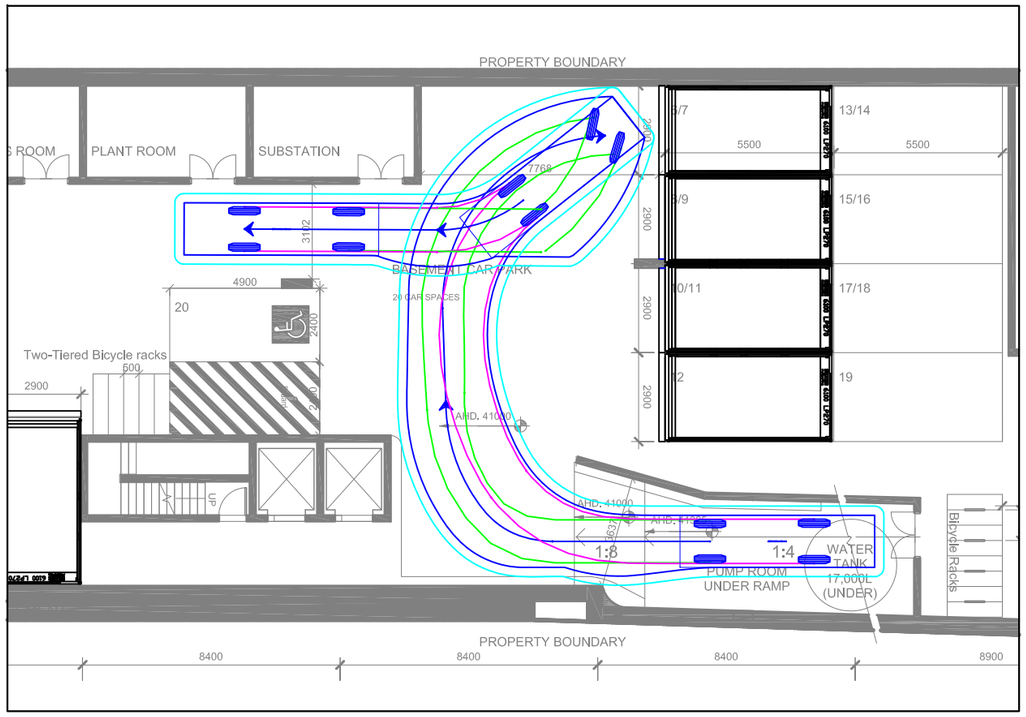
PRELIMINARY ONLY
NOT FOR CONSTRUCTION

CAR SPACE 3 - INGRESS

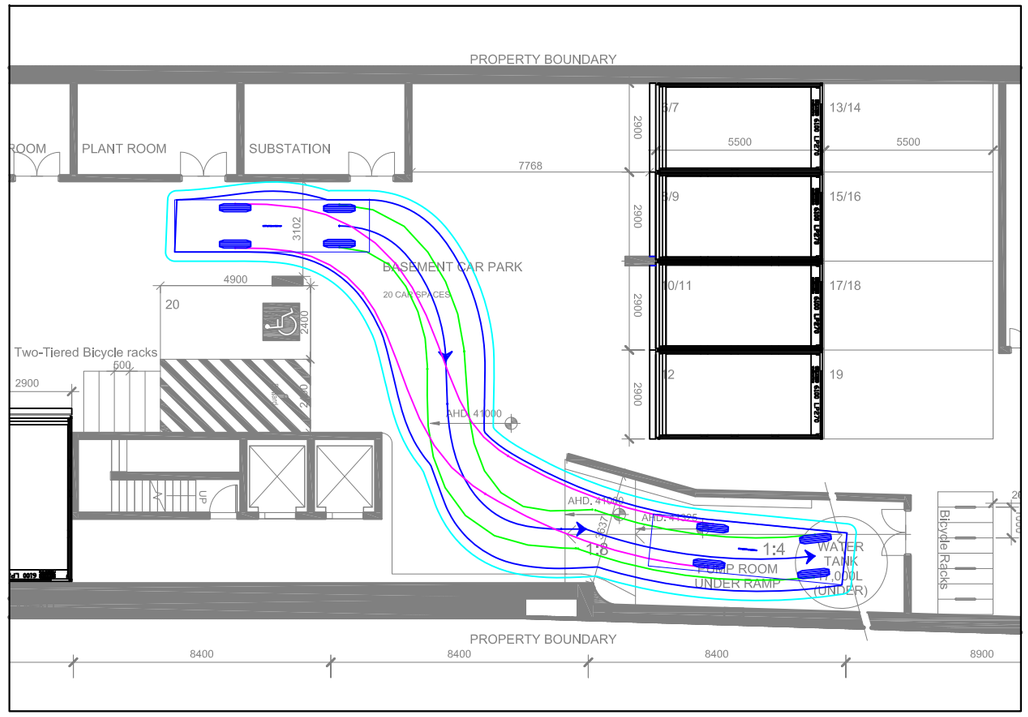


CAR SPACE 3 - EGRESS

6.4M WASTE WISE MINI - INGRESS



6.4M WASTE WISE MINI - EGRESS



REV.	REVISION NOTES	REVISION DATE

GENERAL NOTES:
INFORMATION BASED ON "430-434 Neerim Road,Murrumbeena_Option 2-5 - Sheet - A102 - PROPOSED BASEMENT FLOOR PLAN.dwg"

DESIGNED BY: Y. LEOW 8 SEP 2020
CHECKED BY: C. DUNSTAN 8 SEP 2020
FILE NAME: G28252-02.dwg
ISSUE: A

Traffix Group
Level 28, 459 Collins Street
MELBOURNE VICTORIA 3000
TEL : (03) 9822-2888

430-434 NEERIM ROAD, MURRUMBEENA

B85 DESIGN CAR & 6.4M WASTE WISE MINI SWEPT PATHS

PROPOSED MIXED USE DEVELOPMENT

SCALE: 1:200 (A3) 0 2 4
SHEET NO.: 03/03
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