

Our Reference: 077850-CUR-00-XX-RP-TP-002-V01

18 January 2021

Highways Development Control
Manchester City Council

By Email Only

Re: Costain House, Manchester (126895/FO/2020) – Technical Note

Dear Sir / Madam,

We have received a copy of your consultation response addressed to Manchester City Council in relation to the above application.

The application proposals are defined as;

“Creation of single decked car park to provide an additional 66 spaces including 18 electric vehicle charging points with associated lighting and landscaping. | Costain House 1500 Aviator Way Manchester M22 5TG.”

This Technical Note sets out each comment received, in italics, and Curtins’ response following the comments.

TRIP GENERATION

We would wish to assess details of the likely impact of the additional trips generated on the adjacent highway network including at the junction of Aviator Way and Enterprise Way.

To undertake the assessment, the TRICS database has been used. TRICS is the industry-recognised tool for calculating the anticipated future trip demand of a proposed development. The database contains multi-modal surveys of varying land uses in multiple destinations across the UK. The car park would be shared between Costain House to the west and the Emirates office to the east, both which can be categorized under office uses. However, the car park itself does not represent an increase in office space area nor an increase in the number of employees, therefore a different assessment based on trip rates per parking spaces should be undertaken.

Under office uses, the TRICS database automatically calculates trip rates per gross floor area or per employee only. Notwithstanding the above concessions, for robustness and in a “worst-case” scenario, it is assumed that the car park will be fully occupied over the course of the three AM peak hours (07:00 – 10:00), then emptied over the course of the three PM peak hours (16:00 – 19:00). For robustness, it is also assumed that all movements in the AM peak comprise arrivals, whereas all movements in the PM peak comprise departures. Trip rates over these hours were then interrogated to obtain the number of movements per hour.

The full TRICS outputs are included within **Appendix A** to the rear of this note. The additional applied selection criteria are set out below:

- TRICS category “Employment – Office”;
- Sites in England only (excluding Greater London);
- Suburban Area and Edge of Town;
- Only weekday surveys were included; and,
- Only the most recent surveys were included for each site.

Table 1 below summarises the trip rates from the TRICS database using the above criteria:

Post Submission Response

Time Period		TRICS Analysis – Office		Number of Movements in a 66-space car park
		Trip Rates per 100sqm	% of Trips	
AM Peak (arrivals)	07:00 – 08:00	0.780	32%	21
	08:00 – 09:00	1.005	41%	27
	09:00 – 10:00	0.675	27%	18
	Total AM Peak	2.460	100%	66
PM Peak (departures)	16:00 – 17:00	0.900	46%	30
	17:00 – 18:00	0.781	40%	26
	18:00 – 19:00	0.274	14%	9
	Total PM Peak	1.955	100%	66

Table 1 – Arrival and Departure Profile based on TRICS Database

Table 1 demonstrates that the likely levels of vehicular trips to / from the site across the day comprises 27 arrivals in the AM peak (08:00 – 09:00) and 26 departures in the PM peak (17:00 – 18:00). Given that all vehicular traffic from the site is routed through the Aviator Way / Enterprise Way junction, the above trips would all be routed to the junction.

On the above basis, Curtins do not believe that capacity assessments would be required, and that the Aviator Way / Enterprise Way junction would not experience any significant traffic impact resulting from the proposed development.

SUSTAINABLE TRAVEL

Given the need to encourage sustainable travel, we would recommend that a Travel Plan is developed as part of any planning approval.

Curtins notes this requirement and has provided an accompanying Framework Travel Plan (Document reference: 077850-CUR-00-XX-RP-TP-001) to demonstrate a commitment to promoting sustainable travel in tandem with highlighting the necessity for the 66-space surface car park to come forward. It includes a list of potential measures that could be implemented to affect modal choice, and a management strategy for producing a Full Travel Plan in the future if conditioned.

In terms of sustainable travel it is also recommended that some form of additional secure cycle parking/storage be considered.

There is currently a cycle shelter at the site. As part of the Travel Plan process, cycle parking usage will be monitored as part of travel surveys to understand the demand for existing spaces. Survey recipients will also be asked if there are any measures which could be implemented to increase the attractiveness of cycling as a sustainable mode of travel. Subject to the findings of the initial survey, additional cycle parking could be considered if the demand for cycle parking spaces exceeds the existing provision.

VEHICLE TRACKING AND CAR PARK STRUCTURE

It would be useful for a vehicle swept path assessment to be provided to demonstrate that the necessary vehicle manoeuvres can be undertaken when accessing/egressing the new car park.

Drawing 077850-CUR-00-XX-DR-TP-05001 is appended to the rear of this note. The drawing shows that cars can safely access / egress the car park and utilise the car parking spaces.

In relation to the car park structure, the applicant should confirm that the car park access / egress and layout has been designed in accordance with the IStructE guidance document 'Design recommendations for multi-storey and underground car parks', specifically guidance Tables 4.4 - 4.7. This should consider ramp gradients / transitions, ramp radii and ramp widths.

Post Submission Response

The IStructE guidance document mentions that the maximum gradient of straight ramps that rise over heights greater than 1.5m is 1:10. Curtins has checked the ramp gradient to be c. 1:11, which is below the maximum gradient. As such, the design of the ramp is acceptable.

PEDESTRIAN ACCESS

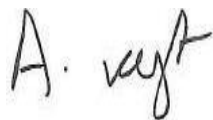
Whilst the proposed pedestrian accesses are acceptable, it is recommended that the associated internal pedestrian routes are identified (either through signs and/or road markings).

The design team would provide signage within the new car park to direct pedestrians to the appropriate accesses.

The contents of this note, in addition to the swept path analysis drawings attached, are considered to adequately address the comments raised within the MCC Highways consultation response.

I trust that the above now provides MCC with the required information to support the planning application for 66 spaces including (18 electric vehicle charging points) at Costain House.

Yours sincerely,

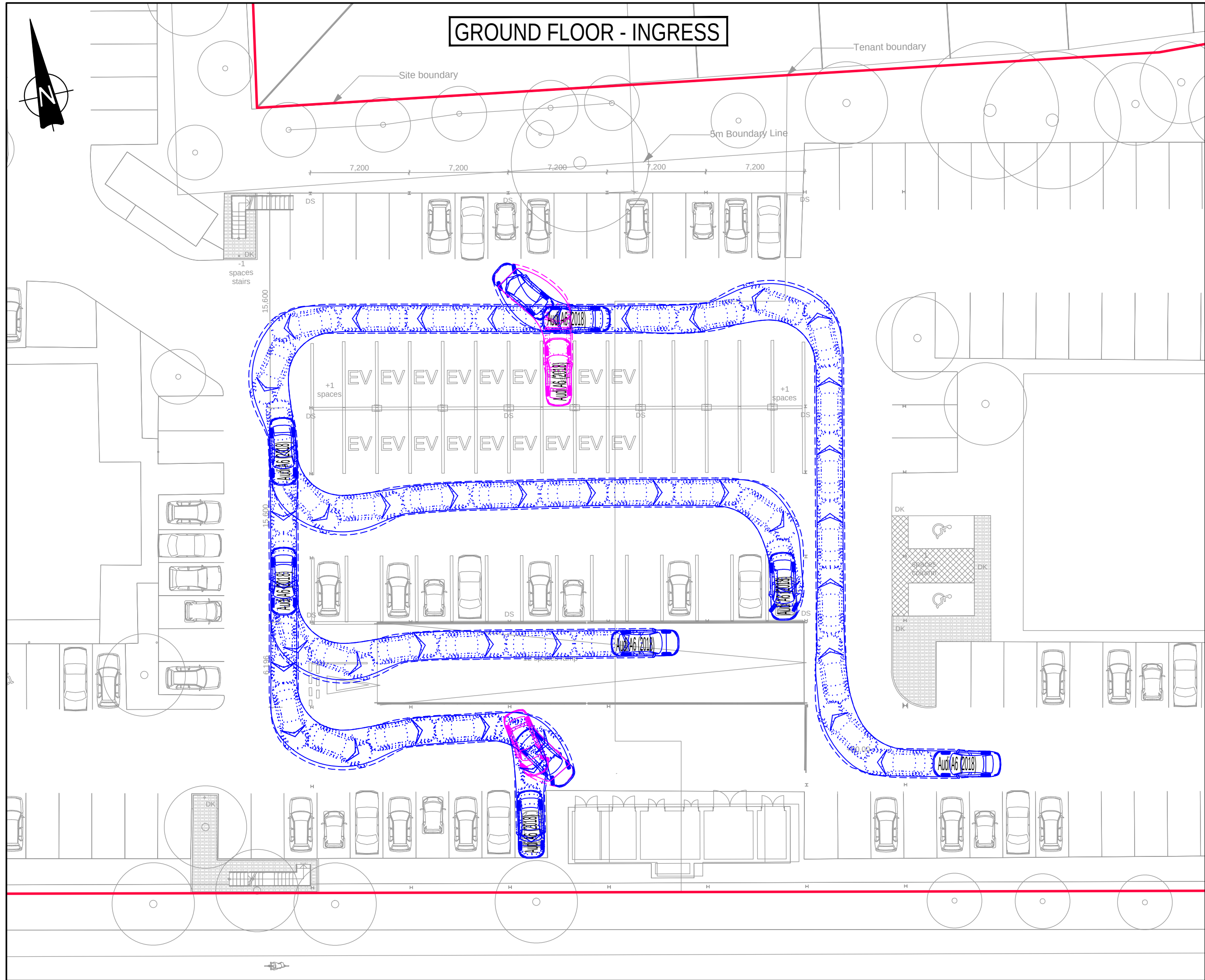
A handwritten signature in black ink, appearing to read 'A. Vogt'.

Alex Vogt
Director of Transport Planning
For and on behalf of Curtins

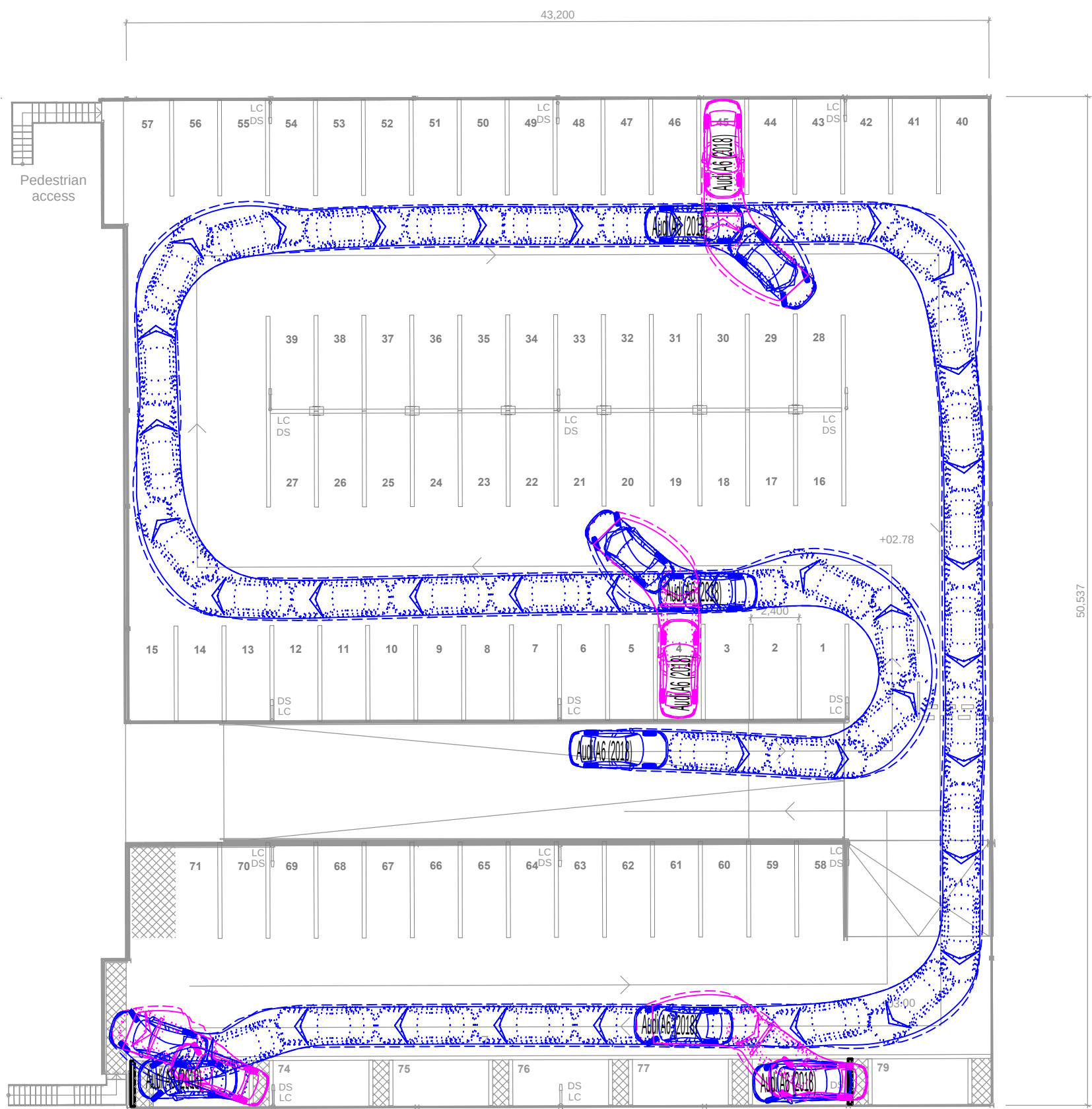
Drawings

Drawing 077850-CUR-00-XX-DR-TP-05001 – Swept Path Analysis: Large Car

GROUND FLOOR - INGRESS



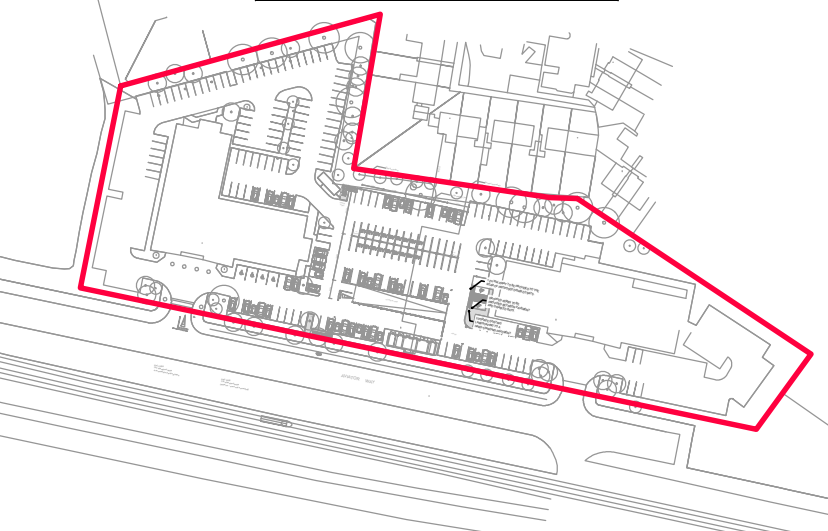
FIRST FLOOR - INGRESS



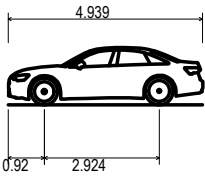
GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
4. FOR GENERAL NOTES REFER TO DRAWING.
5. THE CONTENT OF THIS DRAWING IS FOR INDICATIVE INFORMATION ONLY AND NOT SUITABLE FOR CONSTRUCTION PURPOSES

GENERAL VIEW (1:2500)

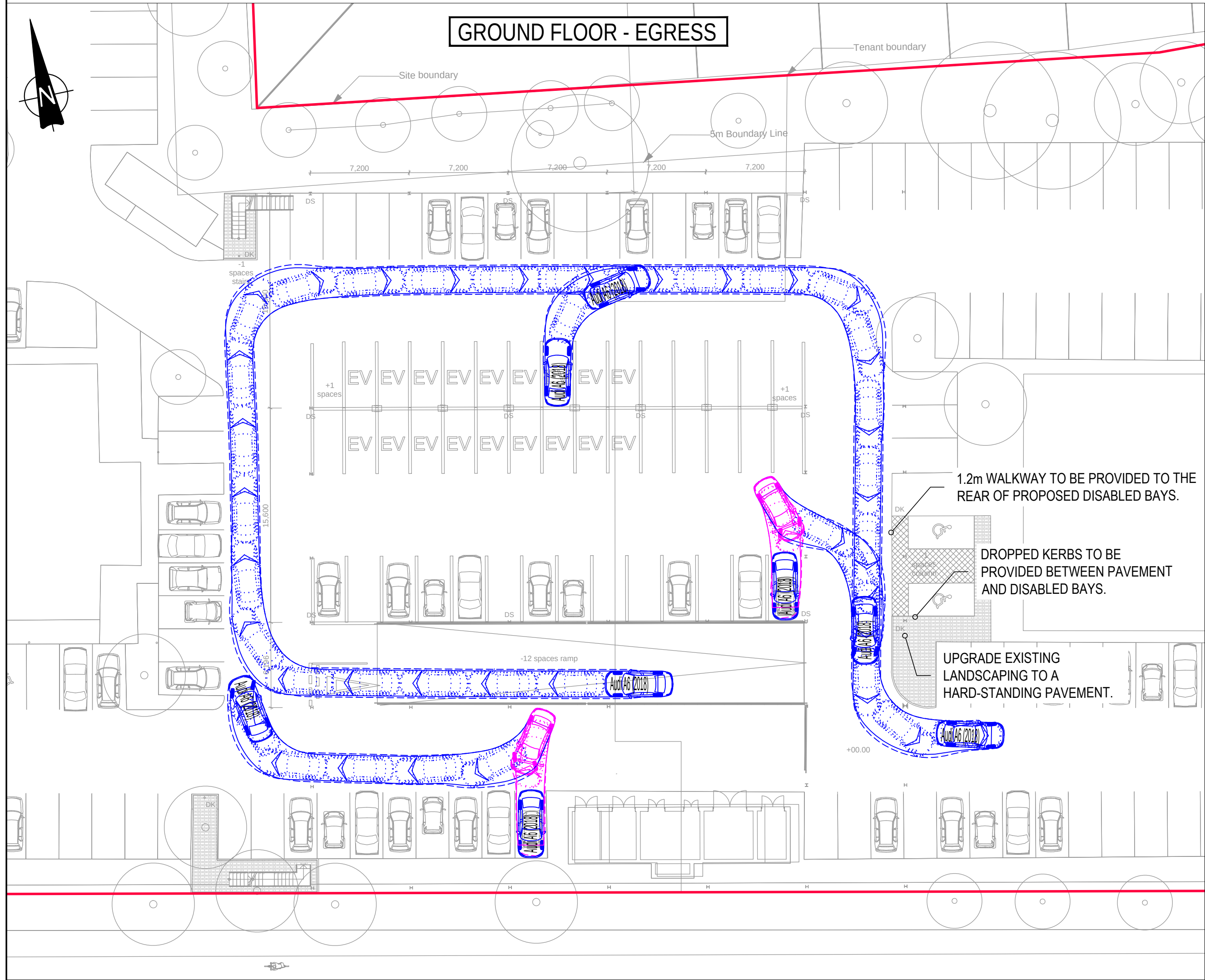


VEHICLE PROFILE:

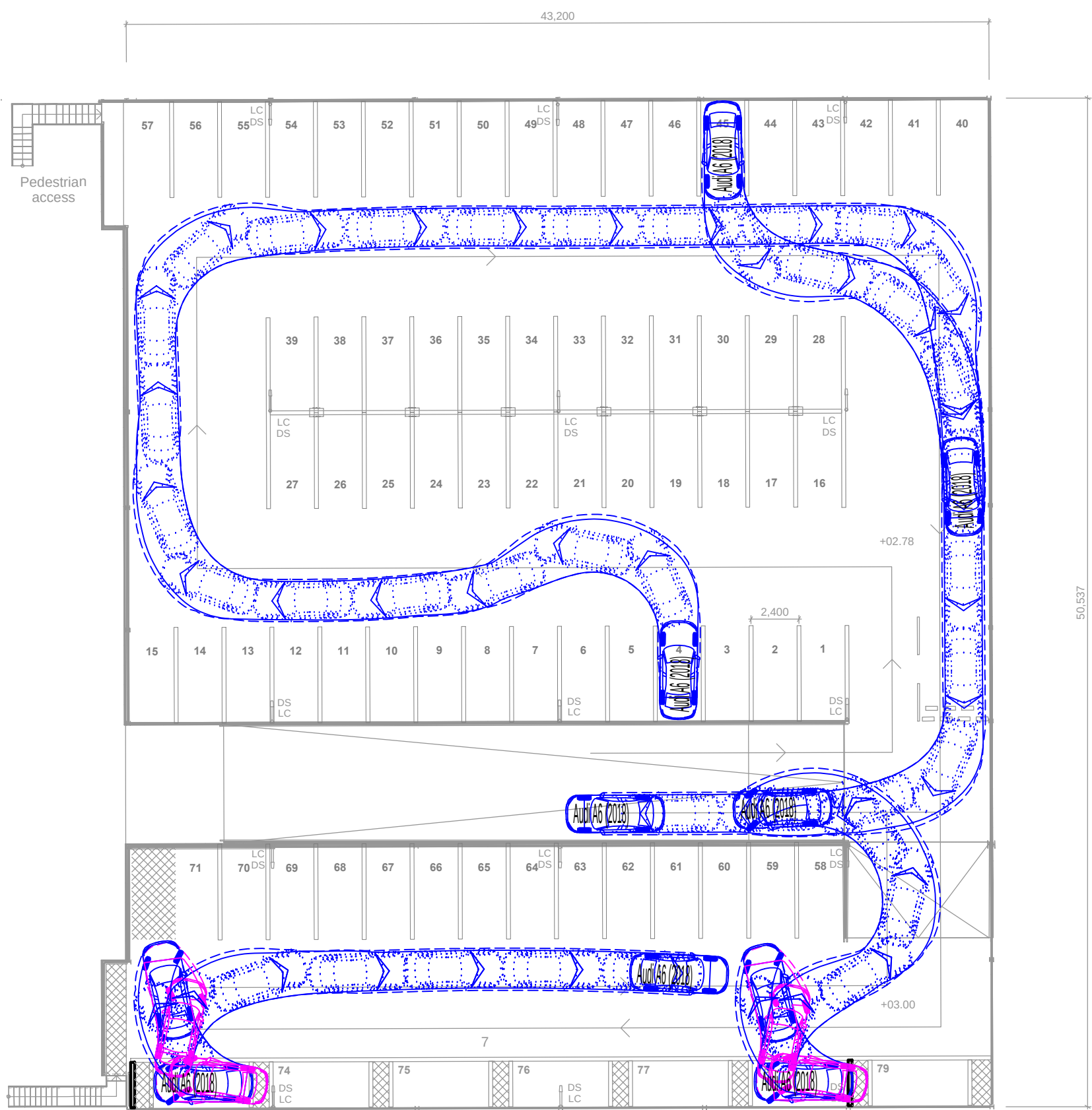


Audi A6 (2018)
Overall Length 4.939m
Overall Width 2.114m
Overall Body Height 1.457m
Min Body Ground Clearance 0.142m
Max Track Width 1.875m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 5.950m

GROUND FLOOR - EGRESS



FIRST FLOOR - EGRESS



P02	LAYOUT UPDATED	13/01/21	LL	DD
Rev:	Description:	Date:	By:	Chkd:



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Status: PRELIMINARY

Project: COSTAIN HOUSE - MANCHESTER

Orig Title: SWEPT PATH ANALYSIS
LARGE CAR
GROUND FLOOR & FIRST FLOOR

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	07/01/20	JM	JM	DD
Scale:	1:250			
Project No:	Originator:	Volume:	Level:	Type:
77850	- CUR	- XX	- 00	- DR - TP -
05001	- P02			

Appendices

Appendix A – TRICS Output

Calculation Reference: AUDIT-148301-210118-0144

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT

Category : A - OFFICE

TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days
09	NORTH	
	TW TYNE & WEAR	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 500 to 11250 (units: sqm)
 Range Selected by User: 178 to 175000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 04/09/20

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	2 days
Wednesday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Commercial Zone	1
Residential Zone	2
Built-Up Zone	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

B1

5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Use Class Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

15,001 to 20,000

1 days

25,001 to 50,000

4 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

125,001 to 250,000

1 days

250,001 to 500,000

1 days

500,001 or More

3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0

4 days

1.1 to 1.5

1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No

5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present

5 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	HC-02-A-12	HMRC	HAMPSHIRE
	NORTHERN ROAD		
	PORTSMOUTH		
	COSHAM		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	10100 sqm	
	Survey date: MONDAY	23/11/15	Survey Type: MANUAL
2	MS-02-A-02	SCIENCE PARK OFFICES	MERSEYSIDE
	MOUNT PLEASANT		
	LIVERPOOL		
	Edge of Town		
	Built-Up Zone		
	Total Gross floor area:	11250 sqm	
	Survey date: TUESDAY	13/11/18	Survey Type: MANUAL
3	NF-02-A-04	BUILDING CONSULTANT	NORFOLK
	WHITING ROAD		
	NORWICH		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	500 sqm	
	Survey date: WEDNESDAY	13/11/19	Survey Type: MANUAL
4	TW-02-A-08	HOUSING ASSOCIATION OFFICE	TYNE & WEAR
	BENTON PARK ROAD		
	NEWCASTLE UPON TYNE		
	Longbenton		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	4800 sqm	
	Survey date: FRIDAY	19/10/18	Survey Type: MANUAL
5	WM-02-A-04	OFFICE	WEST MIDLANDS
	BOURNVILLE LANE		
	BIRMINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	1800 sqm	
	Survey date: TUESDAY	10/11/15	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	10100	1.109	1	10100	0.168	1	10100	1.277
07:00 - 08:00	5	5690	0.682	5	5690	0.098	5	5690	0.780
08:00 - 09:00	5	5690	0.861	5	5690	0.144	5	5690	1.005
09:00 - 10:00	5	5690	0.492	5	5690	0.183	5	5690	0.675
10:00 - 11:00	5	5690	0.211	5	5690	0.148	5	5690	0.359
11:00 - 12:00	5	5690	0.190	5	5690	0.190	5	5690	0.380
12:00 - 13:00	5	5690	0.225	5	5690	0.309	5	5690	0.534
13:00 - 14:00	5	5690	0.257	5	5690	0.330	5	5690	0.587
14:00 - 15:00	5	5690	0.179	5	5690	0.337	5	5690	0.516
15:00 - 16:00	5	5690	0.141	5	5690	0.626	5	5690	0.767
16:00 - 17:00	5	5690	0.172	5	5690	0.728	5	5690	0.900
17:00 - 18:00	5	5690	0.183	5	5690	0.598	5	5690	0.781
18:00 - 19:00	5	5690	0.053	5	5690	0.221	5	5690	0.274
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		4.755			4.080			8.835	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	500 - 11250 (units: sqm)
Survey date range:	01/01/12 - 04/09/20
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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