

NOMA PLOTS 2 & 3 ANGEL SQUARE TRANSPORT STATEMENT

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Client Name: NOMA (GP) Limited

Client Address: C/O Brodies LLP Capital Square, 58 Morrison Street, Edinburgh, EH3 8EP.

Site Address: 2 & 3 Angel Square, Manchester M4 4DY.

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Appendices

Appendix A – Development Proposals

Appendix B – TRICS Output

1.0 Introduction

1.1 Background

- 1.1.1 Curtins has been appointed on behalf of NOMA (GP) Limited to provide traffic and transportation advice in relation to the redevelopment of 2 & 3 Angel Square.
- 1.1.2 The proposed development comprises plots M and N of the adopted NOMA Masterplan, known as 2 and 3 Angel Square, with the following development description:

“An application for full planning permission comprising:

Erection of 2 Angel Square, a 14 storey building (excluding roof top plant) to form a mixed use office development (Use Class Egi) with two flexible commercial units at Upper Ground floor Level (Use Classes Ea, b, c, e, f, and / or Use Class Sui Generis (p) and (q)), and with a flexible office (Use Class Egi) and/or restaurant (Use Class Eb) space at Level 12, along with Lower Ground Level car and cycle parking, hard and soft landscaping and other associated works;

Erection of 3 Angel Square, a 13 storey building (excluding roof top plant) to form a mixed use office development (Use Class Egi) with two flexible commercial units provided over Lower and Upper Ground Floor Levels (Use Classes Ea, b, c, e, f, and / or Use Class Sui Generis (p) and (q)), a further flexible commercial unit at Upper Ground Floor Level only allowing for ancillary seminar space and / or Sui Generis Use Class (t) Cinema space, together with an ancillary gym space at Upper Ground Floor, as well as Lower Ground Level car and cycle parking, hard and soft landscaping and other associated works.”

- 1.1.3 The proposed lower ground floor plans are included in **Appendix A**.

1.2 Planning History

- 1.2.1 The site has previously received consent for a similar development (Manchester City Council (MCC) application reference: 109865/FO/2015/N1). Curtins prepared a Transport Assessment and Travel Plan to support the application, and consent was granted in November 2015 for the following:

“Erection of a part 10 / part 11 storey, and a part 12 / part 13 storey building with plant rooms above to form a mixed use development comprising Class B1 office use (maximum of 49,622sqm) and commercial units maximum of 1,591sqm (Use Classes A1, A2, A3, B1 and D1) along with associated basement car parking, hard and soft landscaping and associated works, including the creation of a new pedestrian route between Angel Street and Miller Street.”

- 1.2.2 In 2019, NOMA (GP) Limited revisited the consents for 2 & 3 Angel Square, made modifications to the proposals, and subsequently submitted a new planning application (MCC application reference:

124973/FO/2019), which was approved in 2020. From a traffic and transport perspective, the changes predominantly related to access and parking as follows:

2 Angel Square (Plot M)

- Basement level omitted – as a result, car parking numbers were reduced (from 49 to 22);
- Revised car and servicing / delivery access from Angel Square; and
- Improved cycle storage and shower facilities.

3 Angel Square (Plot N)

- Basement level omitted – as a result, car parking numbers were reduced (from 96 to 28);
- Improved cycle storage and shower facilities.

1.2.3 Additionally, in 2021, NOMA (GP) Limited obtained planning permission for a temporary marketing suite for NOMA (up to 5 years) within the southern portion of Plot 3 (application reference: 129631/FO/2021). At the time of writing, the marketing suite is fully operational.

1.2.4 In 2022, new proposals were brought forward in the interests of delivering a more sustainable development, which was subsequently resubmitted and approved (MCC application reference: 134307/FO/2022). From a traffic and transport perspective, the number of car parking spaces was reduced further (from 50 to 30) considering the highly accessible nature of the proposed development, and to encourage future staff and visitors to reduce travel by car.

1.2.5 At the time of writing, there have been further changes to the consented scheme, with those pertaining to traffic and transport summarised as follows. These changes are proposed to be formalised through a Non-Material Amendment (NMA).

2 Angel Square

- Generator moved from car park to roof, 1 no. parking space added;
- 3 no. parking spaces allocated as E.V. parking spaces (1 no. accessible, 2 no. standard);
- Motorcycle parking added in place of 1 no. car parking space (3 no. motorcycle spaces, as such no net change to car parking numbers);
- 1 no. drying room omitted;
- Changing room layout adjusted; and
- Cycle store layout adjusted. Number of cycle spaces reduced to 108 no. total (previously 122 no. in 2022 planning application): 12 no. folding bike lockers, 60 no. semi-vertical stands, 15 no. type A – Sheffield (30 spaces), 6 no. recumbent.

3 Angel Square

- Car park arrangement updated. Total number reduced from 15 no. in 2022 planning application to 14. no; and

- Cycle store arrangement updated. Current cycle parking for 131 total cycles (previously 148 no. in 2022 planning application). 92 no. stacked bike storage (92 spaces), 7 no. cargo bike racks, 12 no. folding bike lockers, 10 no. Sheffield stands (20 spaces).

1.2.6 The difference between the consented and proposed development is as follows:

Element	Consented (2022)		Proposed (2023)		Difference	
	Plot 2	Plot 3	Plot 2	Plot 3	Plot 2	Plot 3
Overall Gross Internal Area (GIA) (sqm)	25,803	30,938	26,385.7	31,075	+582.7	+137
Overall Net Internal Area (NIA) (sqm), including:	20,074	24,459	20,718.1	24,946.4	+644.1	+487.4
o Standard office (Use Class Egi)	17,809	22,331	18,437	22,838	+628	+507
o Flexible office (Use Class Egi) and / or restaurant (Use Class Eb) space at Level 12	1,139	N/A	1,188.9	N/A	+49.9	±0
o Ancillary gym	N/A	176	N/A	173.6	±0	-2.4
o Flexible office and / or Sui Generis Use Class (t) Cinema Space	N/A	592	N/A	593.7	±0	+1.7
o Commercial retail (Use Classes Ea, b, c, e, f, and / or Use Class Sui Generis (p) and (q)) in NIA	566	1,097	538.3	1,086	-27.7	-11
o Miscellaneous (Entrance)	560	263	533.8	255.1	-6.2	-7.9
Car Parking Spaces	15	15	15	14	±0	-1
Cycle Parking Spaces and Lockers	122	148	108	131	-14	-17
Cycle Showers	13	17	11	13	-2	-4

Table 1.1 – Development Summary

1.3 Purpose of the Report

1.3.1 This Transport Statement (TS) has been prepared to inform Highway Officers at MCC as the Local Highway Authority (LHA) of the development proposals and their potential impact on the surrounding area from a traffic and transportation perspective. The document provides an update to the approved schemes from 2015, 2019, and 2022.

1.4 Scope of the Report

1.4.1 The scope of this report is consistent with the guidance and recommendations set out in local and national planning policy.

1.4.2 On this basis, the TS contains the following:

- A description of the highway network in the vicinity of the site;
- A review of the accident record in the immediate vicinity of the site for a five-year period;
- A summary of the development proposals;
- A review of accessibility by all sustainable modes of travel;
- Information regarding traffic generation and trip rates;
- Commentary on the highway impact associated with the development proposals; and
- A summary of relevant transport planning policy.

1.5 Structure of the Report

- 1.5.1 Following this introduction, **Section 2** of the report provides a comprehensive description of the existing site and its location. This includes the local highway network and facilities for pedestrians, cyclists, and public transport users.
- 1.5.2 **Section 2** also reviews the local area in terms of highways safety by way of obtaining records of collisions adjacent to the site over the most recent five-year period available.
- 1.5.3 **Section 3** gives an overview of the development proposals including details on proposed access and parking provision.
- 1.5.4 **Section 4** considers the site's accessibility by sustainable modes of transport, including walking, cycling and public transport.
- 1.5.5 **Section 5** outlines the traffic forecasting methodology used to establish the likely traffic generation associated with the development proposals.
- 1.5.6 **Section 6** summarises key national and local transport planning policy.
- 1.5.7 **Section 7** provides a report summary and conclusion.

- 2.2.2 There is a significant change in levels across the site, with the lowest part being in the west corner, rising to the north and east towards Angel Street. The difference in level across the site between Angel Street and Miller Street is typically a storey, creating a lower and upper ground floor.
- 2.2.3 Following a review of the Definitive Records, there are no Public Rights of Way (PRoW) extending through the site. Notwithstanding, there is a wide public realm to the south of 1 Angel Square / to the west of the site which accommodates pedestrian and cycle movement between Angel Street and Miller Street. From this public realm, there is subsequently a wide Toucan crossing across Miller Street towards Dantzic Street, which is also pedestrianised for a certain extent.
- 2.2.4 Vehicular access to the existing car park is currently provided from Angel Street. The access takes the form of a priority-controlled T-junction, with dropped kerbs and tactile paving across the access to facilitate pedestrian crossing. Pedestrian and cycle access can be undertaken in a similar manner to the vehicular access.

2.3 Surrounding Highway Network

A665 Miller Street / Ring Road

- 2.3.1 The A665 Miller Street runs along the southern boundary of the site. The A665 comprises a two-lane carriageway, and forms part of the arterial route circling the city centre. The A665 Ring Road commences at a signalised junction with the A665 Cheetham Hill Road near the Green Quarter (north-west of the site) and continues for a length of c. 2.3km towards the south-east of Manchester city centre, terminating at the Pin Mill Brow (a fork in the road where it diverges into the A635 Ring Road and A665 Chancellor Lane) in Ardwick.
- 2.3.2 Miller Street comprises approximately 300m of this whole length and is one-way in a westerly direction. The highway extends for approximately 300m between a signalised junction with Rochdale Road, Shudehill and Swan Street in the east, to a signalised junction with Cheetham Hill Road and Corporation Street in the west. Both signalised junctions have pedestrian crossing facilities, complete with dropped kerbs and tactile paving.
- 2.3.3 The carriageway along Miller Street itself is typically 8m wide and has up to three lanes. There are well-maintained footways on both sides of the carriageway which are approximately 3m in width. The road is well-lit with street lighting.
- 2.3.4 There is also a Toucan crossing facility located adjacent to Dantzic Street, which is complete with dropped kerbs and tactile paving. Most of the junctions along the A665 also have controlled crossing points, pedestrian refuge islands and advanced cycle stop lanes to facilitate pedestrian and cycle movement in a safe manner.
- 2.3.5 In the vicinity of the site, the A665 is subject to parking restrictions in the form of single (no loading between 08:00 – 09:30 Mon – Sat and 16:30 – 18:00 Mon – Fri) and double yellow (no waiting at any

time) lines throughout its entire length. There are also “SLOW” markings on the road to enforce the speed limit of 30mph.

A664 Ring Road / Angel Street

- 2.3.6 The A664 runs adjacent to the north of the site. The road commences at the signalised junction with the A665 Ring Road to the west of the site and extends in a north-easterly direction for c. 120m, where this stretch is known as the A664 Ring Road. To the north of the site, the road then widens into three lanes and continues as Angel Street for c. 320m prior to terminating at a signalised four-arm junction with the A664 Rochdale Road and A665 Ring Road. The roads provide vehicular and pedestrian access to the Co-Op building at One Angel Square and are both one-way in an easterly direction, with an additional advisory cycle lane along Angel Street.
- 2.3.7 The junctions along the A664 have shared pedestrian and cycle crossing facilities complete with dropped kerbs and tactile paving, and advance cycle stop lines. There are also well-maintained footways along both sides of the road of up to 4m wide, street lighting at regular intervals, and it can be observed that there are high levels of pedestrian footfall in the area due to the proximity of employment opportunities and car parks.
- 2.3.8 Towards the north-west of the site, the footway is separated from the road by a large grass verge and also links pedestrians to Corporation Street and Red Bank which run parallel and perpendicular to the railway lines respectively.
- 2.3.9 The A664 is subject to a speed limit of 30mph throughout and has double yellow parking restrictions.

Corporation Street

- 2.3.10 Corporation Street extends south-westwards from the junction with the A665 Ring Road for a length of circa 575m in total (albeit the usable length of the carriageway for vehicles terminates at a signalised junction with Withy Grove after 310m, where vehicles must then turn left). The remainder of the road is only accessible by the Metrolink trams and pedestrians / cyclists.
- 2.3.11 The carriageway is two-way and typically 8m wide, but much of the road is shared between vehicles and tram lines entering / exiting the Victoria station. There are footways on both sides of the road which are approximately 3m in width, together with segregated and advisory cycle lanes approaching the city centre. There are also advanced cycle stop lanes at the signalised junctions.
- 2.3.12 Pedestrian infrastructure is excellent, comprising wide footways with an average width of 4m on both sides of the road which are complete with dropped kerbs and tactile paving. Some parts of the footway are also designated as shared use between pedestrian and cyclists. Corporation Street also has many signalised crossing points at major junctions and is also well-lit with street lighting.
- 2.3.13 Corporation Street is subject to a speed limit of 20mph. The majority of the road is subject to double yellow parking restrictions, however there is a loading bay adjacent to the National Football Museum,

where goods vehicles are allowed to load and unload between 04:00 and 22:00 from Mondays to Sundays. The road is also signed as a no stopping zone between 22:00 and 04:00.

- 2.3.14 There are a number of bus stops along Corporation Street which host services to Oldham and Bury (detailed in **Section 4.4** below). In the wider vicinity of the site, the bus stops are in good condition and are complete with a shelter, seating, flag and pole, and timetable information.

A664 Rochdale Road

- 2.3.15 Further to the east of the site, the A664 Rochdale Road extends north from a signalised junction at the A665 Ring Road and Shudehill, then extends towards the north-east for c. 5.5km through Collyhurst, Harpurhey, and Blackley, where it meets the M56 Junction 20 and continues as the A664 Manchester New Road.
- 2.3.16 In the vicinity of the site, the highway comprises a two-way carriageway measuring c. 15m in width, with two lanes in both directions. Additionally, the road widens at some signalised junctions to accommodate turning lanes and / or central reserves.
- 2.3.17 There are footways on both sides of the carriageway which range between c. 2.5m wide and c. 5m wide. At the signalised junctions with the A665 Ring Road / Shudehill and A664 Angel Street / A665 Ring Road, there are pedestrian crossing facilities complete with dropped kerbs, tactile paving, advance cycle stop lanes and some pedestrian guard rails. The road is well-lit with street lighting at regular intervals.
- 2.3.18 There are many bus stops along the A664 Rochdale Road, which host services to areas such as Higher Blackley, Bury, Oldham, Crumpsall, Rochdale, Shudehill, Manchester Royal Infirmary, and Piccadilly Gardens amongst other locations (detailed in **Section 4.4** below). The bus stops in the vicinity of the site have a good level of infrastructure, such as a shelter, seating, notice boards with timetable information, and a flag and pole.
- 2.3.19 The A664 Rochdale Road is subject to a speed limit of 30mph. There are single and double yellow line parking restrictions along the road. At some signalised junctions, there are also yellow box junctions to prevent congestion.

2.4 Access for Mobility and Visually Impaired Users

- 2.4.1 The site benefits from its city centre location and recent improvements to facilities obtained through the wider NOMA development. There are a number of existing features which ensure safe, convenient and aided access for those site users who are disabled and / or visually impaired.
- 2.4.2 There are wide footways and areas of public realm surrounding the site. Dropped kerbs and tactile paving are present at every crossing in the vicinity of the site, including at controlled pedestrian crossing points.

2.5 2014 Surveyed Baseline Conditions

- 2.5.1 As part of the previously approved application (application reference: 109865/FO/2015/N1), Curtins commissioned a car park survey of the existing parking facilities on site on Wednesday 17th December 2014, between 07:00 – 19:00 with occupancy recorded at 15-minute intervals. Further details of the survey are included within the approved Transport Assessment.
- 2.5.2 At the time of surveying, the car park area consisted of land within the proposed development site boundary, along with land currently occupied by the completed Moda Living Angel Gardens development. The wider plot of land comprised a capacity of c. 312 vehicles. Notwithstanding, it was estimated that the number of spaces occupied within the area surveyed could be split evenly between the neighbouring development and the proposed development (i.e. approximately 156 car parking spaces on each site).
- 2.5.3 The approved Transport Assessment concluded that the following vehicular movements were observed across the entire car park across the AM and PM peak times as shown in **Table 2.1**:

Time Period	Total Car Park Vehicular Trips		
	Arrivals	Departures	Two-Way
07:00 – 08:00	75	5	80
08:00 – 09:00	105	1	<u>106</u>
09:00 – 10:00	64	6	70
10:00 – 11:00	36	8	44
11:00 – 12:00	39	21	60
12:00 – 13:00	22	14	36
13:00 – 14:00	21	24	45
14:00 – 15:00	22	34	56
15:00 – 16:00	14	34	48
16:00 – 17:00	7	69	76
17:00 – 18:00	8	78	<u>86</u>
18:00 – 19:00	8	58	66

Table 2.1 – Total Car Park Vehicular Trips

(Source: 2015 Approved Transport Assessment, Survey undertaken in 2014)

- 2.5.4 The above table demonstrates that, in the peak periods of 08:00 – 09:00 and 17:00 – 18:00, there were 106 and 86 two-way vehicular movements respectively associated with car park uses.
- 2.5.5 Disregarding the area of car parking to the east of the site (as this is now occupied by the completed Moda Living Angel Gardens development), it can be considered that the existing car park within the proposed development site boundary exhibits the following number of vehicular movements across the AM and PM peak times in **Table 2.2**:

Time Period	Car Park Vehicular Trips (within Proposed Development Site Boundary)		
	Arrivals	Departures	Two-Way
07:00 – 08:00	38	3	41
08:00 – 09:00	53	1	<u>54</u>
09:00 – 10:00	32	3	35
10:00 – 11:00	18	4	22
11:00 – 12:00	20	11	31
12:00 – 13:00	11	7	18
13:00 – 14:00	11	12	23
14:00 – 15:00	11	17	28
15:00 – 16:00	7	17	24
16:00 – 17:00	4	35	39
17:00 – 18:00	4	39	<u>43</u>
18:00 – 19:00	4	29	33

Table 2.2 – Car Park Vehicular Trips (within Proposed Development Site Boundary)

(Source: 2015 Approved Transport Assessment, Survey undertaken in 2014)

- 2.5.6 The above table demonstrates that, in the peak periods of 08:00 – 09:00 and 17:00 – 18:00, there are approximately 53 and 43 two-way vehicular movements respectively, that are associated with the car park uses on land within the proposed development site boundary.
- 2.5.7 It is noted that the survey data and consented methodology is dated, however it merely serves to provide an indication and background on the existing uses onsite as the proposed development would comprise fewer parking spaces than that of the existing situation, therefore the proposed vehicular trip generation onsite would be lower than that of the existing situation in any case.

2.6 Alternative Parking Solutions

- 2.6.1 Excluding the car park onsite, a review of nearby public car parks and associated provision has been undertaken in order to understand parking levels in the surrounding area. There are many publicly available car parks situated within a 750m walking catchment, equating to a walking time of approximately 10 minutes when walking at an average speed of 1.2m/s. Nearby car parking is summarised in **Table 2.3**:

Car Park	Car Park Location	Walking Distance from Site	No. of Spaces	Disabled Parking	Electric Vehicle Parking
1	Euro Car Parks, Miller Street, M4 4DY	150m	64	0	0
2	RCP Parking, Shudehill, Riga Street, M4 4AF	150m	84	0	0
3	Total Car Parks, 87 Dantzic Street, M4 4DW	200m	17	0	0

Car Park	Car Park Location	Walking Distance from Site	No. of Spaces	Disabled Parking	Electric Vehicle Parking
4	RCP Parking, Hanover Street, M4 4BB	250m	145	14	0
5	APCOA, Manchester Printworks, 77 Shudehill, M4 2AF	250m	777	Unknown*	0
6	Total Car Parks, 10 Dantzic Street, M4 2AD	250m	24	Unknown*	0
7	Total Car Parks, 25 Rochdale Road, M4 4HT	250m	45	0	0
8	Euro Car Parks, Rochdale Road, M4 4HT	250m	23	0	0
9	Euro Car Parks, Rochdale Road, M4 5FT	250m	65	0	0
10	SIP Car Parks, 25 Mason Street, M4 5FX	300m	15	0	0
11	NCP, Gould Street, M4 4HU	350m	10	0	0
12	Xtra Parking, 19 Cross Keys Street, M4 5ET	400m	39	0	0
13	SIP Car Parks, Cross Keys Street, M4 5JQ	400m	13	0	0
14	Euro Car Parks, 34 Goulden Street, M4 5EZ	400m	33	0	0
15	SIP Car Parks, Goulden Street, M4 5EY	400m	25	0	0
16	Euro Car Parks, 77 Thompson Street, M4 5FY	450m	67	0	0
17	Euro Car Parks, Cable Street, M4 5EQ	450m	32	0	0
18	Regent Parking, 73 Rochdale Road, M4 4HY	450m	14	0	0
19	CitiPark, AO Arena, New Bridge Street, M3 1AR	450m	970	Unknown*	0
20	Manchester City Council, Arndale, M4 1AZ	450m	1,487	Unknown*	0
21	Total Car Parks, 87 Rochdale Road, M4 4HY	500m	120	0	0
22	ES Parking, Red Bank Car Park, 17 Faber Street M4 4HF	500m	220	0	0
23	SIP Car Parks, Shaw Street, M3 1LD	500m	95	0	0
24	SIP Car Parks, Shaw Street, M3 1EU	500m	87	0	0
25	SIP Car Parks, 10 Dutton Street, M3 1LE	550m	45	0	0
26	Euro Car Parks, Hinton Street, M4 4HZ	550m	44	0	0
27	Total Car Parks, Park Place, M4 4EY	550m	75	0	0

Car Park	Car Park Location	Walking Distance from Site	No. of Spaces	Disabled Parking	Electric Vehicle Parking
28	SIP Car Parks, 1 Park Place, M4 4EZ	550m	17	0	0
29	NCP, Skip Place, Strangeways M4 4FY	600m	35	0	0
30	Thompson Street, M4 5FS	600m	65	0	0
31	NCP, 22-24 Cheetham Hill Road, M4 4FY	600m	11	0	0
32	Total Car Parks, Dutton Street, M3 1LF	600m	161	0	0
33	SIP Car Parks, 5 Edgehill Street, M4 1BB	600m	13	0	0
34	SIP Car Parks, 27 Gun Street, M4 5DN	700m	140	Unknown*	0
35	Manchester City Council, Church Street, M4 1LX	700m	685	Unknown*	6
Total:			5,762	14*	6

Table 2.3 – Existing Off-site Car Parking Provision

*Denotes where there is disabled parking provision, however the number of spaces is not known.

2.6.2 The above table demonstrates 35 car parks were found within an approximate 10-minute walk of the site, providing car parking provision for approximately 5,762 vehicles, of which there are at least 14 disabled parking spaces and 6 electric vehicle (EV) charging spaces.

2.6.3 It is therefore considered there is adequate opportunity for off-site parking should future users chose to commute by car.

2.7 Highway Safety

2.7.1 Collision data for the highway network adjacent to the site has been obtained from the TfGM reported road accidents website for the most recent 60 months. The details of the search are contained in **Figure 2.2** and a breakdown of the information is contained in **Table 2.4**.

Junction / Link	Slight	Serious	Fatal	Total
A664 Angel Street / Dantzic Street	0	1	0	1
A664 Rochdale Road / A665 Angel Street	1	2	0	3
A664 Rochdale Road / A665 Ring Road	2	0	0	2
A665 Miller Street / Riga Street	1	0	0	1
A665 Miller Street	1	0	0	1
A665 Miller Street / Beswick Row	1	0	0	1
A664 Angel Street / A665 Ring Road / Corporation Street	1	0	0	1

Junction / Link	Slight	Serious	Fatal	Total
Corporation Street / Red Bank	0	1	0	1
Corporation Street	1	0	0	1
Corporation Street / Victoria Station Approach	1	0	0	1
Hanover Street / Federation Street / Dantzic Street	1	0	0	1
Total	10	4	0	14

Table 2.4 – Collision Data Summary



Figure 2.2 – Area Assessed for Collision Data (5 years)

(Source: TfGM and OS Maps, 2023)

- 2.7.2 There has been a total of 14 collisions in the latest five-year period available, 10 of which were 'slight' severity incidents, and 4 of which were 'serious' severity incidents. No fatal accidents have been recorded in the study area and period.
- 2.7.3 Although all accidents are regrettable, no significant correlations have been identified to suggest that highway condition, layout or design were significant contributory factors in any of the collisions. It is not considered that there is an existing safety issue that is likely to be exacerbated by the proposed development.

3.0 Development Proposals

3.1 Introduction

- 3.1.1 The proposed development involves Plots 2 & 3 of the adopted NOMA Masterplan (in which the site is denoted as Plots M & N), with the following development description:

“An application for full planning permission comprising:

Erection of 2 Angel Square, a 14 storey building (excluding roof top plant) to form a mixed use office development (Use Class Egi) with two flexible commercial units at Upper Ground floor Level (Use Classes Ea, b, c, e, f, and / or Use Class Sui Generis (p) and (q)), and with a flexible office (Use Class Egi) and/or restaurant (Use Class Eb) space at Level 12, along with Lower Ground Level car and cycle parking, hard and soft landscaping and other associated works;

Erection of 3 Angel Square, a 13 storey building (excluding roof top plant) to form a mixed use office development (Use Class Egi) with two flexible commercial units provided over Lower and Upper Ground Floor Levels (Use Classes Ea, b, c, e, f, and / or Use Class Sui Generis (p) and (q)), a further flexible commercial unit at Upper Ground Floor Level only allowing for ancillary seminar space and / or Sui Generis Use Class (t) Cinema space, together with an ancillary gym space at Upper Ground Floor, as well as Lower Ground Level car and cycle parking, hard and soft landscaping and other associated works.”

- 3.1.2 The development summary is provided in **Table 1.1** above.
- 3.1.3 The proposed lower ground floor plans are included in **Appendix A**.

3.2 Proposed Access Arrangements

Plot 2

- 3.2.1 It is proposed that Plot 2 is accessed from the A664 Angel Street and subsequently the existing the Angel Square turning circle (currently used for taxis / drop-offs to 1 Angel Square). **Drawing 084198-CUR-XX-00-D-TP-75001** to the rear of the report demonstrates the access arrangement, whereas **Drawing 084198-CUR-XX-00-D-TP-05003** to the rear of the report demonstrates that a large car can safely enter and exit from the Plot 2 car park, whereby the entrance is located to the north of the building.
- 3.2.2 Cyclists can enter the building in a similar manner to vehicles in order to access the secure cycle store located to the south of the building. There is a door at the end of the car park leading to the cycle store and subsequently the lockers, changing rooms, and showers. The cycle store also connects directly towards the lift and stairways within the building.
- 3.2.3 Pedestrian access can be taken from the western side of the building, where the main entrance is located. This part of the building can be accessed directly from the Angel Square public realm.

Plot 3

- 3.2.4 It is proposed that Plot 3 is accessed from the A665 Miller Street, where there will be a ramp leading towards the car park located on the lower ground floor of the building. **Drawing 084198-CUR-XX-00-D-TP-75001** to the rear of the report demonstrates the access arrangement, whereas **Drawing 084198-CUR-XX-00-D-TP-05003** demonstrates that a large car can safely enter and exit from the Plot 3 car park.
- 3.2.5 The ramp is only wide enough for one-way access, as such there will be a traffic light located prior to the ramp entrance for vehicles entering the site, and within the car park for vehicles exiting the site. The former will be green by default whereas the latter will be red by default, and will only change if there is a vehicle egressing. If the car park ingress light is red, vehicles have sufficient off-carriageway space to wait for the light to turn green before entering the car park.
- 3.2.6 Cyclists can enter the building in a similar manner to vehicles in order to access the secure cycle store located to the south of the building. There is a door at the end of the car park leading to the cycle store and subsequently the lockers, changing rooms, and showers. The cycle store also connects directly towards the lift and stairways within the building.
- 3.2.7 Alternatively, cyclists can also access the cycle store from a dedicated access off the A665 Miller Street, which leads towards a ramp to the cycle store.
- 3.2.8 Pedestrian access can be taken from the western side of the building, where the main entrance is located. This part of the building can be accessed directly from the Angel Square public realm.

3.3 Proposed Parking Provision

Parking Standards

- 3.3.1 Manchester City Council (MCC)'s Parking Standards are provided in Appendix B of the Manchester Core Strategy, adopted in 2012. Parking standards relevant to the land use of the proposed development are reproduced in **Table 3.1** below:

Type of Development	Maximum standard for car parking	Minimum standard for car parking provision for disabled people	Minimum standard for cycle parking provision
B1: Business – Stand alone business	1 space per 35sqm	Up to 200 bays – Individual bays for each disabled employee plus 2 bays or 5% of total capacity, whichever is greater	1 space per 200sqm – minimum of 2 spaces

Table 3.1 – Manchester City Council Parking Standards

Proposed Car Parking

- 3.3.2 It is proposed that there will be 15 car parking spaces in Plot 2 and 14 car parking spaces in Plots 3 (totalling 29 car parking spaces), of which 2 bays in both plots would be accessible bays (total 14% provision), and 3 and 4 bays in Plots 2 and 3 respectively would be equipped with electric vehicle (EV) charging infrastructure (total 24% provision).
- 3.3.3 The provision of 29 parking spaces across approximately 45,664.4 sqm Net Internal Area (NIA) represents circa 2% of provision levels for areas within the city centre, however it is noted that the standards are merely guidelines for the maximum number of car parking spaces.
- 3.3.4 MCC consider parking provision near the city centre on a case-by-case basis, and it is noted that MCC have recently accepted new developments with low or no parking provision in areas that have high levels of public transport in the vicinity and proximity to major city centre areas.
- 3.3.5 It is considered that this parking provision is in accordance with the transport policies set out in the Manchester Core Strategy, with respect to the nature of the site and realistic needs of the end users, and the proximity of the site to sustainable modes of transport.

Proposed Motorcycle Parking

- 3.3.6 It is proposed that there will be 3 motorcycle parking spaces in Plot 2, and 2 motorcycle parking spaces in Plot 3.

Proposed Cycle Parking

- 3.3.7 Cycle parking for both buildings have been slightly reduced as the site aims to achieve an ActiveScore certification, which requires a greater variety of storage types. This includes large recumbent bike storage requirements, a proportion of single level Sheffield stands, folding bike lockers, as well as electric bicycle battery charging facilities. This variety in storage types requires a greater floor area and is considered to be a positive amendment to the scheme, providing building users with greater flexibility in cycle parking types.
- 3.3.8 Secure cycle parking for c. 108 spaces is provided in Plot 2, in the form of folding bike lockers, semi-vertical stands, Sheffield stands, and recumbent bike storage. There will also be 108 lockers (1:1 ratio) and 11 showers (10 provided in segregated male / female showers, with 1 accessible shower / WC) located within the cycle store.
- 3.3.9 In Plot 3, there will be 131 cycle spaces in the form of two-tier racks, 131 lockers, and 13 showers (12 provided in segregated male / female showers, with 1 accessible shower / WC) located within the cycle store.

- 3.3.10 Notwithstanding, it is noted that this provision is in line with MCC's parking standards of 1 space per 200sqm of office uses, noting that Plot 2 comprises 20,718 sqm NIA (equating to a minimum provision of 104 cycle spaces) and Plot 3 comprises 24,946.4 sqm NIA (equating to a minimum provision of 125 cycle spaces).
- 3.3.11 This is one of the many initiatives to encourage more people to travel by sustainable modes (in addition to other measures outlined in the accompanying Framework Travel Plan (Document Reference: **084198-CUR-XX-XX-T-TP-00002**)).

3.4 Proposed Servicing and Delivery Arrangements

Servicing

- 3.4.1 Cleaners would be appointed by NOMA to transfer waste from the office floors and ground floor areas to the bin stores, whereas staff at the amenity / retail units would transfer waste from within their units to the main bin store after closing time at the end of each day. The management company / staff on-site would be responsible for moving the bins from the bin store to the collection point on collection day.
- 3.4.2 The waste operators will collect the bins and load them into the refuse vehicle. Once the bins have been emptied, containers would be wheeled immediately back to the bin stores by the management team. As a result, the bins will await collection along the public realm for a limited amount of time.
- 3.4.3 **Drawing 084198-CUR-XX-00-D-TP-05001** to the rear of the report demonstrates that a 11.2m large refuse vehicle can safely service Plots 2 and 3 from the Angel Square turning circle and from the service road between Plot 3 and Angel Gardens respectively.
- 3.4.4 More details on the waste collection schedule and number of bins proposed are provided in a Waste Management Strategy prepared by Curtins (Document Reference: **084198-CUR-XX-XX-T-TP-00003**).

Emergency Vehicles

- 3.4.5 In the event that an emergency vehicle requires access to the building, **Drawing 084198-CUR-XX-00-D-TP-05002** to the rear of the report demonstrates that a 7.7m fire tender can safely access both buildings from all directions (north, south, east, and west).

4.0 Accessibility by Sustainable Modes of Travel

4.1 Introduction

- 4.1.1 A key element of national and local policy is to ensure that new developments are located in areas where alternative modes of travel are available. This supports the aims of integrating planning and transport, providing more sustainable transport choices, and reducing overall travel and car use.
- 4.1.2 Notwithstanding the existing travel patterns to the site with attendees walking or travelling by car only, the accessibility of the proposed development is considered in this context for the following modes of travel:
- Pedestrian Accessibility;
 - Cycle Accessibility; and
 - Public Transport Accessibility.

4.2 Pedestrian Accessibility

- 4.2.1 The National Model Design Code – Part 2 (DLUHC, 2021) expresses *“the aim that walking and cycling should be the first choice for short local journeys, particularly those of 5 miles or less.”*
- 4.2.2 The Department for Transport’s National Travel Survey (from Tables NTS0308a and NTS0601) shows that walking is the most frequent mode used for short trips: 80% of all trips and 74% of walking trips were under 1 mile (1.6km) in 2019 – with the 1.6km distance broadly comparable with the Chartered Institution of Highways and Transportation (CIHT) ‘Preferred Maximum’ walking distance of 2.0km in ‘Providing for Journeys on Foot’ (2000). Almost all walking trips (96%) were under 2 miles (3.2km) in 2019. This indicates that walking is the natural first choice for most local trips.
- 4.2.3 In addition, 20-minute neighbourhoods have risen in prominence in recent years and are places where residents can walk or cycle from their home to many key facilities and destinations within 20 minutes (i.e. 10 minutes, or 800m if walking, each way). The National Design Guide (DLUHC, 2021) states that well-designed places are walkable, which is defined as *“local facilities [are] within walking distance, generally considered to be no more than a 10-minute walk (800m radius)”*.
- 4.2.4 The 800m and 2km walking catchments are considered further below.
- 4.2.5 Within the 800m desirable walking distance catchment area there are a number of residential properties such as the Moda Living – Angel Gardens development, those within the Green Quarter (approximately 500m north-west of the site), and apartments fronting Rochdale Road at approximately 200m south-east of the site. The development also includes ancillary commercial uses at ground floor level, which would be within immediate reach of end users.

- 4.2.6 The Manchester Victoria rail / Metrolink station and Shudehill Metrolink / bus station are also within this walking catchment of the site. These locations allow for easy access for future staff of the site which commute to work from Greater Manchester and beyond.
- 4.2.7 Most notably, within 800m south of the site is the Northern Quarter, the Printworks, and Arndale Centre. The Northern Quarter comprises many artisan cafes, bars and restaurants along with a vibrant nightlife, the Printworks contains leisure outlets and restaurants / bars and a cinema, whereas the Arndale centre is one of the largest city-centre shopping malls in Europe and houses over 200 shops as well as several food and drink establishments. The National Football Museum, Corn Exchange, and the AO Arena also lie within this catchment.
- 4.2.8 The site is also well connected to the NOMA estate, with One Angel Square (the head office of the Co-Operative Group) situated directly east of the site, Sadler's Yard (a public square) and New Century House (office space and conference facilities) towards the south of the site. The NOMA estate towards the south of the site can be accessed via the existing Toucan crossing along Miller Street (south-east of the site).
- 4.2.9 In addition, Angel Meadow, a green space located approximately 100m north of the site, provides an open area for recreation purposes. There are also hotels, gyms, and fitness centres around the north and north-west of the site.
- 4.2.10 Within the wider 2,000m catchment, there are a great number of residential properties in all directions. Additional leisure, food, retail, employment, high street banks, health clubs, and convenience stores are accessible along Market Street, St Ann's Square, and Piccadilly Gardens. The vast majority of Manchester City Centre is within a 2,000m walk of the site.
- 4.2.11 The surrounding roads have footways available for pedestrian use, and the carriageways are well lit by street lighting. There are signalised crossing points, pedestrian refuge islands, dropped kerbs and tactile paving to aid pedestrians at all major junctions in the vicinity. There is already a high pedestrian footfall in the area, and so high-quality pedestrian facilities exist. The site is considered highly accessible by foot.

4.3 Cycle Accessibility

- 4.3.1 Cycling is a cheap, efficient, and healthy way to travel. Cycling also provides a predictable arrival time which depending on location, can be quicker than driving or using public transport, and is subject to fewer delays.
- 4.3.2 The average cycling trip length in England was 3.29 miles / 5.30km in 2019, which is rounded to a 5.5km catchment (see National Travel Survey dataset NTS9910).

- 4.3.3 The maximum acceptable cycling distance for most people is considered to be 8km (5 miles), based on the National Travel Survey statistics which demonstrates that 82% and 78% of cycling trips were under 5 miles (8km) in 2019 and 2021.
- 4.3.4 The 5.5km catchment encompasses all of Manchester and Salford city centres including all major transport links, shopping centres, bars, restaurants, leisure centres, tourist attractions and places of worship. The 5.5km catchment also extends to Crumpsall to the north, Openshaw to the east, Rusholme to the south, and Weaste to the west. The 8km catchment extends further to Heaton Park to the north, Droylsden to the east, Fallowfield to the south, and Stretford to the west.
- 4.3.5 Existing cycle infrastructure on Corporation Street and Dantzic Street allows cycle access into Manchester city centre, with direct access to Manchester Victoria Station and the Printworks. All major train and bus stations within Manchester city centre are within 8km of the site and are accessible following Sustrans cycle routes. Additionally, low speed limits along the surrounding streets are part of the city's high-quality cycle infrastructure to improve cyclist safety. The local cycle network in the vicinity of the site is shown in **Figure 4.1** below:



Figure 4.1 – Local Cycle Network

(Source: TfGM, 2023)

- 4.3.6 The local cycle network shown above is also a part of Greater Manchester's cycling and walking infrastructure proposal, named the "Bee Network". The Bee Network comprises signed routes that mark the most direct and pleasant way to navigate an area on foot or by bike.

- 4.3.7 The site is located directly south of Bee Network improvements as part of the Manchester Northern / Eastern Gateway, illustrated in **Figure 4.2**. The scheme will provide a route through Ancoats, parallel to Great Ancoats Street enabling a new urban village North of the Irwell and providing a walking and cycling route through the Ancoats area. The scheme has been through two rounds of consultation and feedback is now being considered, and is estimated to be completed in Winter 2024.

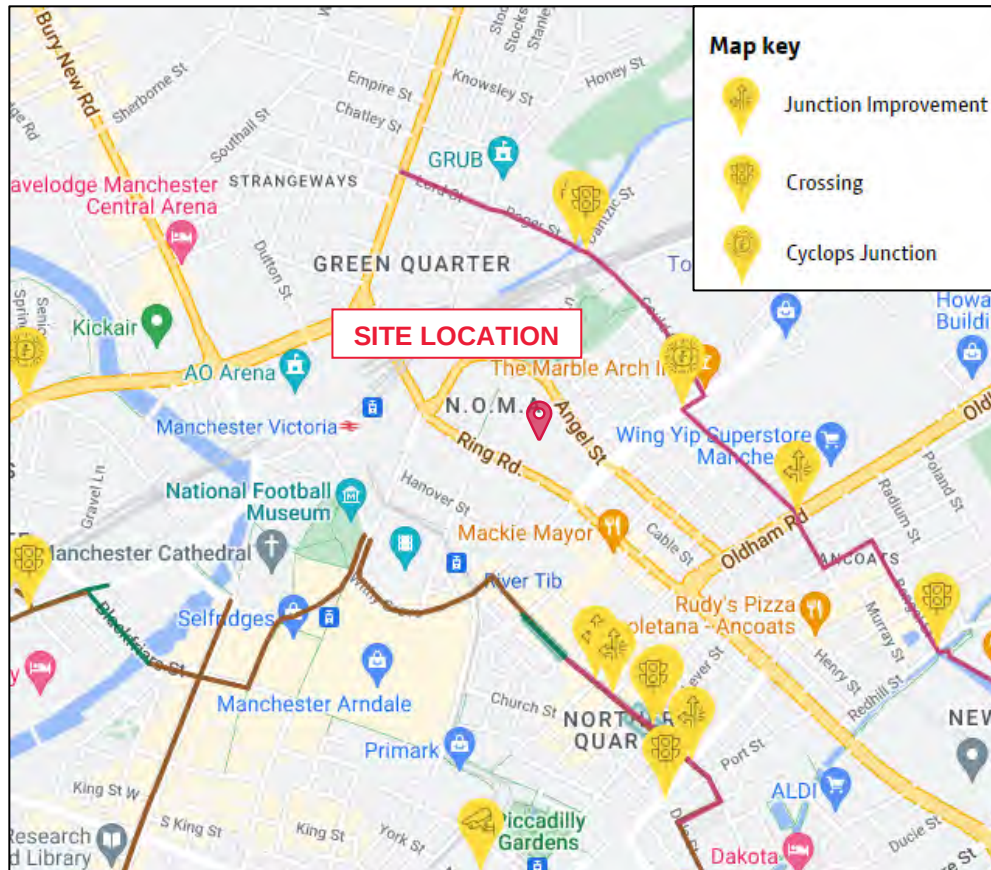


Figure 4.2 – Bee Network Schemes in the Vicinity of the Site

(Source: TfGM and Google Maps, 2023)

- 4.3.8 A Bike Hire Scheme is also in place within Manchester, with the closest docking station to the site located along Angel Street, directly to the north-west of the site. These bikes are available on a Pay as You Ride (PAYR) basis where those interested would be required to download a mobile app which shows the location of their nearest docking stations. The Bike Hire Scheme operate within the following zone:

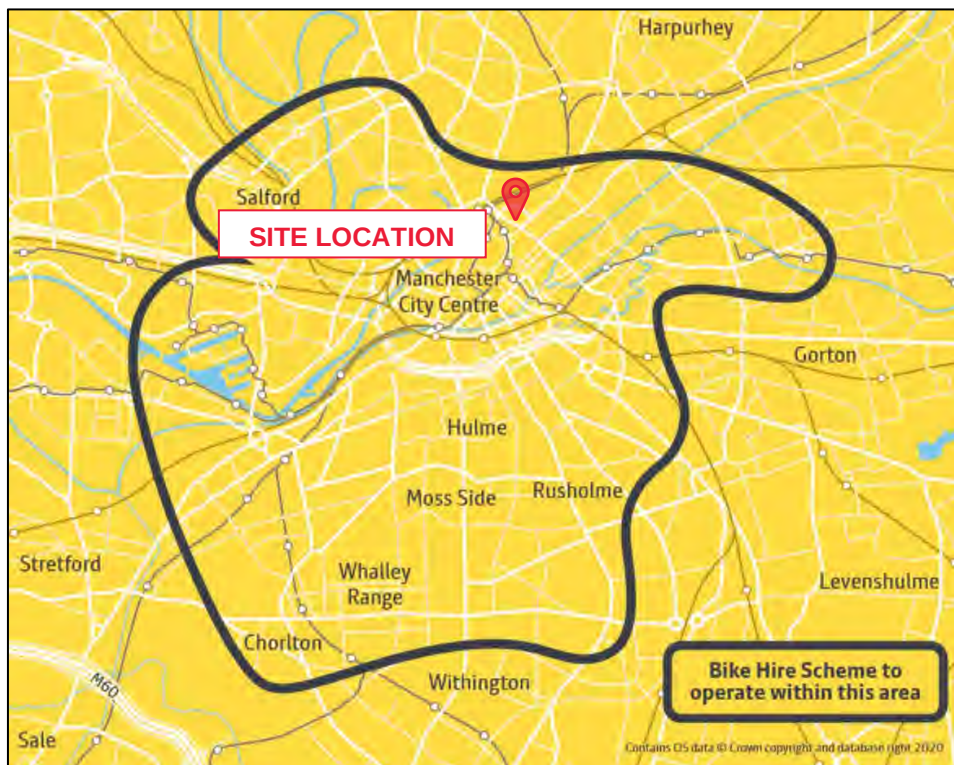


Figure 4.3 – Bike Hire Scheme Zone Boundary

(Source: TfGM, 2020)

- 4.3.9 There are a number of examples of Toucan crossings, local on / off road provision and advance stop cycle lanes in the immediate vicinity of the site along roads such as Miller Street, Angel Street, Rochdale Road and Corporation Street. The site is therefore ideally placed to take advantage of the cycle connections in the vicinity of the site and across Manchester City Centre and beyond. Furthermore, the development will provide secure cycle parking spaces to encourage cycling.
- 4.3.10 This accessibility review demonstrates that key destinations and local amenities are within walking and cycling distance of the site, including health (including a dental surgery to the west of the site), retail (supermarkets located within the City Centre core and a supermarket situated to the north-west within the Green Quarter), leisure and employment facilities and services, together with major public transport interchanges and the residential quarters of Manchester City Centre.
- 4.3.11 Overall, it is considered that cycling is an attractive option for both staff and visitors.

4.4 Public Transport Accessibility

- 4.4.1 Developed by Transport for Greater Manchester (TfGM), Greater Manchester Accessibility Levels (GMAL) are a measure of the accessibility of a point to both the conventional public transport network (i.e. bus, Metrolink and rail) and Greater Manchester's Local Link (flexible transport service), considering walk access time, service availability, and average waiting time. The method is essentially

a way of measuring the density of the public transport provision at any location within the Greater Manchester region.

4.4.2 The accessibility index score is categorised into eight levels (1 to 8), where level 8 represents a high level of accessibility (described as 'excellent') and level 1 a low level of accessibility (described as 'very poor'). The site is located in an area with a GMAL rating of 8. This is a particular strength of the site, which offers strong multi-modal links across the city centre.

4.4.3 Accessibility by bus, rail, and Metrolink are considered further below, with a local public transport network map included in **Figure 4.4** below:

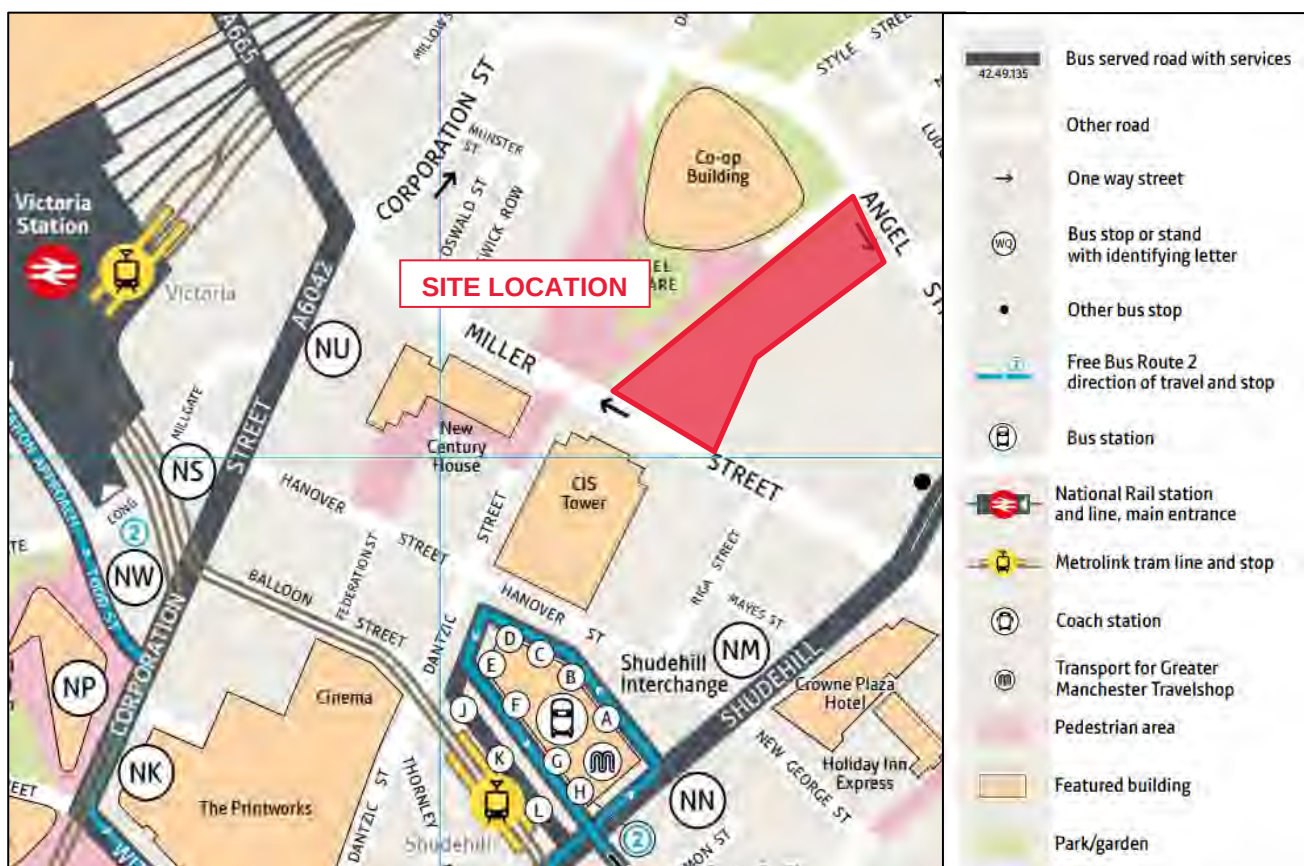


Figure 4.4 – Public Transport Network in the Vicinity of the Site

(Source: TfGM, 2023)

Bus Accessibility

4.4.4 Guidance from the Chartered Institution of Highways and Transportation (CIHT) document 'Guidelines for Planning for Public Transport in Development' indicates that ideally, a bus stop should be located within 400m from a new development.

4.4.5 There are a number of bus stops comfortably within a 400m walk of the site, with the closest being located at Shudehill Interchange (c. 300m south of the site), Rochdale Road (c. 300m east of the site), Corporation Street (c. 450m south-west of the site), and the Victoria Station Approach (c. 450m to the

south-west of the site). **Table 4.1** details the services that call at these stops, and their associated frequencies:

Bus Service		Route	Peak Hourly Frequency		
			Mon – Fri	Sat	Sun / Hols
From Shudehill:					
8	Manchester City Centre – Salford – Farnworth – Bolton		15 mins	15 mins	20 mins
10	Shudehill – Salford – Pendleton – Brookhouse Estate		12 mins	20 mins	20 mins
17	Shudehill – Middleton – Trub – Rochdale – Bamford – Norden		15 mins	15 mins	15 mins
17A	Shudehill – Middleton – Stakehill – Sudden – Rochdale		2 in the AM	No Service	No Service
18	Manchester Royal Infirmary – Blackley – Middleton – Langley		15 mins	30 mins	30 mins
33	Shudehill – Ordsall – Weaste – Eccles – Winton – Worsley		30 mins	30 mins	Hourly
56	Shudehill – Higher Crumpsall – Higher Blackley circular		30 mins	30 mins	No Service
67	Shudehill – Salford – Pendleton – Eccles – Glaze Estate		20 mins	20 mins	30 mins
67A	Shudehill – Salford – Pendleton – Eccles – Glaze Estate		2 in the AM	3 in the AM	Every 30 mins in the AM
81	Piccadilly Gardens – Moston – White Gate – Werneth – Oldham		30 mins	Hourly	Hourly
93	Shudehill – Salford – Lower Broughton – Carr Clough		20 mins	20 mins	30 mins
97	Shudehill – Salford – Lower Broughton – Hollins – Bury		30 mins	30 mins	Hourly
98	Shudehill – Salford – Whitefield – Radcliffe – Elton – Bury		30 mins	30 mins	Hourly
100	Shudehill – Salford – The Trafford Centre – Warrington		20 mins	20 mins	20 mins
112	Piccadilly Gardens – Moston – Greengate – Middleton		15 mins	15 mins	30 mins
113	Middleton – Greengate – Moston – Piccadilly Gardens		2 in the AM	No Service	No Service
114	Albert Square – Moston – Greengate – Middleton – Boarshaw		20 mins	30 mins	Hourly
117	Piccadilly Gardens – Moston – New Moston – Greengate		30 mins	30 mins	Hourly
118	Piccadilly Gardens – Harpurhey – Moston – Higher Crumpsall		15 mins	15 mins	30 mins
119	Piccadilly Gardens – Moston – Charlestown – Higher Blackley		30 mins	30 mins	Hourly
156	Shudehill – Blackley – Higher Blackley – Rhodes – Middleton		30 mins	30 mins	No Service

Bus Service	Route	Peak Hourly Frequency		
		Mon – Fri	Sat	Sun / Hols
163	Piccadilly Gardens – Middleton – Langley – Heywood – Bury	15 mins	15 mins	15 mins
From Rochdale Road: Services 17, 17A, 18, 56, 81, 112, 113, 114, 117, 118, 119, 156 and 163 as above.				
From Corporation Street: Service 113 as above, with the addition of:				
41	Middleton – Higher Blackley – Bowker Vale – Didsbury – Sale	20 mins	20 mins	30 mins
59	Piccadilly Gardens – Middleton – Chadderton – Oldham Mumps	12 mins	10 mins	20 mins
135	Piccadilly Gardens – Cheetham Hill – Whitefield – Bury	10 mins	10 mins	15 mins
From Manchester Victoria: 8, 10, 59, 67, 67A, 93, 97, 98, 100 and 113 as above.				

Table 4.1 – Summary of Bus Service Frequencies

4.4.6 The above services primarily link the site to Greater Manchester. Shudehill Interchange also has bus and coach services that run to all areas of Manchester and further afield. For example, services from Shudehill provide access to:

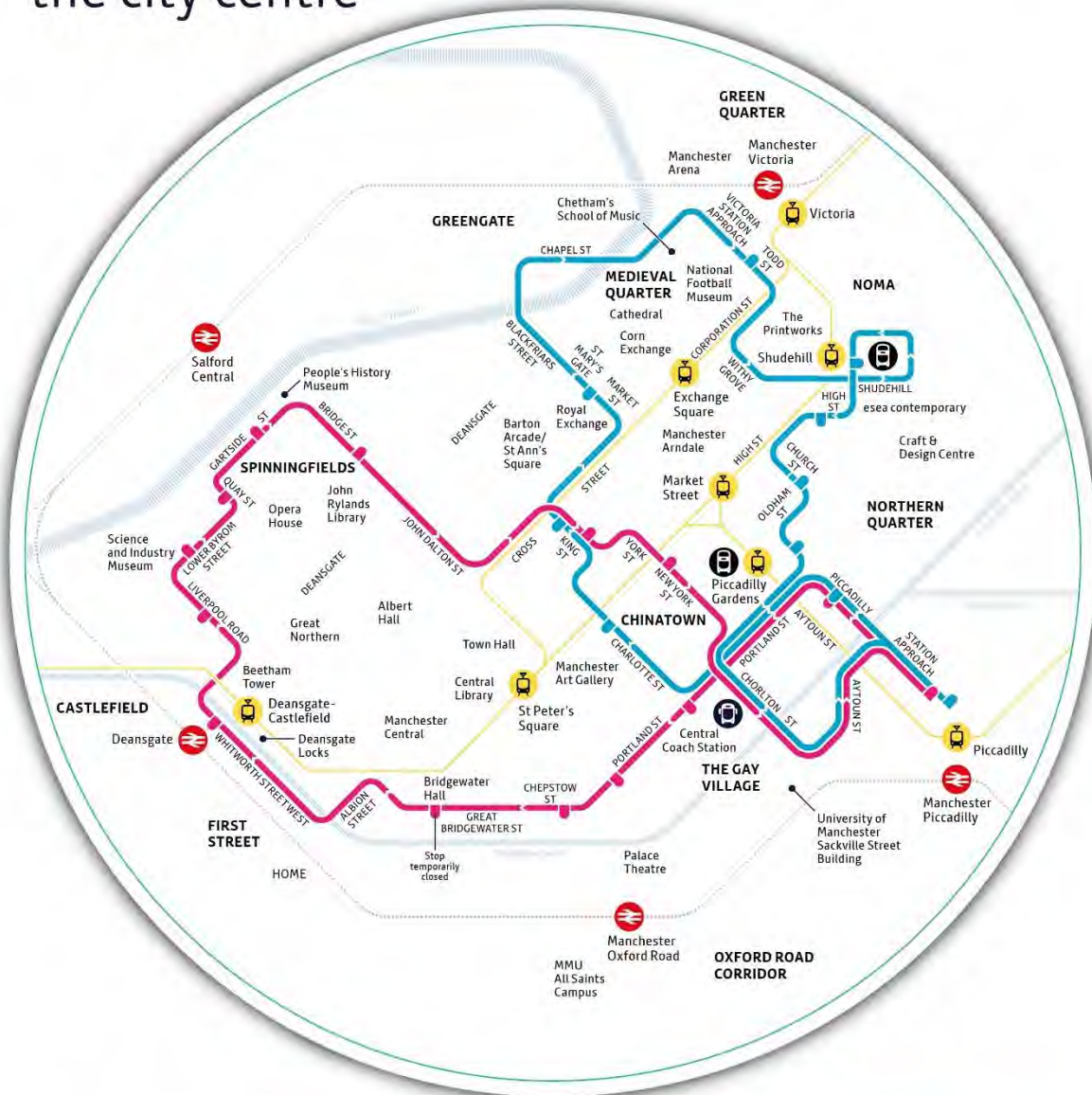
- Accrington;
- Birmingham;
- Burnley;
- Coventry;
- Glasgow;
- Liverpool;
- Preston;
- Prestwich; and
- Skipton.

4.4.7 Furthermore, the National Football Museum bus stop and Shudehill Bus Interchange are calling points of Routes 2 of the Manchester city centre free bus. The free bus is a service providing direct access to the Deansgate, Piccadilly, Victoria railway stations along with key city centre locations. The free bus route and frequencies are detailed in **Figure 4.5** below:

free bus routes around the city centre



MAYOR OF
GREATER
MANCHESTER



1

Monday – Friday

Every 10 minutes 7am – 7pm
Every 30 minutes 7pm – 11.30pm

Saturday

Every 15–30 minutes 7am – 8.30am
Every 10 minutes 8.30am – 7pm
Every 30 minutes 7pm – 11.30pm

Sunday and public holidays

Every 10 minutes
10am – 6pm

2

Monday – Friday

Every 10 minutes 7am – 7pm
Every 30 minutes 7.15pm – 11.15pm

Saturday

Every 15–30 minutes 7am – 8.30am
Every 10 minutes 8.30am – 7pm
Every 30 minutes 7.15pm – 11.15pm

Sunday and public holidays

Every 10 minutes
10am – 6pm

Figure 4.5 – Free Bus Route and Service Frequency

(Source: TfGM, 2023)

4.4.8 These stops provide frequent access to city centre facilities, as well as all major public transport interchanges in Manchester City Centre every day of the week.

4.4.9 It is noted that the provision of bus services will change over time during different seasons of the year and in response to current circumstances. The bus times are accurate at the time of writing, whereas up-to-date bus times can be found at TfGM's website: <https://tfgm.com/public-transport/bus>.

4.4.10 Overall, the site is accessible by bus. The site also benefits from the free bus services that operate locally.

Rail Accessibility

4.4.11 The Chartered Institution of Highways and Transportation (CIHT) document, '*Planning for Public Transport in Developments*' notes that those travelling to a site by rail will typically be prepared to walk further to the site than those travelling by bus, with a preferred distance of 800m.

4.4.12 The closest rail station to the development is Manchester Victoria, located c. 450m to the north of the site. Manchester Victoria rail station has step-free access across the whole station via level accesses onto platforms and lifts at footbridge. The station is staffed during regular opening hours and has a concourse / ticket machines from which all tickets must be purchased. The station is sheltered and there are payphones present for passenger use, along with facilities such as toilets and shops. Train running information is offered via Customer Information Services (CIS) screens, and there are cycle stands for 38 bicycles on the platform and approach.

4.4.13 The trains that service Manchester Victoria regularly run 7 days a week from a number of different locations within the North West such as Southport, Wigan, Chester, Liverpool, Leeds, Hull, and Newcastle; this provides frequent access for users of the site. A detailed map of the train network served by Manchester Victoria is shown in **Figure 4.6** overleaf.

4.4.14 More locally the above services provide access to residential areas such as Ashton-under-Lyne, Salford, Eccles and Rochdale. This is a viable alternative to private car use. Up-to-date rail times can be found on the respective train operators' websites:

- Northern Rail: <https://www.northernrailway.co.uk/travel/timetables>;
- Transpennine Express: <https://www.tpexpress.co.uk/travel-updates/timetables>.

4.4.15 Overall, the site is highly accessible via rail.



Figure 4.6 – Rail and Metrolink Network in the Vicinity of the Site
(Source: TfGM, 2021)

Metrolink (Light Rail) Accessibility

4.4.16 Staff and visitors can also board the Metrolink at Shudehill or Manchester Victoria, which are c. 300m south and 450m west of the site respectively. The following services call at these stops:

- **Navy Line** – Manchester Airport to Manchester Victoria;
- **Green Line** – Altrincham to Bury;
- **Yellow Line** – Piccadilly to Bury;
- **Brown Line** – East Didsbury to Shaw and Crompton (Victoria only); and
- **Pink Line** – East Didsbury to Rochdale Town Centre (Victoria only).

4.4.17 All lines run at a frequency of every 12 minutes between 06:00 – 00:00 on Mondays to Saturdays, and 07:00 – 00:00 on Sundays. Some lines only operate during peak hours, for example:

- **Green Line** (Altrincham to Bury) – 07:00 – 20:00 on Mondays to Fridays and 09:00 – 18:30 on Saturdays. Outside these hours, use the Purple (Altrincham to Piccadilly) and Yellow (Piccadilly to Bury) Lines;
- **Brown Line** (Shaw and Crompton to East Didsbury) – 07:00 – 20:00 on Mondays to Fridays and 09:00 – 18:30 on Saturdays. Outside these hours, use the Pink (Rochdale Town Centre to East Didsbury) Line.

4.4.18 The start and end times for the specific stops that staff and visitors wish to call at will change over time in response to current circumstances. The Metrolink frequencies are accurate at the time of writing, whereas up-to-date times can be found on the Metrolink website at: <https://tfgm.com/public-transport/tram/tram-times>.

4.4.19 Metrolink services provide access to the site seven days a week with trams running from a variety of locations across Greater Manchester, including key interchanges at St Peter's Square.

4.4.20 Overall, the site is highly accessible via Metrolink.

4.5 Summary

4.5.1 It is considered the site is highly accessible by sustainable modes of transport, which are also usable by those with limited mobility and are wheelchair accessible. The surrounding area exhibits good levels of pedestrian and cycling infrastructure, and there are a number of public transport opportunities within acceptable walking distance of the site.

5.0 Traffic Forecasting and Highway Impact

5.1 Introduction

- 5.1.1 This section of the report contains trip generation analysis based on the proposed development during the weekday AM and PM peak hours. In order to undertake the assessment, existing travel survey data and the TRICS database have been used for the forecast trip generation.
- 5.1.2 Whilst TRICS is the industry recognised tool for calculating the anticipated future trip demand of a proposed development, it must be noted that many of the office sites are in no way comparable to modern offices located in highly sustainable areas of Manchester City Centre.
- 5.1.3 As such, TRICS person trip rates have been used in combination with the most recent Census dataset (2011) which demonstrates methods of travel to work at a local level. 2011 Census data should also be referenced with discretion on the basis that travel patterns have shifted significantly in Manchester City Centre (i.e. expansion of Metrolink network and Ordsall Chord bridge) and across the whole of the UK since then (i.e. COVID-19 pandemic resulting in the transition to remote / flexible working).
- 5.1.4 It is noted that initial data from the 2021 Census has been published at the time of writing, although the Journey to Work breakdown is contained within a Topic Summary (TS061 – Method used to travel to work) rather than detailed origin – destination data (WU03EW – Location of usual residence and place of work by method of travel to work (MSOA level), which has been used in the 2011 Census).
- 5.1.5 Data from the 2021 Census has not been included as it is only a high-level overview without the option to filter by location of usual residence of staff, and it is unsure if the geography filter relates to the place of residence or if it is the place of work. Census Day also took place on March 2021 when there was rapid change due to the COVID-19 pandemic response, as such the data that has been gathered may not be entirely representative of the existing situation at the site at the time of writing.

5.2 Existing Trip Generation

- 5.2.1 As stated in **Section 2.5** above, the car park was surveyed in 2014 as part of the previous planning applications. **Table 2.1** demonstrated that the existing trip generation at the Plot 2 & 3 car parks amount to c. 54 and 43 two-way vehicular trips in the AM and PM peak periods of 08:00 – 09:00 and 17:00 – 18:00 respectively.
- 5.2.2 It is noted that the survey data and consented methodology is dated, however it merely serves to provide an indication and background on the existing uses onsite as the proposed development would comprise fewer parking spaces than that of the existing situation, therefore the proposed vehicular trip generation onsite would be lower than that of the existing situation in any case.

5.3 Forecasted Trip Generation

- 5.3.1 The proposed development involves c. 57,460.7 sqm Gross Internal Area (GIA) for all uses combined. It is considered that the commercial retail units will be ancillary to the main office development (i.e. the facilities will be frequented by staff at the development rather than attracting separate trips), therefore trip generation for these uses have not been considered.
- 5.3.2 The level of trips generated by the existing uses of the site have been estimated using multi-modal peak hour trip rates obtained from surveys of sites of a similar size and nature. The full search criteria used in the TRICS database are presented in **Appendix B. Table 5.1** below summarises this. Trip rates for office uses are per 100m² gross area:

Uses	Trip Generation AM (08:00 – 09:00)			Trip Generation PM (17:00 – 18:00)		
	Arrive	Depart	Total	Arrive	Depart	Total
Person Trip Rate	2.262	0.185	2.447	0.220	2.187	2.407
Person Trips for c. 57,460.7 sqm	1,300	106	1,406	126	1,257	1,383

Table 5.1 – Proposed Person Trips

- 5.3.3 **Table 5.1** demonstrates that the development could generate an additional 1,406 and 1,383 two-way person trips in the AM and PM peaks respectively.
- 5.3.4 Subsequently, data based on the 2011 Census dataset 'WU03EW – Location of usual residence and place of work by method of travel to work (MSOA level)' has been used. The middle super output area (MSOA) of Manchester 054 where the site is located has been used as the place of work.
- 5.3.5 The mode of travel to work data extracted from the output areas is summarised in **Table 5.2**:

Mode of Travel	2011 Census (Manchester 054 MSOA)	
	No.	%
Work mainly at or from home	0	0%
Underground, metro, light rail or tram	3,045	6%
Train	7,857	15%
Bus, minibus or coach	12,876	25%
Taxi	164	0%
Motorcycle, scooter or moped	213	0%
Driving a car or van	17,234	34%
Passenger in a car or van	1,914	4%
Bicycle	1,250	2%

Mode of Travel	2011 Census (Manchester 054 MSOA)	
	No.	%
On foot	6,131	12%
Other method of travel to work	100	0%
Total	50,784	100%

Table 5.2 – Modal Split for Manchester 054 as a Workplace (Based on 2011 Census Data)

- 5.3.6 **Table 5.2** demonstrates that the mode share for car drivers is 34%. The multi-modal trip generation for the development is summarised in **Table 5.3**:

Mode of Travel to Work	AM (08:00 – 09:00)			PM (17:00 – 18:00)		
	Arrive	Depart	Total	Arrive	Depart	Total
Work mainly at or from home	0	0	0	0	0	0
Underground, metro, light rail or tram	78	6	84	8	75	83
Train	201	16	218	20	194	214
Bus, minibus, or coach	330	27	356	32	319	351
Taxi	4	0	5	0	4	4
Motorcycle, scooter or moped	5	0	6	1	5	6
Driving a car or van	441	36	477	43	426	469
Passenger in a car or van	49	4	53	5	47	52
Bicycle	32	3	35	3	31	34
On foot	157	13	170	15	152	167
Other method of travel to work	3	0	3	0	2	3
Total	1,300	106	1,406	126	1,257	1,383

Table 5.3 – Proposed Trip Generation

- 5.3.7 **Table 5.3** demonstrates that there could be an additional 477 two-way vehicle movements in the AM peak and 469 two-way vehicle movements in the PM peak as a result of the proposed development.
- 5.3.8 It is considered that this is still a significant overestimation of the number of trips likely to take place by car. This is primarily on the basis that the figures were derived by using 2011 Census data, which should be referenced with discretion on the basis that travel patterns have shifted significantly in Manchester City Centre and across the whole of the UK since then. Public transport and cycle infrastructure in Greater Manchester has also improved significantly since 2011, with the expansion of the Metrolink network and the Ordsall Chord bridge, all of which allow for more trams / trains to run across the whole of Greater Manchester and the North.
- 5.3.9 To further support this, reference is also made to a guidance note produced by TRICS in July 2019, titled 'Guidance Note on Changes in Travel Behaviour', which cautions against over estimating trip demand. The guidance note provides compelling evidence suggesting that there has been a significant

decline in car trip rates in recent years (from c. 58% of trips to employment / office sites nationwide made by car between 2009 – 2013, to c. 50% between 2014 – 2018). It is noted that these are pre-COVID-19 statistics, indicating that people were already travelling less prior to the COVID-19 pandemic.

- 5.3.10 There has also been a significant increase in pedestrian trips and public transport trips (from c. 33% of trips to employment / office sites nationwide made on foot and by public transport between 2009 – 2013, to c. 41% between 2014 – 2018). These figures are national averages in a mixture of locations and do not reflect the highly accessibility of the proposed development in the vicinity of the city centre, which is likely to demonstrate greater uptake of public transport and sustainable modes of travel.
- 5.3.11 **Section 4** above has also demonstrated that the site is highly accessible by sustainable modes of transport, which are also usable by those with limited mobility and are wheelchair accessible. The surrounding area exhibits excellent levels of pedestrian and cycling infrastructure, and there are a number of public transport opportunities within acceptable walking distance of the site.
- 5.3.12 Secure and sheltered cycle parking, showers, lockers, and changing facilities will also be provided as part of the development, which is one of the many initiatives to encourage more staff and visitors to travel by sustainable modes.
- 5.3.13 Additionally, there has been a significant increase in residential accommodation within Central Manchester in recent years, as such many more workers are able to walk / cycle / travel by sustainable modes to work within the city centre. From the Manchester Crane Survey 2023 undertaken by Deloitte between January 2022 and January 2023, it was found that the overall number of residential units under construction in Central Manchester was c. 11,759, a figure that is expected to grow in the coming years.
- 5.3.14 According to 2021 Census data, Manchester's population has grown by 9.7% from 503,100 in 2011 to 552,000 in 2021. Based on the rate of construction and occupation of residential development, a further 20,000 people may relocate to the Crane Survey area over the next three years.
- 5.3.15 Considering the above, the highly accessible nature of the proposed development, the low number of on-site parking and the high level of cycle parking provision, the number of vehicular journeys is a worst-case assessment as less people would be motivated to travel by car in the future.
- 5.3.16 Finally, the vehicular impact of any trips that are generated by the site would be diluted and dissipated across a wider network depending on the location of car parks utilised (detailed in **Section 2.6** above). These car parks are spread out across Manchester City Centre, and therefore impacts at any particular junction are likely to be negligible.

5.4 Consented First Principles Approach

- 5.4.1 Effects from the COVID-19 pandemic and changing travel patterns were not considered in the Transport Statements provided as part of the consented applications in 2015 and 2019; however, it was recognised at that time that there is an absence of suitably representative TRICS sites available to

forecast the likely office development traffic due to the low levels of parking proposed at the site and the site's exceptionally high accessibility in comparison to other sites across the UK.

- 5.4.2 The consented methodology used comprised first principles trip generation based on a TRICS arrival and departure profile. It was assumed that all parking spaces would be occupied throughout the day by office staff, and therefore all arrivals and departures would occur during the mornings and afternoons of a normal working day respectively. As such, departures were not considered in the AM peak period, and arrivals were not considered in the PM peak period, on the basis that these movements are considered to be insignificant in comparison to the primary movements in each period.
- 5.4.3 To generate an appropriate arrival and departure profile, the TRICS database was interrogated to understand usual office traffic patterns, and to derive percentages for arrivals and departures in the wider AM and PM peak periods of 07:00 – 10:00 and 16:00 – 19:00 respectively. This methodology has been updated with the latest TRICS findings, and are as follows:

Time Period		TRICS Analysis	
		Vehicular Trip Rates	% of Trips
AM Peak (arrivals)	07:00 – 08:00	0.440	16%
	08:00 – 09:00	1.248	45%
	09:00 – 10:00	1.059	39%
	Total AM Peak	2.747	100%
PM Peak (departures)	16:00 – 17:00	0.813	34%
	17:00 – 18:00	1.155	48%
	18:00 – 19:00	0.430	18%
	Total PM Peak	2,398	100%

Table 5.4 – TRICS Arrival and Departure Profile

- 5.4.4 The above table shows that, according to the TRICS database, approximately 45% of office AM peak arrivals would occur between 08:00 – 09:00 and 48% of PM peak departures would occur between 17:00 – 18:00.
- 5.4.5 Therefore, with the assumption that all parking spaces (29 provided as part of the proposed development) are utilised throughout the day, the arrival and departure profile deduce that there will be 14 arrivals and 15 departures in the AM and PM peak hour respectively.
- 5.4.6 This results in a net reduction in vehicles associated with the proposed development when comparing the existing and proposed parking numbers.

5.5 Highway Impact Summary

- 5.5.1 On the above basis, Curtins do not believe that capacity assessments would be required, and that the highway network would not experience any adverse traffic impact resulting from the proposed development.

6.0 Transport Planning Policy

6.1 Introduction

- 6.1.1 The following section sets out key local and national transport planning policies, and how the proposals relate to them.

6.2 National Planning Policy Framework (2023)

- 6.2.1 NPPF sets out the current national transport planning policy and outlines the important role that transport policies have to play in facilitating sustainable development.

- 6.2.2 Paragraph 11 states that:

“Plans and decisions should apply a presumption in favour of sustainable development.”

- 6.2.3 For decision taking this means granting permission unless:

“...any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.”

- 6.2.4 Section 9 of the NPPF is entitled *Promoting Sustainable Transport* and outlines the important role that transport policies have to play in facilitating sustainable development. The section states that:

“The planning system should actively manage patterns of growth ...Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes.”

- 6.2.5 The document emphasises the need for developments to offer a choice of sustainable modes of transport to *“reduce congestion and emissions, and improve air quality and public health”*.

- 6.2.6 Paragraph 110 of the NPPF states that in assessing sites that may be allocated for development in plans, or specific applications in development, it should be ensured that:

- a) *“appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- b) *safe and suitable access to the site can be achieved for all users;*
- c) *the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and*
- d) *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.”*

6.2.7 The development proposals have shown that safe and suitable access to the site will be achieved. Additionally, it is not anticipated that the proposals would result in any significant impacts on the highway network.

6.2.8 Paragraph 111 of the NPPF states that:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe”.

6.2.9 Sensitivity tests using TRICS and Census data have demonstrated that any vehicular impact would be negligible on the surrounding area in terms of highways, traffic and transportation. It is considered the proposed development is likely to reduce the number of vehicles on the adjacent highway network.

6.2.10 Paragraph 112 of the NPPF states that applications for development should:

- *“give priority to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.”*

6.2.11 The proposed development is situated in an accessible location. There is good walking and cycling infrastructure adjacent to the site, and public transport is accessible within an acceptable walking distance.

6.2.12 The proposed development therefore accords with the general principles of the NPPF.

6.3 National Planning Practice Guidance (2014)

6.3.1 In addition to the NPPF, National Planning Practice Guidance (NPPG) has been developed by the Department for Communities and Local Government (DCLG; now the DLUHC) in 2014. It brings together planning practice guidance for England and sits alongside the NPPF. Within this document there is a specific section that clarifies the over-arching principles on Travel Plans, Transport Assessments and Transport Statements. The guidance states that:

“Travel Plans, Transport Assessments and Statements can positively contribute to:

- *Encouraging sustainable travel;*
- *Lessening traffic generation and its detrimental impacts;*
- *Reducing carbon emissions and climate impacts;*
- *Creating accessible, connected, inclusive communities;*
- *Improving health outcomes and quality of life;*
- *Improving road safety; and*
- *Reducing the need for new development to increase existing road capacity or provide new roads.”*

6.3.2 The guidance on Transport Assessments and Statements re-iterates the circumstances in which either document would usually be required. It is clear that a development of the size and nature of this development requires a Transport Statement. It also clarifies the process for establishing a scope for what the documents should contain. The NPPG has been considered in the production of this TS and the accompanying Framework Travel Plan (FTP) (Document Reference: **084198-CUR-XX-XX-T-TP-00002**).

6.3.3 As outlined above, this TS demonstrates that the site is accessible by active and sustainable modes of travel, and that safe and suitable access can be gained to the development. The development proposals therefore apply the principles set out in the NPPG and will seek to create a sustainable development and make a positive contribution to the local area.

6.4 Greater Manchester Transport Strategy 2040

6.4.1 In 2021, TfGM updated the 2040 Vision for Transport to deliver a transport system which enables residents, businesses and visitors in Greater Manchester to travel to a wide range of different destinations and opportunities, and where sustainable transport can be a viable and attractive alternative to the car.

6.4.2 Under Policy 4, TfGM will also “work with developers to ensure that new developments are accessible by sustainable modes, and to reduce transport emissions and impacts on the highway network.” This will be in accordance with the principles of:

- *“Reducing the need to travel;*
- *Reducing the need to travel by car, and the distance travelled;*
- *Maximising accessibility by sustainable modes;*
- *Making the best use of existing infrastructure, particularly through increasing the density of development close to public transport nodes;*
- *Maximising opportunities to provide additional public transport; and*
- *Designing to encourage active travel.”*

6.4.3 It is considered that the above principles are reflected in the TS, and the accompanying FTP that seeks to promote active and sustainable travel. It is also considered that the development proposals would not adversely impact the transport network, and instead would support the Transport Strategy by enhancing opportunities for sustainable travel by integrating into existing infrastructure.

6.4.4 The Transport Strategy notes that “attitudes to owning and using a car are also evolving. Many younger people no longer see car ownership, or indeed a driving licence, as essential.” It continues that “our approach also opens the way for a future where car ownership is not considered essential, and residents can choose from a range of sustainable and efficient travel options – public transport, ride sharing, car sharing / hire, walking, cycling or taxi” This supports the reduced level of car parking proposed at the development based on a highly accessible site by active and sustainable modes of transport.

6.5 Manchester Core Strategy (2012 – 2027)

6.5.1 The Manchester Core Strategy promotes similar principles to the NPPF. It contains three specific “Transport” policies, comprising:

- Policy T1 – Sustainable Transport;
- Policy T2 – Accessible Areas of Opportunity and Need; and
- Policy T3 – Strategic Integration.

6.5.2 Policy T1 focuses on sustainable transport and access for all. The accessibility of the site would encourage users of the proposed development to travel by sustainable modes.

6.5.3 Policy T2 of the Manchester Core Strategy states:

“The Council will actively manage the pattern of development to ensure that ... Within the City Centre, provides a level of car parking which reflects the highly accessible nature of the location, as well as the realistic requirements of the users of the development.”

6.5.4 It is considered the proposed parking provision is reflective of the highly accessible nature of the development, whilst considering the realistic requirements of the users. The development would benefit from sustainable transport links across the city centre.

6.5.5 Policy T3 is in relation to strategic integration of developments with the sustainable transport network. The proposed development would not prejudice the implementation of any of the strategic integration projects.

6.6 Conclusions

- 6.6.1 It is considered that the proposed development is in line with national and local transport policies and guidance. The site is located within an area which has a range of existing local facilities and plenty of sustainable travel choices within walking distance.

7.0 Summary and Conclusions

7.1 Summary

7.1.1 Curtins has been appointed on behalf of NOMA (GP) Ltd to provide traffic and transportation advice in relation to the redevelopment of 2 & 3 Angel Square.

7.1.2 The proposed development comprises plots M and N of the adopted NOMA Masterplan, known as 2 and 3 Angel Square, with the following development description:

“An application for full planning permission comprising:

Erection of 2 Angel Square, a 14 storey building (excluding roof top plant) to form a mixed use office development (Use Class Egi) with two flexible commercial units at Upper Ground floor Level (Use Classes Ea, b, c, e, f, and / or Use Class Sui Generis (p) and (q)), and with a flexible office (Use Class Egi) and/or restaurant (Use Class Eb) space at Level 12, along with Lower Ground Level car and cycle parking, hard and soft landscaping and other associated works;

Erection of 3 Angel Square, a 13 storey building (excluding roof top plant) to form a mixed use office development (Use Class Egi) with two flexible commercial units provided over Lower and Upper Ground Floor Levels (Use Classes Ea, b, c, e, f, and / or Use Class Sui Generis (p) and (q)), a further flexible commercial unit at Upper Ground Floor Level only allowing for ancillary seminar space and / or Sui Generis Use Class (t) Cinema space, together with an ancillary gym space at Upper Ground Floor, as well as Lower Ground Level car and cycle parking, hard and soft landscaping and other associated works.”

7.1.3 The site has previously received consents for similar developments (application reference: 109865/FO/2015/N1, 124973/FO/2019, and 134307/FO/2022). Additionally, in 2021, NOMA (GP) Limited obtained planning permission for a temporary marketing suite for NOMA (up to 5 years) within the southern portion of Plot 3 (application reference: 129631/FO/2021). At the time of writing, the marketing suite is fully operational. This document provides an update to the approved schemes from 2015, 2019, and 2022.

7.1.4 A review of baseline conditions and highway safety in the vicinity of the site has been undertaken. It is not considered that there is an existing highway safety issue that is likely to be exacerbated by the proposed development.

7.1.5 Relevant details of the proposed site layout, access, and servicing arrangements have been provided.

7.1.6 It is considered the site is highly accessible by sustainable modes of transport, which are also usable by those with limited mobility and are wheelchair accessible. The surrounding area exhibits good levels of pedestrian and cycling infrastructure, and there are a number of public transport opportunities within acceptable walking distance of the site.

- 7.1.7 Sensitivity tests using TRICS and Census data have demonstrated that any vehicular impact would be negligible on the surrounding area in terms of highways, traffic and transportation. Furthermore, it has been demonstrated there are alternative off-site parking options for the few users that would choose to drive / existing drivers that currently frequent the car park, and that the impact on car parking throughout the city centre would be insignificant.
- 7.1.8 Measures outlined in the accompanying Framework Travel Plan (Document Reference: **084198-CUR-XX-XX-T-TP-00002**) will be implemented to encourage more staff and visitors to travel by sustainable modes, reduce reliance on the private car, and further reduce the number of vehicular trips associated with the development.
- 7.1.9 A review of relevant local and national transport planning guidance has been undertaken. It is considered that the proposed development conforms with such policy.

7.2 Conclusions

- 7.2.1 It is reasonable to conclude that the proposed development is in accordance with Paragraph 111 of the National Planning Policy (NPPF), as it would not have an unacceptable impact on highway safety, nor would there be a severe residual cumulative impact on the surrounding highway network.
- 7.2.2 It is Curtins' view that from a highways and transport perspective there are no reasons why the development proposals should not be granted planning approval.

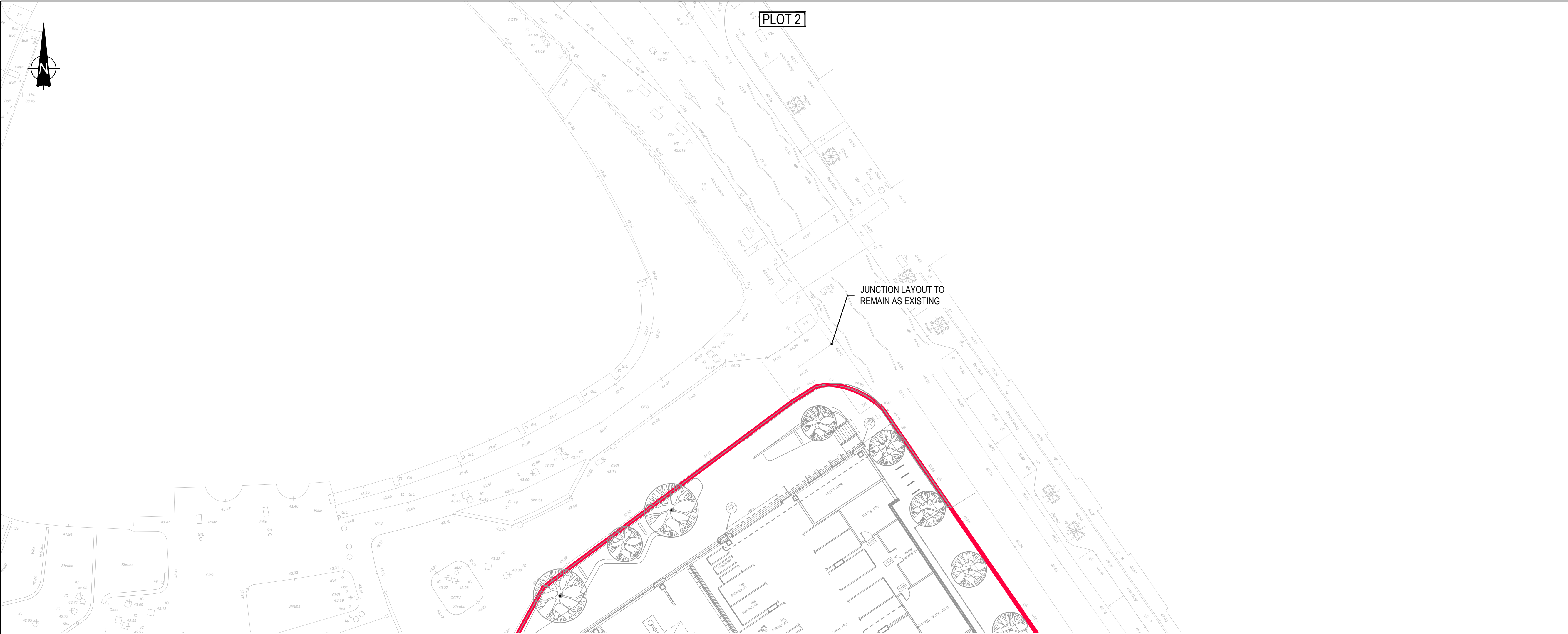
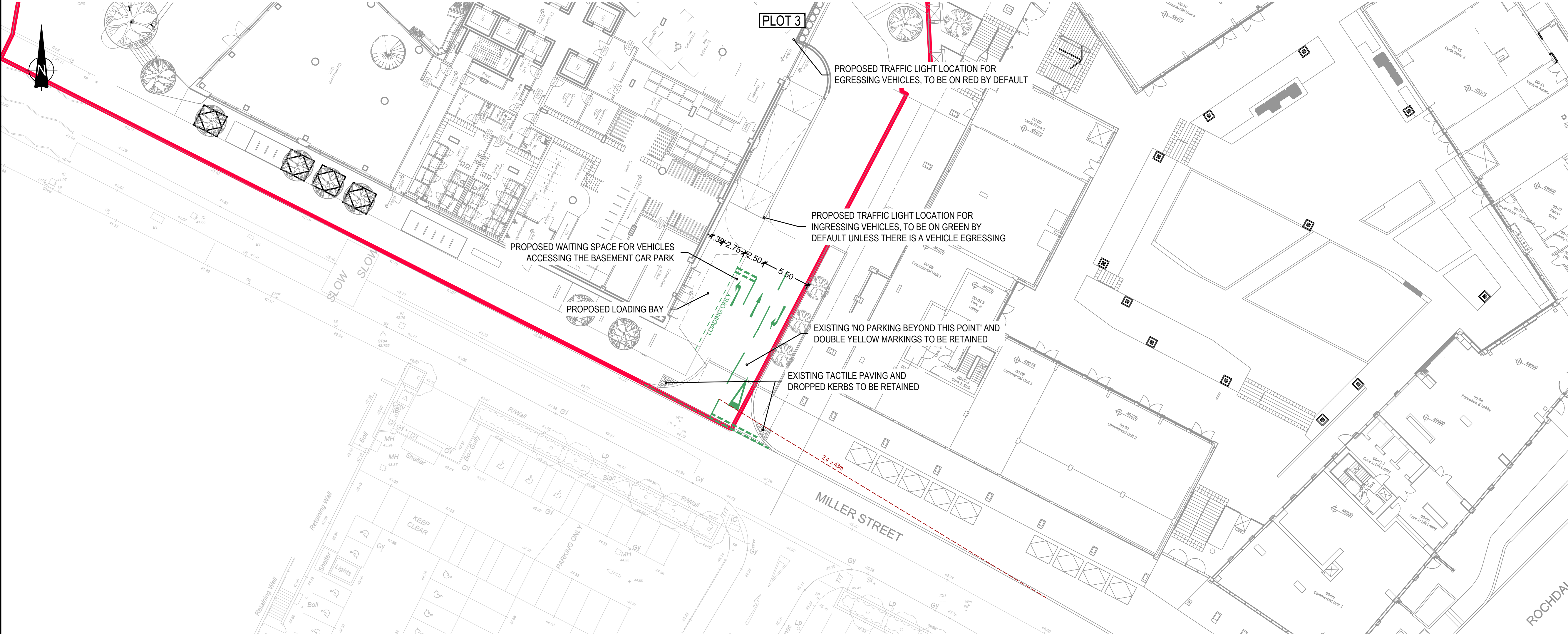
Drawings

Drawing 084198-CUR-XX-00-D-TP-75001 – Proposed Access Arrangement

Drawing 084198-CUR-XX-00-D-TP-05001 – (Swept Path Analysis) 11.2m Large Refuse Vehicle

Drawing 084198-CUR-XX-00-D-TP-05002 – (Swept Path Analysis) 7.7m Fire Tender

Drawing 084198-CUR-XX-00-D-TP-05003 – (Swept Path Analysis) Large Car



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 - LANDSCAPE LAYOUT BASED ON PLANT'S DRAWING REF.: 'PL2190.1-PLA-XX-XX-DR-L-1000-P05'

KEY:

- RED LINE BOUNDARY
- PROPOSED ROAD MARKINGS
- PROPOSED VISIBILITY SPLAYS (30mph)

P03	Layout updated. Access arrangement updated	14/09/23	MQ	DD
P02	Background updated	10/08/22	DD	AV
Rev:	Description:	Date:	By:	Chkd:

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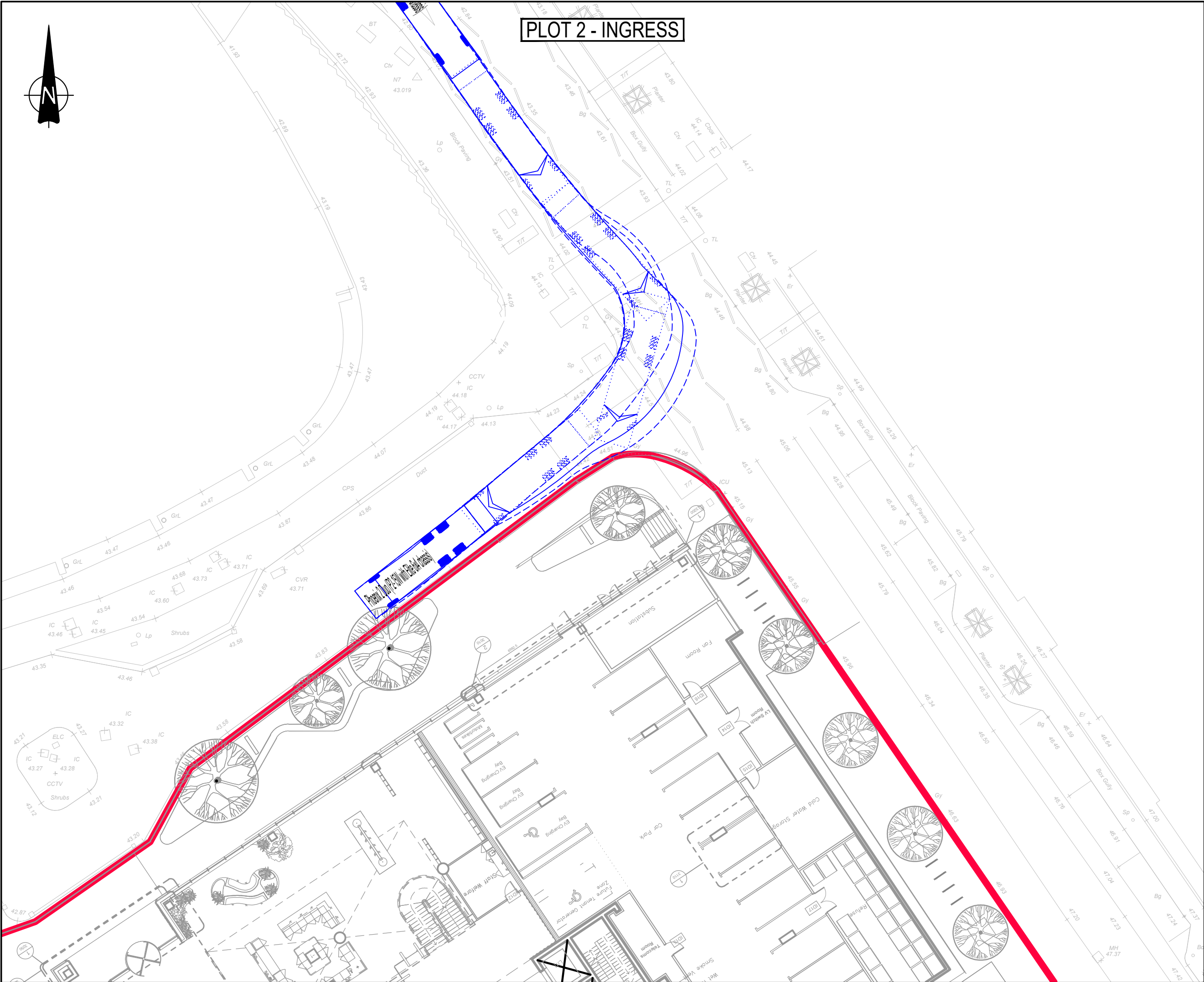
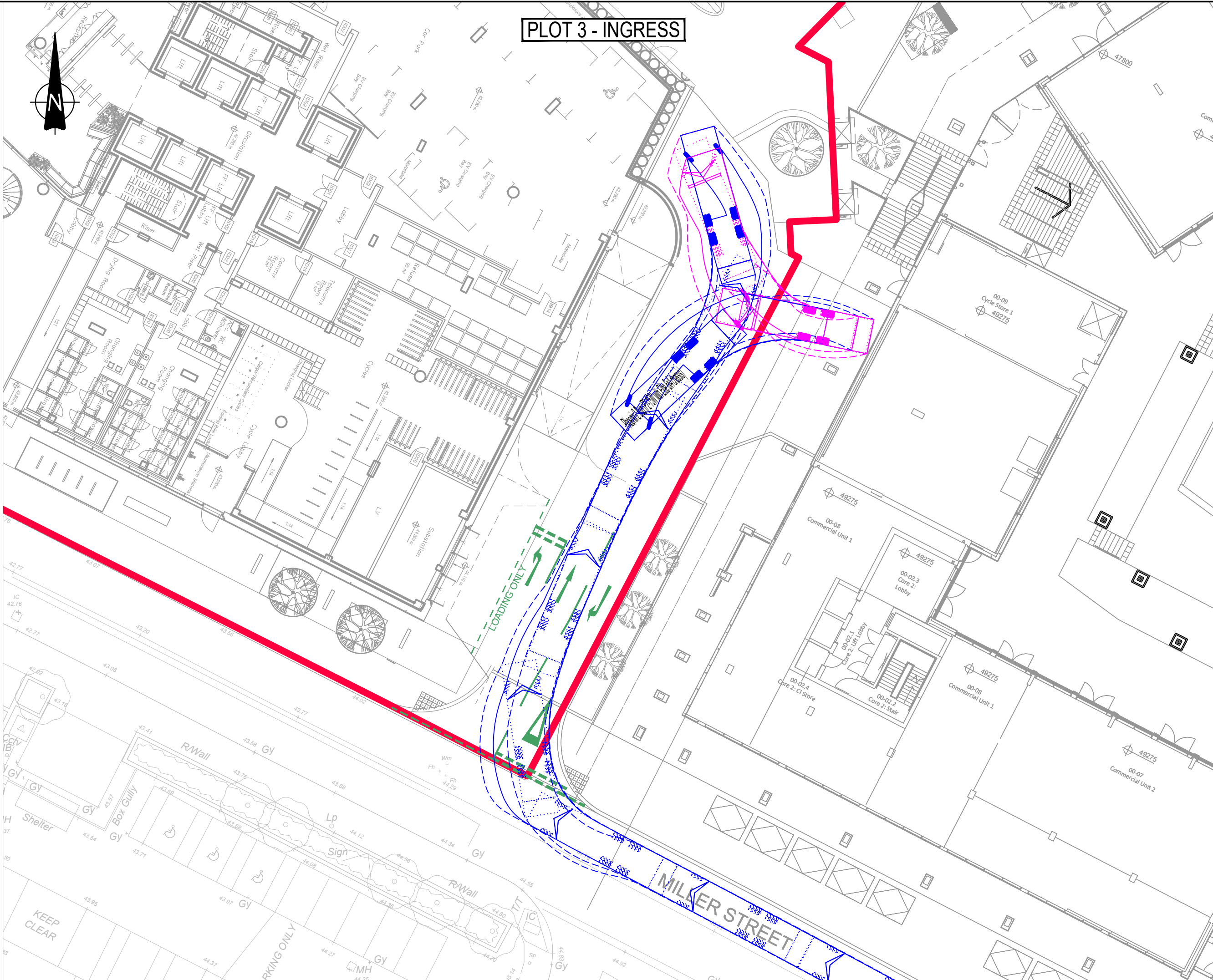
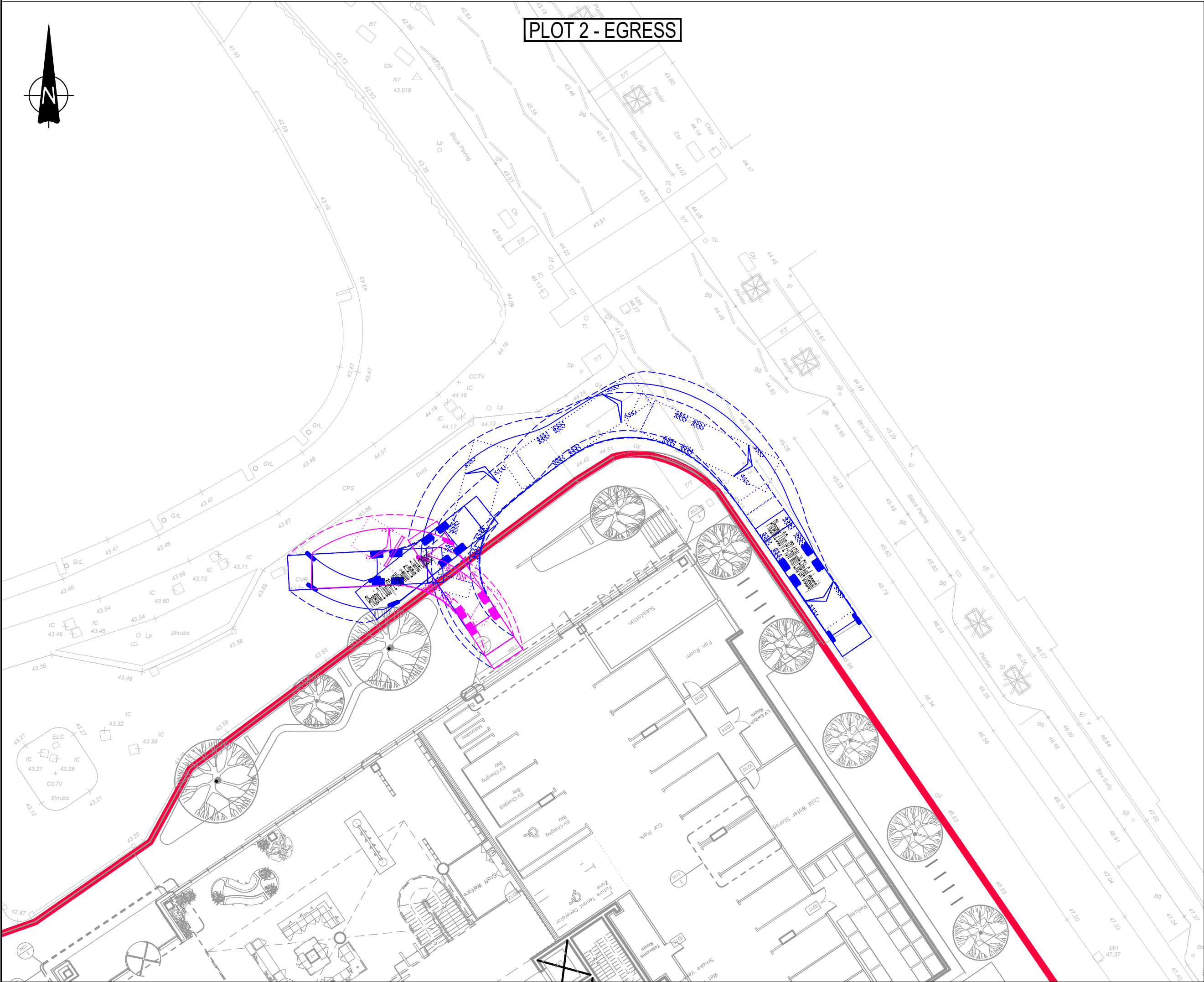
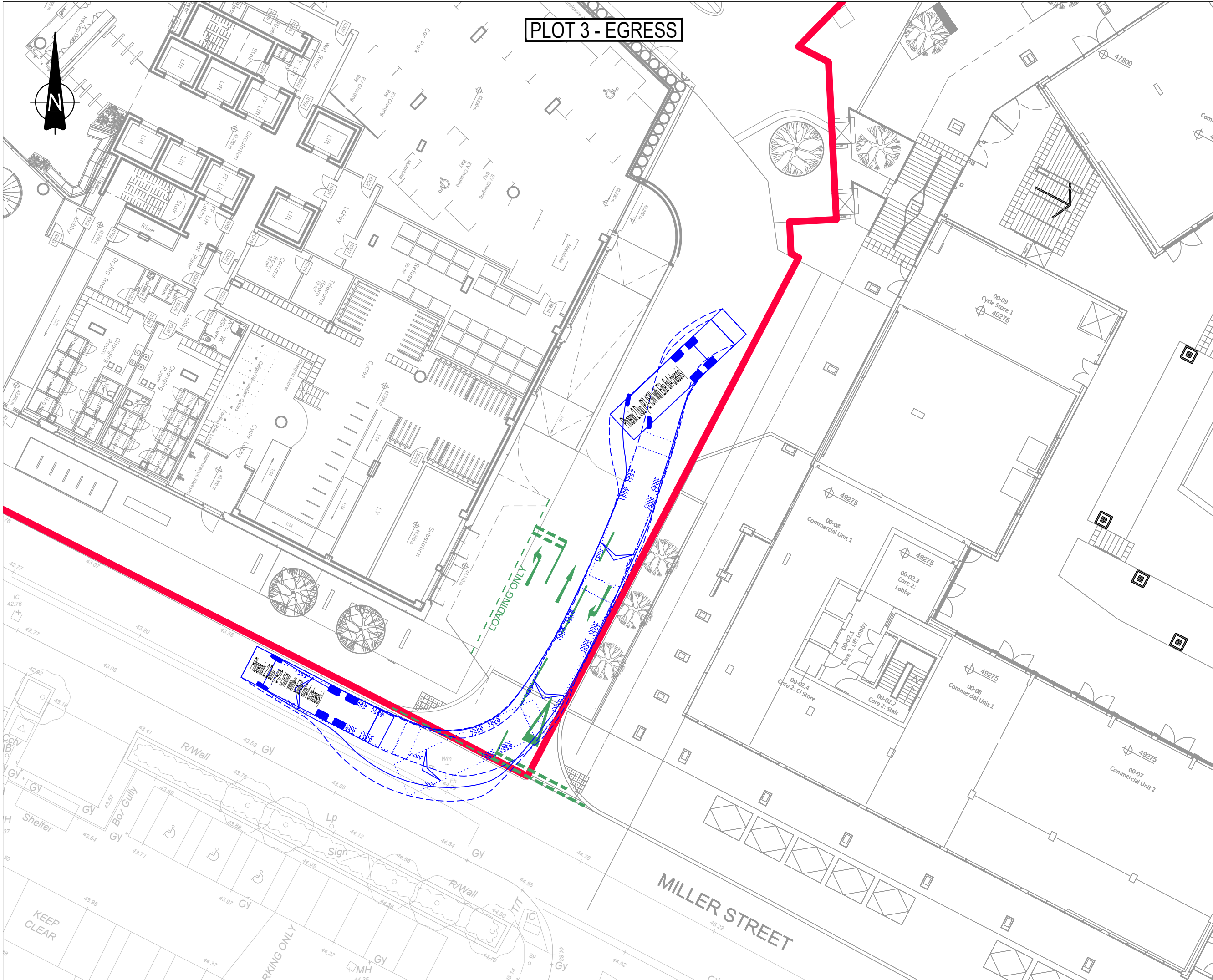
Chris & Structures - Transport Planning - Environmental - Infrastructure - Geotechnical - Conservation & Heritage - Principal Designer
Birmingham - Bristol - Cambridge - Cardiff - Douglas - Dublin - Edinburgh - Glasgow - Kendal - Leeds - Liverpool - London - Manchester - Nottingham

Status: **PLANNING**

Project: **NOMA PLOTS 2 & 3 - MANCHESTER**

Orig Title: **PROPOSED ACCESS ARRANGEMENT**

Drawn By	DD	Designed By	DD	Checked By	AV
		Date	09/08/22	Scales @ A1	1:250
Project No - Originator - Function - Spatial - Form - Discipline - Number					Revision
81536 - CUR - XX - 00 - D - TP- 75001					P03



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- LANDSCAPE LAYOUT BASED ON PLANT'S DRAWING REF.: 'PL2190.1-PLA-XX-XX-DR-L-1000-P05'

KEY:

- RED LINE BOUNDARY
- PROPOSED ROAD MARKINGS

VEHICLE PROFILE:

Rev:	Description:	Date:	By:	Chkd:
P06	Layout updated. Access arrangement updated.	14/09/23	MQ	DD
P05	Background updated	10/08/22	DD	AV
P04	Tracking updated	09/08/22	DD	AV
P03	Layout updated	23/06/22	DD	AV
P02	Layout updated	06/05/22	DD	AV

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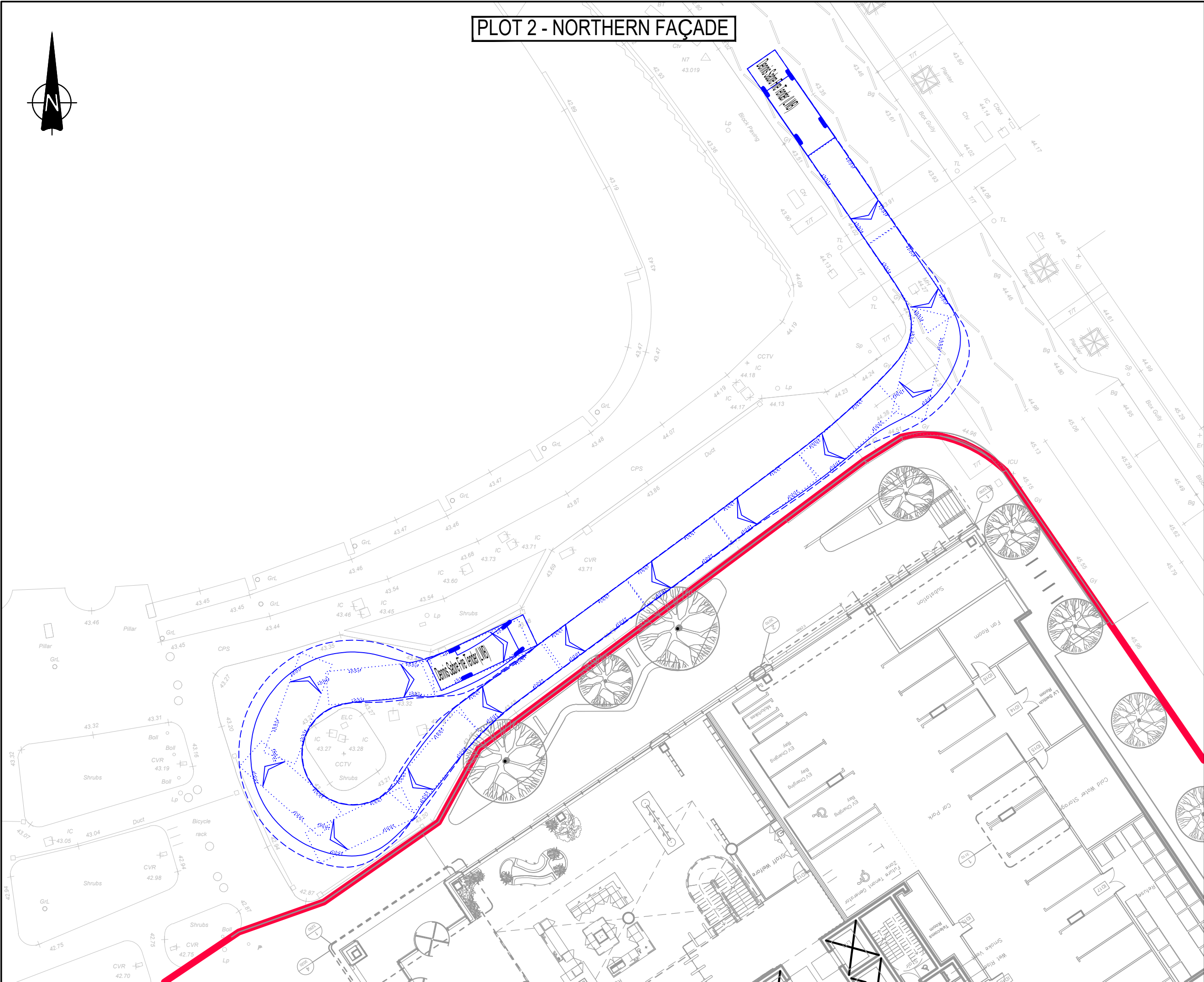
Project:
NOMA PLOTS 2 & 3 - MANCHESTER

Orig Title:
**SWEPT PATH ANALYSIS
11.2m REFUSE VEHICLE**

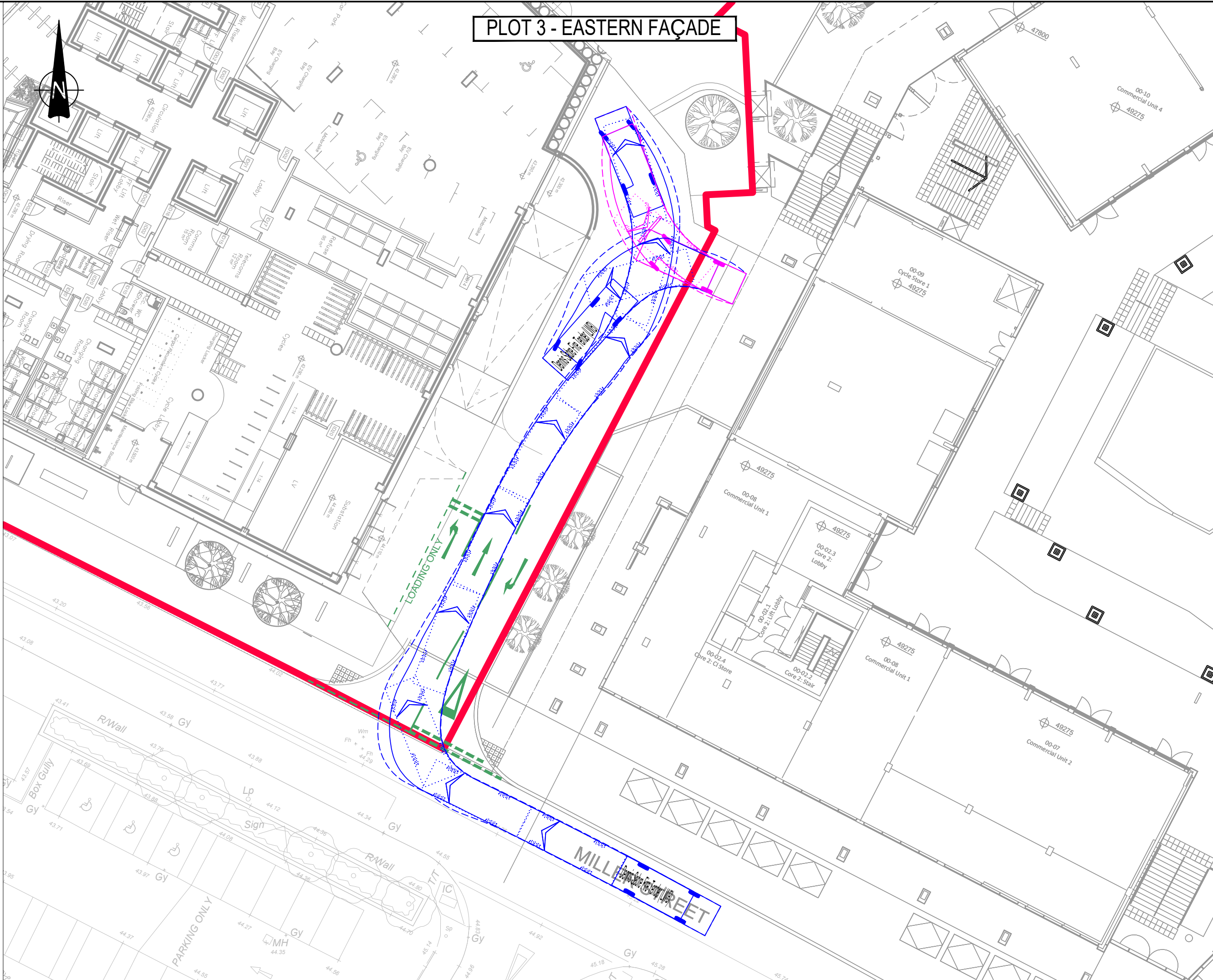
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Date 21/04/22		Scales @ A1 1:250

Project No - Originator - Function - Spatial - Form - Discipline - Number	Revision
81536 - CUR - XX - 00 - D -TP- 05001	P06

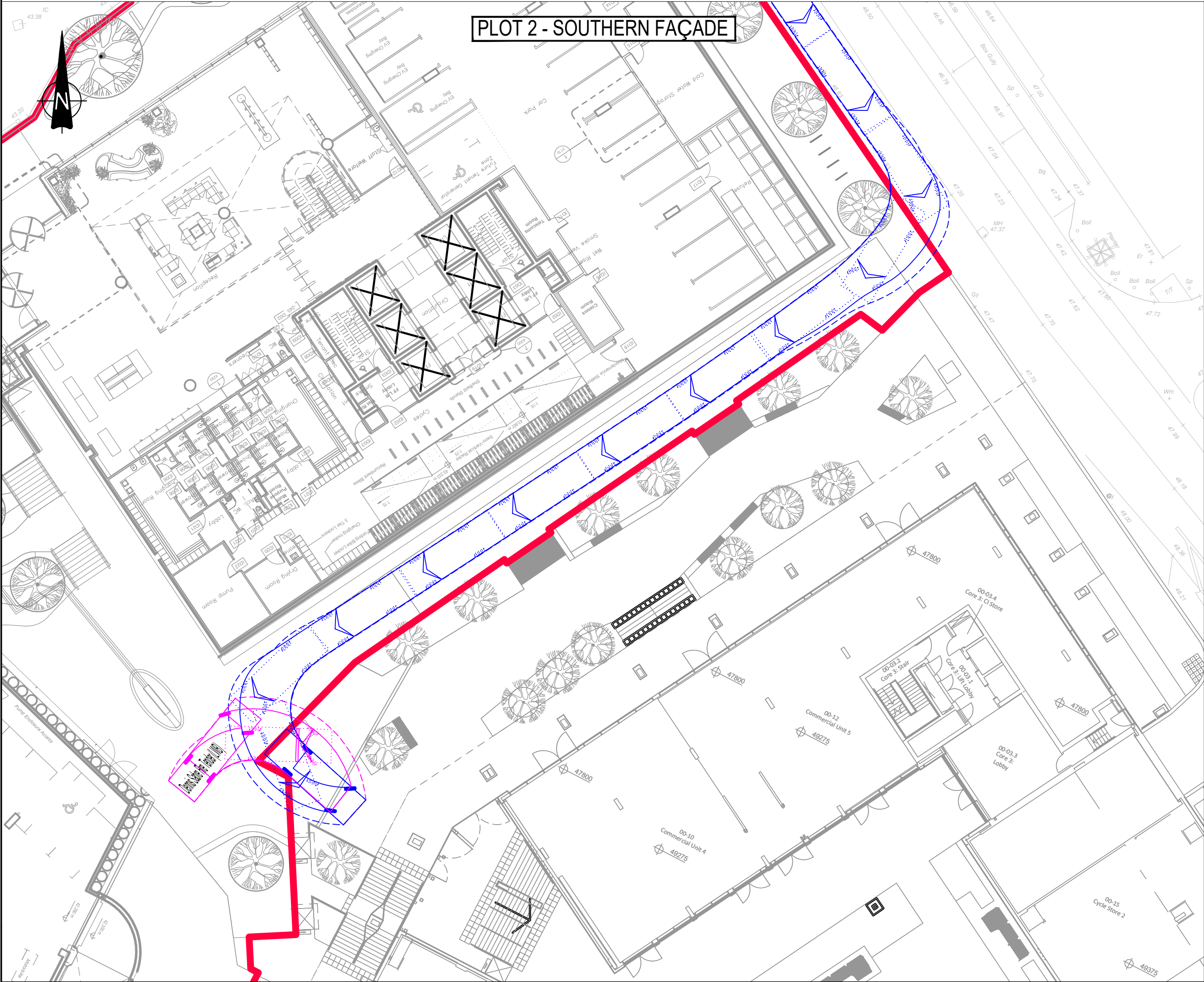
PLOT 2 - NORTHERN FAÇADE



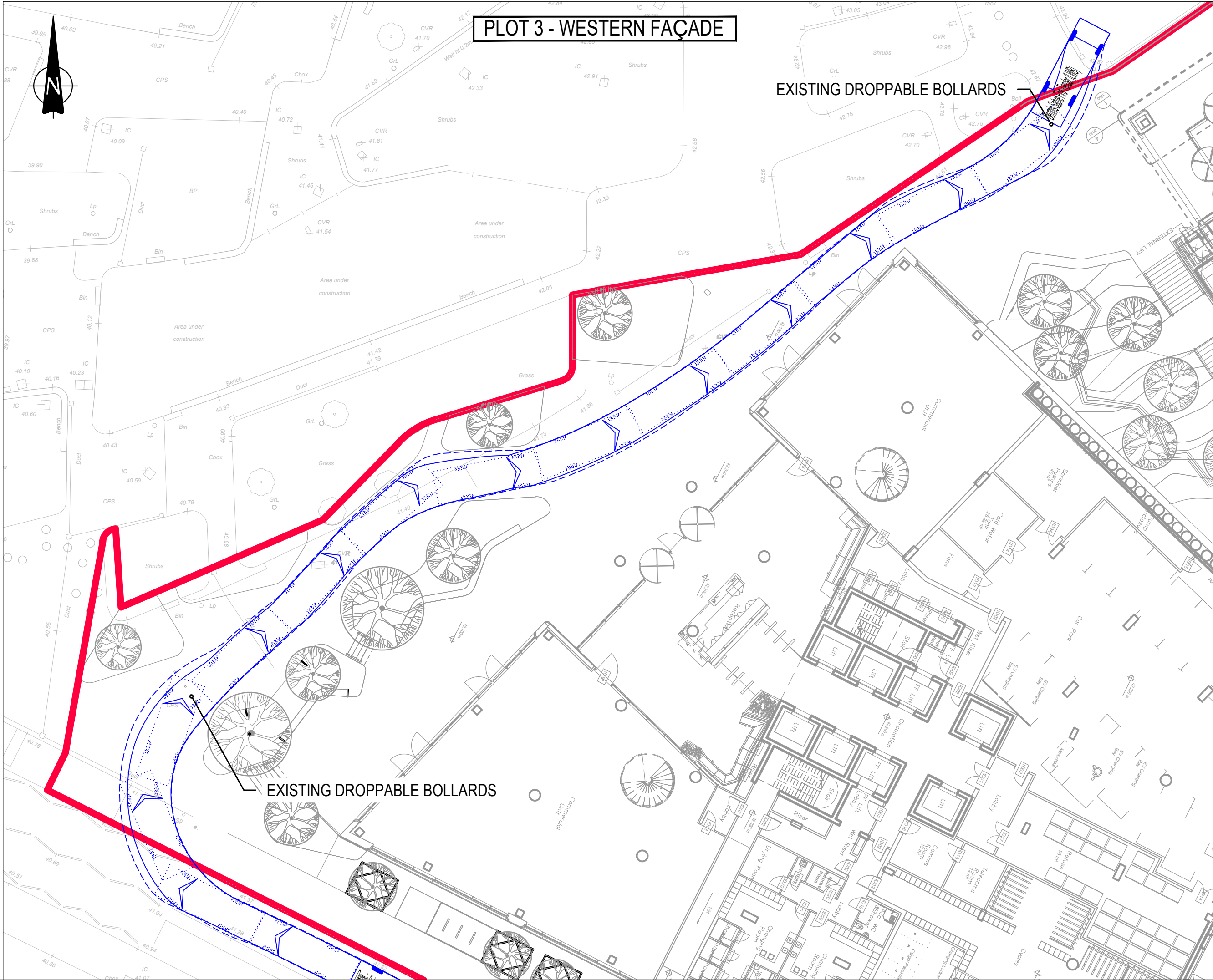
PLOT 3 - EASTERN FAÇADE



PLOT 2 - SOUTHERN FAÇADE



PLOT 3 - WESTERN FAÇADE

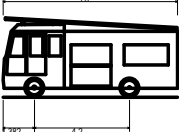


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- LAYOUT BASED ON CARTWRIGHT PICKARD'S DRAWING REFS.: 'AS-CPA-P2-LG-DR-A-2000-P08' AND 'AS-CPA-P3-LG-DR-A-2000-P09'
- LANDSCAPE LAYOUT BASED ON PLANT'S DRAWING REF.: 'PL2190.1-PLA-XX-XX-DR-L-1000-P05'

KEY: — RED LINE BOUNDARY
— PROPOSED ROAD MARKINGS

VEHICLE PROFILE:



Dennis Sabre Fire Tender (LWB)
Overall Width: 2.700m
Overall Height: 2.200m
Overall Body Height: 2.517m
Min. Entry Clearance: 2.300m
Track Width: 1.800m
Lock to Lock Time: 5.00s
Kerb to Kerb Turning Radius: 7.400m

P06	Layout updated. Access arrangement updated.	14/09/23	MQ	DD
P05	Background updated	10/08/22	DD	AV
P04	Tracking updated	09/08/22	DD	AV
P03	Layout updated	23/06/22	DD	AV
P02	Layout updated	06/05/22	DD	AV
Rev:	Description:	Date:	By:	Chkd:

Curtins

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Status:

PLANNING

Project:

NOMA PLOTS 2 & 3 - MANCHESTER

Orig Title:

SWEPT PATH ANALYSIS
7.7m FIRE TENDER

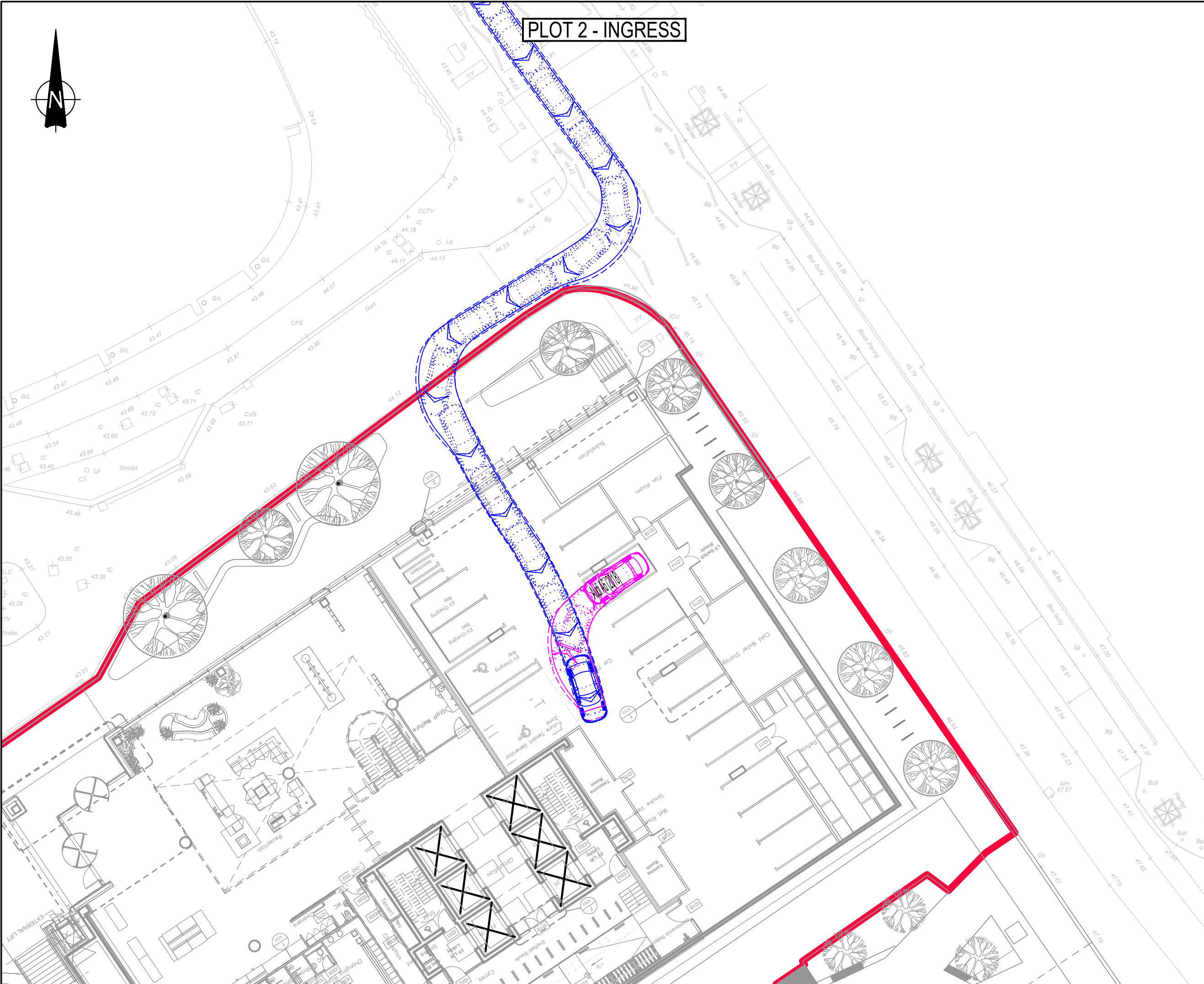
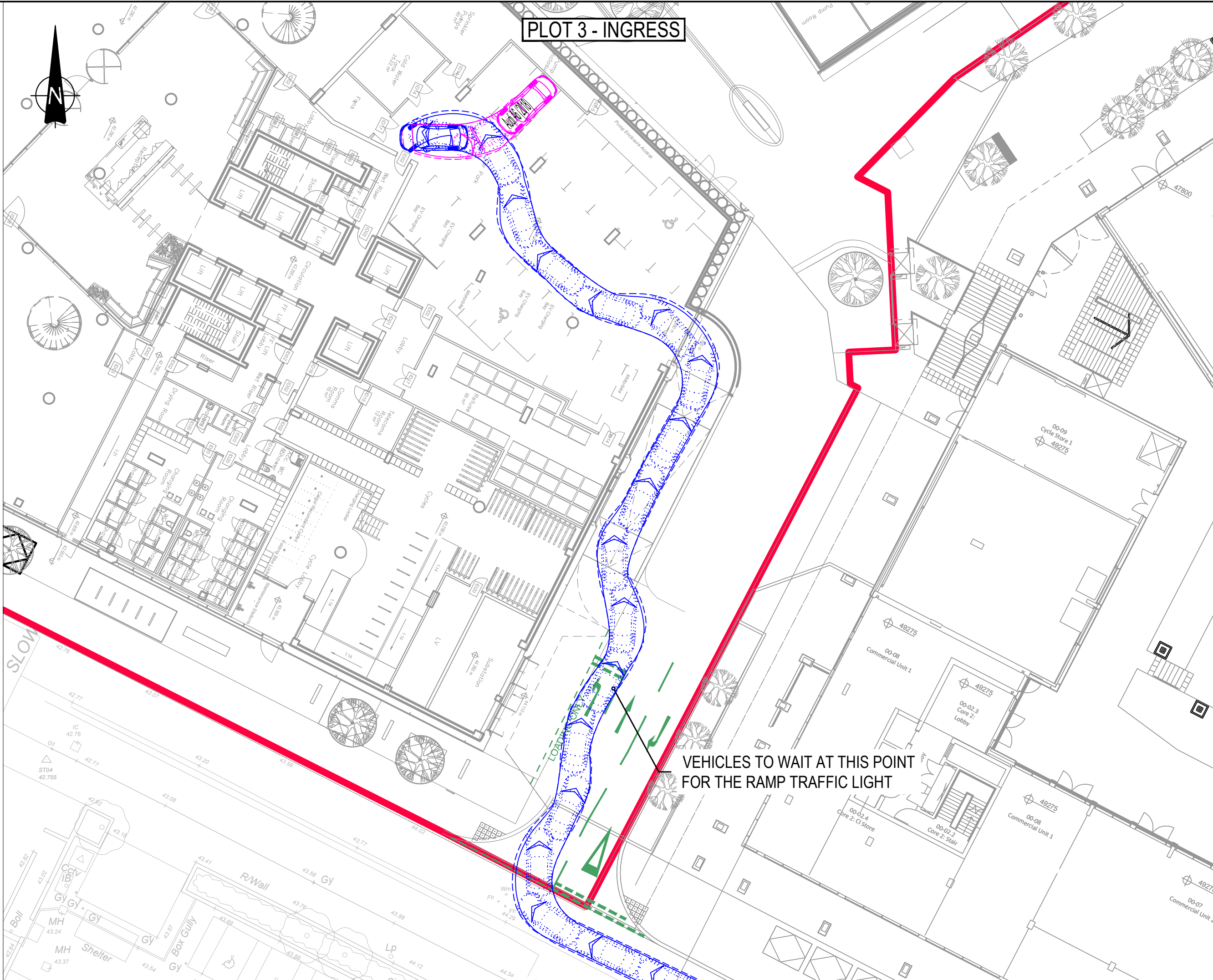
Drawn By DD Designed By DD Checked By AV

Date 21/04/22 Scales @ A1 1:250

Project No - Originator - Function - Spatial - Form - Discipline - Number Revision

81536 - CUR - XX - 00 - D - TP- 05002 P06

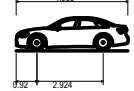
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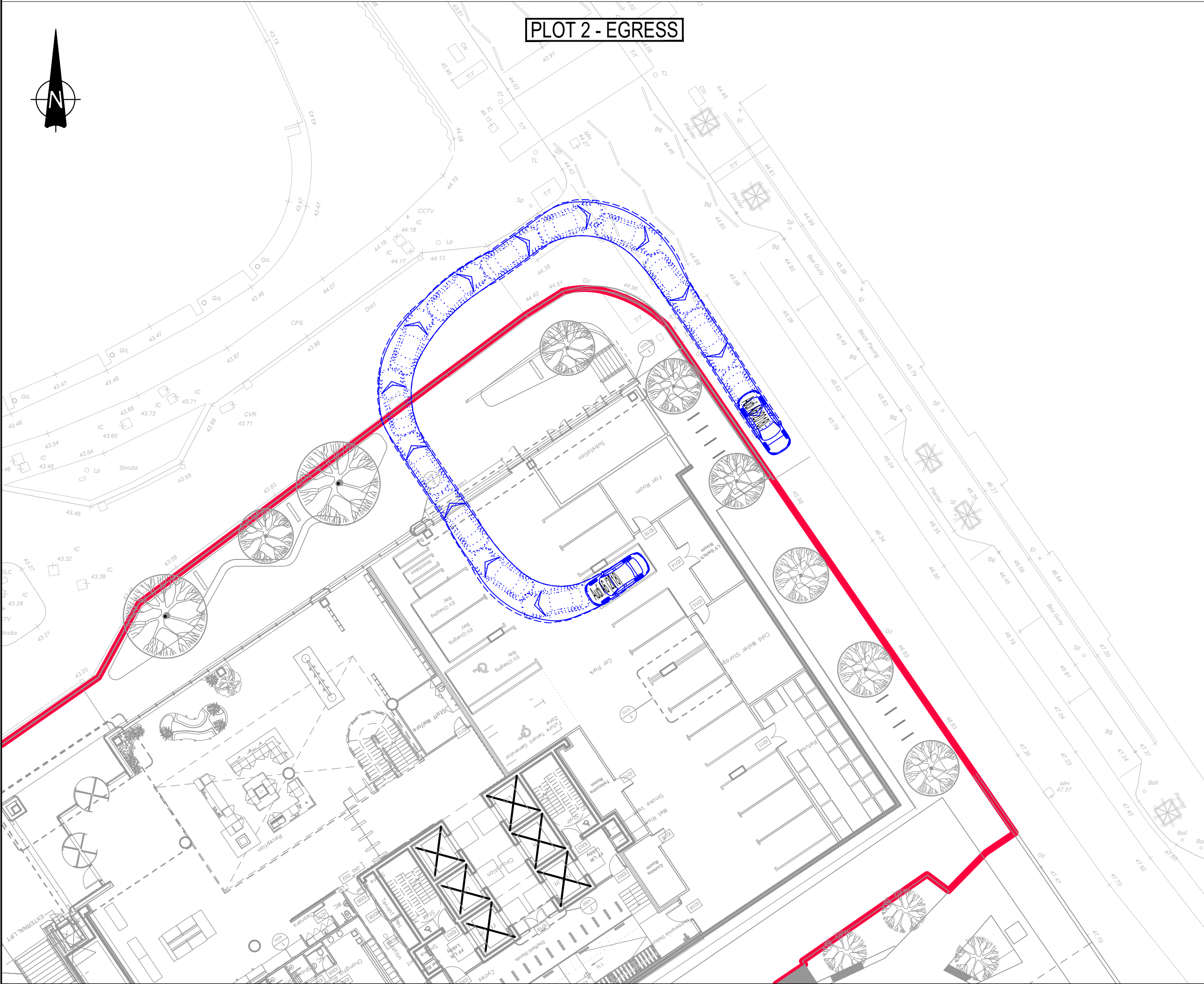
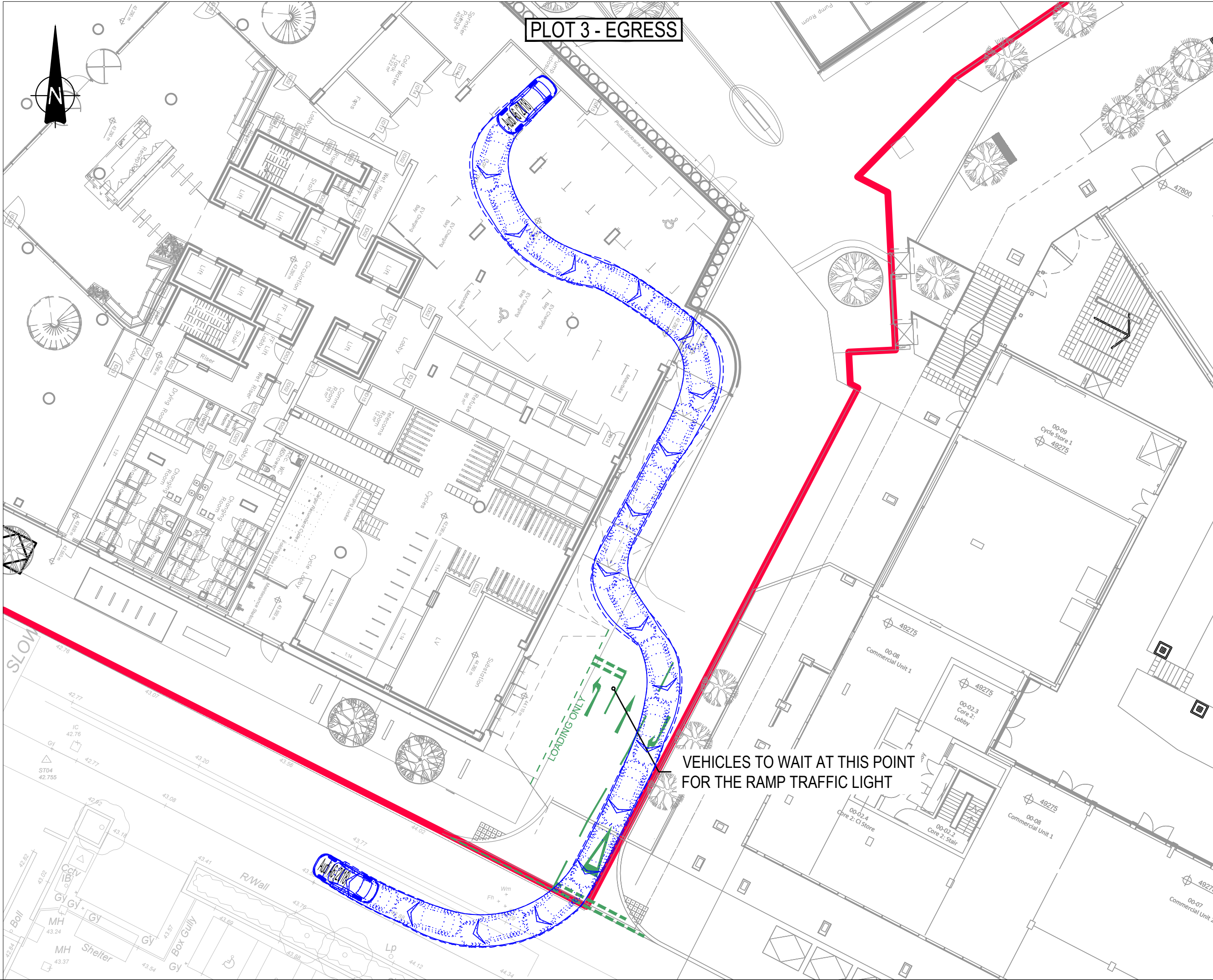
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 - LAYOUT BASED ON CARTWRIGHT PICKARD'S DRAWING REFS.: 'AS-CPA-P2-LG-DR-A-2000-P08' AND 'AS-CPA-P3-LG-DR-A-2000-P09'
 - LANDSCAPE LAYOUT BASED ON PLANIT'S DRAWING REF.: 'PL2190.1-PLA-XX-XX-DR-L-1000-P05'

KEY: — RED LINE BOUNDARY
— PROPOSED ROAD MARKINGS

VEHICLE PROFILE:



Audi A4 (2018)
Overall Length: 4.939m
Overall Width: 1.714m
Min Body Ground Clearance: 0.421m
Max Body Height: 1.429m
Lock to Lock Time: 4.07s
Kerb to Kerb Turning Radius: 9.800m



P06	Layout updated. Access arrangement updated. SPA revised	14/09/23	MQ	DD
P05	Background updated	10/08/22	DD	AV
P04	Tracking updated	09/08/22	DD	AV
P03	Layout updated	23/06/22	DD	AV
P02	Layout updated	06/05/22	DD	AV
Rev:	Description:	Date:	By:	Chkd:

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Status:

PLANNING

Project:

NOMA PLOTS 2 & 3 - MANCHESTER

Orig Title:

SWEPT PATH ANALYSIS
LARGE CAR

Drawn By	DD	Designed By	DD	Checked By	AV
		Date	21/04/22	Scales @ A1	1:250
Project No - Originator - Function - Spatial - Form - Discipline - Number					Revision
81536 - CUR - XX - 00 - D - TP- 05003					P06

\\msb2\Projects\081001 - 0820008\1536 - Noma Plot 2 and 3 202204 Production\44-Models Drawings\TP CAD\051

Appendix A – Development Proposals

Drawing Original Size
A1

Notes
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Drawing Revisions

Date:	Rev:	Note:	Check:
16.01.23	P01	GA Review	RO
17.02.23	P02	Floor to floor height reduced. Revisions as clouded and annotated	RO
24.02.23	P03	Revisions, as clouded, following client review meeting	RO
17.03.23	P04	GA Update. Revisions, as clouded.	RO
28.04.23	P05	Stage 3 Issue	RO
26.05.23	P06	GA Updates	RO
07.07.23	P07	Stage 3+ Issue	RO
18.08.23	P08	Stage 3+ Addendum Issue	RO

CARTWRIGHT
PICKARD

Client

MEPC

Project

947 | Angel Square Plots 2 & 3

Building Name

Plot 2

Drawing Title

GA Plan - Level LG

Scale

1:100 @ A1

Drawing Created

03/21/22

Revision

P08

Drawing No.

AS-CPA-P2-LG-DR-A-2000

London Office
1 Canal Side Studios
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London NW1 0QG
Tel 020 7554 3500

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Notes

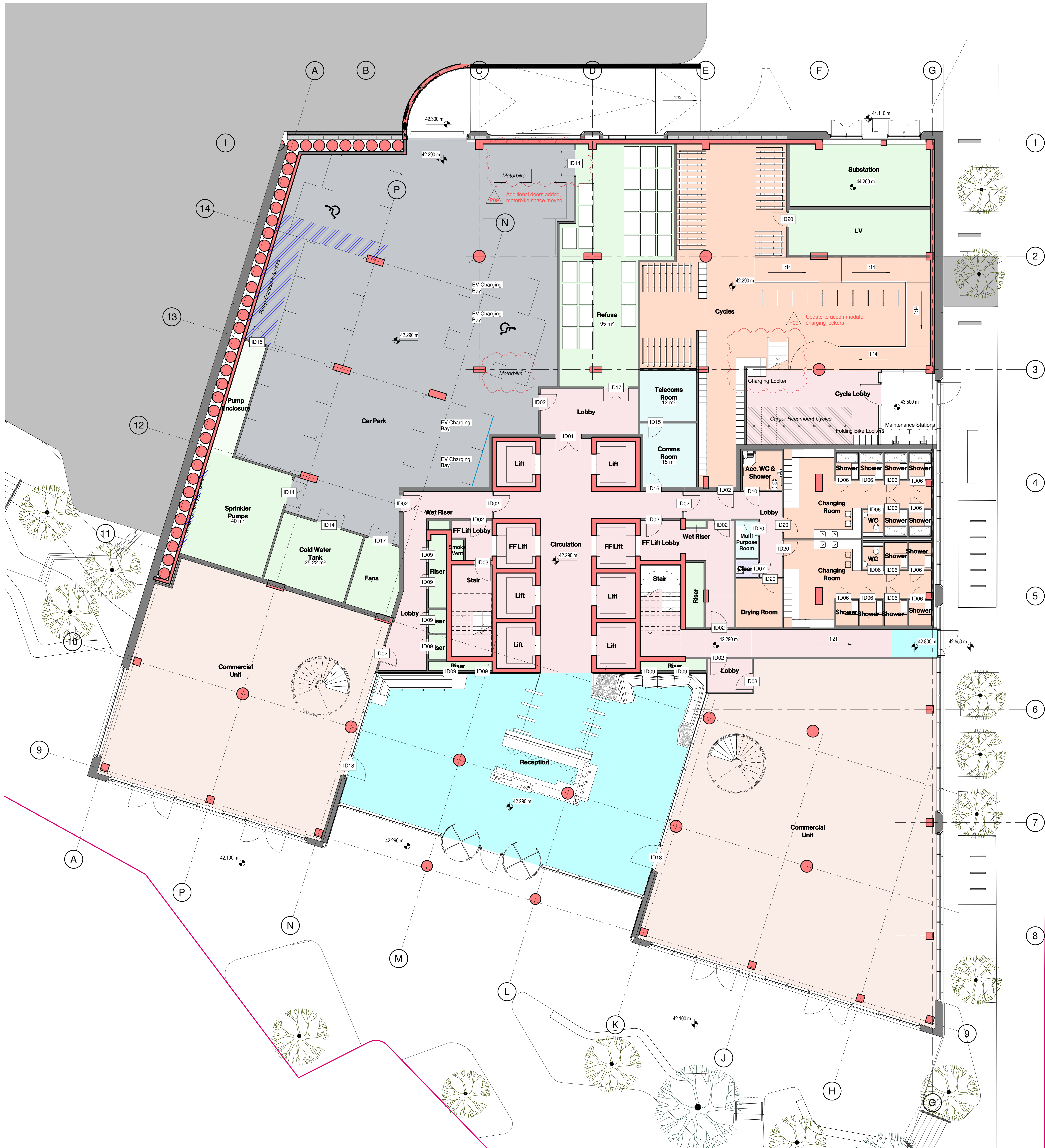
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Drawing Revisions		Note	Check:
Date:	Rev		
16.01.22	P01	GA Review	RO
17.02.23	P02	Revisions as bubbled and annotated	RO
03.03.23	P03	GA updates following client review. Revision clouded and annotated	RO
17.03.23	P04	GA Update. Revisions, as clouded.	RO
27.03.23	P05	Plant spaces relocated to suit updated sprinkler tank requirements	RO
28.04.23	P06	Stage 3 Issue	RO
26.05.23	P07	GA Updates	RO
04.08.23	P08	Stage 3+ Issue	RO
25.08.23	P09	Stage 3+ Addendum Issue	DR

CARTWRIGHT
PICKARD

Client
MEPC

Project
AS| Angel Square Plots 2 & 3

Building Name
Plot 3

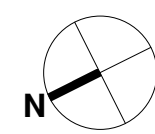
Drawing Title
GA Plan - Level LG

Scale
1:100 @ A0

Drawing Created
December 2022

Revision
P09

Drawing No.
AS-CPA-P3-LG-DR-A-2000



Location Office:
1 Canal Side Studios
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Tel: 020 7555 8830

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1/24

Appendix B – TRICS Output

Calculation Reference: AUDIT-148301-220428-0454

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT

Category : A - OFFICE

MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	2 days
	HF HERTFORDSHIRE	1 days
	SO SLOUGH	2 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	NF NORFOLK	2 days
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
08	NORTH WEST	
	GM GREATER MANCHESTER	2 days
	MS MERSEYSIDE	1 days
09	NORTH	
	CB CUMBRIA	1 days
	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: 178 to 11250 (units: sqm)
 Range Selected by User: 178 to 70291 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 21/10/21

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	4 days
Tuesday	3 days
Wednesday	1 days
Thursday	7 days
Friday	1 days

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

Selected survey types:

Manual count	16 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:

Town Centre	4
Edge of Town Centre	12

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:

Industrial Zone	1
Commercial Zone	2
Residential Zone	2

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:

Not Known 16 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 Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	1 days
15,001 to 20,000	3 days
20,001 to 25,000	3 days
25,001 to 50,000	9 days

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

Population within 5 miles:

25,001 to 50,000	3 days
75,001 to 100,000	2 days
100,001 to 125,000	1 days
125,001 to 250,000	4 days
250,001 to 500,000	2 days
500,001 or More	4 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	8 days
1.1 to 1.5	6 days
1.6 to 2.0	2 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:

Yes	3 days
No	13 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	16 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	CA-02-A-05 NEW ROAD PETERBOROUGH	OFFICES		CAMBRIDGESHIRE
	Town Centre Built-Up Zone Total Gross floor area:		8793 sqm	
	Survey date: TUESDAY		16/12/14	Survey Type: MANUAL
2	CB-02-A-02 PORT ROAD CARLISLE	OFFICE		CUMBRIA
	Edge of Town Centre Industrial Zone Total Gross floor area:		925 sqm	
	Survey date: FRIDAY		24/06/16	Survey Type: MANUAL
3	DS-02-A-02 PRIME PARKWAY DERBY	REAL ESTATE DEVELOPERS		DERBYSHIRE
	Edge of Town Centre No Sub Category Total Gross floor area:		594 sqm	
	Survey date: THURSDAY		21/10/21	Survey Type: MANUAL
4	ES-02-A-12 VICARAGE LANE HAILSHAM	COUNCIL OFFICES		EAST SUSSEX
	Edge of Town Centre Built-Up Zone Total Gross floor area:		3640 sqm	
	Survey date: THURSDAY		26/11/15	Survey Type: MANUAL
5	ES-02-A-13 ROMAN ROAD HOVE	OFFICES		EAST SUSSEX
	Edge of Town Centre Residential Zone Total Gross floor area:		280 sqm	
	Survey date: WEDNESDAY		04/07/18	Survey Type: MANUAL
6	GM-02-A-08 FOUNTAIN STREET MANCHESTER	REGUS		GREATER MANCHESTER
	Town Centre Built-Up Zone Total Gross floor area:		3960 sqm	
	Survey date: MONDAY		26/09/16	Survey Type: MANUAL
7	GM-02-A-09 NEW MOUNT STREET MANCHESTER	LEASED OFFICES		GREATER MANCHESTER
	Edge of Town Centre Built-Up Zone Total Gross floor area:		2500 sqm	
	Survey date: MONDAY		26/09/16	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	HF-02-A-04 STATION WAY ST ALBANS	OFFICES		HERTFORDSHIRE
	Edge of Town Centre Residential Zone Total Gross floor area:		5000 sqm	
	Survey date:	THURSDAY	02/10/14	Survey Type: MANUAL
9	MS-02-A-02 MOUNT PLEASANT LIVERPOOL	SCIENCE PARK OFFICES		MERSEYSIDE
	Edge of Town Centre Built-Up Zone Total Gross floor area:		11250 sqm	
	Survey date:	TUESDAY	13/11/18	Survey Type: MANUAL
10	NF-02-A-02 NORTH QUAY GREAT YARMOUTH	FINANCIAL PLANNERS		NORFOLK
	Edge of Town Centre Commercial Zone Total Gross floor area:		894 sqm	
	Survey date:	MONDAY	11/09/17	Survey Type: MANUAL
11	NF-02-A-03 NORTH QUAY GREAT YARMOUTH	OFFICES		NORFOLK
	Edge of Town Centre Commercial Zone Total Gross floor area:		5500 sqm	
	Survey date:	TUESDAY	12/09/17	Survey Type: MANUAL
12	NY-02-A-01 NORTH PARK ROAD HARROGATE	SOLICITORS		NORTH YORKSHIRE
	Edge of Town Centre Built-Up Zone Total Gross floor area:		178 sqm	
	Survey date:	THURSDAY	04/10/18	Survey Type: MANUAL
13	NY-02-A-02 STATION ROAD RICHMOND	DISTRICT COUNCIL OFFICES		NORTH YORKSHIRE
	Edge of Town Centre No Sub Category Total Gross floor area:		1930 sqm	
	Survey date:	THURSDAY	14/03/19	Survey Type: MANUAL
14	SO-02-A-01 HIGH STREET SLOUGH	COUNCIL OFFICES		SLOUGH
	Town Centre High Street Total Gross floor area:		1800 sqm	
	Survey date:	THURSDAY	27/02/14	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	SO-02-A-02 BATH ROAD SLOUGH	COUNCIL OFFICES	SLOUGH
	Edge of Town Centre Built-Up Zone		
	Total Gross floor area:	5050 sqm	
	Survey date: THURSDAY	27/02/14	Survey Type: MANUAL
16	TW-02-A-07 MULGRAVE TERRACE GATESHEAD	OFFICES	TYNE & WEAR
	Town Centre Built-Up Zone		
	Total Gross floor area:	2090 sqm	
	Survey date: MONDAY	13/06/16	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

MULTI-MODAL TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 2.25

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									
07:00 - 08:00	15	3439	0.440	15	3439	0.058	15	3439	0.498
08:00 - 09:00	16	3235	1.248	16	3235	0.160	16	3235	1.408
09:00 - 10:00	16	3235	1.059	16	3235	0.342	16	3235	1.401
10:00 - 11:00	16	3235	0.471	16	3235	0.371	16	3235	0.842
11:00 - 12:00	16	3235	0.325	16	3235	0.307	16	3235	0.632
12:00 - 13:00	16	3235	0.388	16	3235	0.469	16	3235	0.857
13:00 - 14:00	16	3235	0.506	16	3235	0.400	16	3235	0.906
14:00 - 15:00	16	3235	0.328	16	3235	0.390	16	3235	0.718
15:00 - 16:00	16	3235	0.290	16	3235	0.491	16	3235	0.781
16:00 - 17:00	16	3235	0.236	16	3235	0.813	16	3235	1.049
17:00 - 18:00	16	3235	0.166	16	3235	1.155	16	3235	1.321
18:00 - 19:00	15	3439	0.064	15	3439	0.430	15	3439	0.494
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			5.521			5.386			10.907

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:	178 - 11250 (units: sqm)
Survey date range:	01/01/14 - 21/10/21
Number of weekdays (Monday-Friday):	16
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
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.

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

MULTI-MODAL CYCLISTS

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									
07:00 - 08:00	15	3439	0.014	15	3439	0.000	15	3439	0.014
08:00 - 09:00	16	3235	0.073	16	3235	0.000	16	3235	0.073
09:00 - 10:00	16	3235	0.017	16	3235	0.000	16	3235	0.017
10:00 - 11:00	16	3235	0.014	16	3235	0.014	16	3235	0.028
11:00 - 12:00	16	3235	0.012	16	3235	0.006	16	3235	0.018
12:00 - 13:00	16	3235	0.012	16	3235	0.017	16	3235	0.029
13:00 - 14:00	16	3235	0.012	16	3235	0.014	16	3235	0.026
14:00 - 15:00	16	3235	0.004	16	3235	0.012	16	3235	0.016
15:00 - 16:00	16	3235	0.012	16	3235	0.015	16	3235	0.027
16:00 - 17:00	16	3235	0.006	16	3235	0.021	16	3235	0.027
17:00 - 18:00	16	3235	0.000	16	3235	0.058	16	3235	0.058
18:00 - 19:00	15	3439	0.002	15	3439	0.023	15	3439	0.025
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.178			0.180			0.358

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.

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

MULTI-MODAL PEDESTRIANS

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									
07:00 - 08:00	15	3439	0.105	15	3439	0.010	15	3439	0.115
08:00 - 09:00	16	3235	0.350	16	3235	0.031	16	3235	0.381
09:00 - 10:00	16	3235	0.269	16	3235	0.126	16	3235	0.395
10:00 - 11:00	16	3235	0.421	16	3235	0.303	16	3235	0.724
11:00 - 12:00	16	3235	0.371	16	3235	0.464	16	3235	0.835
12:00 - 13:00	16	3235	0.661	16	3235	1.045	16	3235	1.706
13:00 - 14:00	16	3235	0.997	16	3235	0.858	16	3235	1.855
14:00 - 15:00	16	3235	0.558	16	3235	0.336	16	3235	0.894
15:00 - 16:00	16	3235	0.249	16	3235	0.251	16	3235	0.500
16:00 - 17:00	16	3235	0.145	16	3235	0.350	16	3235	0.495
17:00 - 18:00	16	3235	0.043	16	3235	0.361	16	3235	0.404
18:00 - 19:00	15	3439	0.016	15	3439	0.105	15	3439	0.121
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.185			4.240			8.425

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.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
 MULTI-MODAL PUBLIC TRANSPORT USERS
 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									
07:00 - 08:00	15	3439	0.085	15	3439	0.008	15	3439	0.093
08:00 - 09:00	16	3235	0.450	16	3235	0.021	16	3235	0.471
09:00 - 10:00	16	3235	0.377	16	3235	0.037	16	3235	0.414
10:00 - 11:00	16	3235	0.137	16	3235	0.066	16	3235	0.203
11:00 - 12:00	16	3235	0.108	16	3235	0.100	16	3235	0.208
12:00 - 13:00	16	3235	0.120	16	3235	0.251	16	3235	0.371
13:00 - 14:00	16	3235	0.164	16	3235	0.205	16	3235	0.369
14:00 - 15:00	16	3235	0.131	16	3235	0.097	16	3235	0.228
15:00 - 16:00	16	3235	0.079	16	3235	0.122	16	3235	0.201
16:00 - 17:00	16	3235	0.070	16	3235	0.209	16	3235	0.279
17:00 - 18:00	16	3235	0.027	16	3235	0.448	16	3235	0.475
18:00 - 19:00	15	3439	0.012	15	3439	0.167	15	3439	0.179
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.760			1.731			3.491

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.

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

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 2.25

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									
07:00 - 08:00	15	3439	0.677	15	3439	0.079	15	3439	0.756
08:00 - 09:00	16	3235	2.262	16	3235	0.185	16	3235	2.447
09:00 - 10:00	16	3235	1.861	16	3235	0.502	16	3235	2.363
10:00 - 11:00	16	3235	1.094	16	3235	0.748	16	3235	1.842
11:00 - 12:00	16	3235	0.881	16	3235	0.904	16	3235	1.785
12:00 - 13:00	16	3235	1.267	16	3235	1.880	16	3235	3.147
13:00 - 14:00	16	3235	1.789	16	3235	1.540	16	3235	3.329
14:00 - 15:00	16	3235	1.063	16	3235	0.902	16	3235	1.965
15:00 - 16:00	16	3235	0.676	16	3235	0.956	16	3235	1.632
16:00 - 17:00	16	3235	0.464	16	3235	1.507	16	3235	1.971
17:00 - 18:00	16	3235	0.220	16	3235	2.187	16	3235	2.407
18:00 - 19:00	15	3439	0.078	15	3439	0.785	15	3439	0.863
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			12.332			12.175			24.507

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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