Teledata UK Ltd Data Centre
Brownley Road
Manchester
M22 5RA

Generator Acoustic Commissioning Report

30 September 2025

Client:

Keysource
3 City Place
Beehive Ring Road
Gatwick
RH6 0PA

QA23261/ACR3

Document Control

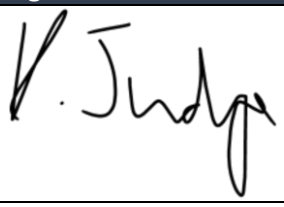
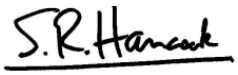
Document Information

Information	Description
Reference	QA23261/ACR3

Document History

Revision	Issue Date	Changes
0	15 October 2025	-

Document Approvals

Role	Name	Signature	Date
Preparation	**Robbie Judge** Assistant Consultant		15 October 2025
Approval	**Eur Ing Simon Hancock** Director BEng(Hons), CEng, FIOA, MIMechE, MCIBSE		15 October 2025

For Information

Please Note
Quantum Acoustics Ltd have prepared this report with generally accepted acoustic consultancy principles, using all reasonable skill, care and diligence. This is as per the terms agreed between Quantum Acoustics Ltd and our Client. Information referred to herein which may have been provided by third parties should not be assumed to have been checked and verified by Quantum Acoustics Ltd, unless specifically confirmed to the contrary. Both confidential and commercially sensitive information is contained within this document, and as such it should not be disclosed to third parties. Any third party choosing to rely on this document does so at their own risk.

Contents

1.0 INTRODUCTION 4
2.0 NEAREST NOISE SENSITIVE RECEPTORS 7
3.0 PLANT AREA ENCLOSURE 9
4.0 GENERATOR NOISE DATA 12
5.0 NOISE MEASUREMENT EQUIPMENT 13
6.0 NOISE MEASUREMENTS 14
7.0 CRITERIA 18
8.0 ASSESSMENT OF GENERATOR NOISE LEVELS 19
9.0 CONCLUSIONS 22

1.0 INTRODUCTION

1.1 Teledata UK Ltd have demolished the existing structure known as Simon House, Brownley Road, Manchester, M22 5RA and erected a new data centre adjacent to the existing data centre known as Delta House. This involves installing new items of building services plant externally. The new plant will comprise 6No. chiller units, which will operate continuously (i.e. 24/7) and 3No. emergency generators for use during power outages.

1.2 Quantum Acoustics have previously reviewed this environmental noise assessment report, established appropriate environmental plant noise emission criteria and subsequently assessed the acceptability of environmental plant noise emissions from the proposed plant. Our methodology and findings were presented in our Plant Noise Impact Assessment Report dated 1 March 2024.

1.3 Quantum Acoustics have now been requested to undertake acoustic commissioning of the 3No generators that have currently been installed. The plant area has been enclosed with an acoustic screen, comprising acoustic louvres.

1.4 We have assessed environmental noise emissions from the 3No generators to the nearest existing residential receptors, with reference to the requirements of Manchester City Council's planning condition.

1.5 This report presents our methodology and findings.

1.6 The photo below shows one of the installed generators.



1.7 The photo below shows one of the installed generators and also the acoustic louvres.



2.0 NEAREST NOISE SENSITIVE RECEPTORS

2.1 The nearest existing noise-sensitive receptors at the time planning permission for the data centre was granted are identified the following dwellings:

Position	Address	Location
R1	275 Woodfield, Wythenshawe M22 5TB	Approximately 85m from the location of the proposed plant
R2	36 Clifden Drive, Wythenshawe, Manchester M22 5WG	Approximately, 125m from the proposed plant
R3	230 to 256 Brownley Road	Approximately 90m from the proposed plant.

2.2 With regard to noise-sensitive receptors (e.g. dwellings) that did not exist at the time planning permission for the data centre was granted, in accordance with the "agent of change" principle, responsibility for mitigating noise impacts lies with the developer of any noise-sensitive receptors (e.g., dwellings) that were permitted after planning approval for the data centre was granted. It is therefore assumed to be the responsibility of those developers to ensure that appropriate sound insulation measures are implemented to protect future occupants from existing noise sources.

2.3 The location of the above receptors are indicated below by the yellow circles in the plan below.

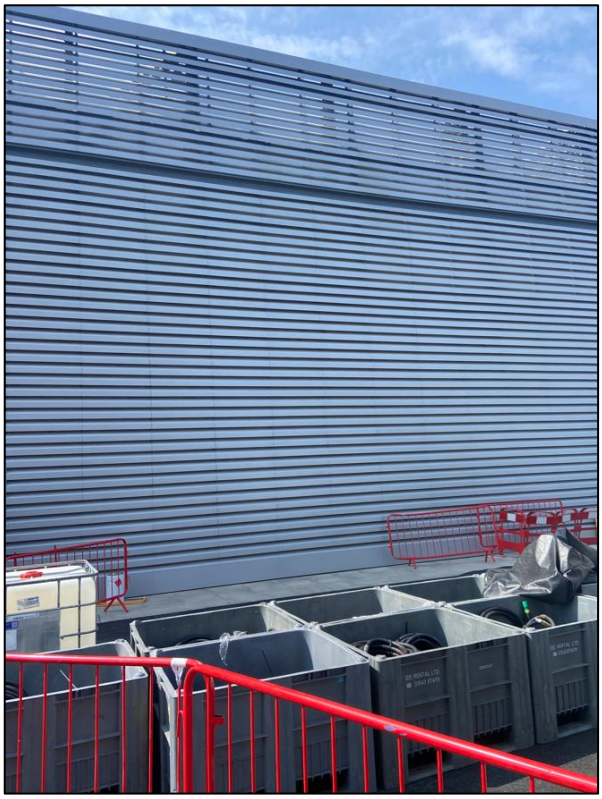


2.4 The location of the plant area is shown in orange on the above plan.

3.0 PLANT AREA ENCLOSURE

3.1 The plant area is enclosed with an acoustic louvre screen as shown in the photos below.



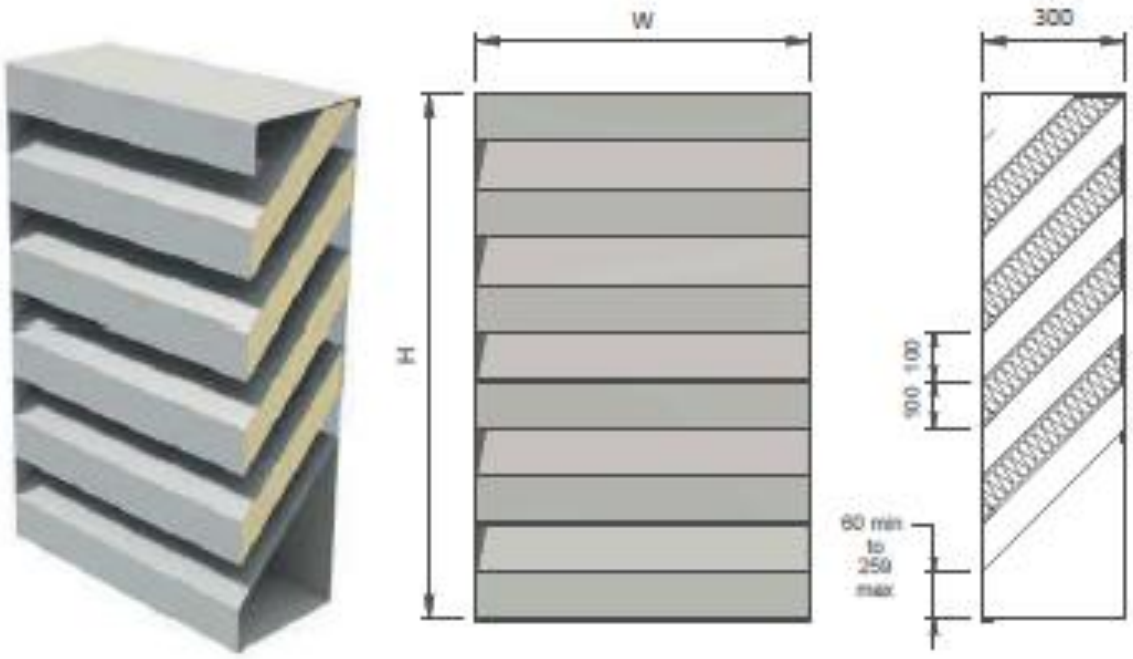








3.2 The acoustic louvre screen comprises 300mm deep acoustic louvres. They are SS300 louvres manufactured by Caice, as illustrated below:



3.3 The manufacturer's published acoustic test data for these acoustic louvres is shown below.

Acoustic Data	dB in each Octave Band Centre Frequency (Hz)							
	63	125	250	500	1k	2k	4k	8k
Sound reduction index	6	6	9	13	21	20	16	13
Weighted sound reduction index (Rw)					17			
Static insertion loss	5	6	9	14	20	20	20	20
Regenerated sound power level at 1m/s face velocity	48	41	34	30	25	20	13	12
Regenerated sound power level at 2m/s face velocity	66	58	51	47	45	43	39	28

3.4 These acoustic louvres are commensurate with our Plant Noise Impact Assessment Report dated 1 March 2024.

4.0 GENERATOR NOISE DATA

4.1 According to the generator manufacturer, the proposed generator selections produce the following the sound pressure levels when measured at a distance of 1 meter:

Description	Number of Units	Sound Pressure Level (dBA)
Kohler Industrial Diesel Generator Set – T2500	3	75 dBA @ 1m

5.0 NOISE MEASUREMENT EQUIPMENT

5.1 Details of the equipment used for the survey are summarized in the following table:

Description	Manufacturer	Type	Serial Number
Type 1 Sound Level Meter	Svantek	971A (RT)	151366
Acoustic Calibrator	Svantek	SV 33B	166477
Sound Level Meter	Convergence	Mk4	AHFWpf0a0X83IpFy60h5vD

5.2 Calibration certificates for the equipment, traceable to national standards, used in this survey are available upon request.

5.3 Calibration checks were carried out prior to and on completion of this survey, with no significant calibration drift observed.

6.0 NOISE MEASUREMENTS

6.1 Quantum Acoustics were requested to undertake an acoustic commissioning visit on 10 October 2025.

6.2 At the time of this survey, 3No generators were installed and operational.

6.3 Weather conditions during the survey period were generally suitable for measuring environmental noise, it being dry and calm.

Noise Measurements Inside the Plant Enclosure

6.4 We undertook noise levels measurements at selected positions inside the plant enclosure. The results are presented in the following table.

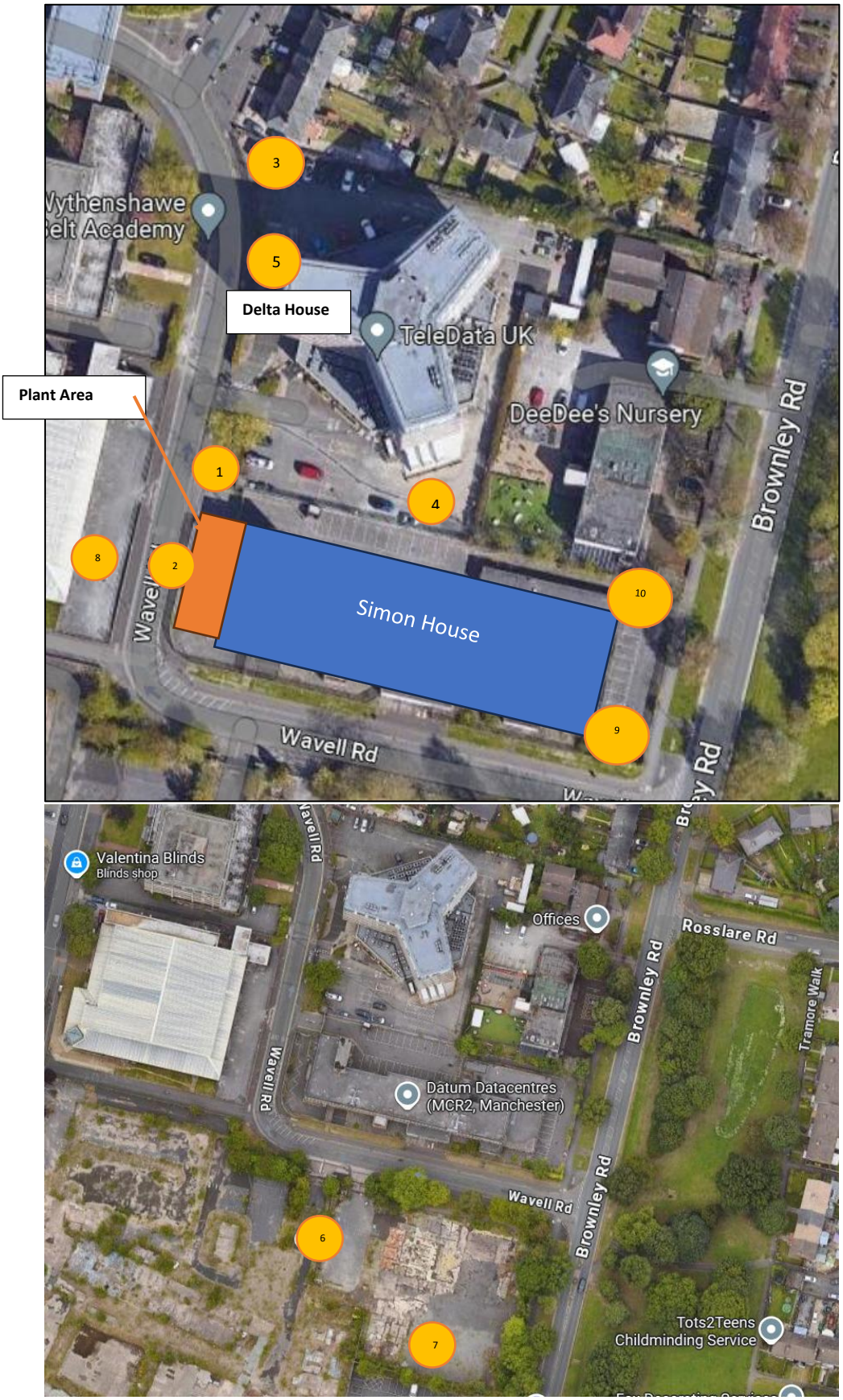
Noise Levels with Generator Operating Inside the enclosure (Plant On)					
Position Description	Time	File	A-weighted Sound Pressure Level (dBA)		
			Leq	L90	Lmin
Inside Acoustic Louvre, North 1m from Generator 1	11.15	L564	68.2	67.5	66.2
East 1m from Generator 1	11.16	L565	71.8	71.1	69.1
East 1m from Generator 3	11.12	L563	71.2	70.7	70.6
2m Below air exhaust	11.38	L575	68.2	67.5	66.9
Outside Beside air intake	11.17	L566	63.7	61.4	60.6

Manned Noise Measurements Outside the Plant Enclosure

6.5 We also undertook manned noise level measurements at the following positions:

Noise Measurement Position	Address	Location
1	Outside plant enclosure to the North	1m to the North
2	Outside plant enclosure to the West	1m to the West
3	275 Woodfield, Wythenshawe M22 5TB	Approximately 85m from the location of the proposed plant
4	Simon House car Park	Approximately 43m from the proposed plant
5	Delta House car park	Approximately 60m from the proposed plant
6	Wavell Road Development West	Approximately 60m south from the proposed plant
7	Wavell Road Development South	Approximately 100m south from the proposed plant
8	West of louvre approximately 20m	West of louvre approximately 20m
9	Rear Of Brownlee Road	To the south of M8
10	Dee Dees Nursery	East of the proposed plant next to Brownlee Road

6.6 The location of the above noise level measurement positions are indicated below by the yellow circles in the plan below and the location of the plant area is shown in orange.


3
5
Delta House
TeleData UK
Plant Area
DeeDee's Nursery
Brownley Rd
1
4
8
2
10
Simon House
9
Wavell Rd
Valentina Blinds
Blinds shop
Offices
Rosslare Rd
Brownley Rd
Tramore Walk
Datum Datacentres
(MCR2, Manchester)
Wavell Rd
6
Tots2Teens
Childminding Service
7

6.7 The results with the generators operating were as follows:

Noise Levels with Generators Operating							
Position	Position Description	Time	File	Notes	A-weighted Sound Pressure Level (dBA)		
					Leq	L90	Lmin
1	1m from north louvre	11.40	L576	Generator noise was audible, but it did not dominate the background noise	55.5	53.8	53.0
2	1m from west louvre	11.17	L566	Generator noise was audible, as the air intakes were located here.	63.7	61.4	60.6
3	275 Woodfield Wythenshawe	11.27	L571	Generator noise was inaudible. Plant noise from Delta House was audible.	55.0	52.5	52.0
4	Simon House Car Park	11.19	L567	Generator noise was faintly audible	55.3	52.9	52.2
5	Delta House car park	11.26	L570	Generator noise was inaudible. Plant noise from Delta House was audible	53.8	51.5	50.0
6	Wavell Road Development West	11.31	L573	Generator noise was inaudible, Wavell and Brownley road contributed to most of the background noise	50.9	49.0	48.5
7	Wavell Road Development South	11.33	L574	Generator noise was inaudible. Background noise dominated by Wavell Road and Brownley Road	49.6	46.1	45.2
8	West of louvre approximately 20m	11.29	L572	Generator noise was faintly audible. Air intakes could be heard.	56.8	55.1	54.5
9	Rear of Brownley Road	11.23	L569	Generator noise was inaudible. Background noise dominated by Brownley Road	62.9	46.8	46.1
10	Dee Dees Nursery	11.21	L568	Generator noise was inaudible. Background noise dominated by Brownley Road	57.2	46.1	44.0

7.0 CRITERIA

7.1 The site lies within the jurisdiction of Manchester City Council. Manchester City Council have imposed the following planning condition:

"5) a) Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background(LA90) level at the nearest noise sensitive location. This requirement relates to the mechanical equipment necessary for the day-to-day operation of the data centre.
b) The emergency generator and related equipment shall be selected to achieve a rating level of no more than 12dB above typical background daytime levels at the nearest noise sensitive location. Such equipment would only be used in an emergency and would additionally be tested between 9.00 am - 6pm Monday to Friday for no more than 30 minutes in any test interval. All testing to be in compliance with the Simons House Air Quality Assessment Report.
c) Prior to commencement of the use hereby approved a verification report shall be submitted to and approved in writing by the City Council as local planning authority to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic report. The report shall also undertake post completion testing to confirm that the noise criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria.

Reason - To minimise the impact of the development and to prevent a general increase in pre-existing background noise levels around the site, pursuant to Policy DM1 in the Manchester Core Strategy and Saved UDP Policy DC26."

7.2 With reference to our Plant Noise Impact Assessment Report dated 1 March 2024, to comply with Manchester City Council's planning condition, the following environmental plant noise emission criteria are proposed to be achieved at 1 metre from the nearest noise sensitive residential windows:

Plant Noise Emission Limits L_{eq} dB re2x10^{-5}Pa	
Daytime (07:00 – 23:00)	Night-time (23:00 – 07:00)
55	Not required

8.0 ASSESSMENT OF GENERATOR NOISE LEVELS

Assessment to Receptor R1 (275 Woodfield, Wythenshawe M22 5TB)

8.1 We have assessed generator noise emissions to Receptor R1, namely 275 Woodfield. This receptor is situated to the north of the plant area, at a distance of circa 85 meters:

Assessment of Generator Noise Emissions to Receptor R1 (275 Woodfield)	
Description	Sound Pressure [dBA]
Measured level outside the plant enclosure at distance of approximately 1 meter from the north acoustic louvre with generators operating	**≤53**
Propagation losses	minus≥22
Allowance for additional generators operating	plus≤3
Predicted Plant Noise Level at Receptor R1	**≤34**
Criterion	55
Compliance	✓

8.2 On the basis of the above, we therefore predict that the generator noise levels at Receptor R1, namely 275 Woodfield, should comply with Manchester City Council's criteria.

Assessment to Receptor R2 (36 Clifden Drive)

8.3 We have assessed generator noise emissions to Receptor R2, namely 36 Clifden Drive. This receptor is situated to the northeast of the plant area, at a distance of circa 125 meters:

Assessment of Generator Noise Emissions to the Receptor R2 (Clifden Drive)	
Description	Sound Pressure [dBA]
Measured level outside the plant enclosure at distance of approximately 1 meter from the north acoustic louvre with generators operating at 100% each	**≤53**
Propagation losses	minus≥24
Allowance for additional generators operating	plus≤3
Predicted Plant Noise Level at Receptor R2	**≤32**
Criterion	55
Compliance	✓

8.4 On the basis of the above, we therefore predict that the generator noise levels at Receptor R2, namely 36 Clifden Drive, should comply with Manchester City Council's criteria.

Assessment to Receptor R3 (230 to 256 Brownley Road)

8.5 We have assessed generator noise emissions to Receptor R3, namely 230 to 256 Brownley Road. This receptor is situated to the northeast of the plant area, at a distance of circa 90 meters:

Assessment of Generator Noise Emissions to the Receptor R2 (230 to 256 Brownley Road)	
Description	Sound Pressure [dBA]
Measured level outside the plant enclosure at distance of approximately 1 meter from the north acoustic louvre with generators operating at 100% each	**≤53**
Propagation losses	minus≥24
Allowance for additional generators operating	plus≤3
Predicted Plant Noise Level at Receptor R2	**≤32**
Criterion	55
Compliance	✓

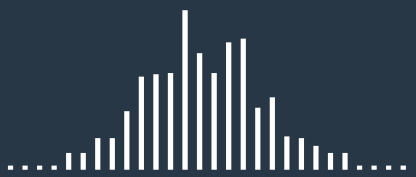
8.6 On the basis of the above, we therefore predict that the generator noise levels at Receptor R3, namely 230 to 256 Brownley Road, should comply with Manchester City Council's criteria.

9.0 CONCLUSIONS

9.1 We have measured noise emissions from the installed generators. At the time of this survey, 3No generators were installed and operational.

9.3 We have assessed environmental noise emissions from the generators to the nearest existing residential receptors.

9.4 Our assessment indicates noise emissions from the installed generators, to the nearest existing residential receptors, comply with Manchester City Council's criteria.



www.quantumacoustics.co.uk
+44 (0)203 376 7000
hello@quantumacoustics.co.uk
London Office: 151 Wardour Street, London, WC1F 8WE
Southern Office: Elm House, Tanshire Park, Elstead Surrey, GU8 6LB
Midlands Office: Alpha Works, Alpha Tower, Suffolk Street, Queensway, Birmingham, B1 1TT