Emtec Products Ltd, Unit L Turnpike Way,
High Wycombe, Bucks, HP12 3TF

Telephone: 020 8848 3031 Fax: 020 8573 3605
Web: www.emtecproducts.co.uk Email: sales@emtecproducts.co.uk

RESULTS OF A 24-HOUR NOISE LEVEL SURVEY CARRIED OUT AT THE REAR OF THE PREMISES AT 179, CAMDEN HIGH STREET LONDON NW1 AND A REPORT ON THE NOISE CONTROL MEASURES REQUIRED TO MINIMISE THE NOISE IMPACT OF THE PROPOSED NEW EXTERNAL PLANT

Test Engineer : M G Roberts

[redacted]

Authorised for Release by : [redacted]

I J Marchant

Client	:	The Fruitful Design Consultancy Ltd
Project	:	179, Camden High Street, London
Emtec Ref.	:	QF8539/PF5620/RP1
Issue Date	:	18th January 2016

QF8539/PF5620/RP1

EMTEC PRODUCTS LTD.

RESULTS OF A 24-HOUR NOISE LEVEL SURVEY CARRIED OUT AT THE REAR OF THE PREMISES AT 179, CAMDEN HIGH STREET LONDON NW1 AND A REPORT ON THE NOISE CONTROL MEASURES REQUIRED TO MINIMISE THE NOISE IMPACT OF THE PROPOSED NEW EXTERNAL PLANT

1.0. INTRODUCTION

This report details the results of a 24-hour noise survey carried out at the rear of the premises located at 179 Camden High Street, London NW1.

The objectives of this survey were as follows:

- To assess the proposal to install new external plant at the rear of the building.
- To identify the nearest properties that might be affected by plant noise.
- To establish the existing background noise level outside the nearest affected properties.
- To recommend noise limits and any necessary measures to ensure that the operation of the new plant does not disturb the occupants of the nearest affected properties.

This report has been divided into the following sections for ease of analysis:

2.0. SITE DESCRIPTION

The premises at 179 Camden High Street are a ground floor retail unit with two/three upper floors which are currently stripped out and will be used for a sandwich and snack bar on the ground and first floor level. The building is of brick construction with wooden sash windows.

3.0. TEST INSTRUMENTATION

All measurement equipment used during the survey complied with the requirements of BS4142:2014 "Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas". Details of the equipment are as follows:

Integrating Sound Level Meter:	Rion type NL-52 class 1 Sound Level Meter fitted with a Rion type UC-59 ½ inch condenser microphone.
Statistical Analysis Modules:	Built in module capable of computing the percentile levels L1, L10, L50, L90 and L99 and also the Leq level.
Acoustic Calibrator:	Bruel & Kjaer type 4231 electronic calibrator. Serial No.: 1934160

Calibration was performed before and after the surveys and found to be, in all cases, +/- 0.1 dB from the reference source.

3.1. Existing Noise Climate

Road traffic travelling on nearby Camden High Street, at the front of the building, could be heard during the manned periods at the start and the end of the survey, so the noise levels measured will include contributions from road vehicles.

Commercial jet aircraft were observed at medium and high altitude during the manned periods at the start and the end of the survey, so it is possible that the noise levels measured could include contributions from medium altitude jet aircraft.

There are no overland railways nearby, so the noise levels measured will not include contributions from rail noise.

There were no other noticeable noise sources heard during the 24-hour noise survey period i.e. construction work.

There are other items of Mechanical Plant, operated by neighbouring properties at the rear of the building (see Photos C and D) which may affect the background noise level.

We judged that the plant and road traffic noise would be the dominant sources of noise affecting ambient noise levels.

4.0. TEST PROCEDURE

The survey was conducted during a continuous 24-hour period from 12:23pm on Tuesday the 12th of January 2016 to 12:23 on Wednesday the 13th of January 2016.

Data was continuously acquired throughout the measurement period with the individual averaging time for statistical noise data set to 15 minutes. The following 'A' weighted statistical measurements were recorded concurrently: -

LA_1 - The Sound Pressure Level exceeded for 1% of the measurement period.

LA_{10} - The Sound Pressure Level exceeded for 10% of the measurement period.

LA_{50} - The Sound Pressure Level exceeded for 50% of the measurement period.

LA_{90} - The Sound Pressure Level exceeded for 90% of the measurement period. LA90 is considered to represent the "background noise level" during the measurement period and is used for the assessment of noise to determine the likelihood of complaints (See BS 4142:2014).

LA_{99} - The Sound Pressure Level exceeded for 99% of the measurement period.

LA_{eq} - The continuous steady state Sound Pressure Level that has the same acoustic energy as the real fluctuating level.

4.1. Measurement Positions

Noise levels were measured by a microphone that was attached to a boom that was placed outside the second floor window of the building as can be seen on the attached Photo A.

The microphone was pointing vertically and was approximately 1.2 metres away from the rear façade of the building. The rest of the measurement equipment was located in a weatherproof enclosure with a low impedance cable running from the microphone to the instrumentation.

4.2. Weather Conditions

The weather conditions prevailing during the measurement period were generally in line with those recommended in BS 4142:2014: -

Weather daytime: -	Clear and Bright	Weather night time: -	Clear
Wind daytime: -	Light	Wind night time: -	Light

The microphone was protected throughout the tests by an acoustically transparent wind balloon.

5.0. RESULTS AND EVALUATION OF NOISE CRITERIA

The raw test data, gathered during the noise survey, is given in Appendix 'A 'of this report.

The 'A' Weighted Leq levels measured over each 15 minute interval throughout the 24-hour period (denoted by LA_{eq}, (15 mins)) are displayed as a bar graph on the attached Sketch No QF/8539/T1 at the back of this report.

The 'A' Weighted percentile levels measured over each 15 minute interval denoted by LA_{10} (15 mins), LA_{50} (15 mins) and LA_{90} (15 mins) are displayed as line graphs on the attached Sketch No QF/8539/T2 at the back of this report.

5.1. Summary of Results

The table QF/8539/D1 below summarises the noise levels taken over the 24-hour period in terms of the maximum and minimum Sound Pressure Levels recorded.

Table QF/8539/D1 – Summary of Maximum and Minimum Noise Levels

	LA_{eq}	LA_1	LA_{10}	LA_{50}	LA_{90}	LA_{99}
Minimum	48.8dBA	53.7dBA	50.6dBA	46.9dBA	43.9dBA	42.2dBA
Maximum	63.5dBA	76.6dBA	66.4dBA	58.7dBA	56.8dBA	56dBA

5.2. Summary of the Local Authority's planning requirements regarding noise for noise sensitive properties

The local authority is the London Borough of Camden and Section 16.34 of Camden's Noise Strategy states:-

> "The council considers that for new developments involving noisy plant/equipment or other uses, design measures should be taken to ensure that noise levels predicted at a point 1 metre external to sensitive facades are at least 5dBA less than the existing background measurement (LA_{90}) when the equipment is in operation. Where it is anticipated that equipment will have a noise that has a distinguishable, discrete continuous note (whine, hiss, screech, hum) and/or if there are distinct impulses in the noise (bangs, clicks, clatters, thumps) special attention should be given to reducing the noise levels from plant and equipment at any sensitive façade to at least 10dBA below the LA_{90} level."

5.3. Determination of noise sensitive property design criteria

The new plant will not be intermittent or contain tones. Based on the local authority's planning requirements outlined above, the new plant should be designed to be 5dBA below the minimum existing LA_{90} background noise level during the relevant operational period.

It is proposed to operate the air conditioning plant between the hours of 6am and 10pm and the cold room condenser on a 24-hour basis.

The lowest recorded LA_{90} level measured between 6am and 10pm was 48.7dBA and during the 24-hour period was 43.9dBA.

The new plant should therefore be designed to achieve 43.7dBA and 38.9dBA at 1 metre from the nearest noise sensitive properties' windows if the externally located equipment is to be operated between 6am and 10pm, or on a 24-hour basis.

5.4. Determination of commercial design criteria

The uses of the commercial premises that surround the site generally consist of retail units or offices. It is therefore proposed that the recommendations given in BS8233:1999, Section 7.6 be considered.

	Good	Reasonable
Open plan office: $L_{Aeq,T}$	45dBA	50dBA

We propose that the lower of these rating levels is adopted, i.e. 45dBA.

Assuming a 10dB noise reduction due to a partially open window, as per the lower limit of the range given in BS8233:1999 section 8.4.7, the rating level at 1 metre external to the nearest affected office windows would be 45dBA + 10dB = 55dBA.

5.5. Summary of external noise criteria

Based upon the results of the survey and the above design criteria we summarise the actual design rating levels to be adopted for this project in table QF/8539/D2: -

Table QF/8539/D2 – recommended design rating levels $L_{Ar,T}$

Type of premises	$L_{Ar,T}$ (24-hour)	$L_{Ar,T}$ (6am to 10pm)
Noise sensitive	38.9dBA	43.7dBA
Commercial	-	55dBA

6.0. DISCUSSION OF RESULTS

The premises at 179, Camden High Street are being refurbished and the ground floor will be used as a retail unit for a business selling sandwiches and snacks. The basement will be used for storage and the first floor will be used for the preparation of sandwiches etc. The second and third floors will not be used at present.

It is intended to install Air Conditioning to the premises and a cold room on the first floor for the storage of food products.

There will be basement, toilet and kitchen extract fans and a heat recovery ventilation unit located internally. There will be four air cooled condensers, which will be mounted onto the rear walls of the building. The fan units are listed in table QF/8539/D3 and the condensers are listed in table QF/8539/D4 together with their noise level and the projected hours of use.

Table QF/8539/D3 – Sound Power Levels of Fan Units (Internal)

Hours of Use	System/ Airflow	Manufacturer & Model		Sound Power Level (db ref 10^{-12} watts) 63	125	250	500	1k	2k	4k	8k
6am to 10pm	Basement Extract ($0.28m^3$/sec)	Helios GBW/355/4	Inlet	-	70	64	64	61	57	53	42
			Outlet	-	72	69	68	63	59	55	46
	Kitchen Extract ($0.55m^3$/sec)	Helios GBW/400/4	Inlet	-	76	70	66	66	60	55	48
			Outlet	-	74	76	72	65	62	59	54
	Toilet Extract ($0.056m^3$/sec)	Soler & Palau TD-500/150	Inlet	50	51	60	61	57	55	50	48
			Outlet	64	54	61	63	58	52	48	44

Note: The above data was taken from Helios and Soler & Palau's standard products data sheet.

Table QF/8539/D4 – Sound Pressure Levels of Condensing Units

Hours of Use	System/Location	Make and Model of Condenser	Free field Sound Pressure Level at 1 metre (dB ref 2 x 10^{-5}N/m^2) 63	125	250	500	1k	2k	4k	8k	dBA
6am to 10pm	2 off condensers in rear well at ground floor level (A.C. system)	Mitsubishi PUHZ-SP100YHA	57	56	55	49	50	45	42	32	54
6am to 10pm	1 off condenser at first floor level (A.C. system)	Mitsubishi PUHZ-SP125YHA	68	57	51	52	50	48	42	36	55
24 hours	1 off condenser at first floor level (cold room)	KD Hermetic PAD 012M1	33dBA @ 10 metres								

Note: The above data was obtained from KD Hermetic and Mitsubishi's standard data sheets on the products listed.

The attached Fruitful Design drawing No.PU.1015.07 shows the location of the plant at the rear of the building.

The nearest noise sensitive window of a residential property is on the other side of the wall at the end of the ground/basement courtyard. The two Mitsubishi PUHZ-SP100YHA condensers are to be located in the courtyard and are shielded from a direct line of sight to the residential windows by a brick wall (see Photo B) and the corner of the building (see Photo C). The calculation in table QF/8539/D5 gives the noise level that can be expected at 1 metre from the nearest window –

Table QF/8539/D5 – Noise Level of Condenser in rear Courtyard at Nearest Residential Window

Source/Attenuation	Sound Pressure Level (dB ref 2 x 10^{-5} N/m^2) 63	125	250	500	1k	2k	4k	8k	dBA
Condenser SPL @ 1 metre – Mitsubishi PUHZ-SP100YHA	57	56	55	49	50	45	42	32	
2 off Units	+3	+3	+3	+3	+3	+3	+3	+3	
Reverberation of local environment	+5	+5	+5	+5	+5	+5	+5	+5	
Distance Correction 10 log A^2/A^1	-5	-5	-5	-5	-5	-5	-5	-5	
Barrier Effect of Wall (500mm)	-6	-8	-10	-12	-14	-16	-18	-18	
Unattenuated SPL @ 1 metre from nearest residential window (a)	54	51	48	40	39	32	27	17	44

Based upon the above calculation the two Mitsubishi PUHZ-SP100YHA condensers should just satisfy the planning requirements of Camden but we would suggest that the units be placed as low as possible on the rear wall of the premises to ensure that the 500mm height difference between the top of the units and the top of the adjacent boundary wall is maintained. It might also be prudent to install a simple wooden, or metal, barrier over the top of the units to ensure that the 0.3dB difference is attenuated.

The other equipment will be located on the first floor roof area as shown on the attached drawing No.PU.1015.07 and the nearest window to these items is the office/storage on the first floor of the adjacent retail unit (see Photo A).

The table QF/8539/D6 gives the unattenuated noise level of the condensers and the table QF/8536/D7 shows the attenuation needed on the ventilation systems to ensure that the noise criteria of 55dBA at 1 metre from the nearest office window is not exceeded.

Table QF/8539/D6 – Noise Level of First Floor Condensers at Nearest Office Window

Source/Attenuation	Sound Pressure Level (dB ref 2 x 10^{-5} N/m^2) 63	125	250	500	1k	2k	4k	8k	dBA
Mitsubishi PUHZ-SP125YHA Condenser (SPL @ 1 metre)	68	57	51	52	50	48	42	36	55
KD Hermertic PAD012M1 (corrected to SPL @ 1 metre)	33dBA at 10 metre = 50dBA at 1 metre								50
Combined SPL @ 1 metre	69	58	52	53	51	49	43	35	56
Distance Correction (10 log A_s/A_1)	-12	-12	-12	-12	-12	-12	-12	-12	
Barrier effect of edge of building (100mm)	-3	-4	-6	-8	-8	-8	-8	-8	
Unattenuated SPL at 1 metre from nearest office window (b)	54	42	34	33	31	29	23	15	37

System	Airflow	Sound Power/Pressure Level (dB) 63	125	250	500	1k	2k	4k	8k	dBA
A) Toilet Extract Fan										
SWL of Toilet Extract Fan	0.056	64	54	61	63	58	52	48	44	
Discharge End Reflection		-10	-4	-1	0	0	0	0	0	
SWL to SPL		-8	-8	-8	-8	-8	-8	-8	-8	
Distance to window 1 (20 log 5)		-7	-7	-7	-7	-7	-7	-7	-7	
Directivity (120°)		-1	-2	-3	-6	-11	-11	-11	-11	
Unattenuated SPL at 1 metre from nearest office (c)		38	33	42	42	32	26	22	18	41
B) Basement Extract										
SWL of Basement Extract Fan	0.28	-	72	69	68	63	59	55	46	
Discharge End Reflection		-8	-3	0	0	0	0	0	0	
SWL to SPL		-8	-8	-8	-8	-8	-8	-8	-8	
Distance to window 2 (10 log 6)		-8	-8	-8	-8	-8	-8	-8	-8	
Directivity (90°)		0	-1	-2	-2	-6	-11	-11	-11	
Unattenuated SPL at 1 metre from nearest residential units (d)		-	52	51	50	41	32	28	19	49
Attenuated (Emtec RAAC/43/1200CC)		-4	-8	-17	-27	-33	-33	-24	-13	
Attenuated SPL at 1 metre from nearest residential window (d')		-	44	34	23	8	0	4	6	30
C) Kitchen Extract										
SWL of Kitchen Extract Fan	0.55	-	74	76	72	65	62	59	54	
Discharge End Reflection		-7	-2	0	0	0	0	0	0	
SWL to SPL		-8	-8	-8	-8	-8	-8	-8	-8	
Distance to window 1 (10 log 4)		-6	-6	-6	-6	-6	-6	-6	-6	
Directivity (120°)		-1	-2	-3	-6	-11	-11	-11	-11	
Unattenuated SPL at 1 metre from nearest office (e)		-	56	59	52	40	37	34	29	53
Attenuation (Emtec RAAC/25/900MC)		-7	-11	-16	-16	-17	-20	-20	-28	
Attenuated SPL at 1 metre from nearest office (e')		-	45	43	36	23	17	14	1	37.5

Note: Window 1 is the office window and window 2 is the residential window.

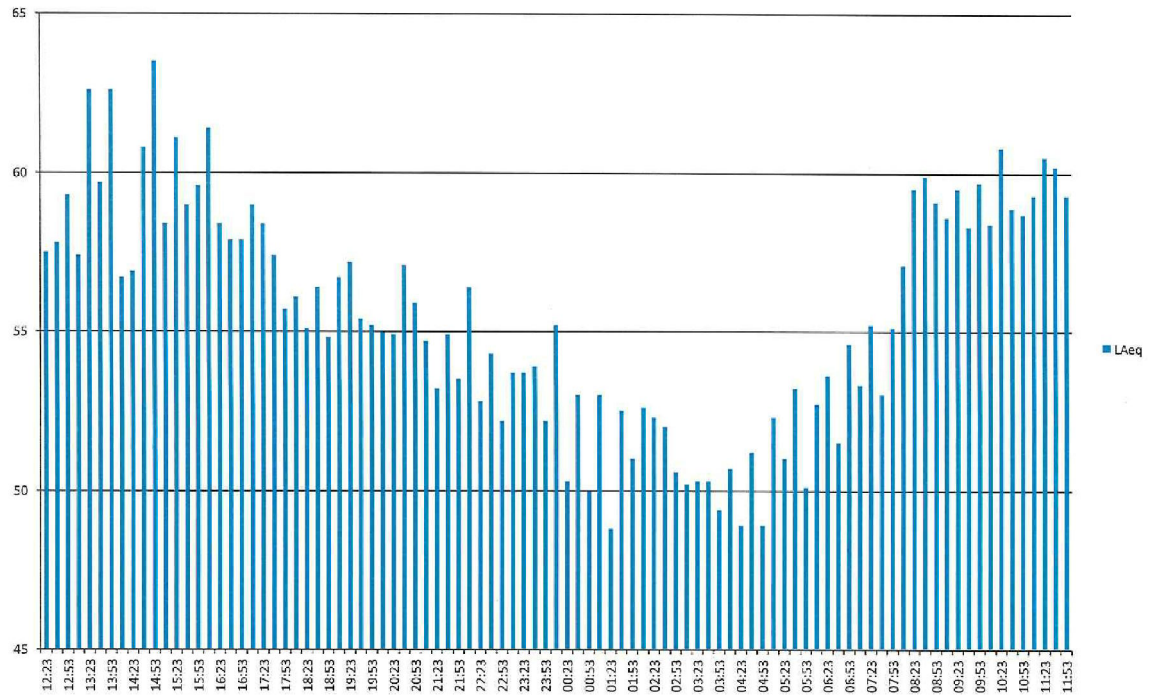
Overall attenuated fan & condenser noise level at 1 metre from nearest residential window (a + d')	54	52	48	40	39	32	27	17	44dBA
Overall attenuated fan & condenser noise level at 1 metre from nearest office window (b + c + e')	54	47	46	44	34	31	25	20	44dBA

Based upon the above calculations the requirements of the Camden Planning directives will be met by carrying out the following recommendations –

- Place a 15Kg/m^2 canopy over the two Mitsubishi PUHZ-SP100YHA condensers that are to be mounted at least 500mm below the height of the boundary wall at the end of the Ground/Basement Courtyard at the rear of the building.
- Fit an Emtec RAAC/43/1200CC silencer on the exhaust from the Helios GBW/355/4 basement extract fan.
- Fit an Emtec RAAC/25/900MC silencer on the exhaust from the Helios GBW/400/4 kitchen extract fan.
- Position the cold room condenser, KD Hermetic PAD 012M1, against the rear wall at first floor level.
- Position the Mitsubishi PUHZ-SP125YHA on the side wall of the first floor area so that it is shielded by the building from direct line of sight to the office window above the neighbouring residential premises.
- Install Emtec/VMC RD type neoprene-in-shear anti-vibration mounts under all the condensers to ensure no structural transfer of noise.

If the above recommendations are adhered to the noise levels required by Camden's Planning directives should not be exceeded.

EMTEC PRODUCTS LTD
20th January 2016



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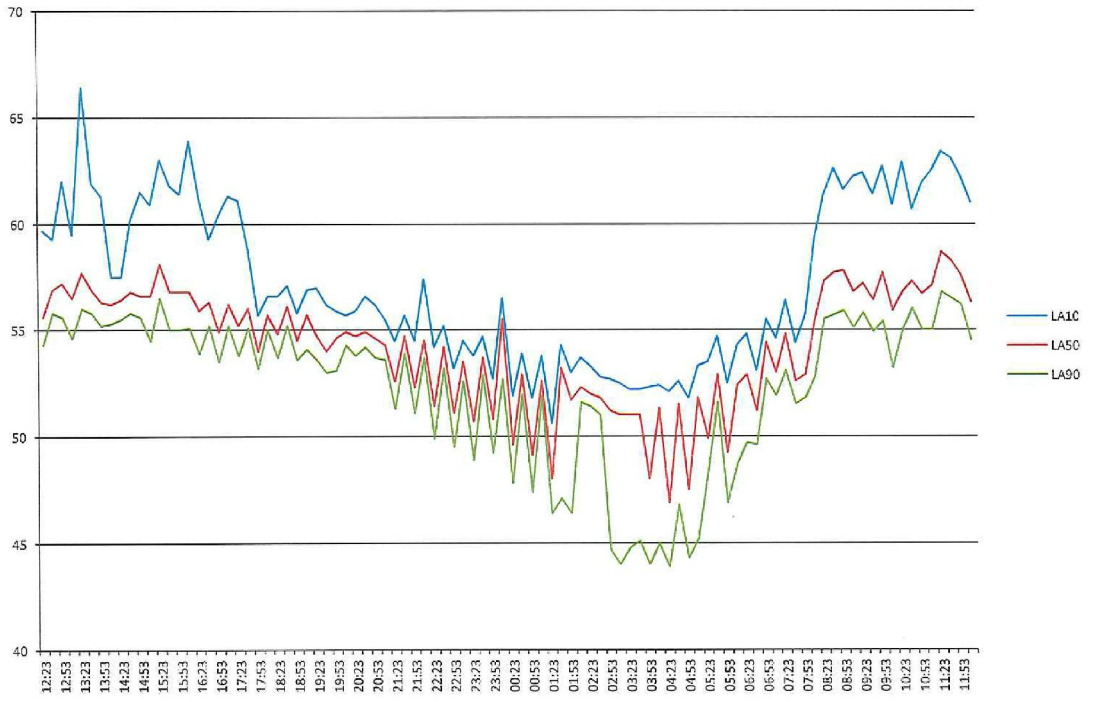
CLIENT: The Fruitful Design Consultancy Ltd	*PF No: 5620*				*APPROVED BY:* MGR	*REVISION*							
PROJECT: 179 Camden High Street, London	*Q*	*A*	*M*	*I*	*DESIGN AUTH:* MGR	*SKETCH No. QF/8540/T1*							

EMTEC
Unit L, Turnpike Way, High Wycombe,
Bucks, HP12 3TF
Tel: 020 8848 3031 Fax: 020 8573 3605



TITLE: :LA10; LA50 & LA90 Levels	ISSUE DATE: 18/1/15				DRAWN BY: MGR	A	B	C	D	E	F	G	H
CLIENT: The Fruitful Design Consultancy Ltd	PF No: 5620				APPROVED BY: MGR	REVISION							
PROJECT: 179 Camden High Street, London	Q	A	M	I	DESIGN AUTH: MGR	SKETCH No. QF/8540/T2							

EMTEC
Unit L, Turnpike Way, High Wycombe,
Bucks, HP12 3TF
Tel: 020 8848 3031 Fax: 020 8573 3605

APPENDIX 'A'

Raw Data – Noise Survey

12th to 13th of January 2016

RAW NOISE DATA - 179 Camden High Street, London

Ref: QF8539/PF5620/RP1
Client: The Fruitful Design Consultancy Ltd
Date: 12th to 13th January 2016

Address	Start Time	LAeq	LE	Lmax	Lmin	LA1	LA10	LA50	LA90	LA99
1	12:23	57.5	87.1	69.5	53.1	66.4	59.7	55.6	54.3	53.8
2	12:38	57.8	87.4	71.3	54.6	63.9	59.3	56.9	55.8	55.2
3	12:53	59.3	88.9	72.4	54.4	67.3	62	57.2	55.6	55
4	13:08	57.4	87	70.7	52.9	63.6	59.5	56.5	54.6	53.7
5	13:23	62.6	92.2	81.4	54	72.9	66.4	57.7	56	54.9
6	13:38	59.7	89.3	73.3	54.1	69.4	61.9	56.9	55.8	55
7	13:53	62.6	92.2	84.3	53.6	74.4	61.3	56.3	55.2	54.4
8	14:08	56.7	86.3	76.7	54	60.9	57.5	56.2	55.3	54.6
9	14:23	56.9	86.5	80.5	54.4	60.4	57.5	56.4	55.5	55
10	14:38	60.8	90.4	80.6	54.7	73.4	60.2	56.8	55.8	55.3
11	14:53	63.5	93.1	79.7	54.3	76.6	61.5	56.6	55.6	55
12	15:08	58.4	88	69.5	52.5	66.6	60.9	56.6	54.5	53.6
13	15:23	61.1	90.7	77.7	52.8	71.3	63	58.1	56.5	54.8
14	15:38	59	88.6	71.1	52.6	67.9	61.8	56.8	55	53.7
15	15:53	59.6	89.2	75.2	52.9	70.1	61.4	56.8	55	53.7
16	16:08	61.4	91	78.1	53.1	72.5	63.9	56.8	55.1	54.2
17	16:23	58.4	88	72.5	52.4	67.7	61.2	55.9	53.9	53.1
18	16:38	57.9	87.5	75.5	52.3	66.2	59.3	56.3	55.2	53.8
19	16:53	57.9	87.5	81.3	51.7	67.2	60.4	54.9	53.5	52.7
20	17:08	59	88.6	77.6	52.6	68.6	61.3	56.2	55.2	54.2
21	17:23	58.4	88	78.3	52.2	66.6	61.1	55.2	53.8	52.9
22	17:38	57.4	87	75.5	52	65.3	58.8	56	55.1	53.8
23	17:53	55.7	85.3	79.8	52.1	62.9	55.7	54	53.2	52.8
24	18:08	56.1	85.7	79.7	53.5	59.1	56.6	55.7	55	54.2
25	18:23	55.1	84.7	63.3	52	58.8	56.6	54.8	53.7	53
26	18:38	56.4	86	77.7	53.1	59.2	57.1	56.1	55.2	54.2
27	18:53	54.8	84.4	67.1	52.1	58.7	55.8	54.5	53.6	52.9
28	19:08	56.7	86.3	73.3	51.9	60.5	56.9	55.7	54.1	52.6
29	19:23	57.2	86.8	74.1	51.8	67.8	57	54.7	53.6	52.8
30	19:38	55.4	85	69.3	51.8	65.3	56.2	54	53	52.4
31	19:53	55.2	84.8	81.2	51.7	58	55.9	54.6	53.1	52.3
32	20:08	55	84.6	62.6	53.3	57.1	55.7	54.9	54.3	53.9
33	20:23	54.9	84.5	61.1	50.9	58.1	55.9	54.7	53.8	51.7
34	20:38	57.1	86.7	73.8	53.2	69	56.6	54.9	54.2	53.7
35	20:53	55.9	85.5	80.3	50.1	64.8	56.2	54.6	53.7	51.3
36	21:08	54.7	84.3	74.1	52.5	58.1	55.5	54.3	53.6	53.2
37	21:23	53.2	82.8	65.5	49.8	59.1	54.5	52.6	51.3	50.7
38	21:38	54.9	84.5	62.9	50	57.5	55.7	54.7	53.9	53.2
39	21:53	53.5	83.1	74	49.5	60.8	54.5	52.3	51.1	50.4
40	22:08	56.4	86	72.3	52.1	66.4	57.4	54.5	53.7	52.9
41	22:23	52.8	82.4	77.8	48.1	58.8	54.2	51.4	49.9	49
42	22:38	54.3	83.9	62.7	51.9	56.3	55.2	54.2	53.2	52.7
43	22:53	52.2	81.8	68.3	47.3	57.8	53.2	51.1	49.5	48.2
44	23:08	53.7	83.3	63.1	51.4	56.7	54.5	53.5	52.6	52.1
45	23:23	53.7	83.3	72	46.5	66.3	53.8	50.7	48.9	47.7
46	23:38	53.9	83.5	60.6	51.8	56.9	54.7	53.7	52.9	52.4
47	23:53	52.2	81.8	67.8	46.9	62.7	52.7	50.8	49.2	47.9
48	00:08	55.2	84.8	60.6	51.5	57.7	56.5	55.5	52.7	52.2
49	00:23	50.3	79.9	63.1	45.4	55.9	51.9	49.6	47.8	46.6
50	00:38	53	82.6	63.2	48.4	55.8	53.9	52.9	52	49.7
51	00:53	50	79.6	61.3	45.4	55.9	51.8	49.1	47.4	46.4

52	01:08	53	82.6	64.2	46.2	59.4	53.8	52.6	51.9	47.9
53	01:23	48.8	78.4	59.2	44.5	54	50.6	48	46.4	45.6
54	01:38	52.5	82.1	57.2	45	55.1	54.3	53.2	47.1	45.9
55	01:53	51	80.6	59	44.6	54.6	53	51.7	46.4	45.6
56	02:08	52.6	82.2	58.4	50.6	55	53.7	52.3	51.6	51.3
57	02:23	52.3	81.9	59	50.4	54.9	53.3	52	51.4	50.9
58	02:38	52	81.6	57	50.1	54.5	52.8	51.8	51	50.6
59	02:53	50.6	80.2	56.1	42.1	54.1	52.7	51.2	44.7	43.1
60	03:08	50.2	79.8	56.1	41.5	53.8	52.5	51	44	42.4
61	03:23	50.3	79.9	63.6	41.2	54	52.2	51	44.8	42.6
62	03:38	50.3	79.9	57.7	41	53.7	52.2	51	45.1	42.5
63	03:53	49.4	79	61.1	41	54.3	52.3	48	44	42.2
64	04:08	50.7	80.3	57.9	42.3	53.8	52.4	51.3	45	43.3
65	04:23	48.9	78.5	56.5	41.6	53.7	52.1	46.9	43.9	42.5
66	04:38	51.2	80.8	57.4	42.5	54.2	52.6	51.5	46.8	44
67	04:53	48.9	78.5	59.6	42.1	54	51.8	47.5	44.3	43
68	05:08	52.3	81.9	66.4	41.5	61.8	53.3	51.8	45.2	42.5
69	05:23	51	80.6	63.3	46.7	56.6	53.5	49.9	48.3	47.6
70	05:38	53.2	82.8	58.5	47.3	55.9	54.7	52.9	51.6	48.4
71	05:53	50.1	79.7	60.8	44.9	55.3	52.5	49.2	46.9	45.8
72	06:08	52.7	82.3	65	46.6	58.5	54.3	52.4	48.7	47.3
73	06:23	53.6	83.2	70.7	45.4	59.3	54.8	52.9	49.7	46.6
74	06:38	51.5	81.1	61.7	45.8	55.1	53.1	51.2	49.6	46.9
75	06:53	54.6	84.2	69.5	50.5	57.2	55.5	54.4	52.7	51.2
76	07:08	53.3	82.9	61.9	50.6	56.8	54.6	53	51.9	51.3
77	07:23	55.2	84.8	62.9	51.3	60.4	56.4	54.8	53.1	52
78	07:38	53	82.6	63.3	50.3	56.8	54.4	52.6	51.5	50.9
79	07:53	55.1	84.7	70.3	49.7	66.1	55.7	52.9	51.8	50.9
80	08:08	57.1	86.7	72	50.5	65.6	59.3	55.4	52.8	51.8
81	08:23	59.5	89.1	77.1	54.3	69.2	61.4	57.3	55.5	54.8
82	08:38	59.9	89.5	77.7	54.4	69.3	62.6	57.7	55.7	55.1
83	08:53	59.1	88.7	72	54.2	66.2	61.6	57.8	55.9	55
84	09:08	58.6	88.2	68.4	52.9	65.8	62.2	56.8	55.1	53.9
85	09:23	59.5	89.1	74.5	53.8	67.9	62.4	57.2	55.8	54.7
86	09:38	58.3	87.9	75.4	53.1	65.8	61.4	56.4	54.9	54
87	09:53	59.7	89.3	72.5	52.9	67.5	62.7	57.7	55.4	54.2
88	10:08	58.4	88	74	51.3	68.8	60.9	55.9	53.2	52.2
89	10:23	60.8	90.4	77	53.1	72.4	62.9	56.8	55	53.9
90	10:38	58.9	88.5	72.2	53.4	67.8	60.7	57.3	56	55.1
91	10:53	58.7	88.3	75.6	52.8	65.7	61.9	56.7	55	53.7
92	11:08	59.3	88.9	74.3	52.9	66.9	62.5	57.1	55	53.9
93	11:23	60.5	90.1	71	54.8	67.3	63.4	58.7	56.8	56
94	11:38	60.2	89.8	78.8	54.4	66.5	63.1	58.3	56.5	55.3
95	11:53	59.3	88.9	72.2	54.9	65.2	62.2	57.6	56.2	55.7
96	12:08	58	87.6	70.9	52.8	65.1	61	56.3	54.5	53.5

APPENDIX 'B'

Photos and sketches

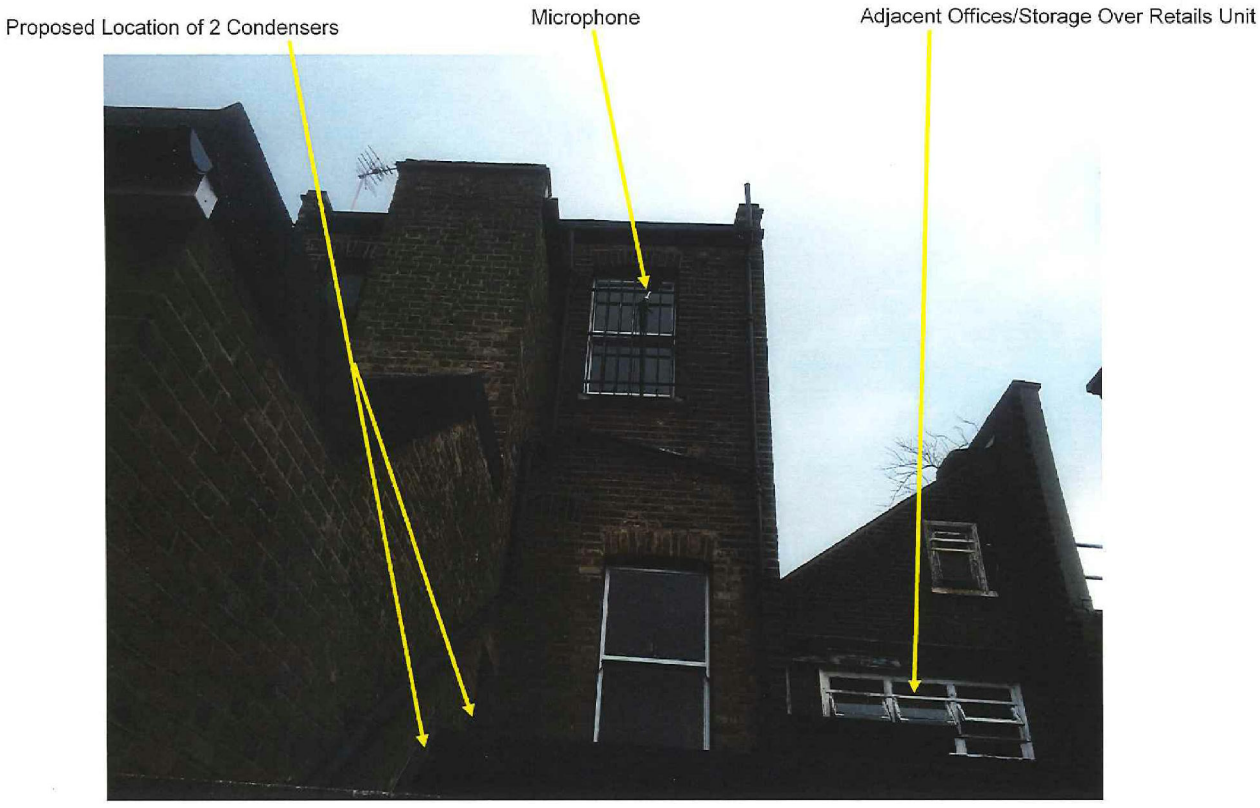


Photo A – Rear of Building with Microphone on Boom Outside 2nd Floor Window

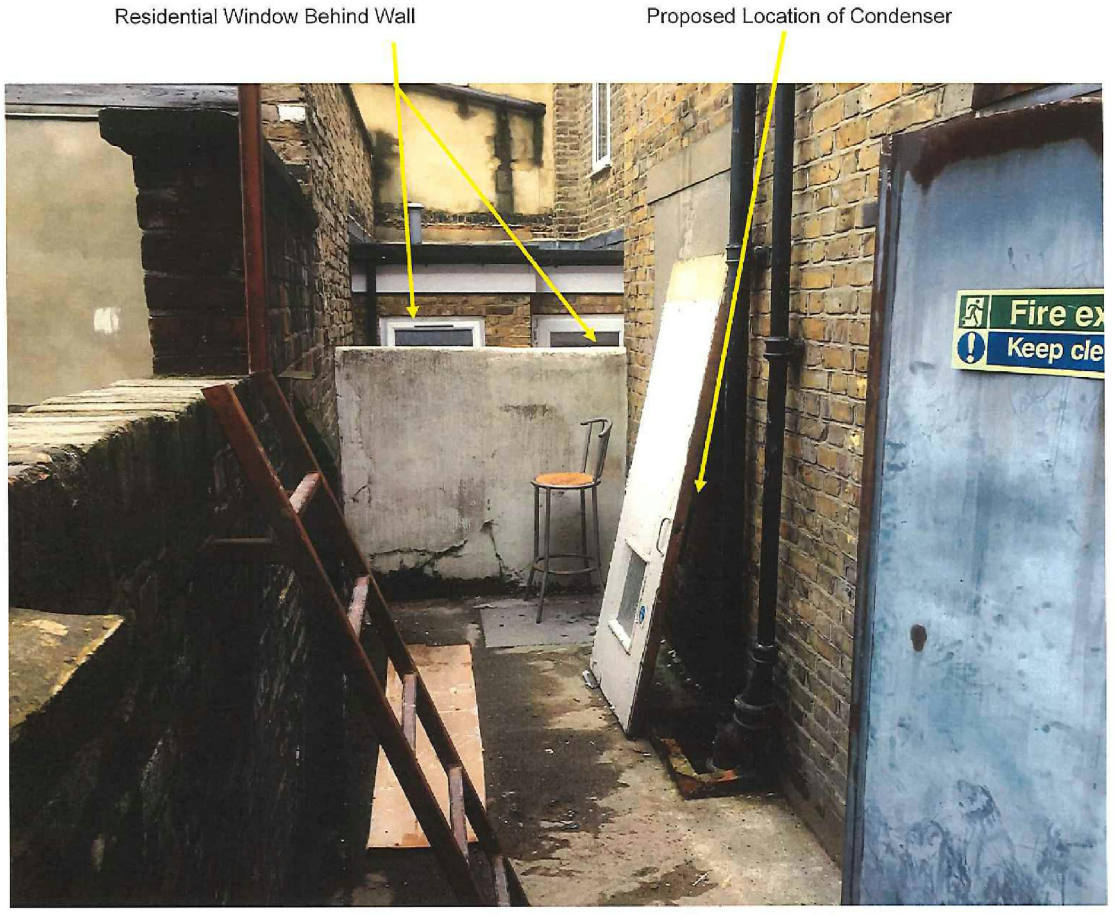


Photo B – Rear Ground/Basement Level Courtyard with Residential Windows Behind Wall

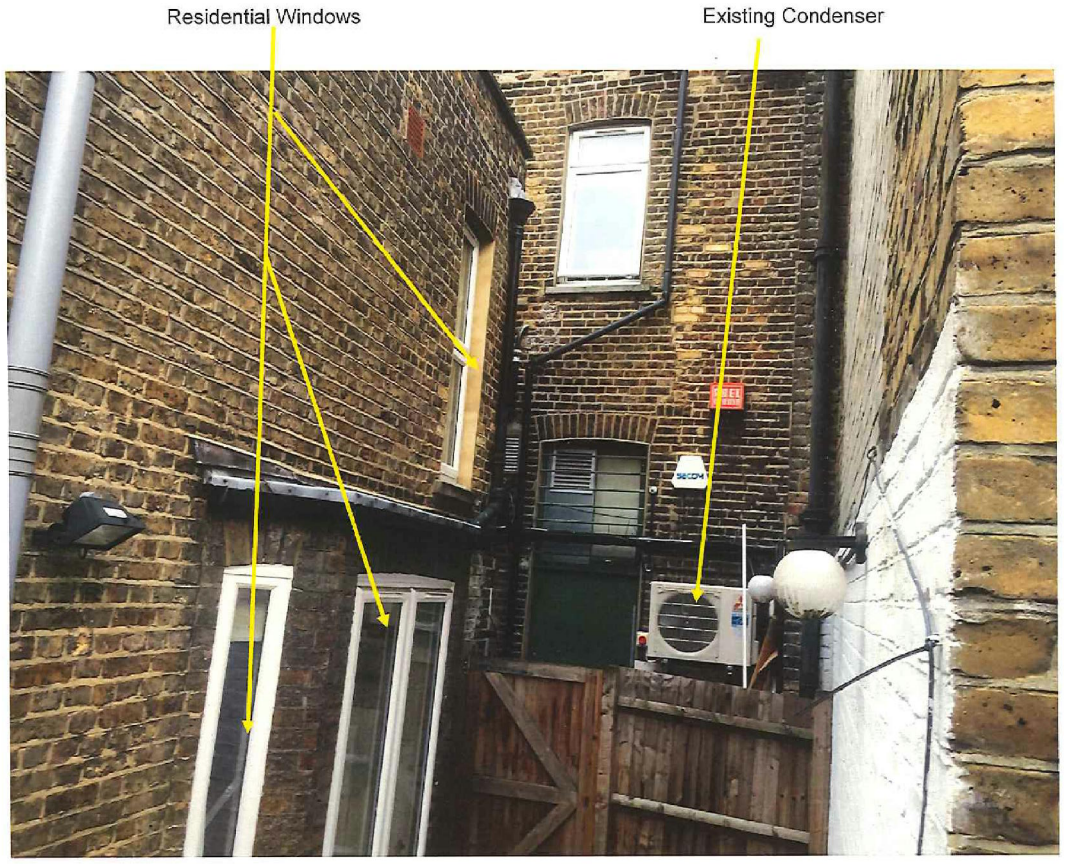


Photo C – View Around Corner to Residential Property Behind Wall

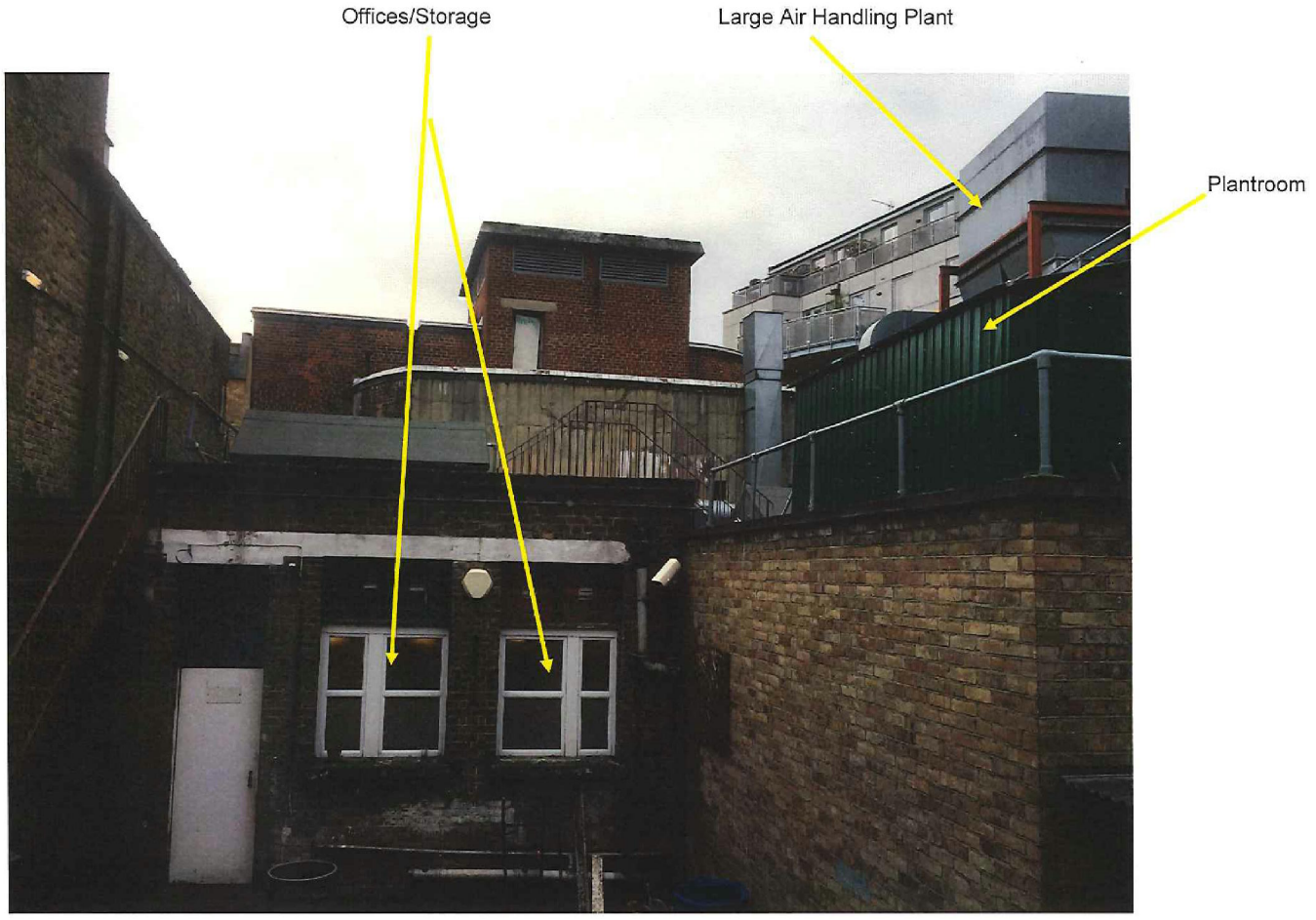
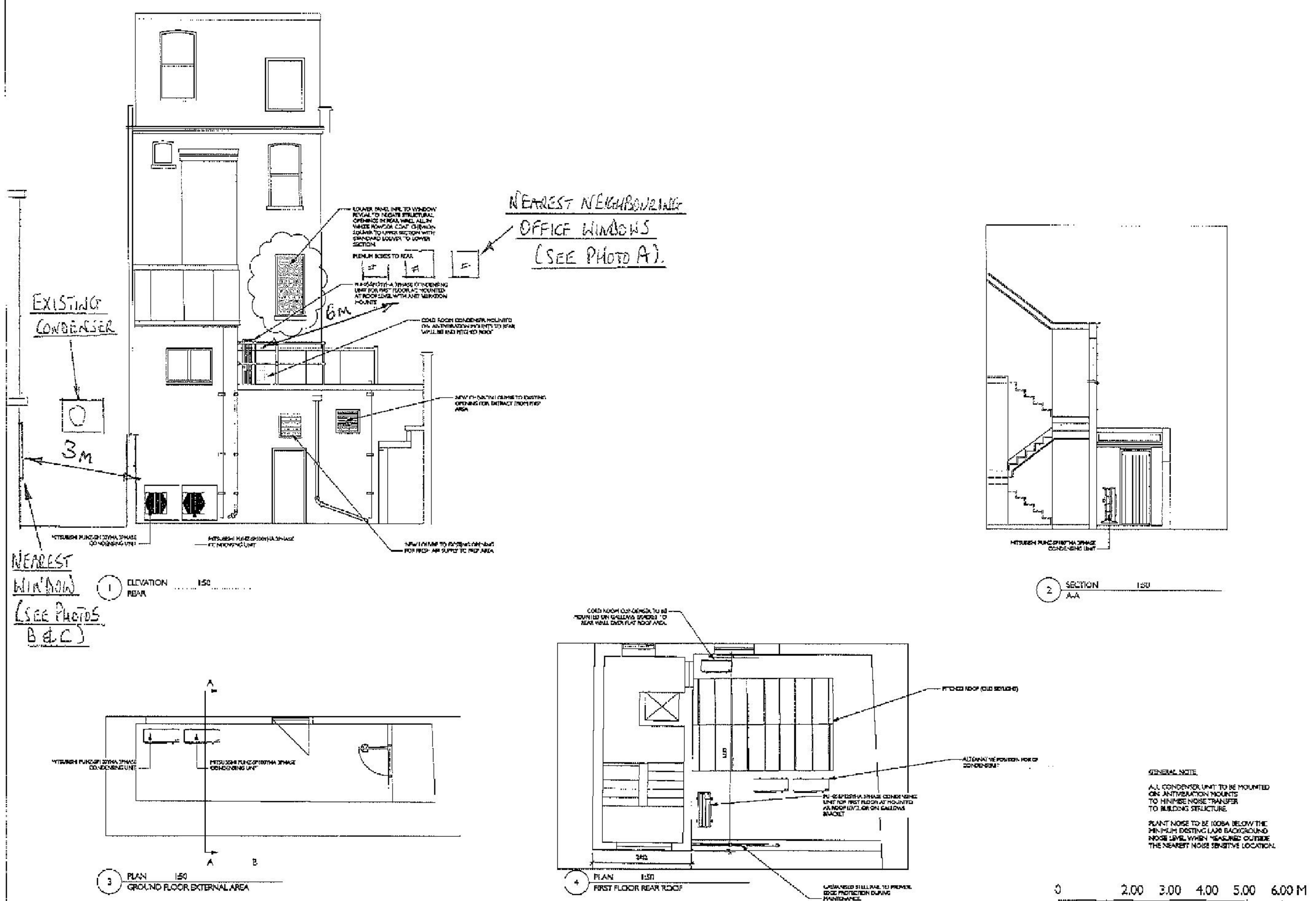


Photo D – View Looking Directly Behind Property

Drawing Nº

PU.1015.07 REV A



GENERAL NOTE

A.L CONDENSER UNIT TO BE MOUNTED ON ANTIVIBRATION MOUNTS TO MINIMISE NOISE TRANSFER TO BUILDING STRUCTURE.

PLANT NOISE TO BE 10DBA BELOW THE MINIMUM EXISTING LA90 BACKGROUND NOISE LEVEL WHEN MEASURED OUTSIDE THE NEAREST NOISE SENSITIVE LOCATION.

CONSTRUCTION (DESIGN & MANAGEMENT) REGULATIONS

NON-NOTIFIABLE	X	NOTIFIABLE

Revisions & Notes

Revision	Date	Description
A		

The Fruitful Design Consultancy Ltd

Client Name: FURE

Project Title: 179 CAMDEN HIGH STREET

Drawing Title: HVAC - EXTERNAL ELEVATION & PLANS

Drawing No.	Revision	Scale @ A3
PU.1015.07		1:50

Date	Drawn by	Checked by
11/15	JMO	BHRM