

PLANNING SERVICES APPLICATION

CONSULTATION SHEET

APPLICANT:

Curl La Tourelle Architects,
80 Lambie Street,
London,
NW5 4AB

APPLICATION NO: PP/00/02865

APPLICATION DATED: 10/11/2000

DATE ACKNOWLEDGED: 13 December 2000

APPLICATION COMPLETE: 13/12/2000

DATE TO BE DECIDED BY: 07/02/2001

SITE: Land situated off Barby Road adjacent to Admiral Mews and Junction with Ladbroke Grove, London, W.1

PROPOSAL: Construction of a 4 storey plus basement office building and associated car parking. (MAJOR APPLICATION)

ADDRESSES TO BE CONSULTED

- 1. As PP/00/2002
2.
3. + Barby Road Primary School,
4.
5. ~~Garage & Yard Admiral Mews?~~
6.
7. & 322 Ladbroke Grove

8.
9. + dry objections to PP/00/2002
10. further
11.
12.
13.
14.
15.

Handwritten circled number 147

CONSULT STATUTORILY

- HBMC Listed Buildings
HBMC Setting of Buildings Grade I or II
HBMC Demolition in Conservation Area
Demolition Bodies
DoT Trunk Road - Increased traffic
DoT Westway etc.,
Neighbouring Local Authority
Strategic view authorities
Kensington Palace
Civil Aviation Authority (over 300')
Theatres Trust
The Environment Agency
Thames Water
Crossrail
LRT/Chelsea-Hackney Line

ADVERTISE

- Effect on CA
Setting of Listed Building
Works to Listed Building
Departure from UDP
Demolition in CA
"Major Development"
Environmental Assessment
No Site Notice Required
Notice Required other reason
Police
L.P.A.C
British Waterways
Environmental Health
GLA
Govt Office for London

Handwritten checkmarks and 'CT 14/12/2000' next to 'Major Development' and 'Environmental Assessment'.

# DEVELOPMENT CONTROL

## TECHNICAL INFORMATION

THE ROYAL  
BOROUGH OF



KENSINGTON  
AND CHELSEA

**ADDRESS** LAND SITUATED OFF BARLBY  
ROAD ADJACENT TO ADMIRAL MENS  
AND JUNCTION WITH LADBROKE GROVE

**POLLING DISTRICT** A

PP002865

- |     |  |        |  |
|-----|--|--------|--|
| HB  | Buildings of Architectural Interest          | LSC    | Local Shopping Centre                          |
| AMI | Areas of Metropolitan Importance             | AI     | Sites of Archeological Importance              |
| MDO | Major Sites with Development Opportunities   | SV     | Designated View of St Paul's from Richmond     |
| MOL | Metropolitan Open Land                       | SNCI   | Sites of Nature Conservation Importance        |
| SBA | Small Business Area                          | REG 7  | Restricted size and use of Estate Agent Boards |
| PSC | Principal Shopping Centre (Core or Non-core) | ART IV | Restrictions of Permitted Development Rights   |

Conservation Area	HB	CPO	TPO	AMI	MDO	MOL	SBA	Unsuitable for Diplomatic use	PSC		LSC	AI	SV	SNCI	REG 7	ART IV	
									C	N							
								✓									

	Within the line of Safeguarding of the proposed Chelsea/Hackney underground line
	Within the line of Safeguarding of the proposed Eastwest/Crossrail underground line

	Density	
	Site Area	
	Habitable rooms proposed	
	Proposed Density	

	Plot Ratio	
	Site Area	
	Zoned Ratio	
	Floor Area proposed	
	Proposed Plot Ratio	

<b>Daylighting</b>	Complies	
	Infringes	

<b>Car Parking</b>	Spaces required	
	Spaces proposed	

**Notes:**  
Previous application  
site reference  
PP/00/2002

**MEMORANDUM**

**TO: FOR FILE USE ONLY**

**From: EXECUTIVE DIRECTOR  
PLANNING & CONSERVATION**

**My Ref: PP/00/02865/AP**

**CODE F6**

**Room No:**

**Date: 14 December 2000**

**DEVELOPMENT AT:**

**Land situated off Barlby Road adjacent to Admiral Mews and Junction with Ladbroke Grove,  
London, W.1**

**DEVELOPMENT:**

**Construction of a 4 storey plus basement office building and associated car parking. (MAJOR  
APPLICATION)**

The above development is to be advertised under:-

6. Town and Country Planning (General Development Order) 1995 ("Major"  
Development)

**M.J. French**

Executive Director, Planning & Conservation

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# PLANNING AND CONSERVATION

THE TOWN HALL HORNTON STREET LONDON W8 7NX

---

Executive Director M J FRENCH FRICS Dip TP MRTPI Cert TS

---

THE ROYAL  
BOROUGH OF



KENSINGTON  
AND CHELSEA

## FILE COPY

2079/2080  
020-7361-2079/2080

020-7937-5464  
Switchboard:  
Extension:  
Direct Line:

Facsimile:  
020-7361-3463

Date: 14 December 2000

---

My reference:

Your reference:

Please ask for:

My Ref: DPS/DCN/PP/00/02865/AP

Planning Information Office

Dear Sir/Madam,

### TOWN AND COUNTRY PLANNING ACT 1990

#### **Proposed development at: Land situated off Barlby Road adjacent to Admiral Mews and Junction with Ladbroke Grove, London, W.1**

Brief details of the proposed development are set out below. Members of the public may inspect copies of the application, the plans and any other documents submitted with it. The Council's Planning Services Committee, in considering the proposal, welcomes comments either for or against the scheme. Anyone who wishes to make representations about the application should write to the Council at the above address **within 21 days** of the date of this letter. Unfortunately, the Council does not have the resources to advise objectors of the Committee date, and you should telephone for further information.

#### Proposal for which permission is sought

**Construction of a 4 storey plus basement office building and associated car parking.  
(MAJOR APPLICATION)**

Applicant Workspace Group, Magenta House, 85 Whitechapel Road, London, E1 1DU

Yours faithfully,

**M. J. FRENCH**

Executive Director, Planning and Conservation

### WHAT MATTERS CAN BE TAKEN INTO ACCOUNT

When dealing with a planning application the Council has to consider the policies of the Borough Plan, known as the Unitary Development Plan, and any other material considerations. The most common of these include (not necessarily in order of importance):

- The scale and appearance of the proposal and impact upon the surrounding area or adjoining neighbours;
- Effect upon the character or appearance of a Conservation Area;
- Effect upon the special historic interest of a Listed Building, or its setting;
- Effect upon traffic, access, and parking;
- Amenity issues such as loss of Sunlight or daylight, Overlooking and loss of privacy, Noise and disturbance resulting from a use, Hours of operation.

### WHAT MATTERS CANNOT BE TAKEN INTO ACCOUNT

Often people may wish to object on grounds that, unfortunately, cannot be taken into account because they are not controlled by Planning Legislation. These include (again not in any order of importance):

- Loss of property value;
- Private issues between neighbours such as land covenants, party walls, land and boundary disputes, damage to property;
- Problems associated with construction such as noise, dust, or vehicles (If you experience these problems Environmental Services have some control and you should contact them direct);
- Smells (Also covered by Environmental Services);
- Competition between firms;
- Structural and fire precaution concerns; (These are Building Control matters).

### WHAT HAPPENS TO YOUR LETTER

Planning applications where objections have been received are presented to the Planning Services Committee which is made up of elected Ward Councillors. Planning Officers write a report to the Committee with a recommendation as to whether the application should be granted or refused. Letters received are summarised in the report, and copies can be seen by Councillors and members of the public including the applicant. The Councillors make the decisions and are not bound by the Planning Officer's recommendation. All meetings of the Committee are open to the public.

If you would like further information, about the application itself or when it is likely to be decided, please contact the Planning Department on the telephone number overleaf.

### WHERE TO SEE THE PLANS

Details of the application can be seen at the Planning Information Office, 3rd floor, Town Hall, Hornton Street W.8. It is open from 9am to 4.45pm Mondays to Thursdays (4pm Fridays). A Planning Officer will always be there to assist you.

In addition, copies of applications in the Chelsea Area (SW1, SW3, SW10) can be seen at The Reference Library, Chelsea Old Town Hall, Kings Road SW3 (020 7361 4158), for the Central Area (W8, W14, SW5, SW7) can be viewed in the Central Library, Town Hall, Hornton Street, W.8. and applications for districts W10, W11 and W2 in the North of the Borough can be seen at The Information Centre, North Kensington Library, 108 Ladbroke Grove, London W11 (under the Westway near Ladbroke Grove Station 020 7727-6583). Please telephone to check the opening times of these offices.

If you are a registered disabled person, it may be possible for an Officer to come to your home with the plans. Please contact the Planning Department and ask to speak to the Case Officer for the application.

***PLEASE QUOTE THE APPLICATION REFERENCE NUMBER ON YOUR REPLY***



XX/AD

AP

RBKC

# District Plan Observations CONSERVATION AND DESIGN

Address Street Bailby rd.	Appl. No. 00/2865	L.B.	C.A.	N C S
Description Redevelopment	Code	N		

The proposed drawings show a brutalistic and totally unacceptable form of development of a style that would be harmful to the surrounding area, PPA1: - "good urban design should be the adjective everywhere."

I suggest a site visit without the applicant initially so we can establish some basic principles for the development of this site.

NJC 22.12.00

RBK&C TRANSPORTATION COMMENTS				
<b>PP Number:</b> PP/002865	<b>Address:</b> Land at the corner of Barlby Road and Admiral Mews.			<b>Date of obs:</b> 18/12/2000
<b>Proposal:</b> Construction of a 4 storey office block and basement car park			<b>Obj</b> √	<b>No Obj</b>
<b>File Number</b> TF/202/B	<b>Initial Observations</b>		<b>Transportation Officer:</b> Richard Case	<b>D C Officer:</b> A Patterson
	<b>Full Observations</b>	√		
<b>Supplementary information:</b> N/A				

**Comments:**

Application to erect a 4 storey office block and basement car park with 1420m<sup>2</sup> of office space and 13 car park spaces.

**Car Parking**

The councils emerging UDP requires office developments to provide car parking at a ratio of one-space/1500m<sup>2</sup> (maximum) This application proposes 13 spaces. This clearly exceeds the number of spaces needed for a development of this size and nature.

In accordance with the objectives of policy TR41 one off-street space should be provided. This space should be suitable for disabled users.

**Cycle Parking.**

I need further detail on the cycle parking shown on the enclosed plan. The UDP requires seven cycle bays. These should be Sheffield type stands, or a secure area. I would encourage providing more spaces than the minimum.

**Servicing and Deliveries**

The site is close to the junction of Ladbroke Grove and opposite Barlby Primary School. On-street servicing is therefore inappropriate in this location (TR39). TR45 requires development to provide off-street servicing. The basement should incorporate a loading bay, ensuring there is enough headroom for all service vehicles.

**Site Access**

Access to the site is via Admiral Mews rather than Barlby Road. An at-level footpath for pedestrians should be maintained on Admiral Mews.

**Accessibility**

Public transport accessibility for this site is low. This is because of the distance from the Underground. Several buses serve Ladbroke Grove. Low accessibility cannot be used to justify the excess parking provision proposed.

I would encourage the developer to develop a site travel plan. Scope for a Section 106 agreement?

It may be of benefit for us to discuss with the Policy Officer the possibility of a condition to require the employment of a given number of local people.

Relevant policies:

TR39

TR41

TR45

Recommendation:

Objection. Due to over-provision of car parking and on street servicing.

Signed:

A handwritten signature in black ink, consisting of several stylized, overlapping strokes that are difficult to decipher as specific letters.



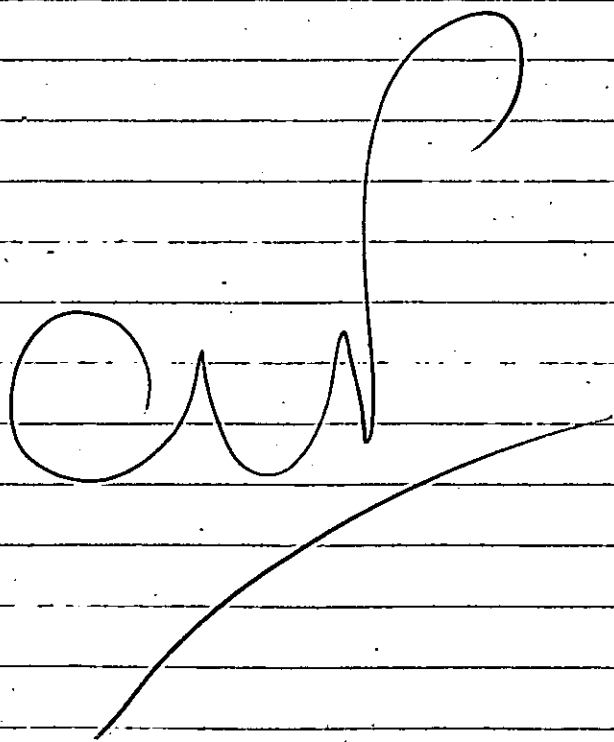
Reviews

for

BARBY Road

(10) Government action regarding new residential needs to be addressed, however I'm not at all happy with the people here.

(11) What do you think?



Jewel

BARBY Road,  
today at 12:00

(1) The budget is too bulky and in design terms. Split horizontally.

(2) As a result top two floors should be removed.

(3) proposal is for 12 units, if top floors are removed number reduces to 9 units.

(4) ~~Redesign~~ Barry Six Spaces for 12 but was he Six for 9.

(5) House report, we should accept at moment;

(6) Concern over balconies or park elevators and front elevators. This will surely negate the steps taken regarding noise.

(7) BARBY Road very busy see photos. The front elevators is right on street. Not Council.

(8) Railway at rear, not (covered by bus Scheme)

(9) Suitability for residential in this location?

Not in my opinion, railway, main Road etc, no need to a pub.

ble in 7 pc geh → AP  
VNB 16/7

Executive Director  
Planning and Conservation  
TheTown Hall  
Horton Street  
London W8 7NX

RECEIVED BY PLANNING SERVICES									
EX DIR	HDC	N	C	SW	SE	ENF	AO ACK		
16 JUL 2001							17		
PPS	IC	REC	ARB	FWD PLN	CON DES	FEES			

your reference: **DPS/DCNPP/OO/02865**

attention: **Andrew Paterson**

Dear Sir

10 July 2001

**Proposed New Office Building at Barlby Road, North Kensington, London N10**

The workspace Group has asked us to submit a revised design on their behalf for a new office building at the corner of Barlby Road and Admiral Mews, London N10.

Four copies of our drawings are enclosed:

637 PL [0] 01 C      site plan and location plan  
637 PL [0] 02 C      floor plans  
637 PL [0] 03 C      south elevation  
637 PL [0] 04 C      elevations and section

2  
COPY OF PLANS  
TO INFORMATION  
OFFICE PLEASE

Revisions to the previous submission are a response to points raised by your officers.

**size of the development**

We understand that Kensington and Chelsea employment policy requires a reduction in the area of office development shown on our 21 November 2000 application drawings. The gross internal office area, excluding space for mechanical and electrical services, shown on our revised submission drawings is 1188m<sup>2</sup> / 12,785ft<sup>2</sup>.

**parking**

There is parking space for nine cars shown on the revised drawings. The Workspace Group considers that public transportation is inadequate at the location of the proposed development and that sufficient car parking space is essential to develop the site for employment use. There is clearly an argument for limiting car parking where there is good public transportation but where an underground station is not within easy walking distance, car parking should be related to use and the value of that use to the community.

**urban design**

The Kensington and Chelsea urban design officer asked for reconsideration of two issues: the height of the proposed building in relation to the neighbouring Victorian houses and facade expression.

- **building height:** The proposed building in revised submission is four storeys high but the distance between the neighbouring houses and the proposed new office has been increased to 11 metres. We continue to consider that it is essential for the proposed new building to be part of a regular rectangular urban building shape formed by the existing pub and the new building. All other buildings in the immediate urban context form similar regular rectangular shapes. We discussed this issue in our 21 November 2000 application letter.

- facade expression: The facade design in the revised submission has a vertical expression formed by grouping sun-screening between columns.

#### **service vehicles**

Mr Lauder, Kensington and Chelsea Highways Department, has suggested that a part of Admiral Mews be used as one arm of a "hammerhead" turning area for service vehicles. The other arm of the turning area would be a loading bay located between the new building and the rail line boundary. The part of Admiral Mews to be used as a turning area is outlined in blue on the revised submission drawings. Points related to the turning area have been discussed with Mr Lauder:

- ownership of Admiral Mews: Admiral Mews is maintained by the council at public expense, however a section of the mews was stopped up to vehicular traffic in 1978 under the provisions of the Kensington and Chelsea Corporation Act of 1977
- stopping-up order: A legal process, under the provisions of the Highways Act 1980, could be started which would result in a Stopping-Up Order for the mews beyond the proposed new turning Area. That part of Admiral Mews would revert to adjacent owners. The turning area would remain a dedicated highway. The process could be started at any time either before or after planning permission.
- contribution: The council would probably ask for a contribution, possibly as part of a Section 106 Agreement.
- junction of Admiral Mews and Barlby Road: Should the proposed be constructed, an improvement would be needed at the junction of Admiral Mews and Barlby Road, possibly funded by the developer.

#### **application progress**

Your development control officer suggested that there be a meeting with the employment officer and highways engineer present to discuss the revised submission. The applicant and their agents would welcome an opportunity to discuss employment, parking and other issues.

We look forward to your reply.

Yours faithfully



Dean la Tourelle

copy to: Workspace Management Limited

Executive Director  
Planning and Conservation  
The Town Hall  
Horton Street  
London W8 7NX

RECEIVED BY PLANNING SERVICES							
EX DIR	HDC	N	C	SW	SE	RNF	DO S
23 NOV 2000							
APPEALS	IO	REC	ARB	PLN	DES	DES	DES

PP002865

Dear Sir

21 November 2000

**Proposed New Office Building at Barlby Road, North Kensington, London N10**

The Workspace Group has asked us to submit on their behalf an application for town planning approval for a proposed new office building on property at Barlby Road and Admiral Mews, London N10. The following information is enclosed with this letter:

- completed application form TP1 parts one and three
- completed Certificate A
- four sets of the application drawings
- two sets of photographs
- a cheque for the application fee of £3,800

We wish to bring to your attention the following features of the proposal.

**relation of the proposed building to the site boundaries, the adjoining pub and Railtrack land:**

- the west boundary: The proposed new building is to be built about 1.8m from the existing site boundary. The area between Admiral Mews and the new building would be a pedestrian pavement.
- the north boundary: A metal fence to Railtrack specification will separate the ground level of the new office building from Railtrack property.
- the south boundary: The proposed building will be aligned with the existing side extension of corner pub.
- the line of the property adjacent to the pub and the pub extension: The proposed new building would be built against existing walls with no windows or along the property line to form an internal court. Windows looking into the internal court serve wc accommodation in the pub.

**access to Railtrack land:** Access to Railtrack land will not be changed by the proposed new development.

**noise and internal environmental standards:**

The north facade of the proposed building is near the main line to Paddington station where there is a very high noise level. The proposed building would not have operable windows and would be air-conditioned. A noise survey has been completed and techniques proposed to ensure a comfortable office internal environment. Techniques for maintaining the internal environment include lower energy use air-conditioning.

**building design issues:**

A system of fourth-five degree sun-screening is essential for lower energy use air-conditioning and is central to the proposed building's appearance. Sun-screens with minimum projection from the facade have been chosen to avoid a wide overhang above the pedestrian pavement and to combine with window cleaning methods.

Both the Admiral Blake Public House and the terrace of Victorian houses have features in light coloured render. We expect that the proposed building should be generally a light colour. A decision about colour would be made in consultation with your design officer.

PP002865

**urban design issues:**

Our approach is illustrated in the elevation drawing showing the existing Victorian terrace, the proposed new office building, The Admiral Blake Public House, Ladbroke Grove and Kerrington Court on Wornington Road. The proposed office building will form part of a new coherent rectangular urban block similar to the rectangular shapes of the Victorian terrace and Kerrington Court. We expect that the new rectangular block will be completed in a relatively short time when the corner pub is rebuilt or is extended to fill the space between the proposed new office and the existing pub building. The new office building and the rebuilt or extended pub will take their place within the context of their neighbours and will confirm the important continuity of building with traditional rectangular urban blocks.

Cities usually contain both large and small buildings, often closely related. The Pall Mall Deposit building, a building owned by the Workspace Group and used by about seventy-five small businesses, is a good example. It is much larger than all the surrounding buildings, but it does not diminish the importance of the neighbouring two storey houses. We expect that the proposed new office building on Barlby Road will have the same relationship to the existing Victorian terrace.

Please let us know if you require any additional information.

Yours faithfully

*Dean La Tourelle*

Dean la Tourelle  
copy to: Workspace Group  
Atelier 10  
Acoustic Design  
The Budgen Partnership

Date: 11<sup>th</sup> December 2001

Ref: 01363/001/ajm

EX DIR	HDC	TP	CAC	AD	CLU	AO AK
RB KJC	9 JAN 2002		PLANNING			
N	C	SW	SE	APP	IO	REC
			ARB	FPLN	DES	FEEES

# AAD

applied  
acoustic  
design

ACOUSTIC CONSULTANCY REPORT  
FOR  
EUROPEAN LAND & PROPERTY CORPORATION  
NOISE & VIBRATION ASSESSMENT AT  
BARLBY ROAD, LONDON W10

Report presented by: .....

A J McKee

Consultant

THE GREEN BUSINESS CENTRE  
THE CAUSEWAY  
STAINES  
MIDDLESEX  
TW18 3AL

TELEPHONE: 01784 464404  
FACSIMILE: 01784 465447



## SUMMARY

A noise and vibration survey has been completed at the site of a proposed housing development in Barlby Road, London W10. The site is located adjacent to the main railway line serving Paddington railway station. The level of rail and road traffic noise and rail traffic vibration to which the site is currently exposed has been assessed.

It has been established that during both the daytime and night-time periods all facades of the development are expected to fall into Noise Exposure Category (NEC) C, as defined within Planning and Policy Guidance Note 24: Planning and Noise (PPG 24).

Recommendations are given relating to the design of the proposed buildings. Outline specifications for building fabric, based on calculations of sound transmission through the fabric of the building facade are included.

It has been established that during both the daytime and night-time periods the vibration exposure level of the site falls below the lowest category of vibration exposure described in BS6472 and therefore there should be no adverse comment.

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Appendix 2	Graphical plots of the noise and vibration survey results	
Appendix 3	Table of noise spectra and internal noise level predictions	
Appendix 4	Glossary of Acoustic Terms	

## 1.0 Introduction

- 1.1 The plot of land, which is the subject of this report, is located adjacent to the main railway lines serving Paddington Station. The site, in Barlby Road London W10, is positioned between a Public House and Admiral Mews. A plan of the site is shown in Figure 01363/1 in Appendix 1. This location, which is at present a vacant brown field site is the proposed site for a new development of affordable housing. This report presents the results of a noise and vibration survey carried out at the site in respect of a proposed planning application.
- 1.2 To this end, a survey has been performed in order to quantify the day-time and night-time noise levels to which the proposed development will be exposed. Measured noise exposure levels have been classified in terms of the Noise Exposure Categories provided in Planning Policy Guidance Note, Planning and Noise PPG 24.
- 1.3 Short term rail and road traffic noise measurements have been taken to enable external building fabric materials and other noise control measures to be specified if deemed necessary.
- 1.4 A survey of rail traffic vibration levels has also been carried out, and the results evaluated in terms of criteria specified in BS6472 1992 *Guide to Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz)*.
- 1.5 An explanation of all technical terms used within this report is provided within Appendix 4.

## 2.0 Instrumentation

- 2.1 The noise measurements were carried out using the following equipment:

Larson Davis type1 integrating sound level meter	type 812
Larson Davis microphone	type 2541
Larson Davis type1 real-time frequency analyser	type 2800
Larson Davis acoustic calibrator	type CA 250

The vibration measurements were carried out using the following equipment:

Larson Davis real time frequency analyser	type 2800
Kistler accelerometer, with charge amplifier	type 8628B50

- 2.2 All sound and vibration measuring equipment was operated in accordance with manufacturer's instructions and satisfactorily calibrated both before and after the measurements. No material drift was noted.

## 3.0 Survey Procedures

- 3.1 Noise and vibration level measurements were undertaken on Monday 19<sup>th</sup> November 2001 and Tuesday 20<sup>th</sup> November 2001. During the daytime and night time periods the weather was dry, with occasional light breeze. Although not measured, wind speeds during the survey period were considered to be less than 5m/s. The survey

was carried out by A J McKee BSc(Hons) MIOA, Consultant, Applied Acoustic Design.

- 3.2 No apparently unusual events occurred during the survey period and the data is therefore considered to be representative of typical noise levels at the site.

### **Noise Level Survey**

- 3.3 Noise level measurements were undertaken at the proposed development site over a twenty two hour continuous period between 18:00 hours on Monday 19<sup>th</sup> November 2001 and 14.00 hours on Tuesday 20<sup>th</sup> November 2001. Measurements were performed using the Larson Davis type 812 sound level meter with the microphone, fitted with a windshield, positioned upon a pole at 3.5m above ground level. The height was chosen such that the microphone was clear of the perimeter wall so that noise levels measured were a true representation of that impacting on the site and not subject to screening from the existing walls. The microphone was positioned approximately 5m from the boundary fence of the railway line. This position was selected in order to correspond with the likely position of the proposed building façade closest to the railway line.
- 3.4 The sound level meter, which acts as a data-logger, was programmed to measure and store in memory the values of  $L_{Aeq}$ ,  $L_{A90}$ , and  $L_{Amax}(Slow)$  for each successive 15 minute period within the duration of the survey:
- 3.5 The equipment also measured and stored the  $L_{Aeq}$  and  $L_{Amax}$  values over each successive one-minute period between 23:00 and 07:00.
- 3.6 The data collected on site was subsequently downloaded to computer for analysis and display. The attached graphical plots in Appendix 2 show the 15 minute values of the  $L_{Aeq}$ ,  $L_{A90}$ , and  $L_{Amax}$  measurement parameters over the entire period and also the one-minute interval values of the  $L_{Aeq}$  and  $L_{Amax}$  over the night-time period.

### **Vibration Measurements**

- 3.7 Vibration measurements were taken using an accelerometer and charge amplifier connected to a Larson Davis real time analyser type 2800. Manual operation of the analyser, from a position where the approach of trains could be seen, allowed the equivalent acceleration level, in  $m/s^2$ , to be measured, in third octave bands, for each type of train movement. From this data the equivalent vibration dose value, eVDV, for each event may be calculated. It is then possible to estimate the total eVDV for all events over a 16 hour day time, or an 8 hour night time period, for comparison with recommendations in *BS6472:1992 Guide to Evaluation of Human Exposure to Vibration in Buildings (1 Hz to 80 Hz)*.
- 3.8 The accelerometer was positioned on the ground at a distance of approximately 5 metres from the boundary fence. The accelerometer was attached by a magnetic stud to a small metal plate, which had, in turn, been cemented to concrete foundations of the site's perimeter wall.

## 4.0 Results

- 4.1 Graphical plots of the noise survey results are provided in Appendix 2 of this report. Figure 1 shows the variation of the 15 minute values of the  $L_{Aeq}$ ,  $L_{A90}$ , and  $L_{Amax}$  measurement parameters over the entire period. The overall levels are summarised below.

Daytime  $L_{Aeq}$  value:

$$L_{Aeq, 16 \text{ hour}} = 70.0 \text{ dB.}$$

Night-time  $L_{Aeq}$  value:

$$L_{Aeq, 8 \text{ hour}} = 65.0 \text{ dB.}$$

### Night-time $L_{Amax}$ values

- 4.2 Figure 2 shows the one-minute interval values of the  $L_{Aeq}$  and  $L_{Amax(Slow)}$  indices over the night-time period. Comparison of the automated monitoring data with the manually acquired spectral data measured during known train passes suggests an  $L_{Amax(slow)}$  noise level of 80dB or above corresponds to a train pass event. It should be borne in mind, however, that because of the close proximity of Barlby Road, some of the peaks in Figure 2 are likely to be due to traffic movements rather than trains. The graph shows that there are a number of one minute periods when the  $L_{Amax(slow)}$  exceeds 80dB. The graph shows that 37 such events occurred between 23.00 hours on 19<sup>th</sup> November and 07.00 hours on 20<sup>th</sup> November 2001. The value of  $L_{Amax}$  (Slow) exceeded 82 dB for 23 of these 37 events.

### Spectral Train and Traffic Noise Measurements

- 4.3 Table 1 in Appendix 3 gives the short term measured octave band train and traffic noise data measured on the northern and southern boundaries of the site. These measurements were made to assist in making external building fabric assessments.

### Vibration measurement

- 4.4 Vibration measurements were made on site between 18:30 and 20.30 hours on 19<sup>th</sup> November 2001. During this period, approximately 30 passenger train movements arose. The highest vibration levels were produced by the Great Western Inter-City trains. The vibration levels produced by other, three and four carriage local trains, moving more slowly were lower, and may be ignored. The vibration levels in third octave bands between 1 Hz and 80 Hz for an intercity and a commuter train pass are shown in Figure 3 in Appendix 2. Also plotted, on the same graph, for comparison, are the z-axis base curve, and the '1.4 -times' base curve, of BS6472, corresponding to the threshold of human perception.
- 4.5 It should be noted that all data was subject to a peak at 50Hz. This peak was due to instrument interference from the nearby electrical substation and was not a result of train vibration. This peak can therefore be ignored.

**5.0 Analysis of Results and Assessment**

**PPG 24 Assessment of Noise Exposure**

5.1 PPG 24 provides the following categories for new dwellings near existing rail traffic noise sources:

Time Period	Noise Exposure Category			
	A	B	C	D
07:00 to 23:00	<55	55 to 66	66 to 74	>74
23:00 to 07:00	<45	45 to 59	59 to 66	>66

5.2 From paragraph 4.1 above, the day and night-time levels at 1 metre from the proposed building façade are as follows:

$L_{Aeq}$ 07:00 to 23:00	70.0 dB
$L_{Aeq}$ 23:00 to 07:00	65.0 dB

5.3 Based on the above measured noise levels, the proposed development can be classified in terms of the categories defined below:

Daytime	Category C
Night-time	Category C

5.4 As there are a number of  $L_{Amax(slow)}$  events that regularly exceed 82dB in any 1 hour period at night, this qualifies the site as category C independently from the night-time  $L_{eq}$  result. For information there were 6 events that exceeded 82dB(A) for each of the periods 23:00 to 00:00, 05:00 to 06:00 and 06:00 to 07:00.

5.5 The advice given in PPG24 is as follows:

Category C "Planning permission should not normally be granted. Where it is considered that permission should be given, for example because there are no alternative quieter sites available, conditions should be imposed to ensure a commensurate level of protection against noise."

**Assessment of Vibration Exposure**

*Day-time*

5.6 The levels of vibration measured on site are considerably below curve 1 as defined in BS6472. The estimated vibration dose value, eVDV during the daytime has been calculated on the basis that the 2 hour sample taken on the site during 19<sup>th</sup> March 2001 is typical of the entire 16 hour daytime period: Daytime eVDV = 0.019  $m.s^{-1.75}$

5.7 This is the level of vibration exposure at ground level and is based on no more than 330 train movements in the 16 hour period, or 1 train approximately every 3 minutes. It is likely that higher levels of exposure will arise at upper floor due to amplification caused by the building structure. Studies suggest amplification factors in the range of 1.5 and 2.5 are likely depending on the stiffness of the structure. Applying a multiplication factor of 2.5 to the above estimate gives:

$$\text{Daytime eVDV} = 0.0475 \text{ m.s}^{-1.75}$$

- 5.8 This value is below the minimum level ( $0.2 \text{ m.s}^{-1.75}$ ) of the lowest category of vibration exposure described in BS6472, for which, according to the standard, there will, for residential premises, be a low probability of adverse comment. It can be concluded therefore that there will be no adverse comment with regards to vibration for residential accommodation at this site.

*Night-time*

- 5.9 The estimated vibration dose value, eVDV during the night-time has been calculated based on observations on site and the measurements taken during the 2 hour sample period on 19<sup>th</sup> November 2001. The calculated eVDV based on no more than 40 train movements during the 8 hour night-time period:  $\text{eVDV} = 0.012 \text{ m.s}^{-1.75}$

- 5.10 Applying the multiplication factor of 2.5 for possible amplification by the building structure gives:

$$\text{Night-time eVDV} = 0.03 \text{ m.s}^{-1.75}$$

- 5.11 This value is below the minimum level ( $0.13 \text{ m.s}^{-1.75}$ ) of the lowest category of vibration exposure described in BS6472, for which, according to the standard, there will, for residential premises, be a low probability of adverse comment. It can be concluded therefore that there will be no adverse comment with regards to vibration for residential accommodation at this site.

**Internal Noise Level Assessment**

- 5.11 The octave band train and traffic noise levels measured on site and shown in Table 1 of Appendix 3 have been used to predict internal noise levels within habitable spaces of the new development.
- 5.12 The calculated noise levels are based on a façade construction of 102mm brick / 75mm airspace / 102mm brick and a glazing configuration of 6-200-10 for the east and west facades and 6-40-10 for the southern façade.
- 5.13 The calculated noise levels are given in Table 2 of Appendix 3.
- 5.14 The results show that internal noise levels within all habitable rooms will be within the range of 30-35dB  $L_{Aeq,8 \text{ hours}}$  for night-time and 35-40dB  $L_{Aeq,16 \text{ hours}}$  for daytime.

**6.0 Discussion**

- 6.1 The noise levels measured on site place it within Category C when assessed under PPG 24. Normally when a site falls within Category C, planning permission should be refused. However, PPG 24 does specifically state that where it is considered that permission should be given, for example there are no alternative quieter sites available, conditions should be imposed to ensure a commensurate level of protection against noise.
- 6.2 In metropolitan areas such as this, where available space is at a premium, alternative sites are not often available. The proposed site should not necessarily be ruled out because of high external noise levels when conditions could be imposed such that occupants are sufficiently protected from noise.

- 6.3 The area in which this site is located is predominantly residential although not all exposed to the same noise levels as this site would be. Directly adjacent to the site, however, is Admiral Mews, a row of residential properties built over 3 stories. Although it is obvious that these properties were built many years ago before the introduction of PPG24, the properties are exposed to similar noise levels as the proposed new properties would be, but clearly without the benefit of modern noise mitigation measures.
- 6.4 In addition to Admiral Mews, two 5 storey blocks of flats, which, from visual inspection appear to be fairly new, have been built along the north side of the railway tracks opposite Admiral Mews. These flats have been designed such that there are no windows in the southern facades, the flats are naturally ventilated and the windows do not appear to be of any special configuration to mitigate noise.
- 6.5 Although PPG24 is the appropriate tool for assessing the suitability of sites for residential development the assessment is based on external conditions. Where noise levels are high and external amenity is low, as is the case here, an assessment of internal noise levels in addition to the external PPG24 assessment would be appropriate, such that where planners are minded to grant consent, appropriate protection against noise can be incorporated within the scheme.
- 6.6 For internal noise, PPG24 makes reference to British Standard BS8233:1999, which gives general guidance with respect to sound insulation of buildings. BS8233 also gives recommendations for maximum levels of steady intrusive noise for residential accommodation. In sleeping areas the recommendations are 30-35dB  $L_{Aeq,T}$  and for living rooms they are 30 -40dB  $L_{Aeq,T}$ . Also for a reasonable standard in bedrooms at night, individual noise events should not normally exceed 45dB  $L_{Amax}$ .
- 6.7 BS 8233:1999 advises that the airborne sound insulation arising from a conventionally constructed façade, with windows open for ventilation, is in the region of 10 to 15 dBA. As the same standard states that reasonable resting / sleeping background noise levels range from 30 to 35 dBA in bedrooms, it accordingly determines that for such a façade, external noise levels should be in the range 45 to 50 dBA.
- 6.8 It is clear that such is not the case for this proposal site; since night-time noise levels amount to 65 dBA and internal noise levels should be in the range 30 to 35 dBA, facade insulation required is in the range 30 to 35 dBA rather than 10 to 15 dBA. This 20dBA increase is significant and will clearly require a substantial glazing solution able to meet this insulation when closed. Provision for ventilation will need to be considered through using powered or passive acoustic ventilation methods.
- 6.9 The noise levels calculated within habitable rooms from rail and road traffic indicate that provided the external façade construction is of a suitably substantial construction appropriate noise levels will exist and the residents should suffer no loss of internal amenity due to the sites close proximity to the railway line.
- 6.10 Although as stated the extent of external amenity is limited, where it is provided it is important that appropriate noise levels exist such that the external areas can be enjoyed. The majority of external amenity space for the new development is provided at ground floor level by means of a small communal garden to the rear of the development. This area is substantially screened from train noise by a 5m high brick perimeter wall and completely screened from traffic on Barlby Road by the



development itself.

- 6.11 Based upon the measured  $L_{Aeq}$  16 Hour of 70dB(A), it is expected that external amenity amounting to 55 dBA is likely to arise in the common area due to the proposed boundary wall construction.
- 6.12 In addition to the communal garden there is also a planned terrace at 3<sup>rd</sup> floor roof level. This area will benefit from some self-screening from the building itself and additional distance loss from source to receive. Seated users of the roof terrace should not be exposed to long-term noise levels in excess of 60dB  $L_{Aeq, 16hours}$ , which should be considered acceptable.

## 7.0 Recommendations Relating to Building Layout and Design

- 7.1 The recommendations given below should, where possible, be adopted in full. Outline specifications for building fabric, based on calculations of sound transmission through the fabric of the building façade have been included.
- 7.2 The building layout has designed such that the noise impact from the rail traffic will be minimised, with no windows directly facing the railway. Typical floor layouts and sections are shown in the attached Figures 2 -5 in Appendix 1.
- 7.3 In terms of appropriate construction, conventional external cavity wall construction meeting building regulations will be necessary.
- 7.4 Glazing to the east and west facades should comprise outer layer of proprietary thermal double glazing (e.g. 6-12-6 configuration) an air-gap not less than 140mm and a single glazed secondary element in a separate frame, also 6mm thick. All glass should be in proprietary frames that are accurately cut, fitted, fixed and silicone mastic sealed in an airtight manner to as built apertures.
- 7.5 Glazing to the southern façade (Barlby Road) should comprise a deep cavity double glazed unit such as 6-40-10 or the secondary glazed option as given above.
- 7.6 Provision for ventilation will be need to be considered, using powered or passive acoustic ventilation methods.
- 7.7 The 5m high perimeter brick wall shown in drawings should be retained.

## 8.0 Summary and Conclusions

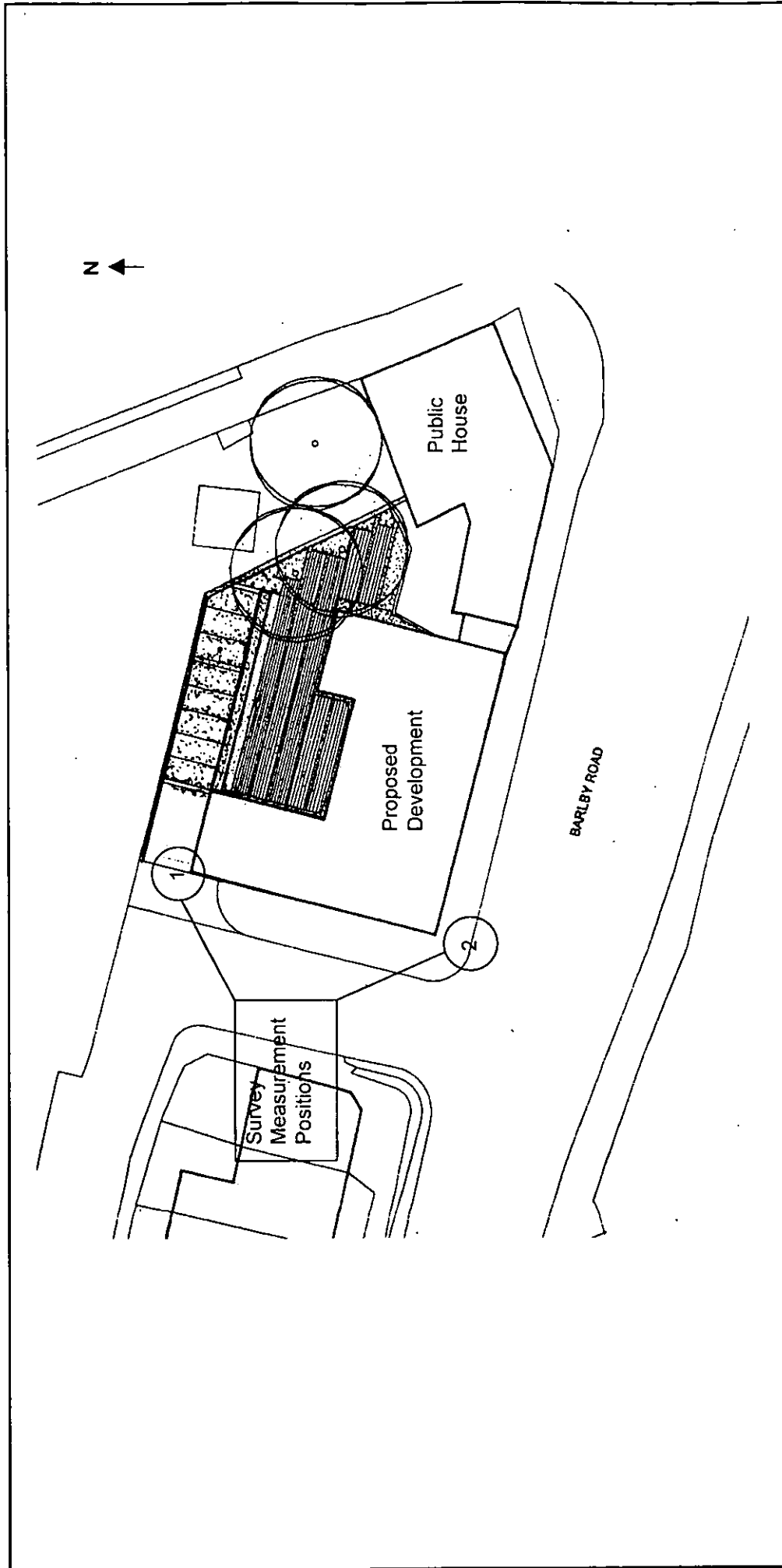
- 8.1 A noise and vibration survey has been completed at the site of a proposed housing development at Barlby Road, London W10. The level of rail and road traffic noise and rail traffic vibration to which the site is currently exposed has been assessed.
- 8.2 The results of noise measurements carried out over a 22 hour weekday period, at a distance of one metre from the railway line were as follows:

$L_{Aeq}$  07:00 to 23:00 70.0 dB  
 $L_{Aeq}$  23:00 to 07:00 65.0 dB

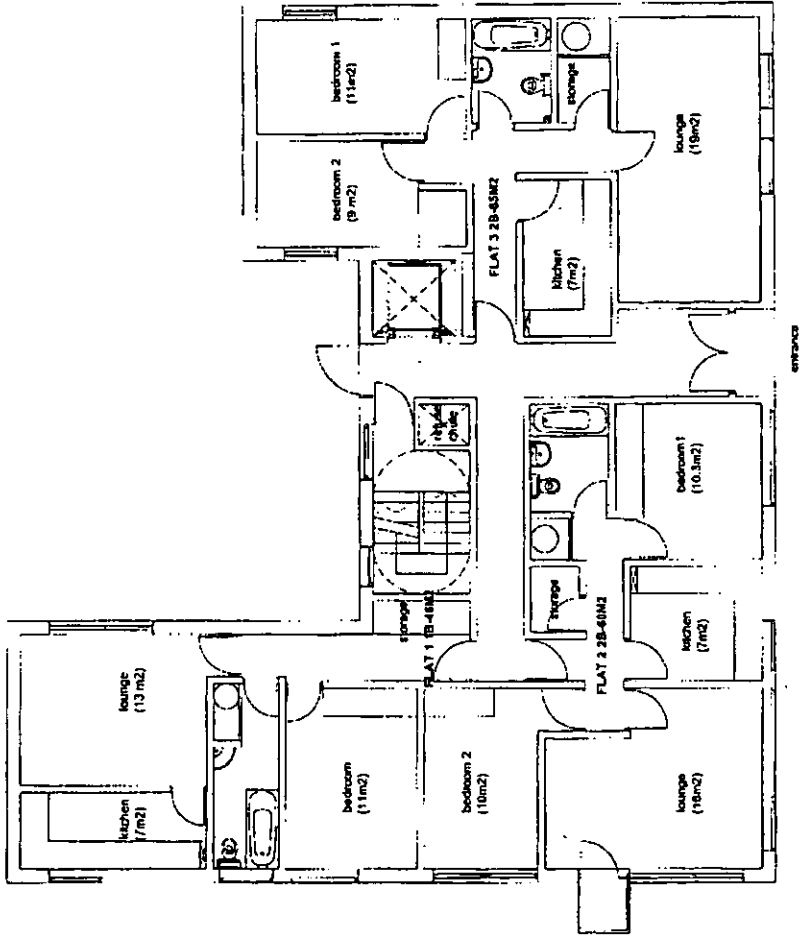
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- 8.3 On the basis of these measurements, assumed to be representative it has been established that during both the daytime and night-time periods all facades of the development will fall within Noise Exposure Category (NEC) C, as defined within Planning and Policy Guidance Note 24: Planning and Noise (PPG 24).
- 8.4 Recommendations are given relating to the design and layout of the proposed buildings. Outline specifications for building fabric, based on calculations of sound transmission through the fabric of the building facade are included such that noise levels within habitable rooms fall with the design range given within BS8233:1999.
- 8.5 It has been established that during both the daytime and night-time periods the vibration exposure level of the site falls below the lowest category of vibration exposure described in BS6472, and therefore there should be no adverse comment. Accordingly it has been established that no mitigating measures will be necessary to control the level of vibration transmitted into the building.

**APPENDIX 1**

Map of site, floor plans and sections



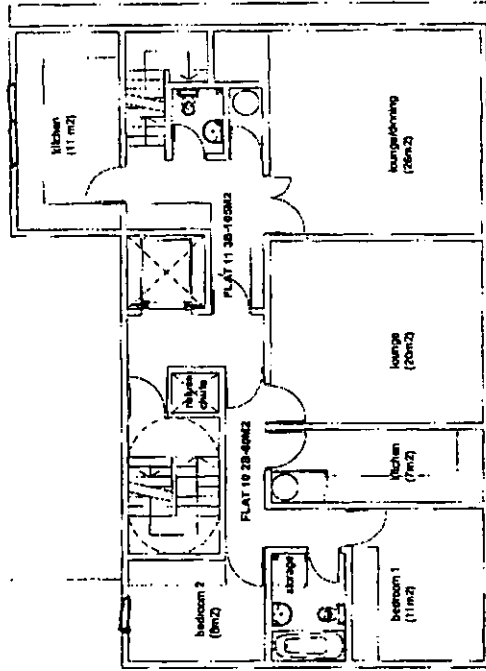
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<b>Drawing No:</b> Figure 01363/1	<b>Scale:</b> N.T.S.	<b>Rev:</b> A	
<b>Date:</b> 11th December 2001	<b>Drawn By:</b> AM	<b>Job No:</b> 01363	



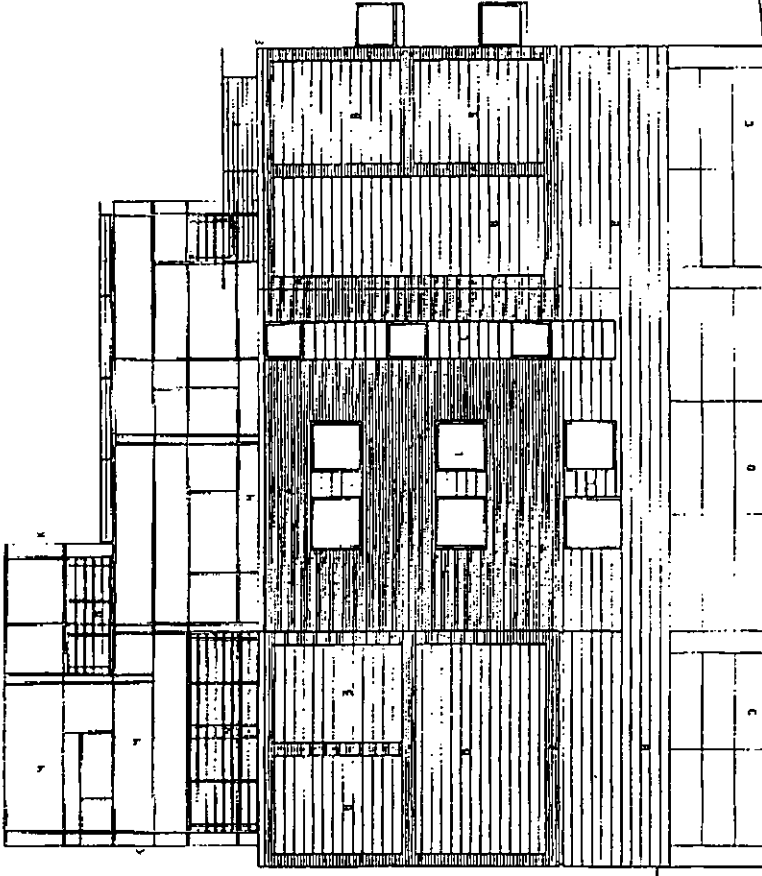
<b>Project:</b> Barlby Road, London W10		<b>Title:</b> Ground Floor Plan	
<b>Drawing No:</b> Figure 01363/2		<b>Scale:</b> N.T.S.	
<b>Date:</b> 11th December 2001		<b>Drawn By:</b> AM	
		<b>Rev:</b> A	
		<b>Job No:</b> 01363	

## AAD

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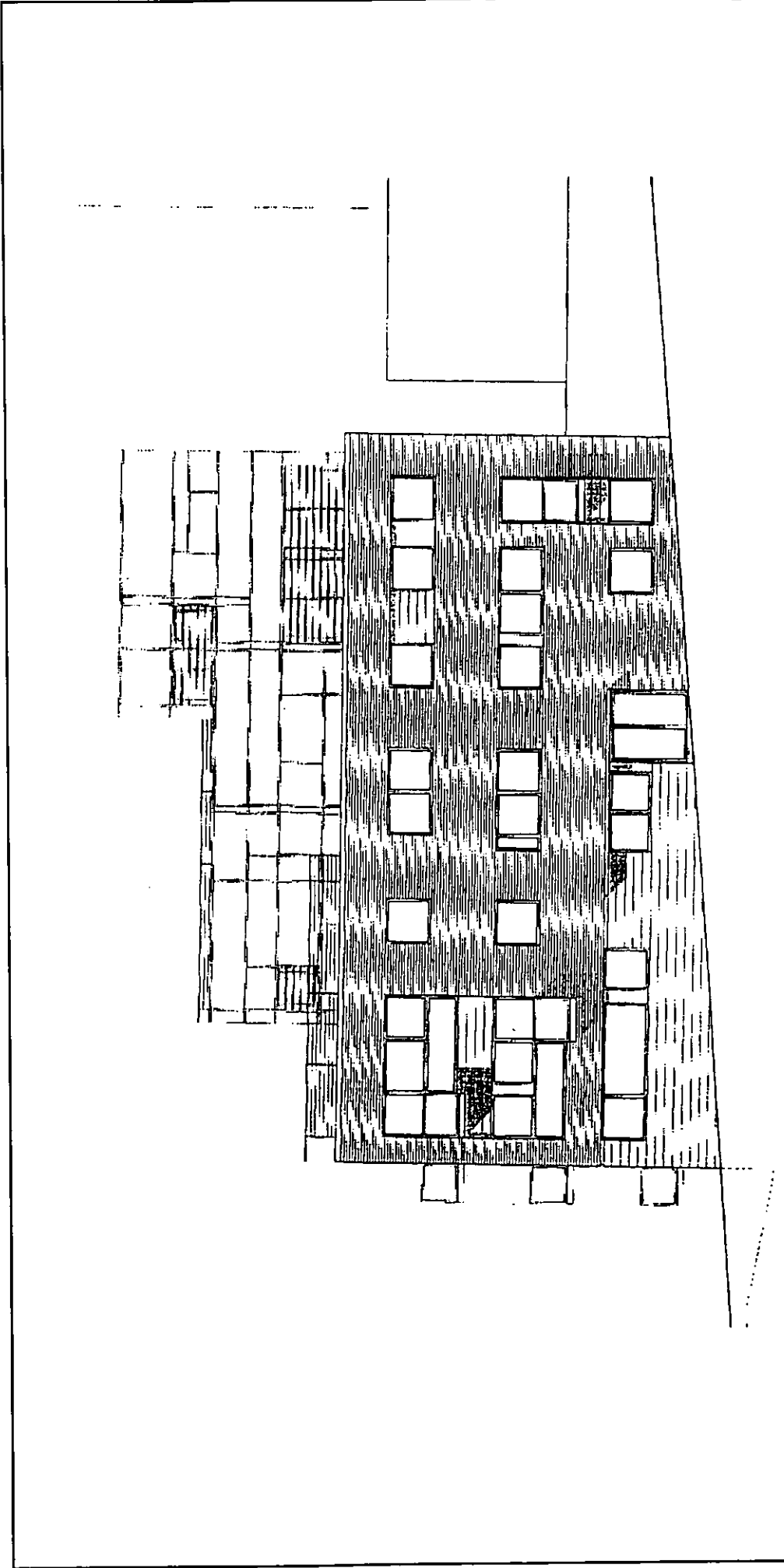
<b>Project:</b> Barlby Road, London W10	<b>Title:</b> 3rd Floor Plan	<b>AAD</b> TELEPHONE: 01784 464404 FACSIMILE: 01784 465447 E MAIL: mail@aad.co.uk	
<b>Drawing No:</b> Figure 01363/3	<b>Scale:</b> N.T.S.	<b>Rev:</b> A	
<b>Date:</b> 11th December 2001	<b>Drawn By:</b> AM	<b>Job No:</b> 01363	



<b>Project:</b> Barby Road, London W10	<b>Title:</b> North Elevation	<b>AAAD</b> TELEPHONE: 01784 464404 FACSIMILE: 01784 465447 E MAIL: mail@aad.co.uk	
<b>Drawing No:</b> Figure 01363/4	<b>Scale:</b> N.T.S.	<b>Rev:</b> A	<b>Job No:</b> 01363
<b>Date:</b> 11th December 2001	<b>Drawn By:</b> AM		

**AAAD** applied acoustic design

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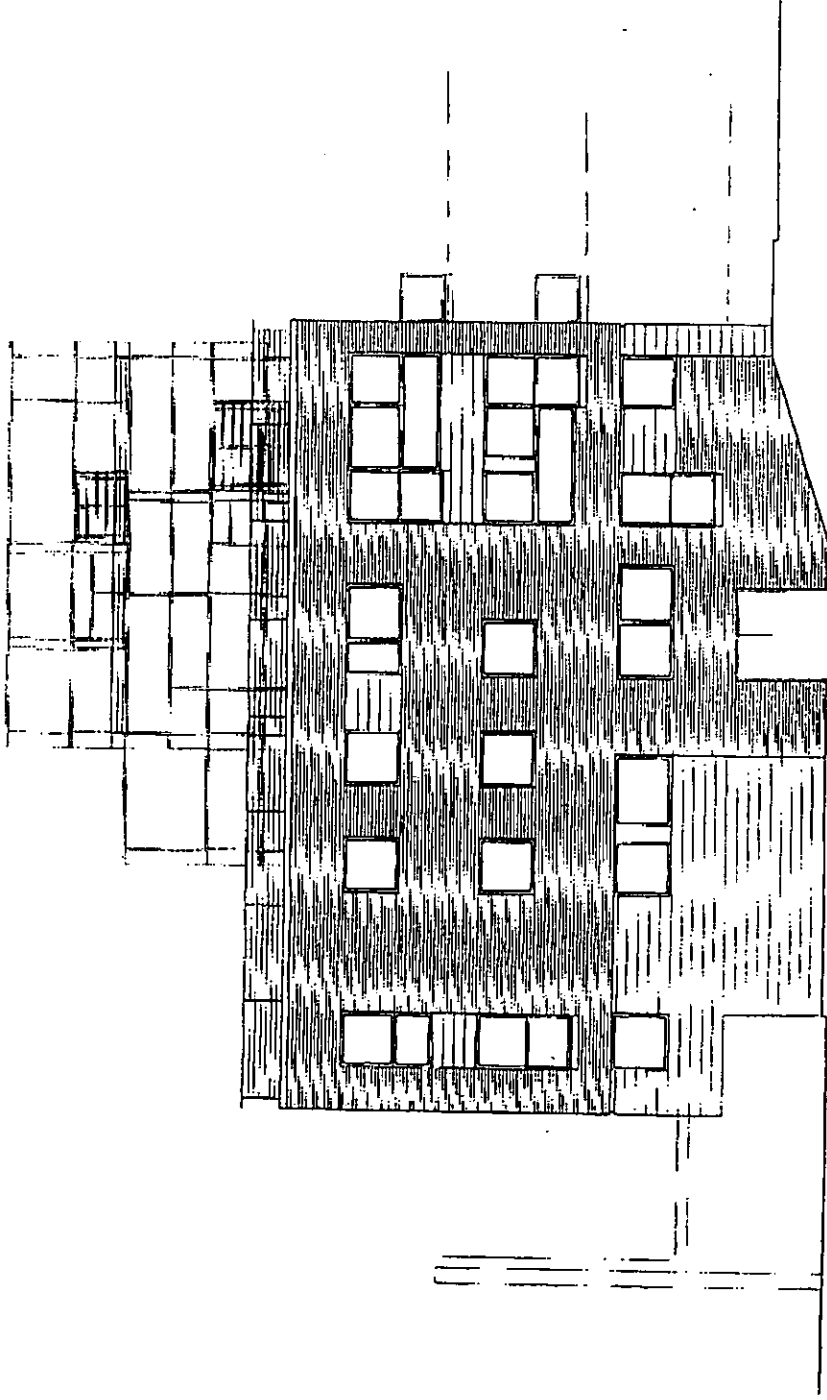


<b>Project:</b> Barlby Road, London W10	<b>Title:</b> South Elevation	<b>AAAD</b> TELEPHONE: 01784 464404 FACSIMILE: 01784 465447 E MAIL: mail@aad.co.uk	
<b>Drawing No:</b> Figure 01363/5	<b>Scale:</b> N.T.S.	<b>Rev:</b> A	
<b>Date:</b> 11th December 2001	<b>Drawn By:</b> AM	<b>Job No:</b> 01363	



**AAAD** applied acoustic design

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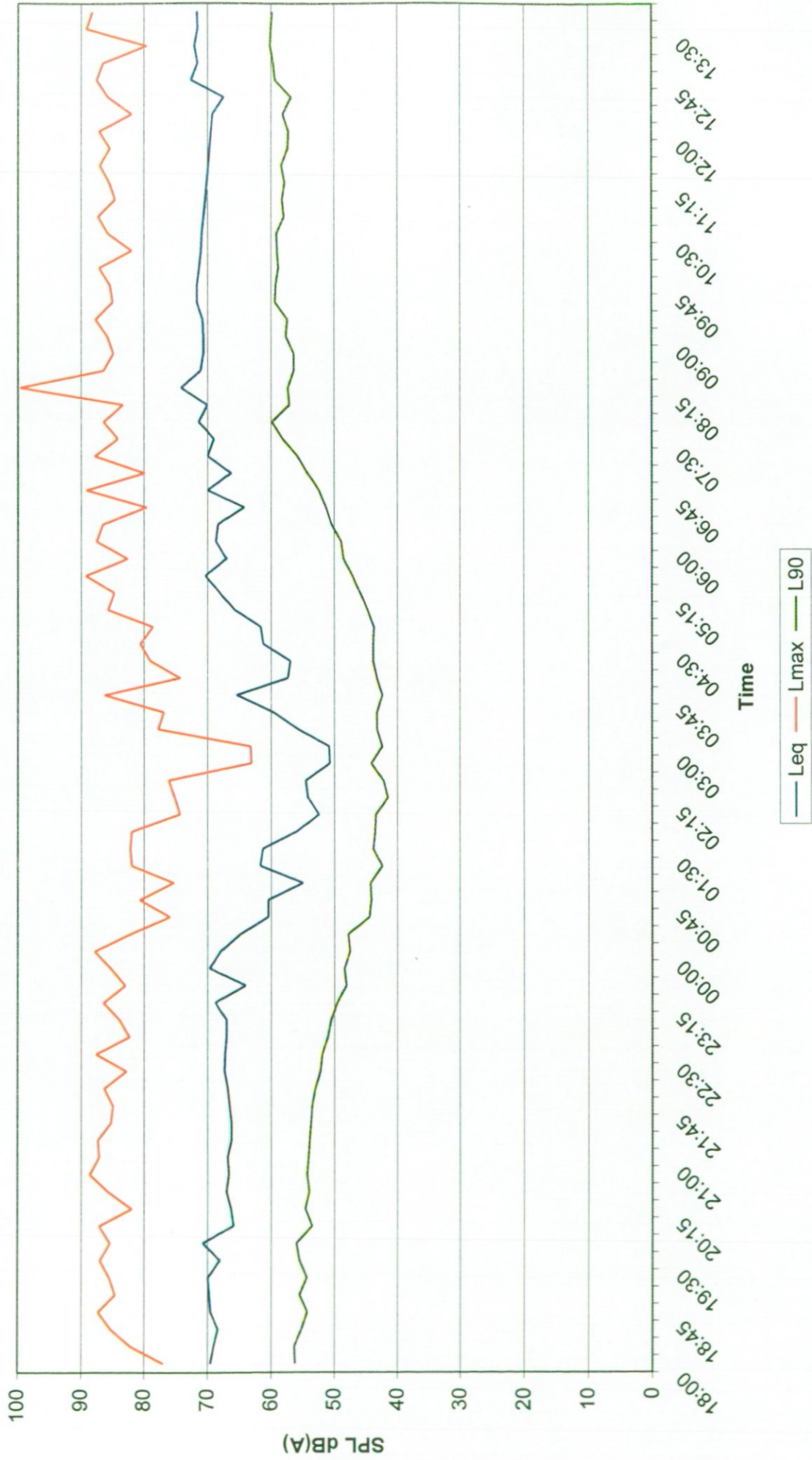
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<b>Date:</b> 11th December 2001	<b>Drawn By:</b> AM	<b>Job No:</b> 01363	

**APPENDIX 2**

Noise and Vibration Graphs

**Barlby Road, London W10**

**Measured Background Noise Levels on Site - 19th November to 20th November 2001**

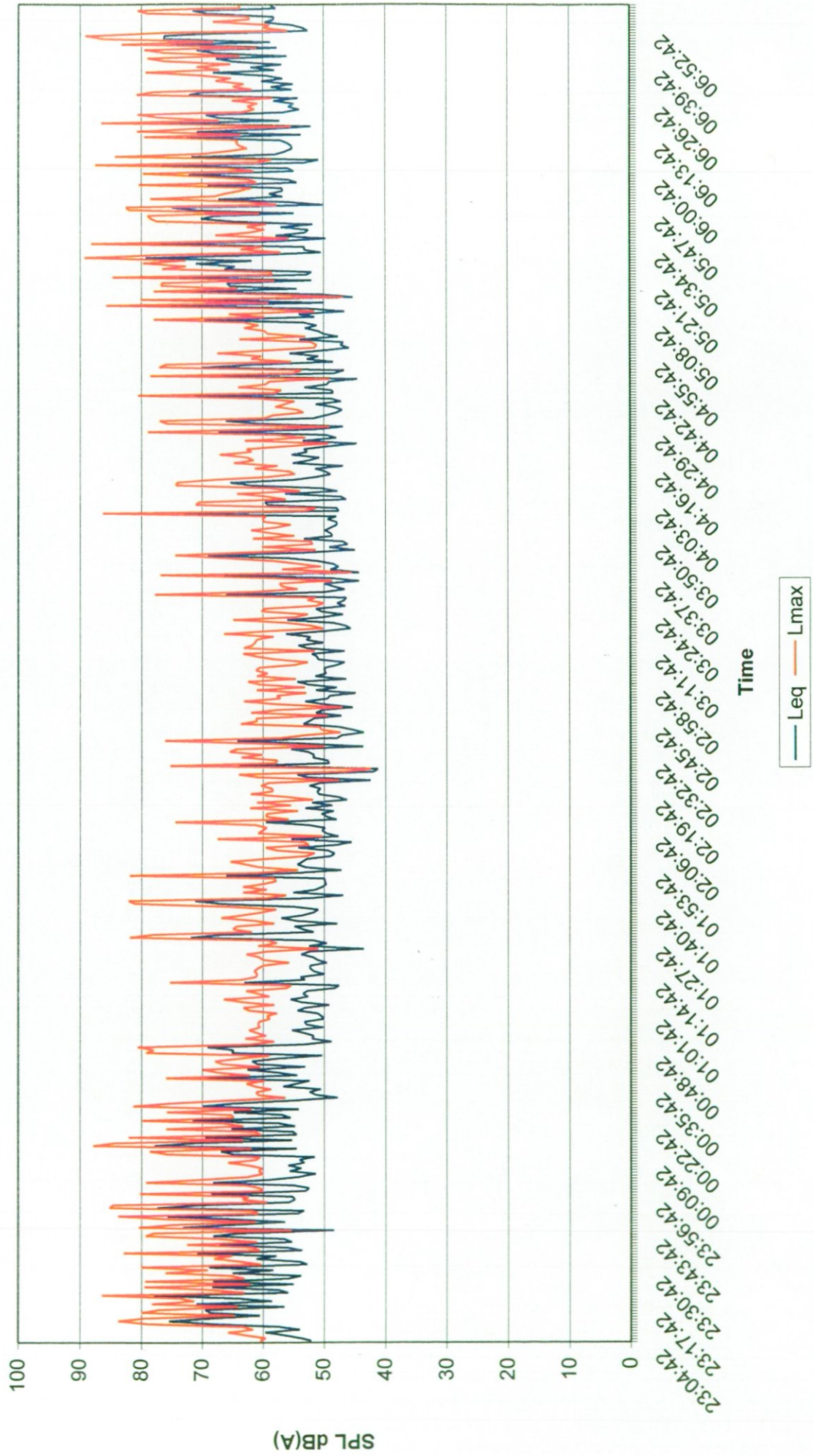


NB, Each data point represents a 15 minute sample period

Figure 1

**Barlby Road, London W10**

**Measured Background Noise Levels on Site - 19th November to 20th November 2001**



NB, Each data point represents a 60 second sample period

Figure 2

# BARLBY ROAD, LONDON W10

## Vibration Spectra of 'Worst Case' Passenger Train Movements

Vertical Axis Vibration

Survey Date: 19th November 2001

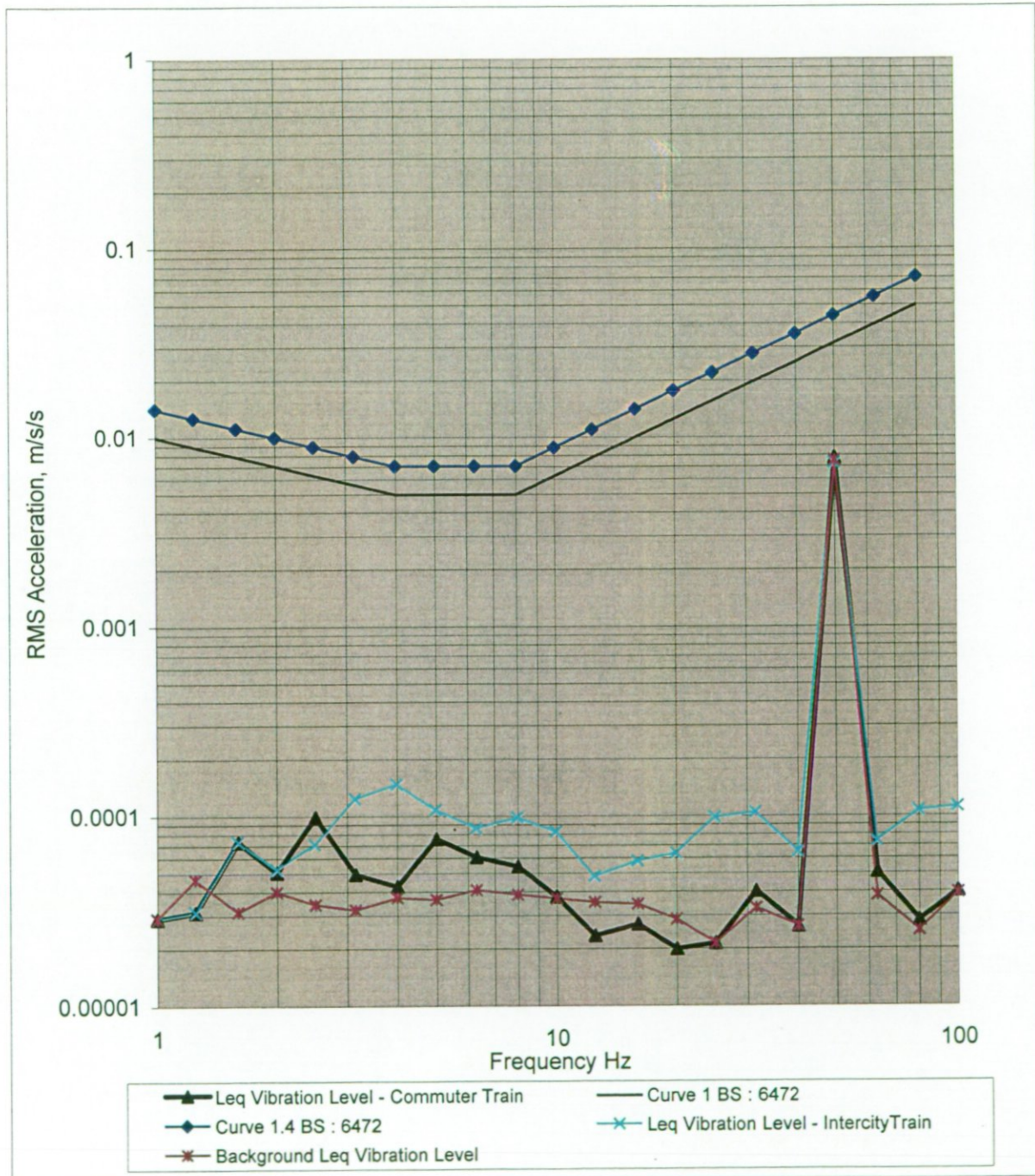


Figure: 3

**APPENDIX 3**

Tables 1 and 2

Source	Façade	Short term measured 'worst case' $L_{eq}$ sound pressure level (dB) at octave band centre frequency (Hz)								dB(A)
		63	125	250	500	1k	2k	4k	8k	
Westbound Intercity Train	North	80.2	80.8	82.9	81.8	76.1	72.4	66.0	58.2	82.1
Eastbound Intercity Train	North	82.1	76.9	78.0	77.0	73.2	69.3	63.3	54.6	78.2
Westbound Commuter Train	North	78.9	76.7	80.8	78.0	70.2	66.5	63.0	55.6	78.0
Eastbound Commuter Train	North	82.0	78.9	78.6	75.5	68.6	65.4	61.6	55.8	76.1
Road Traffic – Rush Hour	South	83.0	75.5	71.0	69.5	69.0	67.4	60.9	55.2	73.8
Road Traffic – Nighttime	South	72.0	68.0	57.9	54.1	53.9	51.4	45.6	38.1	59.6

Table 1 – Measured Train & Traffic Noise Spectra at North and South Boundary of Site

Façade	Floor	Room	Predicted Internal Noise Level dB $L_{Aeq,30s}$
North	2 <sup>nd</sup>	Bedroom Flat 6	34
North	2 <sup>nd</sup>	Lounge Flat 4	40
North	3 <sup>rd</sup>	Bedroom Flat 10	31
South - Day	Ground	Lounge Flat 2	40
South - Day	Ground	Lounge Flat 3	40
South - Night	Ground	Bedroom Flat 2	29
South - Night	1 <sup>st</sup>	Bedroom Flat 5	29

Table 2 – Predicted Short Term Internal Noise Levels

## APPENDIX 4

### Glossary of Acoustic Terms



GLOSSARY OF ACOUSTIC TERMS

Decibel, dB	A unit of level derived from the logarithm of the ratio between the value of a quantity and a reference value. For sound pressure level (SPL) the reference quantity is $2 \times 10^{-5}$ N/m <sup>2</sup> . The sound pressure level existing when microphone measured pressure is $2 \times 10^{-5}$ N/m <sup>2</sup> is 0 dB, the threshold of hearing.
L	Instantaneous value of Sound Pressure Level (Lp).
Frequency	Is related to sound pitch; frequency equals the ratio between velocity of sound and wavelength.
A weighting	Arithmetic corrections applied to values of Lp according to frequency. When logarithmically summed for all frequencies, the resulting single "A weighted value" becomes comparable with other such values from which a comparative loudness judgement can be made, then, without knowledge of frequency content of the source.
L <sub>eq,T</sub>	Equivalent continuous sound level of sound pressure which, if it actually existed for the integration time period, T, of the measurement would possess the same energy as the constantly varying values of Lp actually measured.
L <sub>Aeq,T</sub>	Equivalent continuous sound level of A weighted sound pressure which, if it actually existed for the integration time period, T, of the measurement would possess the same energy as the constantly varying values of Lp actually measured.
L <sub>n,T</sub>	Lp which was exceeded for n% of time, T.
L <sub>An,T</sub>	Level in dBA which was exceeded for n% of time, T. L <sub>A90,t</sub> is considered to be the background noise level, whereas road traffic noise is considered in terms of L <sub>A10,T</sub> . The L <sub>Aeq,T</sub> parameter is used to measure a specific noise source together with background noise prevailing during time, T.
L <sub>max,T</sub>	The instantaneous maximum sound pressure level which occurred during time, T.
L <sub>Amax,T</sub>	The instantaneous maximum A weighted sound pressure level which occurred during time, T.
L <sub>min,T</sub>	The instantaneous minimum sound pressure level which occurred during time, T.
L <sub>Amin,T</sub>	The instantaneous minimum A weighted sound pressure level which occurred during time, T.
Peak	The instantaneous weighted peak level of the sound field.
Uwpk	The instantaneous un-weighted peak level of the sound field.

Glossary of acoustic terms (cont.)

- SEL            Sound Exposure Level; this can be thought of as an  $L_{eq}$  normalised to 1 second, that is, it is the equivalent continuous sound level that if present for 1 second would possess the same energy as the actual measured sound field over the measured period. It is usually A weighted.
- T                Sometimes denoted  $R_t$ , is reverberation time. Time in seconds taken for L to decay by 60 dB. Measured within rooms to allow determination of quantity of acoustic absorption present.
- D                Arithmetic difference in  $L_{eq,T}$  between, for example room (i) and room (ii).
- $D_w$             Single number quantity describing arithmetic difference in  $L_{eq,T}$  between room (i) and room (ii) in buildings and of building elements such as walls, doors and suchlike. When measured in the presence of flanking sound transmission, denoted  $D'_w$ .
- $D_{nT}$            Value of D standardised to a constant reverberation time.
- $D_{nT,w}$         Weighted value of D, standardised to a constant reverberation time.
- $D_{n,c}$            Suspended ceiling level difference, normalised according to a reference value of acoustic absorption area in the receive room.
- $D_{n,c,w}$         Weighted suspended ceiling normalized level difference.
- R                The Sound Reduction Index (SRI) or Transmission Loss (TL) of a building element. Is  $10x$  the common logarithm of the ratio of sound power incident upon a test specimen to the sound power transmitted through the specimen. When measured in the presence of flanking sound transmission, denoted  $R'$ .
- $R_w$             Weighted sound reduction index, a single number quantity for the airborne sound insulation in buildings and of building elements such as walls, doors and suchlike. The quantity is intended for rating the airborne sound insulation and for simplifying the formulation of acoustical requirements in building codes. When measured in the presence of flanking sound transmission, denoted  $R'_w$ .
- $L_i$              Impact  $L_{eq,T}$   $L_p$  within a receiving room when the floor or floor covering under test is excited by a standardized impact sound source.
- $L_n$              Normalised impact  $L_p$ .  $L_i$  increased by a correction term, being the  $10x$  common logarithm of the ratio between measured T and reference T.



EX	HDC	TP	CAC	AD	CLU	AO
DIR						AK
RB		9	JAN 2002	PLANNING		
KJC						
N	C	SW	SE	APP	IO	REC
			ARB	FPLN	DES	

Residential Development at Barlby Road London W10

November 2001

Kalyvia Partnership  
 14 Ebury Square, London W10 1BE  
 Tel: 020 7066 1111 Fax: 020 7066 1112  
 www.kalyvia.com





Residential Development at Barlby Road London W10

November 2001

EX DIR	HDC	TP	CAC	AD	CLU	AO AK
RB KJC	9	JAN 2002	PLANNING			
N	C	SW	SE	APP	IO	REC
			ARB	FPLN	DES	FEEES

Kalydos Partnership  
14 King's Exchange, Westfield  
Park Way, London W10 6AE  
Tel: 020 7618811 Fax: 020 7618812  
kalydos@btinternet.com





**Gross Internal Area Schedule**

FLAT NO.	1 BED		2 BED		3 BED		TOTALS	
	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>
<b>GROUND</b>								
1	46	495						
2			60	646				
3			65	700				
							171	1,841
<b>1ST FLOOR</b>								
4	46	495						
5			66	710				
6			66	710				
							224	2,411
<b>2ND FLOOR</b>								
7	46	495						
8			66	710				
9			66	710				
							178	1,916
<b>3RD FLOOR</b>								
10			60	646				
11					56	603		
							116	1,249
<b>4TH FLOOR</b>								
11					54	581		
							54	581
<b>TOTALS</b>	138	1,485	449	4,833	110	1,184	697	7,503

<b>GRAND TOTAL</b>	<b>697 m2</b>	<b>7,503 ft2</b>	<b>Gross Internal</b>
--------------------	---------------	------------------	-----------------------

**Ratio of Flat Types**

	1 BED	2 BED	3 BED
Nos.	3	7	1
RATIO	27 %	64 %	9 %

**Car Parking** 7 spaces

**Gross External Area Schedule**

GROUND FLOOR		1ST FLOOR		2ND FLOOR		3RD FLOOR		4TH FLOOR	
m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>
223	2,400	227	2,443	227	2,443	140	1,507	58	624

<b>GRAND TOTAL</b>	<b>871 m2</b>	<b>9,375 ft2</b>	<b>Gross External</b>
--------------------	---------------	------------------	-----------------------

BASEMENT FLOOR (Car parking)	97 m2	1,044 ft2	0
(service zone)	48 m2	517 ft2	
<b>total</b>	<b>145 m2</b>	<b>1561 ft2</b>	

EX DIR | HDC | TP | CAC | AD | CLU | AO | AK  
 RB | KJC | 9 | JAN 2002 | PLANNING  
 N | C | SW | SE | APP | IO | REC  
 | | | ARB | FPLN | DES | FEES



EX	HDC	TP	CAC	AD	CLU	AO
DIR					AK	
RB	9		JAN 2002		PLANNING	
KJC						
N	C	SW	SE	APP	IO	REC
			ARB	FPLN	DES	FEES



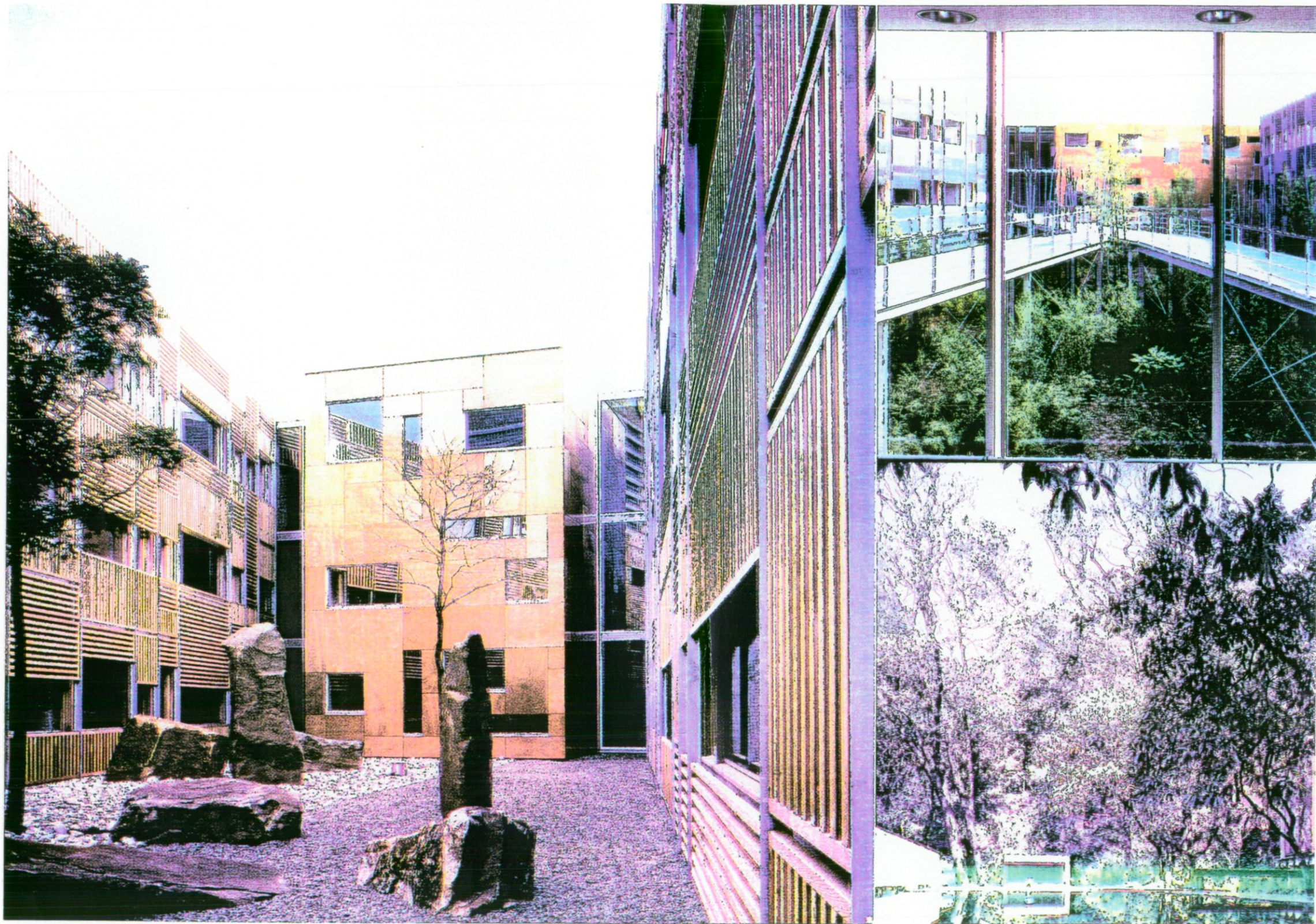
Residential Development at Barlby Road London W10

November 2001

EX	HDC	TP	CAC	AD	CLU	AO
DIR						AK
RB		9	JAN	2002	PLANNING	
KJC						
N	G	SW	SE	APP	IO	REC
				ARB	FPLN	DES
						FEES

Kalydas Partnership  
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Residential Development at Barlby Road London W10

EX DIR	HDC	TP	CAC	AD	CLU	AO AK
RB KJC	9	JAN 2002			PLANNING	
N	C	SW	SE	APP	IO	REC
		ARB	FPLN	DES	FEES	

November 2001

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EX DIR	HDC	TP	CAC	AD	CLU	AO AK
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			ARB	FPLN	DES	FEES

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