Design & Access Statement

relating to the refurbishment of

The Telephone Exchange,
5 North Crescent, Chenies Street,
London, WC1E 7PH

Osel
architects and
development consultants

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Telephone Exchange Refurbishment

Design & Access Statement

1030/DAS Rev - August 2010

1.0 INTRODUCTION

This appliation seeks consent to carry out a series of essential repairs and modernisations to the Telephone Exchange, the office building at No.5 North Crescent. The various proposals, described within this document and illustrated on the enclosed drawings, include much needed maintenance to the fabric of the building, greatly improved thermal performance of the roof, as well as restored and enhanced comfort cooling and ventilation systems.

The application proposals can be summarised in four main categories:

i) **Essential repairs** to the roofs, the gutters, the railings and the facades.

ii) **Modernisation** of the mechanical and electrical systems.

iii) **Improved environmental performance** of the building, including greatly improved insulation, more energy efficient environmental control and the introduction of roof mounted solar panels.

iv) **Minor internal alterations**, including improved access at all levels and the refurbishment of the existing lift and certain toilet areas.

The following document sets out in detail these various proposals.

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2.0 CONTEXT

2.1 The Telephone Exchange

The application site is located at the centre of North Crescent, bounded by Minerva House (no.1-4 North Crescent) to the west and Fitzroy House (No.11 Chenies Street) to the east. The lawful use of the building is B1(office); it is currently occupied by a media agency.

The Telephone Exchange (no.5 North Crescent) is believed to have been constructed in 1913. The building was formerly the Museum Telephone Exchange, but is now offices. The accommodation is arranged over Basement, Ground and three upper floors. The third floor is set within a flat-topped mansard. The building is principally of interest for its curved red brick and Portland Stone front elevation, characterised by oversized features, designed in the geometric Art Deco style, including triple key-stones. The main building interiors retain some original features (staircases, concrete columns etc.), but these are mostly utilitarian in design or altered and are of little interest. The most interesting interior is found in the separate, but linked 2 storey building to the rear (apparently also early-1900's), which has an interesting internal character (open plan space, iron columned structure, fenestration).

To the west, the red brick party wall with Minerva House rises above roof level to form a parapet wall that runs along the majority of the elevation. Towards the front of the building the condition of the top of this wall has begun to deteriorate and fragments of brickwork and coping have fallen onto the roof of the Telephone Exchange.

2.2 Neighbouring Properties

Minerva House, immediately to the west of the Telephone Exchange, is a Grade II four storey listed building. It was constructed between 1912 and 1913 and was formerly the car show room, repair workshop and offices of the Minerva Motor Car Company. The main highlight of the building is its highly decorative curved Portland Stone front elevation, characterised by tall bowed bays with stone mullions and transoms, monumental Doric and Ionic pilasters, broken pediments with decorative cartouches and swags, and a statue of Minerva within a triumphal arch to the centre. It is also now an office building.

To the south west, a full height lightwell separates Minerva House from Glen House. Glen House (no.'s 200-208 Tottenham Court Road) is located immediately to the west of Minerva House. Glen House is located on the east side of Tottenham Court Road; like Minerva House it is also a Grade II Listed Building. It dates from 1913-1914 and it was extended, in facsimile, to the north in 1923.

PH01 - View towards the front elevation of the Telephone Exchange

PH02 - The Alfred Mews elevation of the Telephone Exchange

PH03 - The North Crescent elevation of Minerva House

PH04 - The Chenies Street elevation of Fitzroy House

The building has distinctive Art Deco "Mannerist" facades with giant pilasters rising the full height of the upper floors to support a projecting cornice. The ground floor level does not have a formal shopfront in the traditional sense, and its windows are deeply recessed between simple pilasters with geometric designs to the bases, piers and capitals. They have a simple glazing design, with two mullions and a transom reflecting the more robust design of the windows in the upper floor. The intersections are adorned with paterae and the transoms have a fluted moulding. Below each window sill, there are three timber framed panels framing a grid of glass blocks. These glazed panels were designed in order to provide light to the basement (like the adjacent pavement lights).

Fitzroy House, located immediately to the east of the Telephone Exchange, is a 1910's five storey former warehouse building. It has a curved elevation to the south on North Crescent that is characterised by a brown and red brick façade with white-painted features and interspersed with large triple-light windows. The narrow elevation to Chenies Street has a similar mix of red and brown brick with white-painted features and further triple-light windows. At Ground Floor level there is a rounded arched doorway, where the main entrance to the building is located and, to the right hand side of this door, a gated vehicle passageway gives access to the private parking area to the rear of the property. The rear elevation is similar in design to that of the front elevations, but has been subject to extensive and unsympathetic interventions.

No.9 Chenies Street (or Chenies Street Chambers) is located immediately adjacent to Fitzroy House and is a red brick apartment block that forms the south west corner of Huntley Street. The thirty-six apartments within the building are laid out over lower ground, upper ground and four upper floors. The front (i.e. Chenies Street and Huntley Street) elevations of the building are characterised by projecting bays, Portland stone features and white-painted timber sash windows. The rear elevations of the building, that overlook the communal garden area, are generally constructed in London stock brick, with red brick projecting bays and a variety of white-painted window types.

The Eisenhower Centre is a painted concrete single-storey bunker, located at the centre of the crescent that is characterised by an asymmetrical footprint of octagonal and round buildings linked by a narrow corridor structure. The building was constructed between 1941 and 1942, and was originally a WW2 air raid shelter for high-level army personnel, including General Eisenhower, with connections via deep level tunnels to nearby Goodge Street Station. Reportedly, most of the D-Day Invasion was planned within the basement of the building. The building is currently used by TFL for storage and is known locally as "The Bunker".

Immediately in front of the Eisenhower Centre sits a Grade II listed War Memorial dating from 1923. It is a low stone obelisk commemorating the 12th County of London Regiment ("the Rangers").

The Mature tree on the corner of North Crescent and Chenies Street, directly in front of Fitzroy House, is identified as a 'feature of streetscape interest' within the Bloomsbury Conservation Area Appraisal 2008.

View from Albert Place towards North Crescent and South Crescent is identified as a 'local view' of importance within the Bloomsbury Conservation Area Appraisal 2008.

The property lies within London's Central Activities Zone and within the Bloomsbury Conservation Area. The Telephone Exchange is classified by Camden Council as a positive unlisted building within the Conservation Area.

In terms of land uses in the surrounding area, there is a notable level of commercial and retail use, with nearby Tottenham Court Road being one of central London's key shopping streets. The area is also home to a significant residential population. The nearest residential property is no.9 Chenies Street. Furthermore a number of buildings on nearby Huntley Street to the north east are predominantly occupied for residential purposes.

PH05 - The Eisenhower Centre

PH06 - View from Albert Place towards North Crescent

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3.0 PLANNING BACKGROUND

The Telephone Exchange first became an office building in 1995. The recent Planning Applications relating to the property are outlined below:

Application with reference: 8601794.
Decision: S64 Det.-Const. Dev.-Application required. 24.06.1987.
Description: Change of use from Telephone Exchange to office.

Application with reference: 9401720
Decision: Grant Full or Outline Planning Permission. 09.02.1995.
Description: Change of use of the Telephone Exchange to office use within Class B1 of the Town and Country Planning (Use Classes Order) 1987.

Application with reference: 9501144
Decision: Grant Full or Outline Planning Permission. 18.08.1995.
Description: The erection of a canopy over the entrance doorway on North Crescent and new roller shutter door to existing opening on Alfred Mews.

Application with reference: ASX0204791
Decision: Refuse Consent for Advertisement. 13.09.2002.
Description: Display of a non-illuminated advertisement hoarding.

Application with reference: 2004/1263/P
Decision: Refused. 12.05.2004.
Description: Replacement of existing timber front entrance door with new glazed door to existing office building.

Application with reference: 2006/4744/A
Decision: Refused. 20.03.2007.
Description: Display of non-illuminated flag above the entrance door of the building.

PH07 - The head of the main entrance to the Telephone Exchange

PH08 - View of the large first floor office space to the rear building

4.0 APPLICATION PROPOSALS

The following section outlines the various proposals that form this application.

4.1 Renewal of the Existing External Building Fabric

4.1.1 New Roof Surface

The existing asphalt roofs to both the front and rear buildings have deteriorated over time and have come to the end of their useful lives. We intend to lay new waterproof membranes across all the areas of flat roof. These new membranes will be light grey in colour (i.e. to match the appearance of the existing roof surfaces) and they will come with a minimum 20 year guarantee. In order to minimise disruption to the operation of the building the new roof surfaces will be laid over the top of the existing ashphalt layers.

At present the flat roofs to both front and rear areas do not contain any insulation, the mastic asphalt covering is laid directly over the concrete structure. This causes the third floor office area to the front and the large first floor office space to the rear of the building, in particular, to be very cold in the winter and very warm in the summer.

During the process of laying the new waterproof membranes, we will take the opportunity to install a 120mm deep layer of rigid foam insulation between the old and new waterproofing membranes in order to bring the thermal performance of the roof in line with current building regulations.

4.1.2 Surface Water Drainage

All the downpipes on the building will be tested to determine whether they are functioning properly. Based upon these findings the downpipes will either be repaired, replaced (with like-for-like) and/or redecorated as required.

In addition, any existing cast iron gutters at roof level with be replaced with new like-for-like replacements.

4.1.3 Mansard Roof to the Front Elevation

Any defective leadwork to the dormer windows to the mansard roof area to the front of the building will be repaired or replaced.

Any slipped or defective slates to the mansard pitched roof section will be replaced.

PH09 - The poor condition of the existing asphalt surface to the front flat roof

PH10 - View of the rear facade of the front building with rear flat roofs in foreground

Any defective lead flashings and any defects found to the front elevation parapet lead capping will be repaired or replaced.

Finally, the asphalt gutter below the second floor windows to the front elevation will be repaired and relined.

4.1.4 Masonry Repairs

As part of these works we intend to carry out a series of general repairs to various areas of masonry construction about the building. These are outlined below:

a) All areas of defective coping details to party walls are to be repaired.
b) All lintels and cills to window openings are to tested and repaired.
c) Any areas of defective render at roof level and to the elevations is to be repaired.
d) All areas of defective pointing to brickwork is to be raked out and repaired to match existing colour and profile.
e) Any cracked brickwork is to be repaired or cut out and replaced with new brickwork to match the existing.
f) Any areas of defective glazed faced brickwork to the rear elevation of the front building are to be replaced with new glazed bricks to match the existing.
g) Any redundant fixings to the elevations are to be removed and the adjacent masonry is to be repaired and made good.
h) Any vertical cracking to brickwork to the lightwell areas is to be investigated and repaired.

4.1.5 Fire Escape Staircases

The two fire escape staircases (the first to the rear of the front building adjacent the party wall with Minerva House and the second to the side elevation of the rear building) will be removed of all rust, the condition of the steelwork will be investigated and they will be repaired and redecorated as necessary.

4.1.6 Structural Cracking to Brickwork to Side Elevation

The structural fracture to the brickwork to the side elevation of the rear building will be investigated and repaired. The project team's Structural Engineer will determine the extent and method of the repair.

4.1.7 Cleaning of Elevations

All elevations, including to the lightwell areas, will be cleaned down to remove the dirt build up using brushes and fine nebulous sprays of clean water.

PH11 - The existing glazed faced brickwork to the rear wall of the front building

PH12 - The fire escape staircase to the rear of the front building

4.1.8 Railings to Service Yard Area

The steel railings within the service yard areas to the rear of the front building will be repaired and any defective or missing sections are to be replaced. The adjacent render or brickwork is also to be repaired and made good.

4.1.9 General Redecorations

All previously painted surfaces will be redecorated. This will include railings, doors, downpipes, painted brickwork and painted render.

4.1.10 Lift Plant Room

The lift plant room enclosure to the roof of the front building is also to be repaired.

4.1.11 Decking to Lightwell

The existing rotten timber decking to the lightwell garden area is to be replaced with new oiled hardwood decking.

PH13 - The structural fracture to the brickwork to the side elevation

4.2 Refurbishment of the Mechanical and Electrical Services

The second major element of the proposed work is the general overhaul of the existing mechanical services. As well as the replacement of old equipment, improvements to the environmental performance of the building are proposed:

4.2.1 Comfort Cooling

At present a series of external condenser units is located within the service yard area to the rear of the building and on top of the flat roof of the rear part of the building. These units provide comfort cooling to meeting rooms and specific private office areas at various levels.

Firstly, we propose to decommission and remove all the existing condenser units within the service yard area between the front and rear buildings, many of which use outdated toxic and flammable refridgerants and are approaching the end of their useful lives. These will be replaced with new models (that will use environmentally friendly refridgerant R410A as a cooling medium) of similar dimensions that will serve the basement floor of the building.

Secondly, we propose to decommission and remove the seven existing con-

PH14 - One of the existing condenser units within the service yard area

PH15 - Some of the existing condenser units within the service yard area

PH16 - Further existing condenser units on the roof & windows to raised roof light

denser units at roof level (again, these are old models that use volatile refridgerants).

Adjacent to the Minerva House party wall, we will install four new air cooled condensers mounted on anti-vibration pads (these will be Mitsubishi YHM-A type units with approximate dimensions 1200w x 1200d x 1700h mm) which will provide comfort cooling to all office and meeting room areas to floors ground to third.

In addition, a new air handling unit (approximate dimensions 3300w x 1100d x 1900h mm) will also be located at the base of the party wall which will provide much needed ventilation to the large first floor office space to the rear of the building.

4.2.2 Heating Installation

The existing boiler and control system is to be removed and replaced with a new hot water system with modern more energy efficient boilers. The new comtemporary controls and management systems will help minimise energy consumption.

4.2.3 Electrical Installation

As part of the proposed works, the electrical supply to the building will be upgraded to accommodate the installation of the new comfort cooling equipment. A new mains head cupboard will be created within the front basement office area.

4.2.4 Cold Water Services

The cold water supply, storage and distribution is to be tested, overhauled and replaced as necessary.

4.2.5 BMS (Building Management System)

The building will be provided with a computer based control system installed to control and monitor the building's heating and cooling systems.

4.2.6 Solar Panels

A small array of solar panels will be installed on the roof (see drawing TE-P004). These panels will supplement the power demands of the building. Further details to be supplied at a later date, if requested.

4.3 Improved Access around the Building

As part of these works, a series of improvements to access are proposed:

4.3.1 Refurbishment of the Lift

The existing lift will be overhauled in order to extend its working life for a period of not less than 15 years. This will involve the replacement of the shaft equipment, a new car door operator and the refurbishment of the car and landing doors.

4.3.2 Access adjacent to Lift Lobbies

Small (Part M compliant) ramps will be created at basement, second and third floor in order to provide level access between the lift lobbies and the general office areas.

4.3.3 Access to the Building from North Crescent

A proposal to install a vertical platform lift to the front of the building adjacent the main entrance will be submitted to Camden Council for approval under a separate Planning Application to follow.

4.4 Internal Alterations

4.4.1 New Raised Floors

New raised floors will be installed at basement and second floor level, in order to allow for the convenient passage of electrical cabling. As mentioned under 4.3.2 above, small ramps will be formed to provide level access from the lift lobby areas.

4.4.2 Refurbishment of Toilet Areas

The ground floor toilet area is to be refurbished. The existing space will be stripped out and new finishes and fittings will be installed.

PH17 - The existing boiler room

PH18 - The third floor office space where one of the ramps will be located

5.0 AMENITY

We have commissioned an acoustic report to determine the effect of the proposed new plant equipment. The preliminary version of this report is appended to this document (see Appendix II). The finalised version containing the assessment of the proposed equipment will follow in due course.

However, we are able to confirm at this stage, that the noise arising from the proposed fixed plant will be at least 5dB below the typical prevailing background noise level at the site boundary (as is required by Camden Council policy).

PH19 - View towards the nearby residential properties on Huntley Street

6.0 ENVIRONMENTAL PERFORMANCE

As part of these works the environmental performance of the property will be improved as follows:

6.1 Insulation

At present there is no insulation to the roofs. As a result, the third floor of the front part of the building and the large first floor area to the rear of the building, in particular, tend to be very cold in the winter and very warm in the summer.

During the process of laying the new waterproof membrane, a 120mm deep layer of rigid foam insulation will be installed over the top of the old roof surface. This will ensure that the thermal performance of the roof meets the requirements of current Part L regulations.

6.2 Reduced Energy Consumption

Whilst the introduction of additional comfort cooling and ventilation equipment will create additional demands in terms of energy consumption, the following proposals will greatly reduce the building's overall energy demands and will therefore help to mitigate the effect of the new M&E systems:

a) The new 120mm deep layer of insulation to the roofs will greatly improve the Telephone Exchange's ability to retain heat (particularly on the top floors) and therefore will directly reduce the amount of energy required for heating and cooling.

b) The existing heating system will be removed and replaced with modern boilers. Contemporary controls and management systems will also be installed. All of which will help minimise energy consumption.

c) The roof mounted solar panels will also help to generate power and reduce the energy consumption requirements of the building.

6.3 Pollution

All the existing condenser units (many of which use outdated toxic and flammable refridgerants and are approaching the end of their useful lives) will be decommissioned and removed. The new condenser units will use environmentally friendly refridgerant R410A as a cooling medium.

7.0 CONCLUSION

In summary, with this application, we seek consent to carry out a series of essential but unobtrusive repairs to the fabric of this building and to overhaul and make improvements to the existing building services.

i) An extensive series of repairs and redecorations is proposed to the roof, the parapets, the railings and the facades. Much of this work is long overdue, the lack of insulation to the roofs, for example, means that the top floors of the building can be very unpleasant spaces to work within at certain times of the year and the building as a whole is unable to retain heat and coolth.

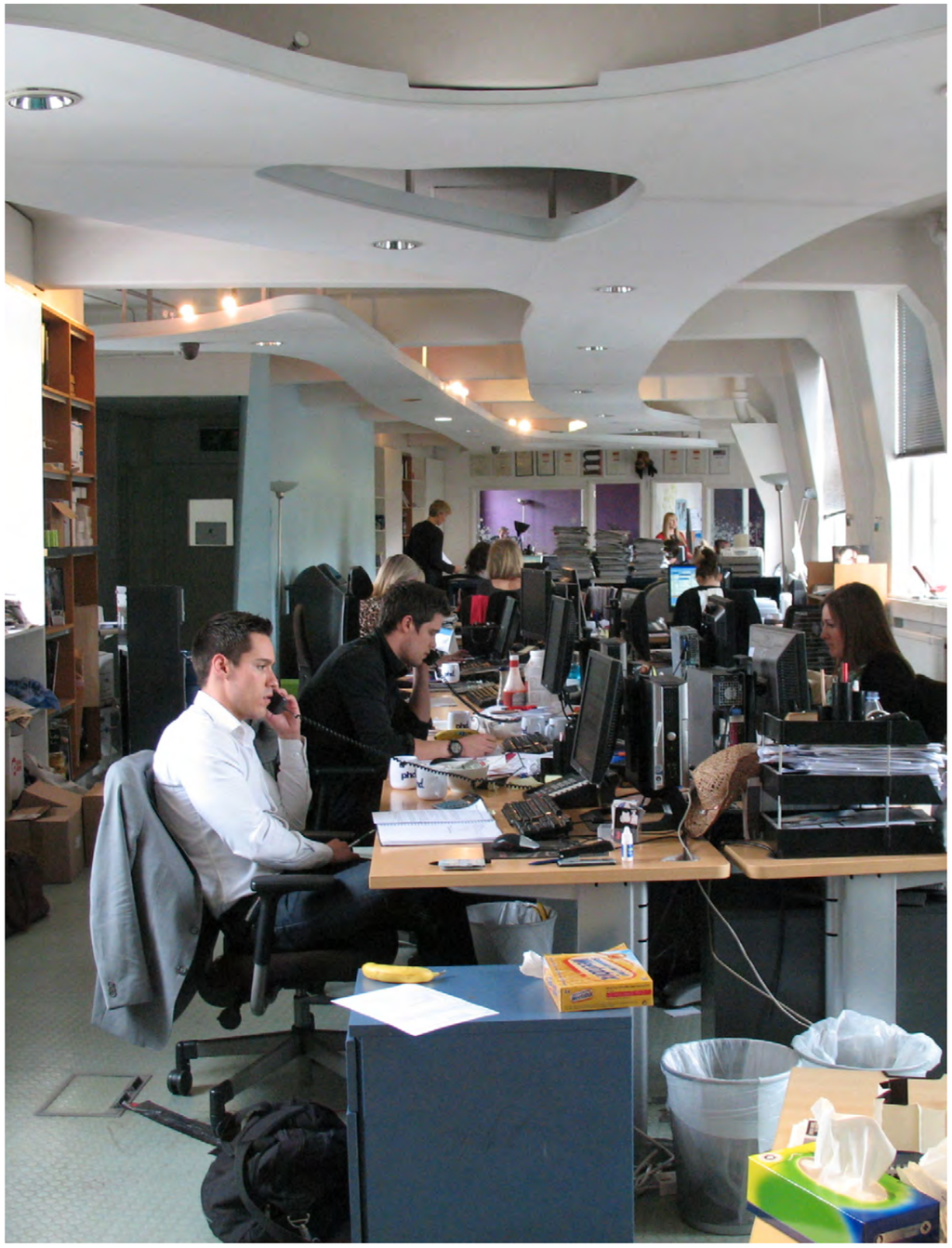
ii) In addition to the refurbishment of the fabric of the building, the same is planned for the mechanical and electrical systems. Outdated equipment will be decommissioned and removed, existing operational equipment will be serviced and repaired, and certain pieces of new equipment will be introduced that will greatly improve the workplace environment, as well as the performance of the building.

The acoutic report that we have commissioned (the finalised version of this report will follow shortly) will confirm that the new plant equipment complies with the maximum noise levels set out by Camden Replacement UDP Appendix 1 Noise and Vibration Thresholds, and therefore will not cause serious nuisance to the surrounding occupants.

iii) As part of the proposed works, the environmental performance of the building will be greatly improved. Improved roof insulation, more energy efficient environmental control and the introduction of power generating solar panels will all help reduce the building's energy consumption.

iv) Finally a small series of internal alterations is also proposed, such as creating level access at various levels and the refurbishment of the existing lift, which will improve accessibility throughtout the building.

The proposed work will rejuvenate the appearance of the Telephone Exchange, modernise the environmental controls and improve access around the building. All of which will enable the Telephone Exchange to continue to operate as a busy central London office building to the benefit of the borough and the Bloomsbury Conservation Area.



PH20 - The third floor office space

APPENDIX I : SITE PHOTOGRAPHS

PH21 - The flat roof to the front (North Crescent) building

PH22 - View down from roof towards the service yard area

PH23 - View down from roof towards lightwell/courtyard garden

PH24 - Roof-top lift motor room

PH25 - The large first floor office space within the rear building

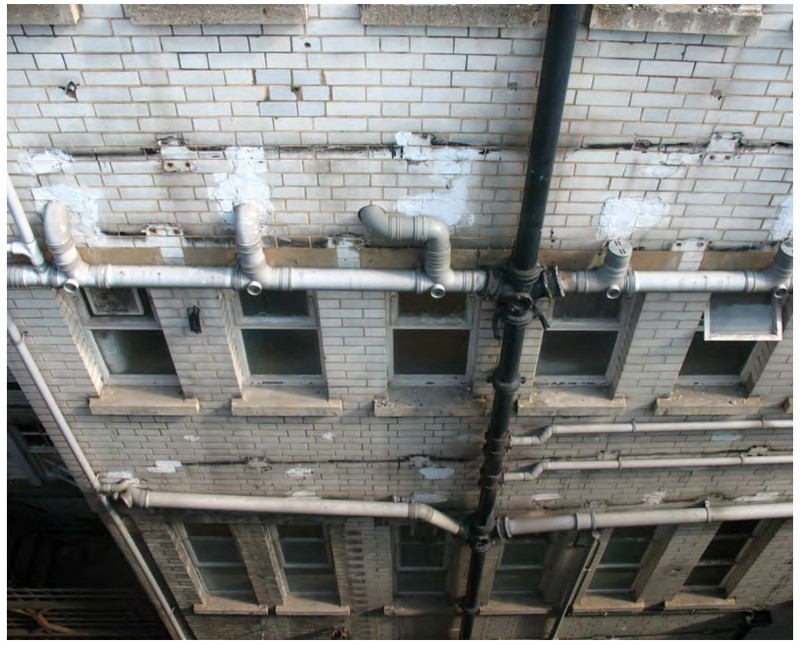
PH26 - The ground floor rear office space

PH27 - Rear wall of the front building (eastern end)

PH28 - Rear wall of the front building (western end)

PH29 - Alfred Mews facade (western end)

PH30 - Rear wall of the front building (eastern end)



PH31 - Rear wall of the front building

PH32 - Alfred Mews facade (eastern end)

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APPENDIX II : ACOUSTIC REPORT

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MINERVA HOUSE, THE TELEPHONE EXCHANGE AND FITZROY HOUSE NORTH CRESCENT, CHENIES STREET LONDON

PLANT NOISE IMPACT ASSESSMENT

Technical Report: R3373-1 Rev 0

Date: 20th July 2010

For: PHQ Ltd
c/o DE&J Levy LLP
Dukes Court
32 Duke Street
London
SW1Y 6DF

24 Acoustics Document Control Sheet

Project Title: Minerva House, The Telephone Exchange and Fitzroy House - Plant Noise Impact Assessment

Report Ref: R3373-1 Rev 0

Date: 20th July 2010

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For and on behalf of 24 Acoustics Ltd				

Document Status and Approval Schedule

Revision	Description	Prepared By	Approved By
Approved	Approved For Issue	Ed Pratt	Steve Gosling

DISCLAIMER

This report was completed by 24 Acoustics Ltd on the basis of a defined programme of work and terms and conditions agreed with the Client. The report has been prepared with all reasonable skill, care and diligence within the terms of the Contract with the Client and taking into account the project objectives, the agreed scope of works, prevailing site conditions and the degree of manpower and resources allocated to the project.

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1.0 INTRODUCTION

1.1 PHQ Ltd has instructed 24 Acoustics Ltd to undertake a plant noise impact assessment of proposed comfort cooling plant for offices in North Crescent, Chenis Street, London.

1.2 This report presents the results of the assessment, following the site visit and background noise surveys undertaken between the 2nd and 3rd June 2010

1.3 All noise levels in this report are presented in dB relative to 20µPa.

2.0 SITE DESCRIPTION

2.1 Minerva House, The Telephone Exchange and Fitzroy House are office buildings located off Tottenham Court Road in a predominantly commercially area.

2.2 The proposed plant will include the following and will only be operational during office hours (To be confirmed (07:00 – 18:00 Assumed)):

Minerva House
10 Additional condenser units
Replacement of existing ground floor plant

The Telephone Exchange
Installation of additional comfort cooling

Fitzroy House
Replacement of existing comfort cooling with new VRF system

2.3 The nearest noise sensitive receptor to the plant is at 9 North Crescent to the north east of the properties.

3.0 CRITERIA

PPG 24 (Planning and Noise)

3.1 Planning Policy Guidance (PPG) 24 [Reference 1] provides guidance on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the administrative burdens of business.

3.2 The PPG gives guidance to local authorities in England on the use of their planning powers to minimise the adverse impact of noise. It outlines the considerations to be taken into account in determining planning applications; both for noise-sensitive developments and for those developments which will generate noise.

BS 4142 (Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas)

3.3 For noise from industrial developments, PPG 24 recommends the use of British Standard 4142 [Reference 2].

3.4 BS 4142 provides a method for rating the effects of industrial noise on mixed residential and industrial areas. The standard advocates a comparison between the typical measured L_{A90} background noise level and L_{Aeq} noise level from the source being considered. For rating purposes if the noise source is tonal, intermittent or otherwise distinctive in character, a rating correction of +5 dB is applied. The standard states that a difference between the rating level and the background level of +10 dB indicates that 'complaints are likely', a difference of +5 dB is of 'marginal significance' and a difference of −10 dB is a 'positive indication that complaints are unlikely'.

Local Authority Requirements

3.5 The Local Planning Authority, Camden Council, has advised that noise arising from fixed plant should be at least 5 dB below the typical prevailing background noise level. Where the noise character is likely to have an undesirable effect (eg, tonal or impulsive sound) then the cumulative level from all plant should be 10 dB below the background noise level.

4.0 NOISE MEASUREMENTS AND RESULTS

4.1 Background noise measurements were taken over the period between the 2nd and 3rd June 2010. Measurements were undertaken at two locations to the rear of the office buildings, as shown in Figure 1.

4.2 The sound level meter was set up to monitor noise levels continuously and store data in 5-minute samples (using fast time weighting) in terms of the overall A-weighted L_{eq}, L_{90} and L_{max} sound pressure levels. A definition of the acoustic terminology used in this report is provided in Appendix A.

4.3 The following instrumentation was used during the survey:

- Rion NL31 (Type 1) precision grade sound level meter;
- Rion NL31 (Type 1) precision grade sound level meter;
- Brüel and Kjær Type 4231 acoustic calibrator.

4.4 Calibration was checked before and on completion of the measurements and no drift was recorded. The weather on the day of the survey was dry with wind speeds below 5 m/s. Noise measurements were made in accordance with BS 7445: 1991 'Description and measurement of environmental noise Part 2 - Acquisition of data pertinent to land use' [Reference 3].

Results

4.5 The results of the environmental surveys are presented in graphical format in Figures B1 and B2 showing the recorded $L_{Aeq, 5\ min}$, $L_{A90, 5\ min}$, and $L_{Amax, 5\ min}$ values.

4.6 With reference to the measured data, the following typical background noise levels have been determined for the proposed hours of operation

Minerva House

- 07:00 – 18:00 hours 50 dB $L_{A90, 5\ min}$

The Telephone Exchange

- 07:00 – 18:00 hours 47 dB $L_{A90, 5\ min}$

Assessment

4.8 Based upon the requirements of the Local Planning Authority, noise from the plant should not exceed the following levels as measured at the nearest noise sensitive receptor locations:

Minerva House

- 07:00 – 18:00 hours 45 dB $L_{Aeq, 5\ min}$

The Telephone Exchange

- 07:00 – 18:00 hours 47 dB $L_{Aeeq, 5\ min}$

5.0 CONCLUSIONS

5.1 An assessment of background noise levels has been carried out for offices at North Crescent, Chenies Street, under the requirements of the Local Planning Authority, Camden Council.

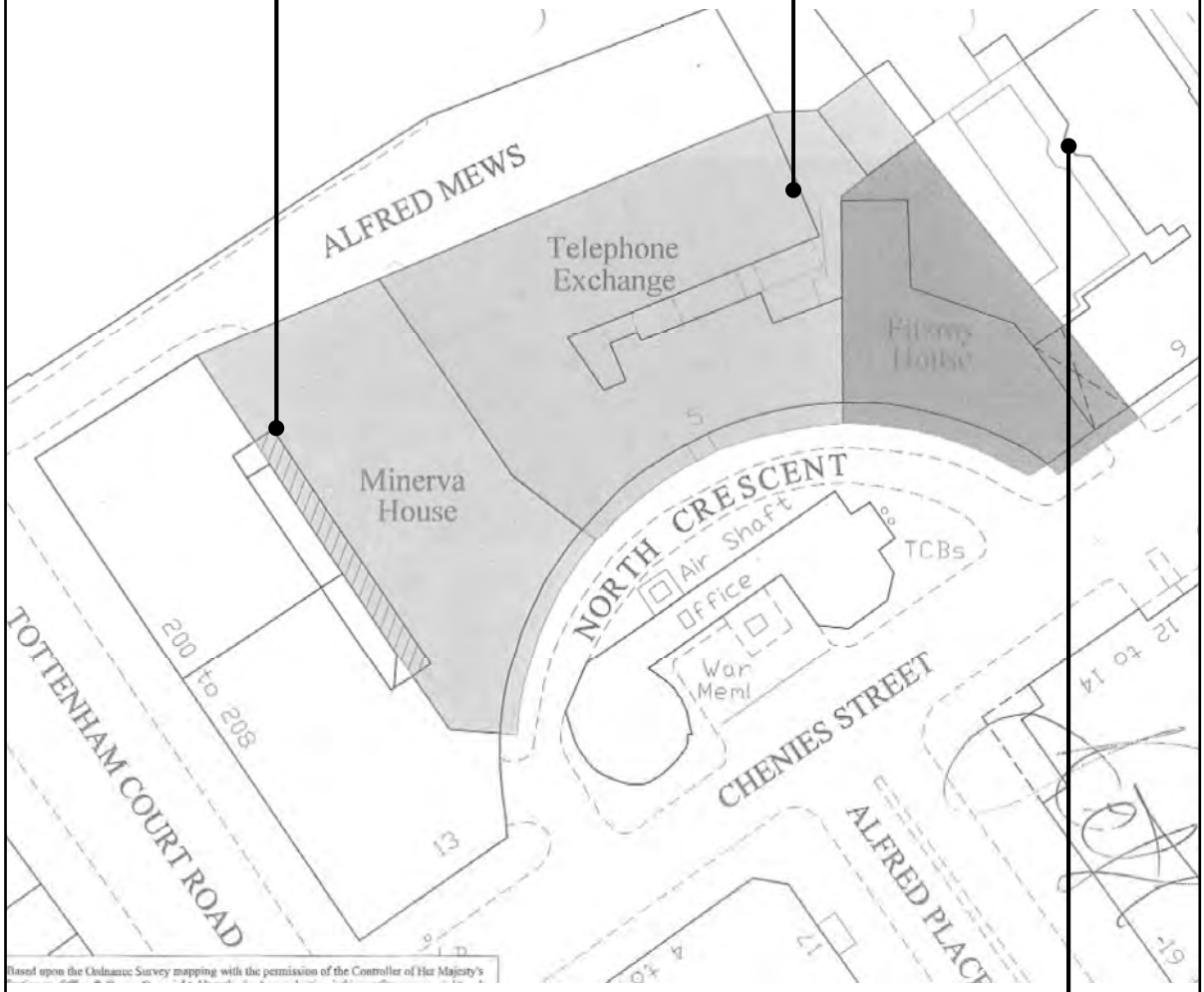
5.2 Based upon the survey results and Local Planning Authority guidance, limiting criteria applicable to noise from the installation of external plant have been established. Once plant information is available, this will be submitted for comment.

REFERENCES

1. Department of the Environment. Planning Policy Guidance (PPG) 24, Planning and Noise, September 1994.

2. British Standards Institution. British Standard 4142. Method for Rating industrial noise affecting mixed residential and industrial areas, 1997.

3. British Standards Institution. British Standard 7445: 1991 'Description and measurement of environmental noise Part 2 - Acquisition of data pertinent to land use'.



Project: North Crescent	**Title:** Site Layout and Measurement Positions	
DWG No: Figure 1	**Scale:** N.T.S.	**Rev:** A
Date: 14th June 2010	**Drawn By:** EP	**Job No:** 3373-1

APPENDIX A: ACOUSTIC TERMINOLOGY

Noise is defined as unwanted sound. The range of audible sound is from 0 to 140 dB. The frequency response of the ear is usually taken to be around 18 Hz (number of oscillations per second) to 18000 Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than the lower and higher frequencies and because of this, the low and high frequency components of a sound are reduced in importance by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most widely used and which correlates best with subjective response to noise is the dBA weighting. This is an internationally accepted standard for noise measurements.

For variable sources, such as traffic, a difference of 3 dBA is just distinguishable. In addition, a doubling of traffic flow will increase the overall noise by 3 dBA. The 'loudness' of a noise is a purely subjective parameter, but it is generally accepted that an increase/ decrease of 10 dBA corresponds to a doubling/ halving in perceived loudness.

External noise levels are rarely steady, but rise and fall according to activities within an area. In attempt to produce a figure that relates this variable noise level to subjective response, a number of noise indices have been developed. These include:

i) The L_{Amax} noise level

This is the maximum noise level recorded over the measurement period.

ii) The L_{Aeq} noise level

This is "equivalent continuous A-weighted sound pressure level, in decibels" and is defined in British Standard BS 7445 [1] as the " value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time internal, T, has the same mean square sound pressure as a sound under consideration whose level varies with time".

It is a unit commonly used to describe construction noise and noise from industrial premises and is the most suitable unit for the description of other forms of environmental noise. In more straightforward terms, it is a measure of energy within the varying noise.

iii) The L_{A10} noise level

This is the noise level that is exceeded for 10% of the measurement period and gives an indication of the noisier levels. It is a unit that has been used over many years for the measurement and assessment of road traffic noise.

iv) The L_{A90} noise level

This is the noise level that is exceeded for 90% of the measurement period and gives an indication of the noise level during the quieter periods. It is often referred to as the background noise level and is used in the assessment of disturbance from industrial noise.

Figure B1: Environmental Noise Survey
Minerva House 2nd - 3rd June 2010

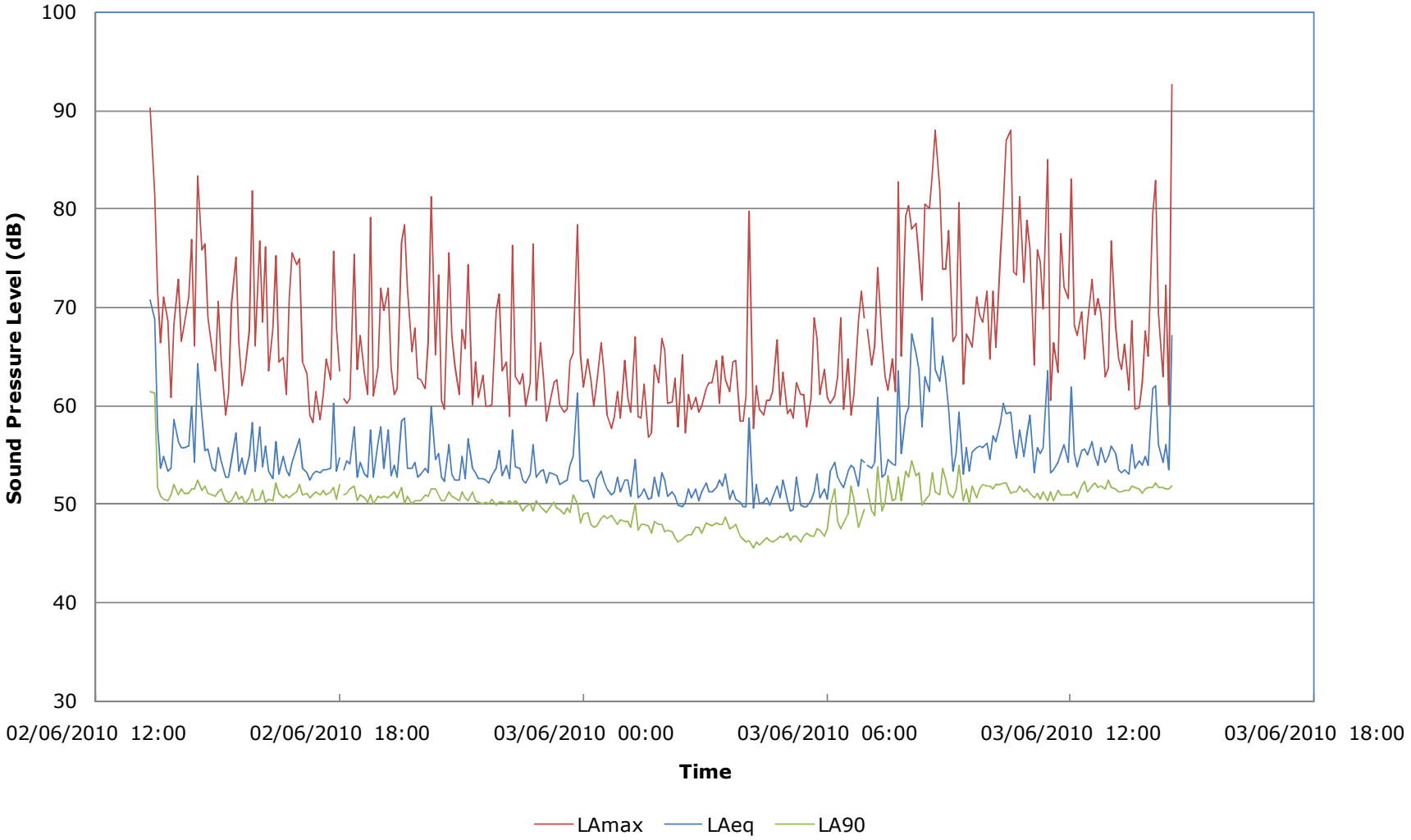


Figure B2: Environmental Noise Survey
Telephone Exchange 2nd - 3rd June 2010