DESIGN AND ACCESS STATEMENT

FRANKHAM

INTERNAL AND EXTERNAL ALTERATIONS ASSOCIATED WITH THE INSTALLATION OF 5 ASHP IN REAR COURTYARD

At
EUSTON FIRE STATION
LONDON
NW1 2DH

For:

LONDON FIRE COMMISSIONER
169 UNION STREET
LONDON
SE1 0LL

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DOCUMENT VERIFICATION

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AT:	EUSTON FIRE STATION LONDON NW1 2DH
FOR:	LFB
FRANKHAM PROJECT NO.:	227637

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Issue Purpose	Rev.	Issue Date	Prepared by	Reviewed by	Approved by
Planning Permission	P01	23/11/2022	Sophie Janman	Brian Gallagher	John Murray
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CONTENTS

APPENDICES

1.0 INTRODUCTION AND PROPOSED WORKS

1.1 This report supports the application to install 5no. Air Source Heat Pump's (ASHP) and acoustic attenuation cabinets to the rear yard of the fire station, in addition to stripping out and replacing the heating, domestic water and ventilation systems in the building. All existing gas systems are to be removed.

1.2 Following a survey undertaken in May 2020 it was found that some of the existing mechanical services are life-expired and at the point of failure. The report recommended the replacement of these to prevent sudden breakdown, the need for urgent reactive repairs and associated impact on the operation of the Fire Station.

1.3 The majority of the works proposed are to be carried out internally and will not affect the external appearance of the building. The location of the new ASHP's is proposed to be located by the North boundary wall. The penetration of the ASHP pipework will take place in the far corner of the site, passing into the single-storey extension, indicated within the listing as 'not of special interest' and so does not affect the fabric of the heritage asset.

1.4 The new systems will reuse existing plant locations, pipe-runs and ductwork, although some new radiator locations are required, and these are clearly indicated within the enclosed M&E drawings.

2.0 THE PROPERTY AND APPEARANCE OF SURROUNDING AREAS

2.1 Euston Fire Station is a grade II* listed building located at 172 Euston Rd, Kings Cross, London NW1 2DH. It houses an active Fire station with 2 firefighting appliances currently deployed.

The Surrounding Area

2.2 The building lies just within the Bloomsbury Conservation Area. The immediate surrounding area consists predominantly of shops, offices, main railway stations and major traffic arteries.

2.3 Bloomsbury Conservation Area is located within central London, its southern boundary around 750 metres north of the River Thames. It covers an area of approximately 160 hectares which extends from Lincoln's Inn Fields and High Holborn to Euston Road and from King's Cross Road to Tottenham Court Road.

2.4 The Conservation Area is situated midway between the earlier settlements of the City of London and the City of Westminster. It is located to the northern periphery of the older areas of Soho and Covent Garden, which had been developed during second half part of the 17th century and now are a focus for leisure and entertainment. To the south-east is Finsbury which extends into the financial district of the City. Clerkenwell lies to the east. To the north of the Conservation Area, the great Victorian railway termini of King's Cross, St Pancras and Euston line the northern side of Euston Road. To the west is Fitzrovia extending to the boundary with Westminster.

2.5 Bloomsbury is an internationally significant example of town planning. The original street layouts, which employed the concept of formal landscaped squares and

interrelated grid of streets to create an attractive residential environment remain a dominant characteristic of the area.

2.6 The main arterial routes tend to have larger scale buildings, addressing broader, busier streets. Apart from Euston Road (formerly New Road), which was built as a by-pass in the 18th century, these arterial routes follow older historic alignments of roads or tracks.

2.7 Euston Road is a wide, heavily trafficked 'A' road, consisting of a dual carriageway with broad pavements and mature street trees. Many buildings adhere to a classical architecture and were built in the first half of the 20th century as replacements of the earlier 19th century domestic terraces and the southern half of Euston Square. Later 20th and early 21st century buildings tend to be of a larger scale and height, with several incidents of high-rise buildings along the stretch of the road outside the Conservation Area and to the north of Euston Square, all of which dominate the skyline and long views. Traditional building materials are red brick, Portland stone and stucco, which exist alongside a modern vocabulary of glass, steel and concrete.

The Property

2.8 Euston Fire station is 'L' shape in plan with the principal elevation, a five to six storey building, on Euston Road and the subservient elevation on Euston Square. The building is arranged with appliances bays, reception, and watch room on the ground floor and offices, dormitories, and recreation rooms on the floors above. The main staircase is positioned centrally, and a second stair is accessed from the southwest corner and leads directly to the fourth floor. London Fire Brigade's Counselling and Wellbeing Centre occupies the first floor and part of the third floor with separate access from street level via the staircase at the southern corner of the building.

2.9 The building is constructed in red brick with Portland stone to the ground and third floor and the façade is designed in an Arts and Crafts domestic style. The facades are asymmetrical with irregular height and massing with projecting square and canted bays. The roofline is a romantic arrangement of steep slate roofs, deep eaves, dormers, gables, and high chimneys.

2.10 The fenestration to the upper levels is varied and combines mullioned and transomed windows, narrower vertical windows, canted and doubled stone oriel windows and some oculi. On the Ground Floor the façade is treated differently from the building above and the importance of the appliance bays and pedestrian entrance are implied with the change of facing material to Portland stone.

2.11 On the front façade the two original appliance bays are separated by stone piers with a portcullis lintel detail and the lettering 'L.C.C. FIRE BRIGADE STATION EUSTON 1902'. To the left of this is a large arched window, a canted bay with single windows and a single storey entrance to the private stairs with small windows and a slate roof. To the right of the original appliance bays is a single storey extension built in the 1920's with a slate roof that houses the three current appliance bays.

2.12 The façade to Euston Square is dominated by the left-hand projecting rectangular bay, double height stone canted bay to the third and fourth floors and diagonal balcony between. At roof level the projecting canted bay results in a deep eaves

detail that provides shelter to the balcony. The adjacent rectangular bay terminates far above this roof with a series of clerestorey windows. At ground level two distinctive mullion and transom bay windows sit either side of the previous entrance to the rear yard. This has since been infilled with a large, depressed arch window, but the gate post and gates remain. To the far-right hand side is the entrance to the private staircase to the fourth floor. This stone porch has a segmented arched doorway and an arts and crafts period slate roof.

2.13 The original stone walls, stone gate piers and railings survive to the front and side of Euston Fire Station. The gate piers to the front corner of Euston Road and Euston Square have an inset geometric pattern to the head and lanterns that read 'FIRE' and protrude from the top of the stone piers marking out the activity of this building. These gate piers are the exit for appliances leaving the station and are more elaborate as a result. The other stone gate piers on Euston Road and intermediate stone piers are secondary to the corner gate and are have been designed in a more modest gambrel shape. The wrought iron railings that span between these piers have been designed in a portcullis design with spikes on the top and bottom rail.

2.14 The rear yard to Euston Fire station is enclosed with a set of modern black powder coated metal gates and railings and a low red brick dwarf wall. The railings and gates are supported by black powder coated square metal piers that sit between sections of the dwarf wall and behind the wall at the junction of the vehicular gates. The railings are arranged so that they are positioned on the centre of the brick wall. The double swing vehicle gates are recessed and open manually taking time and space in the yard. This dwarf wall is constructed in a plain red brick that is sympathetic with the rear wall of the building on the corner of Euston Square. These recent additions to the fire station are functional but of no historic interest.

3.0 REASONS FOR THE ALTERATIONS

3.1 Following a survey of the installations, the overall condition of the heating, domestic water services and ventilation systems on site was found to be poor. The boilers have reached the end of their expected economic lifespan, two have been condemned and the third is presumed to be at risk by association and similarity.

3.2 The overall condition of the ventilation services on site was found to be poor. The supply and extract AHUs all appear to be approximately 30 years old and are showing signs of deterioration throughout. It is also believed the current ventilation plant installation does not comply with the Specific Fan Power requirements as stipulated within the Building Regulations and requires upgrading as a result.

3.3 Most of the heating, and domestic water services distribution pipework has reached (or exceeded) its economic lifespan and is at risk of failure, with various sections of pipe and valves in the system believed to be compromised by the presence of heavy corrosion and rust.

3.4 The pressed steel radiators have all exceeded their economic lifespan and a few appear to be in reasonable condition, but all are likely to be operating at reduced efficiency due to their internal deterioration over time.

3.5 The internal ventilation grilles have all exceeded or are close to their economic lifespan and many appear to be in reasonable condition, but all are likely to be operating at reduced efficiency due to the lack of maintenance undertaken over time.

4.0 THE POLICIES AND DESIGN CONSIDERATIONS

4.1 The following policies/documents have been considered as part of this application:

- Camden Local Plan (extract).

Sustainability measures in listed buildings. Para 7.62
Proposals that reduce the energy consumption of listed buildings will be welcomed provided that they do not cause harm to the special architectural and historic interest of the building or group. Energy use can be reduced by means that do not harm the fabric or appearance of the building, for instance roof insulation, draught proofing, secondary glazing, more efficient boilers and heating and lighting systems and use of green energy sources.

- London Plan 2021

Policy 3.5.11 When dealing with historic buildings and heritage assets, careful consideration should be given to inclusive design at an early stage. This is essential to securing successful schemes that will enable as many people as possible to access and enjoy the historic environment now and in the future.

HC1 Heritage conservation and growth Development proposals affecting heritage assets, and their settings, should conserve their significance, by being sympathetic to the assets' significance and appreciation within their surroundings. The cumulative impacts of incremental change from development on heritage assets and their settings should also be actively managed. Development proposals should avoid harm and identify enhancement opportunities by integrating heritage considerations early on in the design process.

4.2 In relation to the relevant planning polices listed above the proposed works will not harm the fabric of the building but will reduce its overall energy consumption.

4.3 The systems to be removed are relatively modern and not part of the original installation. E.g. heat emitters are pressed steel, not cast iron.

4.4 Apart from the basement level (plastered ceiling finishes) the rest of the building is finished with suspended 600x600mm ceiling tiles. It was noted that where the services are routed within spaces with plastered ceilings, they are exposed. The exposure of the pipework, ductwork and accessibility within the suspended ceilings, would mean that the existing services may be stripped out and replaced without excessive builders works or disturbance to fabrics.

4.5 A Noise Impact Assessment has been issued as part of this Statement which

details the use of acoustic attenuation enclosure will prevent the proposed new ASHP's having a negative effect on the neighbouring properties.

5.0 HERITAGE STATEMENT

5.1 A detailed and comprehensive Heritage Impact assessment has been submitted along side this application.

6.0 SUMMARY

6.1 The application is to replace the existing heating, domestic water and ventilation systems as well as the installation of 5no. ASHP's and acoustic attenuation enclosures to the external yard at Euston Fire Station.

6.2 The importance of the heritage asset is recognised, and the aim of the works is to install a new ASHP and to replace the mechanical services without detriment to the heritage asset. Replacement of the existing systems in place in a manner to minimise any disruption to the internal fabric of the building will protect the heritage features identified in the listing and reduce the risk of damage to them and the wider building by any possible future failure of these aging systems.

6.3 Where builder's works are required, these will be made good to match the existing finishes.

6.4 The installation of an ASHP and replacement of the stated systems will not negatively impact on the heritage features of the property while providing a more energy efficient building with increased reliability.

APPENDIX A

LIST OF SUBMITTED DOCUMENTS

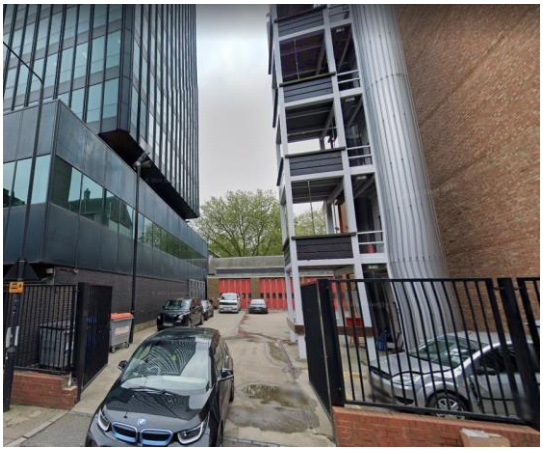
Document Name
Site Location Plan
Proposed Yard Layout New ASHP Location
Ground Floor Mechanical Services Proposed Heating Layout
First Floor Mechanical Services Proposed Heating Layout
Second Floor Mechanical Services Proposed Heating Layout
Third Floor Mechanical Services Proposed Heating Layout
Fourth Floor Mechanical Services Proposed Heating Layout
Fifth Floor Mechanical Services Proposed Heating Layout
Basement Level Mechanical Services Proposed Heating Layout
Radiator Schedule
Spacing of Pipes
Noise Impact Assessment
Planning Statement
Cover Letter

APPENDIX B

PHOTOGRAPHS

Photograph 01 – Euston Fire Station

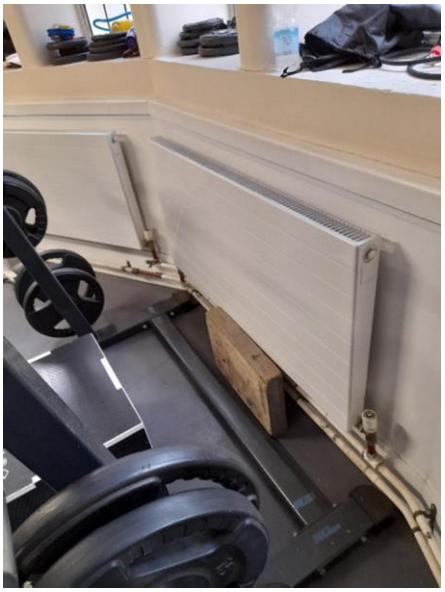
Photograph 02 – Euston Fire Station



Photograph 03 – Rear Yard

Photograph 04 – Proposed Location for ASHP

Photograph 05 – Existing Radiators



Photograph 06 – Existing Radiators

APPENDIX C

PROPOSED REPLACEMENT EQUIPMENT

Diffusers – Gilberts BLACKPOOL Series

Radiators – Stelrad ELITE K1

Expansion Vessel – FLAMCO FLEXCON

Domestic Hot Water Heater – ADVECO SSI 500/1.5

Booster Set – AQUATECH PRESSMAIN AMV2-FE-6-4

PROPSOED NEW ACOUSTIC ENCLOUSER

APPENDIX D

ASHP ENCLOSURE DRAWING