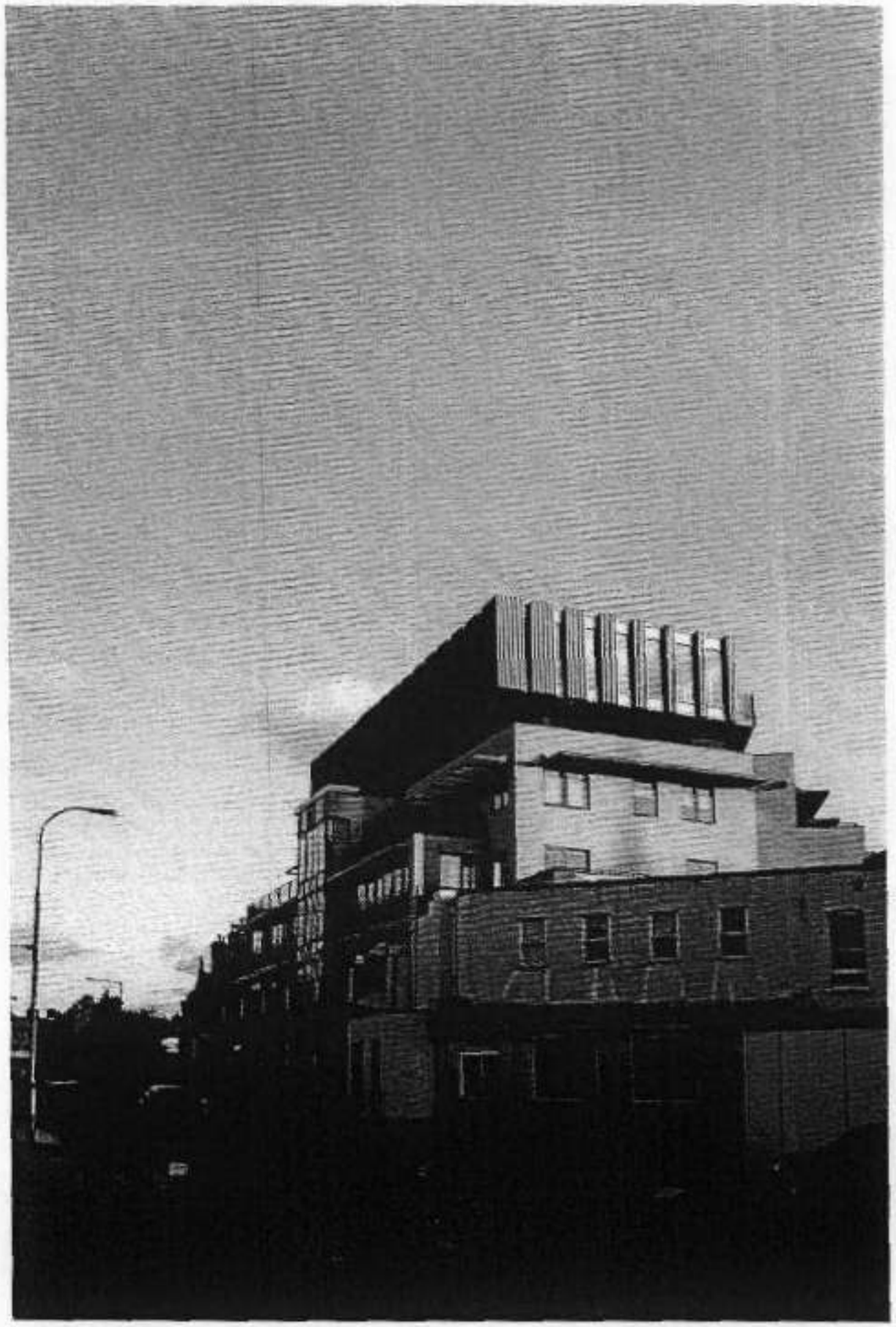
Design and Access Statement

55 Holmes Road
Kentish Town
London
NW5 3AN



MRJ RUNDELL +
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Architecture & Design Services

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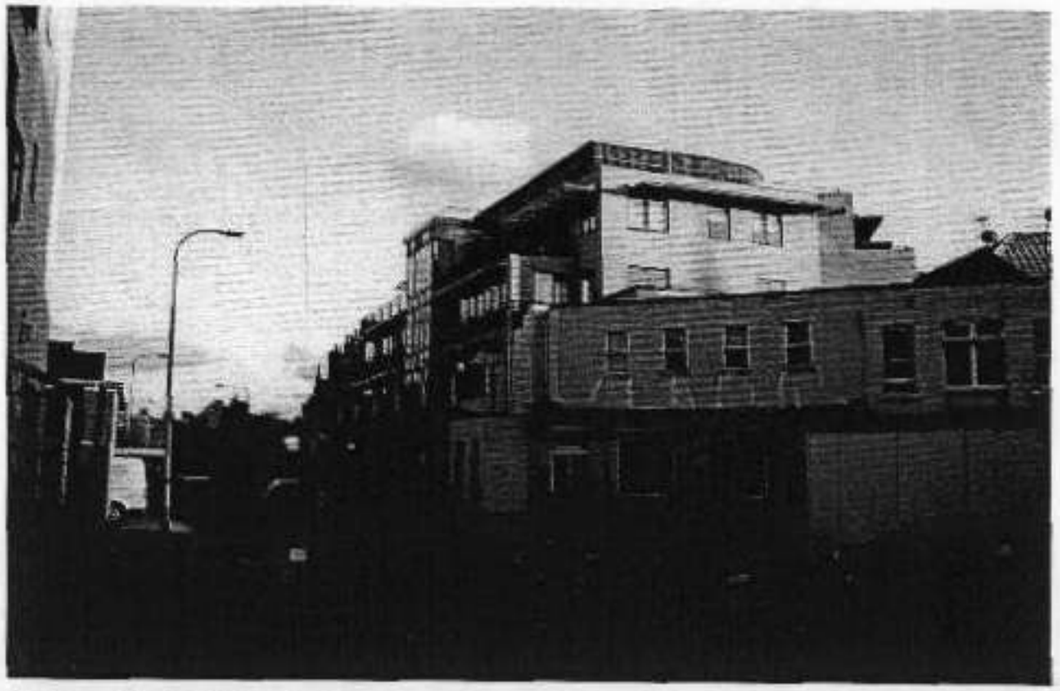

Fig. 1 View of 55 Holmes Road from Holmes Road showing the existing plant room on the roof.

Fig. 2 View of 55 Holmes Road from Cathcart Street showing the existing plant room on the roof.

Introduction

This report outlines a proposal for a new environmentally sustainable residential development in the heart of Kentish Town. The development will replace a disused plant room on the roof of the mixed-use building at 55 Holmes Road and comprises two new 2 bedroom apartments and one new 3 bedroom apartment spread over two floors. This penthouse development aims to set the standard for sustainable homes in this area of London.

The area is currently going through a period of regeneration and the demand for residential properties in the area is high. A large student housing building has recently been completed to the north of the site at 54 to 74 Holmes Road and a block of affordable housing units is currently under construction at 74a Holmes Road. The site is particularly suitable for residential development due to its close proximity to public transport systems and the local amenities of Kentish Town High Street.

The key aim of the proposed development is to minimise the environmental impact both on a global and a local scale. On the global scale the new penthouse development will make use of recycled material in its construction and generate the majority of its own energy using an array solar panels mounted on the roof. On the local scale the disturbance to existing residents of the building will be kept to a minimum through the use of modular construction. The new penthouse building is designed to be constructed from a proprietary prefabricated panel system, thus minimising mess and noise on site and significantly reducing construction time.

MRJ Rundell & Associates have a reputation for creating world class buildings of the highest quality that are also environmentally sustainable. Particular examples include Damien Hirst's new production and gallery complex, Dudbridge works and a carbon neutral new build development on Dawson Place in Notting Hill. We see this development as an opportunity to design a series of residential units that are genuinely carbon neutral and we believe that the project will set the benchmark against which other new sustainable developments can be measured.

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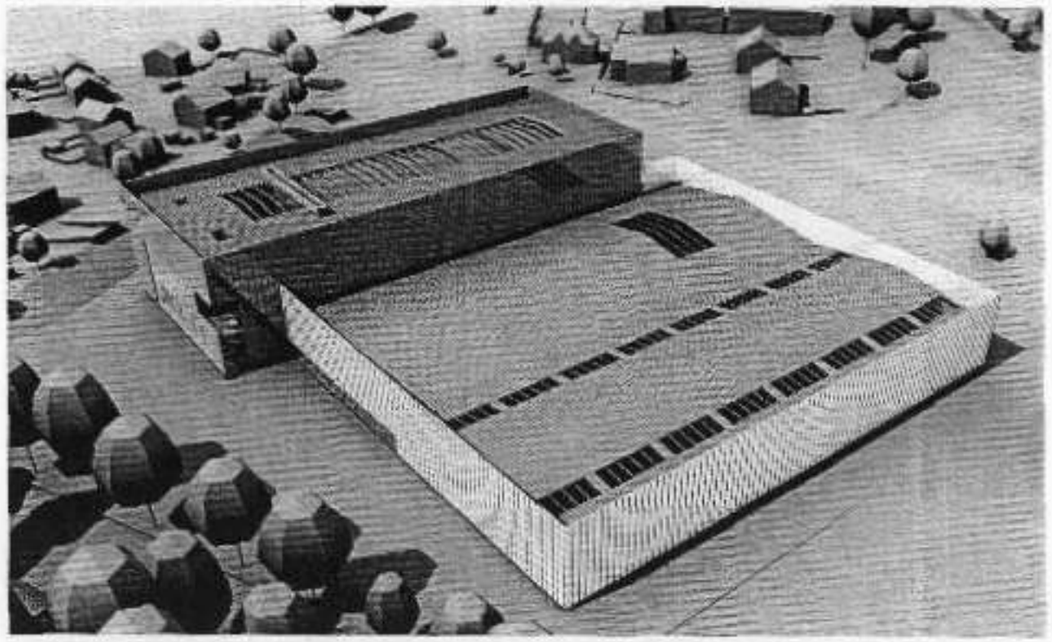

Fig. 3 Computer model of Dudbridge Works which is currently in the pre-construction phase.

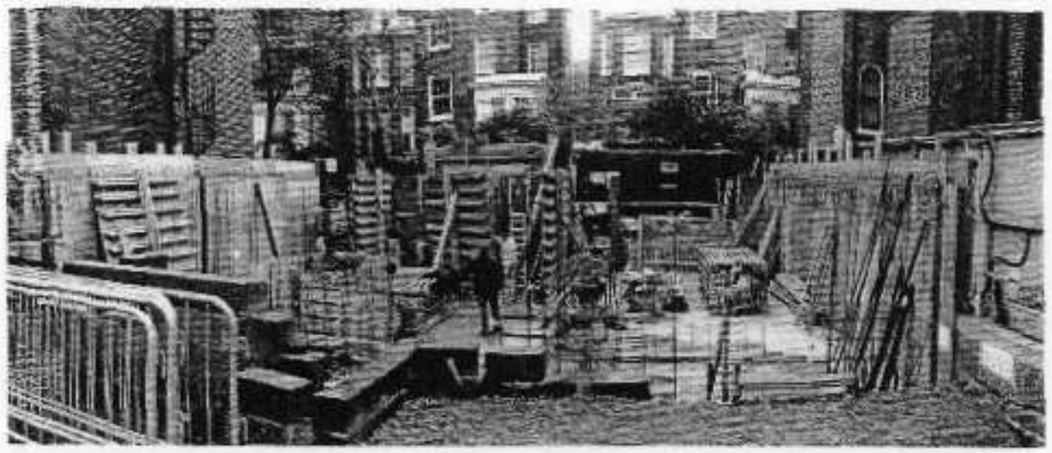

Fig. 4 Photograph of Dawson Place which is currently under construction.

Project Details

Building Type

Residential

Site Location

The site is situated on the roof of an existing mixed use development on Holmes Road. It lies just off Kentish Town High Street and is in close proximity to all the amenities associated with a town centre. The site is equidistant from Kentish Town West and Kentish Town stations which offer National Rail and London Underground connections respectively and there are numerous Bus services which run along Kentish Town Road and Prince of Wales Road.

Internal Floor Areas

Fourth Floor -	1 no. 2 Bedroom apartment 166 sq.m
	1 no. 2 Bedroom apartment 143 sq.m
Fifth Floor -	1 no. 3 Bedroom apartment 260 sq.m

Fig. 5 Aerial photograph showing the site location and surrounding area.

Project Details

Layout

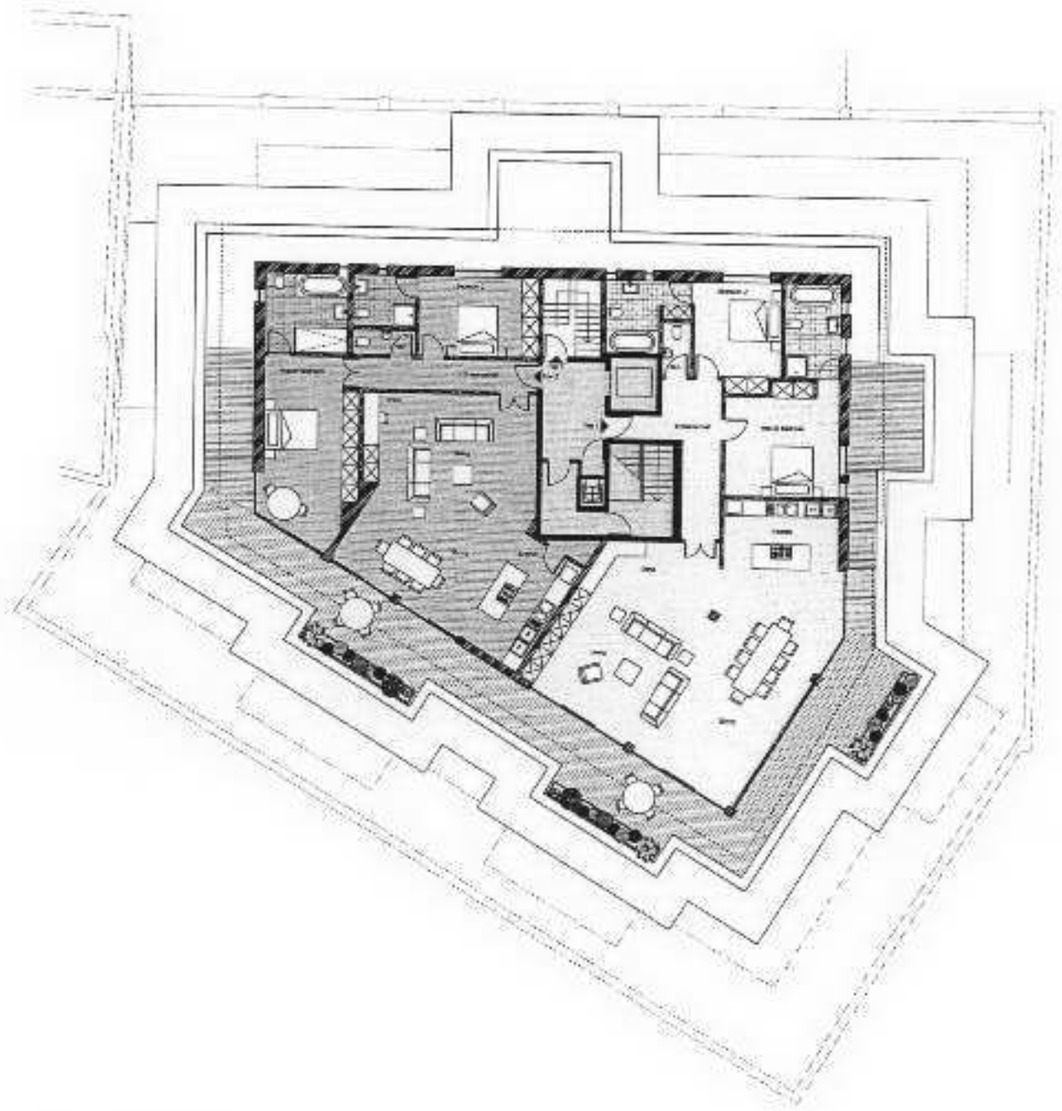

Fig. 6 Fourth Floor layout showing 2no. 2 bedroom apartments (red and green), communal escape stair (blue) and private stair to Fifth floor apartment (yellow).

Fig. 7 Fifth Floor layout showing 1no. 3 bedroom apartment (yellow) and large roof terrace.

Project Details

Project Phasing

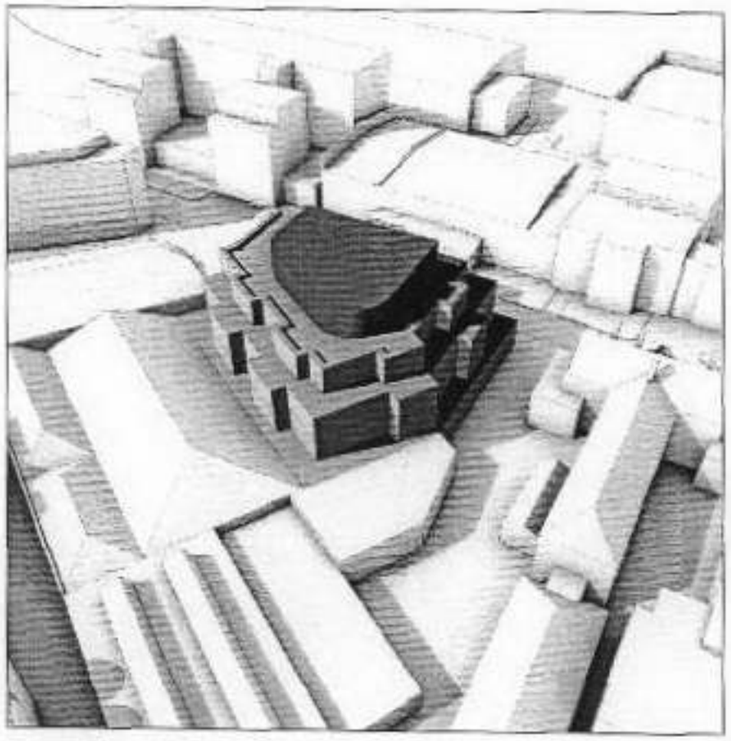

Fig. 8 **Computer** model of 55 Holmes Road showing the existing disused plant room in red.

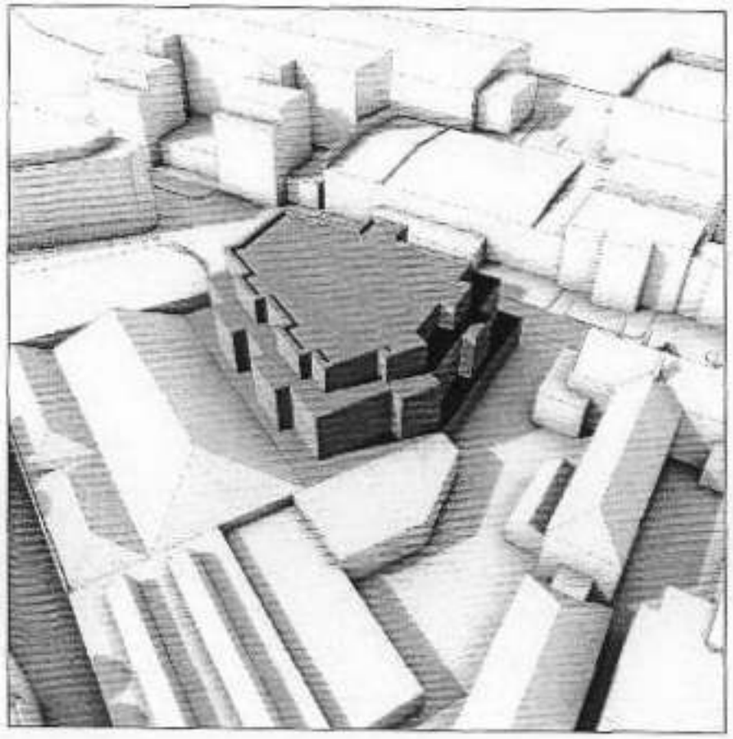

Fig. 9 **Computer** model of 55 Holmes Road following the demolition of the existing plant room.

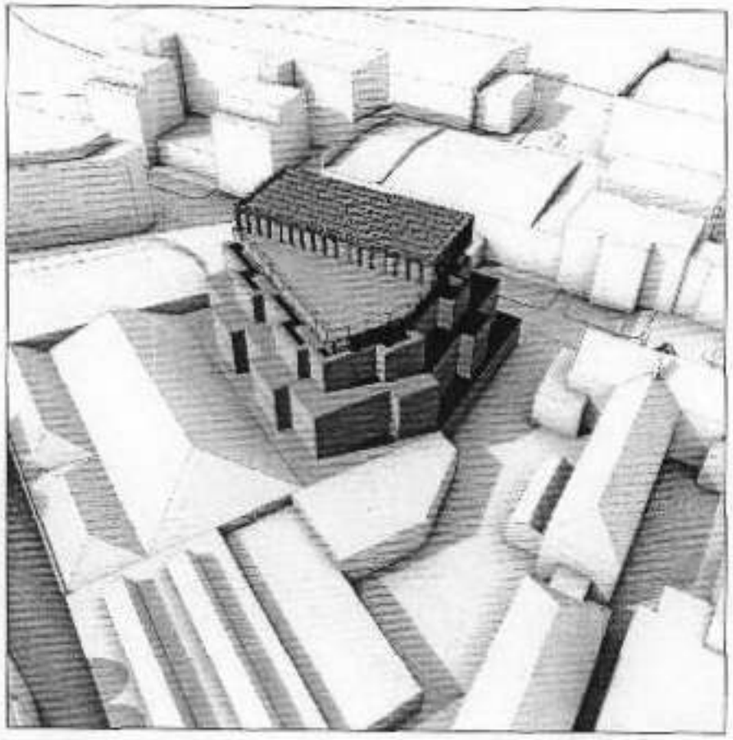

Fig. 10 **Computer** model of 55 Holmes Road showing the proposed penthouse development.

Design

Orientation

The proposed scheme has been designed to take account of specific environmental and site conditions. In line with the BREEAM "Eco Homes" criteria, there is limited glazing on the North facade and extensive glazing on the South facade. The low level of glazing on the North facade has several benefits, it reduces heat loss, minimises any overlooking from the student accommodation opposite and also makes it easier to insulate the building from noise from the street. The heavily glazed South facade provides natural daylight to all of the main living areas, maximises solar gain during the winter months to provide passive heating and provides magnificent views of the London skyline, including the London Eye and Telecom Tower. There are mechanical shades that can be extended to provide shading in the summer.

Each new apartment will have a South West facing roof terrace on which to enjoy the views of the city, give semi-private outdoor space and space for drying clothes naturally.

The roof of the fifth floor is a green roof with photo voltaic panels. The orientation of the roof is designed to maximise the number of solar panels that can be accommodated and operate efficiently.

Fig. 11 View of the London Skyline looking South East from the roof of 55 Holmes Road.

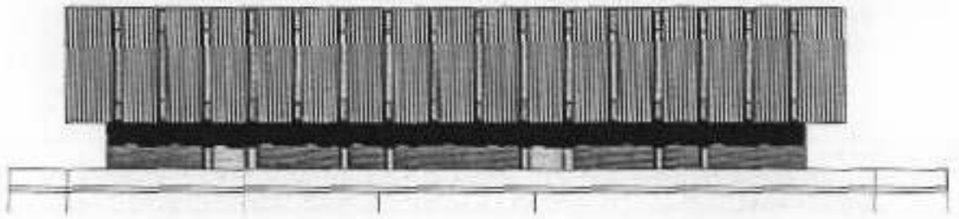

Fig. 12 Proposed North Elevation

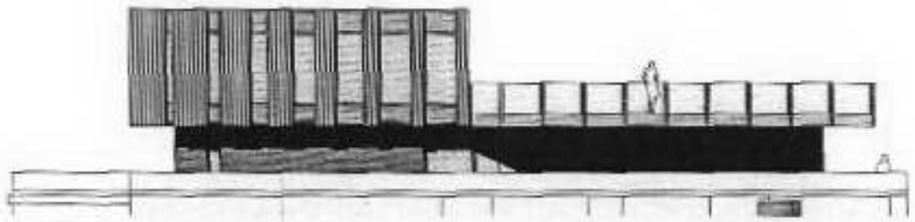

Fig. 13 Proposed West Elevation

Fig. 14 Proposed South Elevation

Design

Appearance

The area immediately around the site contains buildings of a variety of styles, ages and uses, including; Victorian terraced housing, a modern student accommodation block, residential tower blocks, industrial and commercial warehouses, railway sidings and the Victorian St. Pancras Hostel which is adjacent to the site.

The timber cladding and narrow recessed windows of the North elevation distinguish it from the apartments below but reinforce the existing building's symmetry. The fourth and fifth floors have similar ceiling heights to the existing apartments so they read as residential in scale although, due to the regular fenestration, the new penthouse retains something of the industrial character of the surrounding area, when viewed from the street. The high ratio of wall to window on the North facade also helps to minimise heat loss and gives greater noise protection from traffic noise.

The understated simplicity of the North facade is modulated along the East and West facades as the building opens to the fantastic views of the London skyline. The South facade is almost completely glazed on both levels to make the most of the daylight and heat from the sun. On the fifth floor horizontal shades can be extended to control solar gain in the summer months which can be fully retracted into the facade when they are not needed while fourth floor glazing is shaded by the floor above.

Fig. 15 Existing view looking East along Holmes Road.

Fig. 16 Proposed view looking East along Holmes Road.

Design

Visual Impact

The proposed penthouse apartments raise the total height of 55 Holmes Road from 17.80m to 20.50m above street level. It will have six storeys above Ground Level which is similar to the recently built Student Accommodation at 54-74 Holmes Road which has 5 1/2 storeys. The roof level of the student accommodation building is 19.35m above street level.

We propose to set the facade of the new 5th floor apartment 7m back from the perimeter of the existing ground floor facade in order to lessen the impact from the street.

Fig. 17 Existing view looking North from Cathcart Street.

Fig. 18 Proposed view looking North from Cathcart Street.

Environmental Impact

Demolition

The existing plant room at 55 Holmes Road is currently unused and consists of a masonry lift and stair core which supports a lightweight steel frame sheathed in timber and plastic sheeting.

It is imperative that during the demolition process there is as little disruption to the current residents of 55 Holmes Road as possible. The masonry lift and stair core will be retained and incorporated into the new building and the rest of the plant room will be carefully dismantled and then craned down from the roof and removed. It is hoped that its steel and plastic components can then be re-used or recycled.

Fig. 19 Photograph showing the interior of the existing plant room.

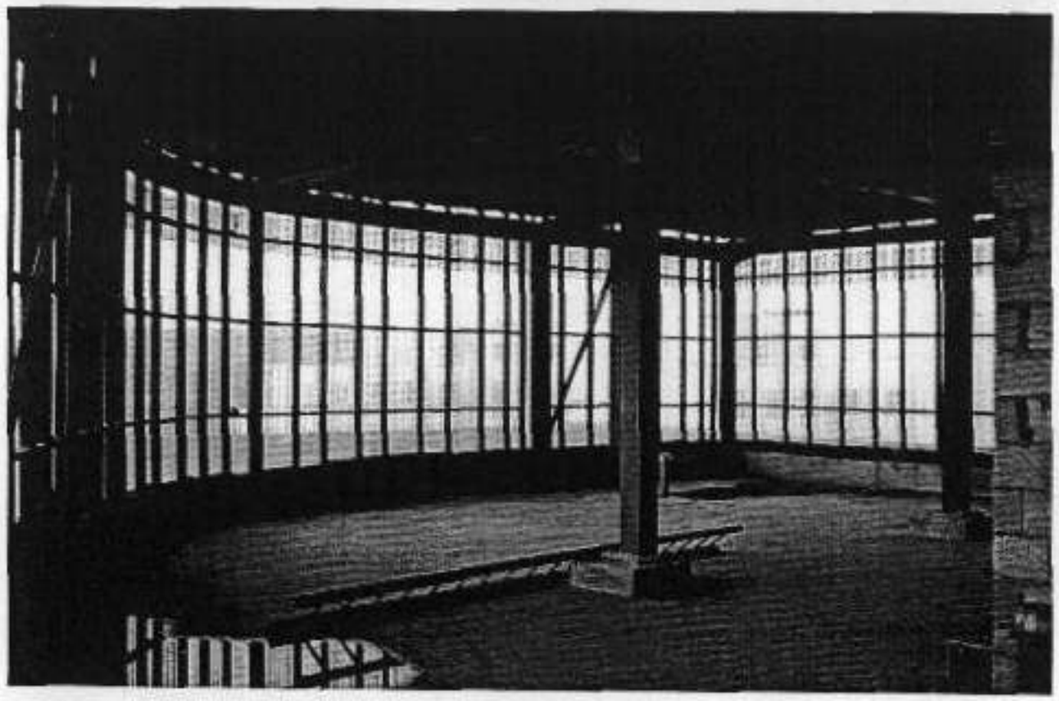

Fig. 20 Photograph showing the interior of the existing plant room.

Environmental Impact

Construction

The new penthouse building is designed to be built entirely out of prefabricated 400mm thick TRADIS EVT (Enhanced Vapour Transfer) wall panels, floor cassettes and roof plates. This construction system offers several major advantages over traditional building methods:

The panels are factory produced and made to order. This tightly controlled manufacturing process minimises waste and means that much smaller dimensional tolerances can be achieved. The off site manufacture also dramatically reduces on site construction time as the building essentially arrives on site in kit form and it is then simply craned onto the roof and assembled. A short on site construction time is imperative in order to minimize any disturbance to existing residents.

The wall panels are filled with WARMCEL 500 insulation which is manufactured from 100% recycled newspaper. WARMCEL 500 has an extremely low embodied energy, requiring far less energy to produce than any other mainstream insulation material. It does not contain any added formaldehyde and is free from CFCs, volatile organic compounds (VOCs) or other toxic substances.

The WARMCEL insulation in conjunction with the TRADIS panel system delivers superior thermal performance of approximately 0.09 W/m2K and the improved tolerances afforded by the offsite manufacture mean that a complete seal can be achieved between panels thereby eliminating heat loss through gaps, cracks and other cold bridges. This massive reduction in heat loss reduces the heating demand within the building. By reducing heating demand, Warmcel also plays a major part in reducing household CO2 emissions.

The panels combine this high thermal performance with the ability to ensure that any moisture that gets into the structure always migrates safely to the external atmosphere where it is harmlessly expelled. This works to prevent interstitial condensation and safeguards the integrity of the structure.

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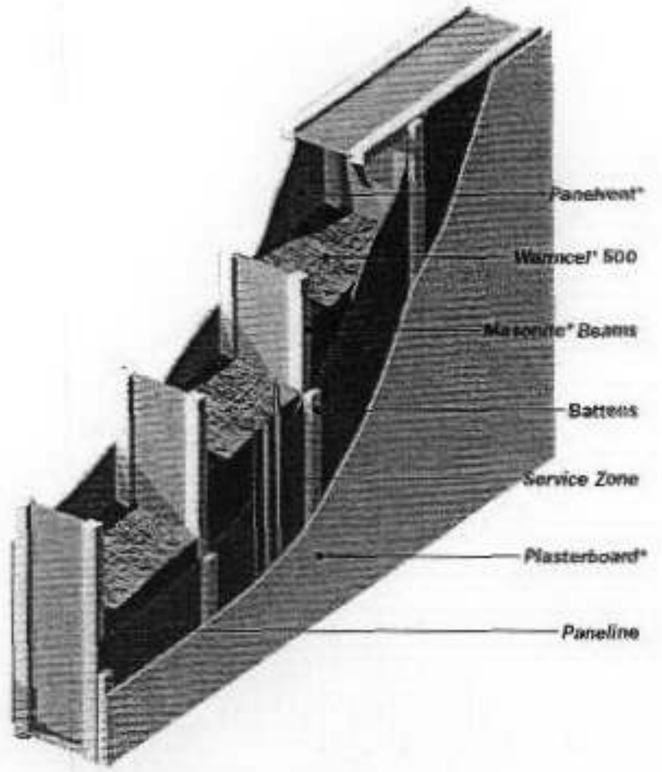

Fig. 21 Cross section through a typical TRADIS EVT wall panel.

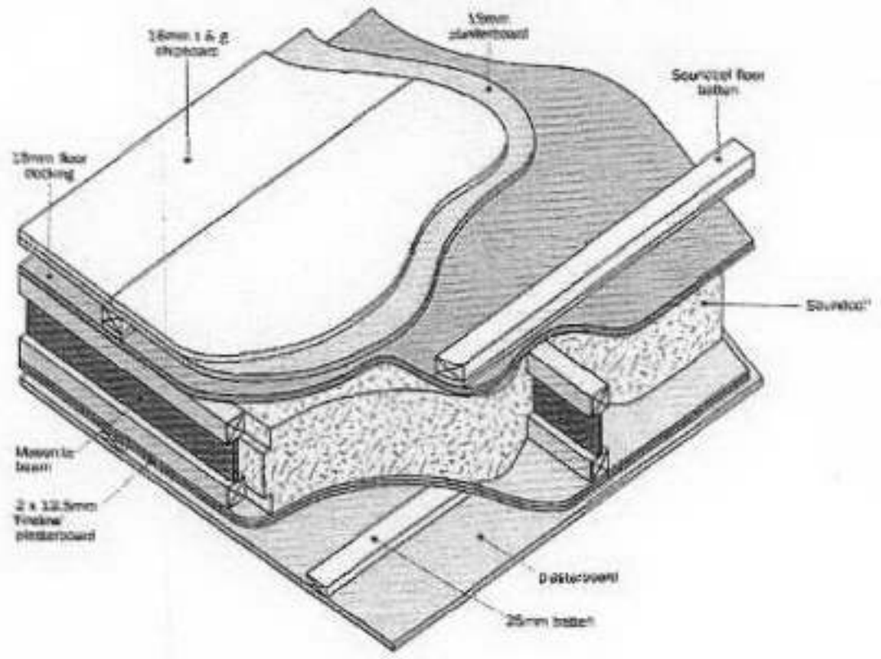

Fig. 22 Cross section through a typical TRADIS SOUNDCEL floor cassette

Environmental Impact

Operation

The design incorporates a ZINCO - Solarbasis hybrid roof system that combines solar panels with a green roof. There is a severe lack of green space in the immediate vicinity so the planted roof will improve the local climate by improving air quality, reducing the urban heat island effect and aiding biodiversity. The green roof also provides excellent insulation for the flat below and helps manage storm water runoff.

The design includes 90 solar panels mounted on the grass roof. Photovoltaic panels operate less efficiently the warmer that they get. The cooling effect of the green roof around the panels can improve their efficiency by up to 10% which translates to a substantial increase in energy output.

There are currently no yearly power output figures for the solar panels that have been specified as they make use of relatively new technology. They are, however, estimated to be at least 10% more efficient than the current best mono-crystalline PV panels. Using power output figures for similar PV panels to those specified, and average power usage figures for a family home from BREEAM, it has been calculated that the photovoltaic array on the roof will generate at least 47% of the total energy required by the three apartments a year. This is a conservative estimate as it does not take into account the potential panel efficiency increase due to the grass roof and the substantial reduction in the energy requirements of the three new apartments due to the high performance insulation and high efficiency appliances.

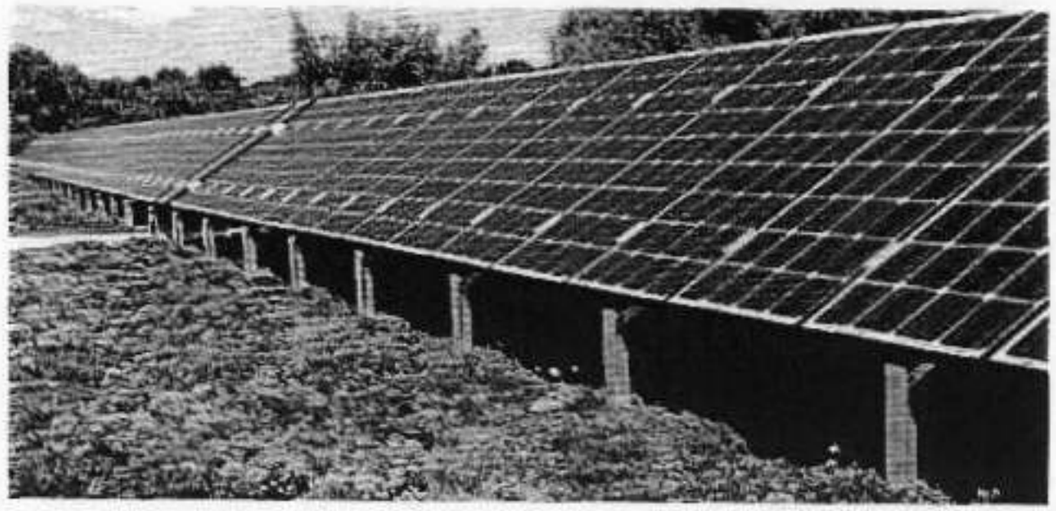

Fig. 23 Photograph of a hybrid solar panel, grass roof system in operation.

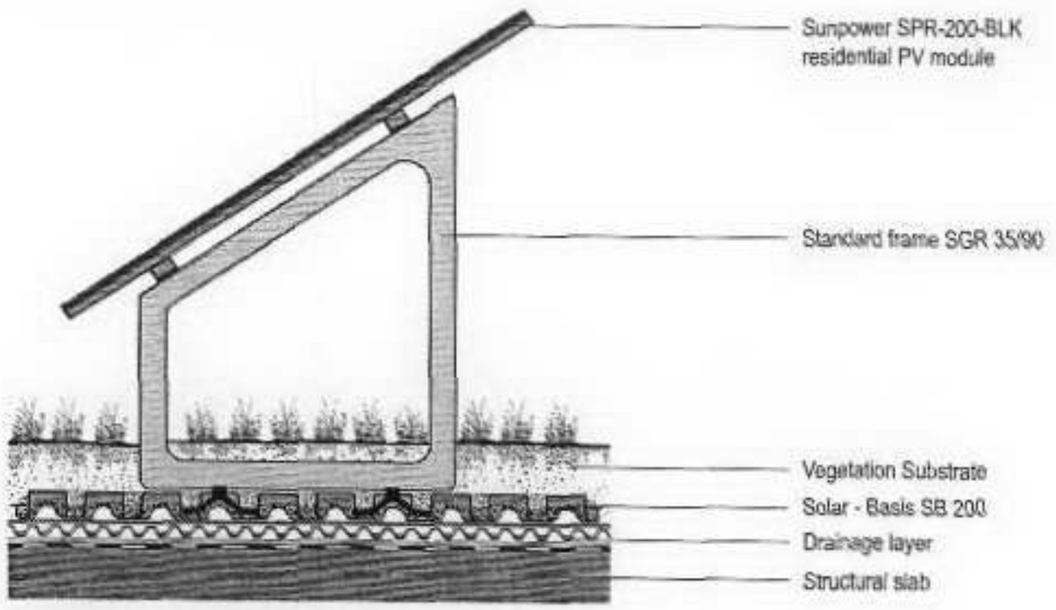

Fig. 24 Cross section through the hybrid roof system.

Environmental Impact

BRE Eco -Homes 2006 Rating

The Breeam Eco-homes scheme has been used as a framework to assess the ecological impact of the design. A full Eco-homes assessment is not considered necessary at this early stage in the project but as the design develops it is intended that an official assessment will be carried out with the aim of achieving at the least a "Very Good" rating.

The predicted score for the new development is 79 out of a possible 107. This works out at 76% of the possible points. According to this assessment the development achieves an "Excellent" rating. As the design develops it is intended that a further assessment will be carried out with the aim of achieving this high standard for the final design.

By using the criteria in the BRE Eco Homes assessment to guide design choices for the development at 55 Holmes Road we believe that we are proposing a building that balances the need for a high quality of life with a safe and healthy internal environment and an environmentally sustainable future.

	Rating	Score (%)
	Pass	36
	Good	48
	Very Good	58
	Excellent	70

Fig. 25. Table showing the BREEAM rating system.

Access

Vehicular and Transport Links

The proposed development is in line with the aims of Camden's Replacement Unitary Development Plan in that it is providing housing which is the priority land use. The UDP aims to reduce the need to travel and in particular to reduce the number of journeys by car. This site is within 360m of Kentish Town Tube and Railway Station and within 300m of Kentish Town Road which has for four bus routes. It is easily accessible by public transport.

We plan to provide secure storage for 18 bicycles in the basement. This will serve the existing residents of 55 Holmes Road as well as the residents of the new extension and it will encourage people to cycle instead of driving.

Inclusive Access

The new penthouse apartments are accessed via the existing lift or staircase at 55 Holmes Road. New residents will use the existing main entrance off Holmes Road to enter the building and mail boxes and intercom systems will be installed to match the existing systems.

It is not economically viable to extend the lift shaft to serve the fifth floor but a stair lift could be installed on the new stairs if required. The stairs to the fifth floor have been designed for use by the ambulant disabled. All of the new apartments have a Bedroom and ensuite bathroom which is accessible to a wheelchair user and all of the threshholds to the roof terraces are designed to be flush to allow full wheelchair access.

The shared access routes are maintained by the existing management company. Residents of the new penthouse extension would contribute their individual share to the existing management company for the maintenance for these communal areas.

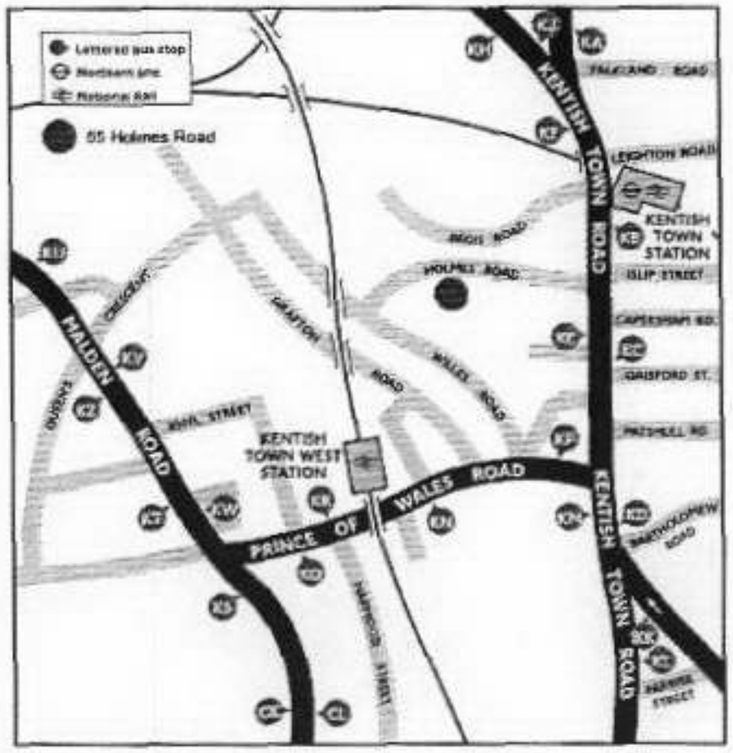

Fig. 26. Map showing transport links (adapted from Transport for London Web site)

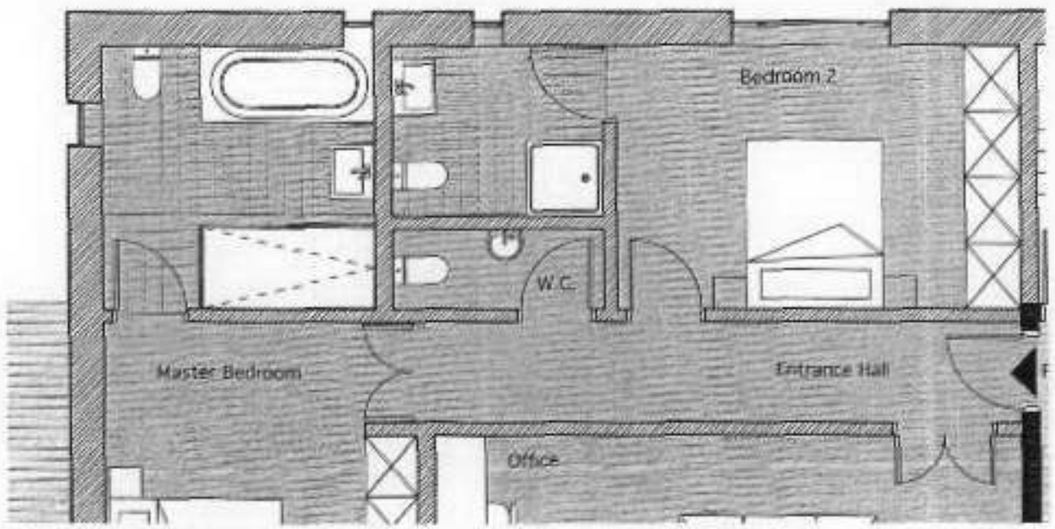

Fig. 27. Each apartment has a WC and Bedroom which is accessible to a wheelchair user

Access

Consultation

In order to ensure that the new design complies with building regulations in regards to emergency egress, Arup Fire have been consulted on the proposed escape strategy.

As the existing building is mixed use, the escape routes for the residential portion of the building will need to be isolated to allow for the additional floors. In order to acheive this a new fire partition is required on the second floor of the existing building. The building owner has been made aware of this requirement and has confirmed that the required modification will be implimented.