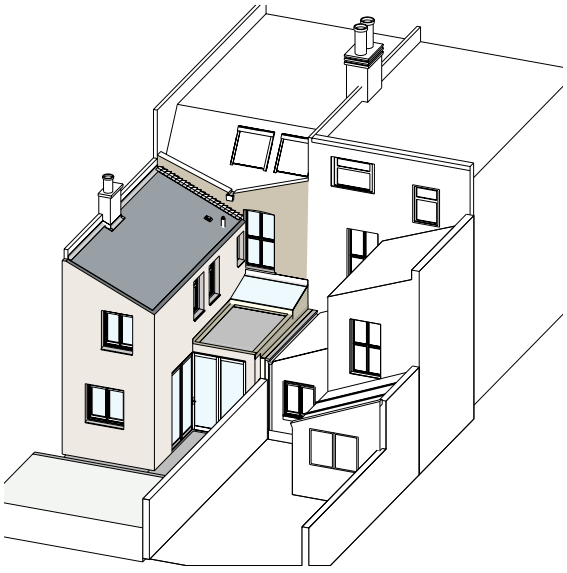
Design & Access Statement

in support of proposed works to

57 Spencer Rise NW5 1AR

73/P/ D and A

13th October 2011



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Architectural context

This Design and Access statement describes the design approach behind the proposed works to 57 Spencer Rise. The street is situated at the eastern tip of the Dartmouth Park Conservation area and is noted in the Conservation Area Appraisal as making a positive contribution to the CA.

Street side

The street slopes downward towards York Rise, and its north side is characterised predominantly by two-storey terrace houses, but there is a range of building styles.
No 57 is part of a terrace on the north side of the street. It is entered at street level and comprises three storeys, the third being a mansard roof that was built in 2007 following some design revisions to the original application. No's 51, 53 and 55 have roof extensions too that vary in character.

Garden side

While the rear of this terrace had originally be laid out uniformly, the back of the terrace in the vicinity of no 57 has been substantially altered over time in the following ways:

- variation in window size, proportion and frame type
- varying depths of the two storey volume protrusions at the rear
- treatment at roof level with a variety of roof extension types, some of which have done away with the butterfly 'V' profile altogether
- a roof terrace at no 51 in place of the pitched roof over the two storey protrusion
- the usual proliferation of UPVC soil vent pipes and the like
- a variety of single storey rear extensions, side returns and so on

The character now is more one of jostling volumes and an eclectic mix of materials and details.

Rear of no 57 in the context of its neighbours.

Low carbon context

By 2050 the UK is committed to reducing its CO2 emissions by 80% in order to play its part in reducing the impact of climate change.

At present around 27% of the total UK emissions are generated by housing. For older dwellings with little or no insulation a large proportion of their total emissions is due to a high heating demand that the poor building fabric gives rise to. Most people now agree that the only way to make significant reductions in emissions within this sector is to retrofit houses so that energy demand is reduced from the outset.

Solid wall insulation

Solid wall insulation presents an obvious approach to tackling the very high heating requirements that older homes tend to require.

While internal wall insulation has the advantage of not affecting the external visual appearance of a building it does have some drawbacks:

- Technical issues. Very few systems actively manage potential water build up within the original fabric, either form driving rain or interstitial condensation. There are potential dangers both to wall and floor fabric from excessive moisture. This is very hard to accurately predict. Moisture within the building fabric can also give rise to mould species, some of which can have significant health implications. As these moulds are usually hidden from sight within the fabric, they can go undetected. The few systems which can actively safeguard against these issues tend to have lower insulation properties and are generally more expensive to install if only for the reason that the supply chain is still very weak. The additional design cost of modelling moisture fluctuations dynamically using software such as ‘Delphin’ represents another potential significant cost.
- Practical Issues. In order to install internal insulation effectively, one is faced with significant internal disruption which may include lifting of the floor boards and removal of gypsum plaster (as advised by the manufacturers of ‘breathable’ insulation systems). These measures are advised to reduce potential interstitial condensation and guard against mould. The depth of any insulation reduces the floor area of the internal space. This effect is particularly acute within the rear parts of Victorian houses where the original planning was often very tight indeed.

On the other hand external wall insulation offers the following benefits:

- by placing an insulation layer on the outside, the existing fabric is kept warm and dry, conditions which will tend to extend the life of the fabric and inherently guard against agents of decay such freeze/thaw and fungi/moulds
- the internal dimensions of the rooms remain unaltered and most of the work can be done from the outside. In comparison to internal insulation the risks are less and the works tend to be more economic.

The obvious drawback with external insulation is that it changes the external appearance of the host building. If it used then its needs to be handled with sensitivity. For fine streetscapes it may alway be a controversial approach and details like bay windows can present technical challenges.

Retrofitting guidance

The European Commission's revised Energy Performance in Buildings Directives (EPBD) has placed greater emphasis on "nearly zero-energy" building refurbishment. Article 9 of the recast states: "Member States shall... develop policies and take measures such as the setting of targets in order to stimulate the transformation of buildings that are refurbished into nearly zero-energy buildings."

Planning Policy Statement 5 states that:
"Local planning authorities should identify opportunities to mitigate, and adapt to, the effects of climate change when devising policies and making decisions relating to heritage assets by seeking the reuse and, where appropriate, the modification of heritage assets so as to reduce carbon emissions and secure sustainable development."

The Retrofitting Planning Guidance published by Camden in June 2011 is an important step at a local level in addressing the objectives cited above. The guide recognises the substantial energy saving benefits that insulation can make to reducing carbon emissions from solid wall properties.

On page 40 the guidance highlights the fact that in general internal wall insulation does not require planning permission (apart from the case of listed properties). On page 41 it notes that for external wall insulation the rear elevation has the most potential and goes onto suggest that if the rear elevation is neither of a detailed design nor part of a uniform terrace then external insulation may be acceptable if it is handled sensitively.

Project proposals

The present owners of no 57 are Prashant Vaze and Maya de Souza. Prashant Vaze is an environmental champion and economist who has published respected books on how individuals can make a meaningful contribution to carbon reduction in their everyday lives. Maya de Souza is a green party councillor for Highgate.

They wish to extend the house at ground floor level to the rear and improve the thermal performance of the building fabric of the house as a whole at the same time.

Extension

The proposed extension is a part side infill about the same size as the one built at number 55 next door. This has been designed to be constructed using a well insulated timber frame approach. Timber frame has the advantages that it will result in a very modest embodied carbon investment and can be simply detailed to be thermal bridge free. Two roof lights will be installed where the extension meets the main rear elevation so as to maintain good daylight delivery to the rear reception room. The roof lights will be centre pivoting in order to provide good ventilation to the centre of the house. Where the extension meets the flank wall the connection will be articulated with triple glazed doors that wrap around the corner. They will admit generous amounts of daylight and free solar energy while retaining as much heat as possible.

Energy saving measures

The owners have already fitted a high efficiency gas boiler and insulated the loft to the rear as well as the new mansard roof. The front windows and the rear windows above ground floor are double glazed. All the sash windows have been well draught proofed.

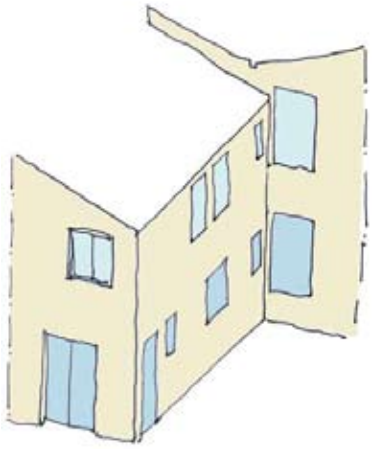
As the entire property is solid wall construction there remains a huge heat loss potential through these walls.

The double glazed windows at first floor will be retained but all new windows and doors at ground level will be triple glazed.

Having considered the potential benefits of internal and external wall insulation on their relative merits we propose to externally insulate the far gable and the flank walls with a rendered insulated system 100mm thick. This seems on balance the best approach for the following reasons:

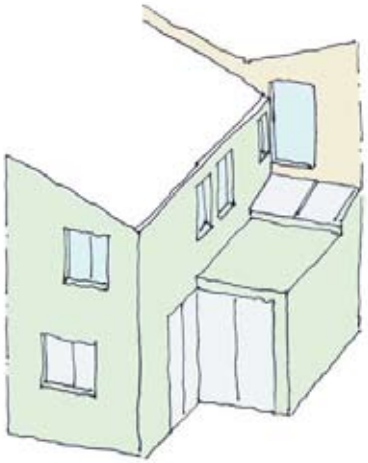
- the first floor plan is already quite tight where the stair and hall meet the WC and bathroom. An internal insulation system would require significant alterations to be thermally bridge free and allow for satisfactory space planning.
- the walls face North and West which may exacerbate moisture retention in these elements during the cold/wet months.
- the back of the terrace in the vicinity of no 57 has been substantially altered over time. It neither presents a unified elevation nor any significant fine detail.
- a rendered external wall insulation has the potential to unify the existing elevation of no 57 with the proposed extension giving the proposal its own integrity.

Within the context of the neighbouring jostling volumes this seems like a more successful approach than trying to re find what has already been lost some time ago.



Existing scenario:

- **solid brick walls**
- **double glazing at first floor**
- **single glazing at ground**



Proposed scheme:

- **insulated extension at ground**
- **triple glazing at ground and for roolights**
- **100mm EWI (external wall insulation)**

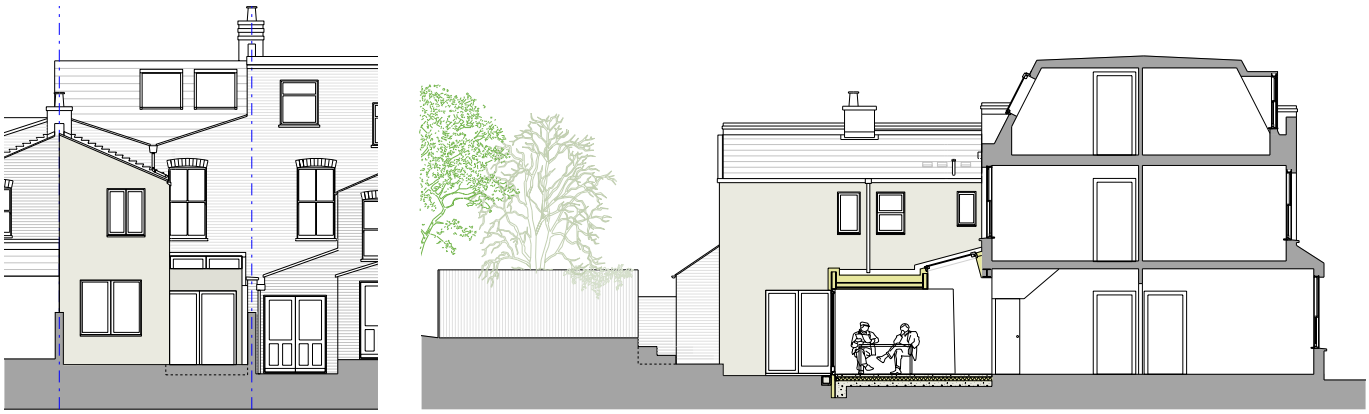
10,000 kWhr/a → **3,100 kWhr/a**

The two diagrams above indicate how much energy is expected to pass through the building elements in question on an annual basis. The implied reduction is conservative as solar gain has not been modelled and this will offset heating need more significantly in the proposed scheme due to the greater glazing area.

Character

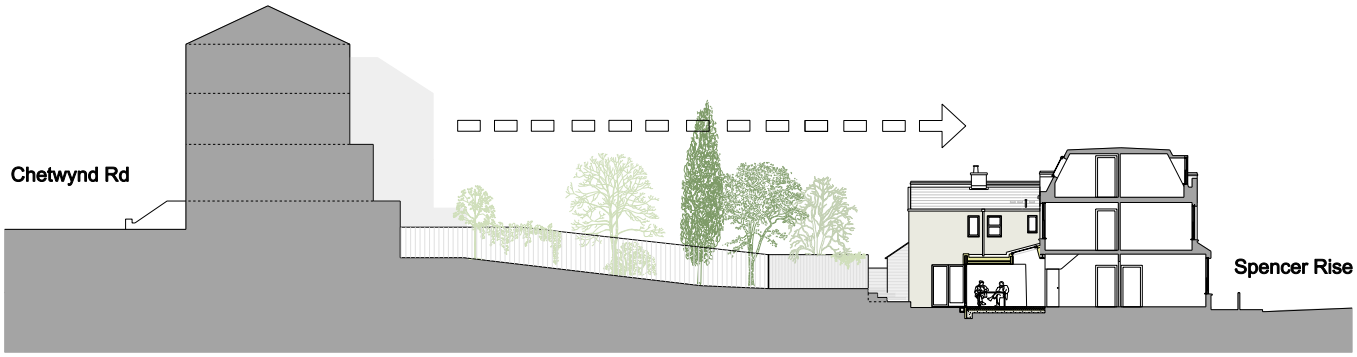
We propose leaving the main rear wall as stock brick as the wall area (and consequent heat loss) is relatively small and we would prefer to avoid a step in the wall surface between no 57 and the houses either side.

The proposal will be carried out with high quality materials and will result in a simple clean and uncluttered contemporary version of the original. This will be legible on its own terms but it will still be possible to read the original underlying Victorian structure. The existing UPVC pipe work and boiler flue will removed from the exterior and re-routed internally where it can be easily maintained. The resulting scheme will have a clean and crisp aesthetic.



Proposed north and west elevations to no 57 at rear. The gable and flank walls will be clad with rendered insulation. The main rear wall shall be left as stock brick. The corner patio doors will articulate the connection between the existing and the extension.
Approx scale 1:200.

It is worth noting that the rear elevation of no 57 is partially hidden when viewed from the rear windows of the houses along Chetwynd Rd. From the lower storeys no 57 is obscured by the densely planted gardens. The upper floors glimpse through the tree tops and view over the roof of no 57 to the south.



Sketch section showing the relationship between the semi-detached ‘villas’ along Chetwynd Rd and the more modest terrace housing of Spencer Rise.
Approx scale 1:400.

Material quality

The proposal will be constructed from high quality materials. The insulation will be covered in mineral render coloured off-white (precise RAL code to be agreed). The rain water goods will be made from pressed aluminium with a polyester powder coated finish to match the slate roof.

An example of a rendered external wall insulation installation. The gutter and verge have been extended to protect the insulation and provide a simple neat interface between the wall and roof.

The new windows at ground floor level will be constructed from robust laminated timber fames painted white and will carry high performance triple glazed units. They will incorporate double seals around the edge for air tightness and multipoint locking to provide security.

An example of a high quality triple glazed window fitted within a wall insulated externally with rendered insulation.

An example of a similar patio door to that proposed - opening to the corner.

Summary

The proposal outlined here combines a modest extension with an integrated constructional approach aimed at significantly reduced carbon emissions and improved thermal comfort. The efforts and expenditure involved should ensure that the fabric of the house will remain in good condition and habitable for many decades to come.

The design is unashamedly contemporary but sensitive to the context and a careful balance has been struck. The new expression of the house will be clear but so too will the Victorian structure behind. In the context of the varied rear elevation to Spencer Rise the project will not stand out and may suggest a way for the greater uniformity to be re-found as a result of the present and future climate challenge.

The project will be constructed using high quality materials sustainably sourced and having minimal embodied carbon.

The proposal is in line with current national guidance and fits well with Camden's advice as set out in the Retrofitting guidance published this year.

We trust that this application will gain the support of the borough and look forward to proceeding with the works.