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6 Conybeare
Design Statement

11th March 2020

Part 1: Application details

Planning Application at:
6 Conybeare,
Chalcot Estate
NW3 3SD

Planning Application sought:
Full Planning Application

Description of the Proposal:
Demolition and re-building of existing uninsulated dwelling with new insulated walls, slab, roof and high performance glazing to match existing visual appearance.

Part 2: Executive summary

The below summary should be read in conjunction with AFL drawings and reports submitted as part of the application Ref 2020/1193/P.

This application is for demolition and re-building of a 1960's detached single family house located on the grounds of Chalcot Estate, incorporating a 1980's rear first floor extension. The intention for the re-built house is to faithfully match the existing house in overall form and estate architectural detailing, while improving the thermal performance and accessibility of the house.

The footprint of the re-built house is proposed to include the extent of a previously granted but not built modest 2 storey rear floor extension PP Ref. 2019.2775.P. The proposed alteration to the courtyard window openings and fenestration is in line with the Certificate of Lawfulness Ref. 2019.2776.P granted for the existing house. The proposed change of fenestration to all other elevations is in line with estate design guidance and approved by Chalcot Estate.

Prior to applying for demolition of the existing house the intention was to retrofit and improve as much of the existing fabric as possible, as is evident by the granted PP Ref. 2019.2775.P, in line with Camden Local Plan (CLP) 2017 Policy CC1. Following a thorough investigation of the existing fabric by the appointed contractor it became evident that, due to several faults with the existing fabric, demolition and re-building would net a better performing building by substantially increasing the thermal performance of the external envelope and addressing the performance gap associated with working with existing buildings. Re-building also provides an opportunity to improve the accessibility of the house in line with current building regulations and space standards.

Part 3: Design

The overall intent is to replicate the visual detailing, arrangement and footprint of the existing building, with the re-built house respecting the relative homogeneity of the Estate architecture with subtle and considered alterations outlined below.

Particular attention has been paid to the brickwork detailing by surveying the particular arrangement of the brick bond and mortar, as well as the location of recess and rendered bands — all to be replicated.

The case for the 2 storey rear extension in terms of scale, proportion and mass has already been made and accepted as part of granted PP Ref. 2019.2775.P.

The ground floor level is proposed to be lowered to enable level access by omitting the single step level difference at the front and rear of the building,

The cill height of the first floor windows are proposed to be increased by ca.100mm to 800mm above FFL to comply with Building Regulations Approved Document (AD) Part K. The verticality of the brick piers separated by areas of timber panelling below and above two stacked windows, a detail typical to the estate, in our opinion make the impact of the alteration negligible. Especially when the existing subtle variations in the window fenestration across the Estate are taken into account.

The floor to ceiling height at first floor is proposed to be increased to 2.5m, in line with London Plan. The height of the existing parapet is proposed to be maintained, the existing substantial difference between the top of the roof surface and the top of the parapet is proposed to be decreased to allow the 2.5m floor to ceiling height at first floor to be achieved.

High performance composite windows are proposed to replace the existing UPVC sashes, the exterior of the frame is proposed to be maintained white to fit in with the rest of the Estate. Within the private courtyard a timber lift & slide door and a door & window screen are proposed, all specified to high standard of air permeability and thermal efficiency (triple glazed).

The existing uninsulated external walls and ground floor slab are proposed to be insulated, with modern high performance insulation located in the optimal location within the envelope build-up. The roof insulation is also proposed to be substantially increased compared to the existing — all with the aim of optimising the performance of the house, in line with CLP 2017 Policy CC1 (f).

Part 4: Sustainability

Existing fabric condition

Contrary to the sentiment in paragraph 8.16 of CLP 2017, the 1960's fabric of the house does not lend it self to sensitive alteration due to the following issues

1. beam and block floor construction
2. dimension of foundation along North wall not compliant to current standards
3. uninsulated, unreinforced ground floor slab, only 120mm mass concrete on top of poorly compacted rubble, deformed due to hard and soft spots
4. uninsulated cavity wall construction, with only 50mm cavity, no weep holes/cavity trays — other Estate houses showing signs of water damage
5. cement mortar, making brick re-use not viable
6. poor construction of 1980's extension, full fill 50mm cavity with loose fill rigid insulation
7. floor to ceiling height below London Housing Design guide recommended minimums
8. stepped access into property
9. low window cills at first floor, below Building Regulations AD Part K minimum

Resource efficiency and demolition

Reducing waste

1. The main contractor has committed to diverting 100% of the construction waste from landfill
2. Aerated Concrete Block specified for internal leaf — allowing precise and easy cutting of blocks on site, reducing waste
3. Windows and doors pre-fabricated off site in workshop conditions
4. Re-using foundations that have been deemed to be compliant with current standards
5. Omission of large sacrificial concrete foundations for temporary works to retain existing facade

Minimising materials required

1. Steel sections with timber joist infill used to provide lateral stability in-lieu of beam and block construction
2. Project specific structural simulations have been carried out to optimise steel cross sections and other structural members to avoid over specification
3. Higher grade steel used to further reduce steel cross sections

Using materials with low embodied carbon content

1. Structural solution for floor and roof optimised to use timber where possible, employing double and triple joist beams
2. Natural stone flooring used at ground floor
3. Timber floor used at first floor
4. Concrete mix optimised to include maximum percentage of cement replacement substances (GGBS & PFA), projected to half the embodied carbon in some elements.
5. Aerated Concrete Block specified due to its use of 80% recycled aggregate and cement replacement substances
6. Use of low-carbon supply chain for material sourcing

Enabling low energy and water demands in use

1. High level of airtightness specified to optimise building fabric performance
2. MVHR to be employed to provide fresh air with heat recovery, reducing the need to open windows during heating periods
3. Underfloor heating specified to reduce water temperature requirement for heating purposes
4. Exposed natural stone specified for ground floor living spaces for its high thermal mass and ability to take advantage of passive solar gain
5. Taps and fittings throughout specified with integrated flow limiters with aim to be below the 110 l/p/d optional Building Regulations requirement
6. Energy efficient lighting (LED) and appliances throughout
7. Integrated building services control to optimise energy requirement
8. Dual aspect open plan ground floor plan to enable good natural cross ventilation when required
9. Limiting thermal bridges and external fabric penetrations to maintain building services efficiency — thermally broken or dual lintels specified where broaching the thermal envelope line

Part 5: Conclusion

We believe, based on the points elaborated on above, a significant improvement will be made to the performance of the house by demolishing and re-building, beyond that which would be possible if it were refurbished. Together with careful specification of new materials and commitment to recycling of waste materials the new build would make a positive contribution to Camden Borough's housing stock, and contribute to the Local Plan 'Green Action for Change' goal of Carbon Dioxide reduction.

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