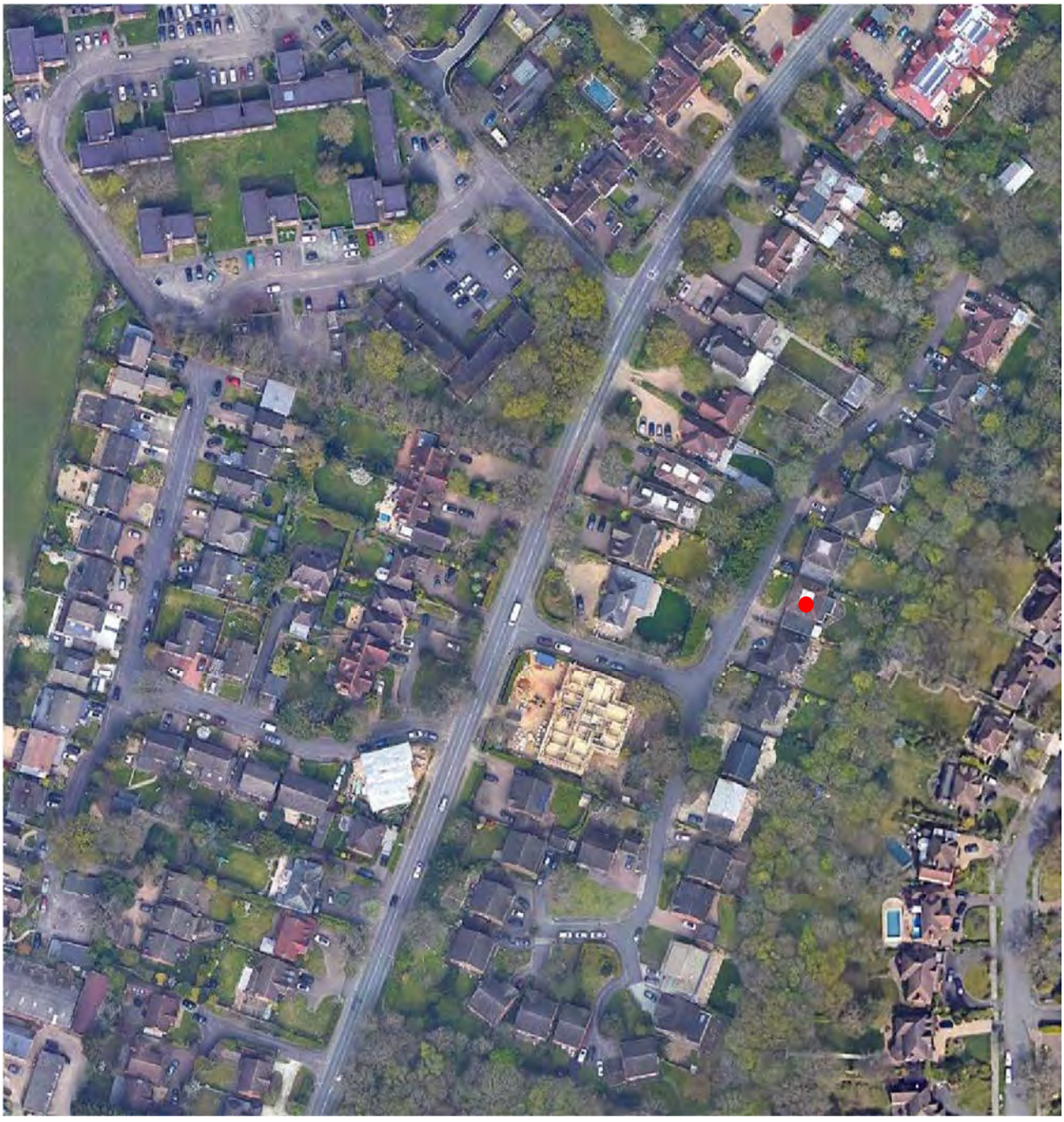
Site and Context

Situated on the east side of Fringewood Close, this two-storey house with frontage parking and a rear garden. The area is predominantly residential, consisting primarily of detached houses.

The Copsewood Estate, Northwood Area of Special Local Character is located to the east (rear) of the site. The site does not contain any Listed Buildings. There are trees that are subject to a Tree Preservation Order within the site and on adjoining land.

Fringewood Close appears to have been constructed in the early 1980's under planning application reference 19549/3756 with the following address - 6-28 (Scarlet Springs Ducks Hill Rd), Fringewood Close, Northwood. A details application (19549/H/83/0583) was approved on 20th April 1983.



Building Regulations

The Building Act 1984 brought fundamental changes to the building regulations regime and it was not until the 1990's that cavity walls and cavity wall insulation were compulsory, with the level of insulation gradually increasing every few years to todays standards.

The above would make the existing houses over 50 years old.

Building Regulations were introduced in the UK in 1965, however, this estate was built prior to The Building Act 1984 which brough about major changes.

The recent Building Safety Act (2022) has changed Building Regulations significantly, much as The Building Act of 1984.

Building Regulations has an input on the way a property is built and also how the materials used within the property are made. Stronger building materials with improved load-bearing capabilities ensure better resilience against extremes of weather. Stronger, more weather resistant materials will allow buildings to last longer before requiring maintenance and thus ensuring homes within Hillingdon remain looking as they were designed.

As an example of the this, the strength grading of timber was formally introduced through TR26 in 1996. This introduced grades such as C16 and C24 which designated the strength of timber used in floor and roof joists. Even in the last 5 years, structural engineers have raised the minimum requirement for timber floor and roof joists from C16 to C24.

The existing estate was built prior to two significant changes to Building Regulations.
I would be difficult to understand how the materials used within the existing house sit when compared to current building regulations.

Lifespan of Material

The life of building materials changes depending on the installed location with London's climate affording it the longest lifespans.

Walls have the longest lifespan of over 100 years. Roof have a lifespan of between 50 and 75 years. Timber has a shorter lifespan depending on how it was originally installed.

Developer Led Housing

The repetitive type of house suggests the houses were constructed by a developer. Developer led housing can sometimes revolve around achieving the highest profit, which can involve reducing costs of materials. As such, where the developer could have used less expensive materials over materials which would have longevity, the developer would most likely have opted for the least expensive. The demolition of the house allows the client-led redevelopment to be constructed with quality and longevity in mind.

Given the above, it cannot be assumed the lifespan of the materials used to build the original home were selected for their longevity. As such, other than the brickwork walls, most of the other parts of the home may have passed their lifespan.

Radon Protection

Radon is a naturally occurring radioactive gas that forms when uranium in soil, rock, and water breaks down. Radon, which is colourless and odourless, can seep into buildings, particularly through cracks in floors, walls, and foundations.

Long-term exposure to high radon levels significantly increases the chances of developing lung cancer.

Whist the geology of the very local area suggests that radon is at low levels within the area, higher radon level areas lies beyond Northwood Road, which lies north-west of the site.

The redevelopment of the site allows for the inclusion of a radon membrane and effective ventilation to reduce radon build up beneath the home.

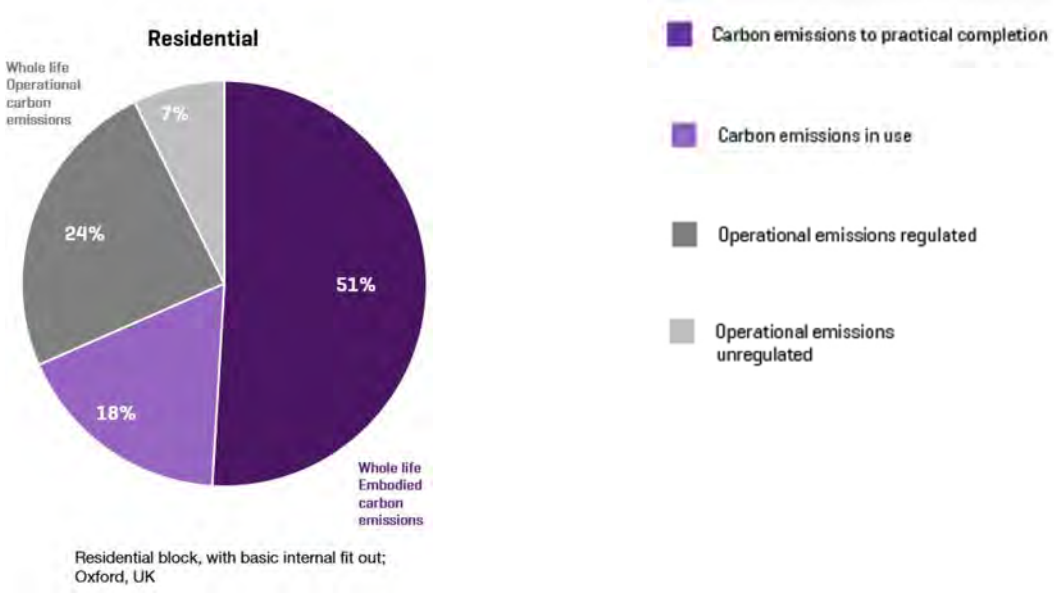
Asbestos

Asbestos was commonly used as a building material during the 1980s.
The use of blue (crocidolite) and brown (amosite) asbestos was banned in 1985
The United Kingdom finally banned the use of asbestos, including white (chrysotile) asbestos in 1999.

The redevelopment of the site provides for the opportunity to ensure the completed house does not contain these life threatening materials. The disposal of any asbestos found within the existing building will meet all UK regulations.

Whole Life Carbon Assessment

The built environment attribute to a sizable amount of carbon emissions.
However, the Royal Institute of Chartered Surveyors (RICS) has analysed the carbon from various buildings. Within housing, 49% of carbon will be used by the house will be over its lifetime, after construction:



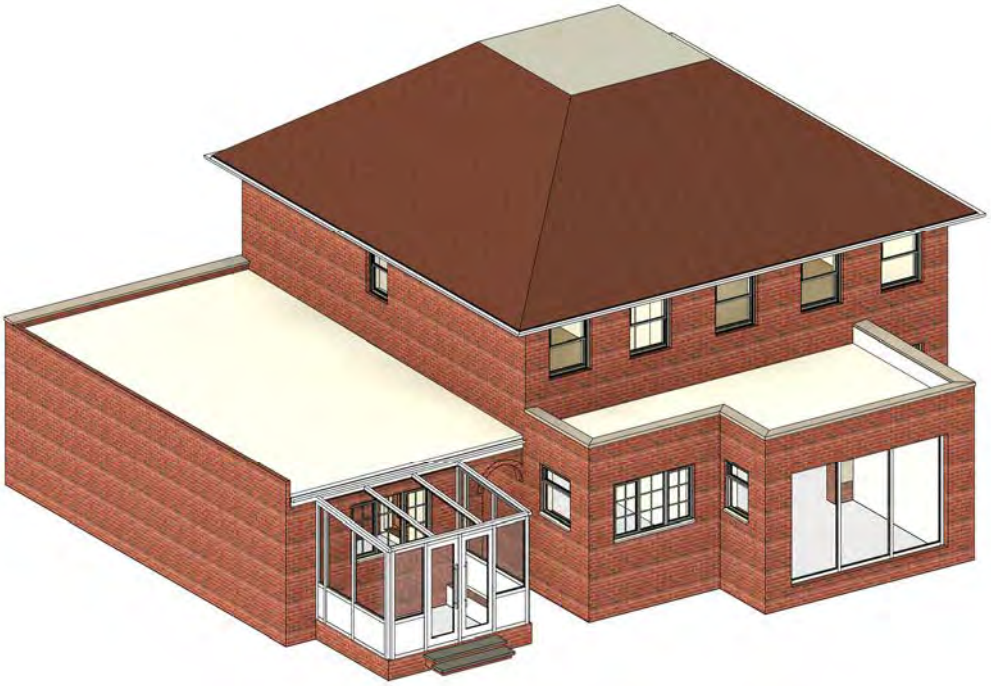
Retaining two walls will not substantially affect the home considering the number of items required to bring those two walls to current standards.

Construction

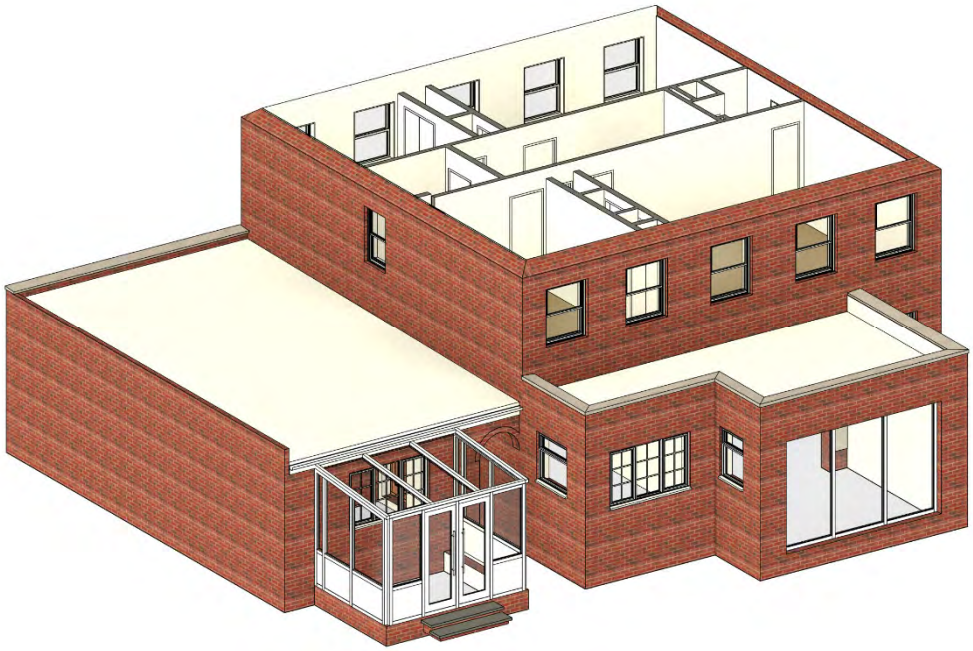
Whilst putting together the tender package it became apparent that the majority of the house needed to be demolished, to facilitate the construction. Two walls (front and side) could be maintained.

The following axonometric drawings show what is required in the demolition to achieve the consented scheme:

1) Existing House

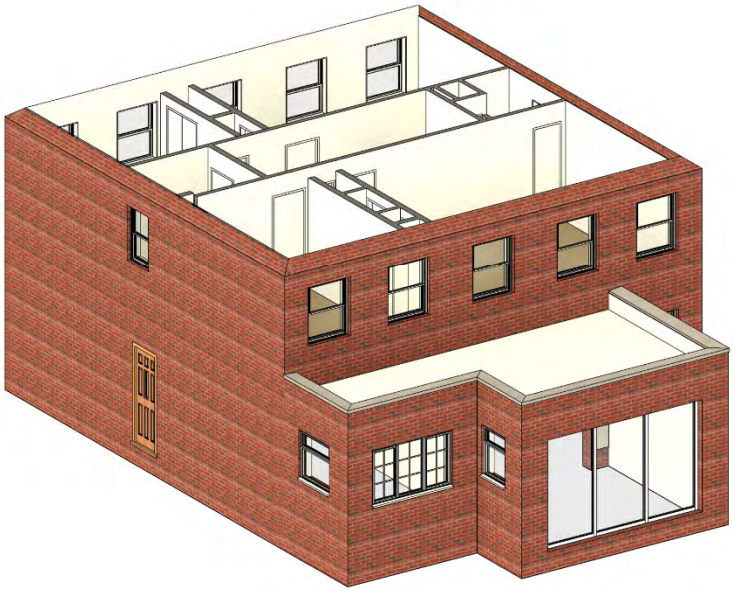


2) Remove Existing Roof



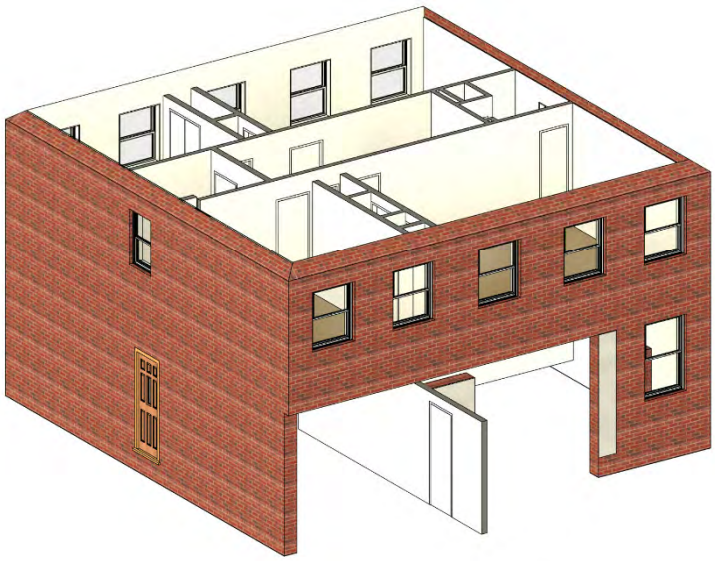
To install the steelwork required to facilitate the roof extension, the existing roof, including roof joists and ceiling joists, need to be removed.

3) Remove Existing Garage



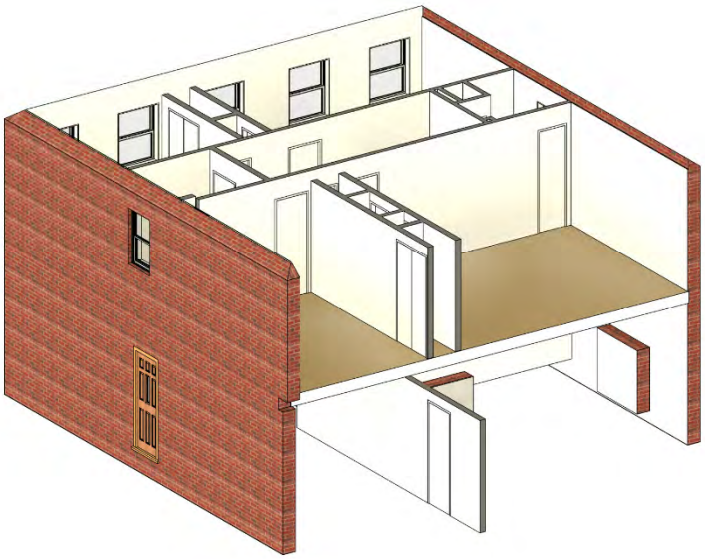
To construct the extension to the front reception room, the garage, built of single skin brickwork, needs to be demolished.

4) Remove Existing Rear Extension



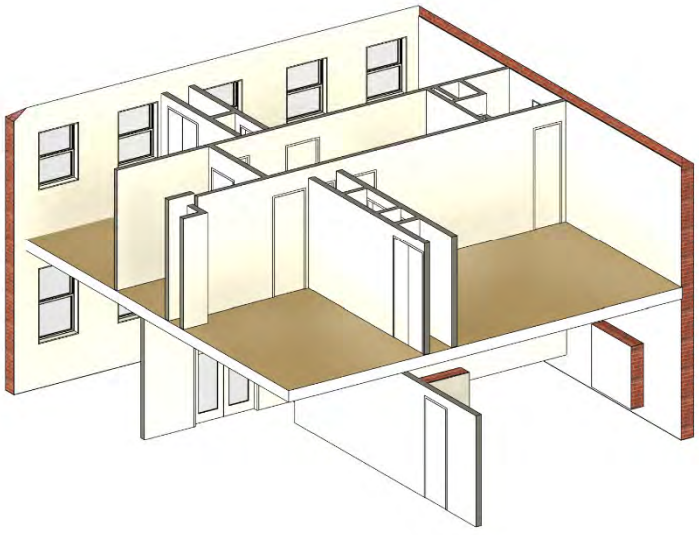
To construct the consented two-storey extension, the rear extension needs to be removed.

5) Remove Existing Rear Elevation



To construct the consented two-storey extension, the rear wall of the existing house has to be removed.

6) Remove Existing Side Elevation

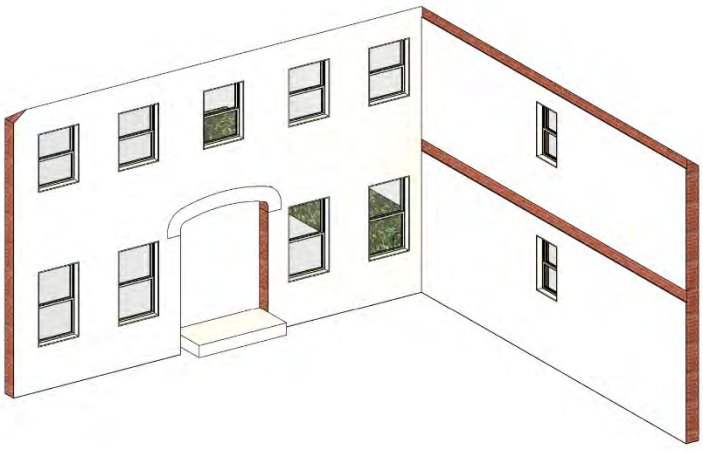


The consented drawings show how the first floor internal walls need to be removed.
The sections within the consented drawings show how the internal floor need to be lowered to facilitate the required head height within the loft.

7) Remove Existing First Floor Internal Walls & Floor

The consented drawings show how the ground floor internal walls need to be removed. The existing floor needs to be removed to install a ground floor that meets current insulations standards.

8) Remove Existing Ground Floor Walls



The consented work requires a significant amount of the house to be demolished, leaving only the front and side walls which then need to be insulated internally to meet current Building Regulations.

Conclusion

Building Regulation and the performance requirements for materials has significantly changed since this house was constructed. The reconstruction of the house will utilise materials which meet todays Building Regulations standards.

The materials used within the construction of the house will selected will be for an end use client who will be considering longevity over short-tern costs.

A radon compliant Damp Proof Membrane (DPM) will be installed within the ground floor. This DPM will be tucked into the external walls which, together with natural ventilation of the sub-floor, will reduce the passage of gases into the living space above.

The foundations of the retained walls can be underpinned and the walls can be insulated internally to meet current insulation requirements. However, given the quantum of work required to facilitate the scheme, it has been determined the most cost effective course of action is to demolish the existing building (retaining the front elevation) and rebuild the house behind it

This report concludes that is necessary to demolish the existing building allowing for the construction of a new house that use materials that can be confirmed to meet current standards.