Planning Design and Access Statement

298 Finchley Road NW3 7AG

The property is set back from Finchley Road on a plot of land of approximately 2,386 square metres. A house was built in 1921. This was extended in 1966 to the West and again in 2003 to the South. The pool house was built in 1998. Access to the property is by a driveway from Finchley Road with pedestrian access from Croftway footpath.

The application is for the replacement of the indoor swimming pool with a Granny Annex.

The proposal is for the same sized footprint and style as the existing structure but to be built as a high quality, accessible home constructed to

Passivhaus standards. This would be a life changing facility for the family and a long term asset to Camden's housing stock.

The key aims are:

- Excellent levels of thermal comfort
- Very low energy demands
- Provision of constant fresh air throughout the building
- High levels of insulation
- Airtight design resulting in draught free construction
- Low energy costs
- Minimal /low thermal bridge levels
- Ease of access to all levels by internal lift and open plan living.

The site has been chosen in line with the Redington Frognal Neighbourhood plan SD5 so as to have no significant reduction in the overall area of natural soft surface and have no significant adverse impact on the amenity, biodiversity and ecological value within the existing gardens of the house. By sacrificing the pool a home designed specifically for easy access and low energy use can be built with little impact on the existing format of the remaining house and garden.

Construction
A reinforced concrete basement up to ground level, using BS8102 Type B with waterproof concrete and water stops at junctions. Type C backup of drained protection. Internal insulation.

Above ground level a two storey timber frame construction with infill insulation. The external face will be white stucco.

Roof to be metal upstand sheeting in anthracite grey to blend with proposed solar panels.

Heating & Ventilation
Heating will be supplied by air to water heat pump with underfloor heating to the basement and ground floor. An integrated air to air heat pump with a ventilation system will supply fresh air to the habitable rooms and extract from the bathrooms, WC and cooking areas. Hot water will benefit from the air to water heat pump with an immersion heater assisted by renewable energy solar panels. Composite triple glazed windows to Passivhaus standard installed with attention to detail with airtightness in mind.

Acoustics
Policy A1, Policy A4
In accordance with MCS 020, The Planning Standard for air source heat pumps. This is to establish that the proposed location of the air source has a noise level lower than 42 dB (A) and would not require planning permission from the local authorities. The initial investigation shows there should not be a problem sitting the unit on the Studholm side of the building where there is a concrete acoustic fence and a brick wall to the south between 298 and 296 Finchley Road. The nearest window in a habitable room is more than 12 metres away. The calculations (attached) show it to be acceptable.

Overlooking, privacy and outlook
A public footpath exists between Croftway House and the Westfield development. On the Croftway side a 2.6 metre high timber fence with a 400mm trellis on top forms the boundary and on the Westfield side there is a 1.8m high metal railing with a hedge behind it.

On the Studholme side a public road and a distance of around 45m separates the two properties. It is also well screened by the fence on the ground floor and trees at 1st floor level as shown.

By design no windows have been included in the gable ends of the proposed building. A pergola extending 1 metre out from the lateral sides of the proposed building affords screening for privacy and sunlight.

This, with its sympathetic planting, has proved to be very successful in the existing building and softens the structure.

Eye level of the average man is 1635mm and Eye level of the average woman is 1545mm when standing. Using this dimension the roof of the proposed building would not generally be visible from Croftway footpath with the existing fence.

Equally the photo shows that standing at 1st floor level it is not possible to see the footpath.

Daylight and Sunlight

Policy A1

The deciduous Lime trees along Croftway footpath provide the perfect shading strategy. During winter a tree can provide 70-90% transparency. During summer months when the trees have foliage, the transparency drops to 5-40%. They are regularly polladed which keeps them in check.

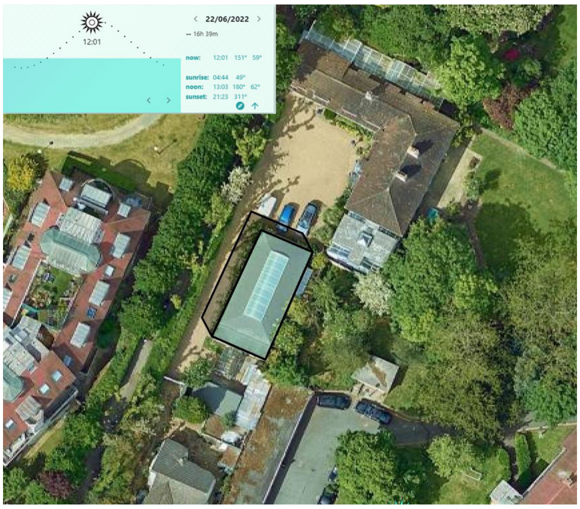
Summer ventilation method of tilting windows on opposite sides of the building will provide a good flow of natural ventilation.

During summer the MVHR (mechanical ventilation with heat recovery) will be switched off so that the heat exchanger is not functioning but fresh air will still be delivered to the rooms.

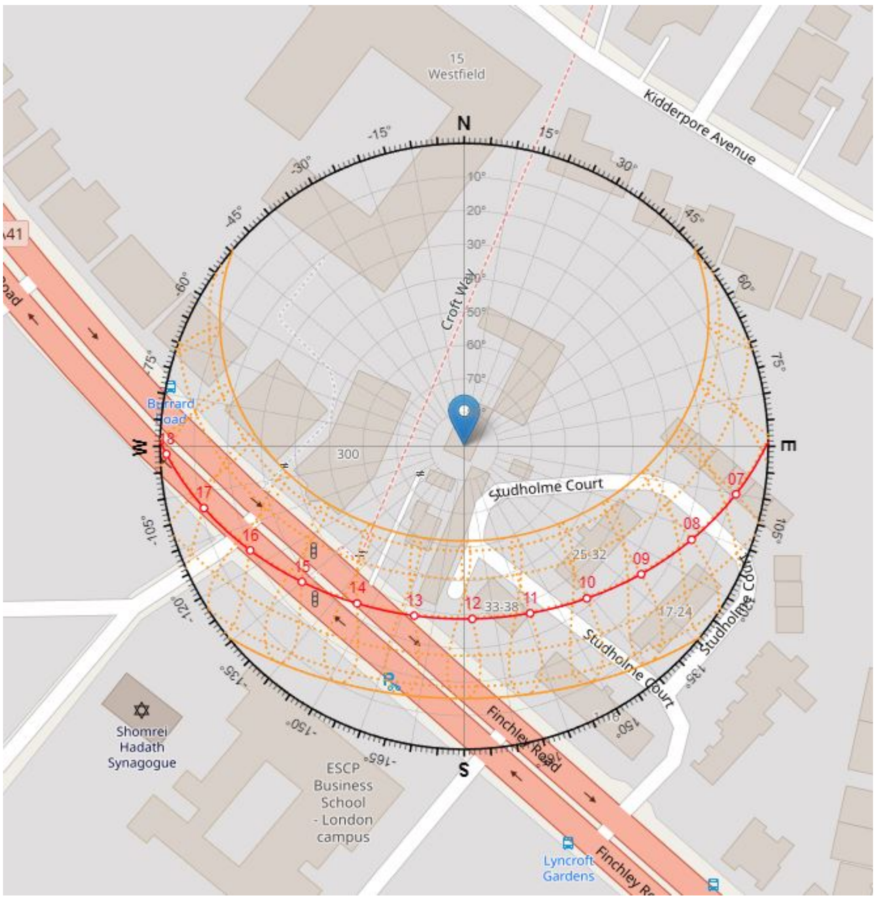
The trellising on the pergolas will provide extra security one metre away from the windows and enable night purge ventilation to take place.

We have designed out the use of roof lights to avoid the issues of overheating and thermal bridging. The installation of solar panels over the roof will help to shade the roof.

In terms of bulk, the property is two stories as is the house north and south of it. To the west they are five story and East four story. With regards to DP26 we have studied the effect of its bulk and found it not to be to the detriment of others. The pictures show the shadow for the longest and shortest day



The sun diagram shows the path of the sun in the yellow zone. The nearer edge of the crescent would be summer when the sun is at its highest and the bottom edge is the winter path. The shorter the distance between the centre point and the arc, the higher the sun is. The curved red line is the sun's path for 30th April.



Artificial Light
All windows will have an integral blind system on their external side. This is principally for heat gain control and privacy but also to mitigate light pollution.

Rain harvest
The proposal is to harvest the rainwater from the entire roof. This is an area of 126 square metres. The average rainfall in London is 557 mm per year. The water can be used for toilets, washing machines, watering plants and washing cars etc. One person's water usage for these activities would be 255 litres each week. It makes sense to have around 2-3 week's worth of water stored. The recommendation is 1,500 to 3,000 litres: Suitable for 1-4 people doing small amounts of garden irrigation. We have therefore specified a 2700 litre tank to be buried in the garden alongside the building. An automated pump system will supply a filtered pressurised supply.

Accessibility

Policy H6 addresses the overall need for a mix of housing types, the particular needs of people with mobility difficulties and wheelchair users, the needs of service families, and the needs of people wishing to build their own homes;
This is one of the main aims of this particular design. It is a high quality, low running cost, purpose designed house for older people. As such it will benefit all age groups be it parents with prams or people with disabilities.

Policy H8 addresses homes for older people, homeless people and vulnerable people.
The purpose of this project is to enable the elderly members of the family to remain where they have lived for the past 30 years, with the health centre, shops and transport facilities that they are familiar with.

Policy C6 Access for all
By building wheelchair access we hope to enable easy access for all. Internally the communal space is divided into areas without doors. Full height windows, although used sparingly, enable viewing from all heights.

Sustainability Statement

CS13
minimises its energy use, achieves the highest possible environmental standards, and is designed to adapt to, and reduce the effect of, climate change.

Whilst this is for a single dwelling we are very focused on achieving the Passivhaus standard in its own right with minimal carbon emissions. The Passivhaus standard uses the precision of building physics to ensure reduced energy costs and demand, comfortable and healthy living conditions, with a high standard of energy efficiency that exceeds government regulations.

The Passivhaus Technical Requirements

For a building to be considered a Passive House, it must meet the following criteria

1. The **Space Heating Energy Demand** is not to exceed 15 kWh per square meter of net living space (treated floor area) per year or 10 W per square meter peak demand.

In climates where active cooling is needed, the **Space Cooling Energy Demand** requirement roughly matches the heat demand requirements above, with an additional allowance for dehumidification.

2. The Renewable **Renewable Primary Energy Demand (PER, according to PHI method),** the total energy to be used for all domestic applications (heating, hot water and domestic electricity) must not exceed 60 kWh per square meter of treated floor area per year for Passive House Classic. .

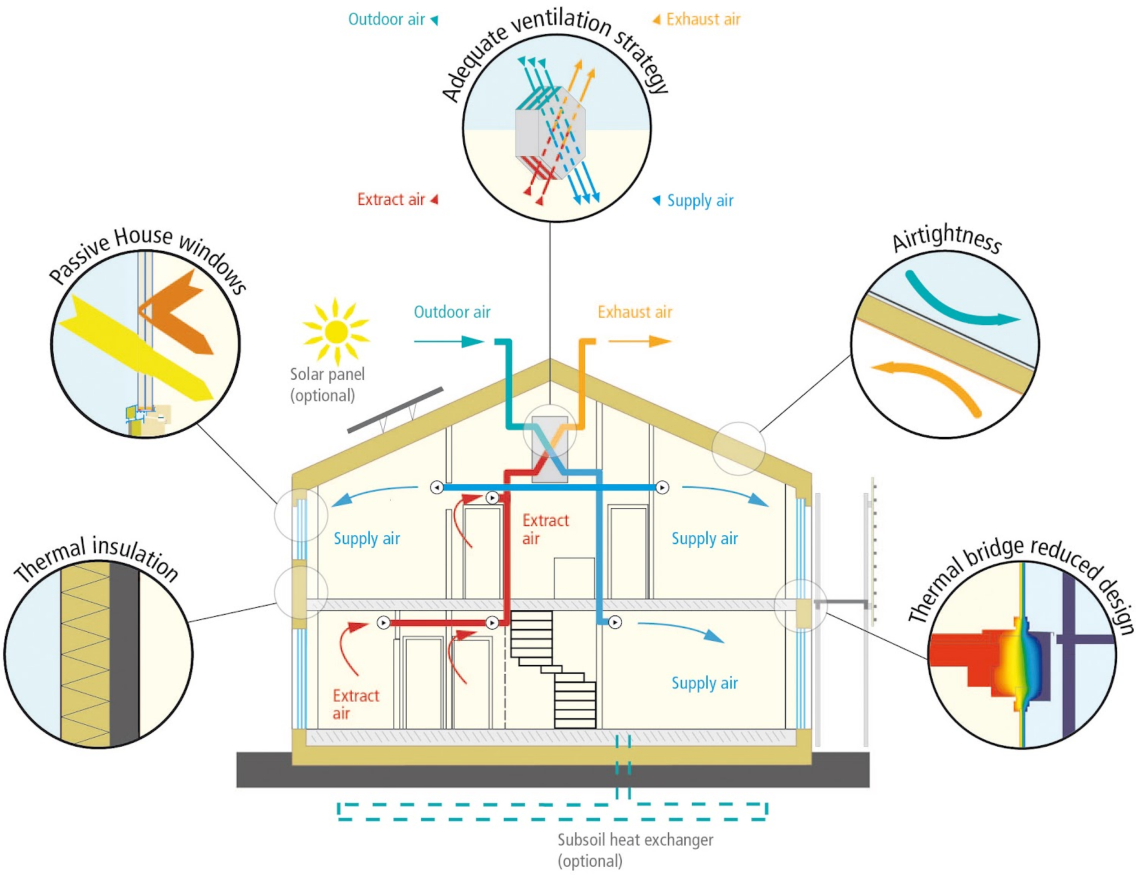
3. In terms of **Airtightness**, a maximum of 0.6 air changes per hour at 50 Pascals pressure (ACH50), as verified with an onsite pressure test (in both pressurised and unpressurised states).

4. Thermal **comfort** must be met for all living areas during winter as well as in summer, with not more than 10 % of the hours in a given year over 25 °C.

Passive House buildings are planned, optimised and verified with the Passive House Planning Package (PHPP).

All of the above criteria are achieved through intelligent design and implementation of the 5 Passive House principles: thermal bridge free design, superior windows, ventilation with heat recovery, quality insulation and airtight construction.

The following five basic principles apply for the construction of Passive Houses:



Thermal insulation

All opaque building components of the exterior envelope of the house must be very well-insulated. For most cool-temperate climates, this means a heat transfer coefficient (U-value) of 0.15 W/(m²K) at the most, i.e. a maximum of 0.15 watts per degree of temperature difference and per square metre of exterior surface are lost.

Passive House windows

The window frames must be well insulated and fitted with low-e glazings filled with argon or krypton to prevent heat transfer. For most cool-temperate climates, this means a U-value of 0.80 W/(m²K) or less, with g-values around 50% (g-value= total solar transmittance, proportion of the solar energy available for the room).

Ventilation heat recovery

Efficient heat recovery ventilation is key, allowing for a good indoor air quality and saving energy. In Passive House, at least 75% of the heat from the exhaust air is transferred to the fresh air again by means of a heat exchanger.

Airtightness of the building

Uncontrolled leakage through gaps must be smaller than 0.6 of the total house volume per hour during a pressure test at 50 Pascal (both pressurised and unpressurised).

Absence of thermal bridges

All edges, corners, connections and penetrations must be planned and executed with great care, so that thermal bridges can be avoided. Thermal bridges which cannot be avoided must be minimised as far as possible.

CC1
Climate change mitigation
The Passivhaus concept demands high standards, which are responding well to the changing climates around the world. By designing and building a Passivhaus we are preparing for the future climate changes and updates to the regulations.

CC2
Adapting to climate change

Whilst the proposal uses the roof to harvest water and solar energy, the building will be enclosed in a green infrastructure adding biodiversity. This will reduce overheating, provide shading, give privacy, and contribute to wellbeing of the inhabitants.

CC3
Water and flooding
Implementation of Sustainable Urban Drainage Systems (SuDS) and promotion of flood resistant architecture and onsite retention features.
A separate SuDS report shows the analisis for a sustainable drainage system.
A rain harvesting system will be installed collecting from the entire roof and supplying toilets, washing machines, watering plants and washing cars etc.

CC4
Air quality
This is a growing concern which will become more prominent in the future, especially if you happen to live on a red route in London. Efficient heat recovery ventilation is key, allowing for a good indoor air quality and saving energy. In Passive House, at least 75% of the heat from the exhaust air is transferred to the fresh air again by means of a heat exchanger. A side benefit of this system is the air is filtered on the intake giving a much better quality of air, even when it is expelled back outside. As this system is adopted more widely it could have an effect on the general air quality. They already have air filters on the roof of buses.

Resource efficiency.
Construction and demolition
The existing structure on the site is a lightweight steel frame that will be dismantled manually and reused as a farm building. The hole for the swimming pool gives a head start in the excavating of the basement.
The basement will be reinforced concrete and the superstructure timber frame with stucco outer skin.

DP6 Lifetime Homes standards

Lifetime Homes

	Lifetime Homes Standard		Comment
1	**Car Parking (width or widening capability)**		
a	*Where a dwelling has car parking within its individual plot (or title) boundary, at least one parking space length should be capable of enlargement to achieve a minimum width of 3300mm.*	✓	
b	*Where parking is provided by communal or shared bays, spaces with a width of 3300mm, in accordance with the specification below, should be provided.*	n/a	
2	**Approach to dwelling from parking (distance, gradients and widths)**	✓	
3	**Approach to all entrances**	✓	
4	**External Entrances**	✓	
a	*should be illuminated*	✓	
b	*have level access over the threshold; and*	✓	
c	*have effective clear oppening widths and nibs*	✓	
d	*have adequate weather protection*	✓	
e	*have level external landing*	✓	
5	**Communal Stairs and lifts**		
a	*Principal access stairs should provide easy access regardless of whether or not a lift is provided.*	✓	
b	*Where a dwelling is reached by a lift it should be fully accessible*	n/a	
6	**Internal Doorways/Halls**	✓	
7	**Circulation Space**	✓	
8	**Entrance level living space**	✓	
9	**Potential for entrance level bed-space**	✓	
10	**Entrance level WC and shower drainage**	✓	
11	**Bathroom/WC Walls**	✓	
12	**Stairs and potential through-floor lift in dwelling**	✓	
a	*Potential for stair lift installation*	✓	
b	*A suitable identified space for a through-the–floor lift from the entrance level to a storey containing a main bedroom and a bathroom*	✓	
13	**Potential for fitting of hoists and bedroom / bathroom**	✓	
14	**Bathrooms**	✓	
15	**Glazing and window handle heights**	✓	
16	**Location of service controls**	✓	

Submission:

Drawing No.	Drawing Name	Scale	File
298 Drg List	List of Submissions		PDF
298-35	Location Plan	1:1250	A4
298-36	Existing Topographic map	1:500	A4
298-32	Existing pool house	1:100	A4
298-01	Proposed First Floor Plan	1:100	A4
298-02	Proposed Ground Floor Plan	1:100	A4
298-03	Proposed Basement Floor Plan	1:100	A4
398-04	Proposed Basement Structure Plan	1:100	A4
298-05	Proposed Roof Plan	1:100	A4
298-06	Proposed Site Plan	1:500	A4
298-07	Proposed West elevation	1:100	A4
298-08	Proposed East Elevations	1:100	A4
298-10	Proposed Section AA	1:100	A4
298-11	Proposed Section BB	1:100	A4
298-12	Proposed North elevation	1:100	A4
298-13	Proposed South elevation	1:100	A4
298-41	Proposed Basement Detail	1:10	A4
298-42	Proposed Ground Floor Detail	1:10	A4
298-D&A	Planning Design and Access Statement		PDF
298-BIA	Basement Impact Assessment	V.1.0	PDF
298-SuDS	SUDS assessment	V.1.0	PDF
	Tree Report (within BIA)		
298-IA	Independent Audit of BIA	1.V9.	Doc
298-CIL-F1	CIL Form 1 additional information		PDF
298-Noise	MCS 020 Heat Pump noise levels		PDF
298-CMP	Pre Draft Construction Management Plan		PDF
298-Fee	Fee Calculation		PDF
11609804	Planning Application 11609804		online

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