

32a Lansdowne Drive Hackney, London

Private house

Architect and client
Tectonics

Passivhaus Designer
Accredited Passivhaus Design

Passivhaus Certifier
Warm

Currently on site



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Site location

Rear garden of Victorian villas

House is 1.5 storey with semi-basement ground floor

Tree in pavement to East

Four storey buildings to South

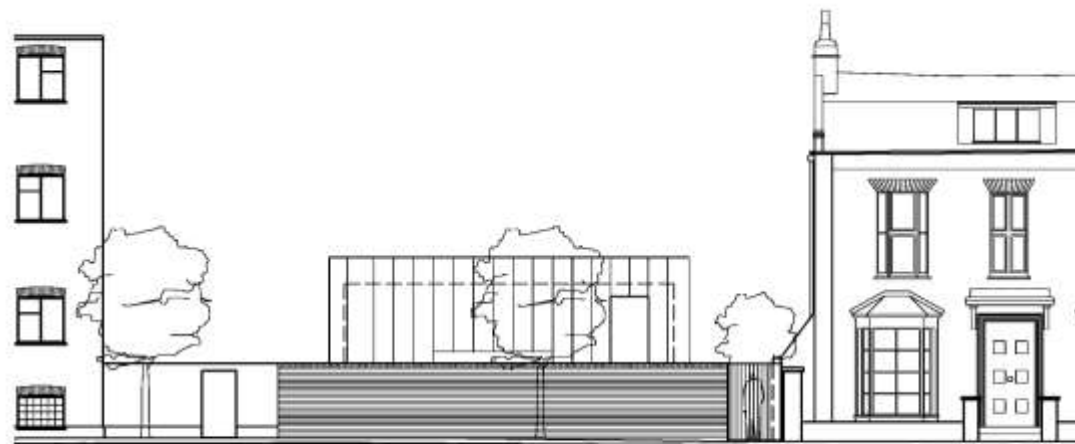
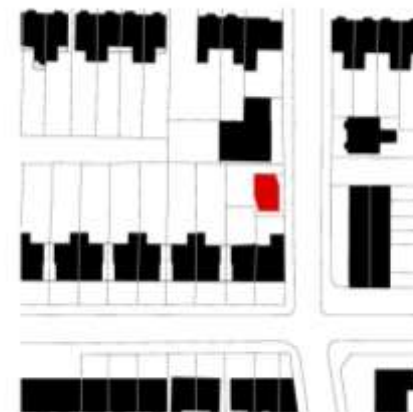


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Site location

Street elevation

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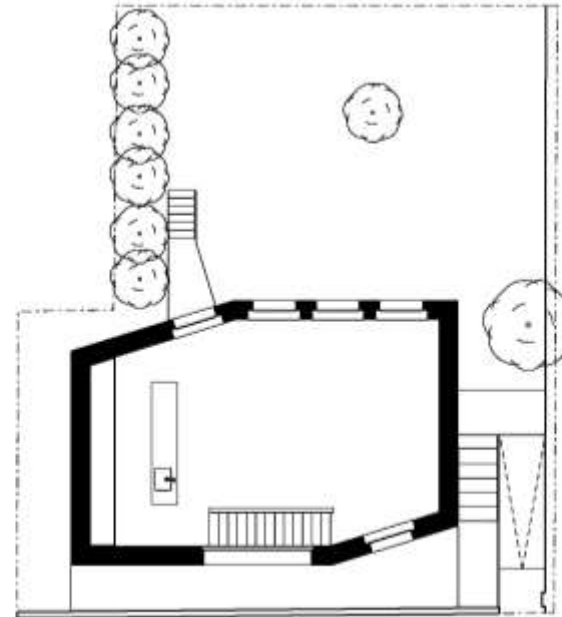
Street Elevation 1:25

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Floor plans

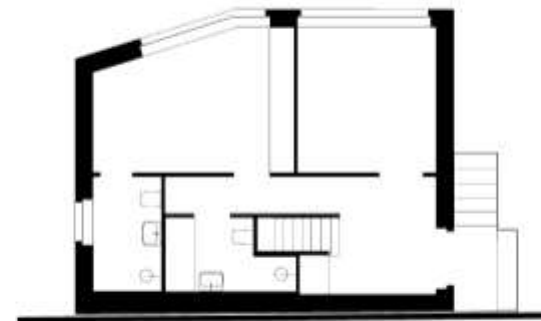
Upper ground floor

Kitchen, living and dining space
MVHR within wall of cupboards



Lower ground floor

Entrance, 2 bedrooms, bathrooms



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Monolithic construction effective for
Passivhaus:

Lower ground floor

- Raft floor slab over insulation
- Externally insulated in-situ concrete walls

Upper ground floor

- Cross laminated timber panels for walls, floor and roof



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Passivhaus information

Treated floor area TFA

- 92.4 sq m

Heat loss area HLA

- 362.95 sq m

Form factor TFA/HLA

- 0.25

U values

W/sq m K

Slab

0.094

Lower walls

0.101

Upper walls

0.077-0.135

Roofs

0.071

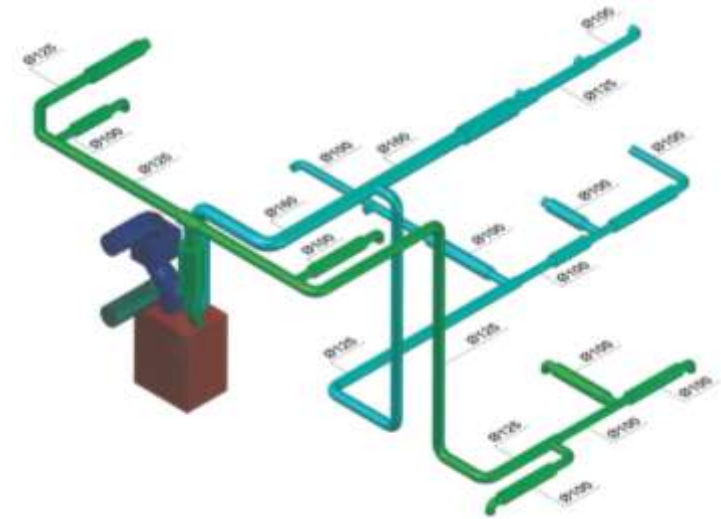
Glazing

0.53 ñ 0.62

Front door

0.6 (but £££)

Thermal bridge free



Building services

Condensing gas water heater

Heated towel rails in bathrooms

Paul MVHR system

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PHPP Verification figures

Space heating

14 kWh/sq m.year

Heating load

9W/sq m

Primary Energy

102 kWh/sq m.year

Air leakage/ airtightness

0.64 ach (design)

0.37 ach (first test)

Heat recovery efficiency

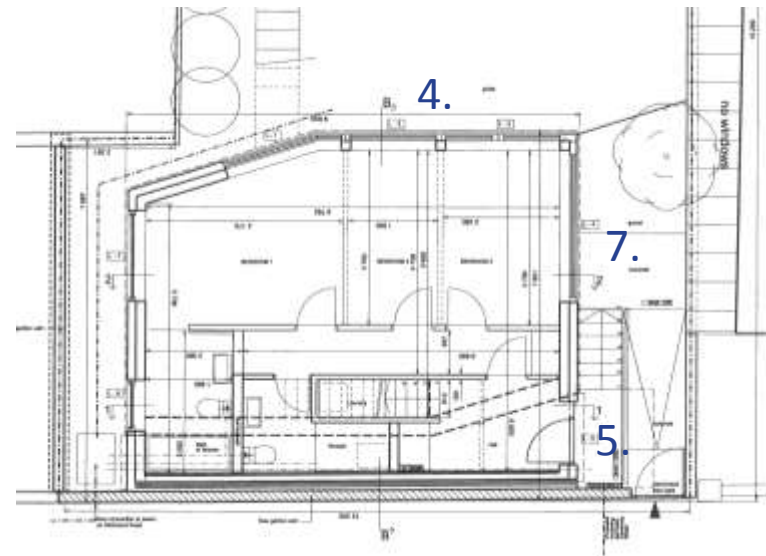
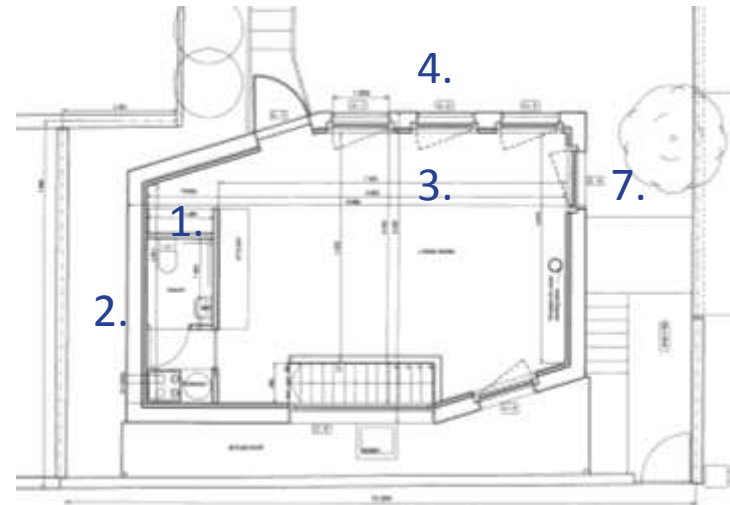
91% Paul Novus 300



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Changes to original design to achieve Passivhaus

1. separate MVHR and heating system ñ more efficient
2. Additional insulation
3. Revised window design to omit Juliette type balconies with thermal bridges
4. High G and U value glazing to west facing windows
5. Well insulated front door
6. Sub soil thermal properties included in PHPP
7. North facing window omitted

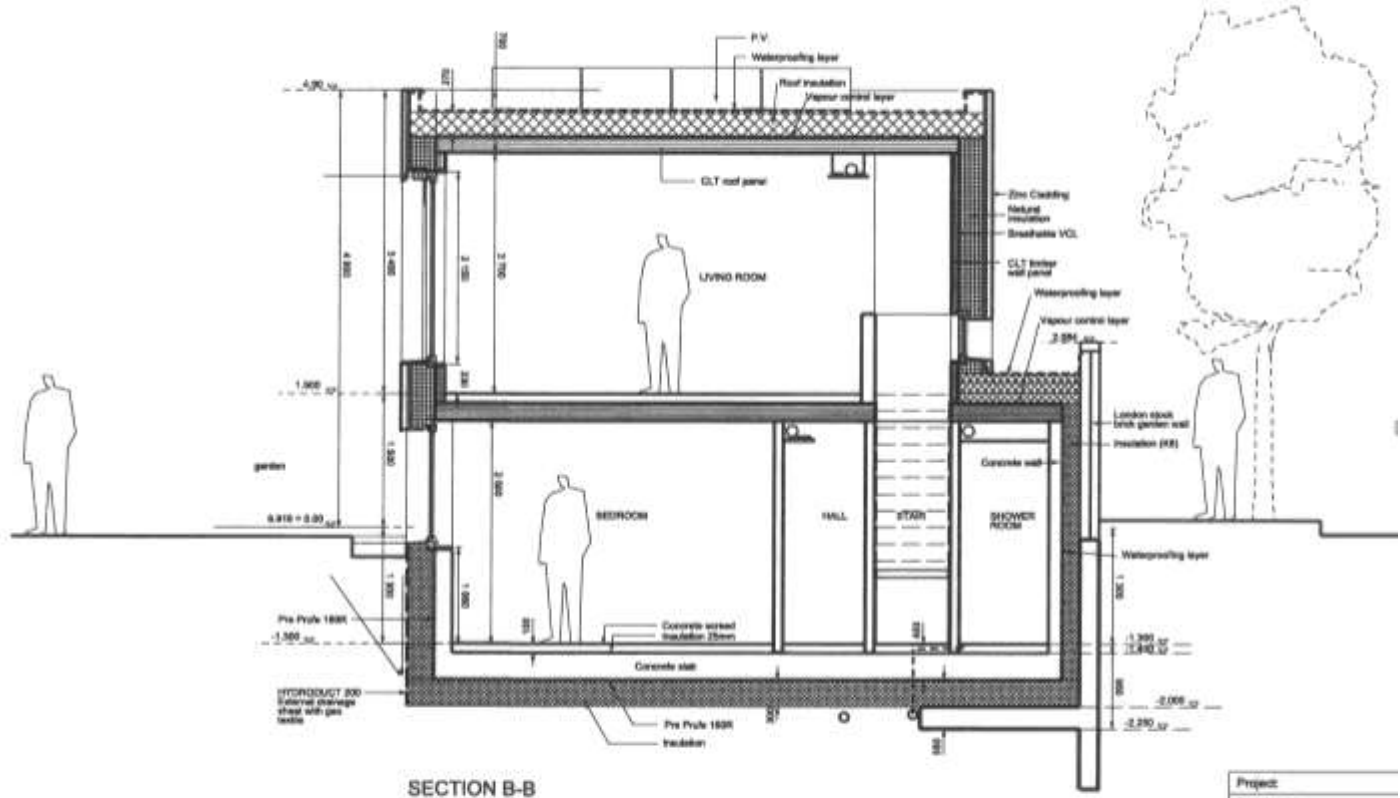


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Construction details

Zinc cladding

Brick slip cladding



Project:	
Drawing No:	
Title:	
Scale:	

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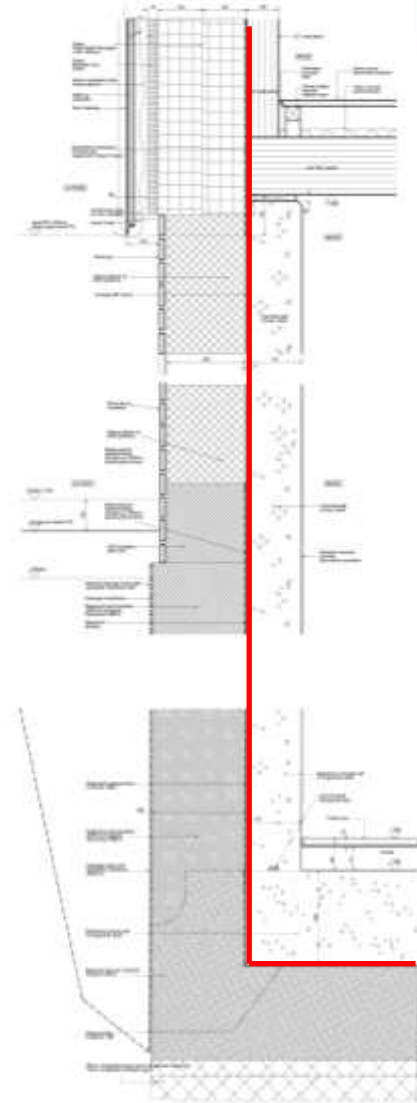
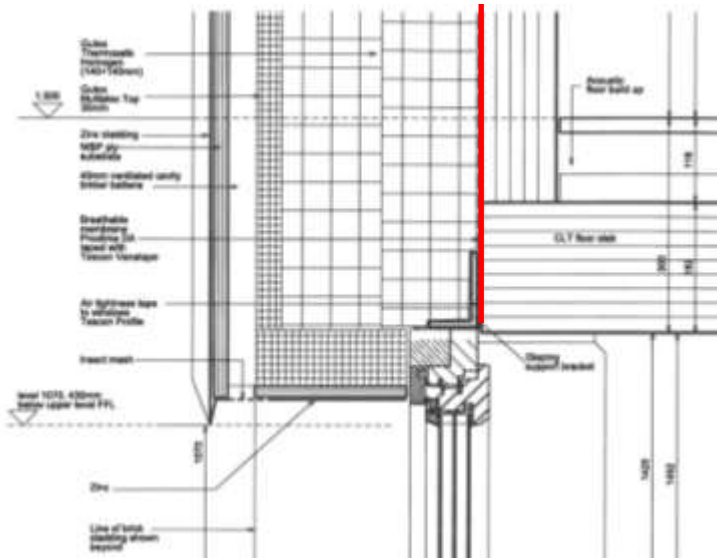
Construction details

Concrete and timber internal finishes

External insulation

External airtight layer

Thermal bridge free junctions



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Construction process

Site at commencement

Retaining wall to pavement



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Construction process

Preparation of ground

Below slab insulation



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Construction process

Lower ground floor slab and walls



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Construction process

Installation of upper ground floor



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Construction process

Airtightness

Upper ground floor wrapped in air tightness membrane

Windows taped



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Air tightness test

First test

0.37 air changes/ hour



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Construction process

Work continues ñ mainly outside

Completion early 2015



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Contact details

Architect

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