

## 02.12 INSULATION

Trade show Bridges 2012  
 Kilburn Nightingale Architects  
 Sam Tisdall Architects  
 Clay Architecture  
 Product matrix Insulated sandwich panels  
 Product directory  
 RICS costs



HÉLÈNE BINET

## 02.12 INSULATION

**OVERVIEW**  
 FELIX MARA

**EMMANUEL  
 COLLEGE LIBRARY,  
 CAMBRIDGE**  
 KILBURN  
 NIGHTINGALE  
 ARCHITECTS

**103 PARK ROAD,  
 CHISWICK**  
 SAM TISDALL  
 ARCHITECTS

**WALDESLADE  
 PRIMARY SCHOOL,  
 CHATHAM, KENT**  
 CLAY  
 ARCHITECTURE

**Left** Sam Tisdall  
 Architects' 103 Park  
 Road, Chiswick



103 PARK ROAD,  
CHISWICK  
SAM TISDALL  
ARCHITECTS

Selected products

- Multifoil wall insulation** Actis Insulation, Triso-super 10  
[www.actis-isolation.com](http://www.actis-isolation.com)
- Aluminium sliding doors** Sky-Frame (supplied and installed by Glass Tech Facades)  
[www.sky-frame.com](http://www.sky-frame.com)
- Bespoke fibre reinforced concrete panels** Gray Concrete  
[www.grayconcrete.co.uk](http://www.grayconcrete.co.uk)
- Bespoke European oak sliding doors and windows** JMF joinery
- Sliding door gear** Hafele, Straightaway 710  
[www.hafele.co.uk](http://www.hafele.co.uk)
- UV protection oil to joinery** Osmo  
[www.osmouk.com](http://www.osmouk.com)
- Frameless glass box** Glass Tech Facades  
[www.glasstechfacades.co.uk](http://www.glasstechfacades.co.uk)
- Solar water heating, boiler and cylinder** Vaillant, auroTherm exclusive, ecoTEC plus, auroSTOR  
[www.vaillant.co.uk](http://www.vaillant.co.uk)
- Heat recovery system** Vent Axia, Sentinel Kinetic Plus B (installed and detail designed by Service Vent)  
[www.vent-axia.com](http://www.vent-axia.com)  
[www.servicevent.co.uk](http://www.servicevent.co.uk)
- Wine cellar tanking** Cetco, Voltex (bentonite geotextile membrane)  
[www.cetco.com](http://www.cetco.com)
- Electric hatch**  
[www.cellaraccess.co.uk](http://www.cellaraccess.co.uk)
- Bespoke tessellated tiles** Supplied and water cut by Zenith tiles and Strata  
[www.zenithmosaicandtiles.com](http://www.zenithmosaicandtiles.com)  
[www.stratatiles.co.uk](http://www.stratatiles.co.uk)
- Kitchen**  
Underwood  
[www.underwoodfurniture.com](http://www.underwoodfurniture.com)

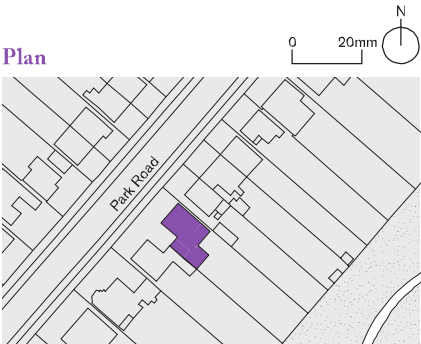


Lightweight reinforced concrete panels clad the garden elevation

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- Start on site** May 2010
- Completion** Feb 2011
- Gross internal floor area** 200m<sup>2</sup> (of which 80m<sup>2</sup> is new)
- Form of contract** JCT MW 2011
- Total cost** £415,000
- Cost per m<sup>2</sup>** N/A (mix of refurb and new)
- Client** Christine Taylor and Lawrence Waterman
- Structural engineer** Form Structural Design
- M&E consultant** Peter Deer and Associates
- Quantity surveyor** None
- Interior designer** Ramses Frederickx
- Approved building inspector** Assent Building Control
- Main contractor** John Perkins Projects
- CAD software used** Vectorworks
- Estimated annual CO<sub>2</sub> emissions** 15.9kg/m<sup>3</sup>

Plan



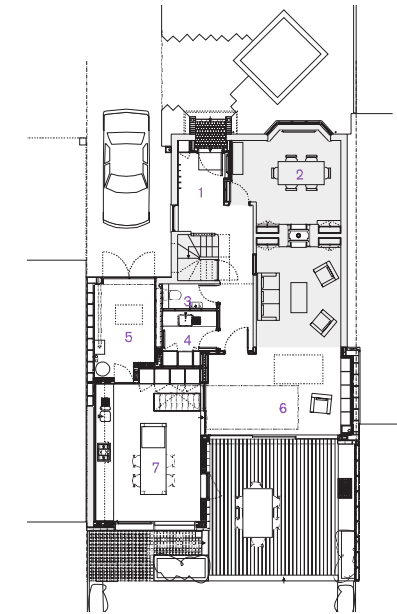
A modern two-storey extension and reorganisation of a 1920s house, with a new kitchen and living space on the ground floor, and master bedroom, bathroom and terrace on the first. Bespoke European oak full-height sliding doors and windows are set flush within a facade of lightweight glass-reinforced concrete panels. These were manufactured to specific colours and sizes and form a bold new element at the rear of the house. Aluminium triple sliding doors, with sightlines of only 20mm in the living room, open to a decked area with a concrete BBQ alongside. On the first floor, a frameless glass box sitting on a green roof links old with new. Environmental improvements include a highly insulated envelope, solar water heating, photovoltaic panels and a heat recovery system, which extracts hot air from the glass box that acts as a solar collector.

**Sam Tisdall**, director, Sam Tisdall Architects

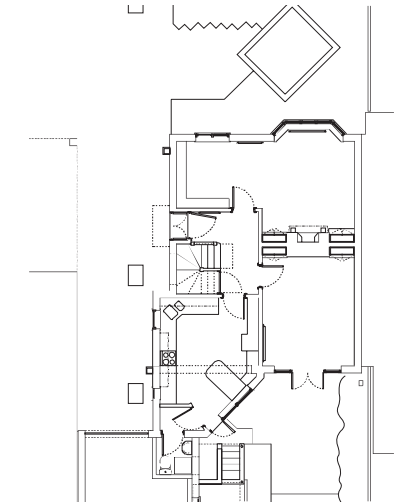


# 103 PARK ROAD, CHISWICK SAM TISDALL ARCHITECTS

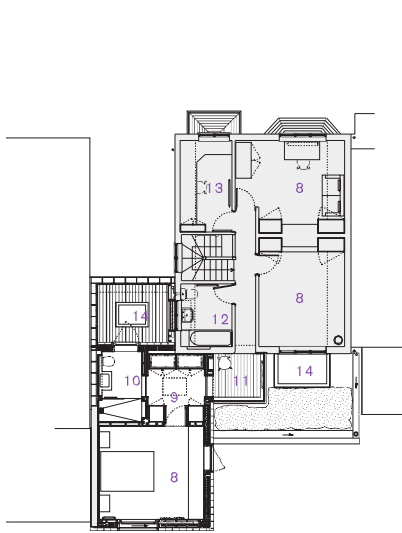
- 1. Hall
- 2. Dining
- 3. WC
- 4. Utility
- 5. Garage
- 6. Living
- 7. Kitchen
- 8. Bedroom
- 9. Dressing
- 10. En suite
- 11. Link
- 12. Bath
- 13. Study
- 14. Rooflight



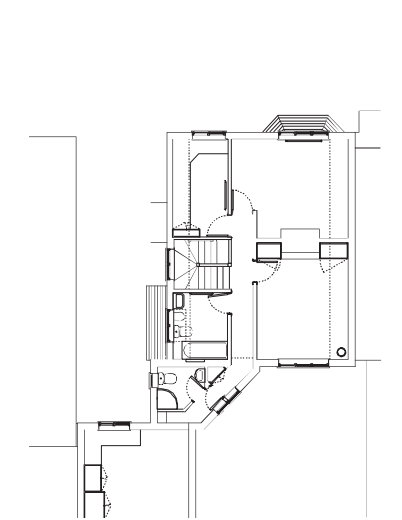
Proposed ground floor plan



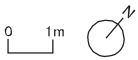
Existing ground floor plan



Proposed first floor plan



Existing first floor plan



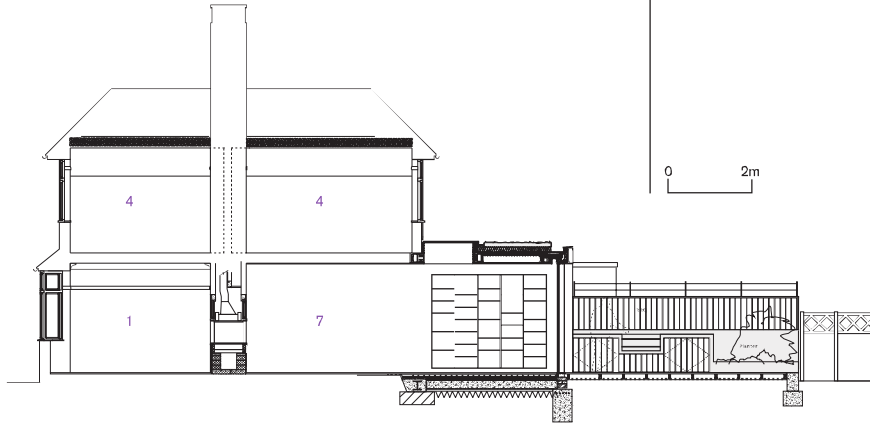
# 103 PARK ROAD, CHISWICK SAM TISDALL ARCHITECTS



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Section A-A



Section B-B



Section C-C

- 1. Dining
- 2. Garage
- 3. WC
- 4. Bedroom
- 5. En suite
- 6. Rooflight
- 7. Living
- 8. Kitchen
- 9. Cellar



**Top** Bespoke, full-height European oak windows are set flush with lightweight CRC facade panels  
**Bottom** A frameless glass box sits on the green roof



103 PARK ROAD,  
CHISWICK  
SAM TISDALL  
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The living room  
has aluminium triple  
sliding doors with  
20mm sightlines

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1. 18 WBP ply with breather membrane to outer face

2. 100 Rockwool Roll between studs held against plywood

3. Rainscreen of 100mm-thick fibre-reinforced concrete panels fixed to subframe attached to plywood

4. RIW sheetseal 9000 DPC

5. 30 Tri-so 10 quilt insulation

6. 2 layers of wallboard taped and skimmed with vapour check behind and shadow gap to frame

7. Sliding door track and position of open door dotted

8. Solid oak sliding door frame with drip to outer edge seal on either side of door frame

9. Double glazed unit

10. Solid oak mullion

11. Solid oak sliding door frame

12. 15 x 20 oak bead with bevel and shadow gap

13. Mastic seal

14. 25 sand cement render with SS corner bead and continuous under cladding

15. 230 x 6 galvanised steel flat painted, drip cut to bottom face

16. Bauder BRTS Duo Bitumen membrane system

17. 18 WBP plywood deck on furring strips

18. 50mm Rockwool Roll insulation between joists bonded to ply deck

19. 2 layers of 12.5 wallboard

20. Curtain track in recess

21. Tyvec Supro breather
- membrane dressed over upstand before roofing membrane fitted

22. Upstand formed of 18 WBP either side of 50 x 50 SW stud

23. Toughened glass balustrade

24. Oak sill

25. Painted SW skirting with 10mm shadow gap to oak frame

26. 18 T&G chipboard floor deck

27. 100 Isowool sound insulation

28. 2 layers of 12.5 soundbloc, skimmed

29. Recess for electric blind

30. 70mm Kingspan Kooltherm K3 with 20mm edge strip to screed

31. 75 sand cement screed on separating layer with embedded underfloor heating

32. Tiled finish

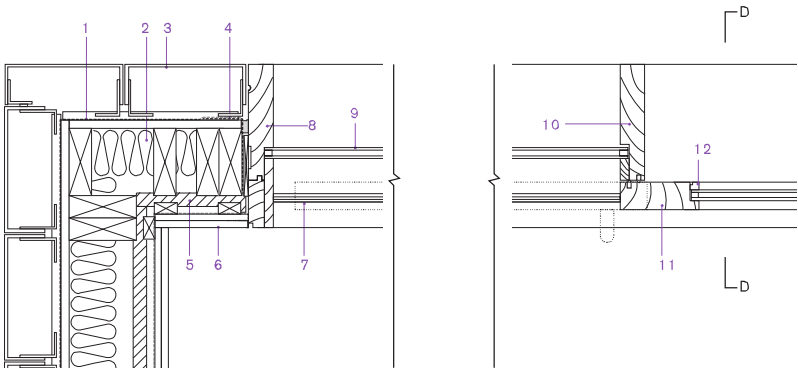
33. Granite sets laid level with lawn

34. Catnic facade-slot drainage channel

35. 200 slab



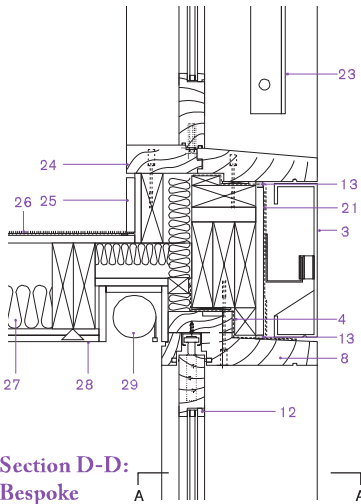
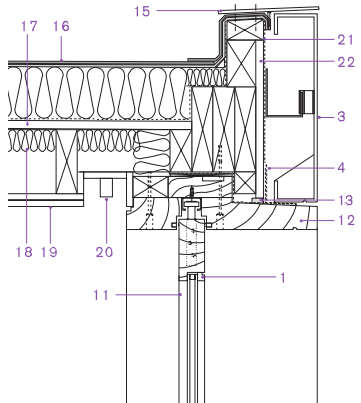
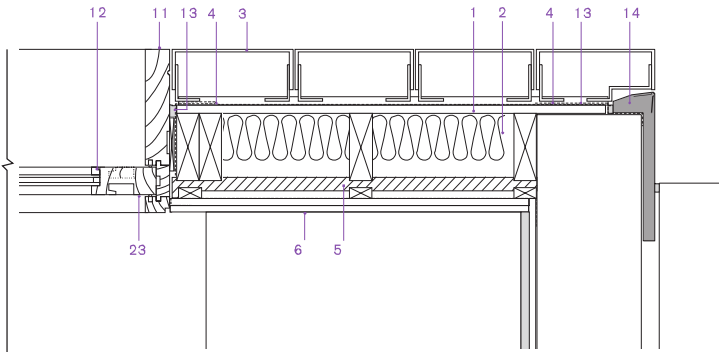
HELENE BINET



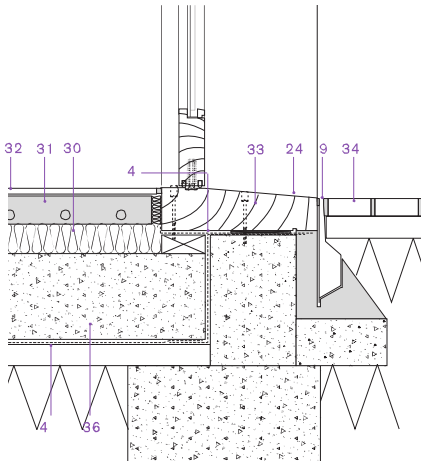
Detail A: Bespoke sliding door



Left Bespoke European oak full-height doors in the kitchen  
Above Garden elevation



Section D-D: Bespoke sliding door



0 100mm