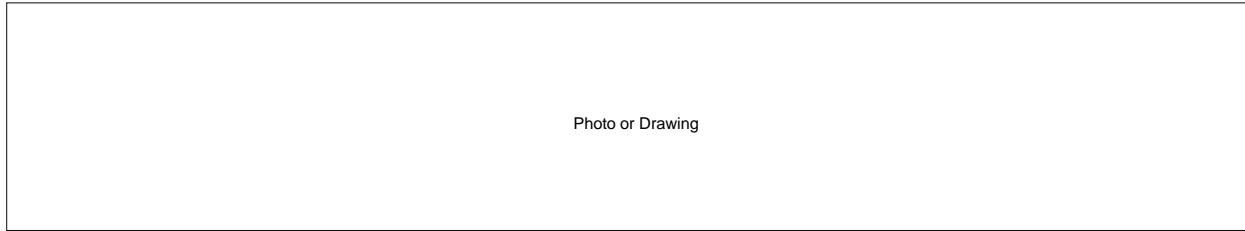


Retrofit for the Future Final Phase Report
ZA522P
Appendix 4
PHPP Verification

Passive House Verification



Building:	TSB retrofit for the future property existing property		
Location and Climate:	Hounslow, London	GB-London	
Street:	78 Grove Road		
Postcode/City:	TW3 3PT London		
Country:	United Kingdom		
Building Type:	Detached house		
Home Owner(s) / Client(s):	Hounslow Council		
Street:	Lampton Road		
Postcode/City:	TW3 4DN Hounslow		
Architect:	bere:architects		
Street:	73 Poets Road		
Postcode/City:	N5 2SH		
Mechanical System:	Alan Clarke		
Street:	The Woodlands, Woodland Close, Whitecroft		
Postcode/City:	GL15 4PL Lydney		
Year of Construction:	1950's		
Number of Dwelling Units:	1	Interior Temperature:	20.0 °C
Enclosed Volume V_e :	277.9 m ³	Internal Heat Gains:	2.1 W/m ²
Number of Occupants:	2.5		

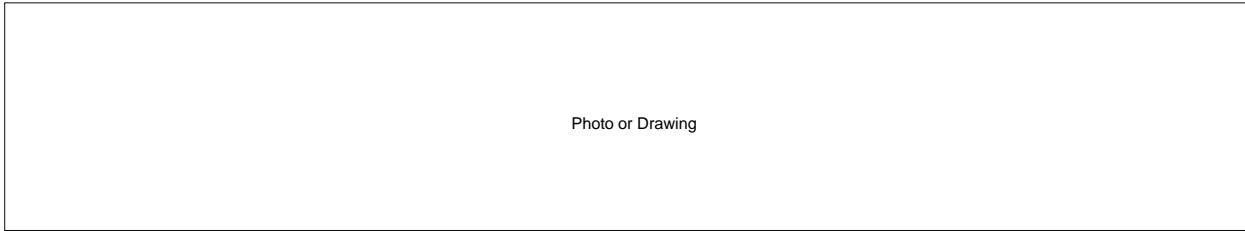
Specific Demands with Reference to the Treated Floor Area					
	Treated Floor Area:	Applied:	Monthly Method	PH Certificate:	Fulfilled?
Specific Space Heat Demand:	76.5 m ²	442	kWh/(m ² a)	15 kWh/(m ² a)	No
Pressurization Test Result:		6.3	h ⁻¹	0.6 h ⁻¹	No
Specific Primary Energy Demand (DHW, Heating, Cooling, Auxiliary and Household Electricity):		772	kWh/(m ² a)	120 kWh/(m ² a)	No
Specific Primary Energy Demand (DHW, Heating and Auxiliary Electricity):		702	kWh/(m ² a)		
Specific Primary Energy Demand Energy Conservation by Solar Electricity:			kWh/(m ² a)		
Heating Load:			W/m ²		
Frequency of Overheating:		0	%	over 25 °C	
Specific Useful Cooling Energy Demand:			kWh/(m ² a)	15 kWh/(m ² a)	
Cooling Load:			W/m ²		

We confirm that the values given herein have been determined following the PHPP methodology and based on the characteristic values of the building. The calculations with PHPP are attached to this application.

Issued on:

signed:

Passive House Verification



Building:	TSB retrofit for the future property proposed work		
Location and Climate:	Hounslow, London	GB-London	
Street:	78 Grove Road		
Postcode/City:	TW3 3PT London		
Country:	United Kingdom		
Building Type:	Detached house		
Home Owner(s) / Client(s):	Hounslow Council		
Street:	Lampton Road		
Postcode/City:	TW3 4DN Hounslow		
Architect:	bere:architects		
Street:	73 Poets Road		
Postcode/City:	N5 2SH		
Mechanical System:	Alan Clarke		
Street:	The Woodlands, Woodland Close, Whitecroft		
Postcode/City:	GL15 4PL Lydney		
Year of Construction:	1950's		
Number of Dwelling Units:	1	Interior Temperature:	20.0 °C
Enclosed Volume V_e :	353.1 m ³	Internal Heat Gains:	2.1 W/m ²
Number of Occupants:	2.4		

Specific Demands with Reference to the Treated Floor Area					
	Treated Floor Area:	Applied:	Monthly Method	PH Certificate:	Fulfilled?
	76.0 m ²				
Specific Space Heat Demand:		28	kWh/(m²a)	15 kWh/(m²a)	No
Pressurization Test Result:		1.7	h⁻¹	0.6 h ⁻¹	No
Specific Primary Energy Demand (DHW, Heating, Cooling, Auxiliary and Household Electricity):		97	kWh/(m²a)	120 kWh/(m ² a)	Yes
Specific Primary Energy Demand (DHW, Heating and Auxiliary Electricity):		56	kWh/(m²a)		
Specific Primary Energy Demand Energy Conservation by Solar Electricity:			kWh/(m²a)		
Heating Load:			W/m²		
Frequency of Overheating:		15	%	over 25 °C	
Specific Useful Cooling Energy Demand:			kWh/(m²a)	15 kWh/(m ² a)	
Cooling Load:			W/m²		

We confirm that the values given herein have been determined following the PHPP methodology and based on the characteristic values of the building. The calculations with PHPP are attached to this application.

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