

# Mayville Community Centre



Mayville Community Centre Passivhaus Retrofit Refurbishment. (Due to be completed April 2011)

When complete, the Mayville Community Centre, will be the first ultra low energy, Passivhaus retrofit community centre in the UK. Built circa 1890, the centre is located within the Mayville estate in Islington, London. Ranked in the top 10% most deprived areas in London, the centre provides a focal point for the local residents as a valuable community resource.

The building refurbishment focuses on providing more usable space without increasing the building footprint and on reducing the building's energy consumption with the finished building predicted to consume 94% less energy than previously. Onsite energy generation will be made possible via 116m<sup>2</sup> of photovoltaic panels generating 18kWp of electricity, 3m<sup>2</sup> of solar thermal to provide hot water and a ground source heat pump to provide heat to

the radiators for space heating. The project takes a holistic approach to the environment incorporating rainwater harvesting, two native wild flower meadow roofs and ecologically sensitive gardens for community food growing projects.

CO<sup>2</sup> emissions are minimised by excellent levels of insulation, ensuring draught free construction, triple glazed windows and onsite renewables. All junction details are designed to prevent and minimise thermal bridges, the results of which form part of the Passivhaus Planning Package (PHPP) energy calculations.

Ultimately, Mayville will be a community centre that local residents can be proud of and a building that will serve their needs without wasting financial resources on large energy bills: a building that will stand as a model for urban sustainability.

(See over for further technical details and PHPP data.)

# Mayville Community Centre contact and company details



New ground floor slab	300mm foamglas insulation + concrete slab
Existing ground floor slab	300mm existing slab + 80mm Kingspan insulation and floating floor
Below ground walls	200mm external XPS insulation to existing brick walls
Above ground walls	290mm / 320mm external EPS insulation and render finish to existing brick / new blockwork walls
New pitched roof	300mm rockwool + 100mm rockfall overlay board + zinc roof finishes
Existing flat roof	300mm foamglas insulation on existing concrete roof slab with asphalt layer and 100mm of soil for native wild flower meadow green roof planting
New flat roof	300mm foamglas insulation on new timber roof structure with asphalt layer and 100mm soil for native wild flower meadow green roof planting
Heat Recovery Ventilation	PAUL Maxi 2000 (for main building) PAUL Focus (for 2no. individual recording studios)
PV Installation	77no. NU235E1 Sharp Panels 235W = 18kWp
Solar Thermal	1 no. 3m <sup>2</sup> Viessmann Vitosol 200 Solar Panel
Ground Source Heat Pump	7.7kW Viessmann Vitocell 100 E Ground Source Heat Pump with 140m double pipe trench
Annual Heat Demand	7 kWh/(m <sup>2</sup> a)
Primary Energy Demand	140kWh/(m <sup>2</sup> a) to current PHPP (Target of <120kWh/(m <sup>2</sup> a))
Total CO <sup>2</sup> emissions	6.2kg/(m <sup>2</sup> a) (excl. appliances)
Air test result	0.6h <sup>-1</sup> at 50Pa

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