

Edge Debate 135: Heritage & Net Zero: a wicked problem?

A proposal for tackling conservation areas and areas of distinctive local character

Christopher Jofeh

Monday 17 October 2022

the EDGE

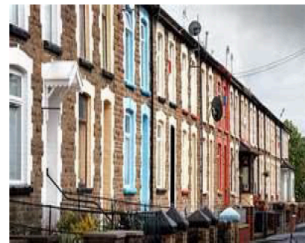


ReDesigning the Terrace

RSAW and its competition partners, The Welsh Government, CADW, RCT Homes & Grwp Gwalla have launched a design competition intended to investigate the balance between our Welsh architectural heritage and the necessary drive for low energy demand homes.

The competition is open to all designers with entries submitted by **28th November 2012**.

The winning entry, announced on **13th December**, will be adopted by RCT Homes who will consider developing and building the design on an appropriate site in Wales.



Design Competition Goals

It is the intent of this competition to provide the following:

- a design that demonstrates how existing unused/derelict housing plots can be bought back in to beneficial use in a fashion that is sensitive to the local character and history, either through comprehensive refurbishment or by careful insertion of new construction.
- a home designed for modern living and working, reflecting lifestyle issues such as technology, privacy, deliveries, lack of time and other contemporary concerns
- a design that has a low energy demand for all aspects of daily life.

Eligibility & Costs to Enter

The competition is open to all architects and designers across Wales and beyond. **Entry is free for RSAW, RIBA and SAWSA** members, and is £30 per entry for non-members (payable to RSAW).

Schedule

- 19th Oct Competition Brief issued to all entrants
- 28th Nov **Noon deadline for submission of entries**
- Early Dec Short listing and final judging
- 13th Dec Winning scheme announced at RSAW Annual Conference at the Royal Welsh College of Music and Drama, Cardiff

Small Print

Entered designs will remain the copyright of the entrant, but entry into the competition shall include granting an irrevocable, royalty free licence to RSAW and all competition partner organisations to allow use of all submitted images and drawings for publicity and promotion.

The winning design shall grant a royalty free licence to RSAW and all competition partner organisations for use as a design concept for any of their future development, as they see fit, but this shall not extend to the winning designer(s) providing any additional design services without being paid mutually agreed costs.

Royal Society of Architects in Wales
4 Cathedral Road
Cardiff
CF11 9LJ
T: 02920 228987
F: 02920 230030
e: rsaw@riba.org

PROPOSED IMPROVEMENT MEASURES

1. Retain existing facade - upgrade thermal performance fabric to approx 20% better than building age (approx 2012). Insulate the internal face of the front facade to conserve the nature of the existing streetscape and external face of the rear facade.
2. Loose fill insulation for ground floor void - Recycled foam glass particles. Less heat lost through floor but air is still able to circulate.
3. Ground floor space heating via room sealed Passivhaus approved wood burning stove with auto ignition. Upper floor space heating via fan panel radiators.
4. Smart metering of electricity consumption with prominent display and simple user controls for heating and ventilation system.
5. Hard wood timber double glazing windows and door to the front elevation.
6. LED lighting throughout.
7. Solar hot water always on dormer roof as aspect is less critical. Solar hot water units provide shade for dormer roof during summer. Hot water - 50% demand through solar panels, 50% through wood burning stove to central storage cylinder (winter) and solar panels only (summer).
8. Recycled fibreglass double glazed windows to the rear.
9. Ecological opportunities improved with the introduction of a wooden roof to the rear extension.
10. Passivhaus certified Mechanical Ventilation with heat recovery. Mechanical unit located in a sub-basement area, air inlet via vertical duct for preheating. Fresh air. Exhaust air via vertical chimney outlet (see ventilation strategy).
11. Wood floor on rear garden shed to be provided with scope for integrated PV for electricity generation. Shed to be orientated to suit south facing aspect.

OTHER MEASURES

- Rooms to be landscaped and all sanitary fittings close as possible to services core to minimise distribution energy losses.
- A low maintenance garden with rainwater harvesting to provide the opportunity to grow your own.
- Low insulation.
- Green wall on south.
- Low flush WCs and low flow taps.
- Non toxic paint finishes.
- Low emitter.

EDUCATION

- Only boil as much water as required.
- Clean curtains at night to retain the heat.
- Wash clothes at 30 degrees.
- Turn lights off when not required.
- Turn appliances off - avoid standby.
- Don't open windows to let heat out, adjust heating.
- Reduce temperature on the thermostat (reducing the internal temperature from 20 to 19 degrees could reduce the heating bill in winter by 50%).
- All windows will be operable for control internal temperatures during the summer.

VENTILATION STRATEGY


Heat recovery ventilation with night ventilation. Double glazed windows that combined with night ventilation. Mechanical ventilation with heat recovery. Mechanical unit located in a sub-basement area, air inlet via vertical duct for preheating. Fresh air. Exhaust air via vertical chimney outlet (see ventilation strategy).

WATER TEMPERATURE

W - Water temperature °C
S - Summer temperature °C

W-4
W-2
W-1
W-5
S-12
S-7

REDESIGNING THE TERRACE COMPETITION



Addressing the Challenge of the Back-to-Backs in Leeds



Volume One: Strategy
November 2008

re'new



Port Sunlight
Local Listed Building Consent Order (LLBCO)

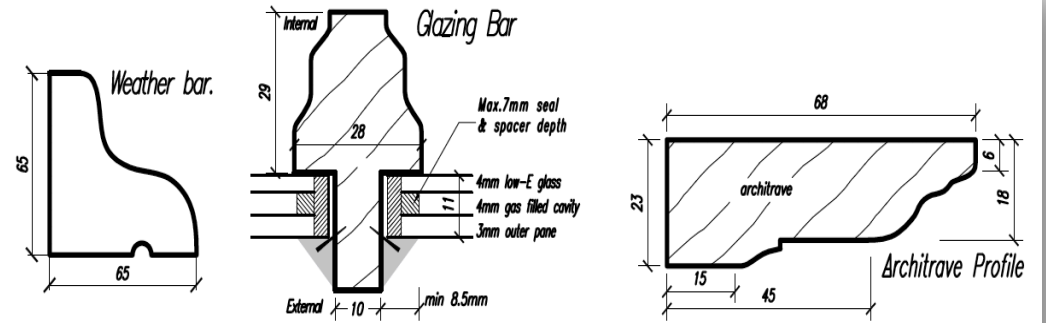
A Guide to Understanding
and Using the LLBCO



Efficient, transparent consent for changes to the listed houses of Port Sunlight.

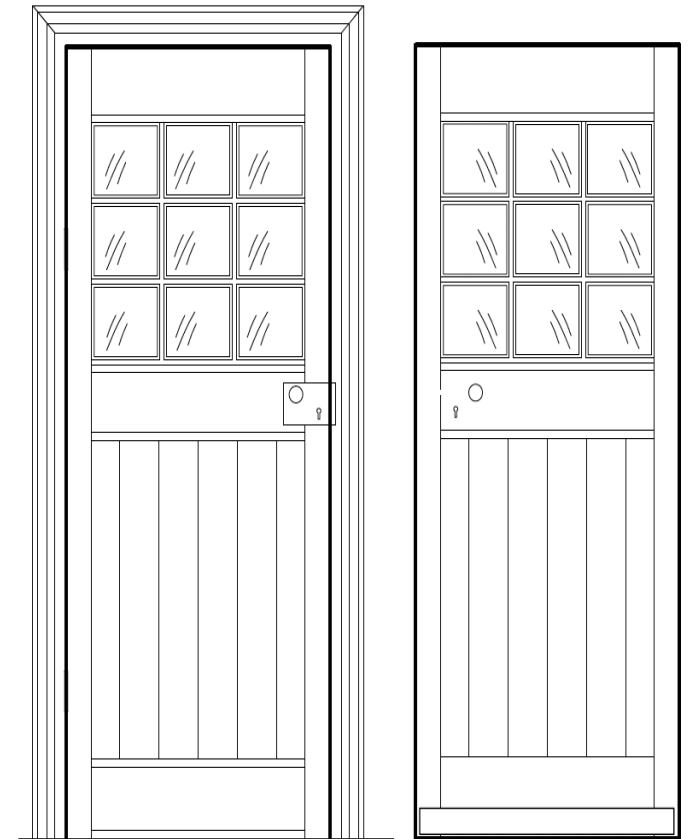
This brochure introduces the LLBCO, provides definitions of key words and describes each class of work included in the LLBCO, the general and specific conditions for doing works under the LLBCO and the required documents to support a Notice to do works under the LLBCO.

Primrose Hill, c. 1960, Port Sunlight Museum Collection.



Above:
Rear door drawing (profiles)

Below:
Rear door drawing (elevations)

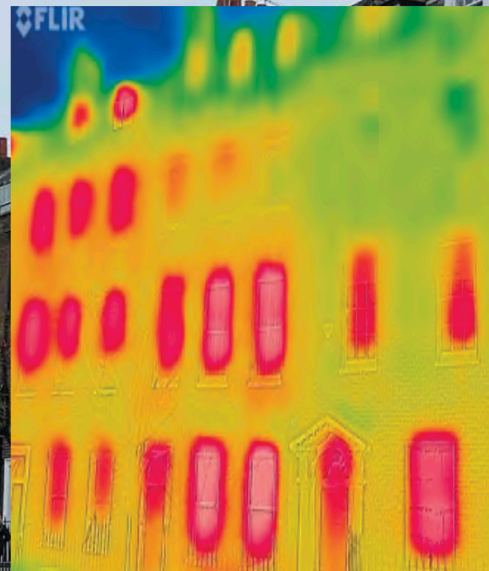


TYPE 6 Internal Elevation.

External Elevation.

Climate Emergency Conservation Area Toolkit

A methodology to Audit Conservation Areas
for Climate Emergency Retrofitting with a
worked Conservation Area case study.



A report for politicians and policymakers



Thank you
chris.jofeh@arup.com