



# IHP Design Review Report

St Paul's Church Site, Barry

DCFW Ref: IHP X

Meeting of 6<sup>th</sup> July 2018

Review Status	CONFIDENTIAL
Meeting date	6 <sup>th</sup> July 2018
Issue date	13 <sup>th</sup> July 2018
Scheme location	Barry
Scheme description	Residential
Scheme reference number	IHP X
Planning status	Pre-application

## Declarations of Interest

Panel members, observers and other relevant parties are required to declare ***in advance*** any interests they may have in relation to the Design Review Agenda items. Any such declarations are recorded here and in DCFW's central records.

The panel Chair was advised that Gayna Jones, Chair of the Design Commission for Wales, chairs the IHP Group. Gayna was not present in the meeting. All present at the review were content to proceed following the declarations.

## The Proposals

The project aims to deliver sustainable social housing units built with D7 Trisor Warm timber frame panels to allow Passivhaus standards. The standards of insulation provided in this fabric first approach to building sustainable homes, negates the need for conventional central heating systems promoting fuel efficiency and addressing the fuel poverty agenda faced by tenants. Further to this, a PV farm created on the redundant land to the rear seeks to provide the electricity needs of the tenants.

The scheme will be built with the D7 Trisor Warm panels. These are complete timber frame panels, fully insulated and fitted with doors and windows in the factory. They are then wrapped and transported to site to be erected. This form of construction is not restrictive on building design and therefore can be fully DQR compliant. Spans of frame are 7m and can be easily transported and do not need escort to site ensuring that costs are kept low. Due to the factory tolerances, insulation and acoustic properties are high and report the following values:

- U' values as low as 0.14W/m<sup>2</sup>K
- 'Y' values as low as 0.04W/m<sup>2</sup>K
- Air permeability reduced to 1 m<sup>3</sup>/m<sup>2</sup>h@50pa
- Excellent acoustic performance

The system provides the complete building envelop, including walls and floors.

The system addresses the construction skills shortage as minimal amounts of trades are required on site to construct the frame. Further to this the frame can be constructed quickly, reducing prelims and time on site. Further to this, the frame can be watertight quickly reducing the impact of adverse weather on the build.

Triso Warm is a Welsh company with a factory in Neath South Wales, ensuring the reinvestment of the Welsh pound into the Welsh economy and furthering the innovation potential of a Welsh company

## Main Points

This report is not minutes of the full discussion that took place during the review, rather a summary of the key points that have been identified that would help to improve the project and any concerns regarding the funding of the project.

### Urgent Design Concerns

- Building form has created single-aspect flats, some of which are north facing which does not promote good quality of life and relies on the mechanical ventilation system. Other forms have not been explored/tested.
- The proposal is not informed by good site and context analysis and does not demonstrate attempts to integrate with and contribute positively to surroundings.
- No rationale given for architectural language and materials.
- Scheme is dominated by car parking and little consideration is given to useable outdoor amenity space.

### Placemaking

#### Informative site and context analysis

There was a lack of evidence of good site and context analysis informing design decisions. This would allow the team to achieve best value from the site and relate appropriately to the surroundings. Urban analysis would help to inform the right density of development on the site, as well as the form, siting and orientation.

A number of constraints were identified, but opportunities had not been explored. We would like to see different options tested in response to the analysis, with consideration given to budget, environmental performance and, most importantly, quality of living and comfort for residents.

The memories associated with the church site should also be considered. It may be possible and beneficial to include reference to the site's former use in some way, such as reusing some of the fabric of the church building in the landscape design to help give a sense of place.

#### Pedestrian experience and outdoor amenity

We encourage the team to challenge local authority parking standards on this central, well-connected urban site. Provision of an electric car club and secure cycle storage would further justify a reduction in parking spaces.

Reducing parking and reconsidering the site layout/building form would allow better provision for the pedestrian experience, including arrival and entrance. Despite the challenging topography of the site, it is possible to create outside amenity spaces which people can use.

#### Quality of living

Very little consideration has been given to the quality of the living environments that will be created. Single-aspect, north-facing units should be avoided as they do not promote

well-being and comfort (and dual aspect units are likely to have better energy performance).

#### Justified architectural response

The architectural response – form, layout, orientation, materials and articulation – should be well-justified in response to the brief, site analysis, construction method and social ambition for the scheme. This has not yet been achieved.

#### **Integration of innovation**

Innovation approach: Use local construction/manufacturing company to produce off-site timber panelised SIPs system incorporating wood fibre insulation. A range of solar PV options and a centralised MVHR system are also being considered. The manufacturing company is exploring use of Welsh timber for its panel system.

Utilising a local supply chain is key to the innovation in this case. The team will need to demonstrate or monitor the impact of this on local jobs, skill and economy and the embodied energy and carbon footprint of materials and products.

We would expect to see energy modelling undertaken to test options to optimise energy supply and demand, reduce carbon loads, minimise fuel bills and create comfortable conditions for residents. As well as the integrated MVHR and the variety of solar PV options being considered, the daylight (fenestration), orientation, form and fabric will have an impact. Passive strategies should be considered in priority to technological solutions.

It is positive that ease of use for residents and maintenance are being considered in relation to the central MVHR system.

#### **Next Steps**

- Undertake good site and context analysis for inform layout, form, orientation and architectural language
- Challenge parking numbers and revisit site layout in response to site analysis
- Improve outdoor amenity and pedestrian experience
- Aim to eliminate single-aspect north-facing units
- Use integrated modelling to optimise carbon balancing, energy use/demand and occupant comfort.

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***A Welsh language copy of this report is available upon request.***

## Attendees

Agent/Client/Developer: Sara Brock & Kate Cutter, Hafod  
Charlotte Hale & Rob Spear, Seven Oaks

Design/Planning Team: Phil Chamberlain, Tony King Architects  
Jonathan Williams, SPECIFIC

Local Planning Authority:

Design Review Panel:  
Chair Ed Green  
Panel Steve Smith  
Ashley Bateson  
Amanda Spence