

## OPPORTUNITIES/LESSONS LEARNT

OPPORTUNITY	ISSUE	RECOMMENDATION
Site selection	<p>Whilst initial analysis had been undertaken on the shortlisted sites it is clear that more detailed investigations were required to evaluate site and ground conditions and ecological implications as all of these would have a direct impact on time line and cost ability.</p>	<p>Future programmes should allow adequate timescales for full feasibility and site appraisal, taking into account viability, options for delivery and housing needs, in terms of number and tenure type.</p>
Timescale for delivery	<p>There was a clear priority to deliver new homes as quickly as possible.</p> <p>This resulted in some decisions which may have had unknown cost implications and comprises made both during both the design stage and construction. (E.g. Drainage works being carried out of sequence and commencement on site before all technical and design in places)</p>	<p>Future projects should have realistic time scales for delivery for sufficient time to evaluate technical and operational issues.</p>
Decision to proceed with PassivHaus house.	<p>Members made a clear decision to proceed to build new houses to a PassivHaus standard. However, it proved difficult in the time available to carry out full options appraisal of the time, cost and other implications of this selected build standard.</p> <p>The MH strategy refers to pilots being passivhaus, however, due the costs at Milford, the MHOMSG Steering group has noted that a full evaluation needs to be carried before any decision to proceed with PYH.</p>	<p>Cabinet will be given the options to confirm the method of construction for the next pilot scheme at Parc Y Helig and whether this is to be to the PH standard.</p> <p>On completion of both schemes a full financial analysis can be carried out after maximise the opportunities on the second scheme for efficiency and timescales.</p>
Design issue.	<p>As the Council has not designed new homes directly within the generation, a decision was taken to commission architectural and Passivhaus Support.</p> <p>In line with CPRs to appoint a specialist Passivhaus advisor, Architype were successful and were asked to prepare Passivhaus designs and modelling for these two initial pilot schemes, and whilst their</p>	<p>It was accepted this was a pilot project and all involved learnt from the experience and it is therefore important, going forward, that there is a clear understanding of what we are trying to achieve as well as the respected roles and responsibilities of those involved.</p>

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	<p>Passivhaus experience is evident, the extension of their commission to include general architectural services lead to some issues including insufficient construction detailing and specification to facilitate accurate pricing of works and the meeting of Building Regulations, suitable fire separation between semi-detached dwellings (to Part B of the Building Regulations) was not achieved.</p> <ul style="list-style-type: none"> <li>• the spatial design of the kitchen areas was unsuitable for a WHQS compliant kitchen layout/installation;</li> <li>• fire protection of the end dwelling's (H1A) timber-frame structure adjoining existing properties was overlooked;</li> </ul> <p>This all impacted at site level effecting program and sequencing of construction works.</p> <p>In addition, the site layout provided did not align with topographical &amp; GIS data and had to be corrected by CCoS.</p>	<p>Secondly, as the Council becomes more familiar with the process and design standards required it is likely that most of the design work can be commissioned in house on future schemes.</p>
<p>Restricted supply chain procurement due to Passivhaus standard.</p>	<p>The desired Passivhaus standard has resulted in the opportunity for tenders being restricted to a smaller number of accredited design companies which accordingly has increased costs. For example, Supply and Fit of Passivhaus standard timber frames were imported from Ireland, Insulation sourced from Czechoslovakia.</p> <p>Similarly, in terms of Materials Supply &amp; Forward Maintenance, key elements could not be sourced locally. E.g. Windows &amp; Doors certified to Passivhaus standard were imported from Austria and specialist sub-contractors for certain works e.g. MVHR installation &amp; commissioning again sourced outside the locale.</p>	<p>There is a need to maximise the opportunities across the supply chain in particular target suppliers based in the locality.</p> <p>It is also recommended that options of "equal or approved" should also be considered to open up supply chain opportunities.</p>

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<p>Enhanced specification choices.</p>	<p>There were a number of items that the Council has chosen to build into the specification to “future proof” the houses and to manage them more effectively.</p> <p>These include enclosed stairway to upper flats. As previously stated this is not an enhanced specification but part of DQR and Lifetime Homes.</p> <p>Future drainage provision for low level access showers both to achieve lifetime home standard. Again this is part of DQR/LTH and applies to any new social housing unit being constructed</p> <p>External housing for the ventilation plant to allow ease of access for servicing. This is extra over to the Passivhaus design.</p> <p>Installation of centralised communication hub for telephony, TV and satellite provision to future proof properties from unauthorised intrusions compromising the air tightness structure. This is to maintain Passivhaus design.</p> <p>A number of specification choices were made at speed of delivery these included, ISO quick foundations, and timber frame construction.</p>	<p>These are logical additions but come at a cost and such additional items should be considered for future opportunities as part of the decision making when full implications and costs are known.</p> <p>Future schemes should explore all options in relation to specification to balance timescales with cost implications.</p>
<p>Supplementary heating.</p>	<p>It was understood that the PH standard would not require any form of supplementary heating; however a decision was taken to install gas boilers and a full radiator system which had added costs and time implications. Other options were not considered.</p>	<p>Given the Council's commitment to Fuel Poverty and Energy Efficiency, if there is a requirement for supplementary heating, more innovated solutions should be considered. Air source, Ground source, PV and solar to be considered.</p>
<p>Pilot scheme experience/ Knowledge gained.</p>	<p>The above opportunities/lessons learned highlight some significant examples of learning on the first pilot project.</p> <p>There have been many opportunities during the design and construction for the Council to gain significant knowledge of the process, specification and future aspirations for the Council.</p>	<p>Ensure that all opportunities to learn lessons are evaluated and where possible, build these into the second pilot project at Parc Y Helig.</p>

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Review external works	The landscaping needs to meet with the requirements of the WHQS.	Reduce costs?
Lifestyle of Passivhaus	Carry out full evaluation of the properties and report after 12 months occupancy so we know tenants will like them.	
All costs "cost comparison, benchmark data		Recommend the WG lead on establishing a standard set of PIs and benchmark data to be able to accurately assess delivery costs of alternative forms of construction across Wales.