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NEWS RELEASE

Carrick Housing uses Thermal Inspections Ltd's infra-red thermography in staying 'ahead of the game' with property maintenance and improvement

Carrick Housing's Property Services Section is using infra-red thermography (IRT) as an important technique within programmes of improvement and maintenance for housing stock. This follows the award-winning ALMO's pilot use of IRT, during which Thermal Inspections Ltd, specialist supplier of thermographic services, carried out surveys of 50 of its properties. Carrick Housing's main aim with the exercise was to check the integrity of insulation in cavity walled properties. The trial surveys, however, as well as doing what was wanted, showed other and previously unsuspected faults in some of the houses. Carrick Housing then realised the usefulness of this diagnostic technique in helping organisations such as theirs to address problems in early minor stages. They saw too that it could enable them to bridge the knowledge gap between SAP calculated ratings and the reality of a property's actual energy efficiency/heat loss.

Carrick District Council's area is central Cornwall, from Atlantic coast down to Channel coast. Carrick Housing manages all the Council's properties, which are scattered through the large area, with around two-thirds in towns and the city of Truro, the rest rural and more remote. "It can be quite challenging in terms of providing services that are value for money, because of the distances to travel between some of our homes," comments Simon Waters, property services manager at Carrick Housing.

One response to that challenge is to tackle smaller problems wherever possible to prevent them from becoming larger, and more expensive. He explains: "Last year we started a brand new service called Homefix. So far as we knew it was the first proactive repairs service of any housing organisation in the country. Though I believe

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there are a lot of people now signing up to the same idea and promoting it in their own areas” An annual visit is made to all the properties in an area by a team whose members carry out on-the-spot minor or simple repairs which would otherwise be reported to Carrick Housing as “responsive” repairs. Homefix is successful in that: “It has provided efficiency savings — on time and resources, reducing the need to ping-pong vans and staff all over the district just doing odd repairs here and there — and we have reduced our responsive repairs budget as a result of that. Our tenants also really like the fact that we are keeping their homes repaired to a high standard”.

Carrick Housing likes to stay “ahead of the game”, and energy efficiency has been high on its agenda for many years. Simon Waters says: “Having started programmes of insulation in 1998, we are a good way down the road of getting all our properties insulated — cavity walls filled, lofts insulated, and also solid wall insulation, which is a major programme for us.” They have many solid walled properties, the most common, Cornish Units, being notoriously cold and classed as “hard to treat”, particularly in the rural areas of the District where mains gas is not available. Carrick focuses on providing heating that is affordable for tenants, but as he says, “Whatever heating you choose, without good insulation it will be expensive to run, so our insulation programmes are very important — cavity walls filled wherever possible and cladding for the solid walls.”

“We use SAP as our gauge of how far we have raised the efficiency of the building envelope.” When they started, the average SAP rating was 32. “Our current rating is now more than doubled at 65, as a result of all the improvements we have made.”

Their insulation programmes are ongoing and iterative, working towards the increasingly demanding Building Regulation standards. The programmes are also costly, so that knowledge that work carried out has been totally effective in result is highly desirable — though in the case of cavity wall insulation, not necessarily easy to achieve. Problems can be caused by mortar build-up on ties creating obstructions in

the cavity and resulting in cold bridging and uneven insulation density. Settlement of the insulation can also occur, creating cold zones at the tops of the walls where condensation and mould growth can then occur. These cases made Simon Waters ponder upon methods other than taking walls apart of checking for insulation efficiency, coming to the realisation that using thermal imaging might be what he wanted.

His chosen supplier was Thermal Inspections Limited, specialising in thermographic imaging of buildings. Having engaged their services, Mr Waters decided to add solid walled properties to the list for initial surveys. “We were just at the point of wall cladding, double glazing and installing ground source heat pumps to some Cornish Units in the same North coast areas as the cavity walled properties that we wanted to survey, and I thought it would be useful to get some thermal images of these as they stood, and then, once we had done all the improvement works, do another round of images to give a clear picture of the difference in heat losses from the properties.”

Anecdotally, Carrick Housing knows that the improvements to the solid walled properties have, in the tenants’ words, transformed them. Also, recalculation of the SAP rating is carried out after any improvement work, adding SAP evidence to the anecdotal.

SAP is of course based on calculation rather than reality. And there can be a gap between the two. For example, a roof space may have been insulated, but because the tenant has stored boxes in the loft, the insulation performance has been compromised. What Simon Waters and colleagues like about the thermal images is that they show the reality — demonstrating, for example, that new insulation is doing its job well. “They add another dimension to the SAP process.”

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This reality aspect's full benefit struck him when he looked at the results from the first Thermal Inspections surveys: "They also identified repairs issues with windows and doors. We had some properties where there was definite leakage around opening windows and doors because the seals or the locking mechanisms weren't intact, or adjusted properly — and you just would never know that without physically going and looking at every lock and seal." Another defect difficult to spot on a building with the naked eye, but which was immediately apparent on the thermal image, was damaged and waterlogged render.

Thermal Inspections always makes clear to clients that the precise nature of a problem may well not be obvious in a thermal image, where more than one possible cause could have brought about the effect shown. But as Mr Waters comments, "It draws your attention to the fact of there being a problem here, of some description, much more than you can achieve with 'naked eye' surveying."

Altogether, the pilot use of thermal imaging brought results that were rather more significant than he had anticipated. "My initial thoughts were only about cavity walls. But having seen what can be identified with a thermal image, the list of other benefits these surveys can bring has grown significantly. There are issues here that are quite key, and we will definitely do more of these surveys."

Another unforeseen result was that the thermal images proved useful in communications with tenants. "SAP ratings don't necessarily mean a lot to people. The beauty of the thermal image is that if you can see a wall glowing red showing high heat loss on the first image, and then you re-do the same property and the image is black because there is no heat loss, it's easy for people to understand." This information can be used not just for the people in the property surveyed, but also for others who are reluctant to have improvements carried out to their homes. "We are very keen that people have these works done, and it's another facet to the information we can provide, to evidence the benefits."

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Looking ahead, Simon Waters foresees Carrick Housing keeping a thermal image of every property on file as evidence of work having been carried out successfully — or not. “If there are problems, like incomplete cavity wall fill, it’s recorded. We get them sorted, and probably take another image to say yes, we have resolved all those issues that the first image showed up.”

He believes that in Cornwall there may be more focus on energy efficiency and the “green agenda” generally than elsewhere in the United Kingdom, and that already Cornwall has a wealth of knowledge to be tapped: “We’ve got a lot of experience in improving the energy efficiency of our properties, and particularly with projects like our heat pumps” — of which Carrick has installed large numbers to date, and won awards for this work — so that here, thermal imaging is just another logical step to take. That said, he also sees such thinking becoming even more relevant in every part of the country with Energy Performance Certificates for properties now a requirement, and for environmental and financial reasons, as part of a move to greater proactivity (as in the Homefix approach). Catching problems as soon as possible, while they are relatively minor, has been demonstrated by Carrick Housing to be more efficient than allowing them to escalate and cause greater trouble and expense later.

Carrick Housing has to spend its large property maintenance and repair budget wisely in making its homes as efficient as possible. Simon Waters believes thermal imaging to be not only a useful surveying tool for Carrick to have adopted, but also a readily cost-justifiable technique. “It seems prudent to check that we are getting value for money,” he says, pleased at the ability that thermal imaging offers his organisation and their tenants, and indeed their contractors, to be sure that intended results have really been obtained from improvement works such as insulation installation.

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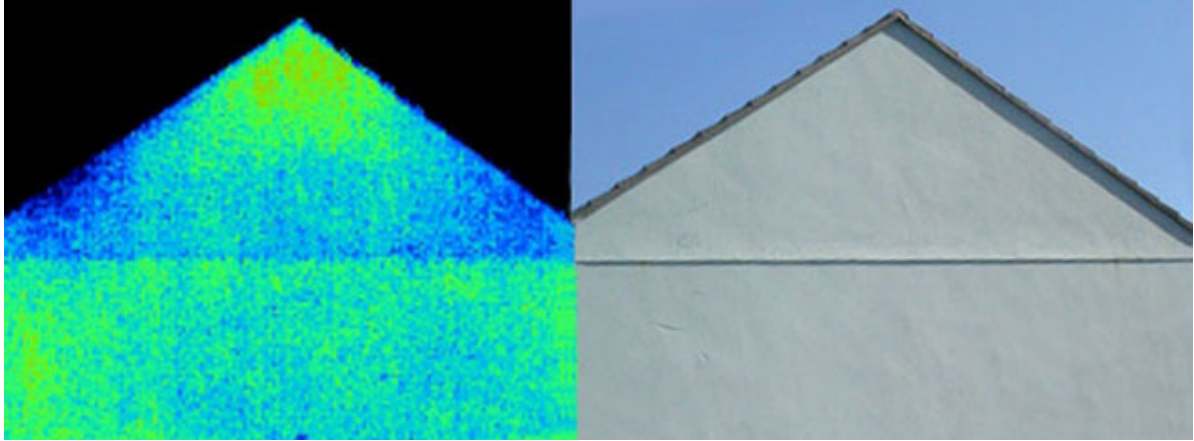
Notes to Editors:

Thermal Inspections Ltd has specialised in infra-red thermographic surveys of domestic and commercial buildings since 2005. The company's energy audits tie in with the Decent Homes Standard set out by the ODPM, and the company advises on compliance issues to help Registered Social Landlords achieve their 2010 targets.

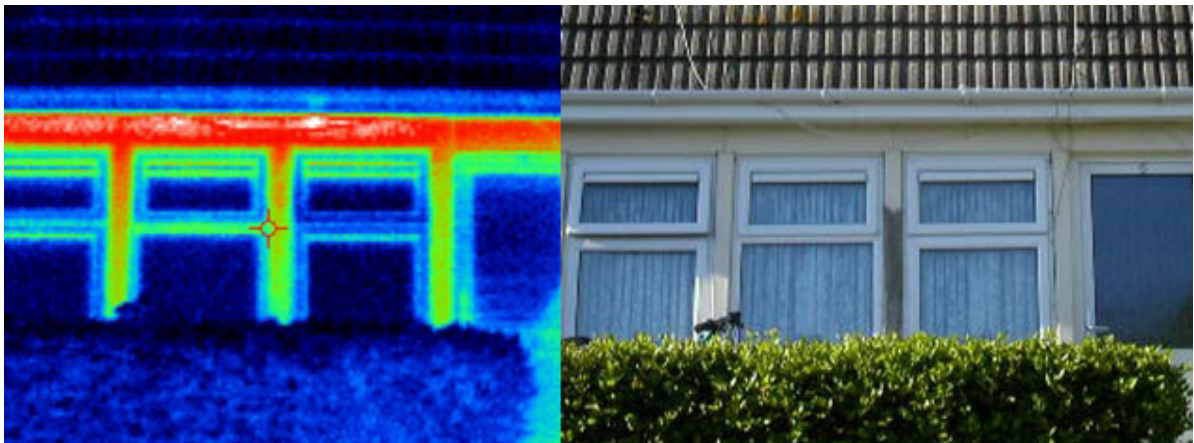
For further information please contact:

Daniel Bobker, Managing Director,
info@thermal-inspections.com

0870 446 1128



Insulation issues identified by Thermal Inspections Ltd for Carrick Housing Ltd.



Thermal Inspections Ltd's work confirmed Carrick Housing Ltd surveyors' suspicions of heat losses via thermal bridging in this type of dwelling.