

The Rise of the Basement

From a games room and wine cellar to a home cinema, Mark Brinkley visits the owners of five new basements currently taking shape around the British Isles, each of them using a different construction system to achieve the common goal of extra living space.

In the last issue we looked at the basement revival and explored some of the factors behind the basement's resurgence in popularity. In this feature, we take a look at some basements currently taking shape around the British Isles. As you might expect, there are a wide variety of reasons for building a basement and several techniques for achieving these goals. Our case studies reflect this. From central London to the West coast of Ireland and from prefabricated basements arriving from distant factories to virtually hand dug basements under existing houses – it's difficult to generalise about what is happening.

What every story has in common is the search for extra living space. Very often the intended use for the future basement is not fully crystallised when the plans go in, yet people know that they crave more room in which to grow. With a strong property market behind them, they are confident that adding a basement is an investment that will pay dividends in the long term.

Interestingly, it's not just self-builders who recognise the potential. In the past year there has been renewed interest in basement building from professional housebuilders. This is a good sign, because they are loathe to

build anything that doesn't have a justifiable commercial return. Their interest will eventually be of benefit to everyone, as more and more contractors become familiar with the issues and start to offer their services.

In order to help facilitate this process, the Basement Development Group has been set up as a one stop referral centre. It currently has around twenty members, who offer a variety of services from design of basements to full construction services. A website is up and running explaining what each has to offer. Their mission is to encourage more people to build a basement. Their timing is excellent because they appear to be pushing even more being built is a general lack of understanding of the issues by designers, builders and self-builders.

As our case studies show, there is nothing untoward about the process. None of our self-builders were experienced builders, none of them had built a basement before and yet all are now enthusiastic advocates. Jim Parker, one of our case studies currently building a new home in Kent, said: "I don't know why more people don't build a basement." His comments were echoed by all the other people interviewed.

CASE STUDY ONE: Irene Lukas

Irene Lukas needed extra storage space in her terraced London home but, having already expanded into the roofspace and with no room for an extension, a basement was the only answer.

Irene Lukas is building a basement under her house in Fulham. The contract value is £75,000, which may sound expensive for 46m² but it's equivalent to the cost of a garage in this expensive part of London. It's also about the going rate for a Fulham loft conversion. That wasn't an option for Irene, as she had already expanded into her roofspace. "I needed extra storage. I had the loft converted 22 years ago so I couldn't go any further up – building into the basement was the only place left to go. Had I lived in the country, I would perhaps have built a garage but there was no room to extend out sideways – most houses in central London don't have garages. My other option was to move but I don't want to and anyway, with stamp duty rates being so high now, it would cost me almost as much to move as it would to build this basement."

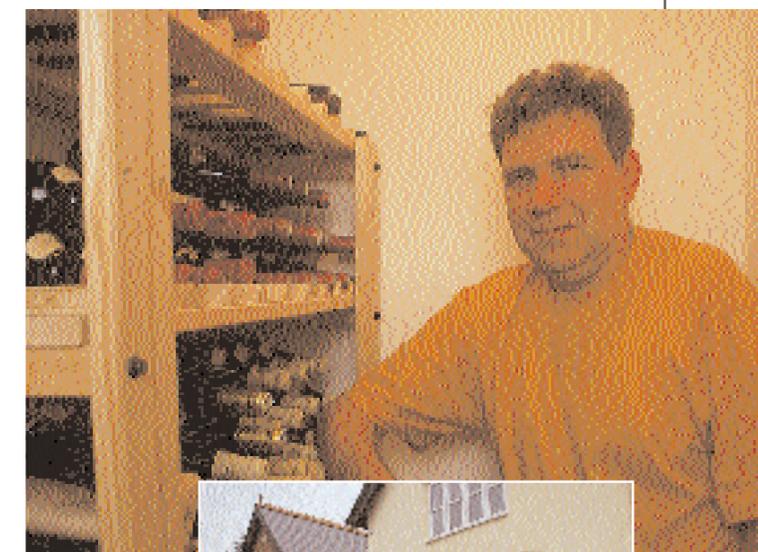
With stamp duty recently raised to 4% on homes selling for more than £500,000 and with the majority of homes in this part of West London costing well above this figure, just moving home is going to cost more than £40,000 when estate agent's and solicitor's fees are added to the now penal stamp duty rates. That is truly a

CASE STUDY TWO: Keith and Trish Alfreds

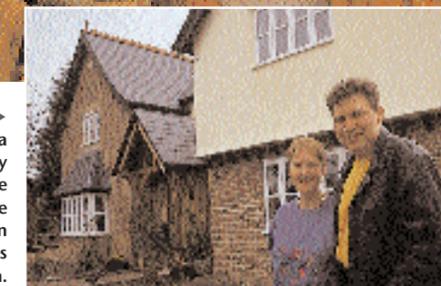
The planners restricted the size of the Alfreds' new home because their design was larger than the old house they have replaced. The solution was to add the extra space they wanted below ground.

Keith and Trish Alfreds have just moved into a new house with a full basement in Oxfordshire. It is a replacement dwelling and they had not originally planned to build a basement at all. "However, we hadn't counted on the South Oxfordshire planners," said Trish. "Ours is a replacement dwelling and when we originally showed them our Beverley Pemberton drawn house plans, they noted that what we were intending to build was just a little bit wider and taller than what was already there. In order to get our planning application through, we had to sacrifice our room in the roof.

However, there was no objection at all to a basement and we decided to get our extra space below the house." The Alfreds built their home with the help of five builders, who worked on it throughout the job. None of them had ever built a basement before and the project was not without its minor mishaps, notably torrential rain causing one of the trenches to collapse. It took longer than they had envisaged and was slightly more costly than they anticipated, but overall they are very pleased with the results. "We did it ourselves and so proved it can't be that difficult. We are now keen advocates of basements – we'd recommend them to all self-builders."



Keith and Trish Alfred have built a full basement. They have used the space for a wine cellar, boiler room and large games room.



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phenomenal amount of dead money and it's a significant factor in the inner London building boom. Adding a basement under an existing house is relatively expensive but makes sound financial sense in the more affluent areas of the city.

Irene came across John Mullarkey's business Room Below, which promised to tunnel out a basement from beneath an existing house. John commented: "Irene was attracted to our way of operating because we are able to carry out the vast majority of the work without having to go into the house. She wanted to stay put and didn't want any dust or noise. We were able to get access to the new basement from under the bay window on the street and everything has been in and out of this temporary entrance. Only when we come to fit the staircase at the end of the job will we have to go into the existing house upstairs."

Room Below reckon they are able to work under any house which has a suspended floor – which was the common way of building homes until the 1930s, when solid concrete slabs became popular. Their previous experience has been in underpinning and the techniques used to tunnel out a basement are very similar to that process. The excavated basement has an internal metal stud wall built inside the concrete walls and this forms the waterproof membrane which also goes under the floor. Groundwater is channelled into a sub floor sump and from there a pump is used to take it away. The void between the two walls is ventilated and any damp air is drawn away with a low wattage fan.



Irene's basement has an internal metal stud wall built inside the concrete walls and this forms the waterproof membrane which also goes under the floor.





◀ The basement has three lightwells, such as the one John is pictured opening, which help to make the space feel more airy.



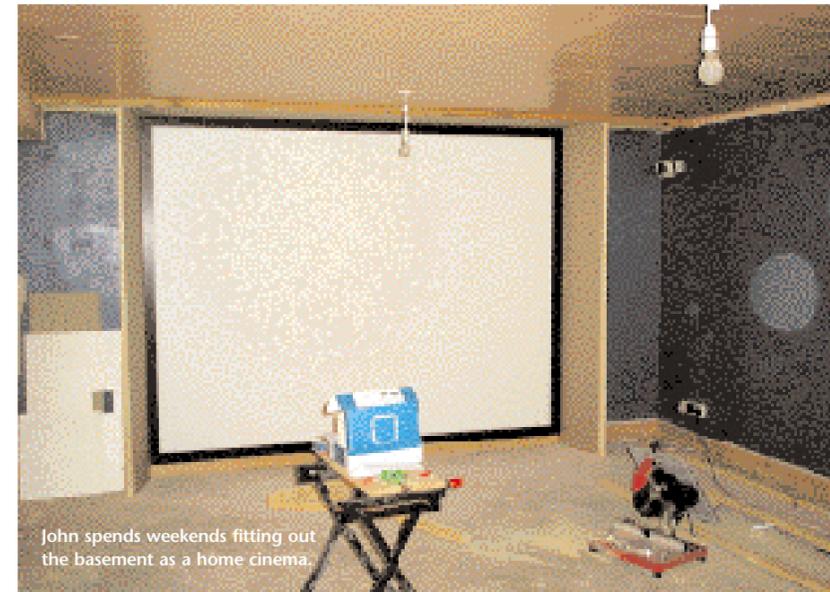
CASE STUDY THREE: John and Jackie Young

The Youngs' basement beneath their spacious timber frame home in Cambridgeshire was built using concrete blockwork on a raft foundation. They are now turning the space into a home cinema.

John and Jackie Young have built a large house near Huntingdon. The house is even larger than it appears from the road because they have constructed a full basement under one half of the house which they are in the process of converting into a home cinema. The basement construction formed part of the overall building contract negotiated with Roger Titus, one of the UK's premier timber frame builders, and it's constructed in the standard American way using concrete blockwork built on top of a raft foundation. The total cost of the 9x9m basement was around £40,000: this price included three lightwells – John is pictured opening one – and a surrounding 90mm drainage channel which falls into a sump located under the garden. It took about three weeks to build and the spoil which came out of the hole was spread over the garden area.

The Youngs have been in their home for a couple of years and are gradually moving into all the space they created. Their plan for the basement is to fit part of it out as a home cinema and John spends weekends devoted to the task. The large screen is already installed in one corner and he is currently building a sonic platform which will vibrate along with the bass speakers. The seating will eventually sit on top of this platform and the audience will be able to go to the movies – literally.

Elsewhere in the basement, John has located the nerve centre of his automated house. The central wiring hubs of the phone and computer networks are housed on one wall and the Linn multi room audio system is stacked in one corner. It's a very unusual house with cutting edge high tech and the basement is an integral part of the overall plan.



John spends weekends fitting out the basement as a home cinema.

Useful Contacts

Basement Development Group :
 01344 725737 www.basements.org.uk
 Acts as a contact point for basement designers and builders and has lots of detailed literature including the Approved Document: Basements for Dwellings

BASEMENTS AND UNDERPINNERS	
O'Shea Group	0208 959 3600
Cellar Conversions	0207 244 8585
Urbane Properties	0208 365 8029
PynTec	01252 734937
Abbey Pynford	01923 21160
Room Below:	01753 890474

PRECAST BASEMENTS	
Roger Bullivant	01283 51115
HB Basements	0870 241 0936
ThermoneX	01204 576123

IN SITU POURED CONCRETE BASEMENTS	
Kellerbau	0151 625 2604
Beco Products	01625 651641

CASE STUDY FOUR: Jim and Sharon Parker

When the Parkers applied to replace their home in Kent with a larger property, the planners objected. They managed to retain the space they wanted by building a basement under the whole house using precast panels from Germany.

Like the Alfreds, Jim and Sharon Parker are building a replacement dwelling but, in contrast, they have chosen to build using prefabricated methods. The Parkers already owned a house in two and a half acres of beautiful Kent countryside and they wanted to build a bigger house. Tonbridge & Malling District Council thought otherwise – this was their motivation behind building a basement. They were initially advised that they didn't need planning permission for a basement but that is not the case. The planners, however, had no grounds to object to the basement if Jim and Sharon showed that they had

no intention to use it as habitable space so it was drawn in on their plans as a games room, albeit an enormous one encompassing the entire footprint of the house.

The Parkers placed the order for the above ground part of their home with Maple Timber Frame and it was Maple who suggested that HB Basements would be a good port of call. HB is Heinz Borchart, a German living in England, who has developed a number of contacts with German prefabricated basement manufacturers. He takes responsibility for the design and assembly of the basement but the wall and ceiling panels are made in Germany and shipped over to England.

Prefabricated basements are very quick to construct and, costing between £300-£400/m², are no more expensive than traditional basements. On this basement, the walls are a sandwich construction with a hollow core, which is filled with a water resistant readymix concrete once in place. The wiring, sockets and any window openings are already cut into the walls and the concrete has such a smooth finish that internally it only requires painting on site.

▼ The Parkers' basement was built using precast lightweight concrete panels imported from Germany. This rapid build system costs around £3-400/m².



CASE STUDY FIVE: Bob Noonan

Built using highly insulated precast concrete panels, Bob Noonan's 150m² basement worked out at only £230/m² for the basic shell space. The walls and floor were erected in just two and half days.

Bob Noonan is currently building a detached house in County Clare in the Irish Republic. He wanted a full basement under the entire 150m² footprint and came across the Swedish ThermoneX system through a friend, Martin Mulligan, who had already built one. Bob said: "I got quotes to build a conventional basement and, in fact, the ThermoneX basement worked out rather cheaper than those. It's costing me about IR£35,000, although this figure will rise somewhat by the time I've fitted it all out. The beauty is that it's a proven system – they've built many of them in Sweden over the past 20 years and they have very low U-values, which I think is important in a basement. The excavation and groundworks was carried out by a Limerick contractor then the ThermoneX panels arrived together with some Swedish engineers. They erected the walls and floors in two and a half days. It really was that easy. I only wish the rest of the house had been as easy."

The Swedish ThermoneX concrete basements have much in common with the typical German prefabricated basements. Rather like timber framed houses, the concrete panels are all built in a distant factory under controlled conditions and arrive on site on the back of a lorry to be craned into position in a matter of days. ThermoneX is, however, a very different product from standard concrete.

The ThermoneX system uses a specially formulated lightweight concrete, developed in Sweden in the 1980s. This makes the whole structure lighter and thus cheaper to transport. It also has better thermal properties than standard concrete. The ThermoneX basement walls consist of two layers of this lightweight concrete sandwiching a layer of polystyrene insulation. The steel rebar is set inside the concrete walls. Once in place, a membrane is wrapped around the outside and some drainage channels are put in around it. The plumbing and electricians are housed in ducting within the walls.



▲ Bob Noonan's basement extends under the whole of his home in County Clare. He chose the Swedish ThermoneX system, which uses highly insulated precast concrete panels.