

# THE BROAD DIMENSION

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residential buildings dating from the sixteenth century that rise up to sixteen stories and are built with mud bricks.

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|------------------------------|---|
| <b>In this Edition:</b>      |   |
| High-Rise Housing .....      | 1 |
| LEED for Homes .....         | 2 |
| Recovery Heading Home? ..... | 4 |

## High-Rise Housing

High-rise buildings are often thought of as a relatively modern phenomenon, but in ancient Roman times they had insulae (meaning 'islands'), that were residential going up to about ten stories, and in Sibam, Yemen, there are

In Asia, where population densities are often considerably higher than in the west, high-rise housing has been common for a long time, and is often seen as the favored form of accommodation.

In the UK, high-rise residential buildings became a popular method in the 1950s and 60s for local authorities to rehouse people from run-down and war-damaged areas and accommodate the post-war population boom. They were supposedly creating new communities, the views from these high-rise buildings was seen as one of the advantage, and they were presented as the way of the future. But cost-cutting and a desire for fast completion led to some poor planning and low-quality construction, with the result that what had been show-pieces became more like eye-sores and they began to known as vertical ghettos and focal points for crime. The partial collapse of the Ronan Point housing tower in Newham, in the London

docklands area, reinforced the general public's adverse view of these types of developments.

In the decades that followed, many of those UK high-rise buildings have been torn down, but in some places the planners have taken a different route. For instance, in Glasgow three tower blocks that had been considered for demolition have instead been renovated as desirable housing for young urban professionals. The main change is that where once these buildings were viewed as low-cost housing schemes, they are now being presented as housing for the young and the wealthy.

Here in the US, high-rise housing (normally defined as buildings exceeding 70' high) has been around for a long time, dating from the late 1930s. As with the UK, efforts to use high-rise developments as public housing for the poor has generally resulted in failure, and the main commercial market is still for high-end apartments or condominiums.

Safety and security are important issues in the design of a high-rise building, with access control presenting a number of issues. Residents need to be able to access the building with ease, and to be able to allow guests to enter while keeping undesirable people out. On the other hand, emergency forces such as police, fire and ambulance need easy access to all parts of the building even if an emergency makes the normal bottom-up access routes unusable. Fire or other emergency evacuation routes for occupants also need to be provided and clearly marked.

The use of high-rise construction provides economies to both the local authority and the developer. Such construction means that the local authority only needs to provide a relatively small amount of infrastructure to serve a large population, and the repetition of features throughout the building can result in savings to the developer both from the ability to command a lower price for the large quantity and from the potential for prefabricating portions of the building.

A modern high-rise building will be almost a self-contained community, with a grocery store and other shops, exercise rooms and a variety of recreational facilities within the building. Using design options that encourage chance meetings with neighbors is seen as a way of increasing the opportunities for urban sociability. The incorporation of sustainable design features, such as green roofs and PVs can also make the buildings very eco-friendly even without taking into account the population density.

## LEED for Homes

LEED for Homes was launched in February 2008, which might not be seen as a great time for it, since the housing sector was already in decline, and hasn't recovered yet. Nevertheless, the US Green Building Council was able to announce that by June 2012 over 20,000 homes had been certified under this rating system.



This rating system applies to single family homes, low- and mid-rise multi-family buildings up to 6 stories, and under it, certification is given to individual buildings. So, for instance, a single apartment cannot be certified on its own, only the building that contains it. It normally applies to new-build construction, but in some cases, projects described as 'substantial gut/rehab' may apply.

When it first came out, it was not offered outside US due to local code issues and verification problems, but the LEED for Homes International Pilot was launched in 2011, starting with the Middle East and China.

While it bears many similarities with the traditional LEED for new construction (LEED NC), there are some notable innovations. For instance, while it follows a similar point structure (Certified: 45-49 points; Silver: 60-74 points; Gold: 75-89 points; Platinum: 90-136 points), the number of required points can be adjusted for smaller-than-average and larger-than average homes, using the Home Size Adjustment. That is based on the building square footage (including all conditioned living space) and the number of bedrooms (or potential bedrooms). The rationale for that adjustment is that larger buildings have more environmental impact, so need to compensate. Consequently, to make

it easier to reach a particular LEED for Homes level, you should build small and call any room that is big enough to hold a bed a bedroom.

Third-party verification is required through LEED for Homes Providers and Green Raters, who work under contract to the USGBC, performing field inspections and performance testing. They can also assist in the design, but are not viewed as part of the design team. Field inspections are normally just prior to drywall being installed and on completion of the building.



The rating system is divided into the following categories:

**Innovation & Design Process (ID):** this section has 3 prerequisites, and 11 points, and its aim is to reward new sustainable features or where a project exceeds established levels. In LEED NC, this section was at the end of the list, but here it has been moved to the front to highlight the importance of designing the green features in from the start. One of the credits relates specifically to the use of the Integrated Design Process, getting the contractor and design team working together. Other credits in this section include ones for orienting the building to take advantage of solar effects, and for having a LEED AP Homes on the design team (being accredited under LEED NC will not suffice).

**Location & Linkage (LL):** there are 10 available points in this section and no prerequisites. Here you can gain points for locating the housing in an ecologically favorable site, within or adjacent to already developed sites, not in areas that are currently undeveloped or not serviced by existing

infrastructure. Building near a transit route, pharmacy, restaurant, schools, etc. will help win you points.

**Sustainable Sites (SS):** this has 2 prerequisites, and 22 available points, of which you need to obtain at least 5 to certify. This section relates to using the site to mitigate adverse environmental impacts, including minimizing disruption to the environment during construction, and by the choice of landscaping and hardscaping to protect the environment.

**Water Efficiency (WE):** no prerequisites, but you need to obtain at least 3 of the 15 available points. That you can do by such things as reducing the usage of water within the building and on the site, and encouraging reuse where possible, including collecting rainwater.

**Energy & Atmosphere (EA):** this section has 2 prerequisites and a total of 38 available points. It encourages energy efficiency, especially in relation to heating and cooling, and also includes issues such as insulation, window design, and providing renewable energy.

**Materials & Resources (MR):** there are 3 prerequisites, and 16 available points, of which a minimum of 2 must be achieved. This section encourages the selection of sustainable and locally produced materials, and discourages waste.

**Indoor Environmental Quality (EQ):** this has 7 prerequisites, and 21 available points of which you need to obtain at least 6. This section is largely about reducing the potential for pollutants that could affect the air quality, and controlling humidity levels to prevent mold. Unlike LEED NC, LEED for Homes includes points for radon protection.

**Awareness & Education (AE):** this has 1 prerequisite and 3 available points. We have all seen recycle bins into which people have thrown garbage regardless of type, so you are probably well aware of the need for education in regards to going green. The points in this section relate to educating the building owner and occupier on the green features of the building and how to use them.

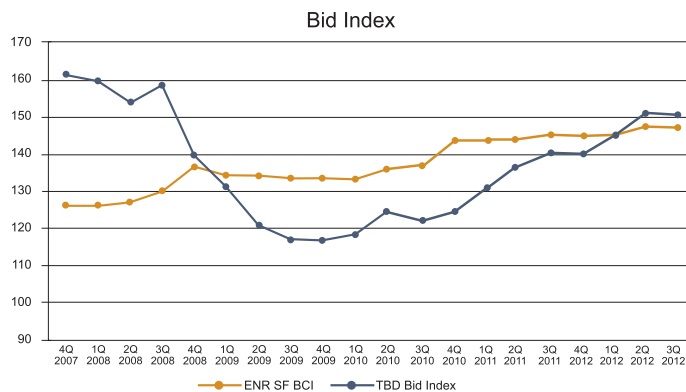
Sometimes you have to decide where you want to take points for a particular green feature, because gaining a point in one category may block you from one or more other points – they have tried to eliminate the opportunities for double-dipping. Recycling is encouraged, but not the recycling of credits.



# Recovery Heading Home?

Geoff Canham, Editor

House prices hit a peak in July 2006, and the downturn from that point was one of the first indications of the recession that was to come. Except almost no one knew how deep that recession would be. But six years later it seems we may be finally seeing signs that the housing market is on its way up again.



But like our Bid Index (which is based on a school project, rather than housing) the rise is happening slowly.

Housing was one of the first portions of the market to be hit, and about the last to recover for a number of reasons, and the foreclosure issue with its related robo-signing scandal is a major one. Foreclosures have been helping to keep house prices generally at a low point, and falling house prices have been putting off buyers who have thought that by waiting they could get an even lower price. The number of foreclosures has been steadily dropping over the past 22 months through July, but with the resolution of the robo-signing issue there has been an upturn in the number of filings. That said, the schemes that have been put into place to assist homeowners in renegotiating loans, and the fact that many banks are more willing to contemplate, or even encourage, short sales should limit the number of future foreclosure filings that actually result in the banks repossessing the properties.

The past couple of months saw house prices rising nationally, although some areas were still experiencing price drops. Those increases have encouraged buyers to move before prices rise even further, and have

encouraged potential sellers to put their houses on the market. Inventories of houses for sale had been getting very low as people held off selling when prices were at the bottom. The increased number of houses available for sale is likely to reduce the upward pressure on prices, so it is likely that we will see the recovery in house prices moving in steps, rather than a straight line, but the trend appears to be onward and upwards.

In regard to new house construction, again we are seeing a fairly steady rise in numbers. In July, housing starts actually dropped just over a percent on a month-over-month basis, but on an annual basis they were still over 20% up on the previous year. More importantly, building permit applications, which indicate how construction will go over the coming months, were up, and ahead of expectations. Even more encouraging, confidence among contractors has been steadily increasing as well, although there are still more contractors who describe the current market as 'poor' than as 'favorable', but the gap is narrowing.

Mortgage rates being at record lows have also encouraged buyers, although working through all the paperwork required now by the lenders is still a painful process.

The housing portion of the construction industry is a major employer and accounted for about a quarter of the layoffs during the recession, so a continued upturn would be an important turning point in the complicated chicken-and-egg scenario we have been going through. Increased employment in the construction industry and related industries (such as furniture and other household goods) will put more money in circulation, improve confidence in the economy generally, and help pull us out of the pit we have slid into. When that happens, we can move into a wild time of overconfidence before the next recession hits!