

## Basement Construction

As the cost of housing continues to rise and space remains scarce, expanding a property to include a basement can be an attractive option. However, while the expansion is considered a smaller construction project, it still carries dangerous risks. For that reason, in an effort to increase health and safety awareness for basement projects, the HSE has been performing periodic inspection campaigns since 2011.

Yet, despite its efforts, more than one-third of projects violate at least one health and safety regulation. Therefore, as the owner or manager of a construction firm, you must familiarise yourself with proper construction procedures and insurance considerations so you can minimise potential risks to your workers, to homeowners and to your business.

### Standard Basement Construction Process

Basement construction commonly consists of a small project that presents risk to the existing structure, the homeowners and your workers. Rely on the HSE's guidance to follow the correct procedures before and during construction:

#### Before Construction Begins

- Hire a temporary works engineer to design and plan the support structures needed to protect the integrity of the home in addition to the well-being of workers and the homeowners.
- Develop a thorough construction plan which outlines safe entry and exit points for the workers, where temporary works structures will be installed and the process for removing excavated material.
- Identify existing underground services—such as plumbing, gas, electrical, telephone lines, etc—and plan how to protect them during construction.

- Decide what safety measures will need to be implemented, such as whether forced ventilation is necessary, to protect workers' health.

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**Since 2011, the HSE has consistently found that at least one-third of all basement construction sites have violated one or more health and safety regulations.**

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#### During Construction

- Install and maintain temporary works structures as per the engineer's plan. Also, support all sides of the excavation to prevent movement or collapse.
- Reinforce all entries and exits to the construction site. This should involve at least securing any ladders to prevent injuries.
- Erect barriers above ground to bar individuals from falling into the excavation.
- Ensure that workers are overseen by an experienced supervisor or the temporary works engineer to avoid any actions that could prove dangerous to the structure, workers or the homeowners.

#### **Risks of Basement Construction**

Despite being considered a smaller construction project, adding a basement to an existing home presents dangerous and even fatal risks. Improper preparation could lead to the following:

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Provided by *Crendon Insurance Brokers Ltd*

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- The temporary works structures and other structural supports could fail, which could cause extensive damage to the existing structure and injury, or even death, to the individuals in or below the structure.
- The construction site could lack proper ventilation which could contribute to workers developing respiratory illnesses.
- The foundation for the entrance and exit to the construction site could fail, which could trap workers and lead to structural damage or injury.
- The temporary works structures and other structural supports may provide only short-term rather than long-term support, which could cause structural damage well after construction has finished.

While this does not represent a comprehensive list of all the potential risks that basement construction could present, it does reflect some of the most damaging.

## Risk Mitigation Methods

Even though the risks associated with basement construction have the potential to be severe—both financially and to the health of those involved—there are several simple methods you can use to mitigate those risks. Consider adding these three risk management strategies to your current scheme:

- Provide your workers with training on how to work in enclosed spaces and on small construction sites. Be sure to emphasise how to work with temporary works structures and existing underground services.
- Hire an experienced temporary works engineer to identify potential structural risks and to develop support structures to neutralise the danger.
- Purchase insurance that is specific to basement construction. This may include the following:
  - **Public liability** provides cover against negligent injury or property damage.

- **Professional indemnity** provides cover against errors or omissions in service, advice or design.
- **Contract works or contractors all risk** provides cover for ongoing renovation, extension or other works until completed. Additionally, you can extend cover to include materials on-site and in transit, like site huts, security fencing, tools and equipment.
- **Defects insurance guarantee (DIG)** provides cover for underpinning, mini-piling and foundation works.
- **Basement insurance guarantee (BIG)** provides cover exclusively for the construction and life of the basement, including all associated structures, such as temporary works.
- **Superstructure cover** provides cover for the building above where you are working, so, if your basement project threatens the integrity of the whole building, you are covered. This cover is commonly neglected in basement construction and is essential to protecting your project.

These risk management strategies do not represent a complete list of all the possible strategies, but they do represent those which may be the most beneficial to construction firms.

## Stay Safe When Adding More Space

Basement expansions have become popular over the past several years. But even the smallest construction project can present dangerous risks to the structure, to workers and to homeowners. Talk to Crendon Insurance Brokers Ltd to learn how to best to ensure the success of your future construction projects.