

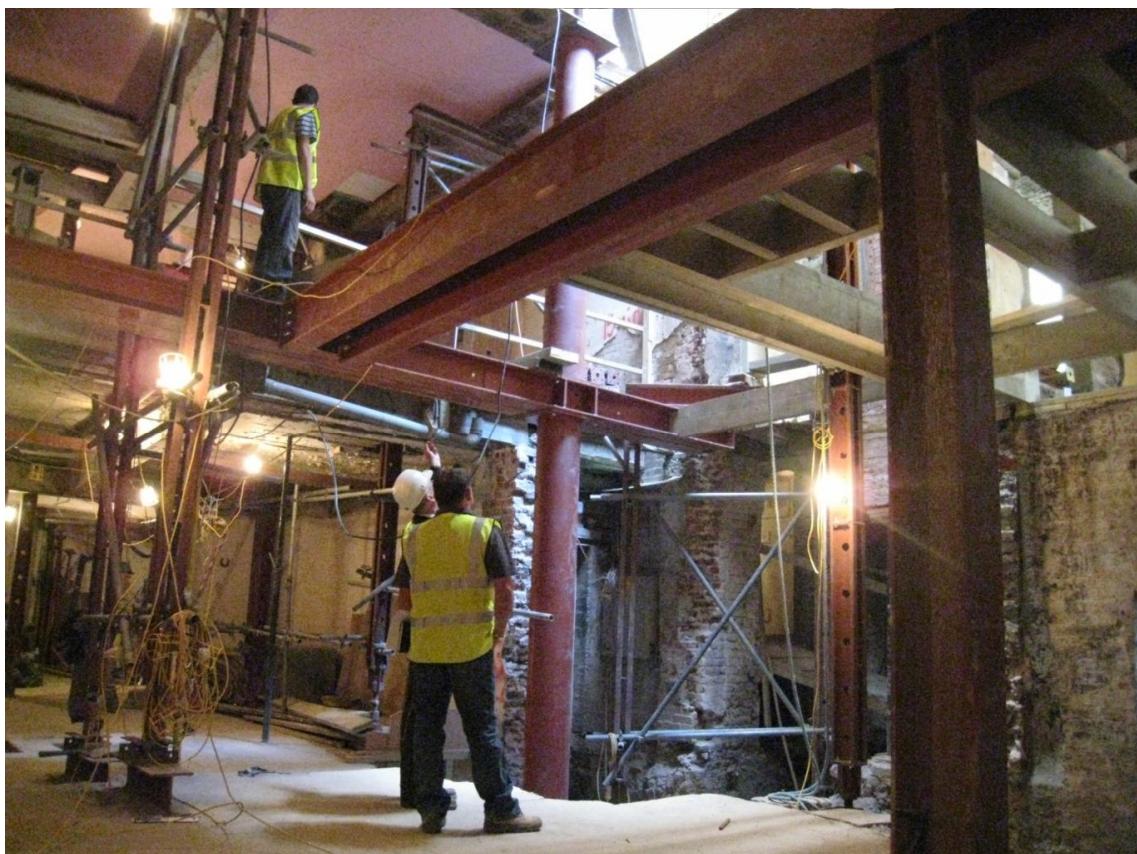
**MSJ Design Ltd**  
Consulting Civil and Structural Engineers  
Structural Engineer's Surveys

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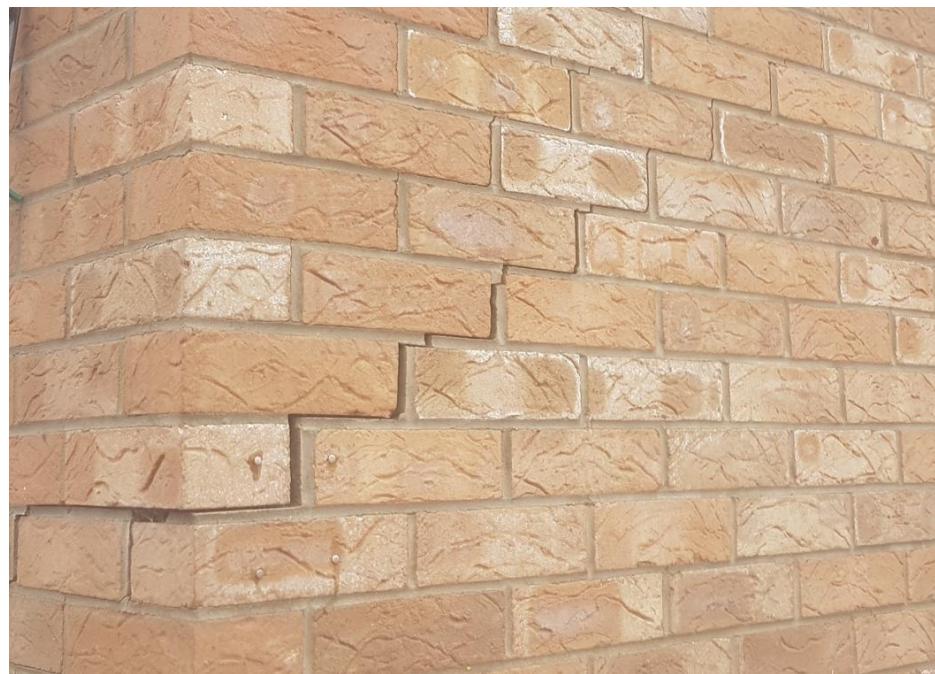
MSJ are a niche multi-disciplinary practice specialising in all aspects of design, alterations and defect remediation of a building fabric, "the envelope".

Led by a RIBA Chartered Architect and MInstE MICE Chartered Structural Engineer, our practice combines the expertise of both disciplines under one roof, offering a comprehensive range of architectural and structural engineering consultancy services, in addition to providing structural surveys as well as party wall consultancy services, on a wide variety of small to medium size projects.

MSJ have more than 30 years of experience in providing Structural Engineering Surveys for homeowners and lenders alike.



## A Brief Guide to Structural Engineer's Survey Costs and Benefits



## Structural Engineer's Survey - Costs and Benefits

When purchasing a home or planning renovations, one of the most important steps is to understand the condition of the property, particularly its structural integrity. A structural engineer's survey provides a detailed inspection of a property's structure, helping to identify any potential problems or issues that could be costly to repair.

### What Is a Structural Engineer's Survey?

A Structural Engineer's Survey is a thorough assessment of a property's structural condition. Unlike a general home inspection, which gives an overview of the condition of the property, a structural engineer's survey goes deeper into the assessment of condition of key structural elements such as:

- Roof
- Floors and ceilings
- Walls and framing
- Foundations

Structural Engineer's Survey is particularly important for older homes or properties that may have visible or hidden damage that could compromise their stability.

### Why Should You Consider a Structural Engineer's Survey?

#### Identifying Hidden Issues:

Many structural problems, such as foundation cracks, subsidence, or water damage, may not be visible on the surface but can be revealed in a detailed survey. Identifying these issues early can save you from significant unexpected costs down the road.

#### Peace of Mind:

A survey provides peace of mind, knowing that the home you're purchasing or renovating is structurally sound. It also allows you to make an informed decision about whether to proceed with the transaction or negotiate with the seller for repairs or price reductions.

#### Planning Renovations and Repairs:

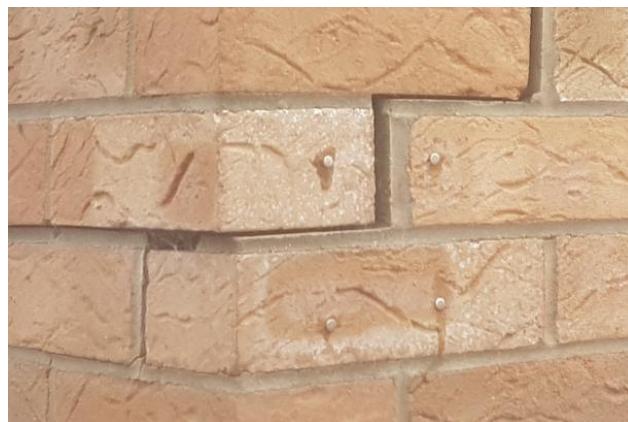
If you plan to renovate, a structural survey can give you a clear picture of what changes are feasible and whether the property can support any alterations you have in mind.

#### Insurance Purposes:

In some cases, an insurer might require a structural survey before providing coverage for certain types of damage or repairs.

#### Long-Term Cost Savings:

Addressing structural issues early, when they are more manageable, can save you a significant amount of money in the future. Repairing extensive damage after it worsens can be far more expensive.



## MSJ Design Ltd – Structural Engineer's Surveys

When purchasing a new home or planning any renovations, one of the most important steps is to understand the condition of the property and particularly its structural integrity. A Structural Engineer's assessment is one of the essential detailed inspections of a property's structure, which helps to identify any potential problems or issues that could be costly to repair.

The circumstances that could give rise to a requirement for such investigation are for example,

- A Building Surveyor carrying out a Level 2 or Level 3 Survey during a purchase process detects structural issues.
- A buyer is concerned about a defect and might not have commissioned a surveyor's report.
- A vendor or estate agent becomes aware of a potential defect during the purchasing process and wants more information.
- A homeowner is worried about cracks or other defects in their property, such as sloping floors or ceilings or roof surfaces or distorted door or windows frames etc

MSJ offer two general levels of Structural Engineering inspections and reporting:

### First one is Structural Engineer's Specific Issue Report

When there is identified a localised structural issue, such as a single crack in a wall or perhaps a bulging wall, we recommended that our Structural Engineer's Specific Issue Inspection (SESI) is commissioned.

The Structural Engineer's Specific Issue Report is suitable for your property if you believe that the rest of the property is sound, but you have concerns about one aspect, such as:

- A seemingly isolated crack in a specific location such as a bay window.
- Bulging wall.
- Sagging floor joists or roof timbers.
- A Building Regulations issue, such as review of a historical removal of a chimney breast or a wall, often without certification paperwork.
- Proximity of a tree, where clay soils are typical foundations strata and subsidence is a threat.
- Drainage proximity or failure, which could also cause subsidence.

The survey report goes into a similar level of detail as a general RICS Building Survey but it only covers a particular area of concern.

Our Fees for this level of service start at £800 + VAT.

Second type of survey that MSJ offer is a Structural Engineer's General Inspection Report.

We recommend that our Structural Engineer's General Inspection Report (SEGI) is commissioned if there are present multiple cracks or similar general concerns regarding distortions throughout the property.

The circumstances that could give rise to a requirement for such investigation are for example,

- General distortion of a property.
- A Building Surveyor carrying out a Level 2 or Level 3 Survey detects concerning structural issues.
- A buyer is concerned about a defect and might not have commissioned a surveyor's report.
- A vendor or estate agent becomes aware of a potential defect during the purchasing process and wants more information.
- A homeowner is worried about cracks or other defects in their property, such as sloping floors or ceilings or roof surfaces or distorted door or windows frames etc.
- Underpinning history.
- Fear of subsidence generally.
- Large trees nearby.
- Prior to undertaking major renovations or structural alterations.
- General peace of mind for discerning purchasers, including developers and investors, wanting a specialist structural opinion.

Our Chartered Structural Engineer would carry out a visual inspection of the main structures of the property for signs of defects or movement. The inspection would include floors, roof and loadbearing walls as well as openings within such structures and will focus particularly on visible signs of any deformation of these structures.

Our specialist knowledge and 30+ years of experience give us confidence that we can diagnose 99% of cases we inspect, by studying the location, condition and orientation of cracks. Subsequent to the inspection, we will provide decisive and prompt reporting on the nature and extent of problems as well as general guidance in having them resolved.

We do not undertake any intrusive exploratory work but should we consider this to be beneficial, then we can arrange for contractors to carry such works out on your behalf.

Our Fees for this level of service start at £1,200 + VAT.

## Example 1

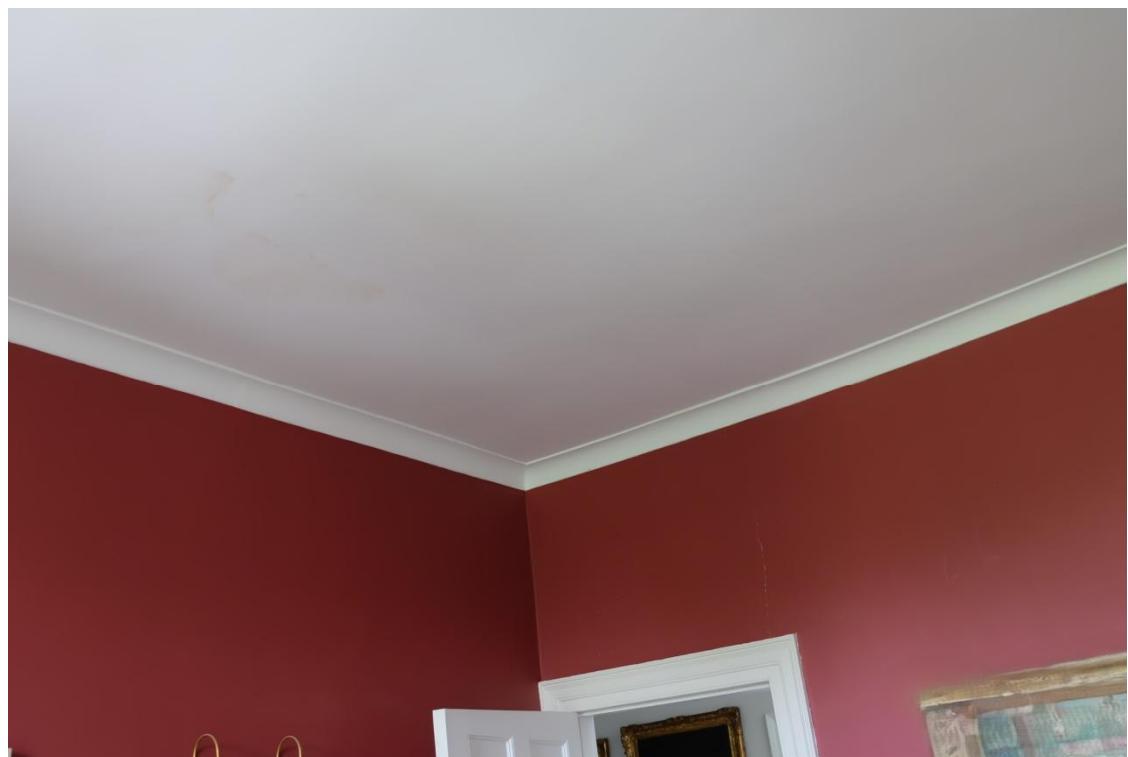
Recently we were contacted by a private customer who was in the process of purchasing a new home, a beautiful Georgian property in central London. His Level 2 Surveyors report suggested that there was some intermittent cracking present at the upper levels of the property, and also that one of the door frames was slightly distorted. We made a visit to the property and established and promptly confirmed to the Client that the intermittent cracks at the upper levels were caused by historical and environmental effects and that they did not have any structural engineering significance, nor that they were an indicator of any kind of ongoing movement or a defect.

However, when we looked into other aspects of the building, including the door frame that was mentioned on a Level 2 survey, we became concerned that the cracking directly above one of the door corners, together with distorted and cracked coping within the wall – ceiling junction directly above that door, suggested a different type of defect. After further investigation we drew a conclusion that the underlying structural supports in this area must be overstressed and over deflected and that this deformation was progressing through the years. Unfortunately, the Client could not carry out any investigative works at this time as he did not own the property yet, so he proceeded with the purchase but now armed with the knowledge that some remedial works may be required.

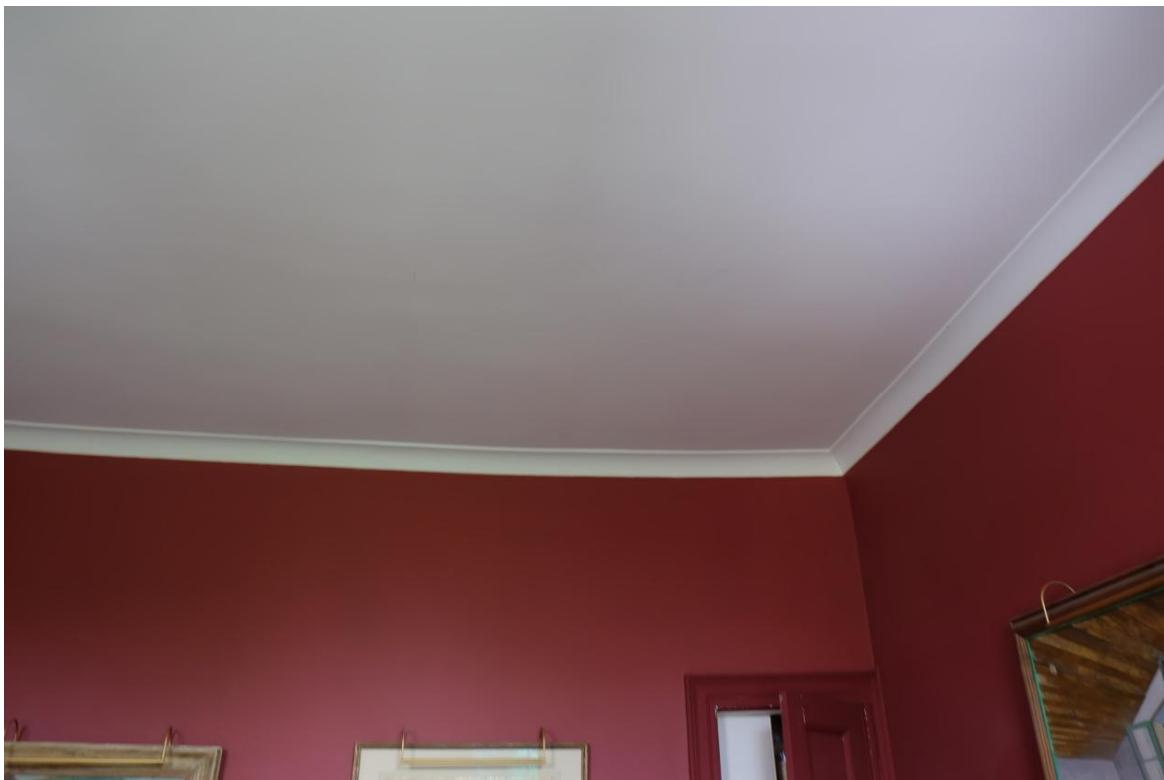




Note the crack above the door.



Note the crack above the door and distorted coving.



Note the distorted coving.

Upon the Clients' purchase of the property, opening up works were carried out under our guidance and subsequently our assumptions were confirmed as correct. It was established that the existing structural element was a old Georgian thoroughly cracked timber bresummer beam measuring 30x30 cm in section but which deflected by over 15cm in mid-span. This beam was fitted with multiple timber packers above it, applied through the last 100+ years, in order to keep the overhead floors level.

The simple solution to address this defect was for the existing timber beam to be replaced with a steel beam. However, a Conservation officer from the Local Council got involved and demanded a solution which would have kept the historical timber bresummer in place. Following a detailed discussion with the Client's contractor we settled on the solution which involved inserting some steel plates into the timber beam, thus creating a flitched beam. The flitched beam, although significantly weaker than the proposed steel beam, still provided structural strength order of magnitude greater than the bresummer timber beam alone.

The Client and the Council's Conservation officer adopted that as a good working solution, even with the knowledge that this was not fully compliant with the current Building Relations.