

CASE STUDY ADJUSTING TO SUBSIDENCE, AS PART OF A MAJOR REORDERING



N.B. This case study considers only one possible approach, which will not be suitable for every church. Always seek professional advice.

Key Points

- St Edwards, Mottingham had telltale signs of subsidence including cracks in the walls and a large crack in the floor.
- They funded a new ‘floating floor’ as part of a reordering process in 2019 that sought funding from a range of sources that focussed on the continued community usage of the building.
- The new floor will last for approximately 30 years and provides space for community groups to come in and use the building.



1 View of the crack in the floor that had emerged in St Edward’s, as a result of subsidence in the surrounding area.



2 The exterior of the church, which provides a space for community groups as well as the congregation.



3 The new floor can be seen here in the nave, which is set up for use by one of the many local groups.

The context

Large parts of Mottingham St Edward’s were built on concrete foundations. As the temperature in the UK has increased as a result of climate change the clay soil that surrounds these foundations has started to shift causing widespread cracking problems in buildings and infrastructure throughout the town. The church is no exception to these community-wide problems. In St Edwards this problem of subsidence became evident with the appearance of a large crack along the floor of the church and cracking in the walls that had likely expanded gradually over a period of 50 years. Whilst this level of subsidence is currently at a manageable level, engineers and insurance consultants advised that it should be urgently addressed.

For more information visit the church’s [website](#), or its entry on the [Church Heritage Record](#).

Rationale for the works

- St Edwards is an active, growing, community church that is used by a large number of community groups including exercise and toddler groups that have large space requirements.
- In order to continue the growth of these present projects and allow for more room for new ones, St Edwards launched a development plan that would first create a secure heating envelope.
- If left unfixed it is likely that, as air temperatures continued to rise, this crack and potential new cracks would continue to spread through the floor, potentially leading to the forced closure and emergency repair of the church.

What was done?

The work undertaken in St Edwards had a number of goals and stages that were mostly individually funded over the course of 4 years from 2018-2022, although there are a number of activities that continue to be sought. The work has included:

- Installing a high quality LVT floor suitable for the needs of community sports groups with sponge backing and additional secondary underlay that create a floating floor that is more resistant to the propagation of new cracks through the continued process of subsidence.
- Fully repairing the roof to ensure water tightness and sufficient drainage goods.
- Integrating sustainability goals throughout project including the securing of the heating envelope through installation of insulation, secondary glazing for the windows, and switching to LED lighting.
- Adding more substantial facilities as a single toilet was no longer suitable for the growing church's needs alongside larger kitchen facilities that were installed.

How were these actions funded?

Many of the individual parts of this wider reordering project were funded individually to maximise available funds and allow the project to begin and continue as other areas were still being actively funded. This allowed the church to generate momentum within the funding community as well as they were able to point to a string of successful bids in secondary funding applications.

Some of the particular sources of funding for this project were:

- A legacy from a community member as well as a number of charitable trusts funded the floor and heating system (approx. £45,000).
- NCT funded repairs to the high level roofs and Viridor for the side roofs (approx. £30,000).
- Veolia Environmental Trust funded the secondary glazing (approx. £35,000).

How well did it work?

The new floor has been installed and utilised by the large number of community groups. The multiple layers of the floating floor allow for additional shift that would not have been possible with the previous floor. This has secured the floor over the long term and allows the church to move its focus onto other needs.

Both the community-focussed perspective of the project and the tie-in of environmental sustainability allowed this project to attract a significant amount of funding beyond that of many other churches. This was partially the result of a particularly active clergy member, both in applying for funding but also being willing to take practical actions such as digging drainage trenches to minimise costs.

What could others learn from this case study?

1. When considering reordering be aware of the potential climate resilience you may be able to build into a wider project.
2. Consider the church to be a community asset when making funding proposals including as a resilience hub for the wider community.
3. Utilise expertise at the diocese level to help locate and target available funding. Engage with expertise of architects, including QI architects, to help design your building to be resilient to the particular problems you are facing in your area.

*“This was part of a shared vision, we want to make a greener world...
and the church still being there in 50 years will help us doing that”*

Clergy, St Edward's Mottingham