

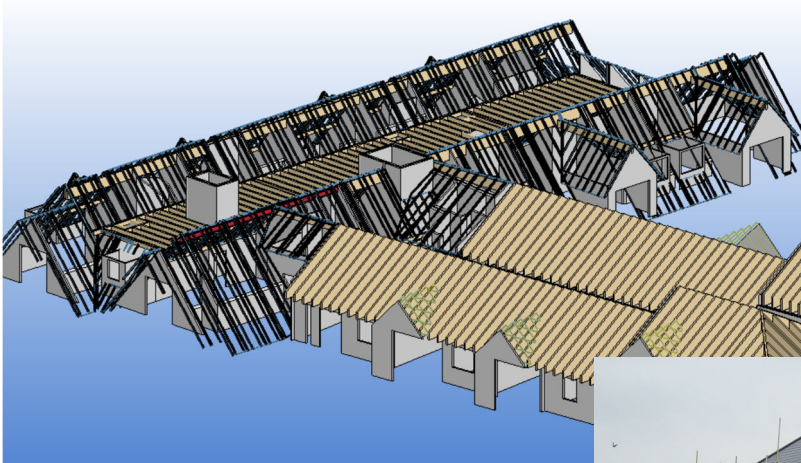
# Chubb Hill, Whitby – Apartments



**MMC Engineer Ltd**  
Structural and Civil Engineers

## Project Overview

Client: Kebbel Homes  
Manufacturer: [W A Browne](#)  
Status: On site now



## Chubb Hill, Whitby – Apartments

Structure engineered by Stephen Napper and manufactured and erected by W A Browne.

These two blocks of flats in the historic port of Whitby and the North Yorkshire Moors National Park are built on podium transfer slabs, supported on concrete 'stilts' due to the severe slope found on the site. One block of flats is social housing, and the other is privately owned, but both blocks are within a stone's throw of the beach.

### Supplier of structural design services (Olympic Park) to the London 2012 Games

MMC Engineer Ltd.

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## Chubb Hill, Whitby – Apartments

The social housing block is a three storey block, whilst the privately owned block is four storeys high with accommodation built into the roof space. The roof space accommodation was designed and erected using a series of hot rolled ridge beams and cold rolled lattice beams as appropriate with 'lay down panels' constructing the roof space itself. This design meant the building could be manufactured and erected as efficiently and quickly as possible.

W A Browne and Kebbel Homes have worked together on various projects before over the years, but this was one of the first projects Stephen Napper designed for W A Browne.

The structure of the apartments was made from W A Browne's 75 x 1.6mm thick profile for the walls with two hundred and fifty millimetre deep lattice trusses with a fifty millimetre givlon screed on lewis decking making the structural floor. The whole floor construction weighed a staggeringly lightweight one hundred and eighty kilograms per square metre (or one point eight kilonewtons per square metre). The floor, obviously, meets building requirements for fire, acoustics and thermal requirements. Full details of the make-up are available in W A Browne's SCI / NHBC Stage 1 technical manual. The calculations were checked and signed off with an NHBC stage 2 certificate by an independent stage two checker. Stephen Napper Associates provide all calculations to NHBC standards, and SCI Publication P301, Building Design using Cold Formed Sections. Light Steel Framing in Residential Construction. Stephen Napper Associates are able to offer NHBC Stage 2 checking of others calculations themselves, but for obvious reasons, cannot check their own work.

The privately owned block has cantilevering balconies, whilst the joint ownership block has Juliet type balconies. On both blocks hot rolled steel was kept to a minimum and hidden within the depth of the construction / structural zone.

Both projects were modelled in Vertex, which Stephen Napper Associates are able to review and edit, if required, as they have a full version of the software with all of Howick customers bespoke details to ensure a smooth and professional level of service as expected of such a market leading team.

Block one was produced and erected on time and on budget and block two is heading for a similar outcome.

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