

2,000

Around 2,000 bricks recycled from the demolition phase will be used as part of the larger housing block



The facade of the former museum (top right) has been retained as part of the development (below right). The town house gable ends (left) have been formed using structural steel

Local authorities are building houses again. And when land values are as high as they are in St Albans, it's not hard to see why. The local council is redeveloping the site of the former Museum of St Albans (MOSTA) into 10 town houses and, given that comparable properties in the surrounding conservation area go for north of £1m, it stands to make a tidy return.

This is St Albans City & District Council's first residential development since the coalition government's 2012 housing reforms relaxed the rules on what local authorities could borrow and spend. The council appointed Morgan Sindall as main contractor, through the Pagabo framework, for the two-stage contract. Architect Mark Bell was novated to the contractor for the second stage.

Elaborate temporary works

It is a tricky job technically. The centre-piece of the scheme is the Victorian facade from the old museum, which had to be retained as a planning condition. This meant an elaborate system of temporary works had to be designed and erected during the seven-week first stage, which began in May 2017. An additional challenge during this stage was bringing the project within the council's £5m budget, which Morgan Sindall achieved largely by resequencing the works to take four weeks off the programme.

The site is tight, facing on to Hatfield Road to the south, and extends back 50m but is only 16m across at its widest point. The retained facade runs for 62m around three elevations, forming a square bracket shape, with gables at either end. The longest elevation faces east, where the development is separated from a school by a narrow public right-of-way.

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SAVING FACE IN ST ALBANS

A RETAINED VICTORIAN FACADE ON A ST ALBANS HOUSING DEVELOPMENT REQUIRED AN ELABORATE SYSTEM OF TEMPORARY WORKS FROM MAIN CONTRACTOR MORGAN SINDALL. **WILL MANN** REPORTS

Client St Albans City & District Council
Main contractor Morgan Sindall
Architect Mark Bell Architects

Structural and civil engineer PEP
Scaffold and facade retention Reunited Scaffolding

Demolition and asbestos removal Red Hammer
Masonry and facade repairs Flahive Brickwork

Structural timber Crendon
Structural steel Tubular Erectors

Programme (stage two) 67 weeks (completes summer 2018)
Value £4.8m

so we've had to organise the deliveries on a JIT [just-in-time] basis," says Paul Barrett, Morgan Sindall's project manager for the MOSTA scheme.

The limited footprint was a factor in the design of the temporary works structure. "The concept was created by Morgan Sindall's in-house temporary works business and designed and assembled by scaffolding contractor Reunited," says Barrett.

With space restricted, the 21m-high tube-and-fittings scaffold structure was ballasted with concrete kentledge blocks, buried to a depth of up to 2m. Some 15cum of concrete was used for the kentledges, which are set out around the exterior of the retained facade. Steel shear beams support the scaffolding structure, which is fixed with 15mm diameter rods, drilled into the facade, and timber boards set flat against the walls.

"The buttress design for the scaffold was our only option as we needed to keep the temporary works within the footprint of the site, and we couldn't put any support inside the retained facade as we were starting work on the foundations for the new homes," explains Barrett. "It also had to be constructed from tube-and-fittings because of the flexibility this offers."

The first stage also included enabling works, including asbestos strip, demolition of the original museum plus a bungalow to the rear of the site, and groundworks. Exhibits, fixtures and fittings were taken by the council to the museum's new home in the town hall. "One unusual feature of the first stage was the discovery of a time capsule, which dated from the original museum building's construction," says Barrett. "It included a copy of the *Herts Advertiser and St Albans Times* published on 16 July 1898 and a Victorian halfpenny."

Five townhouses have to be built inside the retained facade, another immediately outside its northerly gable end, with the remaining units forming a block of four at the rear of the development, at a right angle to the original building. The house on the northern end of the main block sits outside the gable end, which becomes an internal party wall. "This was tricky to engineer as the new build relies structurally on the retained wall," he says.

The new-build blocks use traditional strip foundations with a brickwork sub structure then a beam and block ground floor. The floors are timber supported with Posi-Joists, with underfloor heating.

The 21m-high housing blocks have a cross-gable vaulted roof design, to replicate the original museum building. The roof structure includes both trusses and cut timber, plus 13 tonnes of structural steel for the gable ends and the longest roof spans which run to 5m. "The steelwork provides extra structural stability with the steel gable ends almost acting as a lintel," explains Barrett.

An additional consideration for the temporary works was the support it needed to provide for the permanent structure of the main block during construction, and this dictated the sequencing. "The scaffold structure had to be designed to support the steelwork in the roof," says Barrett. "Initially we



The temporary works structure was ballasted by concrete kentledge blocks, buried up to 2m in the ground

built up the brickwork, then installed the scaffold crash deck. Then we erected the steelwork and only after that the timber."

The project includes repairs to the retained facade of the museum, which actually comprised two buildings joined together. A northern section, roughly the same size as the existing, was added in the 1960s using the same Victorian style but with a concrete render. "This will be stripped off, and all the brickwork repaired and repointed, by our specialist brickwork supplier Flahive," says Barrett.

"Around 2,000 bricks recycled from the demolition phase will be used as part of the larger housing block," he adds.

High-spec finishes

In keeping with the conservation area - local heritage group Look! St Albans was influential in the scheme's design - high specification finishes are being used throughout. New bricks have been picked to match the retained facade, and use Flemish bond and English garden wall bond, with Wienerberger Koramic Tempest tiling on the roof. Windows are bespoke timber double glazed and front doors are solid oak. Internal finishes include oak staircases, with glass or timber balustrading, plus porcelain floor tiles and engineered oak flooring.

The second stage programme runs for 67 weeks, with the scaffolding to be removed during June and July, ahead of final completion later this summer.

Interestingly, St Albans council is using Local Authority Building Control for the project, rather than NHBC, in another sign of a culture shift in housing development. The council is planning a major redevelopment of the St Albans Civic Centre site, and after completing two land acquisitions in the area, is likely to manage the development project itself rather than use a private developer. ●

