

Project Details

Client	The ExtraCare Charitable Trust
Structural Engineers	Nolan Associates
Main Contractor	Galliford Try
Cost	£44m
Completed	July 2019
Duration	2 Years

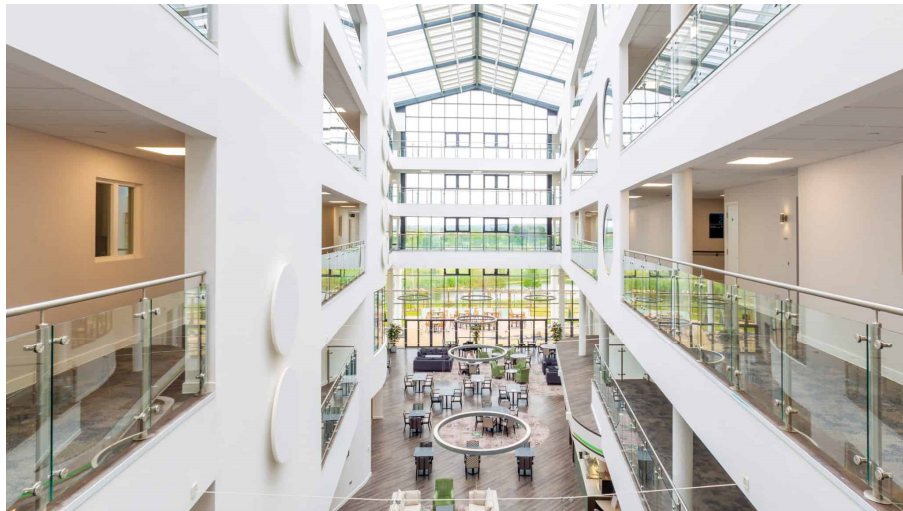
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Bedford Retirement village is a partnership between Bedford Borough Council, the Harpur Trust, Homes England and The ExtraCare Charitable Trust.

Nolan Associates with Galliford Try completed the design for a new 230 apartment retirement village with a range of communal, social and leisure facilities to provide a setting for downsizing to a better quality of later life.



Construction Photographs



Design Principles

A number of construction materials were used including load bearing masonry with precast concrete floor slabs, braced steel frames with precast concrete floor slabs and reinforced concrete podium transfer slabs to give large open plan spaces below and supporting 3 storeys of load bearing masonry structure above. Balconies to the village centre were designed to cantilever from the main structure. Thermal break connectors were either cast into the insitu concrete podium slabs or positioned within wall cavities tied back to floor beams.

The construction sequencing of the project was important in identifying the correct structural form. Traditional masonry construction incorporated individual steel beams on padstones where the program allowed. Stand-alone steel frames were also utilised where necessary.

The site was underlain by a consistently deep layer of made ground. The chosen foundation solution was traditional pad and strip foundations on vibro stone columns. The ground floor slabs were designed as ground bearing in agreement with NHBC, providing that the slab had the capability of spanning between the vibro stone columns. The village centre comprised an open area at ground floor which housed the various general facilities such as the café area, fitness suit and general offices. The first floor was a combination of apartments and plant rooms. Floors above this level were entirely apartments.

As the layout of the upper floors and that of the ground floor precluded the direct transfer of load to the foundations, a transfer structure was required.

A complete transfer structure at first floor with a transfer structure at second floor to approximately 50% of the floor area was adopted to support the 3 storeys of load bearing masonry above.

The transfer structures were formed in reinforced concrete consisting of circular columns, shear walls, varying thickness of flat slabs and architecturally sympathetic location of down stand beams within the floor slabs.

