ECD ARCHITECTS PROJECT DATASHEET

WILMCOTE HOUSE
PORTSMOUTH

RESIDENTIAL TOWER PROJECT

Client:	Portsmouth City Council
Brief:	Refurbishment of 11 storey, 3 tower, housing block
Value:	£13m
Sustainable Initiatives:	External wall insulation; heating systems; roof insulation; high performance windows.
Current Status:	Tender

Computer Images of estate after

ECD proposals for the retrofit of Wilmcote House achieved planning in June 2013 and are currently out to tender with an expected on site date in early 2014.

Wilmcote House was originally constructed as a concrete prefabricated structure in 1968 using a large panel 'Bison REEMA' variant system. It consists of three 11-storey linked residential blocks which provide much needed affordable housing for Portsmouth City Council. With no place to relocate the residents within these 107 units, the City commissioned ECD for the building's regeneration to be achieved with the residents in occupation.

The retrofit and refurbishment of Wilmcote House to extend its life for a minimum further 30 years provides both a sustainable approach for the estate's regeneration as well as contributes to the Somerstown area-wide regeneration. Due to the size of Wilmcote House, and the number of resident's homes which would have been disrupted, its demolition for the provision of new build housing would have been complicated and expensive. By contrast the solution to retain the existing building encourages the longevity of the present community and provides an opportunity to improve the estate's image and significantly reduces heat loss/energy use and fuel poverty for residents.

The project has attracted ECO funding and been designed to meet the stringent EnerPHit standard, the retrofit equivalent to Passivhaus. Achievement of this standard will reduce the building's annual heating and hot water costs by 90%, saving around £750 per dwelling per annum in energy bills. The project works include the following:

- Structural remediation of external structure
- Installation of new structural steel frame to enclose the building
- Insulated overcladding to new structural external framing
- Extension of living spaces and enclosure of private balconies
- New triple glazed windows

Computer Images of estate after

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Estate before

Computer Images of estate after

- Enclosure of external access decks
- Provision of a new heating and mechanical ventilation with heat recovery system
- Reversal of rainwater outlets from internally run to external elevations
- New flat roof structure and covering
- Creation of a new secondary entrance
- Re-landscaping of external areas including private gardens
- Conversion of local housing office to two 3-bed accessible flats & two 1-bedroom flats
- External and internal refurbishment of the community centre

The external wall insulation proposal (EWI) offers several advantages in addition to the resulting energy efficiency improvements:

- The work is done externally so there is very little disruption and results in no loss of living space
- The system will protect the building fabric and will improve the appearance of the building through a range of external finishes
- Condensation risk is managed to the outside of homes and if continuous, there is minimal thermal bridging
- It needs little maintenance and internally no redecoration is needed

On the outer north/west facing elevations coloured metal fins have been incorporated perpendicular to the render finish. These perform two roles; the first to help shade windows against summer overheating from low west solar gains; and secondly, to dynamically animate the façade.

The outcome of this project will be a state-of-the-art retrofit and regeneration project with use of the EnerPHit standard bringing it to the forefront of achievement in the area of high rise residential refurbishment and regeneration.

Estate before

Computer Images of estate after