Glasgow Dental Hospital – Phases One & Two

Complex scaffolding is required to access the structure

Ribbon anode installation in brickwork

Phase One Works – Repairs to Tower Block

The first phase of works carried out at the Dental Hospital incorporated work to the reinforced concrete clad 9-storey tower block that had been added to the Hospital in 1970.

The project involved carrying out concrete patch repairs and protective anti-carbonation coatings to the reinforced concrete elements and included the replacement of pre-cast concrete units on the West elevation that had been removed in a previous contract.

Over 2000 isolated repairs were completed together with corrosion inhibitor and anti-carbonation treatment to over 2200 m^2 of the exposed concrete on all elevations.

In addition a number of pre-cast units and windows were replaced and over 4000 metres of flexible sealant was removed and reinstated around the windows in the £192k project.

Phase Two Works – Steel Frame Building Repairs

The larger second phase of works valued at £636k, is for the refurbishment of the main Dental Hospital building. Constructed in 1931 and added to over a number of years the complex Grade B listed building, requires innovative access scaffolding design.

Client	North Glasgow University Hospital NHS Trust
Design Engineer	DC Farquhar & Partners
Specialist CP Designer	Kevin Davies
Quantity Surveyors	Johnstone, Binnie, McKenzie
Principal Contractor	Balvac
Combined Programme	30 weeks
Combined Value	£828,000

The works comprise the re-slating of a large part of the roof, a membrane application to other areas and repairs to the lead and cast iron roof drainage and a masonry gable end.

Repairs to the steel framed building to deal with corrosion deterioration include the installation of 2500 discrete anodes for the steel frame and more than 200 m^2 of a titanium mesh and overlay for reinforced concrete elements, using an impressed current cathodic protection (ICCP) system.

The extent of damage to the masonry cladding of the steel frame also requires the replacement of over 12000 imperial bricks to match the existing. This has been greatly reduced by installation of the ICCP system.

Careful programming of the works in both phases has required close liaison with the hospital management to minimise the impact of the refurbishment on the Hospital, which has been largely unaffected.

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