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Le Schuyllkill

Monaco

The New Building
Structure

Following extensive surveying, monitoring and modelling of the existing concrete structure, the structural refurbishment has focused on 2 key main objectives: stiffening the structure to meet current seismic requirements and reinforcing the retained structure to transfer static and dynamic loads relating to the new structure at the top of the tower.

The enabling works included the demolition of the top 2.5 floors of the building and the concrete frame and slabs of the car parking areas to allow for the extension of the basement areas (floors B2 to B7). Smaller, target demolition works to external slabs and balconies are undertaken to treat the effects of corrosion due to humid, saline air.

The new structure for floors 15 – 18 is a lightweight, low carbon steel structure (XCarb) providing a good strength / weight ratio and control of deflections which have enabled us to use a glazed window wall with minimal framing profile in the penthouses. The use of steel has allowed for flexible open plan penthouse layouts and generous cantilevers to create large outdoor terraces.

Between floors 14 and 15 a new steel frame 'transfer slab' has been created. This has a dual purpose; firstly, to consolidate the existing concrete frame and secondly to follow an open plan structural grid in the penthouses.

75% of the existing concrete structure has been retained.

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