Chemistry Building

University of Pretoria, Lynnwood Road, Hatfield, Pretoria

The project entails the revamp of the existing Engineering 2 Building on the University of Pretoria's Hatfield campus into Chemical laboratories, new ablution facilities and offices. High levels of attendance and co-ordination is required to manage the intricate gas, air, drainage, and electrical service requirements of such laboratories, together with a four-fold mechanical system serving the specialist laboratories and their fume cupboards. The laboratories also required an upgrade of the existing gas banks into two separate gas banks, housing a total of 44 cylinders for 8 different types of gas.

The entire construction amounts to 4 010m², of which 2 880m² consists of new laboratories and offices constructed within the existing building's shell. The addition of a lift with lobbies and external walkways made public pedestrian flows possible, which previously had to be accommodated through the centre of the building. To further facilitate the activity of multi-storey experiments, a new triple volume tower and stair was externally constructed, with a roof garden on top offering a breakaway space for staff and students during lunchtime with views onto the Pretoria High School for Girls.

The biggest challenge when working on existing heritage buildings is to transform the original fabric to such an extent as to retain the original nature, but still accommodate and facilitate the requirements of its ever-changing environment. The contribution of the project lies in the careful planning behind interweaving the new tower into the original building, and the seamless transition between original external facades and added new walkways. At some point budgets indicated that the original building should rather be demolished, but responsible design opted for the sustainable approach of working with what is available and adapting to introduced requirements.

Architects ARC Architects (Pretoria) Pty Ltd **Project managers** ARC Architects (Pretoria) Pty Ltd **Quantity surveyors** AECOM
Civil and structural engineers Aurecon Group **Mechanical engineers** Acend Mechanical Engineers
Other consultants Izazi Consulting Engineering **Principal contractors** Lyncon Construction Pty (Ltd)
Electrical engineers Izazi Consulting Engineers **Fire consultants** Chimera Fire Protection