

Your ref  
Our ref  
File ref

# ARUP

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20 September 2021

Dear John,

## 845 Pacific Highway Chatswood – Letter to Council

We (Arup) are providing a structural engineering opinion to HYG in relation to the 845 Pacific Highway redevelopment. Notwithstanding anything to the contrary contained in this letter we are obliged to exercise reasonable skill and care in the performance of our Services under the Appointment and we shall not be liable except to the extent that we have failed to exercise reasonable skill and care and this letter shall be read and construed accordingly, and in particular shall be subject to the terms and conditions of the Appointment.

We have been given a pdf set of Architectural concept drawings from PTW Architects on the proposed development dated 22/07/2021. These drawings show typical floors in General Arrangement style from basement level B9 up to the roof at level 38, for a typical commercial office building with underground parking and ground level retail.



Figure 1 Typical Upper Commercial General Arrangement

The north-eastern envelope of the proposal appears to grow outward from the ground floor plane up to level 18 at a constant incline;

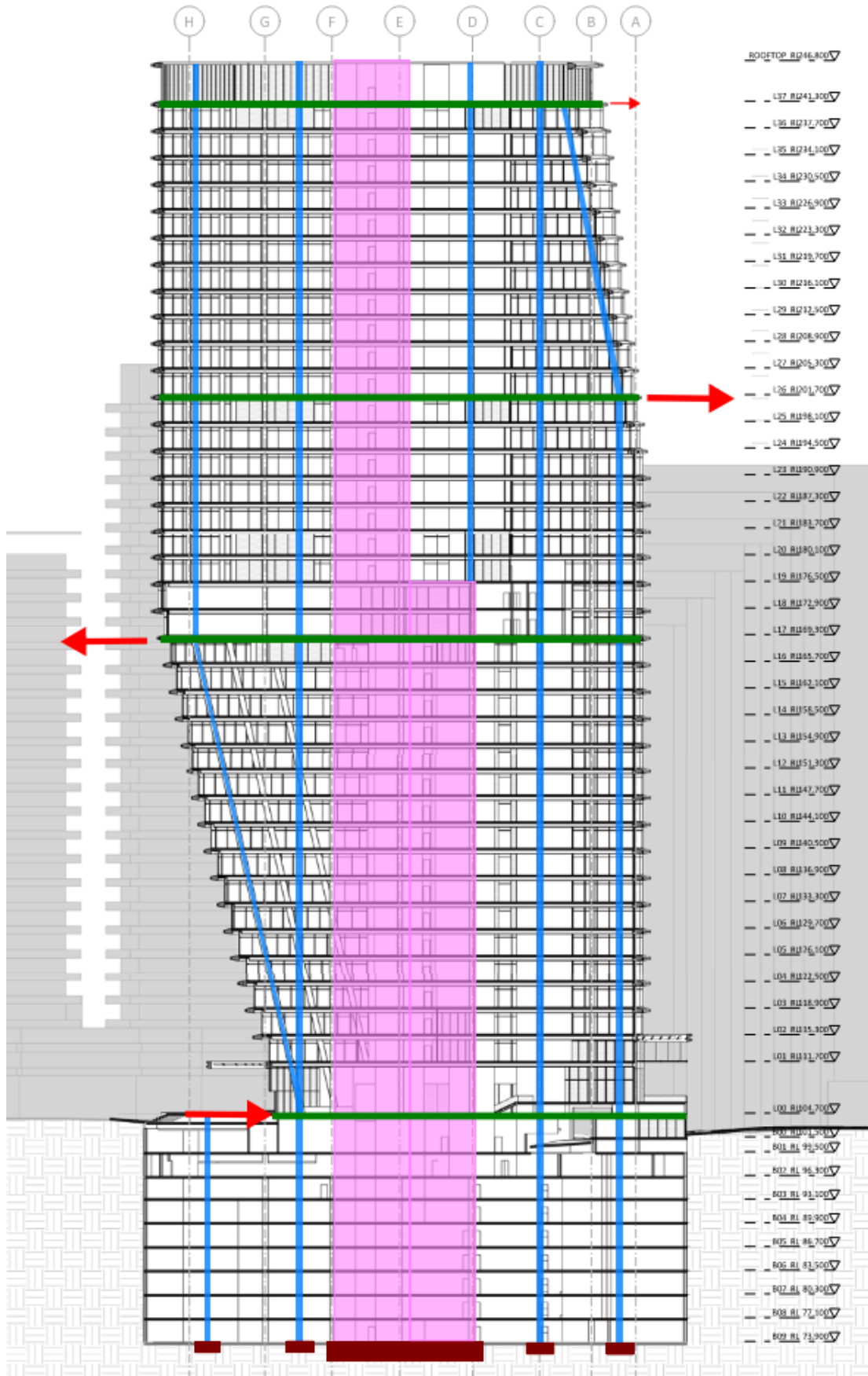


Figure 2 Typical Section Through Building – Looking East

As can be seen in the above diagram, inclined concrete or steel columns (blue) are capable of supporting the growing edge of the building, and a robust load path to a reinforced concrete core (pink) could provide restraint to the sloped columns at the diaphragm transfer levels (shown in green). The red arrows represent possible load paths for the structure that can be resolved using the above principles.

It is likely that the extent of basement levels allows foundations to be in high class sandstone, based on previous geotechnical studies for projects we have worked on in the Chatswood area. These foundations would likely be localised pad footings socketed into the surrounding rock.

Based on our previous engineering experience with projects of similar scale and complexity, it is our professional opinion that the conceptual proposal is valid and capable of being designed and constructed in general accordance with the conceptual architectural drawings, subject to multidisciplinary engineering coordination and detailed design of the structure.

Yours sincerely

A handwritten signature in black ink, appearing to be 'M. King', with a large, sweeping flourish extending to the right.

Mike King  
Principal Structural Engineer