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Dear Perry

100 Mount St North Sydney Mod 6 variations

Arup are providing building services engineering design services to LOR for the 100 Mount St Project. The designs have progressed and incorporate a modification to the base design the addition of a 400m² (Approx.) multi-purpose function space with external terrace, 120m² (Approx.) meeting room suite and associated kitchen & amenity support spaces at Level 35 of the building.

For these facilities to operate effectively it is essential that they are served by passenger lifts and a goods lift. This has necessitated the reconfiguration of the roof top plant rooms to allow a passage from the extended lift shafts. These changes are reflected within the Architectural MOD 6 drawings which accommodate the following changes;

- Improved functionality and flexibility of level 35 with the introduction of the above uses;
- Modifications to the links between L35 and L34 so that it is separated from L34;
- Extension of the high rise lifts and goods lift to serve L35 direct from ground floor lobby; deleting the remote lift and internal stairs between L34 and L35
- Increase of GFA on level 35 to accommodate the multi-purpose function space with external terrace, meeting rooms and reception arrival area

The top most levels of the building, levels 35, 36 and 37, contain central plant for the building services systems. The plant provided includes;

- Mechanical Services
 - Cooling towers
 - Chillers
 - Boilers
 - Chilled water pipework
 - Fans and ductwork for stair pressurisation, kitchen exhausts, toilet exhaust; tenant general exhaust
 - HVAC plant for L35
- Electrical services

- Standby Power generation
 - Standby power switchboards
 - Provision for photovoltaic cells
- Fire Services
 - Sprinkler water storage
 - Hydrant water storage
- Hydraulic Services
 - Potable water storage and pumps
 - Non-potable water storage and pumps
 - Domestic hot water plant and pumps
 - Rainwater drainage to roof areas and terrace
 - Rainwater harvesting systems

The spatial arrangements for this plant are driven by its physical size and weight, the BCA and Australian Standards. In parallel to the global spatial planning the designs also need to consider minimum distances between exhausts and inlets; acoustic considerations; optimisation of ductwork and pipework connections; clearance between plant items for safe maintenance and replacement, and access and egress requirements.

During design development for the proposed MOD6 a number of options have been assessed for the positioning and spatial arrangement of the major plant and equipment. The proposed MOD6 aims to minimise the increase in height necessary to accommodate plant and equipment, whilst achieving a functional and flexible multipurpose space on L35.

Large plant items such as cooling towers and standby generators requiring considerable outside air ventilation and acoustic treatment are located on L36 in a central 'well'. The height of the equipment has been carefully selected to minimise projection to approximately 1m above the MOD5 height of the building. The 'well' is setback from the building perimeter to further reduce visual impact.

Increases in the building height has been limited to the western end, where the height is governed by the necessary changes to accommodate lifts service extending one floor to L35; and to provide a parking garage for the roof mounted Building Maintenance Unit.

Yours sincerely



Nicholas Howard
Associate Principal