

TO: Xena Ma
FROM: Eugene Goulding
PROJECT: 1 Alfred Street
PROJECT NUMBER: 39494

DATE: 04th April 2019

SUBJECT: Tower B – Mechanical Schematic Design Proposal

Note: The purpose of this memo is to outline the requirements for the air cooled chillers located at ground mezzanine level serving Tower B.

As the design brief permits vertical discharge only, the air intake and air discharge terminations for the air-cooled chillers are required to be located in the horizontal plane. With no opportunity to provide horizontal discharge on the upper levels, the ground mezzanine level is the location chosen to locate the chillers. The following is an overview of the requirements for this plant space;

- As the chillers are air cooled, there is no requirement to introduce chemically treated water into the air stream consequently the discharge air is not corrosive.
- As above, risk of legionella will be eliminated, as water will not be introduced into the discharge air stream.
- Water vapour or steam plumes are not generated by this system. The discharge is at an air temperature of 50 degrees during design conditions.
- The discharge air velocity will be 3.5m/s through the internally lined exhaust air ductwork to the louvered terrace.
- Selections for the air-cooled chillers were issued to acoustic consultant for review. Based on the selections along with some acoustic treatment located within the plant room, the noise associated with the chillers are expected to meet the most stringent noise criteria in accordance with the approved acoustic report and the relevant DA Conditions.
- Location of the Ground mezzanine discharge point is separated from the public domain, to prevent impacting its environment.

Note, with the air cooled chiller option above, the Heating Hot Water system will be retained with the boilers relocated to the L23 plant room. From an ESD perspective, the change of system type will result in credit points gained for reduced water consumption and credit points lost for a reduction in system energy efficiency however overall, the above will not alter the project target of achieving a 5 star Green Star rating.