



13 March 2020

Richard Spurrett

Our ref: 12523114-46194-5
Your ref:

21/62-65 N Steyne
Manly NSW 2095

Dear Richard

U21/62-65 The Steyne, Manly - acoustic assessment

GHD has prepared an acoustic assessment for the proposed modifications to Unit 21, 62-65 North Steyne, Manly. The proposal includes the installation of hard flooring throughout the unit and the installation of an air conditioning condensing unit on the external balcony area. A report, '*Richard Spurrett, U21/62-65 The Steyne, Manly Acoustic Assessment, February 2020*' has been prepared by GHD to support an application for the proposed additions and alterations.

GHD is a member firm of the Association of Australasian Acoustical Consultants (AAAC) and are continuously involved in the preparation of acoustic assessments. Chris Gordon, the author of the report, has more than 10 years experience in the field of acoustics for a range of projects including building acoustics, in-situ testing, acoustic design and mechanical noise assessment. Chris also has experience as an acoustic expert in the Land and Environment Court.

A noise emission assessment of an air conditioning condensing unit on the external balcony area was undertaken. The proposed air conditioning compressor unit assessed is the Daikin Super Multi NX (R32) reverse cycle outdoor unit 5MXM100RVMA (10kW) with a manufacturer stated maximum sound power level of 61 dBA. Two A/C unit locations were modelled to assess compliance with the relevant criteria. The predicted results at both locations indicated compliance with the relevant criteria when assessed at unit 20 (adjacent), Unit 18 (below) and unit 24 (above). Our understanding is the owners of unit 21 have selected the second location for their proposed additions and alterations. No additional noise mitigation is required for the system installation. GHD considers the proposed air conditioning unit should not adversely affect the existing or future amenity of the surrounding residential area given the A/C unit does not exceed a maximum sound power level of 62 dBA.

A floor impact noise assessment was undertaken of the proposed installation of hard flooring throughout the unit. The assessed proposed flooring consisted of ceramic tiles, layers of fibrous cement sheet and acoustic isolation underlay from Dribond and Acoustica in various configurations. Seven acoustic flooring configurations were tested in-situ. All seven systems were tested to meet the building (SP5227) strata by-laws, being a 5 star rating with respect to the Association of Australian Acoustic Consultants (AAAC) rating system. All systems except system 3 also met the more stringent AAAC 6 star rating. Our understanding is the unit 21 owners have selected flooring configuration 1 for their proposed additions and alterations. It is recommended that testing be undertaken on a small sample (minimum of 1 metre x 1 metre) of installed and adhered flooring for the preferred system/s prior to the completion of the entire floor to ensure the installed result also achieves the acoustic requirements of the strata by-law. Flooring

must be installed in accordance with Dribond's and Acoustica's installation instructions. There must be a 3-5 mm gap between the walls and surface finish, and a 3 mm gap between the floor finish and skirting.

Sincerely
GHD Pty Ltd

A handwritten signature in blue ink, appearing to read 'Marco Velasco', is positioned above the printed name.

Marco Velasco

Acoustic Engineer
02 9239 7330