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PROJECT TECHNICAL MEMORANDUM

JOB TITLE : Linley House, Manchester

REF : HT: 31588/PTM1

DATE : 28 October 2024

FROM : Will Robertson

ISSUED TO : Project Team

RE: LINLEY HOUSE PLANT NOISE

Hann Tucker Associates (HTA) recently assessed (ref: 31588-RP-PNA1-Rev1-EE) the proposed replacement of rooftop plant at Linley House in Manchester City Centre (planning reference 140557/FO/2024). Following the issue of this report, Manchester City Council's Environmental Health Service (EHS) have relayed queries regarding the assessment. This memo discusses Hann Tucker's response to the EHS comments.

1.0 Local Authority Criteria

Manchester City Council's Planning and Technical Guidance (June 2022) provides guidance regarding the control of new fixed building services plant. It is suggested within the HTA report that the noise assessment was to be conducted in line with BS 4142, and any application for fixed plant, equipment or machinery must demonstrate that:

"a) Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location.

Reason - To minimise the impact of the development and to prevent a general increase in pre-existing background noise levels around the site."



2.0 EHS Comments and HTA Response

The comments received, as well as the respective response/clarification from Hann Tucker with reference to the Plant Noise Assessment Report (31588-RP-PNA1-Rev1-EE) are as follows:

1. *“The Environmental Protection Section have considered the submitted Noise Impact Assessment (Hann Tucker, 12 July 2024). We do not agree with their typical background and from the histogram on page 7 and 50dB looks to be more representative.”*
 - HTA Comment – It should be noted that there is no entirely prescriptive method in determining the typical lowest background sound level, and it is suggested that the wider context of the site and proposals need also be considered during the determination of typical background level. The plant assessed within the HTA Plant Noise Assessment is for the proposed replacement of existing and operational plant, rather than for new plant items being installed on the rooftop area. Furthermore, the notable number of occurrences of the measured 54 dB background level arguably establishes this level as representative; circa 85% as a cumulative total of the day, which also is the modal occurrence of the survey period. In this instance, Hann Tucker believe 54 dB to be the representative background level considering all of the variables discussed above.
2. *“This is supported by a previous assessment undertaken under for CDN/21/0855 to discharge the plant noise condition for application 127855/FO/2020.”*
 - HTA Comment – The assessment referenced by the EHS relates to a Plant Noise Assessment Report prepared by dBx during September 2021. Within the dBx report it is stated that only measurements from 16:00 hours on Friday 24 September 2021 until 13:00 hours the following afternoon (on a Saturday) were considered in the assessment due to adverse weather conditions thereafter. The wording within Section 4.3 of the dBx survey is as follows: *“the data from 13:00h on Saturday 25th to Wednesday 29th September 2021 has been excluded due to unsuitable weather conditions.”* The duration of usable data is therefore considered to be; A) less than 24 hours which is not sufficient to undertake robust data analysis, and B) largely during a weekend day which would not be regarded as representative of noise levels experienced for office noise sensitive receptors being affected by plant serving an office demise.
 - The HTA assessment considers multiple full weekdays and as such should be considered more reliable as the dBx survey did not capture a full representative daytime period, nor on a weekday. Further to this, HTA consider the unattended logger position to be more representative in the HTA 2024 survey for NSR1 (the worst-affected receptor) when compared to the logger utilised in the dBx 2021 survey, the latter of which is closer to NSR3.



3. “[...] the noise impact assessment needs to be updated accordingly for part a) of this condition. Looking at the assessment of noise from the proposed replaced air conditioning units noise mitigation is likely to be required due to the lower typical background.”

- HTA Comments – With a typical background sound level of 54dB during the daytime, compliance with a noise rating limit of 49dB would result in the plant noise being 5dB below typical background sound level. By referencing BS 4142:2014 + A1:2019, this is an indication of low impact on the noise sensitive receptor, as well as at the other identified receptors surrounding the site. Should a typical background level of 50dB be considered, the background level is still not exceeded, and the noise rating level would in fact still be 1dB below, which in accordance with BS 4142 an indication of low impact on the noise sensitive receptor. Whilst the latter is a slight exceedance of the MCC requested criterion, it remains under the background noise level and should “*prevent a general increase in pre-existing background noise levels around the site*”.
- Finally, it is also important to consider the ventilation strategy of the worst affected noise sensitive receptors (commercial offices) generally being that of mechanical ventilation which removes the necessity for occupants to open their windows. This consequently reduces the risk of the receptor’s potential exposure to noise.

Considering all of the above, further discussions have been held between HTA and the project team to determine a mitigation strategy to achieve a noise rating limit of 49dBA at the worst affected noise sensitive receptor during the daytime.

Whilst the submitted Report (31588-RP-PNA1-Rev1-EE Plant Noise Assessment Report) noted a marginal exceedance of 3dB, through provision of attenuation kits to the 2no. PURY-P300YNW-A2/TR2/RU2(-BS) condenser units, the 3dB exceedance can be mitigated and cumulative plant noise is predicted to be 49dBA at the NSR1.

We trust the above is clear and of use.

Yours sincerely

Will Robertson

for HANN TUCKER ASSOCIATES