Chadwick Town Planning

Noise Assessment Note

Installation of 80 no. photovoltaic (PV) panels (37.2 kWp) on rear roof slope and associated works - Lincoln Hall, Museum Road, Oxford, OX1 3PX

For Lincoln College

11th April 2024

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1. Introduction

This Note has been prepared by Chadwick Town Planning Limited on behalf of Lincoln College to support an application seeking planning permission for the installation of 80 no. photovoltaic (PV) panels (37.2 kWp) on the rear roof slope and associated works at Lincoln Hall, Museum Road, Oxford, OX1 3PX.

2. Noise

The Government's Planning Practice Guidance ('PPG') (Paragraph: 001 Reference ID: 30-001-20190722) states that noise needs to be considered when development may create additional noise, or would be sensitive to the prevailing acoustic environment (including any anticipated changes to that environment from activities that are permitted but not yet commenced).

Noise is defined as unwanted sound. Human ears are able to respond to sound over the frequency range of about 20 Hz to 20 kHz and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude, and is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates to the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear. To help understand the range of noise levels which may be encountered, an indication of the level of some common sounds on the dB(A) scale is given in the table below.

Table 1. Common Sounds on the dB(A) Scale

dB(A)	Description
140	Threshold of pain
120	Jet take off at 50 metres
100	Maximum noise levels on an underground platform
80	Kerbside of a busy urban street
60	Busy general office
40	Residential area at night
20	Background in a TV and recording studio
0	Threshold of hearing

Furthermore, the perception of noise may be determined by a number of other factors, both acoustic and non-acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In addition, the time of day and other acoustic features such as tonality may be important, as may the disposition of the affected individual receptor.

3. NPPF & Development Plan Policy

Paragraph 180 of the National Planning Policy Framework ('NPPF') states that planning policies and decisions should contribute to and enhance the natural and local environment by, inter alia, preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of....noise pollution. It adds at Paragraph 191 that planning decisions should mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life. The NPPF references the Noise Policy Statement for England (2010), which in turn references concepts used by the World Health Organisation.

This is reflected in Policy RE8 of the Oxford Local Plan, 2036 which states that:

'Planning permission will only be granted for development proposals which manage noise to safeguard or improve amenity, health, and quality of life. Planning permission will not be granted for development that will generate unacceptable noise and vibration impacts.'

Policy RE7 also seeks to ensure a standard of amenity and make sure that development protects amenity and would not result in unacceptable impact upon neighbours.

4. Assessment

The proposal involves the installation of PV panels on the rear (south-facing) roof of the College's student accommodation block at Lincoln Hall, Museum Road, Oxford. Lincoln Hall is comprised of twelve of the three-storey Victorian terraced houses on the south side of Museum Road. It accommodates 70 undergraduate students. Behind Lincoln Hall lies a modern student accommodation block, the Edward Penley Abraham ('EPA') Science Block, built in the gardens behind the former Victorian houses; the EPA building accommodates 48 graduate students in the life sciences. See accompanying Planning, Design & Access Statement and Heritage Impact Assessment.

The PV panels would be served by an inverter located within the existing sub-station building – see Figure 1. The permission for this electricity sub-station (03/02408/FUL), which is used in connection with new EPA Science Building was not the subject of any noise conditions. The proposed inverter, being located inside the sub-station enclosure would not generate any undue noise or disturbance for students, staff or visitors when in operation. As such, the proposal is considered acceptable in terms of neighbouring amenity and Policy RE7 of the Local Plan and associated guidance in the NPPF.

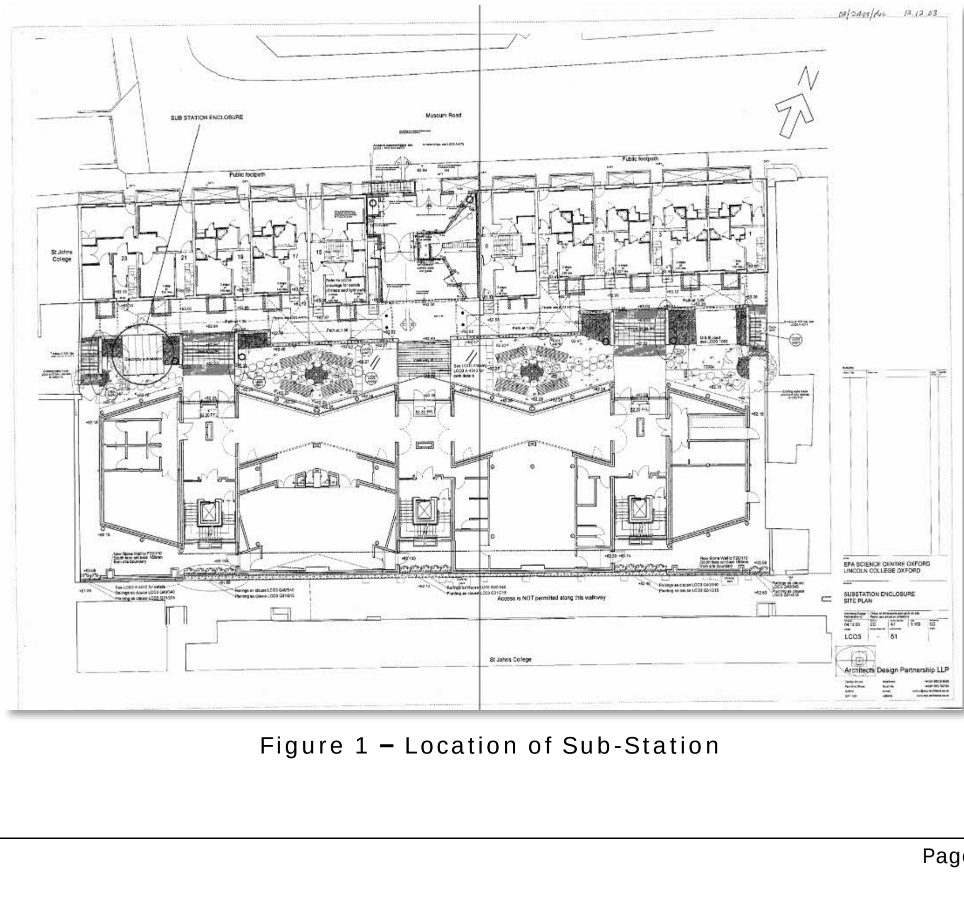

Figure 1 – Location of Sub-Station

The inverter is an electronic device that converts direct current (DC) power into alternating current (AC) power. This then allows the electricity to be passed through to appliances for use in the building. Modern inverters are quiet and are switched off at night so will not disturb students sleeping or studying at night time in Lincoln Hall or the EPA building. Therefore, satisfactory indoor noise levels will be maintained at all times having regard to noise contributions from: external sources outside the property, including, but not limited to, noise from vehicles and pedestrians using the Museum Road and adjacent highways and footways.

Lincoln College owns the student accommodation so has control and can immediately address any noise issue should this ever occur.

5. Conclusion

In conclusion, the proposal will have no noise impact upon neighbouring uses or upon users of the building and therefore the proposal should be considered to be acceptable in relation to Policies RE7 and RE8 of the Oxford Local Plan, 2036 and advice in the NPPF, PPG and other guidance as it will not generate unacceptable noise impacts.

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