AIR QUALITY STATEMENT

AT

BRILL PLACE TOWER, LONDON

AQ109785

12TH JANUARY 2021

Prepared For

Cudd Bentley Consulting
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1.0 AIR QUALITY NOTE

1.1 Background

It is understood that planning permission has been granted by Camden Council (CC) for a mixed-use development at Central Somers Town, Camden, London. Plot 7 of the development, Brill Place, comprises at 25 storey residential Tower over a ground floor flexible mixed use. Please refer to Figure 1 for a location plan. The proposed development is located within Camden AQMA and located adjacent to an energy centre, subsequently, there is the potential to introduce future site users into an area of poor air quality.

A planning condition/obligation 139 states:

"prior to superstructure works, a statement setting out the air quality implications of connecting to the Somers Town Energy District Heating Network shall be submitted to and approved by the Council. The statement shall demonstrate that the air quality implications are not materially different to those already approved for the District Heating Network. The proposals shall comply with the report thereafter."

An Air Quality Assessment was undertaken in 2015 for the development to assess whether future site users would be exposed to elevated pollutant concentrations as a result of the Phoenix Court Heat Network.

According to an email received from Jackson Bylett, the Climate Programme Manager at Camden Council (CC) dated 17th December 2020, states:

"I can confirm that the Phoenix Court District Heating Plant is the same as the Somers Town Energy Centre – this is just a name change for the project. Therefore, there is no difference between the sources of energy and the associated emissions."

The Somers Town Heat Network includes an energy centre comprising a Combined Heat and Power (CHP) plant alongside two boilers and therefore has associated air pollutant emissions.

The following sections provide a summary of the sources of energy and associated emissions that were assessed in the previous assessment.

1.2 Somers Town Heat Network (STHN)

An Air Quality Assessment was undertaken by Ramboll Environ UK Ltd for the Permitted Development which assesses the impact of existing pollutant background concentrations, the Francis Crick Institute and the STHN on future site users of Brill Place Tower. All façades of each floor level with residential units were assessed utilising the emissions and inputs outlined in Table 1. Since it has been confirmed via email that there is no difference in the heating network emissions, the inputs outlined below will remain the same.

Details of the Emissions and Inputs are detailed in Table 1.

Table 1 CHP and Boiler Emissions

Inputs	CHP	Boilers
Unit Number	1	2 (+1 Standby)
Electrical output capacity/unit (MWe)	1	n/a
Thermal Output capacity/unit	>1.1	1.8
Release Height (AGL) (m)	26.6	21.6
Internal Stack Diameter/unit (m)	0.35	0.35
Exit Velocity (m/s)	15	12
Exit Gas Temperature (◦C)	120	195
Peak NOx emission rate/unit (g/s)	0.21	0.04
Average NO_x emission rate/unit (g/s)	0.106	0.004

Energy emissions were modelled utilising the parameters outlined in Table 1 utilising ADMS and the network was assumed to be operational 24 hours/day. Predicted annual mean NO_2 concentrations were assessed at each façade of Brill Place Tower at all heights with residential units. There were maximum increases of annual mean NO_x of **12.6µg/m^3** across the South West façade of Brill Tower as a result of the STHN.

The Somers Town CHN aims to provide heat and hot water to five housing estates (previously named the Phoenix Court DHP in the Permitted Development). The CHN will include the implementation of 3 boilers and a 900kW CHP. As stated previously, according to the Climate Programme Manager at Camden Council, it is predicted that there will be no change in the energy sources or associated emissions. It is also assumed to be operational continuously. Subsequently, it is not likely that Air Quality impacts will differ from the outcomes outlined in the already approved AQA produced for the Somers Town Heat Network.

The combination of background pollutant concentrations, emissions from the Francis Crick Institute and emissions from the STHN has resulted in exceedances of the annual mean Air Quality Objective for NO_2. These exceedances have been predicted across all floor levels with sensitive uses. Therefore, mitigation is required in the form of mechanical ventilation that is fitted with activated carbon NO_x filtration units in order to prevent future site users from experiencing elevated pollutant concentrations.

1.3 Operational Phase Mitigation Measures

Although it considered that associated operational impacts remain unaffected from the previous assessment, the results indicated that the Air Quality Objective for Annual Mean NO_2 was exceeded at all floor levels across the development and would be categorised as APEC C in accordance with the 'London Council's Air Quality and Planning Guidance'[1]. Subsequently, mitigation is required to protect future site users from poor air quality. Mechanical ventilation fitted with activated carbon NO_x filtration units will still be required to protect future

[1] London Councils Air Quality and Planning Guidance, London Councils, 2007

site users from existing poor air quality and is to be supplied for all floor levels with residential units across Brill Place Tower. This will ensure the supply of clean air for future site users when the windows or balcony doors are closed.

The use of activated carbon NO_x filtration units can reduce outdoor NO_2 concentrations by approximately 75% as stated in the AQA via discussions with suppliers. Notwithstanding the energy emissions from the STHN, the provision of these high-level pollution abatement air inlets will assure concentrations below the AQO and good air quality to future site users of the Proposed Development.

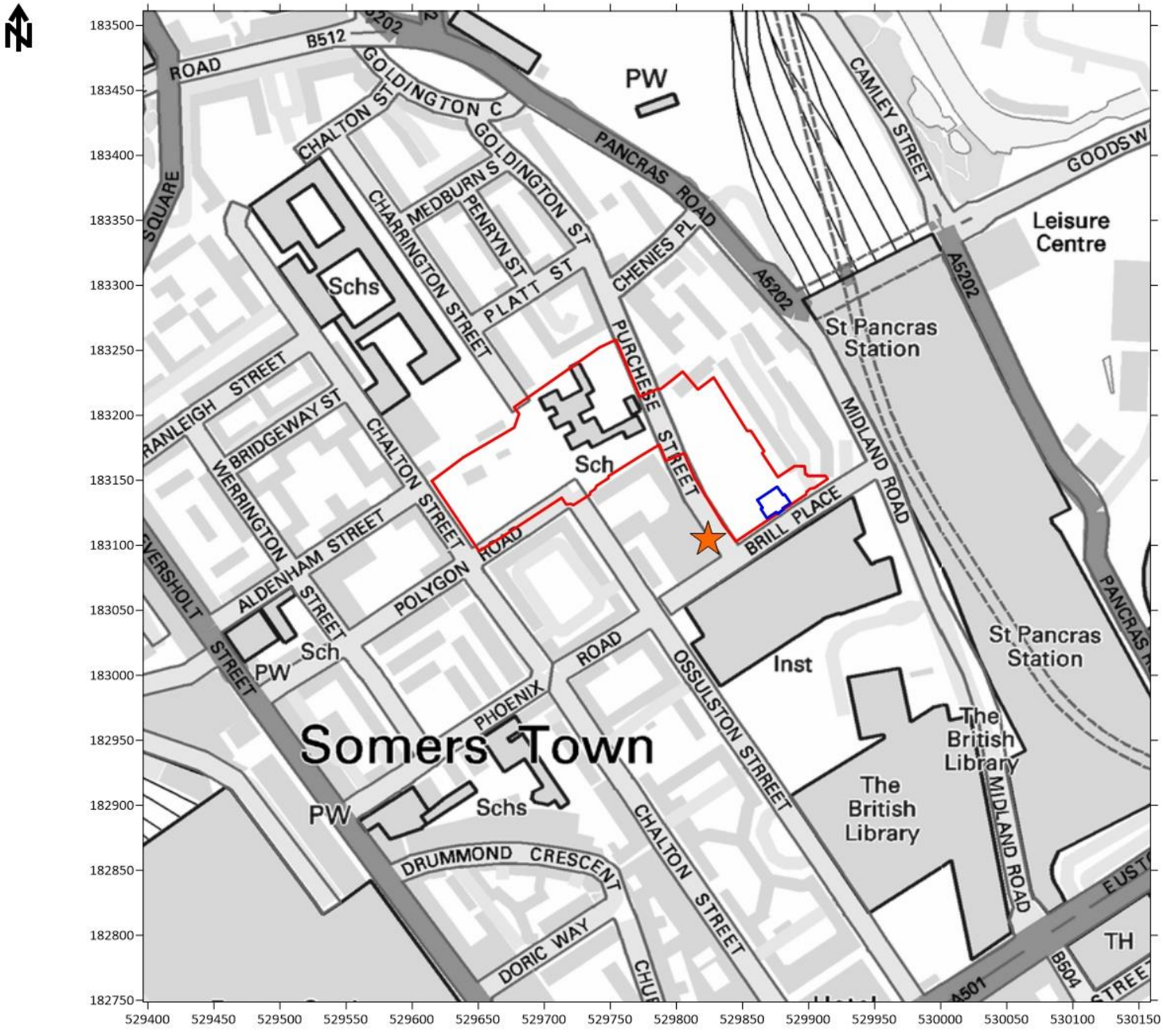
1.4 Conclusion

According to an email from the Climate Programme Manager at CC, there will be no change in emissions sources or associated emissions since undertaking the Air Quality Assessment. Subsequently, air quality impacts will not be materially different to those previously assessed and approved.

The Air Quality Objective for annual mean NO_2 was exceeded at all floor levels with residential units. Mitigation measures are therefore required to protect future site users from poor air quality, with mechanical ventilation fitted with activated carbon NOx filtration required within all residential units. The use of activated carbon NO_x filtration can reduce NO_2 by approximately 75% thus ensuring good air quality to future site users despite the STHN energy emissions. Based on the assessment results the site is considered suitable for the proposed end use subject to the inclusion of these relevant protective mitigation measures.

It is therefore considered that no further assessment is necessary, and furthermore the planning condition may be discharged.

Note produced by Katie Lewis-Jones, Graduate Air Quality Consultant at Ensafe Consultants, January 2021



Legend

- Site Boundary
- Plot 7 - Brill Place Tower
- Somers Town Heat Network

Title

Figure 1

Site Location

Project

Brill Place Tower, Camden, London

Project Number

AQ109785

Client

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