Technical Note

CLIENT:	Strata Sterling
PROJECT:	Barnsley West
SUBJECT:	Air Quality Technical Note
JOB NO.:	ST19970
DATE:	5th June 2024
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The following Technical Note has been prepared in response to commentary received by email from [redacted] Group Leader (Inner Team) for Planning and Building Control at Barnsley Metropolitan Borough Council (BMBC) on 21st May 2024, in relation to document *ED18432116 Planning Application 2021/1089 & 2021/1090 – Review of Applicants' Response* prepared by Ricardo AEA and issued on 16th May 2024. While this review concluded that many previously outstanding queries were now resolved, further clarification was sought on a number of points, as below:

<u>High importance</u>

AQ4 The applicant should undertake a detailed traffic analysis of the construction traffic to check that the IAQM [Institute for Air Quality Management] criteria is not exceeded. If this is exceeded a detailed air quality assessment of construction impacts should be undertaken and submitted to BMBC to update the EIA.

We would argue that this should form part of a planning condition relating to the Construction Traffic Management Plan (CTMP) as part of the Construction Environmental Management Plan (CEMP) – construction traffic data is not available at this stage but could be reviewed against the IAQM thresholds when available and detailed assessment undertaken if required.

AQ19 The applicant should provide details of the emissions standards of the gas boilers and if these exceed < 40 mgNOx/kWh then a detailed assessment would need to be undertaken, further to this a commitment should be made to the minimum number of dwellings with ASHP's [Air Source Heat Pumps].

We note that the current maximum emission standard for domestic boilers in the UK is 56 mgNOx/kWh. The BMBC Air Quality and Emissions Good Practice Planning Guidance does not specify any lower limit, so any specification on this subject beyond current regulations would have to be discussed between the developer and BMBC. The heating strategy for the

development is not yet finalised but of course will have to be compliant with regulations in force at the time of construction.

Medium importance

AQ7 The applicant should provide a map showing the modelled roads (including the link road) and the modelled receptors to confirm that the worst-case location representative of the school has been modelled. Where the modelled location is not representative of the school, modelling should be undertaken for the worst-case location representative of the school.

The proposed sensitive receptor (PSR) positions modelled in the ES were indicative rather than exact, as the masterplan was not finalised at the time the modelling works were undertaken, and has undergone a number of revisions as the project has progressed. PSR 4 represented the school site in an earlier iteration of the scheme, but the site layout has now been modified to place the school south of the northernmost internal roundabout.

In order to confirm that the conclusions of the assessment would be unaffected, the PSR locations have been repositioned based on the latest masterplan (see figure below) and the models re-run (ESR locations are unchanged, only the affected area of the model is shown).

While the final results are slightly different to those submitted in the ES Chapter, the differences are not consequential for the conclusions of the assessment, as they amount to less than 0.5 µg/m^3 in all cases, and the absolute concentrations are so far below the applicable objectives/target values (40µg/m^3 for NO_2 and PM_{10}, 20µg/m^3 for $PM_{2.5}$) in all scenarios as to make such a small difference irrelevant – there is no risk of exceedances at the school site (PSR 4).

Proposed Receptor	Calculated Annual Mean Concentrations (µg/m^3)		
	Scenario 3: 2026 Opening Year, Residential Phase 1, no link road	Scenario 5: 2026 Opening Year, Phase 1 Residential and	Scenario 6: 2026 Opening Year, Phase 1 Residential and

				Employment, no link road			Employment, including link road		
	NO_2	PM_{10}	$PM_{2.5}$	NO_2	PM_{10}	$PM_{2.5}$	NO_2	PM_{10}	$PM_{2.5}$
PSR 1	14.66	10.94	6.70	14.81	10.98	6.72	15.22	11.07	6.78
PSR 2	14.09	10.81	6.63	14.14	10.82	6.63	14.87	11.03	6.75
PSR 3	14.18	10.79	6.62	14.22	10.80	6.63	15.54	11.11	6.80
PSR 4	14.05	10.76	6.61	14.08	10.77	6.61	14.68	10.93	6.70
PSR 5	14.94	12.43	7.45	15.02	12.45	7.46	15.56	12.61	7.55
PSR 6	14.76	12.40	7.43	14.83	12.42	7.44	15.22	12.54	7.51

Proposed Receptor	Calculated Annual Mean Concentrations (µg/m³)					
	Scenario 8: 2033 Future Year, Full Residential Development, including link road			Scenario 9: 2033 Future Year, Full Residential and Employment Development, including link road		
	NO_2	PM_{10}	$PM_{2.5}$	NO_2	PM_{10}	$PM_{2.5}$
PSR 1	13.38	11.05	6.75	13.47	11.08	6.77
PSR 2	13.15	11.00	6.72	13.24	11.05	6.75
PSR 3	13.66	11.11	6.79	13.84	11.18	6.82
PSR 4	13.06	10.92	6.68	13.15	10.96	6.70
PSR 5	13.72	12.62	7.55	13.81	12.67	7.57
PSR 6	13.46	12.54	7.50	13.54	12.57	7.52

AQ17 The DMP [Dust Management Plan] should include the protocols for working with neighbouring sites and the appropriate mitigation that would be put in place to ensure that cumulative dust impacts are minimised.

We would argue that the most appropriate approach for this issue would be to include this as part of a planning condition in relation to the CEMP.

Low importance

AQ6 The applicant should clarify or confirm that the Hugset Wood and Daking Brook are also over 50m away from a traffic route and if not assess the dust impacts at these LWS.

No information on construction traffic routing is yet available. However, the current IAQM guidance requires trackout to be assessed within 50m of the roadsides for 250m from the site entrances. The site entrances will be on Higham Common Road and Barugh Green Road; it can

be confirmed that the LWS are not within 50m of these roads, within the applicable 250m from the site entrances.

In addition, although [redacted] did not mention this in her email, point AQ11 in the Ricardo AEA report also requested further information as follows:

AQ11 Ricardo identified that due to the phased approach of the development there would be residents inhabiting some of the development and as such the construction dust risk assessment and in-combination effects should take these receptors into consideration. The applicant has made the argument that the dust risk assessment would remain high risk even with the consideration of these receptors. It is agreed that the high risk would be applicable to these receptors, however mitigation measures should be specifically put in place to ensure that the residents are not exposed to significant dust given their proximity to the construction.

We would consider that the most appropriate response would be to confirm that mitigation measures to protect new residents beginning to occupy the development while construction is still in progress would be incorporated as part of the CEMP.