



Air Quality Statement: 25 Prospect Street, Reading

May 2016



Experts in air quality
management & assessment

Document Control

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Air Quality Statement

Introduction

- 1 Pro Planning Solutions has submitted two separate planning applications for proposed developments at 25 Prospect Street in Reading. The first planning application concerns the main building at 25 Prospect Street and involves the following:
 - the conversion of the rear portion of the ground floor of 25 Prospect Street to a studio apartment;
 - the conversion of the first and second floors of 25 Prospect Street into two separate one-bed apartments; and
 - the provision of a new door on the Prospect Street façade of 25 Prospect Street opening onto new stairs leading up to the first and second floor apartments.
- 2 The second application concerns land to the rear of 23 and 25 Prospect Street and involves the construction of two new homes fronting onto North Street.
- 3 Reading Borough Council has made the following request regarding the proposed developments:

“I note that the site falls within an Air Quality Management Area. Please therefore can you submit within the next 14 days an Air Quality Statement that details how the detrimental effects on the proposed residential use are to be mitigated”.
- 4 This statement has been produced by Air Quality Consultants Ltd on behalf of Pro Planning Solutions to address the Council’s concerns. The professional experience of the consultants who have prepared this statement is set out in Section 2.
- 5 The statement follows a methodology agreed with Reading Borough Council via a telephone discussion between Ross Jarvis (Senior Technical Officer at Reading Borough Council) and Ricky Gellatly (Air Quality Consultants) on 10 May 2016 and subsequent email correspondence.

Existing Air Quality Conditions on Prospect Street

Background Concentrations

- 6 Background pollutant concentrations at 25 Prospect Street have been defined using the national pollution maps published by Defra (2016b), which cover the whole country on a 1x1 km grid. These represent expected conditions in locations away from roads. They suggest that, in 2015, the background annual mean concentration of nitrogen dioxide was 25.4 $\mu\text{g}/\text{m}^3$, while those of PM_{10} and of $\text{PM}_{2.5}$ were 19.9 $\mu\text{g}/\text{m}^3$ and 14.0 $\mu\text{g}/\text{m}^3$, respectively. These are well below the values

set as objectives by the UK government, which are $40 \mu\text{g}/\text{m}^3$ for nitrogen dioxide and PM_{10} and $25 \mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$.

Local Measured Concentrations

- 7 Reading Borough Council has four diffusion tube monitoring sites along Prospect Street, which measure nitrogen dioxide concentrations. Annual mean concentrations for the years 2010 to 2015 are summarised in Table 1 and the monitoring locations are shown in Figure 1.

Table 1: Summary of Nitrogen Dioxide (NO_2) Monitoring (2010-2015) ^a

Site	Type	2010	2011	2012	2013	2014	2015
Baron Cadogan	Roadside	49	50	53	51	49	44
45 Prospect Street	Roadside	40	42	46	45	42	39
59 Prospect Street	Roadside	49	50	50	49	56	49
60 Prospect Street	Roadside	40	35	39	40	37	35
Objective		40					

^a Exceedences of the objective are shown in bold.

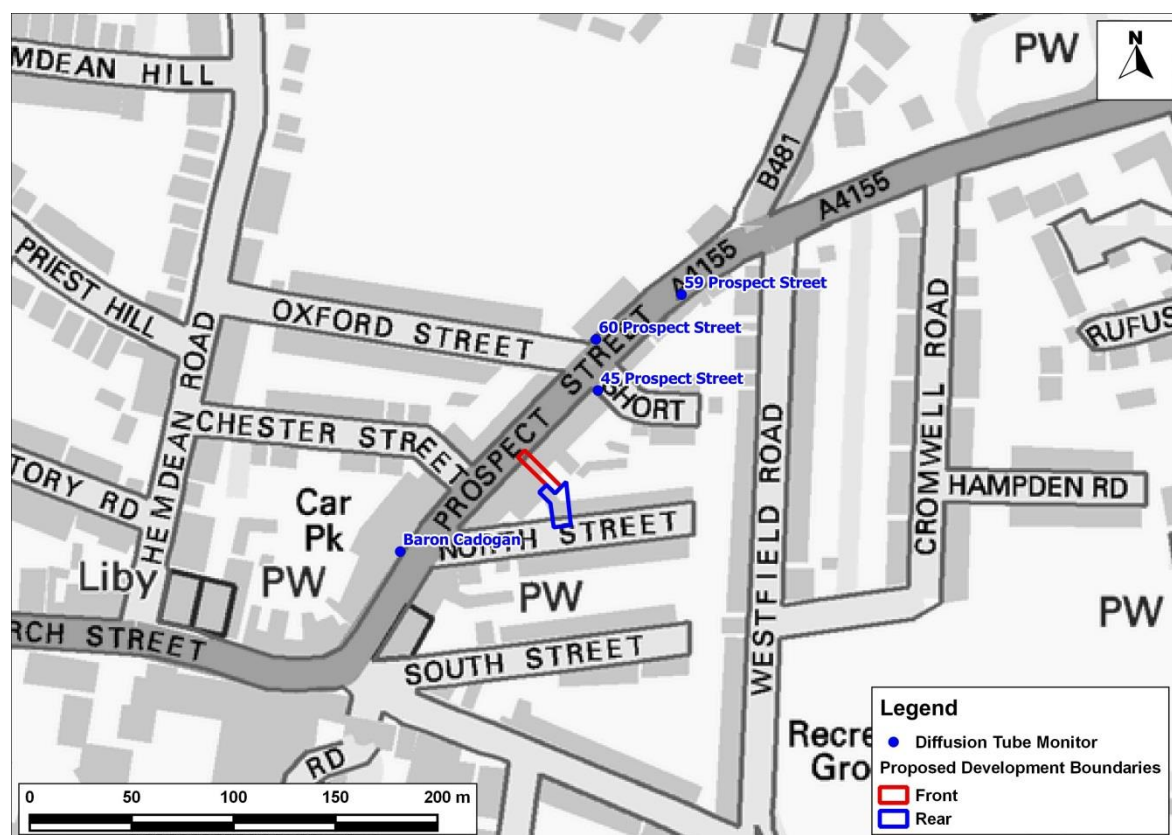


Figure 1: Diffusion Tube Monitoring Locations along Prospect Street

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- 8 Measured nitrogen dioxide concentrations have exceeded the objective in most years at most of the monitoring sites along Prospect Street, which is why an Air Quality Management Area (AQMA) has been declared here. While nitrogen dioxide concentrations along Prospect Street have exceeded the objective, concentrations of PM₁₀ and of PM_{2.5} would be expected to be below the objectives, as Reading's AQMA has been declared solely for annual mean nitrogen dioxide and not for these pollutants.

Statement on Air Quality for Future Residents

- 9 The two new buildings that front onto North Street will be set back from any busy roads, being some 30 m from Prospect Street with buildings in between. Pollutant concentrations in such a location can be expected to be approaching background levels, which are well below the objectives, as set out in Paragraph 6. As such, no mitigation should be required for these properties.
- 10 Similarly, the new ground-floor flat will be sealed off from the shop to the front of 25 Prospect Street and will be ventilated from the rear of the building where pollutant concentrations will, again, be approaching background levels. As such, no mitigation should be required for this apartment either.
- 11 This leaves the first- and second-floor apartments that will front onto Prospect Street and their new access from Prospect Street. The new access from Prospect Street would not represent a habitable area, and thus the air quality objectives would not apply here, so this can be immediately discounted.
- 12 The first and second floors of the building are already in residential use. The proposals here are essentially just for renovation. Furthermore, fall-off in pollutant concentrations with height occurs quickly¹, so despite there being measured exceedences along Prospect Street at ground-floor level, concentrations may be below the objective at the first-floor façade. It is even less likely that they will be exceeded at the second-floor. It does not seem to be proportional to require the installation of complex mitigation for a refurbishment of existing residential use; particularly when any objective exceedence is likely to be marginal.
- 13 Bearing all of the above in mind, it is not considered necessary for there to be any air quality mitigation installed within the proposed developments.

Conclusions

- 14 It has been concluded that there is no need for mitigation on air quality grounds for the proposed developments at 25 Prospect Street.

¹ http://www.iapsc.org.uk/assets/document/0615_R_Gellatly.pdf

2 Professional Experience

Penny Wilson, BSc (Hons) CSci MEnvSc MIAQM

Ms Wilson is a Principal Consultant with AQC, with more than fifteen years' relevant experience in the field of air quality. She has been responsible for air quality assessments of a wide range of development projects, covering retail, housing, roads, ports, railways and airports. She has also prepared air quality review and assessment reports and air quality action plans for local authorities and appraised local authority assessments and air quality grant applications on behalf of the UK governments. Ms Wilson has arranged air quality and dust monitoring programmes and carried out dust and odour assessments. She has provided expert witness services for planning appeals and is Member of the Institute of Air Quality Management and a Chartered Scientist.

Dr Ben Marner, BSc (Hons) PhD CSci MEnvSc MIAQM

Dr Marner is a Technical Director with AQC and has seventeen years' experience in the field of air quality. He has been responsible for air quality and greenhouse gas assessments of road schemes, rail schemes, airports, power stations, waste incinerators, commercial developments and residential developments in the UK and abroad. He has been an expert witness at several public inquiries, where he has presented evidence on health-related air quality impacts, the impacts of air quality on sensitive ecosystems, and greenhouse gas impacts. He has extensive experience of using detailed dispersion models, as well as contributing to the development of modelling best practices. Dr Marner has arranged and overseen air quality monitoring surveys, as well as contributing to Defra guidance on harmonising monitoring methods. He has been responsible for air quality review and assessments on behalf of numerous local authorities. He has also developed methods to predict nitrogen deposition fluxes on behalf of the Environment Agency, provided support and advice to the UK Government's air quality review and assessment helpdesk, Transport Scotland, Transport for London, and numerous local authorities. He is a Member of the Institute of Air Quality Management and a Chartered Scientist.

Ricky Gellatly, BSc (Hons) AMEnvSc MIAQM

Mr Gellatly is a Senior Consultant with AQC with over four years' relevant experience. Prior to joining AQC he worked as an air quality consultant at Odournet UK Ltd. He has also worked as an oceanographer, and holds a first class degree in meteorology and oceanography from the University of East Anglia. He has undertaken air quality assessments for a wide range of projects, assessing many different pollution sources using both qualitative and quantitative methodologies, with most assessments having included dispersion modelling (using a variety of models). He has assessed road schemes, airports, energy from waste facilities, anaerobic digesters, poultry farms, urban extensions, rail freight interchanges, energy centres, waste handling sites, sewage works

and shopping and sports centres, amongst others. He also has experience in ambient air quality monitoring, the analysis and interpretation of air quality monitoring data, monitoring and assessment of nuisance odours and the monitoring and assessment of construction dust.

Full CVs are available at www.aqconsultants.co.uk.