APPENDIX 8.2
AIR QUALITY NEUTRAL ASSESSMENT

Air Quality Environmental Impact Assessment

Appendix 8.2 - Air Quality Neutral Assessment

Richmond upon Thames College, Twickenham

Table of Contents

1.1 Introduction 1
1.2 Building Emissions 1
1.3 Transport Emissions 2
1.4 Summary 4

1.1 Introduction

1.1.1 The London Plan[1] requires that all developments are 'air quality neutral' to ensure proposals do not lead to further deterioration of existing poor air quality. In order to support this policy, guidance[2] has been produced on behalf of the Greater London Authority (GLA). The document provides a methodology for determining potential emissions from a development and benchmark values for comparison purposes. Where the benchmark is exceeded then action is required, either locally or by way of off-setting.

1.1.2 The GLA have recently issued a consultation draft update to the existing guidance. The document[3] provides a revised methodology for determining potential emissions from a development and should be used as a material consideration when undertaking an Air Quality Neutral Assessment.

1.1.3 It should be noted the London Borough of Richmond upon Thames (LBRuT) Sports Centre will replace the existing facility already operating on the Site. Information provided by RGP Consulting Engineers Ltd, the Transport Consultants for the Development, confirmed the Sports Centre will not result in an increase in vehicle movements as the centre will simply be providing new and improved facilities to serve the existing users. Similarly, the new School Sports Hall is to be utilised as an internal facility to only serve the school. As the school currently uses a temporary facility for the same purpose, RGP Consulting Engineers Ltd have confirmed the School Sports Hall will also not generate any additional vehicle movements on the local highway network.

1.1.4 The Air Quality Neutral Assessment for the proposed development is outlined below.

1.2 Building Emissions

1.2.1 Heating and hot water for the Development will be provided through air source heat pumps. This does not produce oxides of nitrogen (NO_x) or particulate matter with an aerodynamic diameter of less than 10µm (PM_{10}) emissions to atmosphere. As such, the Development is considered air quality neutral from a building emissions perspective.

---

1 The London Plan - The Spatial Development Strategy for Greater London March 2021, GLA, 2021.

2 Air Quality Neutral Planning Support Update: GLA 80371, Air Quality Consultants and Environ, 2014.

3 London Plan Guidance - Air Quality Neutral, Consultation Draft, GLA, 2021.

1.3 Transport Emissions

1.3.1 The Transport Emission Benchmarks (TEBs) have been calculated based on the proposed development floor area. The NO_x TEB is shown in Table A8.2.1.

Table A8.2.1 Transport Emission Benchmark - NO_x

Land Use	Area (m^2)	Emission Benchmark (g/m^2/annum)	Annual NO_x Emission (g/annum)
Residential	212	1,533	329,236

1.3.2 As shown in Table A8.2.1, The NO_x TEB for the Development is 329,236g/annum or 329kg/annum.

1.3.3 The PM_{10} TEB is shown in Table A8.2.2.

Table A8.2.2 Transport Emission Benchmark - PM_{10}

Land Use	Area (m^2)	Emission Benchmark (g/m^2/annum)	Annual PM_{10} Emission (g/annum)
Residential	212	267	56,604

1.3.4 As shown in Table A8.2.2, the PM_{10} TEB for the Development is 56,604g/annum or 57kg/annum.

1.3.5 The anticipated NO_x transport emissions from the Development were calculated based on the trip generation rates provided by the Project Transport consultant, RGP Transport Planning and Infrastructure Design. These are shown in Table A8.2.3.

Table A8.2.3 Transport Emissions - NO_x

Land Use	Daily Trip Generation	Trip Length (km)	Emission Rate (g/km)	Annual NO_x Emission (g/annum)
Residential	583	11.4	0.353	856,330

1.3.6 As shown in Table A8.2.3, the annual NO_x transport emission from the Development was calculated as 856,330g/annum or 856kg/annum. This is higher than the TEB of 329kg/annum.

1.3.7 The anticipated PM_{10} transport emissions are shown in Table A8.2.4.

Table A8.2.4 Transport Emissions - PM_{10}

Land Use	Daily Trip Generation	Trip Length (km)	Emission Rate (g/km)	Annual NO_x Emission (g/annum)
Residential	583	11.4	0.0606	147,007

1.3.8 As shown in Table A8.2.4, the annual PM_{10} transport emission from the Development was calculated as 147,007g/annum or 147kg/annum. This is higher than the TEB of 57kg/annum.

1.3.9 The results indicate that transport emissions are predicted to exceed the relevant TEBs. As such, a number of mitigation measures have been identified for inclusion within the Development which will encourage the use of sustainable transport modes and manage vehicle flow around the Site. These include the following:

- Production of a Travel Plan;
- Provision of 22 active Electric Vehicle (EV) charge points accounting for 20% of total parking provision, with the remaining 86 spaces reserved for passive EV charging points;
- Provision of a car club bay on Egerton Road as well as 2 years' membership and associated driving credits for residents;
- Provision of 387 secure and sheltered cycle spaces;
- Promotion of local waking and cycling routes as well as a free 90-minute one-to-one cycle training session; and
- Instructure improvements including the upgrade of the Marsh Farm Lane footpath to a widened shared cycle footpath.

1.3.10 Taking the above into account, it is considered that suitable measures are to be implemented during the operation of the Site in order to minimise air quality effects as a result of vehicle exhaust emissions. Transport related emissions are therefore considered to be acceptable.

1.4 Summary

1.4.1 Potential emissions from the development were assessed in order to determine compliance with the air quality neutral requirements of the London Plan. The results indicated an acceptable level of building emissions from the scheme. As such, the proposed development is considered to be air quality neutral from a building perspective. The results indicated that transport emissions from both NO_x and PM_{10} exceeded the relevant TEBs. However, following consideration of a number of additional factors, transport emissions from the proposed development are considered to be acceptable.