

## Supplementary Planning Document

# Air Quality

June 2020



# Air Quality

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## Abbreviations

<b>AQA</b>	Air Quality Assessment
<b>AQAP</b>	Air Quality Action Plan
<b>AQDMP</b>	Air Quality and Dust Management Plan
<b>AQAF</b>	Air Quality Action Fund
<b>AQFA</b>	Air Quality Focus Area
<b>AQDRA</b>	Air Quality and Dust Risk Assessment
<b>AQMA</b>	Air Quality Management Area
<b>BEB</b>	Buildings Emission Benchmark
<b>CAZ</b>	Clean Air Zone
<b>CEMP</b>	Construction Environmental Management Plan
<b>CCHP</b>	combined cooling, heat and power
<b>CHP</b>	Combined heat and power
<b>CIL</b>	Community Infrastructure Levy
<b>CLP</b>	Construction Logistics Plan
<b>EPUK</b>	Environmental Protection UK
<b>GLA</b>	Greater London Authority
<b>IAQM</b>	Institute of Air Quality Management
<b>LAEI</b>	London Atmospheric Emissions Inventory
<b>LAQM</b>	Local Air Quality Management
<b>LEN</b>	Low Emission Neighbourhood
<b>LLAQM</b>	London Local Air Quality Management
<b>NO<sub>2</sub></b>	Nitrogen dioxide
<b>NO<sub>x</sub></b>	Nitrogen oxides
<b>NPPF</b>	National Planning Policy Framework
<b>NPPG</b>	National Planning Practice Guidance
<b>NRMM</b>	Non-Road Mobile Machinery
<b>PM</b>	Particulate matter
<b>PM<sub>10</sub></b>	Particulate matter less than 10 micron in diameter
<b>PM<sub>2.5</sub></b>	Particulate matter less than 2.5 micron in diameter
<b>SPD</b>	Supplementary Planning Document
<b>SPG</b>	Supplementary Planning Guidance
<b>TEB</b>	Transport Emissions Benchmark
<b>ULEZ</b>	Ultra Low Emission Zone



## Introduction

1. This Supplementary Planning Document (SPD) has been produced by the London Borough of Richmond upon Thames to address common air quality issues affecting the borough and assist in providing a consistent approach to new development. The primary aim of this SPD is to supplement existing Local Plan Policies which seek to improve air quality in the borough.
2. This SPD is a material planning consideration when determining applications for planning permission, setting out more detailed and supplementary guidance to the adopted Local Plan (2018) policy LP 10 (Local Environmental Impacts, Pollution and Land Contamination), specifically in relation to part B of the policy relating to Air Quality. It should also be considered as part of the Health Impact Assessment process for major developments as required in the Local Plan.
3. It provides advice on:
  - the implementation of Policy LP 10, Part B. Air Quality;
  - designing new developments to minimise the effects on the local community as well as avoiding introducing new exposure in areas of poor air quality;
  - the assessment of air quality impacts of development; and
  - appropriate mitigation measures.
4. In this SPD the term 'air pollution' refers to both those air pollutants that have an effect on human health and the natural environment, and those, such as odour and dust, that can affect the quality of life for those living or working near sources.
5. Air pollution can adversely affect human health and has been linked to cancer, asthma, stroke and heart disease, diabetes, obesity, and possibly dementia<sup>1</sup>. Long term exposure has been estimated to result in 9,400 premature deaths in 2010 in London with additional impacts due to short term pollution episodes<sup>2</sup>.

6. Air quality tends to be worst close to major roads, but emissions over a wide area contribute to the background pollution levels. Health effects can potentially occur below widely accepted international standards and objectives. For some pollutants, such as particulate matter (PM), there is no known threshold below which health effects do not occur. Therefore, there is a need to reduce background levels as well as emissions from road traffic to protect human health.
7. The National Planning Policy Framework (NPPF) requires the planning system to enhance the local environment by preventing new development from contributing to, or being adversely affected by unacceptable levels of air pollution, and to secure a good standard of amenity for all existing and future occupants of land and buildings. The National Planning Practice Guidance (NPPG) provides general advice on the assessment of air quality.
8. The main purpose of this document is to assist developers, decision makers, agents, residents and others to identify issues to be addressed in any application for development consent in which air quality will be an important consideration when assessing that application. It provides further advice and supplementary guidance to Richmond's Local Plan (adopted in 2018), in particular in relation to the requirements set out in Policy LP 10, Part B. Air Quality.
9. Applicants should always check whether there are any additional requirements with regard to air quality and planning in a specific area within the borough. Air Quality Focus Areas (AQFAs), Clean Air Zones (CAZs) and Low Emission Neighbourhoods (LENs) or similar are all considered to be areas of special importance for air quality, where additional requirements apply.

<sup>1</sup> The Royal College of Physicians, 2016, Every breath we take: The lifelong impact of air pollution. London. <https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution>

<sup>2</sup> King's College London, 2014, Understanding the Health Impacts of Air Pollution in London, report for Transport for London and the Greater London Authority.

## Objectives

10. The objectives of this Air Quality SPD are to:

- help ensure consistency in assessing and when considering planning applications;
- highlight the existing planning policy framework in London and the Borough, and provide detailed guidance on the implementation of Local Plan policy LP 10;
- emphasise the importance of air quality as a material planning consideration;
- identify the circumstances where detailed assessments will be required as part of planning applications;
- provide guidance on the requirements of air quality assessments and the circumstances under which these will be required;
- provide guidance on measures that can be implemented to mitigate the potentially harmful effects of new developments on air quality and public health; and
- provide guidance on the use of planning conditions and Section 106 obligations to improve air quality.

## Relationship between Air Quality and Planning

11. The role of this SPD and its relationship to the national, regional and local policy and guidance on air quality, as well as its relationship to the Borough's air quality action plans (AQAPs), are illustrated in Figure 1. The relevant air quality and planning policy and guidance are outlined in Chapters 2 and 3.

## Scope

12. This SPD applies to development that may have an impact on air quality:

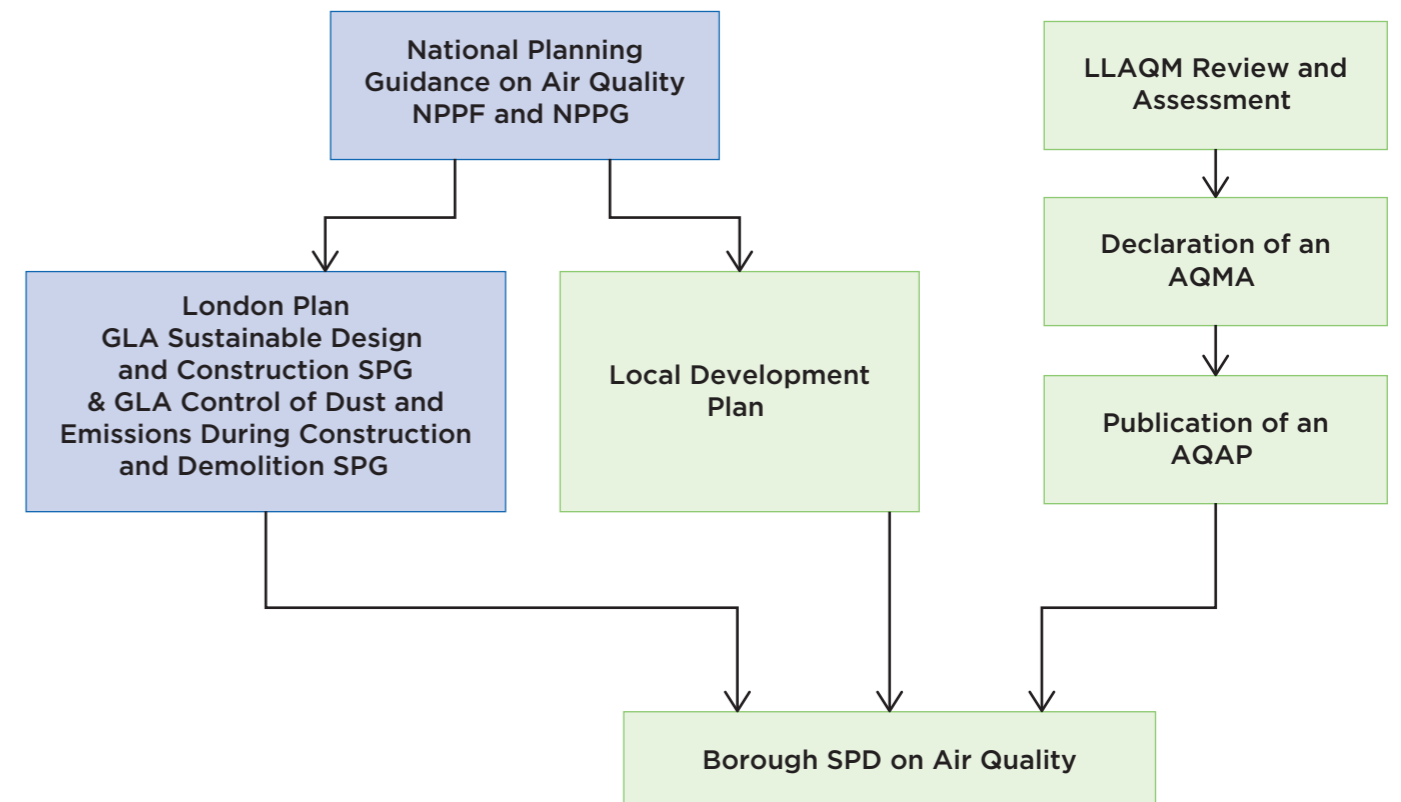
- all major development,
- any development (including conversions) that introduces new exposure into areas of poor air quality; and
- smaller development that may emit odours, dust, smoke, and other fumes, for example, commercial kitchens and construction of basement developments.

13. Major development includes any one or more of the following<sup>3</sup>:

- a. working of minerals or the use of land for mineral-working deposits;
- b. waste development;
- c. the provision of dwelling houses where:
  - i. the number of dwelling houses to be provided is 10 or more; or
  - ii. the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i);
- d. the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or
- e. development carried out on a site having an area of 1 hectare or more.

<sup>3</sup> As defined by the *Town and Country Planning (Development Management Procedures) (England) Order 2015*.

Figure 1: The role of this SPD and its relationship to national, regional and local policy and guidance, and the AQAP



## Background

14. This section sets out the air quality background to this SPD.

## The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

15. The Air Quality Strategy<sup>4</sup> sets out air quality objectives and policy options to improve air quality in the UK. The objectives are policy targets often expressed as a maximum ambient concentration not to be exceeded, either without exception or with a permitted number of exceedances, within a specified timescale. Local authorities have a legal duty to work towards achieving these air quality objectives.
16. These objectives were largely set in the 1990s, since when there has been significant new evidence on the health effects. In addition, in setting the objectives the Government took account of a number of factors, such as economic efficiency, practicality, technical feasibility and timescale of achieving them. For these reasons public health can be affected below these levels.

## National Air Quality Plan

17. The Government's 2015 Air Quality Plan<sup>5</sup> to achieve the EU limit values for nitrogen dioxide (NO<sub>2</sub>) introduced a programme of mandatory and voluntary Clean Air Zones (CAZs) outside London. It acknowledges that London has high NO<sub>2</sub> concentrations but did not explicitly propose any measures for the capital because responsibility for air quality is delegated to the Mayor of London.
18. A Clean Air Zone Framework was published by the Government in May 2017.
19. The 2015 Air Quality Plan was replaced by a new plan in July 2017<sup>6</sup> which reiterated the need for London to improve air quality.
20. The Mayor of London has introduced a package of measures to achieve the statutory NO<sub>2</sub> limit values in London in the

shortest possible time. This includes the Ultra Low Emission Zone (ULEZ) introduced in 2019 in central London and its extension in 2021 to the area within the North and South Circular roads in 2021. This ULEZ is equivalent to a Class D charging CAZ in the Clean Air Zone Framework.

21. London Boroughs are also planning to introduce charging CAZs in their area. Richmond Council, for example, is considering plans to introduce one covering Richmond town centre, which will be outside the Greater London Authority's extended ULEZ.

## London Environment Strategy

22. The Mayor's London Environment Strategy<sup>7</sup>, published in May 2018, contains a comprehensive list of measures to improve air quality. The aim is "*for London to have the best air quality of any major world city by 2050, going beyond legal requirements to protect human health and minimise inequalities*".
23. This strategy includes setting new targets for PM<sub>2.5</sub> with the aim of meeting World Health Organization guidelines by 2030, the establishment of zero emission zones from 2020, the introduction of an air quality positive development, the phasing out the use of fossil fuels to heat, cool and maintain London's buildings and the introduction of a low emission zone for non-road mobile machinery (NRMM).
24. The Mayor of London has introduced Low Emission Neighbourhoods (LENs) which are area-based schemes that includes a package of measures focused on reducing emissions and promoting sustainable living more generally. A LEN is delivered by a Borough with support from Transport for London, the Greater London Authority and the local community. LENs are focused on areas of high exposure to high pollution which can be reduced through local measures, and locations with high trip generation and the potential to reduce emissions in the wider road network.

## London LAQM Framework

25. The air quality objectives, set out in the Air Quality (England) Regulations 2000 as amended by the Air Quality (England) (Amendment) Regulations 2002, provide the statutory basis for the air quality objectives under the London local air quality management (LLAQM) system.
26. The Mayor of London has powers<sup>8</sup> to intervene and direct local authorities in Greater London. In support of these devolved powers, the Mayor established the LLAQM system in 2016 for the coordinated discharge of the Mayor's and Borough's responsibilities.
27. The Department of the Environment, Fisheries and Rural Affairs (Defra) and the Greater London Authority require local authorities to report on the pollutants of greatest concern to the health of Londoners. These are nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) and sulphur dioxide (SO<sub>2</sub>).
28. Richmond's LAQM/LLAQM statutory reports can be found at: [www.richmond.gov.uk/progress\\_reports\\_and\\_air\\_quality\\_action\\_plans.htm](http://www.richmond.gov.uk/progress_reports_and_air_quality_action_plans.htm)
29. To help the Boroughs undertake their LLAQM duties the Mayor has identified a number of areas where there are both high concentrations of air pollution and high public exposure. These are known as Air Quality Focus Areas (AQFAs).

## Air Quality in Richmond

30. The entire Borough of Richmond has been designated as an air quality management area (AQMA) due to poor air quality. This AQMA was declared in 2000.
31. The Greater London Authority (GLA) has identified four Air Quality Focus Areas (AQFAs) in Richmond (shown in AppendixC), this is subject to review and change in the future. There are currently no Low Emission Neighbourhoods (LENs) or Clean Air Zones (CAZs), but this may also change in the future.

32. New development will be subject to more stringent requirements in AQFAs, LENs, CAZs and in any other similar future designations, and in areas bordering these areas if deterioration in air quality will occur, even if it does not result in an air quality objective being exceeded.
33. The Council will require strict mitigation measures for developments to ensure that they do not introduce new exposure where air quality exceeds a relevant objective.
34. The main source of emissions in the Borough is road transport. For NO<sub>x</sub> other important sources in the borough include aviation and the provision of heat and power. For PM – construction, and domestic wood burning are also important. For PM<sub>10</sub> resuspension of deposited particles is also an important local source. (Note this is based on the London Atmospheric Emission Inventory (LAEI) 2016, not roadside monitoring data). Further details are provided in Appendix B.
35. The Richmond Air Quality Action Plan (AQAP) sets out measures to reduce emissions from key sources of air pollution in the borough, with the aim of working towards achieving the objectives. The AQAP can be found at the following link: [https://www.richmond.gov.uk/services/environment/pollution/air\\_pollution/air\\_quality\\_reports/progress\\_reports\\_and\\_air\\_quality\\_action\\_plans](https://www.richmond.gov.uk/services/environment/pollution/air_pollution/air_quality_reports/progress_reports_and_air_quality_action_plans)

<sup>4</sup>Defra et. Al., 2007, *Air Quality Strategy for England, Scotland, Wales and Northern Ireland*, Vol. 1.

<sup>5</sup>Defra, 2015, *Improving Air Quality in the UK: Tackling nitrogen dioxide in our towns and cities*, UK overview document.

<sup>6</sup>Defra, 2017, *UK Plan for tackling roadside nitrogen dioxide concentrations*, Detailed plan.

<sup>7</sup>Mayor of London, 2018, *London Environmental Strategy*.

<sup>8</sup>Under Part IV of the Environment Act 1995

## Planning Policy Context

### Introduction

36. In assessing planning applications that may affect air quality in Richmond borough or give rise to new exposure to poor air quality, the Council will have regard to policies in their Local Development Plan including this SPD, their AQAPs, the London Plan including the London Supplementary Planning Guidance (SPG) and national planning policy.

### Local Policy

#### Richmond

37. The strategic objectives of the Richmond Local Plan, adopted in July 2018, include the need to:

- reduce or mitigate air pollution, (including odour and fumes) and encourage improvements in air quality, particularly along major roads that already exceed acceptable air quality standards; and
- ensure local environmental impacts of development are not detrimental to the health, safety and the amenity of existing and new users or occupiers of a development or the surrounding area.

38. In assessing schemes that may affect air quality in Richmond the Council will have particular regard to Local Plan Policy LP 10 Local Environmental Impacts, Pollution and Land Contamination.

Section B on air quality states:

*“The Council promotes good air quality design and new technologies. Developers should secure at least ‘Emissions Neutral’ development. To consider the impact of introducing new developments in areas already subject to poor air quality, the following will be required:*

1. *an air quality impact assessment, including where necessary, modelled data;*

2. *mitigation measures to reduce the development’s impact upon air quality, including the type of equipment installed, thermal insulation and ducting abatement technology;*
3. *measures to protect the occupiers of new developments from existing sources;*
4. *strict mitigation for developments to be used by sensitive receptors such as schools, hospitals and care homes in area of existing poor air quality; this also applies to proposals close to developments used by sensitive receptors.*

Section D on odours and fume control states that the Council will ensure that any potential impacts relating to odour and fumes from commercial activities are adequately mitigated by requiring the following:

1. *an impact assessment where necessary;*
2. *information on the type and nature of filtration to be used;*
3. *information on the height and position of any chimney or outlet;*
4. *the use of new abatement technologies.”*

39. The Richmond Local Plan 2018 makes reference to the Council preparing this SPD on air quality. It also sets out other policy requirements, relating to transport and parking, green infrastructure, biodiversity, and trees, many of which also have a role in addressing air quality and will be relevant in the consideration of planning applications.

## Greater London Policy

40. The overarching aim of the Mayor of London’s Environment Strategy is to reduce air pollution in London so that the health of Londoners is improved. The strategy states that all new major development is required to be Air Quality Neutral (AQN). Development that meets or is better than the AQN benchmarks are considered to avoid any increase in NO<sub>x</sub> and PM emissions across London and are therefore “Air Quality Neutral”. This influences the background air pollution in London.

41. Larger developments have the potential to go further and improve local air quality by effective design. For example, by the provision of low or zero emission heating. This is considered to be Air Quality Positive development and the Mayor is committed to providing guidance for developers and others on the most effective approach to take to ensure a development is Air Quality Positive.

42. The London Plan is due to be formally adopted early 2020. It contains Policy S11 on improving air quality. The version of this policy from the consolidated changes version of the Draft London plan (July 2019), produced after the end of plan’s examination is reproduced below. This may change in the final version of the London Plan. The adopted version will take precedence over the one below.

43. Policy S11 Improving air quality states:

*“A. Development plans, through relevant strategic, site specific and area-based policies should seek opportunities to identify and deliver further improvements to air quality and should not reduce air quality benefits that result from the Mayor’s or borough’s activities to improve air quality.*

*B. To tackle poor air quality, protect health and meet legal obligations the following criteria should be addressed:*

1. *Development proposals should not:*
  - a) *lead to further deterioration of existing poor air quality;*
  - b) *create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limit;*
  - c) *create unacceptable risk of high levels of exposure to poor air quality.*
2. *In order to meet the requirements in Part 1, as a minimum:*
  - a) *development proposals must be at **least** air quality neutral;*
  - b) *development proposals should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality in preference to post-design or **retro-fitted** mitigation solutions;*
  - c) *major development proposals must be submitted with an Air Quality Assessment. Air quality assessments should show how the development will meet the requirements of BI;*
  - d) *development proposals in Air Quality Focus Areas or that are likely to be used by large numbers of people particularly vulnerable to poor air quality, such as children or older people, which do not demonstrate that design measures have been used to minimise exposure **should be refused.***
- C. *Masterplans and development briefs for large-scale development proposals subject to an Environmental Impact Assessment should consider how local air quality can be improved across the area of the proposal as part an Air Quality Positive approach. To achieve this a statement should be submitted demonstrating:*
  - a) *how proposals have considered ways to maximise benefits to local air quality, and*
  - b) *What measures or design features will be put in place to reduce exposure, and how they will achieve this?*

D. In order to reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance.

E. Development proposed should ensure that where emissions need to be reduced to meet the requirements of Air Quality Neutral or to make the impact of development on local air quality acceptable, this is done on-site. Where it can be demonstrated that emissions cannot be further reduced, by on-site measures, then off-site measures to improve local air quality **may** be acceptable, provided that equivalent air quality benefits can be demonstrated within the area affected by the development.”

44. The Mayor has published two SPGs that deal with air quality:

- *Sustainable Design and Construction SPG*<sup>9</sup> which includes guidance on preparing air quality assessments, minimising emissions, addressing exposure to air pollution, air quality neutral requirements, and emissions standards for combustion plant; and
- *The Control of Dust and Emissions during Construction and Demolition SPG*<sup>10</sup>, which describes requirements for dust assessments, pollutant monitoring and standards. All Non-road Mobile Machinery (NRMM) used during the course of the development that is within the scope of the GLA ‘Control of Dust and Emissions during Construction and Demolition’ Supplementary Planning Guidance (SPG) dated July 2014, or any successor document, shall comply with the emissions requirements therein.

45. The most recent version of these guidance documents, or equivalent, must be followed.

<sup>9</sup> Mayor of London, 2014, *Sustainable Design and Construction*, Supplementary Planning Guidance, London Plan 2011 Implementation Framework.

<sup>10</sup> Mayor of London, 2014, *The Control of Dust and Emissions During Construction and Demolition*, Supplementary Planning Guidance, London Plan 2011 Implementation Framework.



### Air Quality Neutral (AQN)

46. Calculation of emissions compared to the Air Quality Neutral (AQN) benchmarks must be carried out as part of the assessment of air quality impacts (see Section 6).
47. If the AQN benchmarks cannot be met planning consent will be **refused**.
48. Following the publication of the Government’s Housing Standards Review in March 2015, the Air Quality Neutral benchmarks, and the on-site energy generation emission limits referenced below, cannot be required for developments that are residential only. However, the Mayor of London and national government have legal obligations regarding compliance with the EU limits for ambient air quality. In order to address those obligations, in particular with respect to nitrogen dioxide (NO<sub>2</sub>), residential developers are strongly encouraged to ensure that emissions meet the AQN benchmarks.

### Air Quality Positive (AQP)

49. At the time of writing this SPD the Mayor of London had not produced guidance on Air Quality Positive development. As soon as this has been published it should be used to inform the design of large developments.

### On-site Combustion Plant

50. The London SPG on Sustainable Design and Construction sets emission limits for certain combustion plant and requires the use of ultra-low nitrogen oxides (NO<sub>x</sub>) boilers. These limits for individual boilers must be met at all times. In addition, stack discharge velocities should be above the recommended minimum and be at appropriate heights above nearby buildings.
51. The emissions from any centralised on-site energy plant must form part of an Air Quality Assessment (AQA).

### Control of Dust and Emissions during Construction and Demolition

52. The London SPG on Construction and Demolition requires developers to produce an Air Quality and Dust Risk Assessment (AQDRA) and sets out minimum emission requirements for non-road mobile machinery (NRMM) (see paragraphs 81 to 83).
53. In addition, the Council has adopted a Local Code of Practice for Construction and Demolition Sites, this provides simple advice to developers on environmental controls required by the Borough.

### National Policy

54. The NPPF<sup>11</sup> contains a number of policies directly relevant to air quality:

*“170. Planning policies and decisions should contribute to and enhance the natural and local environment by ...*

*a) Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basement plans; ...”*

*“181. Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage,*

to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

*“182. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.*

*“183. The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.”*

55. The latest version of the NPPF should be used. At the time of writing this SPD the most recent version was published in February 2019<sup>12</sup>.
56. National guidance on when air quality is relevant to a planning decision, what should be included in an air quality assessment and mitigation can be found on the government’s planning portal<sup>13</sup>.

### Industrial processes

57. **Industrial processes** which may range from large industrial plant to dry cleaners and paint spraying workshops, are regulated by the Environment Agency (Part A1 processes) and the local authorities (Part A2 and Part B processes). The planning regime must assume that the pollution control regime will ensure that processes comply with their permits. The planning regime can, however, consider whether a land use is appropriate for the local area and it must consider public exposure to pollution. For industrial developments requiring planning consent this is done at the planning application stage, and for existing processes it is done through the LLAQM regime.

<sup>11</sup> MHCLG, February 2019, *National Planning Policy Guidance*

<sup>10</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/810197/NPPF\\_Feb\\_2019\\_revised.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf)

Planning Practice Guidance on air quality, <https://www.gov.uk/government/collections/planning-practice-guidance>

## Planning Conditions and Section 106 Obligations

### Introduction

58. Planning permission can be granted subject to planning conditions. Conditions are a necessary tool to enhance the quality of a development and to mitigate adverse impacts that might otherwise arise. They can only be imposed where they are necessary, relevant to planning and the development, and are enforceable, precise and reasonable in all other respects. Conditions relating to the air quality impact of a development will meet these requirements.
59. A planning obligation (under Section 106 of the Town and Country Planning Act 1990 (as amended)) may also be used as a site specific mitigation mechanism. The NPPF states that *“Planning obligations must only be sought where they meet all of the following tests:*

- a) necessary to make the development acceptable in planning terms;*
- b) directly related to the development; and*
- c) fairly and reasonably related in scale and kind to the development.”*

60. Developments may be required to pay the Community Infrastructure Levy (CIL), which may contribute to improving air quality in the borough. The CIL Regulations 2010 (as amended) require that by the 31 December 2020, the Council must publish an Annual Infrastructure Funding Statement. This statement will provide details of which Infrastructure CIL and Section 106 funding has been allocated to, as well as any non-financial planning obligations that have been secured. Infrastructure that is necessary to make development acceptable in planning terms may be the subject of a Section 106 agreement as part of the planning consent.

61. Conditions and planning obligations seeking to improve air quality may take a number of forms depending on the nature of the proposed development. Standard conditions, applicable to many major developments, are included in Appendix E. Additional conditions may be included in planning consents on a case by case basis.

### Air Quality Action Fund (AQAF)

62. A proposed development can be air quality neutral but also have an adverse impact on local air quality. Developers should seek to mitigate these impacts and provide local measures to deal with any adverse impacts associated with development proposals during the construction and operational phases.
63. Where it is not possible to fully mitigate the air quality impacts of a new development on-site, developers will be required to contribute to off-site measures by making a financial contribution to the Borough’s Air Quality Action Fund (AQAF) through a Section 106 agreement.
64. This will be levied at the following rates, and updated periodically:

#### ■ building impacts – residential development:

- £100 for 1 or 2 bedroom properties
- £150 for 3 or 4 bedroom properties
- £200 for 5 bedroom or more properties

#### ■ building impacts – non-residential development

- mixed use/commercial/community/public schemes should contribute £10 per 10 m<sup>3</sup> gross building volume.



65. The AQAF will be used to implement measures in the Air Quality Action Plan (AQAP) relevant to the development and its impacts. Examples of the use of this fund include:

- public education campaign to change behaviours;
- the purchase, servicing and maintenance of air quality monitoring equipment to ensure the construction and operational phases of the development do not negatively impact on the local area;
- the provision of advice to developers and their contractors, on the control of emissions during demolition and construction works;

66. For further information see Richmond Borough's air quality action plan (see paragraph 35 above).

67. Developers will also need to pay the Council's costs of regulating the air quality impacts of new development and enforcement of air quality planning conditions to ensure that there is no detrimental impact on air quality. This fee will depend on the type and size of development.



## Development Management

### General Principles

68. Richmond Council requires the sustainable design principles as set out in the Local Plan (2018). The Richmond Sustainable Construction Checklist and the *London Sustainable Design and Construction SPG* should be built into the design of all proposed development. Design should ensure that:

- emissions associated with the development are minimised;
- existing occupants are not exposed to increased levels of air pollution; and
- occupants of new developments will not be exposed to poor air quality.

69. The following broad principles will be applied when considering planning applications for development that has the potential to impact on air quality, result in an increase in the number of people exposed to poor air quality or cause disamenity:

- avoid during construction and operation of new development impacts on air quality to protect the health of people living and working in the borough;
- avoid during construction and operation of new development adverse effects on local amenity of people living and working in the borough;
- reduce to a minimum emission from new development, including from the associated road traffic, to improve air quality across the borough;
- prevent development which is unacceptable in terms of air quality, odour, dust or other air emissions; and
- employ good air quality design.

70. Richmond Council expects developers to use appropriate mitigation measures to avoid adverse impacts. Contributions to the Air Quality Action Fund will be required wherever impacts are not fully mitigated.

71. In assessing the impacts of development on human health the air quality assessment levels used should be based on the World Health Organization guidelines. These are based only on the scientific and medical evidence and therefore are a better indicator of the public health impacts of development than the objectives.

### Construction Phase

72. The construction phase of major development can result in emission of air pollutants that adversely affects human health as well as dust that may lead to nuisance or disamenity. To ensure that emissions are well controlled all planning consents for major development will include relevant planning conditions to reduce these impacts.

73. A contribution to any additional resourcing required by the Council to fulfil additional regulatory duties associated with the development may be required.

### Air Quality and Dust Management Plan

74. An Air Quality and Dust Management Plan (AQDMP) must be submitted for approval in accordance with *The Control of Dust and Emissions during Construction and Demolition SPG*. The AQDMP will set out measures to be implemented to reduce the impacts during the construction phase.

75. Monitoring of dust may be required for all major development. The techniques to be used will depend on the development. For medium and high risk construction sites real-time monitoring for PM<sub>10</sub> and PM<sub>2.5</sub> will be required. The monitoring system should include an automatic alert direct to the site manager so that when dust levels breach acceptable limits action can be taken swiftly and effectively. This monitoring must be undertaken for a reasonable period before, during and after the works.

76. The AQDMP may be integrated within a wider Construction Environmental Management Plan (CEMP).

77. The AQDMP should include the following;

- the emissions standards that the non-road mobile machinery (NRMM) used on-site will meet (see below);
- details of dust monitoring;
- details of the site specific mitigation measures that will be employed on-site; and
- Construction Logistics Plan.

78. Information on mitigation measures during construction (including demolition and earthworks) is available from the Institute of Air Quality Management<sup>14</sup> (IAQM) and in *The Control of Dust and Emissions during Construction and Demolition SPG*. The SPG is based on the IAQM guidance. The most recent version of the IAQM guidance should be used (at the time of writing the latest version was published in June 2016).

79. IAQM also produce *Guidance on the Monitoring of Construction Sites*<sup>15</sup> which includes alert levels. It is also recommended that the most recent version of this guidance is used. The latest update at the time of writing was published in October 2018.

## Non Road Mobile Machinery (NRMM)

80. All Non-Road Mobile Machinery (NRMM) used during the course of the development that is within the scope of the Greater London Authority *“Control of Dust and Emissions during Construction and Demolition”* SPG dated July 2014, or any subsequent amendment or guidance, shall comply with the emission requirements therein.

## Transporting Waste and Construction Materials

81. To avoid congestion on the local road network, an outline *Construction Logistics Plan* (CLP) will be required with the planning application. Advice on the preparation of a CLP is provided by Transport for London (TfL) in *Construction Logistics Plan Guidance*<sup>16</sup>.

<sup>14</sup> Institute of Air Quality Management, 2016, Guidance on the assessment of dust from demolition and construction, version 1.1.

<sup>15</sup> Institute of Air Quality Management, 2018, Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites.

<sup>16</sup> Transport for London, 2017, Construction Logistics Plan Guidance.

82. Deliveries at sensitive locations, such as close to schools, will be required to avoid peak hours on grounds of both air quality and safety.

83. Planning consents for major developments will include a condition requiring the submission of a detailed CLP to be submitted for approval by the local planning authority. This will commit the developer to implement the plan for the duration of the construction works. There may be a requirement for a CLP on other sites, including sites in confined locations or near sensitive receptors, in accordance with the Council's Local Validation Checklist.

84. For development sites in and close to AQFAs, LENs and CAZs the *Construction-Logistic Plan* should include:

- consideration of alternative transport measures including transporting waste and construction materials to and from development sites by train or water;
- delivering materials over the 'last mile' by electric vehicles, or at times to be agreed by the local planning authority; and
- restrictions on the use of certain types of vehicles e.g. very large vehicles if they may add to local congestion; restrictions based on vehicle emission standards; and/or other restrictions deemed appropriate by the Borough.

## Operational Phase

85. Richmond Council requires the design principles as set out in the Local Plan (2018), Sustainable Construction Checklist SPD and as described in *The Sustainable Design and Construction SPG* to be built into the design of all proposed developments. Design should also ensure that existing occupants are not exposed to increased levels of pollution and that occupants of new developments will not be exposed to poor air quality.

86. The London Plan requires all major developments to be air quality neutral and large developments to be air quality positive.

87. Developers should seek to mitigate the air quality impacts, preferably through on-site measures, but where this is not possible, through off-site measures. Developers will be required to contribute to the Borough's Air Quality Fund to mitigate any residual impacts.

88. Planning consents for major developments will include one or more conditions requiring mitigation measures to make development acceptable in air quality terms.

89. Developers may also be asked to submit a Delivery and Service Plan where applicable.

## Development Design

90. New development should be designed to minimise air quality impacts:

- the layout and design of all sites must consider the impact of poor air quality on existing and new receptors. The layout should site buildings as far from main roads as possible, should avoid windows and habitable rooms fronting main roads and where possible use buildings as a screen against poor air quality. Non habitable rooms and corridors in residential developments and communal halls, canteens, changing rooms etc in commercial or community developments, schools and hospitals should be sited fronting main roads wherever practical.

- the impact of existing sources of air pollution, including road traffic and the exhaust from energy plant in adjacent buildings may affect air quality within new development. This must be considered in an early stage of the design process.

- high thermal insulation, the use of heat pumps and passive solar heating through building orientation and good design will reduce the use of gas heating and air conditioning and therefore reduce emissions of nitrogen oxides (NOx).



- the use of electric heating/cooling is encouraged and Combined Heat and Power (CHP) should be ultra-low, NOx boilers to reduce the amount of NOx emitted in the borough (see Heating, Cooling and Power Supply section below).
- developments to be used by vulnerable groups of the population, especially children<sup>17</sup>, should not generally be located on busy roads or in the Air Quality Focus Areas, Low Emission Neighbourhoods or Clean Air Zones. The distance between busy roads and buildings must be maximised to reduce exposure of building occupants to poor air quality.
- where façades of buildings are close to main roads, the installation of screens will be required to help reduce exposure for occupants to pollution from vehicles
- the design of new developments should ensure that 'street canyons', which restrict the dispersion of emissions from road traffic, are not formed or made worse.
- inlets to ventilation systems should be located as high as practical above ground level, preferably at roof height. They should not be located where the exhaust from energy plant will affect the quality of the inlet air.
- there should be no opening windows where the façade of the building is located in an area that exceeds an air quality objective. It is important that over-heating is avoided for the amenity for the future residents and that developments have adequate ventilation in place. Residential development in multi-storey buildings should ideally be on higher levels to avoid exposure to road traffic pollution.
- flues and exhaust vents should be a minimum of 1 metre above the height of the highest roof in the vicinity; and may need to be significantly higher depending upon local conditions. Dispersion modelling should be used to determine the optimum height.

## Traffic Reduction

91. Emissions from road traffic are the dominant source of elevated pollutant concentrations in London. Richmond Council promotes modes of transport with low impacts on air quality in the Local Plan and Local Implementation Plan.
92. The following transport measures contribute to minimising the impact of new developments on air quality and will be required where relevant:
- active travel infrastructure (cycling and walking);
  - public transport infrastructure and/or additional public transport services, including financial contributions for public transport improvements (in addition to those required to mitigate transport impacts). Adequate public transport will be required for any new senior school;
  - traffic management measures to reduce the impact of traffic by reducing congestion that improves air quality;
  - high trip generating development will only be permitted in areas which are easily accessible by the public and are well located to local services;
  - all major development must have a travel plan. The travel plan must demonstrate how it will be maintained and how it will encourage all members of the development, residents, occupants, staff and visitors to travel sustainably. It must quantify emission reductions and air quality benefits.
  - developments should provide cycle parking in accordance with the standards set out in the London Plan as a minimum. Cycle parking should be suitable for long stay parking as set out in the London Cycle Design Standards<sup>18</sup> or subsequent revisions. Development proposals should demonstrate how cycle parking facilities will cater for larger cycles, those catering for the carriage of children and cycles adapted for disabled people.

- car club parking bays should be provided in all residential developments of 25 or more dwellings, at a rate of 1 per 25 dwellings, unless acceptable grounds can be given for alternative numbers. Financial contributions must be provided to car clubs to provide free membership for the users of the development for two years as an alternative to providing private parking spaces for residents and employees to reduce car trips;
- dedicated car parking area(s) should be located near the site entrance where practicable. Individual parking spaces next to houses will be discouraged. This is to encourage walking.

building with an associated car parking space to have a charging point and every new non-residential building with more than 10 car parking spaces to have at least one charging point and a cable route for electric vehicle charging for one in five parking spaces.

94. Car parking should be provided with active and passive electric vehicle charging facilities<sup>21</sup> consistent with the Local Plan and London Plan. At the time of writing this SPD, the current requirements are: 20% active provision (i.e. fully installed from the outset) plus 20% passive provision (i.e. cabling provided for easier future installation of charging equipment) in residential developments, and 10% active provision plus 10% passive provision in all other developments.

## Electric Vehicles

93. To improve air quality the number of low emission vehicles needs to increase substantially, and it is Government policy to encourage the use of electric vehicles<sup>19</sup>. At the time of writing this SPD the Department for Transport were consulting on changes to the Building Regulations<sup>20</sup> that would require every new residential

<sup>19</sup> Department for Transport, 2018, *Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy*.

<sup>20</sup> Department for Transport, 2019. *Electric vehicle chargepoints in residential and on-residential buildings*.

<sup>21</sup> Active car parking spaces are fully wired and connected, ready to use for charging electric vehicles. Passive car parking spaces have the electricity infrastructure provided to enable connection at a later stage.



<sup>17</sup> Exposure to air pollution can affect lung growth. This can have lifelong implications on an individual's health.

<sup>18</sup> Mayor of London & Transport for London, 2014, *London Cycling Design Standards*.

## Heating, Cooling and Power Supply

95. The Chancellor in the Spring Statement 2019 announced the introduction of a Future Homes Standard, which will mandate the end of fossil-fuel heating systems in all new houses from 2025. At the time of writing this SPD this Standard has not been finalised. This SPD will be kept under review and if necessary, updated in light of any potential future changes to the standards of new homes or other updated government guidance.
96. In Air Quality Focus Areas (AQFAs), Low Emission Neighbourhoods (LENs) and Clean Air Zones (CAZs), heating, cooling or power for new developments should be derived from grid electricity, solar power or heat pumps rather than through the combustion of fossil fuels. Wood burning stoves or other combustion plant must not be provided.
97. The use of low emission gas-fired plant will be permitted outside these areas, but not the use of biomass, due to its higher emissions compared to gas.
98. The use of centralised boilers, combined heat and power plants (CHP) and combined cooling, heat, and power (CCHP) plants has been promoted as more sustainable than a large number of small boilers. These centralised energy systems can be more efficient than individual boilers, particularly when it comes to reducing carbon dioxide emissions. It is noted that these types of plants can impact on local air quality as pollutants are typically emitted from a single point rather than from many over a larger area, resulting in a greater impact on local air quality close to the point of emission.
99. Combined heat and power (CHP) plants are discouraged from an air quality perspective. When sited and sized in accordance with the energy demands of the building, they can have benefits in terms of reduced carbon dioxide emissions. However, it should be noted that they usually give rise to higher emissions of NO<sub>x</sub> and/or particulate matter (PM) than regular gas boilers. Therefore, if they are to be used, abatement technology to reduce emissions to below 0.04 gNO<sub>x</sub>/kWh will be required.

100. Ideally, only gas-fired boilers with ultra-low nitrogen oxides (NO<sub>x</sub>) emissions should be used in new developments. *The Sustainable Design and Construction SPG* defines these as boilers with emissions below 0.04 gNO<sub>x</sub>/kWh.
101. Gas plant will be required to meet high standards of air pollution control, with particular emphasis on:
- boiler design and operation;
  - stack height;
  - pollution abatement equipment;
  - servicing and maintenance; and
  - ultra-low NO<sub>x</sub> emissions.
102. Flues from energy plant must be at least 1m above the highest part of the building, and in many circumstances will need to be significantly higher. The appropriate stack height should be determined using dispersion modelling not using the Memorandum on Chimney Heights<sup>22</sup> or the Technical Guidance Note (Dispersion) (known as a D1 calculation)<sup>23</sup>, which are not suitable for considering annual mean NO<sub>2</sub> concentrations.
103. Flues should not be 'hidden' behind structures that affect the dispersion of emissions.
104. An air quality assessment (AQA) of the impact of boiler emissions should be undertaken to show that there will not be an unacceptable impact on local air quality (see Section on Assessing Air Quality Impacts, especially paragraphs 95 to 108). The specification of ultra-low emission boilers does automatically negate this requirement.
105. Backup generators that operate infrequently are becoming more common for the supply of emergency power (e.g. for large offices and data centres as well as industrial processes) and the supply of short-term operating reserve (STOR) power

<sup>22</sup> Department of the Environment, 1981, *The 1956 Clean Air Memorandum on Chimney Heights*.

<sup>23</sup> Her Majesty's Inspectorate of Pollution, 1993, <http://laqm.defra.gov.uk/documents/LAQM-TG16-April-16-v1.pdf>

for the National Grid. These generators can result in high short-term concentrations of NO<sub>2</sub> and for diesel generators, particulate matter. The STOR plant typically operate for 200-300 hours per year which is sufficient, if the emissions are high, to have a significant impact on long term average concentrations. Therefore, back-up generators installed in the borough should only be used for the sole use of emergency power and not for generating power to sell to the grid.

106. In Air Quality Focus Area (AQFA), Clean Air Zone (CAZ) or Local Neighbourhood Zone (LNZ) STOR plants are entirely inappropriate.

107. Air quality assessments must take account of the cumulative impact of the emissions from the generator(s) **and** the local road traffic emissions. The local planning authority may use a planning condition to limit the hours of operation of the generators to those used in the air quality assessment.

108. A planning condition will be imposed requiring all plant to be serviced and maintained according to the manufacturer's specification (see appendix E). In addition, a planning condition will be imposed that requires details of the plant and its abatement system to be approved by the local planning authority prior to the building being occupied.

## Industrial and Commercial Premises

109. The air quality assessment of the impacts of industrial emissions depends on the type of process and may include the impact of the traffic associated with the development as well as the emissions from the process itself. All potentially significant impacts from major development on air quality must be assessed, typically using a dispersion model.

110. For smaller operations that may give rise to odours, dust, smoke, dust or other air emissions, including commercial operations such as nail bars and commercial kitchens, information on the pollution control systems may be sufficient.

111. Applications for development that has air emissions will be required to provide evidence of the:

- pollution control system;
- maintenance schedule; and
- management systems to mitigate the impact.

112. For those developments not subject to the pollution control regime, planning consent will include a planning condition requiring the servicing and maintenance of the pollution control system.

## Air Quality Focus Areas (AQFAs), Low Emission Neighbourhoods (LENs) and Clean Air Zones (CAZs)

113. AQFAs, LENs and CAZs have been designated in locations where there is unacceptable air pollution and for AQFA and LENs high exposure, which needs to be reduced as quickly as possible to protect human health. Introducing new emission sources into these areas, or areas bordering and having an adverse effect on them, is contrary to this aim and not consistent with the Borough's Air Quality Management Plans and therefore contrary to the NPPF. All developments proposed in or adjacent to these areas must play their part in ensuring that air quality in these areas does not worsen and must contribute towards an overall improvement in air quality.

114. Therefore, development within these areas need to robustly demonstrate that the impact of both direct and indirect emissions<sup>24</sup> can be fully mitigated.

115. Combustion plants should be avoided in these areas. Buildings are expected to use electric space and water heating, preferably generated using renewable energy sources, such as solar power and heat pumps.

<sup>24</sup> Direct emissions are those from the development itself, indirect emissions are those associated with the development such as those from the traffic generated by the development.

116. All development in these areas should be car-free, with the exception of dedicated spaces for disabled parking and use by a car club as well as appropriate servicing arrangements (see below). No parking permit shall be issued in neighbouring CPZs.

117. All development in AQFAs, CAZs and LENS should be Air Quality Positive. Where this is not possible, additional contributions to the AQAF will be required.

118. In addition, development for use by groups of the population that are particularly sensitive to the health effects of air pollution should not be located within these areas to reduce the number of vulnerable people exposed to poor air quality and improve public health. These include, but are not limited to:

- schools;
- day care and pre-school facilities;
- GP surgeries;
- nursing homes;
- care homes and sheltered accommodation;
- National Health Service facilities including hospitals and
- playgrounds; and
- community centres.

119. Residential development in these areas will need to show that proven mitigation measures will be implemented to reduce the exposure of future residents to acceptable levels. If there is uncertainty regarding future air quality, mitigation measures must enable annual mean concentrations to be reduced to at least 75% of the air quality objective or lower.

120. Proposals should not incorporate STOR plant in these areas.

## Odour

121. Planning applications for all major development that is likely to give rise to odour will need to include satisfactory evidence that there will not be an adverse impact on neighbouring land uses. In addition, any sensitive development proposed close to an existing odour source will also need to show that there will be no adverse impact on future users.

122. In the case of small scale developments (e.g. commercial kitchens), evidence must be submitted to demonstrate that odour emissions will be adequately controlled to prevent significant loss of amenity to neighbouring sensitive land uses. Typically, this will be by submission of a detailed ventilation scheme incorporating high level discharge and odour abatement. There should be no low level discharge.

123. Larger sources of odour are required to submit an odour assessment undertaken by a competent and qualified person. This must show that the proposed development is acceptable and will not adversely affect the amenity of neighbouring land uses, or any future users of development.

124. Where a development is proposed close to an existing source of odour the assessment must show that the users of the development will not be adversely affected by (see Section 6).

*Planning applications for all major development that is likely to give rise to odour will need to include satisfactory evidence that there will not be an adverse impact on neighbouring land uses.*

## Assessing Air Quality Impacts

125. In line with Richmond Borough's Local Plan policy LP 10, the Council requires all new developments to be at least 'air quality neutral'. Preferably developments should be 'air quality positive', and if necessary, to be accompanied by an air quality assessment. This is designed to manage and prevent further deterioration of existing poor air quality across the borough.

126. The requirements for the assessment of air quality impacts on new developments are set out below:

## Overarching Principles of Assessment

### Scoping the need for assessment

127. An air quality assessment (AQA) is required to accompany planning applications as follows:

- major developments will need an air quality and dust risk assessment (AQDRA) of the construction impacts;
- major developments that could have a significant negative impact on air quality during its operation will need an AQA (incorporating the AQDRA); and
- any development that will introduce new exposure to poor air quality will require an AQA.

128. In deciding whether an AQA is required developers should use the following criteria:

- development that introduces new exposure to unacceptable levels of air pollution. For example, residential development in an area where an air quality objective or World Health Organization (WHO) guideline value may be exceeded or where there is a known odour issue. This applies to developments of all sizes including single houses and conversion of existing buildings. The poor air quality may be due to:

- a) emissions from adjacent roads;
  - b) emissions from a nearby industrial process or large boiler; or
  - c) the proposed development creating a street canyon or other similar effect which reduces the dispersion of emissions.
- any major development that meets the criteria for an AQA in the most recent Environmental Protection UK and Institute of Air Quality Management Guidance ("EPUK/IAQM Guidance")<sup>25</sup>; (the criteria from the January 2017 version are reproduced in Appendix C);
  - all mineral and waste developments requiring planning consent; and
  - development regulated under the Environmental Permitting (England and Wales) Regulations.

## Consultation

129. It is recommended that developers or their air quality consultants agree with the Council's Air Quality Officer the methodology and data to be used in the AQA prior to commencing the assessment.

## Cumulative Impacts

130. Developers must assess the cumulative impact of multiple air pollution sources from the new development e.g. the combined impact of traffic and energy plant. The developer must also assess the cumulative impact of the construction and operation of the proposed development with all consented developments nearby. Consideration of proposed but not yet consented developments may be required and developers should check with the Council's Air Quality Officer before commencing their assessment.

<sup>25</sup> Environmental Protection UK and Institute of Air Quality Management, 2017, *Land-Use Planning & Development Control: Planning for Air Quality*.

## Conservative Approach

131. Where applicable, assessments should be carried out using a worst-case approach. For example, if certain parameters are unknown, reasonable worst case assumptions should be used to ensure that the assessment results are conservative in nature.

## Air Quality Neutral (AQN)

132. Developers of all major developments will need to commission an air quality neutral (AQN) assessment and this should be included in the AQDRA or AQA document.

133. The AQN assessment entails the following steps:

- determine the relevant building emission benchmarks (BEBs) for NO<sub>2</sub> and PM<sub>10</sub> for the development, based on its land use class and location (see Appendices 5 and 6 in the *Sustainable Design and Construction SPG* and the *GLA's Air Quality Neutral Planning Support Update*);
- calculate the development's NO<sub>x</sub> and PM<sub>10</sub> emissions from the use of the building(s) and compare with the BEB(s);
- determine the relevant transport emission benchmarks (TEBs) for NO<sub>x</sub> and PM<sub>10</sub> for the development;
- calculate the development's NO<sub>x</sub> and PM<sub>10</sub> emissions from transport and compare them with the TEBs; and
- the BEBs and the TEBs must be met, for both NO<sub>x</sub> and PM<sub>10</sub>, to meet the air quality neutral requirement.

134. Where the current benchmarks cannot be met, the planning application will be considered contrary to policy LP 10 of the Local Plan. If the benchmarks are revised in the future, consent may be granted in exceptional circumstances, but developments will need to contribute to the Council's Air Quality Action Fund.

## Air Quality Assessment

135. The aim of an AQA is to identify any significant impact on local air quality and/or disamenity due to dust and/or odour and/or whether new development will introduce new exposure in an area of poor air quality. The contents of the AQA will depend on the nature of the proposed development.

136. In general, the AQA should include the following:

- site location and brief description of the proposed development as it relates to air quality, including any mitigation measures designed into the development;
- a description of all nearby sources of pollution likely to impact on the development, including emissions from nearby centralised boilers/CHP/CCHP.
- outline of the relevant planning and air quality policy (include odour and dust when appropriate);
- description of the assessment methodology with appropriate data presented;
- location and description of all receptors used in the assessment. This should include any particularly sensitive receptors<sup>26</sup> and may include ecological receptors;
- assessment of the current air quality/dust/odour in the vicinity of the proposed development;
- prediction of the impact of the proposed development - for road traffic impacts this needs to include the future air quality both with and without the proposed development;
- an assessment of the impacts at individual receptors;
- description and quantification of further mitigation measures required to make the development acceptable in air quality terms;

<sup>26</sup> Particularly sensitive receptors are those where the most vulnerable groups of the population to the effects of air pollution are likely to spend significant periods of time. The vulnerable groups include children, the elderly and those with pre-existing respiratory and cardiovascular disease.

- an assessment of the significance of the impacts after mitigation;
- an assessment of the cumulative impacts with other development during construction and operation;
- a statement as to whether the development is or is not consistent with the Borough's Air Quality Action Plan; and
- conclusion of the assessment.

137. Guidance for the assessment of odour and mineral dust for land use planning purposes have been produced by the Institute of Air Quality Management:

- *Guidance on the assessment of odour for planning*
- *Guidance on the Assessment of Mineral Dust Impacts for Planning*

138. The relevant IAQM guidance document (or any updates) should be followed for developments that are likely to emit odours, new development that might be affected by existing odours, and mineral developments.

139. Chapter 6 of EPUK/ IAQM's guidance on *Land-Use Planning & Development Control: Planning for Air Quality* provides advice on undertaking an AQA. Developers required to produce an AQA for air pollutants, other than odour and dust, are recommended to instruct their consultants to follow this guidance (or future updates).

140. Most developments requiring an AQA will need to use a dispersion model to estimate the impact; however, there will be some developments, particularly where new exposure to poor air quality is being introduced, where it may be more appropriate to use existing data. This should be agreed with the Council's Air Quality Officer.



141. When modelling the impact of road transport, it is important that realistic forecasts of future emissions are used. The Emissions Factor Toolkit (EFT) produced by Defra for LLAQM has tended to be optimistic and resulted in an under-estimation of future NO<sub>2</sub> concentrations. All AQAs of traffic impacts must discuss the uncertainty of predictions of future concentrations (which relates to both the assumed rate of fleet turnover and the emissions from future vehicles which may not exist and therefore the on-road performance is not known), and use professional judgement to determine the likely significant effects, taking into account the need for a conservative approach.

142. Where a centralised boiler/combined heat and power/ combined cooling, heating and power plant is included in a development, the AQA should model the impacts using an appropriate dispersion model and provide technical data on:

- fuel type;
- emission characteristics including temperature at the flue exit, efflux velocity or volumetric flow rate, and concentration or emission rate (at standard conditions; if actual data provided state conditions);
- stack location and dimensions;
- building(s) location, dimensions and orientation to north;
- assumed operating hours;
- the maintenance regime; and
- the cumulative impact of traffic and energy plant emissions at receptors

143. The Council may impose a planning condition restricting the operation of the plant to the hours of operation assumed in the AQA.

144. The EPUK/IAQM criteria should be used to assess the significance of the impact on air quality at individual receptors using the WHO guideline values, not the air quality objectives as the air quality assessment levels.

145. To determine the overall significance of the effect on public health the range of local circumstances and the uncertainty of the predicted concentrations should be taken into account.

146. These include, but are not limited to:

- the existing and future air quality in the absence of the development;
- the extent of current and future population exposure to the impacts; and
- the influence and validity of any assumptions adopted when undertaking the prediction of impacts.

### Health Impact Assessment Link

147. It is important that all air quality assessments closely align and feed into the Health Impact Assessment process. Where required Health Impact Assessments enable the developer to demonstrate their assessment of the overall health and wellbeing implications of their development proposals for planning purposes.

### Professional Assessments

148. It is strongly recommended that developers only use qualified and experienced air quality consultants for the preparation of their AQDRA and AQA and that it provides information on the expertise of those who undertook and supervised the assessment. Any poor quality and/or unclear AQDRAs/ AQAs submitted are likely to be challenged as insufficient and require resubmission.

# Appendices



## Appendix A. Glossary

<b>Air pollution</b>	The presence of substances in the atmosphere that may cause harm to humans, and the natural or built environment. This includes nitrogen dioxide, odour and dust (including the smaller particles often referred to as particulate matter or PM).
<b>Air Quality</b>	A generic term referring to the level of pollution in the air.
<b>Air Quality Assessment (AQA)</b>	An assessment of the impact of a development on the levels of certain pollutants in the local area.
<b>Air Quality Focus Areas</b>	Air Quality Focus Areas as defined by the Greater London Authority in 2014, and any future designations.
<b>Air Quality Management Areas (AQMAs)</b>	Areas where the air quality objectives are likely to be exceeded. Declared by way of an order issued under the Section 83(1) of the Environment Act 1995.
<b>Air Quality Objectives</b>	Air quality targets to be achieved locally as set out in the Air Quality Regulations 2000 and subsequent Regulations. Objectives are expressed as pollution concentrations over certain exposure periods, which should be achieved by a specific target date. Some objectives are based on long term exposure (e.g. annual averages), with some based on short term objectives. Objectives only apply where a member of the public may be exposed to pollution over the relevant averaging time.
<b>Exceedence</b>	Concentrations of a specified air pollutant greater than the appropriate Air Quality Objective.
<b>LLAQM.TG.16</b>	London Local Air Quality Management Technical Guidance (2019). This document provides advice on how London local authorities should assess air quality.
<b>Limit Values/EU limit values</b>	The maximum pollutant levels set out in the EU Directives on Ambient Air Quality. In some cases, the limit value is the same as the national air quality objective but may allow a longer period for achieving it.
<b>Major development</b>	Development involving any one or more of the following: (a) the winning and working of minerals or the use of land for mineral-working deposits; (b) waste development; (c) the provision of dwelling houses where: (i) the number of dwelling houses to be provided is 10 or more; or (ii) the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i); (d) the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or (e) development carried out on a site having an area of 1 hectare or more.

<b>Mitigation</b>	Mitigation measures will minimise, but not necessarily remove, the air quality impact of a development.
<b>National Air Quality Objectives</b>	See Air Quality Objectives.
<b>National Air Quality Strategy</b>	The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. The current version at the time of producing this SPD was published in July 2007, with a supplement published in May 2018.
<b>NO<sub>2</sub></b>	Nitrogen dioxide
<b>NO<sub>x</sub></b>	NO <sub>x</sub> = nitrogen oxides, which includes nitric oxide and nitrogen dioxide. Most pollution sources emit nitrogen oxides primarily as nitric oxide. However, once in the atmosphere nitric oxide is converted to nitrogen dioxide. Therefore it is important to know the concentrations of both NO <sub>x</sub> and NO <sub>2</sub> .
<b>Offsetting</b>	Measures which 'compensate' for anticipated increases in pollution in the area but not necessarily at the exact locality. This might be for example by funding more general measures in the Borough's air quality action plan.
<b>Part A1, A2 and B Processes</b>	Types of industrial processes which are regulated under the Environmental Permitting Regulations.
<b>PM<sub>10</sub></b>	Particulate matter with a diameter of less than 10 microns.
<b>PM<sub>2.5</sub></b>	Fine particulate matter with a diameter of less than 2.5 microns.
<b>Receptor</b>	A location where members of the public might be exposed to air pollution. Typically depends on the averaging period of the air quality objective as illustrated in Box 1.1 in LLAQM Technical Guidance (known as LLAQM.TG.16).
<b>Sensitive receptor</b>	A receptor where particularly vulnerable groups of the population spend significant time. These include children's nurseries, schools, playgroups, hospitals, GP surgeries/health centres/nursing homes and care homes.
<b>Street canyon</b>	A road with buildings either side which restrict the dispersion and dilution of the emissions.
<b>Vulnerable groups of the population</b>	A road with buildings either side which restrict the dispersion and dilution of the emissions.  During demolition of buildings patients with diseases that suppress their immune system may be vulnerable groups due to the emission of fungal spores.

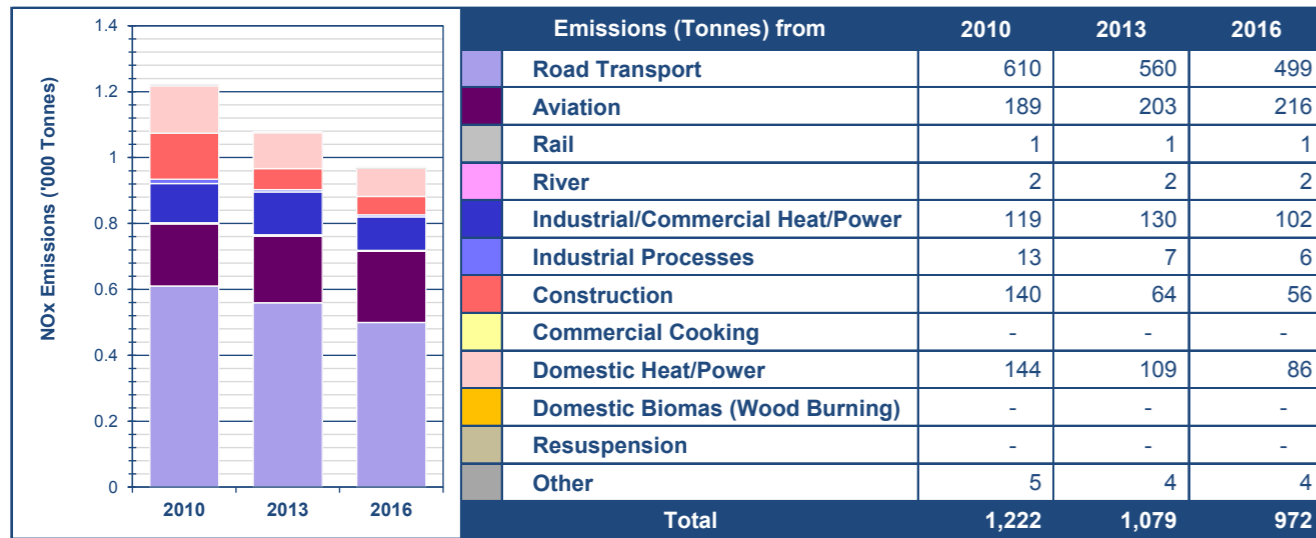


## Appendix B. London Atmospheric Emissions Inventory for Richmond

On the following pages are the 'dashboards' produced by the GLA showing the main sources of NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>.

### LONDON ATMOSPHERIC EMISSIONS INVENTORY (LAEI)

#### NO<sub>x</sub> Emissions by Source Type - Richmond

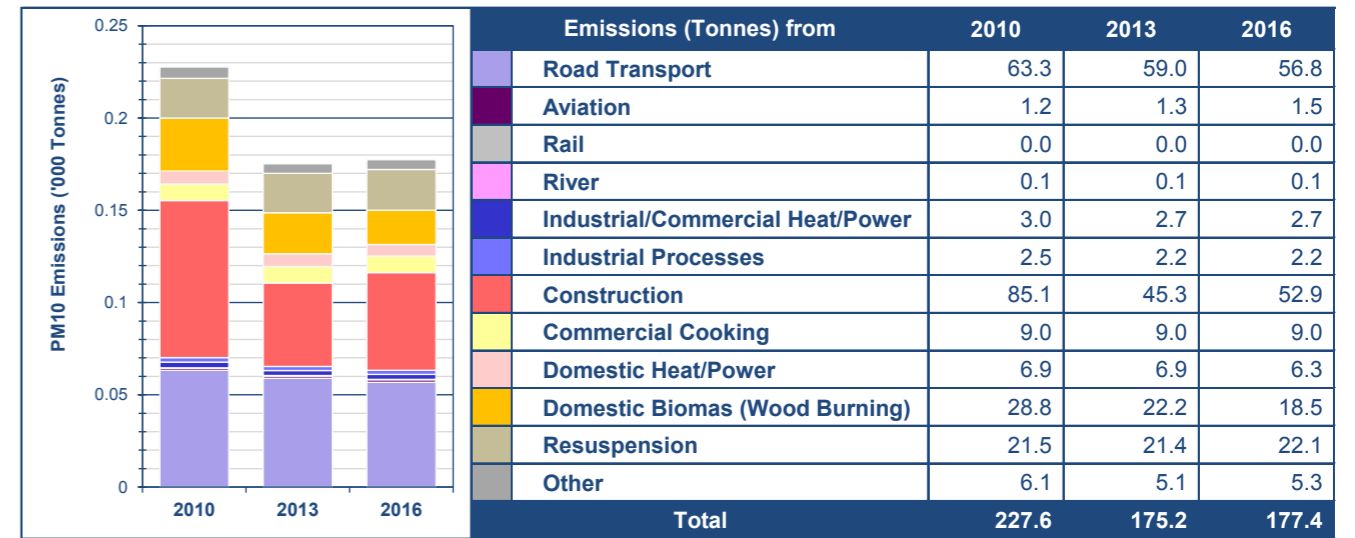


The bar chart represents emissions from each air pollution source stacked on top of one another, with the total stack height equalling total emissions from all sources across the Borough. The numbers in the table are those used to plot the graph and represent, for each year, the amount of pollutant emitted into the atmosphere (in tonnes/year).

- Industrial Processes: includes emissions from Part A1, A2/B processes, and from Non-Road Mobile Machinery (NRMM) exhaust on industrial sites.
- Heat/Power generation: includes emissions from the combustion of gas, oil or coal in the Industrial/Commercial and Domestic sectors respectively.
- Construction: includes construction dust (PM) and NRMM exhaust on construction sites.

### LONDON ATMOSPHERIC EMISSIONS INVENTORY (LAEI)

#### PM<sub>10</sub> Emissions by Source Type - Richmond

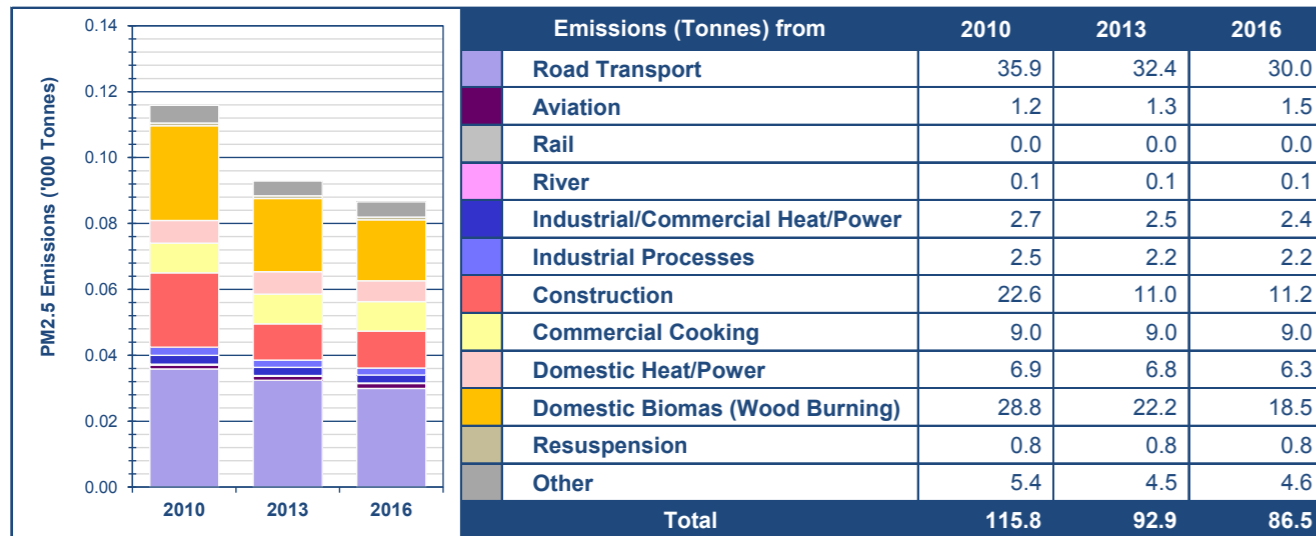


The bar chart represents emissions from each air pollution source stacked on top of one another, with the total stack height equalling total emissions from all sources across the Borough. The numbers in the table are those used to plot the graph and represent, for each year, the amount of pollutant emitted into the atmosphere (in tonnes/year).

- Industrial Processes: includes emissions from Part A1, A2/B processes, and from Non-Road Mobile Machinery (NRMM) exhaust on industrial sites.
- Heat/Power generation: includes emissions from the combustion of gas, oil or coal in the Industrial/Commercial and Domestic sectors respectively.
- Construction: includes construction dust (PM) and NRMM exhaust on construction sites.

### LONDON ATMOSPHERIC EMISSIONS INVENTORY (LAEI)

#### PM2.5 Emissions by Source Type - Richmond

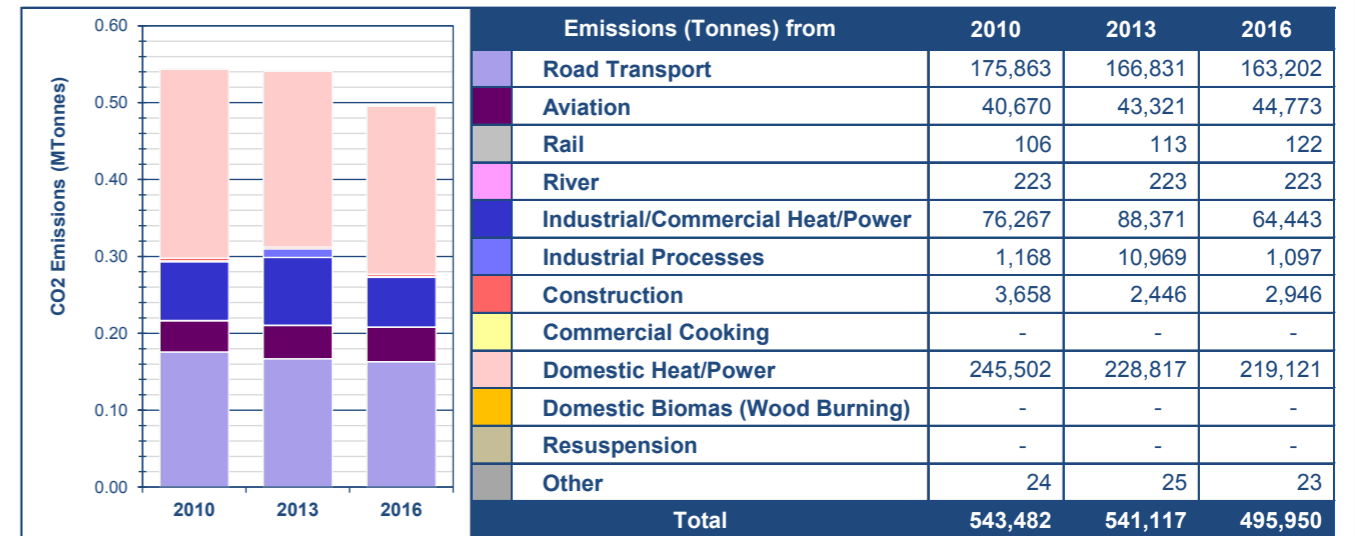


The bar chart represents emissions from each air pollution source stacked on top of one another, with the total stack height equalling total emissions from all sources across the Borough. The numbers in the table are those used to plot the graph and represent, for each year, the amount of pollutant emitted into the atmosphere (in tonnes/year).

- Industrial Processes: includes emissions from Part A1, A2/B processes, and from Non-Road Mobile Machinery (NRMM) exhaust on industrial sites.
- Heat/Power generation: includes emissions from the combustion of gas, oil or coal in the Industrial/Commercial and Domestic sectors respectively.
- Construction: includes construction dust (PM) and NRMM exhaust on construction sites.

### LONDON ATMOSPHERIC EMISSIONS INVENTORY (LAEI)

#### CO2 Emissions by Source Type - Richmond



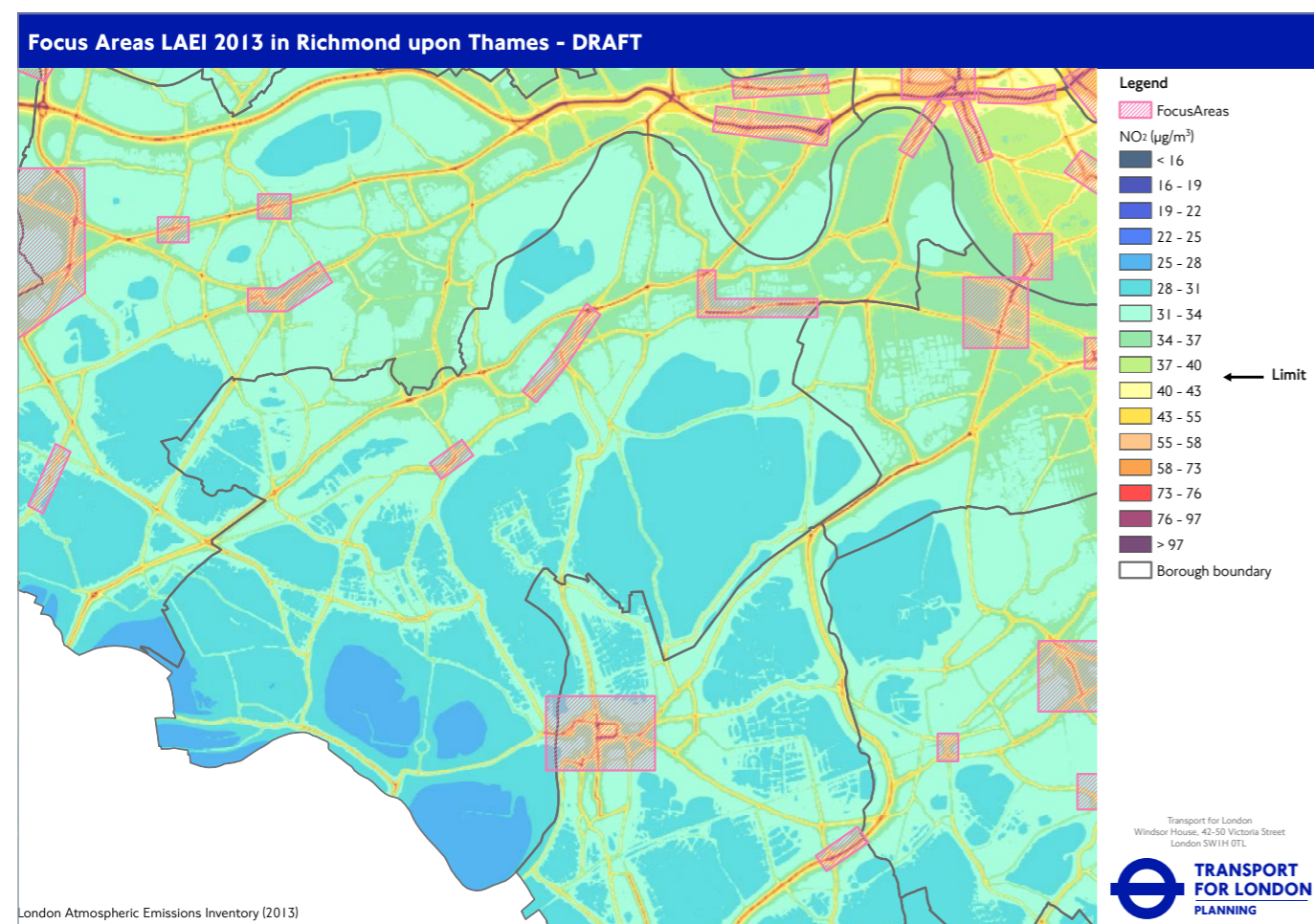
The bar chart represents emissions from each air pollution source stacked on top of one another, with the total stack height equalling total emissions from all sources across the Borough. The numbers in the table are those used to plot the graph and represent, for each year, the amount of pollutant emitted into the atmosphere (in tonnes/year).

- Industrial Processes: includes emissions from Part A1, A2/B processes, and from Non-Road Mobile Machinery (NRMM) exhaust on industrial sites.
- Heat/Power generation: includes emissions from the combustion of gas, oil or coal in the Industrial/Commercial and Domestic sectors respectively.
- Construction: includes construction dust (PM) and NRMM exhaust on construction sites.

## Appendix C. Location of Air Quality Focus Areas

The Greater London Authority (GLA) identified Air Quality Focus Areas in 2014. These are locations that not only exceed the EU annual mean limit value for NO<sub>2</sub> but are also locations with high human exposure. The Focus Areas were defined to address concerns raised by Boroughs within the Local Air Quality Management process and forecasted air pollution trends. This is not an exhaustive list of London's hotspot locations, but where the GLA believe the problem to be most acute.

### Richmond



## Appendix D. EPUK/IAQM Air Quality Assessment Screening Criteria

This appendix provides the EPUK/IAQM screening criteria for an air quality assessment as published in January 2017. This guidance is periodically updated, and the most recent version should be used.

6.11 In the case of an assessment of the impacts of a development in the local area, a two-stage approach is suggested. The **first stage** is intended to screen out smaller development and/or developments where impacts can be considered to have insignificant effects<sup>27</sup>. The **second stage** relates to specific details regarding the proposed development and the likelihood of air quality impacts.

6.12 **Stage 1** requires any of the criteria under (A) coupled with any of the criteria under (B) in **Table 6.1** to apply before it is considered appropriate to proceed to Stage 2. If none of the criteria are met, then there should be no requirement to carry out an air quality assessment for the impact of the proposed development on the local area, and the impacts can be considered to have insignificant effects. **Table 6.1** sets out the Stage 1 criteria designed to remove the need to assess impacts arising from small developments.

**Table 6.1: Stage 1 Criteria**

Criteria to Proceed to Stage 2
<p><b>A: If any of the following apply:</b></p> <ul style="list-style-type: none"> <li>10 or more residential units or a site area of more than 0.5ha; or</li> <li>more than 1,000 m<sup>2</sup> of floor space for all other uses or a site area greater than 1ha.</li> </ul>
<p><b>B: Coupled with either of the following:</b></p> <ul style="list-style-type: none"> <li>the development has more than 10 parking spaces</li> <li>the development will have a centralised energy facility or other centralised combustion process.</li> </ul>

Note: Consideration should still be given to the potential impacts of neighbouring sources on

the site, even if an assessment of impacts of the development on the surrounding area is screened out.

6.13 The criteria in **Table 6.2** provide more specific guidance as to when an air quality assessment is likely to be required to assess the impacts of the proposed development on the local area. The criteria are more stringent where the traffic impacts may arise on roads where concentrations are close to the objective. The presence of an AQMA is taken to indicate the possibility of being close to the objective, but where whole authority AQMAs are present and it is known that the affected roads have concentrations below 90% of the objective, the less stringent criteria is likely to be more appropriate.

6.14 Where an air quality assessment is identified as being required, then this may take the form of either a Simple Assessment or a Detailed Assessment (see paragraph 6.6 for more details). In other words, passing a screening criterion in **Table 6.2** does not automatically lead to the requirement for a Detailed Assessment.

6.15 If none of the criteria are met, then there should be no requirement to carry out an air quality assessment for the impact of the development on the local area, and the impacts can be considered to be insignificant. This should be agreed with the local planning authority.

<sup>27</sup> Taking account of criteria published in: a) The Town and Country Planning (Development Management Procedure) (England) Order 2010 - 2010 No. 2184 [(Wales) Order 2012, No 801(W11)] (HMSO), b) The GLA's Supplementary Planning Guidance (SPG) on Sustainable Design and Construction (2014) and c) The Sussex Air Quality Partnership's Air Quality and Emissions Mitigation Guidance for Sussex Authorities (2013) v January 2014. The latter still requires a calculation of emissions even if an assessment is not required.

**Table 6.2. Indicative Criteria for Requiring an Air Quality Assessment**

The development will:	Indicative Criteria to Proceed to an Air Quality Assessment
Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors. (LDV = cars and small vans <3.5t gross vehicle weight)	A change of LDV flows of: <ul style="list-style-type: none"> <li>• more than 100 AADT within or adjacent to an AQMA</li> <li>• more than 500 AADT elsewhere</li> </ul>
Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors. (HDV = goods vehicles + buses >3.5t gross vehicle weight)	A change of HDV flows of <ul style="list-style-type: none"> <li>• more than 25 AADT within or adjacent to an AQMA</li> <li>• more than 100 AADT elsewhere</li> </ul>
Realign roads, i.e. changing the proximity of receptors to traffic lanes.	Where the change is 5m or more and the road is within an AQMA.
Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change [how] vehicle[s] accelerate/decelerate, e.g. traffic lights, or roundabouts.
Introduce or change a bus station.	Where bus flows will change by: <ul style="list-style-type: none"> <li>• more than 25 AADT within or adjacent to an AQMA</li> <li>• more than 100 AADT elsewhere</li> </ul>
Have an underground car park with extraction system.	The ventilation extract for the car park will be within 20 m of a relevant receptor, coupled with the car park having more than 100 movements per day (total in and out)
Have one or more substantial combustion processes <b>NB.</b> this includes combustion plant associated with standby emergency generators (typically associated with centralised energy centre) and shipping	Typically, any combustion plant where the single or combined NO <sub>x</sub> emission rate is less than 5 mg/sec <sup>28</sup> is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a location and at a height that provides adequate dispersion.  In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates.  Conversely, where existing nitrogen dioxide concentrations are low and where the dispersion conditions are favourable, a much higher emission rate may be acceptable.

<sup>28</sup> As a guide, the 5 mg/s criterion equates to a 450 kW ultra-low NO<sub>x</sub> gas boiler or a 30kW CHP unit operating at < 95 mg/Nm<sup>3</sup>. Users of this guidance should quantify the NO<sub>x</sub> mass emission rate from the proposed plant, based on manufacturers' specifications and operational conditions.

## Appendix E. Model Conditions

This Appendix provides examples of standard conditions that may be included in planning consents.

### Prior to commencement of development

#### Demolition and Construction Environmental Management Plan:

1. Prior to the commencement of development, including demolition, a Demolition and Construction Environmental Management Plan (DCEMP) shall be submitted to and approved in writing by the Local Planning Authority. The DCEMP shall include:
  - a. An Air quality management plan that identifies the steps and procedures that will be implemented to minimise the creation and impact of dust and other air emissions resulting from the site preparation, demolition, and groundwork and construction phases of the development.
  - b. A Construction environmental management plan that identifies the steps and procedures that will be implemented to minimise the creation and impact of noise, vibration, dust and other air emissions resulting from the site preparation, demolition, and groundwork and construction phases of the development.
  - c. A construction logistics plan that identifies the steps that will be taken to minimise the impacts of deliveries and waste transport.
2. The above plans shall not be written other than in accordance with Transport for London's Construction Logistics Plan Guidance and London Borough of Richmond-upon-Thames SPD 'Air Quality' and any subsequent adopted guidance and policy.
3. The development shall not be implemented other than in accordance with the approved scheme, unless previously agreed in writing by the Local Planning Authority.

**REASON:** To ensure the development does not raise local environment impacts and pollution.

## NRMM

All Non-road Mobile Machinery (NRMM) used during the course of the development that is within the scope of the GLA 'Control of Dust and Emissions during Construction and Demolition' Supplementary Planning Guidance (SPG) dated July 2014, or any successor document, shall comply with the emissions requirements therein.

**REASON:** To ensure the development does not raise local environment impacts and pollution

### Electric Vehicle (EV) Parking

Prior to the commencement of development, details and implementation programme of the electric vehicle parking spaces shall be submitted to and approved in writing by the Local Planning Authority. The development shall not be implemented other and in accordance with the approved scheme; shall be fully installed prior to occupation and thereafter retained as approved.

**REASON:** To accord with the terms of the application and requirements of current policy and to minimise the impact of car travel on the environment.

### Cycle Parking

No building/dwelling/part of the development shall be occupied until cycle parking facilities have been provided in accordance with detailed drawings to be submitted to and approved in writing by the Local Planning Authority, such drawings to show the position, design, materials and finishes thereof.

**REASON:** To accord with the terms of the application and to demonstrate that it is compliant with the current London Plan.

### Ventilation system

Prior to the commencement of development, a ventilation scheme shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall:

1. identify measures to protect future users from external air pollution.

2. Detail a maintenance scheme.

The development shall not be implemented other and in accordance with the approved scheme; shall be fully installed prior to occupation and thereafter maintained in accordance with the approved scheme.

**REASON:** To promote good air quality design and to protect occupiers of the development from existing sources.

### Prior to occupation:

#### Air Quality – Combustion Plant

1. Unless otherwise agreed in writing with the Local Planning Authority, no boiler or Combined Heat and Power (CHP) shall be installed within the development hereby approved, other than one that incorporates and has installed abatement technology to reduce emissions to below 0.04 gNO<sub>x</sub>/kWh.
2. All systems shall be maintained in accordance with the manufacturer's instructions.

**REASON:** To minimise the NO<sub>x</sub> emission.

#### Emissions Control Scheme

Prior to the occupation of any part of the development hereby approved, an emission control scheme shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall provide details of measures to be implemented to minimise the direct and indirect emissions of air pollutants resulting from the development. The development shall not be occupied other than in accordance with the approved scheme.

**REASON:** To mitigate the impact of the development upon air quality.

### Delivery and Service Plan

Prior to the occupation of any part of the development hereby approved, a comprehensive delivery and service plan, to manage, co-ordinate and minimise all deliveries and services, including waste services, to all parts of the development, shall be submitted to and approved in writing by the Local Planning Authority. Where possible developers are encouraged to consolidate Delivery and Service Plans with other neighbouring premises servicing neighbouring properties. The scheme shall provide details of measures to be implemented and maintained to minimise and manage all deliveries and services to all parts of the development to. Central pick up locations must be agreed and personal deliveries discouraged. The development shall not be occupied other than in accordance with the approved scheme.

**REASON:** To reduce the number of vehicles and emissions from vehicles for deliveries and services and to mitigate the impact of the development upon local air quality.

## Appendix F. Further Information

<b>Borough</b>	<p>Carol Lee Senior Environmental Health Pollution Practitioner (Air Quality) Regulatory Services Partnership, London Boroughs of Richmond upon Thames, Merton and Wandsworth, 1st Floor Civic Centre, 44 York Street, Twickenham TW1 3BZ. Tel: 07917 307 206 <a href="mailto:carol.lee@merton.gov.uk">carol.lee@merton.gov.uk</a></p>
<b>Mayor of London Greater London Authority</b>	<p>The London Plan <a href="https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan">https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan</a></p> <p>London Environment Strategy, 2018 <a href="https://www.london.gov.uk/what-we-do/environment/london-environment-strategy">https://www.london.gov.uk/what-we-do/environment/london-environment-strategy</a></p> <p>Sustainable Design and Construction Supplementary Planning Guidance, 2014. <a href="https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/Sustainable%20Design%20%26%20Construction%20SPG.pdf">https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/Sustainable%20Design%20%26%20Construction%20SPG.pdf</a></p> <p>The Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance, July 2014. <a href="https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/Dust%20and%20Emissions%20SPG%208%20July%202014_0.pdf">https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/Dust%20and%20Emissions%20SPG%208%20July%202014_0.pdf</a></p> <p>Construction Logistics Plan Guidance for Developers, undated. <a href="https://constructionlogistics.org.uk/wp-content/uploads/2018/02/Construction-Logistics-Plan-Guidance-for-Developers.pdf">https://constructionlogistics.org.uk/wp-content/uploads/2018/02/Construction-Logistics-Plan-Guidance-for-Developers.pdf</a></p> <p>Air Quality Neutral Planning Support Update, GLA 80371, Air Quality Consultants and ENVIRON, 2014. <a href="https://www.aqconsultants.co.uk/news/may-2014/air-quality-neutral-in-london">https://www.aqconsultants.co.uk/news/may-2014/air-quality-neutral-in-london</a></p> <p>London Local Air Quality Management Technical Guidance (LLAQM.TG (16)), Mayor of London, 2016. <a href="https://www.london.gov.uk/sites/default/files/llaqm_technical_guidance_llaqm.tg_16.pdf">https://www.london.gov.uk/sites/default/files/llaqm_technical_guidance_llaqm.tg_16.pdf</a></p>

<p><b>National Regulations and Guidance</b></p>	<p>Air Quality Standards Regulations 2010.</p> <p>Air Quality (England) Regulations, 2000.</p> <p>Air Quality (England) (Amendment) Regulations, 2002.</p> <p>Air Quality Strategy for England, Scotland, Wales and Northern Ireland, July 2007  <a href="https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69336/pb12654-air-quality-strategy-vol1-070712.pdf">https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69336/pb12654-air-quality-strategy-vol1-070712.pdf</a></p> <p>Local Air Quality Management Technical Guidance LAQM.TG.16, Defra, 2018  <a href="https://laqm.defra.gov.uk/technical-guidance/">https://laqm.defra.gov.uk/technical-guidance/</a></p> <p>National Planning Policy Framework , Ministry of Housing, Communities and Local Government, February 2019  <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf</a></p> <p>Housing Standards Review, 2015  <a href="https://www.gov.uk/government/publications/technical-housing-standards-nationally-described-space-standard">https://www.gov.uk/government/publications/technical-housing-standards-nationally-described-space-standard</a></p> <p>Low Emission Strategies Partnership  <a href="http://www.lowemissionstrategies.org">http://www.lowemissionstrategies.org</a></p> <p>Solid Fuel and Air Quality, Environmental Protection UK. 2013  <a href="http://www.environmental-protection.org.uk/wp-content/uploads/2013/07/Solid-Fuel-and-Air-Quality-Update-for-LAs-final-060413.pdf">http://www.environmental-protection.org.uk/wp-content/uploads/2013/07/Solid-Fuel-and-Air-Quality-Update-for-LAs-final-060413.pdf</a></p>
<p><b>Institute of Air Quality Management Guidance</b></p>	<p>Land-Use Planning &amp; Development Control: Planning for Air Quality, Environmental Protection UK and Institute of Air Quality Management, 2017.</p> <p>Guidance on the assessment of dust from demolition and construction  Institute of Air Quality Management, 2016.</p> <p>Guidance on the Assessment of Mineral Dust Impacts for Planning, Institute of Air Quality Management, 2016.</p> <p>Guidance on the assessment of odour for planning, 2018.</p> <p>Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites, 2018.</p> <p>All available from <a href="http://iaqm.co.uk/guidance/">http://iaqm.co.uk/guidance/</a></p>



Supplementary Planning Document

Air Quality

