# APPENDIX 7.3

## Air Quality Neutral Assessment

7.14 An assessment is usually undertaken to compare benchmark emissions with site use emissions in accordance with the methodology outlined within the GLA 'Air Quality Neutral Planning Support GLA 80371'. The methodology is outlined below:

7.15 The following potential scenarios have been considered within the assessment:

- Benchmark; and
- Development.

7.16 The benchmark scenario is representative of annual NOx and PM10 benchmark emissions, which are target emissions as defined by the GLA Guidance. The development scenario is representative of the annual NOx and PM10 emissions from the operation of the Development only.

7.17 It is noted that from 1st of September 2020 there have been amendments The Town and Country Planning (Use Classes) regulations[1]. Several Use Classes have been revoked and or replaced including use Class B1 which is now reclassified as 'Class E - Commercial, Business and Service' which may incorporate land uses which were not included in the original B1. The Air Quality Neutral guidance has not (at the time of writing) been updated to reflect the new uses classes or new benchmarks included. Where this is the case the most appropriate former land use class, which has an ascribed benchmark value, has been used as a substitute

7.18 The following emission sources were considered during the assessment:

- Transport Emissions - road vehicles travelling to and from the site; and
- Building Emissions – on-site energy generation.

[1] The Town and Country Planning (Use Classes) Order 1987, UK Statutory Instrument No. 764

*Benchmarks*

7.19 The Transport Emissions Benchmark (TEB) for the Development is calculated using the GLA guidance based on the land use classes associated with the Development. The TEBs for each land use class for a development within Inner London are provided in the GLA guidance. The Transport Consultant has advised that the Development traffic is associated with the proposed office and serviced apartments only. Additionally, as there are no TEBs associated with the commercial space (D2), the TEBs for Retail (A1) were utilised. The TEBs are summarised in Table 8.7

**Table 7.1: Transport Emission Benchmarks**

| Land Use Category | NOx TEB (g/m$^2$/year) | $PM_{10}$ TEB (g/m$^2$/year) |
|---|---|---|
| C3 Residential | 1,320.48 | 226.69 |
| A1 Retail | 5.57 | 0.96 |
| B1 Office | 4.17 | 0.72 |

*Development Emissions*

7.20 The development Total Transport Emissions is compared against the development specific TEB in order to determine if the development site is considered to be Air Quality Neutral.

7.21 Annual vehicle emissions for the Development are calculated based on the anticipated traffic generation for the Development, with the standard emission factors and the average distance travelled by car per trip for a development within Inner London. The emissions factors and the average distance travelled were taken from the GLA guidance and are summarised in and, respectively.

**Table 7.2: Air Quality Neutral Road Transport Emission Factors**

| Pollutant | g/vehicle-km in Outer London |
|---|---|
| NOx | 0.353 |
| PM10 | 0.0606 |

**Table 7.3: Average Distance Travelled by Car per Trip**

| Land Use Category | Average Distance (km) |
|---|---|
| Residential (C3) | 11.4 |
| Office (B1) | 10.8 |
| Retail (A1) | 5.4 |

### *Building Emissions*

7.22 Similarly, to the TEB, the Building Emissions Benchmark ('BEB') has been calculated based on the land use classes associated with the Proposed Development. The BEB for each development land use class are provided in the GLA guidance and are summarised in Table 8.10.

**Table 7.4: Building Emission Benchmarks**

| Land Use Category | NOx BEB (g/m$^2$/year) | PM10 BEB (g/m$^2$/year) |
|---|---|---|
| A1 Retail | 22.6 | 1.29 |
| B1 Office | 30.8 | 1.77 |
| D2 Community | 90.3 | 5.18 |
| A3 Café | 75.2 | 4.32 |
| C3 Residential | 26.2 | 2.28 |

### *'Air Quality Positive'*

7.23 In addition, the Draft New London Plan includes reference to the need for all new large-scale developments in London to be 'Air Quality Positive'. It is noted that guidance on the approach to ensuring a development is 'Air Quality Positive' has not yet been published however, it is noted that development proposals should considered ways to maximise benefits to local air quality, and present design features put into place to reduce exposure to pollution, and how they will achieve this. Consideration has been given to the measures designed into the Proposed Development to reduce both emissions and exposure presented in Paragraph 8.XX.

## Air Quality Neutral Assessment

### *Transport Emission Benchmarks*

7.24 The TEB have been calculated using number of proposed dwellings and the standard TEBs for the land use, as outlined in Table 7.5: and the floor area of proposed land use.

7.25 The number of residential units was provided by The Applicant. The development specific TEBs are detailed in Table 7.5: .

**Table 7.5: Development Specific Transport Emission Benchmark**

| Land Use Category | Quantity ($m^2$ or number of dwellings) | TEB - $NO_x$ per Land Use (kg/year) | TEB - $PM_{10}$ per Land Use (kg/year) |
|---|---|---|---|
| C3 Residential | 2,170 | 3,370.0 | 579.4 |
| B1 Office | 290 | 19.9 | 3.4 |
| A1 Retail | 1,645 | 409.6 | 70.6 |
| Total | | 1,870.5 | 321.7 |

7.26 As indicated in Table 7.5: , the development specific TEBs are 1,870.5kg/year and 321.7kg/year for annual NOx and PM10 emissions, respectively.

### *Development Transport Emissions*

7.27 The transport emissions for the Development were calculated from the developments anticipated annual traffic generation and combined with GLA guidance parameters detailed in Table 7.1: and Table 7.2: .

7.28 Annual traffic generation used in the calculations are representative of the daily movements (averaged over the year) and inclusive of forecast weekend movements resulting in a value of 900 daily vehicle movements. This approach is considered a worst-case approach for assessment.

7.29 The Development Total Transport Emissions are summarised in Table 7.6: .

**Table 7.6: Development Total Transport Emissions**

| Land Use Category | Daily Vehicle Movements | $NO_x$ Emission (kg/year) | $PM_{10}$ Emission (kg/year) |
|---|---|---|---|
| C3 Residential | 899 | 3,370.0 | 579.4 |
| B1 Office | 3 | 19.9 | 3.4 |
| A1 Retail | 8 | 409.6 | 70.6 |

7.30 The Development specific TEBs Table 7.6: have been compared to the Total Transport Emissions above to determine if they are within the benchmarks. The results are summarised in Table 7.7: .

**Table 7.7: Comparison of Total Transport Emissions with Transport Emission Benchmarks**

| Scenario | $NO_x$ Emission (kg/year) | $PM_{10}$ Emission (kg/year) |
|---|---|---|
| Development Specific TEB | 3,799.48 | 653.38 |
| Development Total Transport Emission | 1,330.22 | 228.36 |
| Difference | -2,469.26 | -425.02 |

7.31 As indicated in Table 7.7: , annual NOx and PM10 transport emissions associated with the development are predicted to be below the TEB by -2,469.26kg/yr for NOx and -425.02kg/yr for PM10.

7.32 As such, the development is not considered to be Air Quality Neutral and further action is required to reduce excess emissions.

### *Building Emissions*

### *Benchmarks*

7.33 The inputs outlined in Table 7.8: and the information on the floor areas of each land use class associated with the development were utilised to calculate the development specific BEBs, which are outlined withinTable 7.8: .

**Table 7.8: Development Specific Building Emission Benchmarks**

| Land Use Category | Quantity ($m^2$) | BEB - NOx per Land Use (kg/year) |
|---|---|---|
| A1 Retail | 395.0 | 8.9 |
| B1 Office | 290.0 | 7.6 |
| D2 Community | 1,250.0 | 306.4 |
| C3 Residential | 1,479,983.1 | 38,775.6 |
| Total | - | 39,098.5 |

7.34 As indicated in Table 7.8: , the development specific BEB for annual NOx emissions is 39,098.5kg/year.

### *Development Emissions*

7.35 The development Total Building Emission is summarised in Table 7.9: .

**Table 7.9: Development Total Building Emission**

| Source | NOx Emissions (kg/yr) |
|---|---|
| Boilers | 762.7 |

7.36 The development specific BEB was then subtracted from the development Total Building Emission to determine if the development energy emissions are within the benchmark. The results are summarised in Table 7.10: .

**Table 7.10: Comparison of Total Building Emission with Building Emission Benchmark**

| Scenario | NOx Emission (kg/year) |
|---|---|
| Development Specific BEB | **39,098.5** |
| Development Total Building Emission | 762.7 |
| **Difference** | **-38,335.7** |

7.37 As indicated in Table 7.10: , annual NOx energy emissions associated with the development are below the development specific BEB by 307.50kg/year.

### *Air Quality Neutral Assessment Summary*

7.38 A summary of the outcomes as a result of the comparisons between both the development Total Transport Emission and Total Building Emission with the development specific TEB and BEB is outlined in Table 7.11: .

**Table 7.11: Air Quality Neutral Summary**

| Scenario | Total Pollutant Emission (kg/year) |
|---|---|
| Road Transport Outcome | -920.94 |
| Energy Outcome | -307.50 |
| **Total Difference** | **-1,228.44** |

7.39 As indicated within Table 7.11: , the total development pollutant emissions associated with both road vehicle and energy emissions are below both the development specific TEB and BEB by 1,228.44kg/year. As such, the proposed development is considered to be Air Quality Neutral and subsequently, no further action will be required to offset pollutant emissions associated with the development.