

# Executive Summary

## SCOPE

Air Quality Experts Global Ltd (AQEGlobal) were commissioned by Camden Town District Management Committee (CTDMC) to undertake an air quality assessment of the lorry traffic emissions associated with the construction period of the proposed Central Somers Town CIP development (application 2015/2704/P). The assessment considered the impact associated with the proposed development on its own and in combination with other concurrent construction phase developments, namely High Speed Two (HS2), Maria Fidelis school consolidation projects, and Crossrail 2, located in the Somers Town Ward, Camden, London.

This report presents the findings of the assessment, which addressed the potential air quality impacts during the construction phase of the proposed development resulting from heavy goods vehicle (HGV) emissions associated with the currently planned construction routes. The significance of potential impacts was estimated, and recommendations offered in relation to the current planning application.

## METHODS

A quantitative assessment of construction-related impacts associated with oxides of nitrogen (NO<sub>x</sub>) emissions from HGVs movements has been undertaken in line with professional best practise guidance, up-to-date assessment tools, and available data.

The assessment of the potential air quality impacts associated with the construction traffic of the proposed Central Somers Town CIP development was completed by AQEGlobal following Department of Environment, Food and Regional Affairs' (Defra) guidance on local air quality management (Defra, TG16) and the significance of impacts evaluated using London Councils' Air Quality and Planning Guidance (London Council's, 2007) and the UK Institute of Air Quality Management guidance (IAQM, 2015).

The main air quality pollutant of concern (nitrogen dioxide (NO<sub>2</sub>)) in association with the construction of the Central Somers Town CIP development results from traffic emissions of HGVs circulating on the road network in the local area. Of particular concern are the construction traffic movements associated with other significant developments in the vicinity of the application site, given local congested road network associated with poor dispersion conditions due to a marked canyon street effect registered along specific roads, which may have significant adverse impacts on health of local residents, school children, hospitals, care homes, and commuters.

Detailed air quality dispersion modelling using ADMS Roads software was undertaken, taking into account the effects of additional 10, 50 and 100 Annual Average Daily Traffic (AADT) flows of HGV movements alongside the planned construction route during the demolition and construction period of the proposed development. In addition, the cumulative effect of HS2, Maria Fidelis school consolidation projects, and Crossrail 2 were also assessed, for several construction traffic scenarios using a matrix approach where additional 50, 100, 150, 200, 250, 300, 350 and 400 HGVs were deployed onto the road network during the construction phase of all the developments considered. Wherever possible, publicly available information was used to map the construction HGV routes for all the developments under scrutiny. Meteorology data were supplied by the Met Office for the Heathrow airport station, and were used in the model setup.

Local nitrogen dioxide (NO<sub>2</sub>) annual mean levels were modelled using the London Atmospheric Emissions Inventory (LAEI) database predicted emissions as released in March 2016. The modelled results were compared with continuous monitoring data collected at continuous monitoring sites Bloomsbury (Russell Square Gardens), Euston Road (at junction with Dukes Road), Swiss Cottage (Corner of Finchley Road and College Crescent,) and Shaftesbury Avenue.

The methodology followed in this study applied current best practice, and used the most up to date tools and data released by Defra for air quality assessment undertakings.

## FINDINGS

### NO<sub>2</sub> Annual Average

Analysis of the modelled results revealed that the construction of the proposed development (Central Somers Town CIP) will result in significant changes in annual mean NO<sub>2</sub> concentrations at 67 of the 108 assessed receptors along the construction traffic routes with substantial adverse impacts at five locations and moderate adverse impacts at 62 locations.

In addition, analysis of the cumulative impacts of HGVs emission on public exposure associated with construction phases of significant developments concurrent to Central Somers Town CIP construction phase, indicated that there will be significant changes in annual mean NO<sub>2</sub> concentrations at 111 of the 108 assessed receptors along the planned construction traffic routes with substantial adverse impacts at 54 locations and moderate adverse impacts at 47 locations.

Assessment of the impact of HGVs emission on public exposure along the affected routes by the construction traffic of Central Somers Town CIP indicated that these will be local to the site, temporary in nature, long-term and of moderate to substantial adverse significance. The assessment of the cumulative impacts associated with construction traffic of Central Somers Town CIP, HS2, Maria Fidelis school consolidation projects and Crossrail 2, indicated that these will be local to the site, temporary in nature, long-term and of moderate to substantial adverse significance, exacerbating considerably the pollution levels predicted for the area.

### NO<sub>2</sub> Hourly Average

The construction traffic emissions associated with Central Somers Town CIP in isolation and in combination with the construction of other key developments in the area are likely to also contribute to exceedences of the NO<sub>2</sub> hourly average limit value, which will affect commuters and children playground areas.

## RECOMMENDATIONS

Based on the results presented in this assessment, it is recommended that prior to the commencement of construction works associated with the proposed development, a construction Low Emission Strategy is submitted to and approved in writing by the Local Authority. As a bare minimum, the Low Emission Strategy shall include:

- a) The requirement of non-road mobile machinery compliant with the Low Emission Zone (LEZ) engine emission standards as set out by the GLA in the Supplementary Planning Guidance: The Control of Dust and Emissions from Construction and Demolition;
- b) The requirement that all HGVs associated with the construction activities will be EURO VI compliant or above (as new emission standards are released by the European Commission);
- c) The construction routes are re-assessed to take into account the cumulative effect of HS2, Maria Fidelis school consolidation projects, and Crossrail 2 works and associated traffic diversions;
- d) Green walls are designed and implemented along the roads of the school locations affected by the construction works of the developments considered in this study;
- e) A suitable dust, PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>2</sub> monitoring program is designed and implemented during the full length of the construction period of the proposed development. For the pollutant NO<sub>2</sub>, diffusion tubes are to be deployed at relevant exposure location for both commuter, schools, and resident exposure locations.

In addition, the London Borough of Camden may wish to consider extending the existing GLA Focus Areas to include Eversholt Road, which will be severely impacted by the construction phases of the developments considered in this study and would benefit from concerted measures tailored to minimise emissions and safeguard human health.

In the instance the recommendations above are not fully implemented and enforced, the proposed development would not comply with European, National, regional and local air quality policy and legislation.