

Highgate Newtown Community Centre and Fresh Youth Academy

Air Quality Assessment

NOVEMBER 2018





LONDON BOROUGH OF CAMDEN DEVELOPMENT DIVISION

HIGHGATE NEWTOWN COMMUNITY CENTRE (HNCC) AND
FRESH YOUTH ACADEMY (FYA), BERTRAM STREET, LONDON

AIR QUALITY ASSESSMENT

November 2018

Report Ref: 01.0129.001/AQ v2

Isopleth Ltd.

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1.0 INTRODUCTION

London Borough of Camden Development Division has proposed the redevelopment of the Highgate Newtown Community Centre, 25 Bertram Street, London N19 5DQ. The proposals include redevelopment of the site for community facilities (Use Class D1) and residential housing (Use Class C3) and permission for a similar scheme was Granted Subject to a Section 106 Legal Agreement on 30th June 2017. An application, made under section 73 of the Town and Country Planning Act 1990, is now required in order that minor changes to the approved scheme may be approved.

The site is located within the administrative area of Camden Council, with the Islington Council boundary located less than 200m to the east.

This air quality assessment is aimed at predicting the potential air quality impact of this proposed redevelopment and has been prepared following a planning application consultation response from Ms Ana Ventura, Senior Sustainability Officer (Air Quality) and Gabriel Berry-Khan Senior Sustainability Officer (Planning) at Camden Council.

1.1 Site Location

The 0.27 hectare site is located at the southern end of Bertram Street in the London Borough of Camden and is currently occupied by:

- Highgate Newtown Community Centre (HNCC);
- Main Hall;
- Nursery;
- Fresh Youth Academy (FYA)
- Gospel Hall; and
- Cottage.

The location of the development site can be seen in drawing AQ1.

The site is surrounded by residences, along Bertram Street, Winscombe Street and Croftdown Road. However, the development site is some distance (>150m) from the main roads in the area (A5200 Dartmouth Park Hill to the East and B518 Highgate Road to the West)

1.2 Planning Background

As described above, planning application 2016/6088/P was Granted Subject to a Section 106 Legal Agreement on 30th June 2017:

Redevelopment of the existing Highgate Newtown Community Centre and Fresh Youth Academy and the change of use of the People's Mission Gospel Hall to provide replacement community facilities (Use Class D1) and 31 residential units (Use Class C3) with associated public open space, landscaping, cycle storage, plant and disabled parking.

The report of the planning officer for application 2016/6088/P included the following comments relating to air quality:

'17.2 An Air Quality Assessment (AQA) has been submitted as part of this application. The air quality impacts associated with the construction are complaint with policy. The proposed development would not produce any worse emissions than the existing buildings on site. The Council's Air Quality officer has been consulted and has no concerns. A final Construction Management Plan would be secured via section 106 agreement.'

As such, the air quality impacts of the approved scheme were considered and regarded as acceptable at that time.

1.3 Proposed Development

The revised proposals also include demolition of the existing buildings (with the exception of Gospel Hall) and construction of a new HNCC, FYA however these would now be alongside a maximum of 41 No. residential units (apartments). The Section 73 application therefore seeks to modify the scheme that was granted planning permission on 30 June 2017 for the comprehensive redevelopment of the site to provide replacement community facilities (Use Class D1), new residential units (Use Class C3) and improvements to the public realm.

These changes will result in improved community facilities, an improved public realm and open space, new homes, including family-sized homes and affordable Camden Living units, and a shorter overall construction programme.

The changes include:

- A higher quality and more usable community centre that better meets the needs of HNCC and FYA, including providing the sports hall at ground floor level;
- The delivery of 41 residential units, an increase of 10 units, with 7 of these units being affordable rented units;
- A revised unit mix that better responds to local needs. This unit mix would result in a minor increase in overall residential floorspace of 67 sqm;
- The removal of most of the basement level from the development, reducing overall construction programme;
- The height of scheme has been increased slightly in areas; and
- A revised public open space and courtyard area.

The revised description of development is as follows:

Redevelopment of the existing Highgate Newtown Community Centre and Fresh Youth Academy and the change of use of the People's Mission Gospel Hall to provide replacement community facilities (Use Class D1) and 41 residential units (Use Class C3) together with associated public open space, landscaping, cycle storage, plant and other associated infrastructure.

1.4 Scope and Limitations

The scope of this air quality assessment is limited to the prediction of impacts related to the development on local sensitive receptors and is based on supplied design information and information relating to traffic movements.

1.5 Aims and Objectives

The objectives of the assessment are as follows:

- To estimate air pollution emissions from the proposed development in comparison with the extant scheme;
- To quantify impacts on sensitive receptors based upon the emission values;
- To quantify impacts of the existing baseline environment on new occupiers within the development; and
- To assess the significance of these impacts in comparison with the extant scheme.



2.0 ASSESSMENT METHODOLOGY

2.1 Consultation

The assessment method below was agreed with Ms Ana Ventura, Senior Sustainability Officer (Air Quality) and Gabriel Berry-Khan Senior Sustainability Officer (Planning) at Camden Council.

2.2 Planning Policies and Relevant Guidance

The following Policies were quoted as being relevant to the approved scheme (ref: 2016/6088/P)

- LDF Development Policies *DP32 Air quality and Camden's Clear Zone*;
- Camden Local Plan Policy *CC4 Air quality*; and
- LDF Core Strategy 2010 *CS16 Improving Camden's health and wellbeing*.

The Local Plan was adopted by Council on 3 July 2017 and has replaced the Core Strategy and Camden Development Policies documents as the basis for planning decisions and future development in the borough.

Policy CC4 is as follows:

'The Council will ensure that the impact of development on air quality is mitigated and ensure that exposure to poor air quality is reduced in the borough.

The Council will take into account the impact of air quality when assessing development proposals, through the consideration of both the exposure of occupants to air pollution and the effect of the development on air quality. Consideration must be taken to the actions identified in the Council's Air Quality Action Plan.

Air Quality Assessments (AQAs) are required where development is likely to expose residents to high levels of air pollution. Where the AQA shows that a development would cause harm to air quality, the Council will not grant planning permission unless measures are adopted to mitigate the impact. Similarly, developments that introduce sensitive receptors (i.e. housing, schools) in locations of poor air quality will not be acceptable unless designed to mitigate the impact.

Development that involves significant demolition, construction or earthworks will also be required to assess the risk of dust and emissions impacts in an AQA and include appropriate mitigation measures to be secured in a Construction Management Plan.'

2.3 Approach

The air quality screening assessment has been completed in accordance with IAQM / EPUK Guidance (*Guidance on land-use planning and development control: Planning for air quality 2017*).

An assessment of construction dust impacts has been completed using the method described in the IAQM (2014) document *Assessment of dust from demolition and construction 2014*.

The assessment is also consistent with:

- The London Plan (in particular Section 7.14);
- The London Councils Air Quality Planning Guidance (2007);
- Camden Council – air quality planning checklist; and
- The London Councils *Control of Dust and Emissions during Construction and Demolition SPG* (2015).

The pre-application consultation confirmed that officers were satisfied with proposing a planning condition for detailed assessment of the combined heat and power system subject to emissions from the unit being below 40 mg/KWH NO_x and therefore compliant with the requirements of the London Plan. This is consistent with the approach taken for the previous application.



3.0 ASSESSMENT: AIR QUALITY

3.1 Traffic Generation

Information supplied by the appointed highways and transport consultants for the applicant (SYSTRA Ltd) indicates that the development trips will not exceed those associated with the existing site under the extant permission. On this basis, the proposed development remains 'traffic neutral' and levels of traffic related pollutants (such as nitrogen dioxide and particulate matter) will not significantly increase.

3.2 Baseline Air Quality

Baseline levels of air pollutants are significant when considering the suitability for a new site for residential development. Where levels exceed statutory limits, it may not be appropriate to introduce new residential occupiers.

3.2.1 Camden Council Monitoring

The London Borough of Camden has declared the whole borough an Air Quality Management Area (AQMA) on the basis of high levels of road transport pollution.

The pollutants declared are:

- Nitrogen dioxide (NO₂) - Annual Mean; and
- Particulate Matter (PM₁₀) - 24-Hour Mean

The annual average limit for both of these pollutants is 40 µg/m³, as stated in the Air Quality Standards Regulations.

The London Borough of Camden Air Quality Annual Status Report for 2017 (published 31st May 18) reports that Camden Council undertakes nitrogen dioxide diffusion tube monitoring at a number of sites in the Borough, however the closest is Tube CA24 (Chetwynd Road), a roadside tube 580m south of the development site. The results from this monitoring site are not comparable to the development site.

3.2.2 DEFRA Background Values

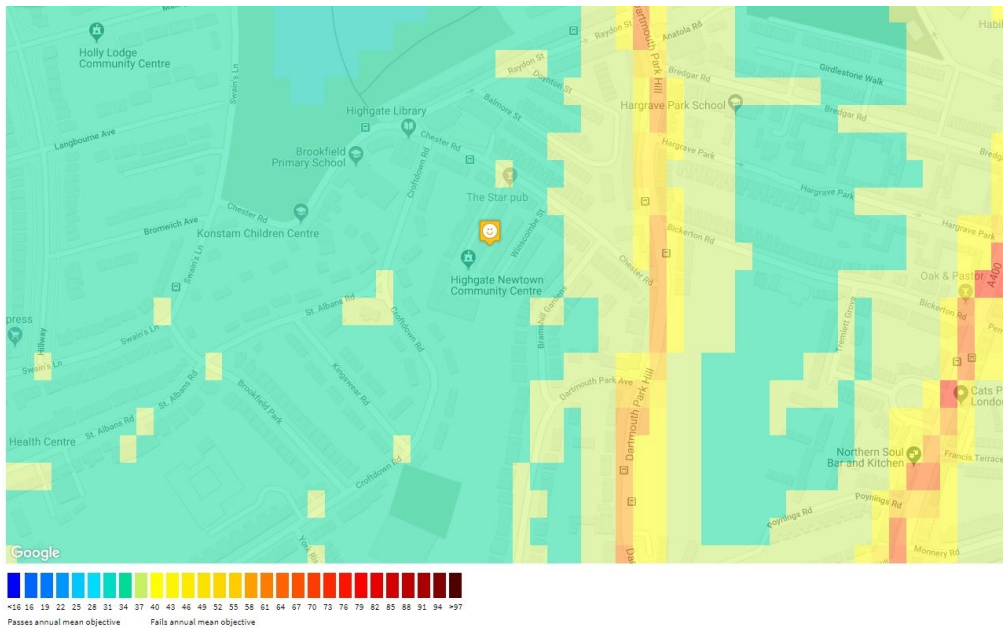
The background NO₂ and PM₁₀ concentrations for the current year (2018), predicted by DEFRA from 2015 figures (for the location OS GR 528500, 186500), are 23.0 µg/m³ for NO₂ and 16.3 µg/m³ for PM₁₀. The DEFRA background concentration is therefore 'well below' (at less than 75% of) the limits for these pollutants.

3.2.3 Londonair: Annual Pollution Map

Measurements from monitoring stations across London are only able to report air quality at that particular location. The Londonair Annual Pollution Map uses a detailed model to show a prediction of what air quality was like across the whole of Greater London in 2013. This map is produced by The Greater London Authority and Transport for London, who fund, develop and maintain the London Atmospheric Emissions Inventory (LAEI). The Londonair Annual

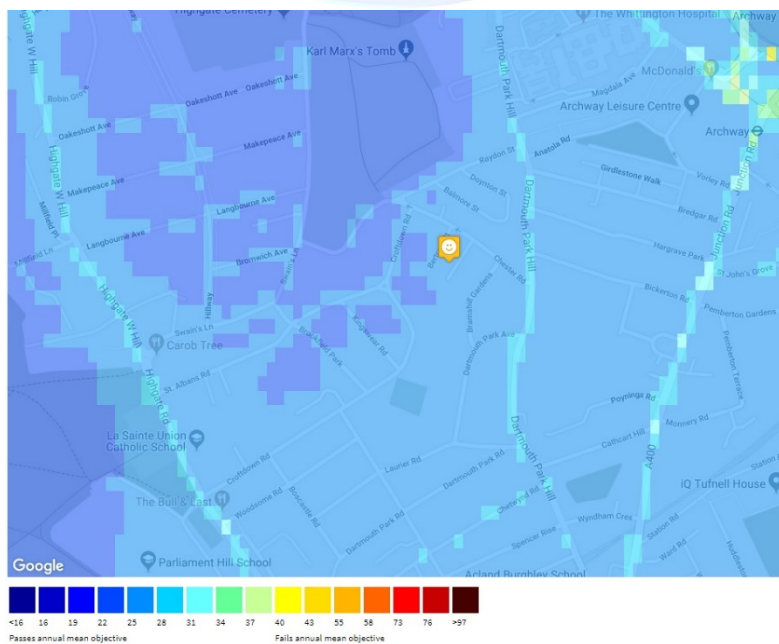
Pollution Map for the development site and surrounding area is shown for NO₂ and PM₁₀ in Figures 1 and 2 respectively.

Figure 1



It can be seen that the levels immediately adjacent to Dartmouth Park Hill to the east are predicted by the modelling to be above the limit for NO₂. However, around the development site, the levels are predicted to be in the range 34-37µg/m³ NO₂ as an annual average in 2013. The data within the LAEI indicates that the annual average NO₂ concentration at the closest point to the HNCC (OS GR 528800, 186500) is 36.69µg/m³ in 2013 and 29.75µg/m³ in 2020.

Figure 2



It can be seen that the levels of PM₁₀ immediately adjacent to Dartmouth Park Hill to the east are elevated, however are 'well below' the annual average limit for this pollutant. Around the development site, the levels are predicted to be in the range 25-28µg/m³ PM₁₀ as an annual average in 2013. The data within the LAEI indicates that the annual average PM₁₀ concentration at the closest point to the HNCC (OS GR 528800, 186500) is 25.02µg/m³ in 2013 and 23.21µg/m³ in 2020.

The Londonair Annual Pollution Map therefore predicts that existing levels at the development site, when localised traffic pollution is considered, is below the annual average limits for both NO₂ and PM₁₀. Furthermore, indications are that the concentration of air pollutants will decrease with height (as the receptor is further away from traffic sources and dispersion is improved).

3.3 Development Impacts: Stage 1 Assessment

Chapter 6 of IAQM / EPUK Guidance on land-use planning and development control: Planning for air quality 2017 describes how an air quality assessment should be undertaken, and provides screening thresholds for assessment.

The development consists of a maximum of 41 residential units and includes a centralised energy facility, hence there is the requirement to proceed to a 'stage 2' screening assessment.

Criteria to Proceed to Stage 2	
A. If any of the following apply:	
•	10 or more residential units or a site area of more than 0.5ha
•	more than 1,000 m ² of floor space for all other uses or a site area greater than 1ha
B. Coupled with any of the following:	
•	the development has more than 10 parking spaces
•	the development will have a centralised energy facility or other centralised combustion process

The relevant Stage 2 assessment criteria are as follows:

The development will:	Indicative Criteria to Proceed to an Air Quality Assessment *
1. 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: - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere
2. 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: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere

As the development is traffic neutral, there is no requirement in this case to proceed to a more detailed assessment, despite the site being within an AQMA. The EPUK Guidance states:

'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 as having an insignificant effect.'

On the basis of this Stage 2 EPUK screening assessment therefore, the impacts of the proposed development are considered as having an insignificant effect in relation to potential emissions of traffic pollutants.

3.4 Baseline Constraints

In relation to the existing air quality environment, the occupiers of the proposed development would not be exposed to levels of Air Quality Strategy pollutants above the limits for the protection of human health according to the available information:

- Camden Council Monitoring;
- DEFRA Background Values; and
- Londonair Annual Pollution Map.

This finding remains consistent with that for application 2016/6088/P which was accepted at that time.

3.5 Assessment: On-site Power Generation.

The development will make use of a community heating scheme which will comprise a small scale combined heat and power unit (CHP) backed up and topped up with gas fired boilers. Heat will be distributed to the community centre and dwellings and be privately sub metered via heat interface units (HIUs); one HIU per dwelling and one for each community centre building. The electricity from the CHP will be utilised on site by the community centre and any surplus can be exported onto the electrical network.

All boilers will be of the low NOX emission type and of a suitable efficiency to comply with Building Regulations Part L2. The supplier for the CHP unit will be chosen at a future point based on the results of a tendering process, however it is likely that the unit will be a EC Power XRG1® 20 or equivalent and this assessment is based on such a unit being installed.

Combustion products from the boilers and CHP will be discharged at roof level. The flues will be designed and constructed in accordance with relevant BS standards and Clean Air Act. The CHP and boilers will have NOx emission levels less than 40mg/kWh to comply with the requirements of the London Plan, with the EC Power XRG1® 20 stating an emission performance of 19mg/kWh as shown in the technical data sheet accompanying this report.

The existing site relies on a number of standard (localised) boilers and the proposed development will therefore represent an improvement over the existing situation in terms of point source emissions to air through the use of heat and power, and low NOx units.

The impact of the on-site power generation must therefore be regarded as a minor benefit in significance terms (or at worst, a neutral impact). If Camden Council require further (quantitative) assessment, the Camden Council Air Quality Planning Checklist indicates that this may be supplied as a condition of the approval, as it was for application 2016/6088/P where one of the obligations secured through the shadow s106 agreement was a CHP Air Quality Assessment to be prepared as part of the final Energy Efficiency and Renewable Energy Plan.

3.6 Assessment: Construction Dust

Construction phase effects have been assessed in line with the latest IAQM Guidance, which divides construction activities into the following four categories:

- demolition;
- earthworks;
- construction; and
- trackout.

The assessment of the Site's risk category is primarily based on the following factors:

- the scale and nature of the works;
- the proximity of receptors; and
- professional judgement.

Drawing AQ1 shows that the nearest receptors are located at Bertram Street to the north of the site and these are immediately adjacent to the proposed demolition / construction activities.

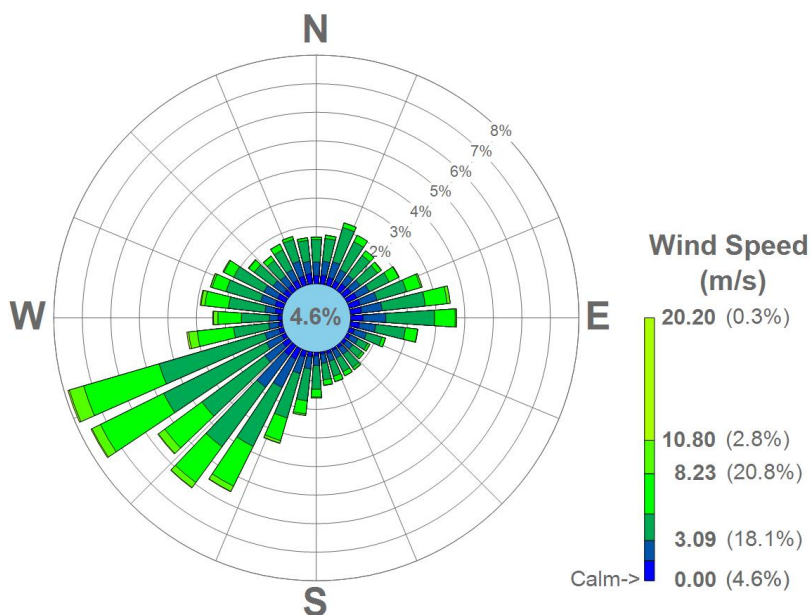
As there are 10-100 residential receptors located within 50m of the site boundary, the sensitivity of the area to dust soiling effects is 'medium' for these receptors. It is regarded as 'low' for less sensitive receptors such as commercial / industrial receptors.

The precise behaviour of the dust, its residence time in the atmosphere, and the distance it may travel before being deposited will depend upon a number of factors. These include wind direction and strength, local topography and the presence of intervening structures (buildings, etc.) that may intercept dust before it reaches sensitive locations. Furthermore, dust would be naturally suppressed by rainfall.

The current proposals (subject to planning approval and satisfaction of any subsequent conditions) includes for construction work to commence Summer 2019 and completion 18-24 months thereafter.

A 7 year windrose for the London City Airport meteorological station is shown on Drawing AQ1 and also in Figure 3, below.

Figure 3



Winds above 5.14 m/s (11.5 mph) which would be more relevant for windblown dust occur from all directions for 67.9% of the year. The predominant wind direction is from the south west, indicating that the location at greatest risk of windblown dust would be the properties to the north east of the site (such as those on Winscombe Street and Bramshill Gardens). Winds above 5.14 m/s blowing from 200° to 260° towards these houses would occur for than 32.6% of the year.

Met Office data for the climate period 1981-2010 for the closest location to the site (at Arsenal F.C.) indicates that, on average, rainfall over 1mm falls for 120 days (33.7%) of the year. On these days, construction dust would be natural suppressed.

3.6.1 Demolition

All of the existing structures on the site, with the exception of Gospel Hall, will require demolition prior to construction.

The existing buildings are of red brick construction although none are higher than 2 floors. The potential dust emission magnitude is considered to be **'medium'** in relation to demolition.

There are approximately 10 residential receptors within 20m of the source and 10-100 within 50m of the source. Therefore, the sensitivity of the area with respect to dust soiling effects on people and property would be regarded as **'medium' – 'high'**.

The overall risk of dust impacts from demolition is therefore classed as **'medium'**.

3.6.2 Earthworks

Earthworks will primarily involve excavating material, haulage, tipping and stockpiling. This may also involve levelling of the Site and landscaping.

The site is not large and there is no significant requirement for creation of high (>4m) bunds. Unlike the scheme approved under application ref: 2016/6088/P the new scheme does not include excavation below ground to form basement levels, which would have involved the movement of a significant volume of material.

The potential dust emission magnitude is therefore considered to be '**small**' in relation to earthworks.

As described above, the sensitivity of the area with respect to dust soiling effects on people and property would be regarded as '**medium**' – '**high**'.

The overall risk of dust impacts from earthworks is therefore classed as '**low**' whereas for the extant scheme this was regarded as 'medium'.

3.6.3 Construction

Dust emissions during construction will depend on the scale of the works, method of construction, construction materials and duration of build.

The new buildings will be constructed from potentially dusty materials (brick and concrete), however the total building volume will be <100,000m³ (the housing, for example equates to 2539m² of floor space). The potential dust emission magnitude is therefore considered to be '**small**' to '**medium**' in relation to construction.

Therefore, the sensitivity of the area with respect to dust soiling effects on people and property would be regarded as '**medium**' – '**high**'.

As with demolition and earthworks, the overall risk of dust impacts from construction is therefore classed as '**medium**'.

3.6.4 Trackout

Factors influencing the degree of trackout and associated magnitude of effect include vehicle size, vehicle speed, vehicle numbers, geology and duration.

The number of vehicles in operation at the site will mean that it is unlikely that >50 HDV will leave the site on any one day. The unpaved road length will be <100m. The potential dust emission magnitude is therefore considered to be '**medium**' in relation to trackout.

The sensitivity of the area with respect to dust soiling effects on people and property would be regarded as '**medium**' – '**high**'.

The overall risk of dust impacts as a result of trackout is therefore classed as '**low**'.

3.6.5 Construction Dust: Health Impacts

Assuming that the Londonair map is accurate and that levels at the development site are predicted to be in the range 25-28µg/m³ PM₁₀ as an annual average, the sensitivity of the area with respect to human health impacts would be regarded as '**medium**' – '**high**' given the proximity of residential receptors. The dust effects for each of the four categories would therefore be consistent with those for nuisance dust.

3.6.6 Summary of Dust Risk Effects

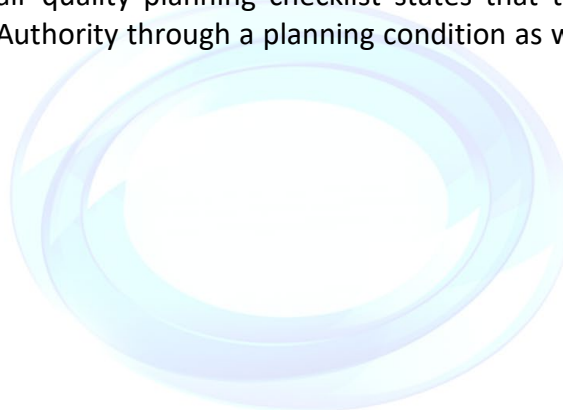
A summary of the potential dust risk effects prior to mitigation are presented below:

Table 3-1
Potential Dust Risk Effects

Source/ Receptor	Ecological Receptors	Industrial / Commercial Users	Residential
Distance from Site	>200m	<100 m	<20 m
Demolition	Negligible Risk	Low Risk	Medium Risk
Earthworks	Negligible Risk	Low Risk	Medium Risk
Construction	Negligible Risk	Low Risk	Medium Risk
Trackout	Negligible Risk	Low Risk	Low Risk

The construction dust mitigation measures adopted during this phase of development must therefore be relevant for a 'medium risk' site. Such measures are detailed in Section 8 of the IAQM Construction Dust Guidance.

The Camden Council air quality planning checklist states that these measures should be agreed with the Local Authority through a planning condition as was the case for the extant scheme.



4.0 AIR QUALITY NEUTRAL ASSESSMENT

The Mayor of London has published Supplementary Planning Guidance on Sustainable Design and Construction:

Sustainable Design and Construction. Supplementary Planning Guidance. London Plan 2011 Implementation Framework. April 2014.

This includes a requirement that new developments in London are air quality neutral.

All major new developments, taken to be 10 or more dwellings or 1,000m² or more floor space for all other developments, must therefore include a calculation of building and transport emissions and compare these with a benchmark for development. The calculations cover the emissions of NO₂ and PM₁₀.

Further guidance on the application of the guidance is provided in:

Air Quality Neutral Planning Support Update: GLA 80371 April 2014

4.1 Design Information

This assessment draws on information provided in the following documents submitted with the S73 Application:

- Area and Land Use Schedule;
- Site Location Plan, Existing, Consented and Proposed Plans, Sections and Elevations, prepared by RCKa Architects;
- Addendum Design and Access Statement, prepared by RCKa Architects;
- Statement of Community Involvement, prepared by RCKa Architects;
- Energy Strategy, prepared by McBains;
- Sustainability Statement, prepared by Icen Projects;
- Transport Technical Note (including Swept Path Analysis), prepared by Systra; and
- Viability Assessment Report, prepared by Savills.

4.2 Relevant Development Details

The proposed change in floor areas between the existing site, extant scheme and revised S73 scheme are given in the Planning Statement as shown in the table below. The revised S73 scheme includes additional apartments when compared with the extant scheme, however less community space which is largely unchanged from the existing provision.

In terms of housing, 41 residential units will be provided by the scheme, totalling an area of 3610m² GIA. The mix of units includes 34 No. private sale and 7 No. affordable rent units.

**Table 4-1
 Floor Areas: GIA (m²)**

Use	Existing	Extant	S73 Scheme
C3 Residential	154	3258	3610
D1 Community Centre	1701	2161	1754

The transport statement for the extant scheme described that an average of 55 vehicles per day currently use the site. The highways and transportation statement noted that future trip generation of the community centre will be very similar to the existing one and that this will remain the case for the S73 scheme. The conclusions of the assessment for the extant scheme and also the updated 2018 statement are that, at worst, the proposed development will be traffic neutral and the development is described as ‘car free’. The non-essential informal parking which is currently taking place within the courtyard will be reduced as a result of the proposals encouraging non-car modes in this accessible location.

The development will include on site power generation in the form of a gas fired CHP unit (such as a EC Power XRGI® 20). It is envisaged that the CHP scheme will modulate electrically and thermally and will meet the energy needs of the proposed development. As the CHP will be connected to the Community Centre it will offset a large proportion of the Community Centre electricity and will not be exporting any electricity.

4.3 Potential Sources

The Highgate Newtown Community Centre and Fresh Youth Academy replaces existing buildings and the ‘air quality neutral’ calculations below must therefore be considered against the existing emissions (trips and buildings) at the site and the information accepted for the extant scheme. Notwithstanding this (and as described above) the development will include on site power generation (EC Power XRGI® 20) and domestic low NO_x boilers and these will be the primary source of NO_x and PM₁₀ from the site as it is ‘car free’ and any ‘essential’ trips will be significantly fewer in number than the informal parking which is currently taking place within the courtyard.

4.4 Traffic

The ‘average’ number of trips for C3 uses are shown below.

Table 7: Average Number of Trips per Annum for Different Development Categories

Land use	Number of Trips (trips/m ² /annum)		
	CAZ	Inner	Outer
Retail (A1)	43	100	131
Office (B1)*	1	4	18
	Number of Trips (trips/dwelling/annum)		
Residential (C3)	129	407	386

[Source: Air Quality Neutral Planning Support Update: GLA 80371 April 2014]

As described above, this scheme will be 'car free'.

The emission factors from the Air Quality Neutral Planning Support Update are as follows:

- NO_x: 0.353 g/vehicle-km
- PM₁₀: 0.0606 g/vehicle-km

For residential (C3) the Transport Emissions Benchmarks (TEBs) are:

- NO_x: TEB 1553 g/dwelling/annum; and
- PM₁₀: TEB 267 g/dwelling/annum.

The saving in transport emissions is therefore significant in comparison with the 'average' development as a result of the access and transport priorities at this site and the scheme is beneficial in terms of air quality impacts.

4.5 Buildings

A gas fired CHP (assumed to be a EC Power XRGI® 20 unit) is proposed at the site, the details of which are provided in the energy statements for the development. The total volume flow at the exhaust of this CHP is approximately 85.1m³/hr (0.0236 m³/s) with negligible PM₁₀ emission and a maximum NO_x emission of <20mg/Nm³. The total NO_x emission from the unit would therefore be negligible, at 0.000473 g/s emitted (at roof level) for the predicted 4400 hours of operation per year.

The total heating loads, gas consumption, NO_x emissions and annual energy consumption for the development are expected to be no worse than for the extant scheme approved under Application reference 2016/6088/P, as shown below:

- Heat Generated: 150453 kWh/yr;
- Electric Generated: 109980 kWh/yr;
- Annual energy consumption: 360718 kWh/year; and
- NO_x emissions: 0.000473 g/s (**1702 mg/hr**).

The LAEI NO_x Emission Factors indicate an average NO_x emission factor of 78.5mg NO_x / kWhr for residential development, which when multiplied by the Annual energy consumption of 360718 kWh/year would result in a benchmark emission rate of **3232 mg/hr**, nearly double that of the proposed CHP unit. This is the same as for the extant scheme.

It can be seen that the development NO_x emissions are significantly below the benchmark for this development type as a result of the use of the low NO_x CHP unit.

The LAEI NO_x Emission Factors indicate an average PM₁₀ emission factor of 3.14 mg PM₁₀/kWhr for residential development. The CHP unit, with burner control and natural gas fuel will not emit significant PM₁₀ (in the way that an oil or biomass fuelled unit may, for example) and the use of the proposed CHP unit means that there is a significant benefit when compared with the emissions benchmark. This is the same as for the extant scheme.

5.0 CONCLUSIONS

An air quality screening assessment has been completed in line with the requirements of the Camden Council. The method has been agreed with the Council air quality representatives.

The air quality impact of the vehicles using the development is negligible as the development is traffic neutral. Similarly, the use of a small gas fired CHP and low NOx domestic boilers means that the point source emissions are unlikely to be worse than for the existing site.

An air quality neutral assessment has been completed, which is aimed at meeting the requirements for such an assessment as detailed in The Mayor of London Supplementary Planning Guidance on Sustainable Design and Construction. Consistent with the extant scheme approved in 2017, the proposed S73 scheme is anticipated to generate similar or fewer car journeys to and from the existing site and the residential development will be 'car free'. The air quality impacts of the proposed scheme in relation to traffic are therefore negligible and therefore below benchmarks. A gas fuelled CHP unit will meet the energy needs of the development. Emissions will be significantly lower than benchmarks for heat and electricity generation for a scheme of this site. Overall emissions are therefore an improvement on the existing scheme and significantly lower than relevant emission benchmarks. The scheme is therefore compliant with the requirements of The Mayor of London Supplementary Planning Guidance on Sustainable Design and Construction.

The construction dust impact will also be acceptable once basic mitigation measures are applied in line with best practice. These mitigation measures must be agreed with the Council and would be subject to a planning condition and will need to be appropriate for a 'medium' impact risk.

On this basis, the predicted air quality / dust impacts are within acceptable limits for purposes of determining the S73 planning application.

Notice:

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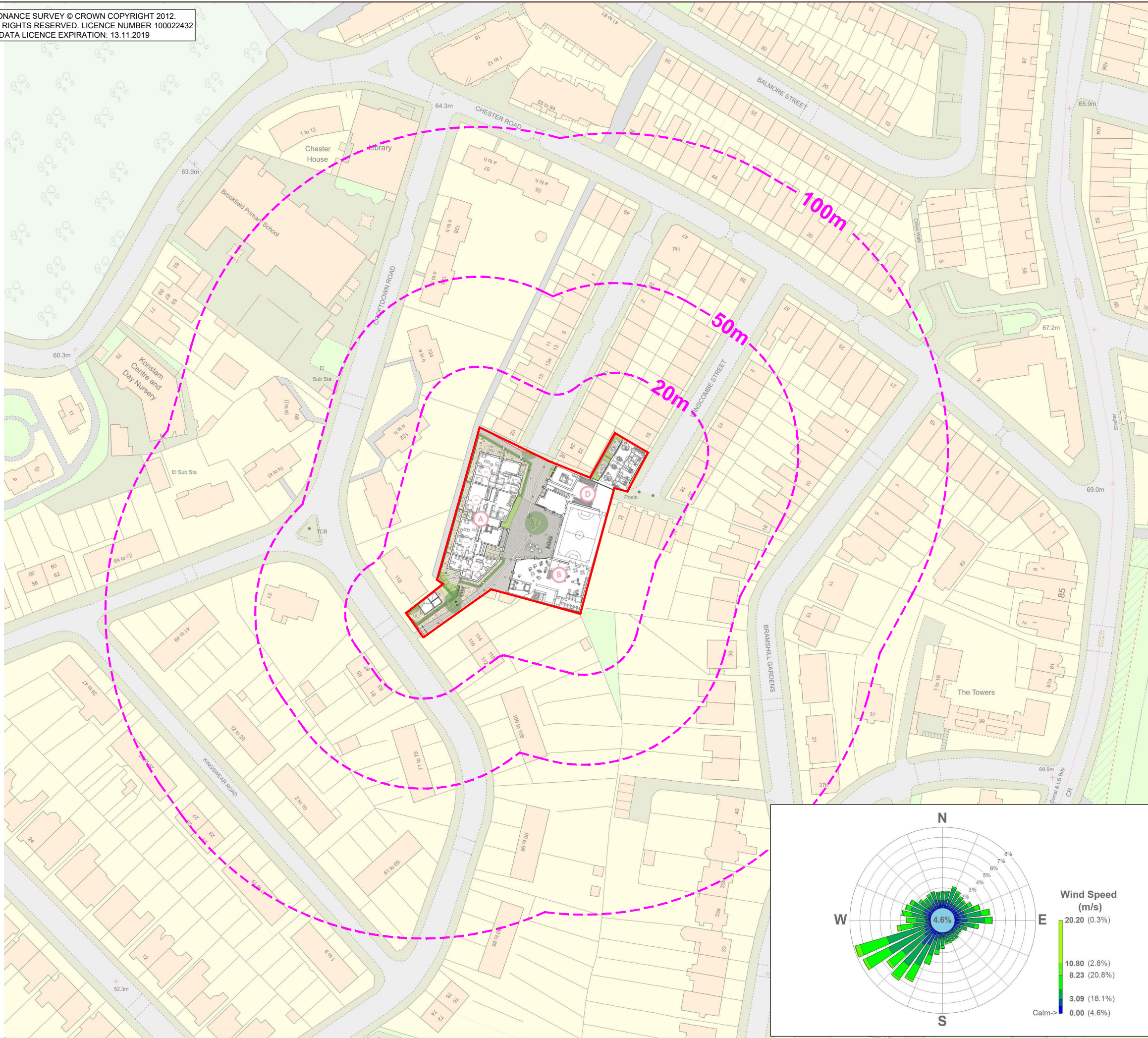


Isopleth Ltd
Ulverston,
53 Englishcombe Lane,
Bath
BA2 2EE

www.isopleth.co.uk

Registered in England and Wales No. 9150373

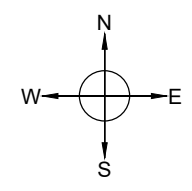
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NOTES

LEGEND

- SITE BOUNDARY
- DISTANCE FROM SITE BOUNDARY



SITE
Highgate Newtown Community Centre (HNCC)

PROJECT
01.0129.001 Air Quality Assessment

DRAWING TITLE
Site Setting

DRAWING NUMBER AQ1	REVISION 0
SCALE 1:1250 @ A3	DATE 13.11.2018

