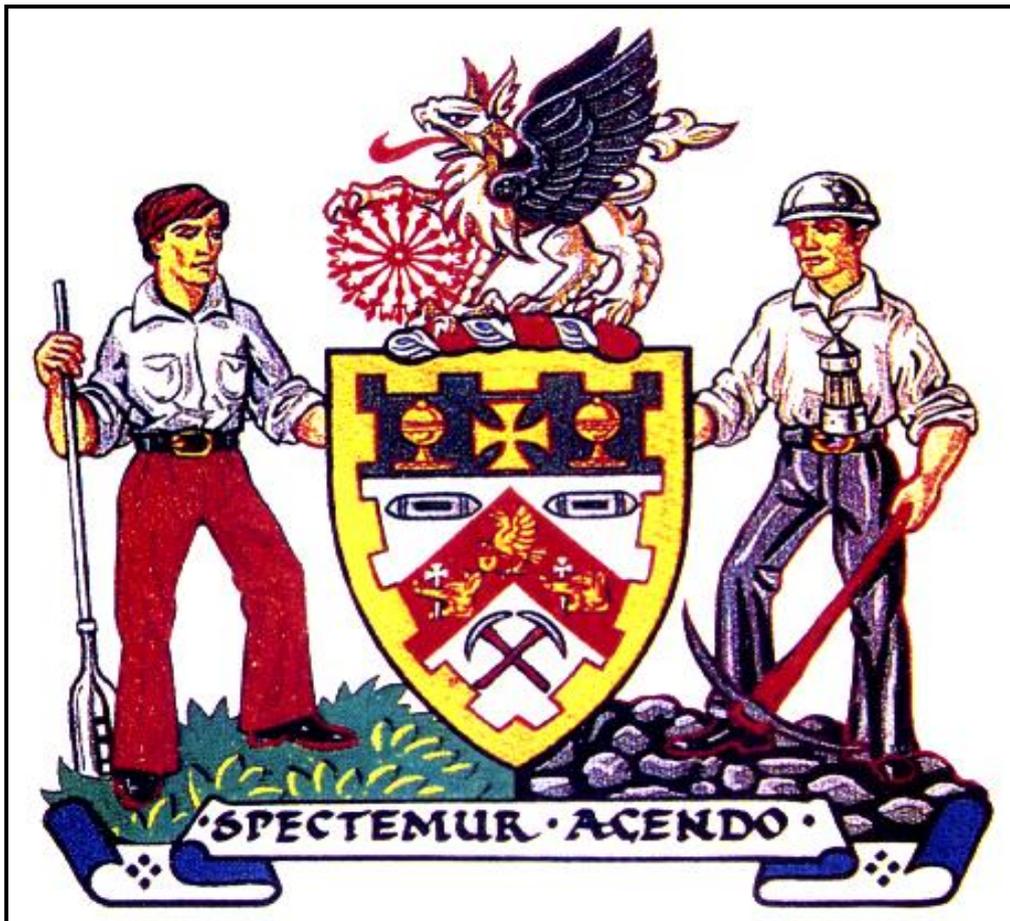


Barnsley Metropolitan Borough Council



AIR QUALITY AND EMISSIONS GOOD PRACTICE PLANNING GUIDANCE

November 2021

This technical guidance is aimed at helping planning authorities deliver national air quality objectives through cost effective service planning

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1. Summary

1.1 The spatial planning system has an important role to play in improving air quality and reducing exposure to air pollution. Whilst planning policy cannot solve immediate air quality issues, it has a role to play so that any likely scheme impacts are reasonably mitigated and future scheme occupants are able to make more sustainable vehicle choices.

1.2 This technical guidance deals primarily with those pollutants regulated under the local air quality management (LAQM) regime and the impact of traffic emissions, although the increasing use of biomass boilers is now becoming an important planning issue. The assessment and control of dust impacts during demolition and construction is also considered, as dusts contribute to airborne particulate matter, as well as dust soiling. Greenhouse gas emissions are not addressed explicitly, as they are covered by other initiatives, but synergies exist between measures to minimise climate change and local air quality impacts.

1.3 The guidance provides a template for integrating air quality considerations into land-use planning and development management policies that can influence the reduction of road transport emissions. This guidance is therefore included in the Barnsley MBC Air Quality Action Plan¹.

1.4 The air quality assessments follow a three stage process:

- Stage 1: Determining the classification of the development proposal
- Stage 2: Assessing and quantifying the impact on local air quality
- Stage 3: Determining the level of a mitigation required by the proposal to meet Local Development Plan requirements

1.5 This technical guidance deals with those pollutants regulated under the local air quality management (LAQM) regime and are associated with the impact of traffic emissions. The assessment process is summarised in the flow chart in Appendix 6.

This guidance has been developed by the West Yorkshire Low Emissions Group. This Group consists of West Yorkshire local authorities, and permission has been issued by the Group for Barnsley MBC to use this guidance. We understand that this guidance may be periodically updated by the West Yorkshire Group, in response to changing air quality challenges. As and when the West Yorkshire Group updates their guidance, Barnsley MBC will consider any future changes, and may then make changes to this guidance accordingly.

¹ <https://www.barnsley.gov.uk/media/11982/barnsley-abc-air-quality-action-plan-2019.pdf>

2. Pre-Planning Discussions

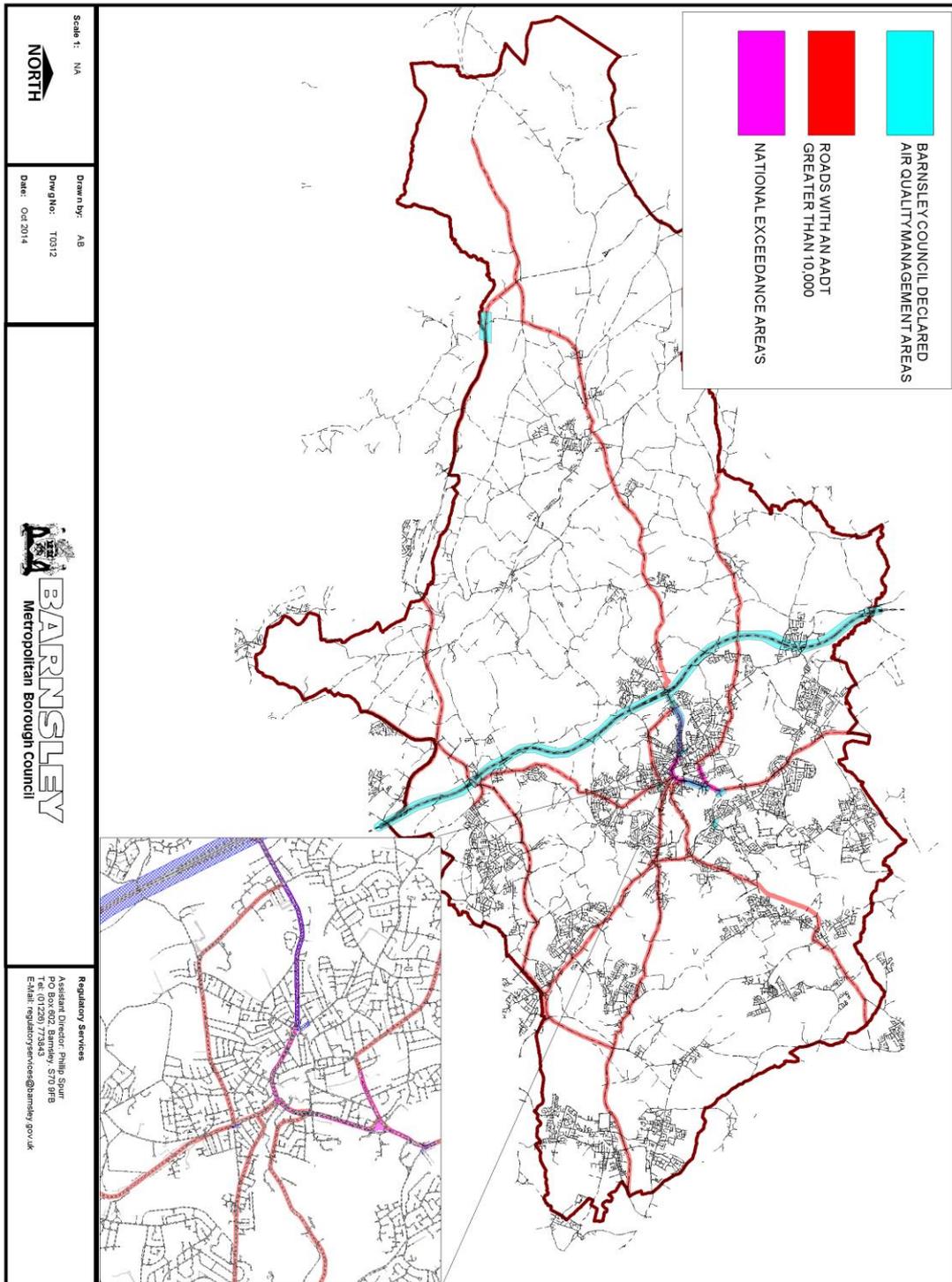
2.1 In order to avoid unnecessary delays in the planning process and ensure optimum scheme design and sustainability, it is vital for communication at an early stage in any significant proposal. It is therefore essential that pre-application discussions with the relevant air quality personnel to confirm the scale of development and the assessment requirements are undertaken.

When will an Air Quality Assessment be required?

1. *When the proposal meets or exceeds the criteria in Table 2 (page 8)*
2. *When the proposed development **of any size** is classed as C1 to C4 or D1 and is proposed for the Air Quality Assessment Area identified on Map 1*

The flow chart in Appendix 7 assists in this identification process.

Map 1: Barnsley Air Quality Assessment Areas



3. Introduction

3.1 New developments have the potential to affect air quality. Local planning policy will play a significant role in ensuring that development schemes are designed to be sustainable. This guidance has been developed to:

- Introduce an air quality assessment scheme which includes the quantification of impacts, formulating damage costs and identifying mitigation measures to be implemented to negate the impact.
- Tackles cumulative impact.
- Provides clarity and consistency of the process to developers, planners and local communities.

3.2 Transport emissions are the major air pollution concern within the Barnsley borough. Barnsley has six air quality management areas (AQMA), all declared due to exceedance of the annual average objective for nitrogen dioxide (NO₂), a pollutant strongly associated with transport emissions. Barnsley's AQMAs are listed in the table below:

Table 1: Barnsley's AQMAs

AQMA No.	Adjacent roads / junctions	Year declared
1	M1 Motorway, 100 metres either side of the central reservation within the Barnsley Borough	2001
2A	A628 Dodworth Road	2005
4	A61 Harborough Hill Road	2008
5	Junction of A633 Rotherham Road and Burton Road	2008
6	A616 passing through Langsett (AQMA order amended in 2016 to include exceedance of the 1-mean objective for NO ₂)	2012
7	Junction of A61 Sheffield and A6133 Cemetery Road	2012

3.3 In addition, the publication of national exceedance areas (<http://uk-air.defra.gov.uk/data/gis-mapping>) has highlighted roads within the borough close to the NO₂ annual average objective, which require further consideration.

3.4 The public health impacts of air pollution are also becoming clearer; particularly the impact of PM_{2.5} particles. PM_{2.5} refers to the airborne particle fraction less than 2.5 microns in size. This particle fraction directly relates to the Public Health Outcomes Framework Health Protection indicator 3.01 "Fraction of Mortality attributable to Particulate Air Pollution". Extensive research has shown that these particles are the major outdoor air pollution contributor to poor health and it is currently considered that there is no known absolute safe level of exposure.

4. Planning Policy Framework

4.1 National Policy

4.1.1 National planning policy is now set by the National Planning Policy Framework (NPPF) [NPPF](#). The NPPF places a general presumption in favour of sustainable development, stressing the importance of local development plans. One of its twelve Core Planning Principles states that planning should:

“contribute to conserving and enhancing the natural environment and reducing pollution”, by: (paragraph 109) “preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability”.

4.1.2 It goes on to state (paragraphs 120 and 124) that:

“To prevent unacceptable risks from pollution and land instability, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account.

“Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with local air quality action plans”.

4.1.3 To support the NPPF, Defra have produced National Planning Policy Guidance (NPPG), including one relating to [air quality](#). Paragraph eight of this guidance (reference ID: 32-008-20140306) deals specifically with mitigating air quality impact and states:

“Mitigation options where necessary will be locationally specific, will depend on the proposed development and should be proportionate to the likely impact. **It is important therefore that local planning authorities work with applicants to consider appropriate mitigation so as to ensure the new development is appropriate for its location and unacceptable risks are prevented.** Planning conditions and obligations can be used to secure mitigation where the relevant tests are met.

Examples of mitigation within the NPPG include:

- the design and layout of development to increase separation distances from sources of air pollution;
- using green infrastructure, in particular trees, to absorb dust and other pollutants;
- promoting infrastructure to promote modes of transport with low impact on air quality;
- controlling dust and emissions from construction, operation and demolition; and
- contributing funding to measures, including those identified in air quality action plans and low emission strategies, designed to offset the impact on air quality arising from new development.

4.2 Local Planning Policy and Local Air Quality Management

4.2.1 The Planning and Compulsory Purchase Act 2004, amended by the Localism Act 2011 requires planning authorities to prepare Local Plans (previously known as Local Development Frameworks), which may be made up of a single or number of documents such as:

- Local Plan;
- Development Plan Policies;
- Site Specific Proposals;
- Area Action Plans;
- Other documents including supplementary planning documents, including the Barnsley MBC Sustainable Travel SPD

4.2.2 The Local Plan will identify land areas for future development and include a number of strategic and development policies relating to local air quality management that will fulfil the National Planning Policy Framework sustainable development criteria. This technical guidance supports the implementation of the strategic and development policy framework. An example of current/emerging policy context is included in Appendix 1.

4.2.3 The Environment Act 1995 established a local air quality management regime. It requires local authorities to review and assess ambient air quality in their areas against health based standards for a number of specific pollutants prescribed in the Air Quality Regulations 2000 and Air Quality (Amendment) Regulations 2002. If there is a risk that levels of air pollution in any part of the authority's area will be higher than the prescribed objectives, the authority is required to designate an Air Quality Management Area (AQMA). It is then required to produce an Action Plan which sets out the measures it intends to take in pursuit of the objectives.

4.2.4 It is not necessarily the case that a proposed development in an area of poor air quality will have a negative impact. However, it is important to recognise when such development might introduce additional people into an area of poor air quality. The declaration of an AQMA does not mean that there will be no new development within that area. Rather, it means that greater weight must be given to the consideration of air quality impacts and their mitigation. In addition, the boundary of an AQMA does not necessarily define the limit of the area of poor air quality. The only constraint on the boundary definition is that it should be at least as large as the area of exceedance, where there is relevant exposure.

4.2.5 The fact that a development is within or close to an AQMA does not mean that it is necessarily affecting an area of exceedance of the objective, or that it is being affected by air pollution that exceeds the objective. On the other hand, a development could introduce new exposure into an area of poor air quality, which has not been identified and declared as an AQMA, as previously there was no relevant exposure.

4.2.6 In November 2019, the Council adopted its Sustainable Travel Supplementary Planning Document² (ST SPD), which has the following requirements for electric vehicle charging points:

Table 2 ST SPD Electric Vehicle Charge Point Requirements

Residential	1 charging point per unit (dwelling with dedicated parking)), or 1 charging point per 10 spaces (unallocated parking)
Commercial/Retail	10% of parking
Industrial	10% of parking

² <https://www.barnsley.gov.uk/media/13508/sustainable-travel-spd-adopted-2019.pdf>

5. Air Quality and Emissions Mitigation Assessment Process

5.1 Stage 1: Development Type Classification:

Three levels of development classification are determined using adapted criteria from the Department for Transport³.

Table 3: Criteria for Development Classification

Land Use	Description	TA Required
Food Retail (A1)	Retail sale of food goods to the public – supermarkets, superstore, convenience food store	>800 m ² (GFA)
Non-Food Retail (A1)	Retail sale of non-food goods to the public; but includes sandwich bars or other cold food purchased and consumed off site	>1500 m ² (GFA)
Financial and professional services (A2)	Banks, building societies and bureaux de change, professional services, estate agents, employment agencies, betting shops.	>2500 m ² (GFA)
Restaurants and Cafes (A3)	Use for the sale of food for consumption on the premises.	>2500 m ² (GFA)
Drinking Establishments (A4)	Use as a public house, wine-bar for consumption on or off the premises.	>600 m ² (GFA)
Hot Food Takeaway (A5)	Use for the sale of hot food for consumption on or off the premises.	>500 m ² (GFA)
Business (B1)	(a) Offices other than in use within Class A2 (financial & professional). (b) Research & development – laboratories, studios. (c) Light industry	>2500 m ² (GFA)
General industrial (B2)	General industry (other than B1).	>4000 m ² (GFA)
Storage or Distribution (B8)	Storage or distribution centres – wholesale warehouses, distribution centres & repositories.	>5000 m ² (GFA)
Hotels (C1)	Hotels, boarding houses & guest houses	>100 bedrooms
Residential Institutions (C2)	Hospitals, nursing homes used for residential accommodation and care.	>50 beds
Residential Institutions (C2)	Boarding schools and training centres	>150 students
Residential institutions (C2)	Institutional hostels, homeless centres.	>400 residents
Dwelling Houses (C3)	Dwellings for individuals, families or not more than six people in a single household.	>50 units
Non-Residential Institutions (D1)	Medical & health services, museums, public libraries, art galleries, non-residential education, places of worship and church halls.	>1000 m ² (GFA)
Assembly and Leisure (D2)	Cinemas, dance & concert halls, sports halls, swimming, skating, gym, bingo, and other facilities not involving motorised vehicles or firearms.	>1500 m ² (GFA)
Other		
1. Any development generating 30 or more two-way vehicle movements in any hour		
2. Any developments generating 100 or more two-way vehicle movements per day		
3. Any development proposing 100 or more parking spaces		
4. Any relevant development proposed in a location where the local transport infrastructure is inadequate		
5. Any relevant development proposed in a location adjacent to an Air Quality Management Area (AQMA)		

³

<http://webarchive.nationalarchives.gov.uk/20100409053417/http://www.dft.gov.uk/adobe/pdf/165237/202657/guidanceontaappe.pdf>

1. MINOR Proposal: Development proposals that fall below the above criteria.
2. MEDIUM Proposal: Development proposals that meet the above requirements.
3. MAJOR Proposal: Development proposals that meet the above requirements and the additional criteria set out in table 3.

Table 4: Additional Trigger Criteria for Major Developments

- Where the proposed development falls within the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011 and includes air quality and/or transport as a specific likely impact.
- Proposals located within an Air Quality Management Area (AQMA)
- Proposals that could increase the existing traffic flow on roads > 10,000 AADT by 5% or more
- Proposals that increase traffic by 5% or more on road canyons with an AADT > 5,000
- Proposals that could introduce or significantly alter congestion (DfT congestion) and includes the introduction of substantial road infrastructure changes
- Proposals that reduce average speeds by more than 10 kph
- Proposals that include additional HGV movements by more than 10% of total trips.
- Where significant demolition works are proposed
- Where significant construction works are proposed

5.2 Stage 2: Air Quality Impact Assessment

MINOR and MEDIUM Classified Proposals:

5.2.1 Smaller development proposals may not in themselves create an additional air quality problem but will add to local air pollution and the developments themselves could potentially introduce more people likely to be exposed to existing levels of poor air quality.

An assessment of the likelihood of introducing additional exposure will be determined using the following criteria:

The proposal is adjacent to or within an AQMA

The proposal is in a location 20m⁴ from roads at or above the relevant objective highlighted on the DEFRA GIS modelled maps (<http://uk-air.defra.gov.uk/data/gis-mapping>). The proposal is one of the Land Use types:

- C1 to C3 in table 2;
- C4 (Homes of Multiple Occupation);
- D1 in table 2

And:

The proposal is within the areas identified on Map 1 (this includes the area within or adjacent to an AQMA; applicable roads; and includes roads at or above the relevant national objective highlighted on the Defra GIS modelled maps - <http://uk-air.defra.gov.uk/data/gis-mapping>).

5.2.2 The outcome of the exposure assessment will determine the level of mitigation required to make the development acceptable. Should there be no acceptable mitigation; the recommendation to the planning officer will be to consider refusing the proposal on air quality grounds. A planning application will not be validated until such an Air Quality assessment is submitted.

⁴ Air Quality Consultants, 2008 “NO₂ Concentrations and Distance from Roads”

MAJOR Classified Proposals

5.2.3 The scale and nature of this type of proposal is such that a detailed air quality assessment will be required to determine the impact on public health and the local environment. Once again, a planning application will not be validated until such an assessment is submitted. The assessment requires:

- A. The identification of the level of exposure through the change in pollutant concentrations including cumulative impacts arising from the proposal, during both demolition/construction operations and operational phases. Mitigation measures should be identified and modelled where practicable.
- B. The calculation of pollutant emissions costs from the development.

A. The methodology to be used for the determination of pollutant concentration change should meet the requirements of the Department for the Environment, Food and Rural Affairs (Defra) Technical Guidance Note LAQM TG(16)⁵. Further details of the air quality assessment requirements are shown in Appendix 2.

B. The pollutant emissions costs calculation will identify the environmental damage costs associated with the proposal and determine the amount (value) of mitigation that is expected to be spent on measures to mitigate the impacts. The calculation utilises the most recent Defra Emissions Factor Toolkit⁶ to estimate the additional pollutant emissions from a proposed development and the latest DEFRA IGCB Air Quality Damage Costs for the specific pollutant of interest, to calculate the resultant damage cost⁷. The calculation process includes:

- Identifying the additional trip rates generated by the proposal (from the Transport Assessment);
- The emissions calculated for the pollutants of concern (NO_x and PM₁₀) [from the Emissions Factor Toolkit];
- The air quality damage costs calculation for the specific pollutant emissions (from Defra IGCB);
- The result is totalled for a five year period to enable mitigation implementation.

5.2.4 The calculation is summarised below with further details of the process along with an example calculation are shown in Appendix 3.

Box 1: Road Transport Emission Calculation Summary

Road Transport Emission Increase =

Σ [Estimated trip rate for 5 years X Emission rate per 10 km per vehicle type X Damage Costs]

5.6 To clarify, the derived calculated damage costs for each major development are not for local authority use, but to assist the developer in assessing the proportionate financial commitment for the required mitigation.

⁵ <http://laqm.defra.gov.uk/technical-guidance/index.html>

⁶ <http://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html#eft>

⁷ <https://www.gov.uk/air-quality-economic-analysis>

5.3 Stage 3: Mitigation and Compensation

5.3.1 The outcome of Stage 2 (Assessment) identifies the level of air quality impact and is then used to determine the level of mitigation required to negate the potential effects upon health and the local environment.

5.3.2 The scale of damage cost will determine the level of appropriate mitigation required for specific proposals. Measure identification will be assisted by:

- Outcomes from the Transport Statement/Assessment
- Specific needs identified in site specific spatial policy allocations;
- Travel Awareness/Planning and Highway Development requirements;
- Defra air quality guidance ([Defra Measures Guidance](#))

5.3.3 Where mitigation is not integrated into a proposal, the Local Planning Authority will require this through planning conditions. The NPPF (paragraph 152) suggests that “where adequate mitigation measures are not possible, compensatory measures may be appropriate”. If on-site mitigation is not possible then the Local Planning Authority will seek compensation for the identified air quality impacts through a section 106 agreement.

5.3.4 Default mitigation measures are presented for each type of proposal that demonstrate a minimum requirement. This is not an exhaustive list and will be adapted for particular locations and needs identified by relevant officers and the scale of damage costs. The authority would welcome the opportunity to work to devise innovative measures that will lead to improving local air quality.

TYPE 1 (Minor) Proposal Mitigation:

5.3.5 If the proposal meets the exposure criteria in Stage 2, further mitigation is required to reduce the level of exposure. This will be in the form of:

- Possible short term screening monitoring or utilising the distance calculation provided by Defra ([Defra Distance](#)) at the proposed location to identify the level of exposure;
- Redesigning the proposal to reduce the ingress of pollution;
- Including a stand-off distance and/or vegetation boundary from the development.

5.3.6 A key theme of the NPPF is that developments should enable future occupiers to make “green” vehicle choices and (paragraph 35) “incorporate facilities for charging plug-in and other ultra-low emission vehicles”. Therefore, an electric vehicle recharging provision rate is expected in addition to mitigation arising from the exposure assessment. To prepare for increased demand in future years, appropriate cable provision should be included in the scheme design and development, in agreement with the local authority and include the default mitigation listed below.

Box 2: TYPE 1 (Minor) Mitigation Options

Residential:

1 charging point per unit (dwelling with dedicated parking) or 1 charging point per 10 spaces (unallocated parking).

Commercial/Retail:

10% of parking spaces Industrial:

10% of parking spaces.

Demolition/Construction:

Adherence to the London Best Practice Guidance⁸

Details of the electric charging specification are provided in appendix 4.

5.3.7 This list is not meant to cover all possible mitigation measures. Where innovative measures are proposed, these should have demonstrable air quality benefits. If measures are provided in mitigation of potential traffic impacts, these will be permitted to count towards the air quality mitigation measures.

⁸ Mayor of London, July 2014, The Control of Dust and Emissions during Construction and Demolition: Supplementary Planning Guidance

TYPE 2 (Medium) Proposals Mitigation:

5.3.8 Proposals meeting the Type 2 criteria in table 2 will require a detailed Travel Plan. Travel Plan guidance is provided in Appendix 5. In respect of the Travel Plan it is essential that:

- The content of the travel plan is fully assessed prior to its approval in conjunction with local authority travel plan and highway development control officers. Pre-application advice will be essential.
- The agreed targets and objectives included in the travel plan are secured for implementation by mutual agreement of the local authority and the developer/applicant (normally by means of a Section 106 agreement).
- The outputs of the travel plan (typically trip levels and mode split) are annually monitored against the agreed targets and objectives.
- Should the travel plan not deliver the anticipated outputs or meet the targets and objectives further mitigation/alternative/compensation measures need to be identified and implemented.
- A named co-ordinator is essential to the success of the travel plan. For larger schemes a commitment in terms of staff resource allocation will be expected.

5.3.9 The NPPF identifies a Travel Plan as a “key tool” to promoting and delivering sustainable transport and that all transport mitigation measures may be included within the Travel Plan. The default mitigation measures to be incorporated into the scheme design include those listed below. The list is not exhaustive and there may be additional issues that are site-specific and reflect local conditions, as well as other material considerations.

Box 3: TYPE 2 (Medium) Suggested Mitigation Options

All minor proposal mitigation measures could be considered (as set out in Box 2)
<p>All – Travel Plan, including an agreed mechanism for discouraging high emission vehicle use and encouraging modal shift (i.e. to public transport, cycling and walking), as well as uptake of low emission fuels and technologies</p> <p>Improved pedestrian access to public transport</p> <p>New or improved bus stop infrastructure including shelters; raised kerbing; information displays</p> <p>Provision of subsidised or free public transport ticketing</p> <p>Site layout designed to encourage walking; Cycle paths to link to local cycle network</p> <p>Improved, convenient and segregated cycle paths to link to local cycle network</p>
<p>Commercial specific</p> <p>All commercial vehicles should comply with current or the most recent European Emission Standards from scheme opening, to be progressively maintained for the lifetime of the development</p> <p>Fleet operators should provide a strategy for reducing emissions, including the uptake of low emission fuels and technologies such as ultra-low emission service vehicles</p> <p>Fleet operators should consider joining schemes such as the South Yorkshire ECO Stars scheme</p>

TYPE 3 (Major) Proposal Mitigation

5.3.10 The pollution damage costs attributed to the proposal emission changes will determine the level of mitigation compensation required to offset the impact of the development. A suite of default compensation measures beyond the proposal scheme design are listed below. This is not an exhaustive list and may be adapted for particular locations and needs identified by relevant officers. The type, scale and specificity of measures will be agreed with the planning authority.

Box 4: TYPE 3 (Major) Suggested Mitigation Options

MEDIUM proposal measures

Support measures to reduce the need to travel:

- Alternative working practices – flexitime, teleworking, homeworking, videoconferencing, compressed work periods.
- Local sourcing of staff, products and raw materials.
- Development and use of hub distribution centres employing low emission deliveries.
- Provision of discounted on-site shopping, eating, child-care, banking facilities.

Support measures to reduce private car use:

- Development of car clubs and car sharing with financial incentives and promotion.
- Use of pooled low emission vehicles – cars, vans, taxis, bicycles.
- Provision of dedicated low emission shuttle bus including managed pick-up and drop-off.
- Contribution to the emerging low emission vehicle infrastructure.
- Contribution to site low emission waste collection services.
- Incentives for the take-up of low emission vehicle technologies and fuels.
- Support driver training schemes.

Measures to support improved public transport:

- Provision of new or enhanced public transport services to the site.
- Shuttle services to public transport interchange, rail station or park and ride facilities.
- Support improving information services for public transport.
- Promoting low emission bus service provision.
- Support air quality monitoring programmes.

Further measures to promote cycling and walking:

- Improvements to district walking and cycling networks including lighting, shelters, and information points and timetables.
- Support cycle and training awareness schemes.
- Bike/e-bike hiring schemes.
- Guaranteed ride home in emergencies.
- Support secure and safe cycle parking facilities.

Further measures to promote sustainable travel plans:

- Support local travel to school and school travel plans initiatives.
- Marketing aimed at encouraging a switch to sustainable modes with incentives.
- Promotion of subsidised/sponsored travel plan measures through social or other media
- Supporting community/local organisation groups to promote sustainable travel.

5.3.11 It is likely that there will be additional Travel Plan measures required outside the air quality requirements. Air quality measures should not be seen as the complete number of measures.

Such agreed measures will be taken forward by condition where possible, or through the use of Section 106 agreements.

Proposal Mitigation statement

5.3.12 Each development will require a brief mitigation statement which must include:

- The calculated damage cost (Major proposals).
- Proposed mitigation/compensation measures.
- Estimated mitigation cost (Major proposals) that is equivalent to the value of the emissions calculation (appropriate to the type and size of development and local policy requirements);
- A proposed demolition/construction management plan that includes:
 - A brief project description and likely sources of dust emissions;
 - Measures to be adopted to minimise dust emissions;
 - Emergency measures to be adopted in the event of unforeseen circumstances;
 - Incident logging and reporting procedures.

Validation checklist

A completed checklist is required for each of the proposals. Further details are provided in appendix 5.

6. Planning Recommendation

6.1 The impact on air quality is a material planning consideration in the determination of a planning application. Each decision must be a balance of all material considerations depending upon the individual merits and circumstances. The weight to be given to the impact on air quality in the consideration of a planning application and the acceptability of proposed mitigation measures lies with the relevant local planning authority. Any agreed measures will be taken forward by condition where possible, or through the use of Section 106 agreements.

Appendix 1: Barnsley MBC Planning Context

The Barnsley Local Plan (adopted January 2019) provides local planning policy for the future development of Barnsley up to

Contained within the Local Plan are two policies relating directly to air quality, these being:

Policy Poll1 Pollution Control and Protection

Development will be expected to demonstrate that it is not likely to result, directly or indirectly, in an increase in air, surface water and groundwater, noise, smell, dust, vibration, light or any other pollution which would unacceptably affect or cause a nuisance to the natural and built environment or to people.

We will not allow development of new housing or other environmentally sensitive development where existing air pollution, noise, smell, dust, vibration, light or any other pollution levels are unacceptable and there is no reasonable prospect that these can be mitigated against.

Developers will be expected to minimise the effects of any possible pollution and provide mitigation measures where appropriate

Policy AQ1 Development in Air Quality Management Areas

Development which impact on areas sensitive to air pollution^(a) will be expected to demonstrate that it will not have a harmful effect on the health or living conditions of any future users of the development in terms of air quality (including residents, employees, visitors and customers), taking into account any suitable and proportionate mitigation required for the development.

We will only allow residential development which impact on areas sensitive to air pollution where the developer provides an assessment that shows living conditions will be acceptable for future residents, subject to any required mitigation.

We will only allow development which impact on areas sensitive to air pollution which could cause more air pollution, where the developer provides an assessment that shows there will not be significantly harmful effect on air quality, again subject to any required mitigation.

Furthermore, development which impact on areas sensitive to air pollution due to traffic emissions will be expected to demonstrate suitable and proportionate mitigation relative to the increased traffic emissions generated by the development. Such areas sensitive to traffic emissions are defined within Map 1 of the Barnsley MBC Air Quality and Emissions Good Practice Planning Guidance

(a) Areas sensitive to air pollution include (but are not limited to) the Borough's air quality management areas; "exceedence" areas within the Borough derived from the national assessment of air pollution by Defra and reported to the European Commission; and housing within 20 metres of roads > 10k AADT (as defined within the Barnsley MBC Air Quality and Emissions Good Practice Planning Guidance)

Appendix 2

Air Quality Assessment Protocol to Determine the Impact of Vehicle Emissions from Development Proposals

An air quality assessment should clearly establish the likely change in pollutant concentrations at relevant receptors resulting from the proposed development during both the construction and operational phases. It must take into account the cumulative air quality impacts of committed developments (i.e. those with planning permission).

Key Components of an Air Quality Assessment

The assessment will require dispersion modelling utilising agreed monitoring data, traffic data and meteorological data. The modelling should be undertaken using recognised, verified local scale models by technically competent personnel and in accordance with LAQM TG.16. The study will comprise of:

1. The assessment of the existing air quality in the study area for the baseline year with agreed receptor points and validation of any dispersion model;
2. The prediction of future air quality without the development in place (future baseline or do-nothing);
3. The prediction of future road transport emissions and air quality with the development in place (with development or do-something).
4. The prediction of future road transport emissions and air quality with the development (with development or do-something) and with identified mitigation measures in place.

The assessment report should include the following details:

- A. A detailed description of the proposed development, including:
 - Identify any on-site sources of pollutants;
 - Overview of the expected traffic changes;
 - The sensitivity of the area in terms of objective concentrations;
 - Local receptors likely to be exposed;
 - Pollutants to be considered and those scoped out of the process.
- B. The relevant planning and other policy context for the assessment.
- C. Description of the relevant air quality standards and objectives.
- D. The assessment method details including model, input data and assumptions:
 - For traffic assessment;
 - Traffic data used for the assessment;
 - Emission data source;
 - Meteorological data source and representation of area;
 - Baseline pollutant concentration including any monitoring undertaken;
 - Background pollutant concentration;
 - Choice of base year;
 - Basis for NO_x:NO₂ calculations;
 - A modelling sensitivity test for future emissions with and without reductions;
 - For point source assessments:
 - Type of plant;
 - Source of emission data and emission assumptions;
 - Stack parameters – height, diameter, emission velocity and exit temperature;
 - Meteorological data source and representation of area;
 - Baseline pollutant concentrations;

- Background pollutant concentrations;
 - Choice of baseline year;
 - Basis for deriving NO₂ from NO_x.
- E. Model verification for all traffic modelling following DEFRA guidance LAQM.TG (16):
- F. Identification of sensitive locations:
- G. Description of baseline conditions:
- H. Description of demolition/construction phase impacts:
- I. Summary of the assessment results:
- Impacts during the demolition/construction phase;
 - Impacts during the operation phase;
 - The estimated emissions change of local air pollutants;
 - Identified breach or worsening of exceedances of objectives (geographical extent)
 - Whether Air Quality Action Plan is compromised;
 - Apparent conflicts with planning policy and how they will be mitigated.
- J. Mitigation measures.

Air Quality Monitoring

In some case it will be appropriate to carry out a short period of air quality monitoring as part of the assessment work. This will help where new exposure is proposed in a location with complex road layout and/or topography, which will be difficult to model or where no data is available to verify the model. Monitoring should be undertaken for a minimum of six months using agreed techniques and locations with any adjustments made following Defra technical guidance LAQM.TG (16).

Assessing Demolition/Construction Impacts

The demolition and construction phases of development proposals can lead to both nuisance dust and elevated fine particulate (PM₁₀ and PM_{2.5}) concentrations. Modelling is not appropriate for this type of assessment, as emission rates vary depending on a combination of the construction activity and meteorological conditions, which cannot be reliably predicted. The assessment should focus on the distance and duration over which there is a risk that impacts may occur. The Institute of Air Quality Management (IAQM)⁹ has produced a number of definitive guidance documents to which this guidance refers. The document 'Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance' should be the reference for reporting the construction assessment.

Cumulative Impacts

The NPPF (paragraph 124) recognises that a number of individual development proposals within close proximity of each other require planning policies and decisions to consider the cumulative impact of them. Difficulties arise when developments are permitted sequentially, with each individually having only a relatively low polluting potential, but which cumulatively result in a significant worsening of air quality. This will occur where:

- A single large site is divided up into a series of units, such as an industrial estate or retail park;
- A major development is broken down into a series of smaller planning applications for administrative ease; and
- There are cumulative air quality impacts from a series of unrelated developments in the same area.

⁹ IAQM www.iaqm.co.uk

The first two cases the cumulative impact will be addressed by the likelihood that a single developer will bring forward an outline application for the whole site which should include an air quality assessment as part of an Environmental Assessment. For major developments that are broken down into a series of smaller planning applications, the use of a 'Master or Parameter Plan' that includes an air quality assessment will address the cumulative impact.

Appendix 3

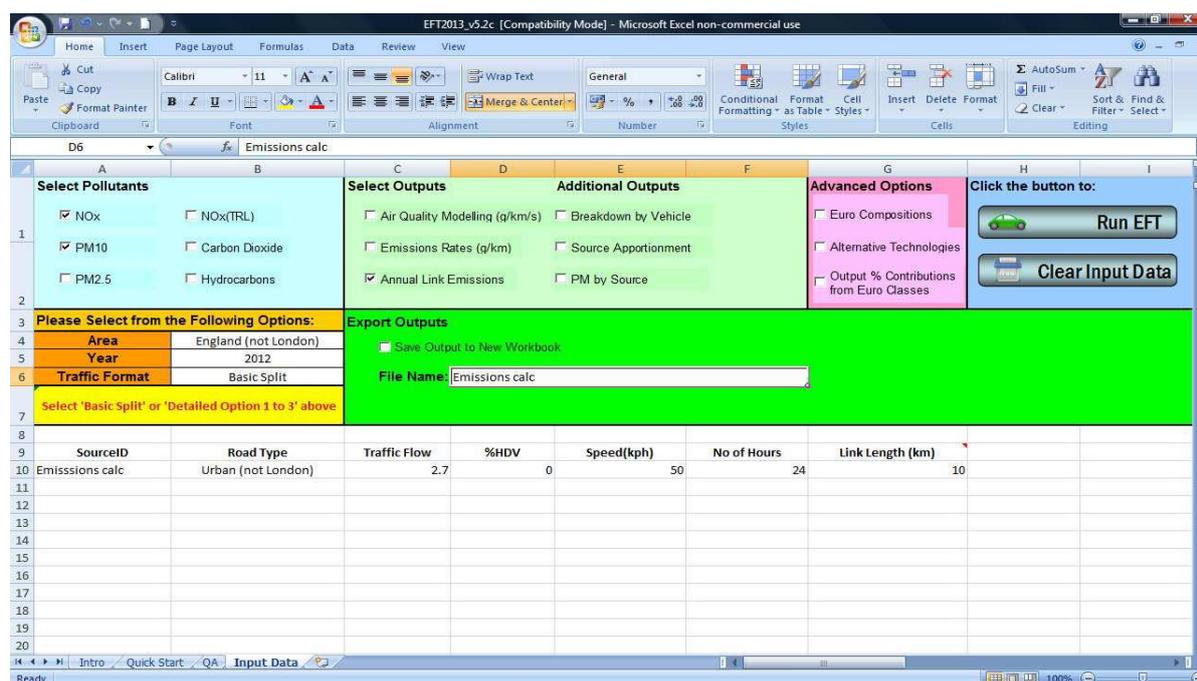
Emissions Assessment Calculator

The calculation utilises the current Emissions Factor Toolkit (EFT)* to determine the transport related emissions from a development proposal. If the proposal is to include alternative fuels or technology i.e. LPG, EV etc., then there are “advanced options” within the EFT to accommodate this.

*<http://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html#eft>

A screen shot of the input and output pages are shown below:

Input Screen



Output Screen

Source_Name	Pollutant_Name	All Vehicle (Annual Emissions (kg/yr except CO2 tonnes/yr))	All LDV (Annual Emissions (kg/yr except CO2 tonnes/yr))	All HDV (Annual Emissions (kg/yr except CO2 tonnes/yr))
Emissions calc	NOx	3.255	3.255	
Emissions calc	PM10	0.380	0.380	

The output is in kg of specified pollutant per year and requires converting to tonnes per year. This is then multiplied by the IGCB damage costs for the specified pollutant.

The following example demonstrates the calculation based on a development with 10 domestic properties¹⁰.

EFT Input:

10 household (urban not London) (NO_x and PM₁₀)

X 27 (trip/traffic ratio for 10 houses)

X cars only (0% HGV)

X 50kph (avg. speed)

X 10km (NTS UK avg.)

EFT Output = 32.55kg/annum (NO_x) & 3.795kg/annum (PM₁₀)

= 0.0325tonnes/annum (NO_x) & 0.003795tonnes/annum (PM₁₀)

X £955/tonne (NO_x) + £48,517/tonne (PM₁₀)

= £31.08 = £184.15

X 5 (years)

= £155.42 = £920.76

Total = £1,076

Notes:

1. Trip Rates are sourced from the Transport Assessments and local authority where available.
2. Trip Length uses the National Travel Survey¹¹ - (UK average = 10km).
3. The IGCB damage costs are the central estimates (currently NO_x = £955/tonne & PM₁₀ transport average £48,517).

¹⁰ Sussex Air Quality Partnership "Air Quality and Emission Mitigation Guidance for Sussex Authorities 2013"

¹¹ <https://www.gov.uk/transport-statistics-notes-and-guidance-national-travel-survey>

Appendix 4

Electric Vehicle Charging Point Specification

1. Introduction

It is important that future electric vehicle charge point (EVCP) requirements are met as we transition from the internal combustion engine to electric vehicles, ensuring that new development in the Borough meets future demands.

Furthermore, it is also necessary that the Council keeps in step with developments and that subsequent guidance reflects the Council experience of developing our own EVCP network and our continued dialogue with industry experts, developers and end-users in order to ensure that the ongoing installation of EVCPs locally meets the requirements of end users.

Consequently, the Council has aspirations that future development provides the following:

Residential	1 charging point per unit (dwelling with dedicated parking), or 1 charging point per 10 spaces (unallocated parking). This is an expected requirement for residential development
Commercial/Retail	10% of parking
Industrial	10% of parking

The Council will however consider alternative solutions for commercial, retail and industrial development, should the applicant submit an Electric Vehicle Charge Point and Infrastructure Strategy which identifies the optimum EVCP capability for that development.

2. EVCP Minimum Specification

Barnsley MBC require a minimum specification for EVCPs for new development, this being “mode 3”, minimum 7 kW (32 AMP). The justification for this minimum specification is based upon current Government proposals for EVCPs for residential development and this justification is detailed below.

In 2019, the Government published a [consultation](https://www.gov.uk/government/consultations/electric-vehicle-chargepoints-in-residential-andnon-residential-buildings) (<https://www.gov.uk/government/consultations/electric-vehicle-chargepoints-in-residential-andnon-residential-buildings>) relating to future requirements for electric vehicle charging points, and the following is taken from the Government’s proposals as our justification for the minimum required specification for EVCPs (Government guidance paragraphs 6.7 to 6.9).

- *“Government proposes specifying a minimum 7 kW (32 AMP) chargepoint both for residential and non-residential buildings. Some early home installations are 3.6 kW (16 AMP) chargepoints, however, today the majority of the installations are 7 kW and expected increases in battery sizes and technology developments could make chargepoints less than 7 kW obsolete for future car models. Our discussions with industry indicate 7 kW is a sufficiently future-proofed standard for home charging.*

- *A 7-kW standard also better enables some of the smart charging benefits (i.e. managing of the supply of electricity to the vehicle over time) than slower speed chargepoints because any modulation in charge can be more quickly compensated for at other times. This reduces the impact on the local network and could reduce the spare capacity needed to operate the chargepoint.*
- *Most new homes have a 100 Amp connection as standard. In most cases, it is possible to accommodate a 7 kW chargepoint within this connection, even when assuming the minimum diversity factor. This means that in single houses there is often no additional electrical capacity cost as a result of adding a 7kW chargepoint."*

3. Commercial / Retail / Industrial EVCP Requirement

In considering this minimum specification requirement, we also require mode "3", minimum 7 kW (32 AMP) for commercial/retail/industrial development.

We acknowledge the differing circumstances for non-residential development and will consider alternative solutions to the 10% aspiration detailed above, should the applicant submit an EVCP Strategy which identifies the optimum capability for that development.

Any submitted Electric Vehicle Charge Point Strategy may wish to consider likely future use of the proposed development, likely end-user profile of the charge points, likely future use of the charge points themselves and provision of additional infrastructure in order to unlock demand when appropriate.

Other issues that could be considered include likely "user" dwell time at the charge point, back office systems, grid capacity and subsequent type of charge point in order to meet these and any other relevant requirements as identified within the Strategy. The developer may also wish to consider the financial and commercial models to successfully operate the subsequent agreed charge points. This is not an exhaustive list and it will be for the applicant to determine the relevant issues to be addressed in the Strategy.

If submitted, the Electric Vehicle Charge Point Strategy shall be agreed with the Local Planning Authority (LPA). The LPA recognises however that the Strategy may result in the provision of actual numbers of charge points less than the current 10% requirement, should the Strategy provide enough justification for these reduced numbers of charge points considering the issues detailed above. For instance, this may result in the proposal for a lower number of EVCPs but of a higher specification (e.g. fewer number of rapid chargers).

4. Assessment of EVCP requirement

The Council's default position is that EVCPs will be required for new development, including change of use from commercial/retail/industrial to residential. We do however consider the requirement of the National Planning Policy Framework. Paragraph 110 of the NPPF requires a scheme proposal to *"be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations"*.

Therefore, a standard level of electric vehicle recharging provision is expected unless:

- the proposal has no parking provision;

- the site is accessed for less than 20 minutes, or;
- the site does not attract motorised vehicles on a daily basis.

Furthermore, there may applications where it is not considered appropriate to require EVCPs, such as change of use from one form of commercial/retail/industrial to another where no net increase in new car parking spaces is proposed. Conversely, change of use from commercial to residential, even with net decrease in car parking spaces will likely require the provision of EVCPs.

There may be other circumstances, which come to light because of the application, which render the requirement of EVCPs not appropriate, but only where enough justification for these circumstances can be provided and agreed. All applications will therefore be considered on individual circumstances as well as within the framework of this guidance. Of course, the applicant may wish to install EVCPs, regardless of meeting this guidance.

5. Electrical Safety Standards

The applicant shall conform with all electrical and safety standards / regulations etc required for the installation of EVCPs. Future liability for conforming with these requirements will be the responsibility of the applicant. The applicant shall determine which electrical safety standards are appropriate

6. Guidance

The Council does not provide specific guidance for the safe and proper installation of EVCP, but further guidance can be found at the following sources listed in the table below. the following sources are not definitive nor exhaustive, and the applicant is expected to ensure that all electrical and safety standards / regulations etc. are considered and adhered to and obtain expert advice where necessary Furthermore, Barnsley MBC does not take responsibility for the below tabulated guidance.

Electrical Safety	https://electrical.theiet.org/wiring-matters/years/2020/80-may-2020/the-iet-code-of-practice-for-electric-vehicle-charging-equipment-installation-4th-edition/
Electrical Safety	https://www.beama.org.uk/resourceLibrary/beama-guide-to-electric-vehicle-infrastructure.html
General Guidance	https://www.local.gov.uk/electric-vehicles-charge-points-and-planning-policies This guidance has links to additional guidance resource

Appendix 5 – Validation Checklist

Development Proposal	
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	Y/N
Pre- Planning Discussions	
Classification	
Minor	
Medium	
Major	

Based on which trigger criteria?	
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	Y/N
Assessment	
Exposure Test	
Details provided	
Air Quality Assessment	
AQ Methodology followed	
Damage Cost	
Calculation Details	

	Y/N
Mitigation / Compensation	
Minor	
Medium	
Major	

	Y/N
Mitigation Statement	
Damage Costs	
Mitigation Measures listed	
Mitigation Measures costed	
Demolition/Construction Management Plan	

Signature:	Print:
Position Held:	Date:

Appendix 6 - Air Quality Assessment and Mitigation Flow Chart

*There is no safe level to exposure to particulate pollution, however, all applications must ensure as a minimum a proposal does not expose existing or future residents to levels of pollutants above the air quality objectives.

