UTTLESFORD DISTRICT COUNCIL

# Draft Air Quality Technical Planning Guidance 2017

## Scope

This document has been prepared in relation to local plan policy on air quality set by Uttlesford District Council (UDC).

It is designed to take account of National Planning Practice Guidance, National Policy and relevant information to ensure that good air quality is maintained and where possible improved through the development control process.

The guidance is aimed at applicants, developers and their consultants to help to ensure consistency in approach to air quality within Uttlesford, and that it is addressed prior to submitting a planning application.

The guidance primarily covers emissions from road transport, however the demolition and construction phase of development, and the installation of biomass facilities, electricity generating plant and facilities producing odours are covered, as these can be significant sources of pollutants. A section on climate change considerations is also included.

The key aims of this guidance are as follows:

1. To set out the national and local policy framework in relation to air quality
2. To encourage discussions with UDC prior to application where appropriate
3. To identify those circumstances when an air quality assessment will be required to accompany a development proposal and provide guidance on the assessment process
4. To provide guidance with regard to the circumstances in which air quality conditions and planning obligations will be sought in accordance with national guidance and UDC policies
5. To provide guidance on mitigation and offsetting of the impacts of a development on air quality
6. To describe the criteria for assessing impact, and the decision making process

It should be noted that while this technical guidance endeavours to reflect current best practice, it will be reviewed regularly to ensure that it remains relevant and following the release of new or updated national policy, guidance, standards and practices.

## 1.0 Introduction

The planning system has a key role in protecting people from unacceptable risks to their health and in providing adequate protection to the natural environment. These considerations must however be balanced against other aims of the planning system such as to secure economic development and provide adequate levels of housing.

Any air quality consideration that relates to land use and its development is capable of being a material planning consideration, as reflected in relevant planning policies, and needs to be given due weight when determining an application. The extent of the consideration is dependent on the nature of the proposal and the sensitivity of its environment. Almost all development will result in the emission of air pollutants, whether from increased road traffic or emissions from building services. The planning outcome will be dependent on the significance of the air quality impact and subsequently the balance between human health and environmental considerations and the economic and social benefits. Control of development can be effective in improving air quality by locating developments in such a way as to reduce emissions and by minimising the direct impacts of those developments.

An appropriate assessment of air quality must therefore be submitted with any application for development that may adversely affect local air quality or be significantly affected by existing levels of pollutants. Failure to include appropriate information on air quality could result in the application being refused or delayed. A methodology for carrying out an air quality assessment is provided later in the document.

The Environment Act 1995 required the preparation of a National Air Quality Strategy, the latest of which was published in 2007, setting out standards and objectives for specified pollutants to ensure that the quality of air does not cause harm to human health, vegetation and ecosystems. The standards are based on limit values for pollutants set by EU Directive 96/62 and have been transposed into national objectives by the Air Quality Standards Regulations. Objectives are policy targets of maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedances over a specified timescale, and a date by which they should be achieved and maintained thereafter. EU Directive 2008/50 introduced exposure reduction targets for pm 2.5 as a result of strong evidence of the health impacts.

The objectives are set out in Appendix 1. The Environment Act sets out a duty for local authorities to review and assess air quality in their area and take measures aimed at achieving the objectives where necessary. Government guidance also makes it clear that local authorities are expected to work towards improving air quality even where limits are not breached.

Where a local authority considers that one or more of the objectives are unlikely to be met and there is relevant exposure, it must designate the area of concern as an Air Quality Management Area (AQMA) and develop an action plan setting out measures aimed at achieving the objectives in the area.

The designation of an AQMA does not mean that there will be no development allowed within or close to the area, but that greater weight must be given to the consideration and removal of the impacts of any proposed development on air quality and the introduction of new sensitive receptors into an area of poor air quality. A balanced assessment needs to made of the economic and social benefits of the development, and the potential to reduce car travel by virtue of the proximity to employment, amenities, and public transport links, or from the provision of design and infrastructure mitigation measures to encourage use of low emission vehicles. The scope to minimise the exposure of new occupants to emissions from traffic or other sources will also be considered. These considerations will be particularly relevant where the development does not replace an existing use.

In Uttlesford district, air quality is generally good. However, there are concerns with regard to nitrogen dioxide emissions in certain areas. In 2012 an AQMA was declared in Saffron Walden town centre based on monitored exceedances of the annual mean nitrogen dioxide objective close to some junctions within the town, mainly due to emissions from traffic. A map of the AQMA is provided at Appendix 2. The junctions are associated with congested traffic, notably during peak travel periods. In each case there are residential properties located within 5m of the kerbside which constitute 'relevant locations' for the purpose of Local Air Quality Management, and are regarded as the receptors for assessment purposes. Relevant locations can be defined as outdoor, non-occupational locations (e.g. schools, care homes, hospitals and residential properties) where members of the public are likely to be regularly exposed to pollutants over the averaging time of the air quality objectives.

A feature of a Saffron Walden is the location of main transport links and secondary school to the west of the town, and proposals for development which will increase traffic flow through the town by virtue of its location will not be appropriate without suitable mitigation.

An Air Quality Action Plan has been developed for the AQMA, setting out measures that aim to improve air quality. Where there are no air quality grounds to refuse an application, it is expected that development will aid in the delivery of the action plan by either providing measures or funding their delivery, thereby mitigating the development's potential negative impacts.

The presence of an AQMA makes consideration of the air quality impacts of a proposed development more important, however there is still a need in all locations to regard air quality as a material factor in determining planning applications. It is particularly relevant where the proposed development is not within the AQMA, but could have adverse impacts on air quality within it, or where air quality in a defined area is close to exceeding guideline objectives. In some locations the impact on ecological receptors will need to be considered due to potential detrimental effects.

Although the AQMA was determined due to nitrogen dioxide levels, road transport is also a major source of fine particulate emissions in Uttlesford, along with construction sites and non-road mobile machinery. The air quality objective for fine particulates is currently being met, but it is acknowledged that there is no safe level

and Defra have introduced a role for local authorities to work towards reducing concentrations of the finest particulate matter, due to the known adverse health impacts.

Further information on air quality in Uttlesford, including monitoring data, can be found on the UDC website at : https://www.uttlesford.gov.uk/airquality

## 2.0 Pre-application discussions

It is recommended that in some circumstances discussions take place with UDC on air quality matters prior to submission of a planning application. These circumstances include applications for development which is likely to need an Air Quality Assessment (AQA) to accompany the application, more detail of which is provided in section 4, and those incorporating biomass combustion, short term operating reserve sites, or where significant odour production is likely to be a consideration, more detail of which is provided in sections 8-10.

Initial discussions will aim to set out the extent of the information to be provided and ensure an application is complete with regards to air quality, and parameters for an AQA where needed. Fundamental to air quality and sustainability concerns is the extent to which the selected location for the development will impact on emissions, and for residential and commercial development this usually relates to how it may encourage travel by motorised vehicles and consequently add to road congestion. In the case of residential and commercial development, consideration will be given to whether it is within comfortable walking distance of amenities and public transport links. Reducing travel distances can help encourage a modal shift towards walking and cycling.

Development of greenfield sites on the outskirts of existing towns or villages are likely to have the greatest potential for generation of additional traffic and impact on air quality. Travelling distances can be reduced by encouraging mixed use development, where people have the opportunity to live, work and socialise within a relatively small geographic area. Mixed use development will only help improve air quality if the residential properties are affordable and attractive to the people who want to work within the development, incentives to walk and cycle are maximised and measures to discourage private car ownership are identified. Some developments have the potential to reduce emissions from existing levels, for example regeneration of a brownfield site resulting in significant reductions in the number of heavy goods vehicles on the local road network.

Energy efficiency measures and the use of renewable sources of energy will need to be adopted in the construction of new builds to reduce emissions from heating systems, which contribute to local air pollutant emissions.

The earlier air quality concerns are addressed within the development control process, the more likely it is that delays and the need for costly re-design will be avoided, and the scheme is able to achieve acceptable, sustainable design.

The Planning Department will consult Environmental Health (EH) on all applications where air quality may be an issue, often amongst other environmental impacts. Prior to this stage, it is usually beneficial to involve EH in any pre-application discussions for relevant developments, to enable the requirements for air quality monitoring and the preparation of data sets and methodologies to be agreed prior to submission of a the application. Cumulative impacts will also need to be considered, where a series of developments with individually low polluting potential can together result in significant worsening of air quality. Transport professionals may need to be involved in the process, since it is important to ensure that any required transport assessment includes meeting the requirements of the air quality assessment.

Proposals for development will require an AQA where a significant change in air quality or in exposure to poor air quality is expected. A range of circumstances will be considered when determining whether an AQA is required, and examples are given in section 4. Consultation with EH is recommended on the need for an AQA for individual applications, and for those where an Environmental Impact Assessment (EIA) is required. The EIA is required to assess the impact of other pollutants, including those that will impact on ecosystems where appropriate. More detail on EIA's is provided in section 3.4.

Applicants may also wish to discuss development within the AQMA which needs to consider air quality both in terms of any increase in levels and in terms of the effect of the existing levels on the development. Development within the AQMA will be expected to contribute to a reduction in levels of pollutants.

Development outside the AQMA may have the potential to affect air quality in the AQMA by virtue of its proximity to the AQMA and the effects of the development on traffic flows. This is likely to include development within Saffron Walden boundaries and other significant developments beyond Saffron Walden generating traffic which will impact on the town centre.

The impact of traffic emissions on Stansted Mountfitchet also needs to be considered due to congestion at confined junctions which may worsen as a result of development within or beyond the town due to additional traffic accessing main routes such as the M11 motorway.

The recommendations made by EH are not binding on the Planning Dept, who will consider all relevant issues when determining a planning application.

If there are merits to discussing a planning proposal or the requirements of a specific air quality assessment, the Environmental Health team can be contacted at: Environmentalhealth@uttlesford.gov.uk

## 3.0 Planning Policy, Guidance & Legislation

In addition to local policies, planning policy for Uttlesford is also drawn from ECC Minerals Plan (2014), ECC Waste Plan(2001) and policy objectives introduced by the government followed by national planning guidance, all of which need to be

considered when developing local technical guidance. Details on the waste and minerals plans can be found on the ECC website www.essex.gov.uk

### 3.1 National Planning Policy Framework (NPPF 2012).

The NPPF sets out the Government's planning policies for England and how they are expected to be applied. It replaces previous planning policy statements including PPS 23 on planning and pollution control. It places a general presumption in favour of sustainable development, stressing the importance of local development plans.

12 principles are set out that should underpin plan and decision making, one of which states that planning should contribute to and enhance the natural and local environment by *"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"(para 109).*

Other paragraphs key to air quality are para 120 :

"*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."*

And para 124:

"*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".*

The NPPF supports the introduction of electric vehicle charging facilities and other refuelling facilities for low emission vehicles, and also states that, where parking standards are being set, high emission vehicles should be discouraged.

### 3.2 National Planning Practice Guidance

The National Planning Practice Guidance (PPG) supports the NPPF and is a web-based resource, provided by the Department for Communities and Local Government (DCLG) . It can be found at the following site: http://www.planningguidance.planningportal.gov.uk and it is strongly recommended that this document is read in conjunction with the resource.

The guidance is regularly reviewed and updated to assist planning authorities when implementing NPPF principles and policies, including the consideration of cumulative impacts, design and layout of schemes, damage costs, mitigation and off-setting, such as the provision of infrastructure for low emission transport.

It states that where the proposed development (including mitigation) will lead to an unacceptable risk from air pollution or prevent sustained compliance with statutory objectives a local authority is to consider how a proposal could be amended to make it acceptable, or where not practicable, whether planning permission should be refused.

Guidance is provided on mitigation which may include the contribution of "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".

The guidance makes clear that "*Air quality can also affect biodiversity and may therefore impact on our international obligation under the Habitats Directive*", in addition, that "*Odour and dust can also be a planning concern, for example, because of the effect on local amenity"*

### 3.3 Local Policy

The Uttlesford Local Plan – Pre-Submission Consultation 2017 provides the following relevant policies:

***Policy EN16 Air Quality :***

*Development will be permitted where it can be demonstrated:*

- *That is does not lead to significant adverse effects on health, the environment or amenity from polluting or malodorous emissions, or dust or smoke emissions to air; or*
- *where a development is a sensitive end-use, that there will not be any significant adverse effects on health, the environment or amenity arising from existing poor air quality, as set by national objectives, targets and emission limits for pollutants, or sources of significant odour.*

*Specifically applicants, where reasonable and proportionate, according to the end-use and nature of the area and application, must demonstrate that:*

- *development has regard to relevant UDC Air Quality Technical Guidance*
- *development within or affecting an Air Quality Management Area (AQMA) will also be expected to contribute to a reduction in levels of air pollutants within the AQMA*
- *the development does not prevent compliance with national objectives, targets and standards for pollutants*

- *any sources of emissions to air, odours and fugitive dusts generated by the development are adequately mitigated to prevent loss of amenity for existing and future occupants and land uses*
- *any impacts on the proposed use from existing poor air quality, odour and emissions are appropriately mitigated*

***Policy SP12 Sustainable Development Principles (in relation to AQ):***

*The Council will support development which ensures the prudent and sustainable management of the District's towns, villages and countryside by:-*

- *employing best practice in sustainable design and construction*
- *promoting development which is located and designed to be energy efficient*

***Policy EN15 Pollutants:***

*The potential impacts of exposure to pollutants must be taken into account in locating development, during construction and in use.*

*Planning permission will not be granted where the development and uses would cause adverse impact to occupiers of surrounding land uses or the historic and natural environment, unless the need for development is judged to outweigh the effects caused and the development includes mitigation measures to minimise the adverse effects.*

*Developments sensitive to pollutants will be permitted where the occupants would not experience adverse impact, or the impact can be overcome by mitigation measures.*

Also relevant to air quality considerations and the wider impact on Public Health is the following policy which provides for a full Health Impact Assessment if the local community may be affected by the proposed development:

***Policy INF3 Health Impact Assessments:***

*New developments which are designed, constructed and managed in ways that improve health and promote healthy lifestyles and help to reduce health inequalities in the District will be supported.*

*The following development proposals should undertake a Health Impact Assessment (HIA):*

- *Residential development (Class C3) proposals of more than of 50 units*
- *Non-residential development of more than 1,000 sqm*
- *Residential care homes and nursing homes (Class C2)*
- *Hot food takeaways (Class A5)*

*The HIA should set out the impact on health and well-being resulting from a proposal and any demands that are placed on the capacity of health facilities arising from the development.*

*Where significant impacts are identified, planning permission will be granted where infrastructure provision and/ or funding to meet the health service requirements of the development is provided and/ or secured by planning obligations.*

*The Council will require HIAs to be prepared in accordance with the advice and best practice for such assessments as published by the Department of Health and other agencies, such as the West Essex Clinical Commissioning Group and other NHS organisations across Essex.*

*Restrictions may need to be applied through appropriate planning conditions to reduce any negative impacts occurring in relation to hot food takeaways (Class A5) subject to HIA findings.*

### 3.4 Legislative controls

In addition to the local air quality management duties set out in the introduction to this guidance, certain types of development, listed in the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, require an Environmental Statement (ES) to be submitted following an EIA describing the likely significant effects of the development on the environment compared to the baseline and proposed mitigation measures. For these applications, a study of the effects of the development on local air quality is likely to form part of the ES. The study required will be more detailed than for other AQA's, and will need to include the impact of the finest particulates (pm2.5) due to the concern about health impacts.

Developments that are likely to require an EIA include those which are:

- of more than local importance due to the nature, scale and location
- proposed for particularly environmentally sensitive or vulnerable locations
- associated with unusually complex and potentially hazardous environmental effects
- for commercial or industrial installations that have the potential to emit pollution

The onus is on the applicant to agree the scope and methodology for the ES with the Planning Dept in advance, and detailed "screening" may be required before the need for an ES can be determined. The preparation of an ES in conjunction with project design, provides a useful framework within which environmental considerations and development design can interact to avoid possible adverse effects.

## 4.0 Air Quality Assessments (AQA's)

The following section provides an advisory framework on whether account needs to be taken nt of air quality in pre-planning application enquiries and submission of planning applications, and suggests a methodology for undertaking an assessment to provide detailed analysis of the level of additional emissions arising from traffic or other sources.

### 4.1 Developments requiring an Air Quality Assessment

A range of circumstances related to additional emission generation will be considered when deciding whether an air quality assessment is required, and examples are listed below. The list is not definitive and will be based on the physical characteristics of the proposal, and where emissions are from road traffic, on the changes to traffic flow.

- development of more than 10 dwellings or other sensitive development (eg.carehome, school), or commercial development more than 1,000m$^2$ floorspace, within Saffron Walden AQMA
- development in excess of 75 dwellings or 2500m$^2$ commercial floorspace elsewhere in the district
- development that will result in increased congestion, a change in either traffic volumes (for example 5% AADT or 1% within AQMA) or a change in vehicle speed (+-10kph), or both on a road with greater than 500 AADT or 100 AADT within the AQMA.
- Proposals that would significantly alter the traffic composition in an area (e.g. by more than 25 HDV's AADT) including during the construction phase
- Industrial development requiring compliance with the Environmental Permitting regime or development within B2 use class order (general industrial)
- Development likely to produce significant particulate emissions not covered by the above including during the construction phase
- Biomass installations rated at > 200kW or other combustion units >300kW
- Proposals that include new car parking >100 spaces or >50 within AQMA
- Proposals that by themselves are not likely to be significant but when considered in combination with other schemes may result in a significant increase in emissions
- Mineral extraction, waste disposal and recycling sites or new sensitive development that may be exposed to emissions from these sites.

For most large developments, usually where they are expected to take one year or more to complete, or where there are sensitive receptors within 350m of the site boundary and/or within 100m of the routes used by construction traffic, the impact during the construction and demolition phase from dust, and contribution to fine particulates levels and oxides of nitrogen should be included in the air quality assessment. The assessments must take account of the duration of the construction phase, and the impact on all sensitive receptors, which may differ from the operational phase, and include mitigation measures. Section 7 of this guidance

refers to the details required for the construction phase of the development and level of mitigation expected.

### 4.2 Undertaking an Air Quality Assessment

There are a variety of methods of carrying out an AQA. An assessment may be a simple screening assessment using a model suited to an urban environment, or it may be necessary to undertake detailed monitoring and modelling studies. The method selected must be appropriate to the location and nature of the proposed development.

Committed development within the locality or surrounding area, including in a neighbouring authority area, which may impact on traffic levels or other sources of emissions will need to be accounted for, to assess the cumulative impact on air quality.The outcome of an assessment may conclude that a national air quality objective will approach an exceedance such that other developments in the area might be prevented, which is likely where development in an area takes place in a piecemeal fashion. Whilst each development may only have a minor impact on air quality, this could lead to progressive incremental increases in air pollution or "background creep", which may prejudice or result in more onerous requirements upon later developments to reduce the impact of air pollution. The committed developments to consider can be obtained from the Planning Dept and must accord with the traffic data input into the model.

An assessment should calculate the likely change in key pollutant concentrations arising from the proposed development compared to the existing ambient concentrations at nearby relevant receptors. Receptors will be both human (usually taken as being the façade of a residential property) and statutorily designated ecological sites or other important sites as agreed, normally within 50m of the site boundary. The assessment will also need to compare predicted pollutant concentrations with relevant air quality objectives. It may be appropriate to assess levels at receptors within the new development itself if there is a likelihood of an AQO being exceeded.

Normally the pollutants $NO_2$ and PM10 are assessed due to the setting of AQO levels for these, however there may be others relevant to specific developments. The location of receptors and the pollutants to assess should be discussed with the Environmental Health Dept prior to carrying out the assessment.

There are generally three basic steps to an assessment:

1. Assess the existing air quality situation (baseline). The baseline year should be consistent for traffic, meteorological, emissions and background data, and should normally be the previous calendar year for which data is available.
2. Predict the future air quality with committed development but without the proposed development (do nothing scenario)
3. Predict the future air quality with committed development and proposed development completed (do something scenario).

Further to the quantitative assessment, a qualitative assessment of the changes should be included in the report.

Traffic generation is a particularly important factor when considering air quality. It is therefore essential that there is an agreed transport assessment before carrying out the air quality assessment, the scope of which should be agreed with Essex Highways. The subsequent report is an opportunity to include arrangements for access by public transport, proposals to reduce distance travelled, and the extent of any significant changes in the fleet makeup as a result of the development.

The AQA should incorporate the policy context, taking account of national and local policies, and set out the relevant air quality objectives against which the assessment will be made.

A summary of the data input and results should be set out to allow a clear appraisal of the modelling process and assumptions made to be carried out, and all areas of uncertainty stated. Predicted levels at the modelled receptors to allow comparison of concentrations with each scenario and any assumptions made should ideally be set out in a tabular form. The “do something” scenario may be expressed with and without mitigation measures. The considerations for mitigation including when the outcome of measures may need to be modelled, are discussed in subsection 4.4. Table 1 provides the information to be reported.

**Table 1 : Details required for an Air Quality Assessment**

| **Information** | **Description** |
|---|---|
| Proposal | State why the assessment is being carried out, and provide a description and site map of the proposal. |
| Modelling procedures | An appropriate dispersion model for the proposed situation should be selected and a brief description given, with the choice justified. Where a detailed assessment is carried out, terrain data used at the meteorological and dispersion sites should be stated. |
| Modelling scenarios | This should provide the input data for pollutant levels, and all relevant emission sources. Sources from committed development which has the potential to either affect ambient air quality levels or introduce sensitive receptors must be identified and any cumulative impact considered. A list/map of receptors should be provided, to include those on and off site and worst case, or an area for contour modelling should be selected and justified. The baseline and completion years should be stated, and the values against which the results will be assessed. |
| | The contribution to total pollutant levels must take into |

| | |
|---|---|
| Ambient/background levels | account background levels representing all sources not modelled. Background emissions can be downloaded on a 1km grid square basis at:**https://uk-air.defra.gov.uk/data/laqm-background-home**.These tend to vary from locally monitored concentrations, and local background data should be used where available, stating which values have been used. Local data is available in the reports section of the web pages **https://www.uttlesford.gov.uk/airquality**. Care should also be taken to avoid double counting contributions from modelled sources when using background data. |
| Meteorological data | Meteorological data should be taken from an appropriate site, which normally would be Stansted Airport. One year of hourly sequential data should be used for traffic assessments, and must be for the same year as emission, background and monitoring data. Longer data sets may be needed for other sources. |
| Traffic data | Baseline traffic flow data should be based on traffic counts, not previous model outputs, and state how and when collected, which should be representative of normal activity levels. Large developments may need to use traffic models to scope the affected area prior to commissioning traffic counts. Forecast traffic flows need to include 7 day 24 hour AADT figures, the diurnal variation in flow, and the modal split between LDV and HDV's. |
| Industrial Sources | Any assessment of a proposed new industrial site must state the operating conditions that have been assumed for example, fuel types and loading. |
| The modelled area | The grid size used within the model must be clearly stated. This should typically be in the region of 5 to 10m next to roads. Relevant sensitive receptors should be identified and agreed with the Environmental Protection team. |
| Emission factors | It is now widely accepted that concentrations of nitrogen oxides (NOx) and nitrogen dioxide ($NO_2$) have not been declining as expected, especially near roads. Where the opening year is less than 3 years after the baseline year, a sensitivity analysis of applying baseline emissions factors and background values to the opening year road traffic modelling should be carried out to provide a "worst case" scenario ie.assuming no reduction in the road NOx contribution. This is to reflect emissions not reducing as Defra predicts, and may be reviewed as realistic emission data emerges. The |

| | |
|---|---|
| | Emissions Factor Toolkits (EFT) published by Defra incorporate up to date NOx emission factors and vehicle fleet information to enable emission rates to be calculated from available traffic and speed data. Widely used models, if kept updated, will incorporate the latest EFT emission factors, however the version of EFT used must be stated. |
| NOx : $NO_2$ relationship | A combination of NOx and $NO_2$ are emitted from vehicles, and the proportion changes constantly. The AQO relates to $NO_2$ due to the observed health impacts. Conversion methodology for NOx to $NO_2$ is available from the Defra air quality webpages. |
| PM10 | Any PM10 modelling study should present results as a gravimetric equivalent and include secondary and coarse components |
| Verification of modelled data | A comparison of the modelled results against measured data preferably at more than one monitoring location is necessary to identify discrepancies with the modelling output. The extent and the reasons must be explained, and where necessary changes made to the model inputs, to provide confidence in the predictions for emissions in future years. Justification should be made for any adjustments factors applied to increase modelled data fit to measured data. |
| Street canyons and barriers | When carrying out modelling for development impacting on central Saffron Walden, the canyon effect of some streets should be considered, due to the presence of tall buildings in narrow streets. The presence of barriers to dispersion may also need to be considered. |
| Monitoring | If local data is not available, monitoring may need to be undertaken to establish existing levels and for verification of modelled data. A minimum of six months data is required using agreed techniques ,correcting the data to provide a 12-month equivalent to allow for any seasonal variation in air quality levels. Passive diffusion tubes can be used but these should be corrected for bias. |

### 4.3 Determining the significance of impacts

The significance of the impact of a proposal on human health and the environment will depend largely on the context of the development, and the level of change in pollutant levels as a result of the development. The judgement of significance ultimately rests with the planning authority, guided by the Environmental Health

section, and both factors will be used to inform the recommendations for a planning decision.

The difference between the scenarios compared in the assessment is used to determine the magnitude of change in annual mean pollutant concentration at each modelled receptor due to the proposal, and whether the additional concentration causes local exposure levels to approach or exceed AQO levels. The change is expressed as a percentage of the AQO, and the overall classification is taken as the worst affected receptor or defined area where receptors are present. The classification also takes into account exposure of new or existing receptors to levels approaching the AQO.

Table 2 sets out the description of the impact according to the change.

**Table 2. Classification of impacts due to changes in pollutant concentration**

| Classification of impact | Concentration change relative to AQO due to development | Or if development contribution causes |
|---|---|---|
| Large | Increase/decrease > 10% | Breach of air quality objective (AQO) where none existed previously. |
| Medium | Increase/decrease > 5 - 10% | Exposure to be within 5% of AQO. |
| Small | Increase/decrease 1- 5% | Exposure to be within 10% of AQO. |
| Imperceptible | Increase/decrease <1% | |

In addition to the magnitude of change, other relevant factors to assessing the impact will be :

- The number of receptors exposed to levels above the objective or limit value where new exposure is being introduced into an existing area of poor air quality or an area created by the development
- Whether an area of exceedance of the AQO is substantially increased, removed or reduced in area.
- Uncertainty in the modelling and worst-case assumptions made, for example, a concentration of 36 $\mu g.m^3$ nitrogen dioxide may be considered to be significantly close to the air quality objective of 40 $\mu g.m^3$ owing to uncertainties, and may be adopted as a conservative figure when evaluating potential exceedances of the objective

The basis for determining the significance of impacts should be set out in the discussion of the results. The outcome will determine the level of mitigation necessary to reduce the impact of the development to an acceptable level. In situations where the initial impact is determined to be large or medium, the outcome of mitigation measures to lower the impact of the proposal may need to be modelled

or quantified as part of the assessment. Should there be no acceptable mitigation the recommendation may be to refuse the proposal.

Individual small scale developments generating additional traffic or other source of emissions are likely to fall into the imperceptible classification, but will nevertheless add to local air pollution, and potentially introduce more people likely to be exposed to existing levels of pollutants. In the case of development within or close to the Saffron Walden AQMA, this would be contrary to the Action Plan aimed at reducing levels within the AQMA. An appropriate level of mitigation will therefore be expected for all developments generating additional emissions.

## 5.0 Mitigating Impacts

Mitigation is required to ensure all developments are “air quality neutral “ as far as reasonably practicable, and should form part of the air quality assessment, whether or not their outcome is modelled or quantified. In the case of small scale developments which do not require an air quality assessment, a statement on mitigation measures will be expected, to demonstrate compliance with planning policies related to air quality. This will include how the development will promote sustainable modes of transport, for example walking, cycling and public transport, to help reduce the number of car journeys.

The level of appropriate mitigation required for specific proposals will be proportional to the scale and nature of a development, its location, and the judgement of significance of impact. The nature and extent of mitigation possible will influence the planning decision.

Whilst it is for the applicant to propose suitable site specific mitigation, guidance on the nature and extent follows below, including examples of measures. The lists are not exhaustive and further options may be suggested by the Council where appropriate, depending on the scale of development and air quality issues within an area. Alternative mitigation proposed by developers will be welcomed.

The initial consideration is whether redesigning a scheme would reduce the impact of pollutants on future occupants, and reduce emissions as a result of the development. As an example, facades of residential units and outdoor amenity areas can be set back to a suitable distance from a busy road or protected by other elements of the development. Balconies can be orientated away from a road, and ventilation intakes arranged to reduce the impact of outdoor air on occupants. Heating and air conditioning systems should be designed to minimise energy consumption and reduce pollution emissions.

In some cases it may not be reasonable or desirable to redesign a scheme to reduce the significance of the air quality issue, particularly with small infill developments where existing sensitive uses are immediate neighbours and the development is in no worse a position than the neighbouring uses. In these cases the focus may be on including other acceptable measures to reduce the impact or offset the potential consequence of a development.

### 5.1 On-site mitigation measures

The measures which will be expected are broadly divided between two types of schemes.

Small scale developments and those classified as having imperceptible impact following an air quality assessment will be expected as a minimum to provide Type 1 mitigation to encourage non car travel and use of low emission vehicles. Residential developments of less than 10 units would be regarded as small scale or commercial development of under 1,000 square metres floor space.

In all other cases, mitigation to Type 1 will be expected as a minimum together with measures from Type 2 as practicable and appropriate to the scale of the scheme.

**Type 1**

- Secure, well designed cycle storage to an appropriate scale in schemes where more than 10 residential units do not have covered parking, or commercial/industrial developments with more than 20 parking spaces.

- Points suitable for charging plug-in vehicles at the rate of 1 point per unit (house with dedicated parking) and 1point per 10 spaces for unallocated parking for residential and commercial schemes. In addition appropriate cable provision should be included in the scheme design to prepare for increased demand in future years.

- A travel pack for developments of more than 10 residential units, setting out public transport options, and promoting routes for cycling and walking, to be made available to new occupants .

- A travel plan for developments of more than 20 employees which aims to reduce the need to travel at all for work purposes, and where unavoidable, encourages staff and visitors to use more sustainable modes of transport rather than rely on high emission car usage . The content of the plan and the setting of targets should be developed in conjunction with advice from ECC Highways Dept. A named travel plan co-ordinator is essential to the success of the plan, and an element of monitoring and review should be included to allow the co-ordinator to assess performance against the targets and decide whether alternative measures or approaches need to be identified and implemented . In some instances monitoring by the Council may be appropriate and developers would be required to contribute to the cost of this service, usually in the form of an annual fee for five years, with rates based on the size of the development .
  .

**Type 2**

- Provision of convenient and segregated on-site cycle routes, to link to off site routes where feasible and site layout to include adequate pedestrian pathways to encourage walking and access to local bus services.

- Developments associated with the operation of fleet vehicles should provide a strategy for reducing emissions, including the uptake of low emission fuels and technologies and use of pooled low emission vehicles.

- Provision of priority parking for low emission vehicles or vehicles with more than one occupant

- Reduction in the number of car parking spaces or charging for spaces

- Provision of on-site amenities

### 5.2 Mitigation by offsetting

Where on site measures alone are insufficient to reduce the impact on air quality, applicants should consider the scope for offsetting the impact by contributing to funding of other initiatives that improve air quality. This is likely to be the case for example for large scale residential developments generating significant additional traffic onto the road network.The legal basis for contributions is set out in the next section, and the purpose may include :

- Provision of off site traffic management measures to reduce congestion, which are likely to be informed by the outcome of the Transport Statement or Assessment and local highway development requirements.

- Provision of off site infrastructure to support low emission vehicle usage, cycling and walking

- Support for initiatives to encourage local walking and cycling and development of improved bus services, bus stops or facilities

- Contribution towards implementation of the measures identified in the Saffron Walden AQ Action Plan

- Funding for air quality monitoring programmes or studies required to assess potential cumulative air quality impacts arising from a number of developments in close vicinity

- Contribution towards programme of delivery of superfast broadband

## 6.0 Planning Obligations

Any agreed design, mitigation and offsetting measures required as a direct result of new development will be secured through planning conditions where possible.

Where the detriment to air quality cannot be satisfactorily addressed through the use of conditions alone, developers may be required to enter a legally binding obligation made under Section 106 of the Town and Country Planning Act 1990, to secure matters necessary to render a development acceptable which would otherwise be unacceptable in planning terms.
Section 106 agreements can be secured to require the developer to provide appropriate funds for any reasonable measure that can make a positive contribution to improving air quality.

Planning obligations are legally required to meet the following tests:

1. Necessary to make the development acceptable in planning terms
2. Directly related to the development
3. Fairly and reasonably related in scale and kind to the development

The level of funding sought for air quality measures would be related to the additional vehicle trips generated by a new development and the nature of the development. As an example, a proportionately lower contribution would be expected from a development entirely or largely of affordable housing, due to the effect on the viability of the development. Funding would be sought for measures within the locality of the application site so that there is a direct and identifiable link between the proposed development and mitigation.

The Community Infrastructure Levy (CIL) Regulations 2010 introduced an option for local authorities in England and Wales to charge a levy on new development to provide funding for infrastructure. UDC has not adopted a CIL.

## 7.0 Construction / demolition phases

An important consideration of development control is the site preparation, demolition and construction phase of a development. Dust generated from the activity and emissions from site related vehicles and machinery can have a significant impact on local air quality, especially from large developments taking many years to complete.

The Institute of Air Quality Management has provided guidance on assessing dust from activities during the construction phase, which should be followed for major developments, and can be accessed at www.iaqm.co.uk

An AQA would be expected to include the potential for dust soiling, health risks and harm to ecological receptors during this phase, taking account of the following:

- the nature of activities likely to generate dust and emissions, detailing the volume of any demolition processes and earthworks
- the duration of such activities
- the proximity and type of sensitive receptors to the site boundary
- the prevailing wind direction in the area
- any barriers present in the path of emissions
- the distance which the construction traffic will travel across unsurfaced haul roads

- the off site routes to be used by construction related traffic
- the anticipated daily level of traffic

In cases where the construction phase is not covered by an Air Quality Assessment, a construction management plan or statement, proportional to the potential impact, would be expected for all but the smallest developments, detailing how the generation and dispersion of dust and vehicle and machinery emissions will be minimised and restricted to within the site boundary where appropriate.
The air quality impact is one of many impacts, including noise, and for this reason Uttlesford District Council has produced an Environmental Development Code of Practice which developers are expected to follow to minimise impacts and prevent a statutory nuisance from arising.

The code can be found at :

*https://www.uttlesford.gov.uk/CHttpHandler.ashx?id=1228&p=0*

The guidance in this section expands on the code.

Under the code, hours of work are restricted primarily to reduce noise impact, but would equally apply to all works where sensitive receptors are likely to be affected by dust or emissions generated from vehicles and equipment. Works will normally be restricted to the following hours :

- Monday - Friday: 7.30am - 6pm
- Saturday: 8.30am - 1pm
- Sunday / Bank holidays: No work

These restrictions apply to deliveries/collections to the site. The use of diesel powered generators, for example for security lighting, should be kept to a minimum necessary prior to electrical connection to the site, and the need to operate a generator outside the above hours should be discussed with the Environmental Health Dept prior to use.

In addition to the code, information on assessment and mitigation of the construction phase has been provided by the BRE guide “Control of dust from construction and demolition activities”(2003).

Dust generation and vehicle emissions can be controlled by good management practice, and the measures taken should be developed on a site specific basis. Mitigation will be proportionate to the level of risk identified, and it is expected that at least the following options should be explored to reduce the detriment to air quality:

- Provision of perimeter or local dust screens where practicable for activities likely to generate high levels of dust, for example during demolition of structures, sandblasting, and cutting or grinding of materials;

- Location of machinery and dust generating activities as far away from receptors as possible;

- Use of water as a dust suppressant including on haulage roads prior to accessing the local road network. Where mains water is not available, the use of bowsers may need to be considered. Where site conditions make this impractical on roads, temporary roadways shall be constructed of hardcore or similar;

- Adequate sheeting of skips and removal vehicles when loaded;

- Stockpiles of dust generating material shall be damped down or otherwise suitably treated, and sited to minimise the potential for dust generation and as far from sensitive receptors as possible. The handling of material shall be kept to a minimum and when deposited onto a stockpile it shall be from the minimum possible height;

- Regular and adequate sweeping of the area around the site, including the public highway, using wheel cleaning facilities and water-assisted dust sweepers on the access and local roads, to remove, as necessary any material tracked out of the site. It may also be beneficial, particularly for larger developments, to obtain prior agreement from the Essex Highways for the most suitable access and haul routes to be used by site traffic;

- Adopt a maximum speed limit of no more than 5mph on unsurfaced haul roads and work areas;

- No burning of materials on site other than diseased timbers in accordance with Environment Agency regulation, and provided no statutory nuisance arises. The production of dark smoke is an outright offence on commercial or trade premises;

- Keeping plant and equipment well maintained and ensuring they are shut down in the intervening periods between work or throttled down to a minimum, and engines switched off when vehicles are stationary and equipment is not in use;

- Ensuring any plant used for the crushing of materials is permitted by a local authority under the Environmental Permitting (England and Wales) Regulations 2010 and that all works are carried out in accordance with the conditions of such a permit. The process operator should notify the local authority prior to the movement of the plant on to the site. Other dust generating equipment not operated under a permit to be fitted with dust arrestment equipment;

- Suitable boundary monitoring of dust levels may be appropriate for large sites

- Avoidance of activities that generate large amounts of dust during windy conditions;
- Ensuring bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery;

Major development projects are likely to require BREEAM certification (or equivalent) which would include air quality considerations.

It is recognised that disruption to local residents will occur during development works, and it is important to remember that local residents may not necessarily be in favour of the development or all aspects of it. By keeping an open dialogue and attempting to placate any complaints or grievances, the development is likely to progress more efficiently. To this end, it would be helpful to display the contact details for the assigned member of the construction team or office which can deal with air quality issues. All complaints should be logged and the measures taken to resolve the issue recorded, and made available to the Council on request.

For larger developments or developments that are likely to progress over a long period of time, developers are strongly advised to adopt the Considerate Constructors Scheme as a way of reducing emissions. This scheme suggests guidelines to minimise disruption to local residents and businesses and provide a code of conduct for employees on site so that their work does not unduly upset local residents and/or businesses. All personnel should be appraised in considerate working practices to ensure the success of the scheme.

**8.0 Air Quality and Biomass**

Development involving the generation of heat and power from biomass combustion is increasing as a result of the need to generate energy from renewable resources and reduce carbon dioxide emissions.The term 'biomass' applies to all solid fuels made from plants, i.e. coal, smokeless fuels, wood, straw.

However, the combustion of biomass results in significantly higher emissions of particulate matter, nitrogen dioxide and other pollutants when compared to gas and electric heating, with consequent health impacts. The impact on air quality will be lower in rural areas than in town centres.

All new biomass plant over 200kW rated thermal capacity will need to be screened for air quality impacts, and account may need to be taken of sensitive ecosystem impacts in addition to nearby human receptors. Screening guidance is available from Defra which includes a simple tool that shows whether the plant will require a more detailed assessment for $NO^2$ and pm10. If the screening assessment shows that objective limits are likely to be breached, it will be necessary to carry out a dispersion modelling study using an appropriate tool.

In addition, the requirements of the Clean Air Act with regard to stack height will apply to appliances rated at less the 20MW, and the Environmental Permitting regime will apply to larger installations, and to appliances with a throughput of more than 50kg/hr if the fuel is a waste product, for example waste wood.

The location of a biomass plant is critical and the use of biomass combustion other than a single domestic appliance is unlikely to be supported within Saffron Walden, due to the presence of the AQMA, or where it may impact on residential units, unless it can be clearly demonstrated that there will be no adverse impact on air

quality. Depending on the location, the cumulative impact of road traffic may need to be accounted for.

Consideration will also need to be given to the responsible sourcing of biomass fuel and of the transportation impacts of fuel delivery.

Appropriate mitigation for air quality impacts of biomass could include:

- increasing stack height
- repositioning the stack
- considering alternative fuels
- installation of effective abatement equipment.

Full details of the type of plant, operation, emissions data, maintenance and any abatement measures must be submitted with the planning application. Details of the proposed fuel and arrangements for minimising fugitive dust on delivery will also be required.

The significance criteria applied to other air pollution sources will be used for biomass plant.

**9.0 STOR installations**

Applications for new STOR (short term operating reserve) sites for the generation of electricity should be discussed with the Council prior to submission.

Typically the generation is by diesel engines and the installation may be standby or a dedicated source of power generating for a regular set time period. The location selected for the proposal must be suitable to avoid exceedance of the short term objective for nitrogen dioxide and will need to be considered alongside other impacts, for example noise. Full details of the type of plant, operation, emissions data, maintenance, abatement measures and output must be submitted with the planning application. Limits on emissions and restrictions on hours of operation may need to be applied by conditions on a planning consent.

**10.0 Odours**

Applications for development where the emission of odours may be a problem, for example anaerobic digestion plant, composting facilities, sewage treatment plant, poultry and pig farms, should be discussed with the Council prior to submission, to ensure the required level of information is included. Odours from these types of facility can have a significant effect on health depending on the degree of offensiveness and intensity, how often the odour is likely to occur and the duration. Careful consideration will be needed in selecting a location where the impact can be minimised. The Environment Agency have produced technical guidance *H4 Odour Management,* primarily for holders of environmental permits, but provides useful benchmarks against which predicted odour concentrations can be assessed and guidance on preventative measures.

An assessment of the likely impact will be expected to include full details of the type and size of the plant or facility, its proximity to places where people are present for much of the time, and local meteorological conditions, including wind speed and direction data.

## 11.0 Air Quality and Climate Change

Gases and pollutants implicated in climate change such as carbon dioxide, black carbon particles, and ozone, are closely linked to emissions regulated under the management of local air quality. Both originate largely as a result of fossil fuel burning in industry, motorised vehicles and buildings, and need to be addressed together.

Climate change mitigation measures, including use of renewable energy and energy efficiency, would be expected to have a beneficial impact on local air quality.

Climate change measures can conflict with local air quality, for example, re-routeing traffic to avoid increasing emissions in the AQMA may lead to an increase in distance travelled. Also, vehicle emission control technologies may reduce emissions of particulates but can lead to reduced fuel efficiency and increased carbon dioxide and NOx emissions. The shift from petrol towards diesel fuelled cars has reduced tailpipe carbon dioxide emissions but significantly increased emissions of particulates, including black carbon which contributes to warming of the atmosphere.

In order to avoid conflict where possible, it is recommended that consideration of climate change measures be integrated with considerations of local air quality impact when preparing an environmental impact analysis to support a planning application.

## 12.0 Determining planning applications

Planning applications have to be determined in accordance with the local development plan, unless material considerations indicate otherwise, of which air quality is one. The relevant policies under the local plan reflect the need to comply with the air quality objectives, and the action plan designed to achieve them in Saffron Walden AQMA.

We will assess the proposal against national and local planning policies, taking into account comments received and any relevant documents.

The applicant may receive an unconditional permission or, more often, for those developments requiring an air quality assessment, permission subject to conditions. The application can also be refused. Outline applications may be approved subject to reserved matters.

In determining an application, account will be taken of the scale of the development and the outcome of an AQA if submitted, as well as transport and health impact assessments if appropriate. A decision is made based on the acceptability of the impact and the level of mitigation required.

An overriding consideration will be to ensure that the air quality in the Saffron Walden AQMA does not worsen by the introduction of a development and/or that there is no additional air pollution burden from a development(s) which could create new AQMAs

If an air quality assessment demonstrates there will be specific adverse changes in air quality due to a single development, or from the cumulative effect of several developments, which are judged as significant, the recommendation made to the planning department is likely to be to consider air quality as grounds for refusal. This may be the case even after all reasonable means to mitigate the impacts on air quality have been exhausted. The ultimate decision as to the acceptability of proposed mitigation measures lies with the planning authority.

While air quality is only one of many considerations that are relevant to planning, the NPPG states that where sustained compliance with EU Limit Values is prevented, a local authority is to “consider whether planning permission should be refused” The ultimate outcome of the application will follow careful consideration of a number of other factors in the decision making process. If the decision is to refuse permission, the reasons for the decision will be given, based on relevant planning issues.

Where an application cannot be refused on air quality grounds, the recommendation will be to approve the development subject to appropriate conditions to reduce the air quality impact.

NPPF, Para 206, states that conditions should only be imposed where they are :

- Necessary
- Relevant to planning & the development
- Enforceable
- Precise
- Reasonable in all other aspects

Conditions will often require provision of mitigating measures appropriate to the scale of development, or where onsite measures have been exhausted, planning obligations will be sought to support mitigation outside the control of the developer. Control of air quality during the construction phase may also be included.

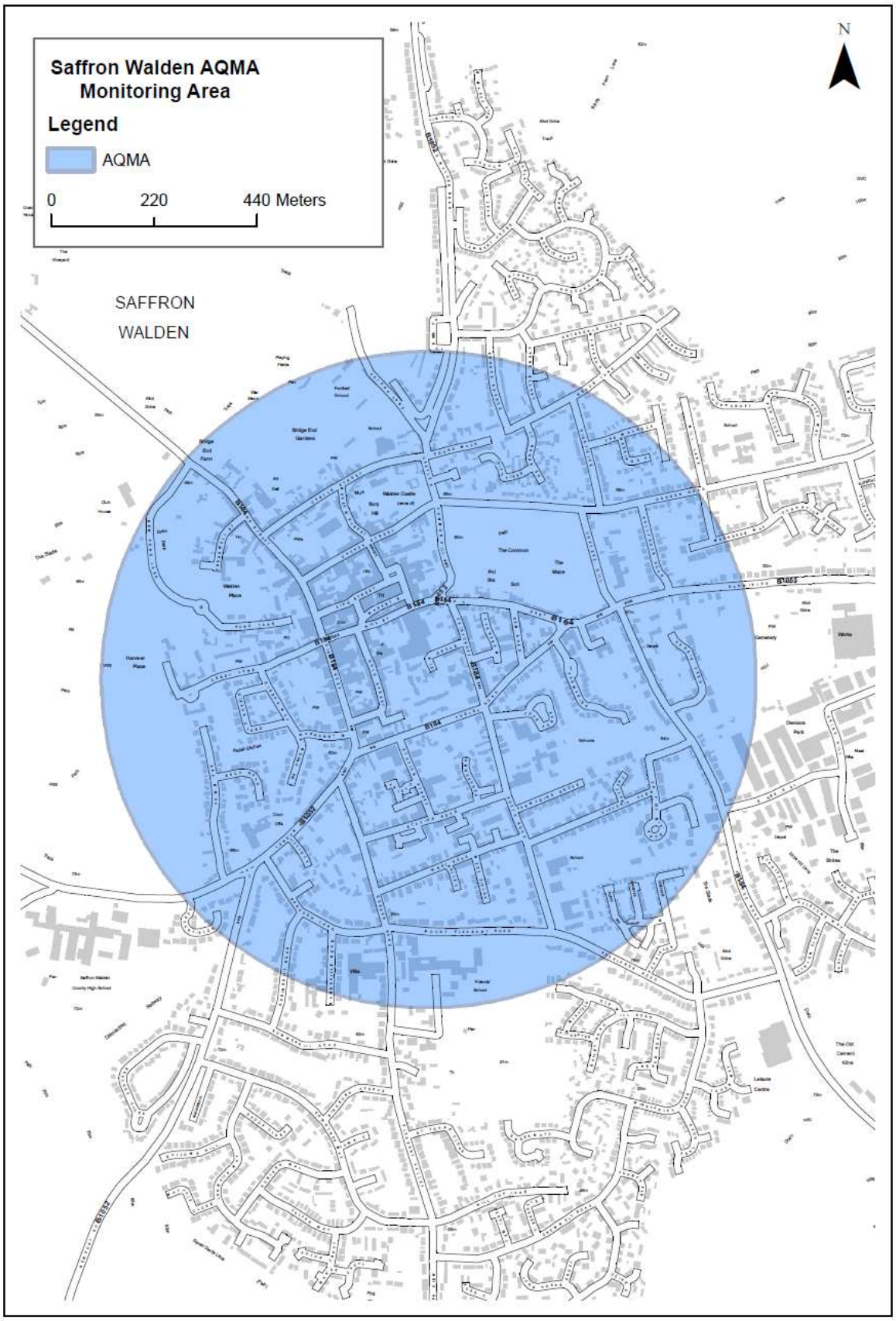
Any application for the discharge of a condition must be supported by all information requested in the condition. If any element of the condition has not been addressed either in part or fully, then it is likely that the condition discharge application will be recommended for refusal.

**Appendix One : National Air Quality Objectives as set out in the Air Quality Standards Regulations 2010 for the purpose of Local Air Quality Management**

| Pollutant | Objective | Averaging period |
|---|---|---|
| **For the protection of human health :** | ($\mu g/m^3$ = microgram per cubic metre) | |
| **Benzene** | 5.00 $\mu g/m^3$ | Annual mean |
| **Carbon monoxide** | 10.0 $mg/m^3$ | Maximum daily running 8-hour mean |
| **Lead** | 0.5 $\mu g/m^3$ | Annual mean |
| **Nitrogen Dioxide** | 200 $\mu g/m^3$ not to be exceeded more than 18 times a year | 1-hour mean |
| | 40 $\mu g/m^3$ | Annual mean |
| **Particles ($PM_{10}$) (gravimetric)** | 50 $\mu g/m^3$, not to be exceeded more than 35 times a year | 24-hour mean |
| | 40 $\mu g/m^3$ | Annual mean |
| **Sulphur dioxide** | 350 $\mu g/m^3$, not to be exceeded more than 24 times a year | 1-hour mean |
| | 125 $\mu g/m^3$, not to be exceeded more than 3 times a year | 24-hour mean |
| **Particles ($PM_{2.5}$)** | 25 $\mu g/m^3$ to be achieved by 2020 | Annual mean |
| **Ozone** | 100 $\mu g/m^3$ not to be exceeded more than 10 times pa | Daily 8hr mean |

| | | |
|---|---|---|
| **For the protection of vegetation and ecosystems :** | | |
| **Nitrogen oxides** | 30 µg/$m^3$ | Annual mean |

## Appendix Two : Map of Saffron Walden AQMA


Saffron Walden AQMA
Monitoring Area
Legend
AQMA
0
220
440 Meters
N
SAFFRON
WALDEN

## References


Air Quality Regulations 2002/2010 www.legislation.gov.uk

Air Quality Strategy Defra 2007

Biomass and Air Quality Guidance : Lacors & EPUK 2009

Construction Code of Practice http://www.iaqm.co.uk/guidance.html

Emissions Factor Toolkit
http://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html

Environment Act 1995

Environment Agency (2011) H4 Odour Management

Land-Use Planning & Development Control: Planning For Air Quality Environmental Protection UK 2015

National Planning Policy Framework (2012) Department for Communities and Local Government

National Planning Policy Guidance (2014)
http://www.planningguidance.planningportal.gov.uk

Planning for Climate Change : Planning and Climate Change Coalition April 2012

Technical Guidance Note LAQM TG(16). http://laqm.defra.gov.uk

Town & Country Planning [Environmental Impact Assessments] England & Wales Regulations 1999.

Uttlesford Draft Local Plan (April 2014) Uttlesford Local Plan – Pre-Submission Consultation, November 2016

**Glossary of Abbreviations**

| Abbreviation | Description |
|---|---|
| AQAP | Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values' |
| AQMA | Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives |
| AQA | A detailed study related to the air quality impact of a development proposal |
| ASR | Air quality Annual Status Report : required under LAQM |
| COMEAP | Committee on the Medical Effects of Air Pollution |
| Defra | Department for Environment, Food and Rural Affairs, responsible for air quality policy and supervision of LAQM |
| ECC | Essex County Council |
| EU | European Union |
| LAQM | Local Air Quality Management : system for local assessment |
| LEV | Low Emission Vehicle |
| $NO_2$ | Nitrogen Dioxide |
| $NO_x$ | Oxides of nitrogen which include $NO_2$ emitted directly and formed by the oxidation of nitrogen oxide (NO) after emission. |
| $PM_{10}$ | Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less |
| $PM_{2.5}$ | Airborne particulate matter with an aerodynamic diameter of 2.5µm or less |
| PG(16) | Local Air Quality Management Policy Guidance, Defra 2016 |
| TG(09 &16) | LAQM Technical Guidance, Defra 2009 & 2016 |