

WEST YORKSHIRE

**AIR QUALITY & EMISSIONS
TECHNICAL PLANNING GUIDANCE**

Wakefield Council Edition



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1. Summary

This technical guidance forms part of the overarching West Yorkshire Low Emissions Strategy (WYLES) with a vision of *“Delivering Cleaner Air for all in West Yorkshire”*.

The guidance is aimed at helping planning authorities deliver national air quality objectives through cost effective service planning brought about by joint working and individual policies set out in each authority’s Local Plan.

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 future scheme impacts are reasonably mitigated and occupiers are able to make green transport choices.

This technical guidance deals primarily with those pollutants regulated under the local air quality management (LAQM) regime and the impact of traffic emissions, but the increasing use of biomass combustion is now included. The assessment and control of impacts during demolition and construction is also considered. 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.

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 and inform air quality action planning.

The assessment process follows a three stage process:

STAGE 1- Determining the scale of the development proposal;

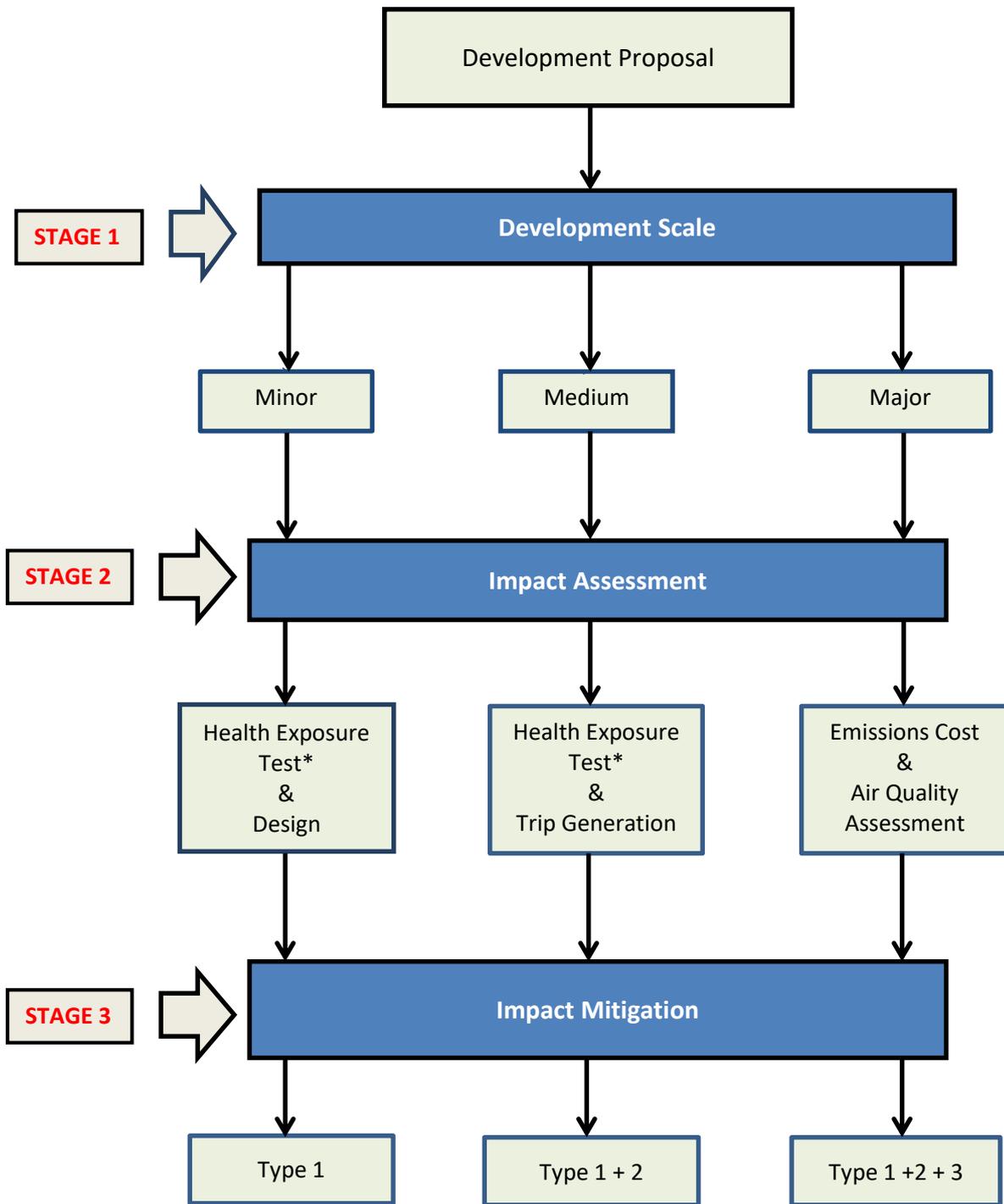
STAGE 2- Assessing and quantifying the impact on local air quality;

STAGE 3- Establishing the level of mitigation required of the proposal to meet National Planning Policy, Local Plan requirements and the WYLES objectives.

The process is summarised in the flow chart overleaf.

Figure 1

Air Quality Impact Assessment Flow Chart



* There is no safe level for 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.

2. Introduction

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

- Provide a framework for assessing air quality which includes the quantification of impacts, formulating damage costs and implementing mitigation measures to negate the impact.
- Tackle cumulative impact.
- Delivers clarity and consistency of the process to developers, planners and local communities.

Pre-Planning and Scheme Design Discussions

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 appropriate assessment requirements are undertaken.

The National Planning Policy Framework (NPPF)¹ emphasises the need for quality scheme design (Chapter 12) *“Design quality should be considered throughout the evolution and assessment of individual proposals. Early discussion between applicants, the local planning authority and local community about the design of emerging schemes is important for clarifying expectations and reconciling local and commercial interests”*. The use of design guides² is recommended *“to provide maximum clarity about design expectations”*.

In terms of air quality impacts, a good basic design will reduce the need for mitigation. A basic design is expected to deliver:

- No additional exposure to elevated levels of air pollution for existing or future occupants;
- A location which maximises the use of sustainable transport, that:
 - reduces the number and distance of trips;
 - shifts the journeys to alternative, less polluting modes, and;
 - provides for improved technology and efficiencies.
- Greenspace and people priority wherever practicable.

3. Planning Policy Framework

3.1 National Policy

National planning policy is set by the NPPF. The NPPF places a general presumption in favour of sustainable development, stressing the importance of local development plans. An ‘environmental objective’ forms one of the three overarching planning objectives and states that the planning system should:

“contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change, including moving to a low carbon economy”.

It then further states in terms of air quality influence, that:

Paragraph 110 - *“applications for development should:*

¹ <http://planningguidance.planningportal.gov.uk/>

² An example of a residential design guide: <http://www.wakefield.gov.uk/planning/policy/supplementary-documents>

a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;

e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations”.

Paragraph 170 – *“Planning policies and decisions should contribute to and enhance the natural and local environment by:*

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air quality”.

Paragraph 181 – *“Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan”.*

3.2 Local Planning Policy

The Planning and Compulsory Purchase Act 2004 amended by the Localism Act 2011, requires planning authorities to prepare Local Plans, which will be made up of a single or number of documents including:

- Core strategy;
- Development Plan Policies;
- Site Specific Proposals;
- Area Action Plans;
- Other documents including supplementary planning documents.

The Local Plan identifies land areas for future development and includes a number of strategic and development policies relating to local air quality management that fulfils the NPPF sustainable development criteria. This technical guidance supports the implementation of the strategic and development policy framework.

4. Local Air Quality Management

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.

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 that the proposal might introduce individuals into an area of existing poor air quality.

The declaration of an AQMA does not mean that there should 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. Also, 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 exceedence, where there is relevant exposure.

5. Air Quality Impact Assessment Process

The process presented in Figure 1 involves a three stage process:

5.1 Stage 1: Establishing the Scale of Development:

Three levels of development scale are identified from the following tables:

Table 1: Criteria for Identifying the Scale of Development

Land Use	Description	Criteria
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)
Where a Transport Assessment or Statement is provided		
Any development proposing 100 or more parking spaces		

*GFA = Gross floor area

Table 2: 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(as amended) and includes air quality and/or transport as a specific likely impact.
Proposals located within an Air Quality Management Area (AQMA), Clean Air Zone or Low Emission Zone.
Proposals located in an Area of Concern (nearest monitoring results from the current Annual Status Report show a level >90% of the relevant objective).
Proposals that include additional Heavy Duty Vehicle (HDV) ** movements by more than 10% of total trips.
Proposals associated with the Environmental Permitting Regulations.
Increase in total Annual Average Daily Traffic (AADT) of Light Duty Vehicles (LDV)* >100 vehicles within an AQMA or area of concern.
A change in HDV AADT flow of >25 vehicles within an AQMA or Area of Concern.
Where Combined Heat & Power (CHP), biomass or biofuel boilers are proposed for heating or power.

*LDV = cars and small vans <3.5t gross vehicle weight **HGV = Goods vehicles and buses/coaches >3.5t gross vehicle weight

1. **MINOR** Development: Proposals that fall below Table 1 criteria.
2. **MEDIUM** Development: Proposals that meet Table 1 criteria.
3. **MAJOR** Development: Proposals that meet Table 1 criteria and the additional criteria set out in Table 2.

The final decision as to the development proposal classification will be made by the relevant local authority officer.

5.2 Stage 2: Air Quality Impact Assessment:

There are two components of development proposals that influence local air quality, each requiring a level of assessment;

- Demolition and construction activities, and;
- The operation of a completed development which is mainly transport but can include emissions from heating and power generation.

MINOR and MEDIUM Classified Proposals

Smaller development proposals may not in themselves create an additional air quality problem but will add to local polluting emissions if not mitigated and potentially expose new occupants to existing levels of poor air quality. Any demolition or construction activity associated with these proposals should undertake the assessment detailed in the guidance in Appendix 1.

An assessment of the likelihood of introducing inappropriate exposure is required using the following criteria:

The proposal is within an AQMA, an area of concern, Clean Air Zone or Low Emission Zone.
The proposal is in a location 20m ³ from roads at or above the relevant national objective highlighted on the DEFRA GIS modelled maps (DEFRA Maps) ⁴ .
The proposal is one of the land use types: C1 to C3, Homes of Multiple Occupations (C4), and D1 in table1.
The proposal is within 20m of roads with >10,000 AADT which is usually a strategic highway or 'A' road. This data is available from the Department for Transport Traffic Count website ⁵ for the relevant nearest count point to the proposal.
Where a Transport Statement or Assessment is provided, the calculated increase in trip generation associated with the proposal should inform the Travel Plan as to the required reduction in trips necessary to achieve compliance with NPPF and Local Plan policies.

³ <http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html>

⁴ <https://uk-air.defra.gov.uk/data/gis-mapping>

⁵ <http://www.dft.gov.uk/traffic-counts/index.php>

The outcome of the exposure assessment and trip generation will determine the level of mitigation required to make the development proposal acceptable. Heavy reliance is made on the quality of the proposal basic design described earlier as well as additional default measures described later.

MAJOR Classified Proposals

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. The assessment requires:

- A. The determination of the level of population exposure through the change in pollutant concentrations including cumulative impacts, arising from the proposal during both demolition/construction and operational phases.

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)⁶ and the Institute for Air Quality Management (IAQM) guidance⁷. A significance assessment is only required for proposals that fall within the Environmental Impact Assessment Regulations. This scale of proposal and in particular housing schemes where there are no existing monitoring locations will require short-term screening monitoring for model verification, as well as confirming baseline concentrations. Post development monitoring is required to ensure the effectiveness of the air quality assessment and Travel Plan measures.

- B. The calculation of the additional pollutant population exposure emissions costs (DEFRA use the term damage costs) from the transport element of the development.

The pollutant emissions costs calculation will identify the change in emissions and thereby the scale of environmental damage costs associated with the proposal. This determines the level of mitigation expected to be implemented to negate the air quality impacts. The calculation utilises the most recent DEFRA Emissions Factor Toolkit⁸ 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 cost⁹. The calculation process includes:

- Identifying the additional trip rates or vehicle numbers generated by the proposal (from the Transport or Air Quality Assessment);
- The emissions calculated for the pollutants of concern (NO_x, PM₁₀, and PM_{2.5}) [from the Emissions Factor Toolkit].
- The air quality damage costs calculation for the specific pollutant emissions. A conversion to PM_{2.5} is required for PM₁₀ using the relevant factor (0.673 for road transport). A 2% uplift per year is required to accommodate inflation;
- The result is totalled for a five year period to enable mitigation implementation. Mitigation is estimated to have an 80% impact in the first 5 years of implementation¹⁰.

The calculation is summarised below.

Road Transport Emission Increase/Decrease and damage cost =
The sum of [Estimated trip rate/numbers X Emission rate per 10km per vehicle type X Damage Costs X 5 years]

⁶ <http://laqm.defra.gov.uk/technical-guidance/index.html>

⁷ <http://iaqm.co.uk/guidance/>

⁸ <http://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html#eft>

⁹ <https://www.gov.uk/air-quality-economic-analysis>

¹⁰ COMEAP (2010)

5.3 Stage 3: Mitigation

The outcome of Stage 2 (Impact Assessment) provides the level of air quality impact associated with the proposal that is then used, following the principles above, to determine the level of mitigation required to negate the potential effects upon health and the local environment, should the scheme design not provide it.

National Planning Practice Guidance (NPPG) states¹¹:

“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.

Examples of mitigation 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;*
- *means of ventilation;*
- *promoting infrastructure to promote modes of transport with low impact on air quality;*
- *controlling dust and emissions from construction, operation and demolition, and by;*
- *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”.*

The IAQM has produced a Positions Statement on mitigation¹² which follows a hierarchy of mitigation that *“is suitable both for impacts caused by a potentially polluting new development and for the impact of exposure of new occupants of a development”*. The hierarchy is:

I. Preference should be given to preventing or avoiding exposure/impacts to the pollutant in the first place by eliminating or isolating potential sources or by replacing sources or activities with alternatives. This is usually best achieved through taking air quality considerations into account at the development scheme design stage.
II. Reduction and minimisation of exposure/impacts should next be considered, once all options for prevention/avoidance have been implemented so far as are reasonably practicable (both technically and economically). To achieve this reduction/ minimisation, preference should be given first to: a. mitigation measures that act on the source, before b. mitigation measures that act on the pathway; which in turn should take preference over c. mitigation measures at or close to the point of receptor exposure all subject to the efficacy, cost and practicability of the available solutions. In each case, measures that are designed or engineered to operate passively are preferred to active measures that require continual intervention, management or a change in people's behaviours.
III. Off-setting a new development's air quality impact by proportionately contributing to air quality improvements elsewhere (including those identified in air quality action plans and low emission strategies) should only be considered once the solutions for preventing/avoiding, and then for reducing/minimising, impacts have been exhausted.

This principle should be used for mitigation identification and presentation.

Early reference to and incorporation of the principles of this guidance should lead to a scheme design that will require little further mitigation to ensure compliance with national and local policies.

¹¹ <https://www.gov.uk/government/collections/planning-practice-guidance>

¹² <http://iaqm.co.uk/guidance/>

The measures presented below form the basis to be included in the initial scheme design and for any subsequent residual impact mitigation.

This is not an exhaustive list and will be adapted for particular locations and needs identified by relevant officers and the scale of impacts.

Minor Proposal Default Mitigation (Type 1)

A summary of mitigation is shown below. Details of the requirements follow.

Table 3: Minor (Type 1) Mitigation Measures

Scheme Basic Design for Air Quality
Improved design to minimise exposure to future occupiers
Electric Vehicle Charging Infrastructure
Charging points included for housing and commercial proposals
Demolition/Construction/NRMM
Adherence to dust management guidance and best practice for all demolition and construction works provided in an appropriate Construction Environmental Management Plan (CEMP)
Heating
All gas-fired boilers to meet a minimum standard of <40mgNOx/kWh

Scheme Design

In terms of air quality impacts a good basic design will reduce the level of additional mitigation. A basic design is expected to deliver:

No additional exposure to increased air pollution for existing or future occupants
A location that maximises the use of sustainable transport, that: <ul style="list-style-type: none"> ▪ reduces the number and distance of trips; ▪ shifts the journeys to alternative, less polluting modes, and; ▪ provides for improved technology and efficiencies.
Greenspace and people priority wherever practicable ¹³ .

To reduce potential exposure of new occupiers to poor air quality, mitigation included in the design should consider:

Moving occupied buildings back from the roadside.
Reducing opening windows/doors facing the roadside.
Re-organising main habitable rooms away from facing the roadside.
As a last resort, including non-opening windows and/or mechanical ventilation (with heat recovery) into the building.

Electric Vehicle Charging Infrastructure

The NPPF (paragraph 110) 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:

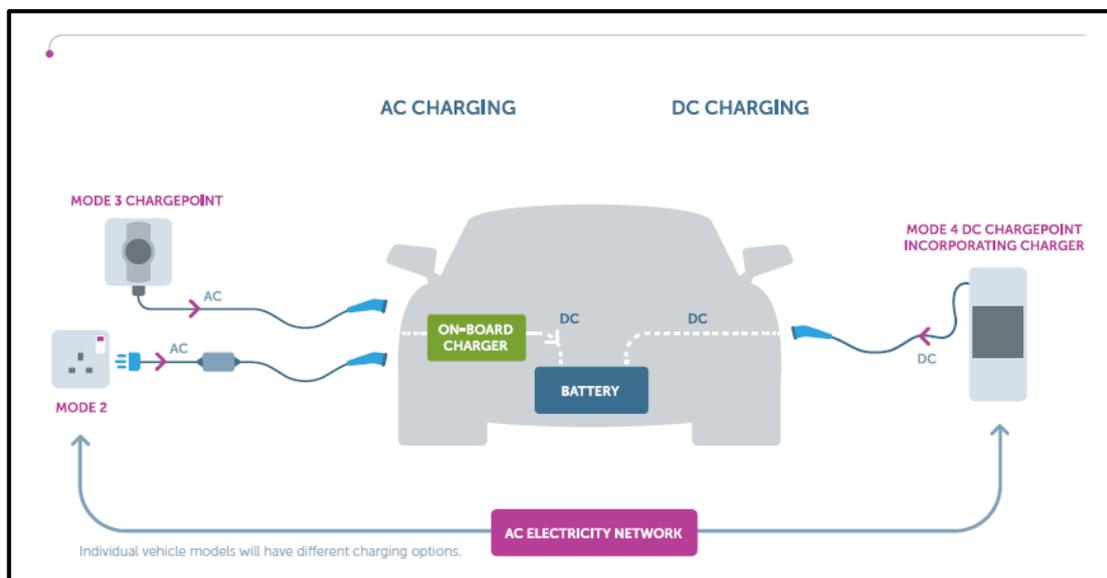
- the proposal has no parking provision;
- the site is accessed for less than 20 minutes, or;
- the site does not attract motorised vehicles on a daily basis.

¹³ <http://www.woodlandtrust.org.uk/mediafile/100820912/dp-wt-12-urban-air-quality-report.pdf?cb=6d072362016d491abbdceda93061e5e8>

The exact number, specification, location and maintenance schedule for electric vehicle recharge should be agreed with the relevant authority but the general preferred options are shown below. Reference to the BEAMA guidance¹⁴ is recommended.

Electric Vehicle Charging Provision

Preference P = preferred M = minimum	Mode 2 (AC) Charging time: 6 – 10 hours	Mode 3 (AC) Charging times: 7KW – 3 hours 22KW - <1 hour	Mode 4 (DC) Charging times: 20 minutes	Charging provision
Dwelling with allocated parking	M	P		1 point per dwelling
Dwellings with shared parking (<50 units)	M	P		1 parking bay allocated for electric vehicle use only, with charging point
Dwellings with shared parking (>50 units)	M	P		2% of total parking provision for dedicated bays and infrastructure
Workplace (< 50 bays)		P		10% parking bay allocation for electric vehicle use.
Workplace (> 50 bays)		P		20% parking provision for dedicated bays and infrastructure.
Public accessible – large supermarkets, cinema, hotels		M	P	As workplace



Site Development Operations

Construction and demolition activities can have a significant impact on local air quality without appropriate and effective mitigation. There is often no clear mitigation provided in proposals which inevitably delays approval and operation of the development. In order to provide a clear understanding of what is required, guidance is provided in Appendix 1. The measures required for Type 1 (Minor) proposals (including Non Road Mobile Machinery [NRMM]) listed in the guidance should be presented in an appropriate CEMP.

¹⁴ <http://www.beama.org.uk/resourceLibrary/beama-guide-to-electric-vehicle-infrastructure.html>

Heating

The increasing use of centralised heating systems and biomass fuel within urban areas has the potential for a significant increase in polluting emissions and thus minimum default standard is required with the inclusion of low nitrogen oxides domestic boilers.

Medium Proposals Mitigation (Type 2)

A summary of mitigation is shown below. Details of the requirements follow.

Table 4: Medium (TYPE 2) Proposal Mitigation Measures

MINOR (Type 1) classified mitigation measures (Table 3) – Scheme Design, CEMP, EV Charging, Heating
Low Emissions Travel Plan
Defined and agreed targets and indicators with measures to at least include those below
Infrastructure
Improved pedestrian links to public transport stops.
Provision of bus infrastructure including stands, shelters, bus gates, information displays.
Improved convenient and segregated cycle paths to link to local cycle networks.
Site layout to include improved pedestrian pathways to encourage walking.
Support the local monitoring network to appraise the success of the air quality assessment and travel plan.
Adoption of Home Zone principles or features into the development.
Residential
Support free or reduced membership of the West Yorkshire car club and travel network
Provision of free ticketing (Corporate and residential Metrocards, Student Metrocards) with time limited uptake targets.
Provision of resident LEV purchase support as an alternative to Metrocard with time limited uptake.
Supporting the extended provision of sustainable school travel into the development.
Provision of storage and financial support for cycle purchase or hire.
Commercial
Provision of bus infrastructure including stands, shelters, bus gates, information displays.
Incentives for using sustainable transport alternatives
Provision of free bus ticketing (Corporate Metrocards).
Provision of cycle storage, changing facilities together with support for cycle purchase or hire.
Membership of the West Yorkshire Eco-Stars Fleet Recognition Scheme or other approved scheme.

Low Emission Travel Plan (LETP)

Proposals falling into the MEDIUM criteria in table 1 are of sufficient polluting potential to warrant further air quality mitigation beyond that of Minor proposals. Medium proposals will include a Transport Assessments/Statements and Travel Plans, as stipulated by the NPPF:

Paragraph 111: *“All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so the likely impacts of the proposal can be assessed”.*

The NPPG provides the scope and level of detail required in Transport Assessments, Statements and Travel Plans. In reality, the environmental impacts and mitigation measures required by the NPPG to be included in the Transport Assessment are often considered in other documents such as Air Quality Assessments. General Travel Plans rarely provide the required explicit outcomes and specified measures that would aid emission reduction.

An LETP goes further than routine travel plans and consolidates the requirements of the NPPG criteria that supports reduced emissions. These being:

“specific required outcomes, targets and measures, and clear future monitoring and management arrangements”.

“additional measures to offset unacceptable impacts”.

“explicit outcomes rather than just identify processes to be followed (such as encouraging active travel or supporting the use of low emission vehicles)”.

“measures to improve the accessibility of the location (such as provision/enhancement of nearby footpath and cycle path linkages): ways of encouraging environmental sustainability by reducing the need to travel; and measures to mitigate the residual impacts of development (such as improvements to the public transport network, introducing walking and cycling facilities, physical improvements to existing roads)”.

This forms the basis of the required LETP process. The LETP should either be incorporated in the overall travel plan or as a separate document.

In respect of the LETP, it is essential that:

- | |
|---|
| <ul style="list-style-type: none"> • The content of the plan is fully assessed and agreed 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 to reduce trips included in the 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 plan (trip levels and mode split) are annually monitored against the agreed targets and objectives. • A bond is required in the event that the plan does not deliver the anticipated outputs or meet the targets and objectives. • A named co-ordinator is essential to the success of the plan. For larger schemes a commitment in terms of local authority staff resource allocation will be expected. |
|---|

The Transport Assessment will identify the increase in vehicle journeys associated with a development proposal which will inform the LETP measures and targets to achieve an agreed emissions/journey reduction. Suggested targets and indicators are:

LETP Suggested Targets

Residential
Number of non-sustainable car trips per occupied unit per weekday will not exceed X, or;
Number of weekday non-sustainable trips generated daily by the development once fully occupied will not exceed X, or;
Number of peak hour trips.
Workplace
% of employees driving to work by non-sustainable vehicle will not exceed X, or;
Number of non-sustainable weekday trips generated by the development when fully occupied will not exceed X.
Leisure/Retail
% of visitors/shoppers accessing the development by non-sustainable vehicle shall not exceed X, or;
Number of non-sustainable trips generated by the development once fully occupied shall not exceed X.
School
% of pupils travelling by walking and cycling will be X%, or;
% of pupils travelling by non-sustainable car will not exceed X.

LETP Suggested Indicators

Residential
Number of walking/cycling/bus/train trips per unit per day, or;
Number of walking/cycling/bus/train within the development per week.
Workplace
% of employee trips made by walking/cycling bus/train/as passenger.
Leisure/Retail
% of visitor/shopper trips made by walking/cycling/bus/train/as passenger.
School
% of trips to education made by walking/cycling bus/train/' park & walk'.

The DEFRA IGCB Air Quality Damage Costs detailed above should be used to determine the emissions reduction in establishing the targets. For example, the reduction in number of non-sustainable car trips from a proposed target, from that predicted by the Transport Assessment, will yield a lower emissions output.

Major Proposal Mitigation (Type 3)

A development proposal identified as MAJOR will have significant polluting potential as identified through the detailed exposure assessment and calculated damage cost. The proposal is of such a scale that even with the required application of Minor and Medium mitigation there remains significant emissions damage potential that warrants further, wider mitigation, commensurate to the scale of impact.

The majority of on-site mitigation should be delivered in the LETP measures but can be enhanced for major proposals, such as the support/provision of low emission waste collection services entering the location. Contributions to (or provision) of off-site mitigation measures that will influence the proposed development to the scale of the damage cost and align with the WYLES objectives described below, are further recommended.

Ref:	West Yorkshire Low Emissions Strategy Objectives
002	Accelerate investment in new and upgraded buses.
003	Accelerate the provision of public electric vehicle charging infrastructure.
005	Support the development of alternative fuel delivery infrastructure.
006	Supporting the taxi industry to transition to low emissions vehicles.
007	Support the delivery of the West Yorkshire Transport Strategy environment objectives.
009	Support local authority procurement of low emission waste, highway and social care vehicles.
010	Sponsor public information and monitoring campaigns.

A summary of potential measures is shown in table 5, below.

Table 5: MAJOR (Type 3) Proposal Mitigation Measures

MINOR (Type 1) measures – Scheme Design, CEMP, EV Charging, Heating
Medium (Type 2) measures – LETP measures, including targets & indicators
Infrastructure
Enhanced public EV charging facilities within the area
Improved public transport information systems
Provision of new or enhanced public transport to the site, including low emission shuttle services
Contributions to improved cycle/walk infrastructure – new links, shelters, lighting, information systems
Creation or contribution to home zone implementation
Financial contribution to the local authority AQ monitoring program and travel plan auditing
Residential
Contribute to low emission car club vehicle provision
Support the provision of low emission waste collection service
Enhanced broadband provision to support home-working
Workplace
Provision of low emission pool vehicles
Smart driving training scheme provision
Membership of the ECO-Stars or equivalent Fleet Recognition Scheme
Commercial vehicles to comply with the most recent Euro emission engine standard
Fleet operations to have an emissions reduction strategy for vehicles

The pollutant emissions costs calculation above should be used to determine the future benefit of emissions reduction in establishing these measures.

Such agreed measures will be taken forward through the use of Section 106 agreements.

6. Planning Recommendation

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, and through the use of Section 106 agreements.

Generally, development proposals will be supported that:

- Have followed and provided the necessary evidence required by this guidance;
- Minimise and preferably reduce, polluting emissions;
- Demonstrate a low risk of increased exposure;
- Meet the requirements of the NPPF, Local Plan policies, WYLES, AQ Action Plans, Clean Air Zone and AQMAs.

Appendix 1

Demolition and Construction Environmental Management

Emissions arising from demolition and construction site activities, including gases and dust¹⁵, are additional to background concentrations. If not adequately controlled these emissions will lead to increases in concentrations beyond the site boundary, which may affect local amenity and influence local air quality. The main concern is related to dust emissions but gaseous emissions from transport and Non-Road Mobile Machinery combustion can be significant in urban areas.

It is more effective to address emissions at the design and planning stage of new development proposals, than to seek to deal with problems retrospectively. Likewise it is more effective to deal with potential emissions at source, rather than once airborne.

The level of emission impact is dependent on:

- The scale of any proposal;
- The nature of the proposal;
- The location and sensitivity of receptors;
- The existing conditions at the location;
- Local weather patterns;
- Topography.

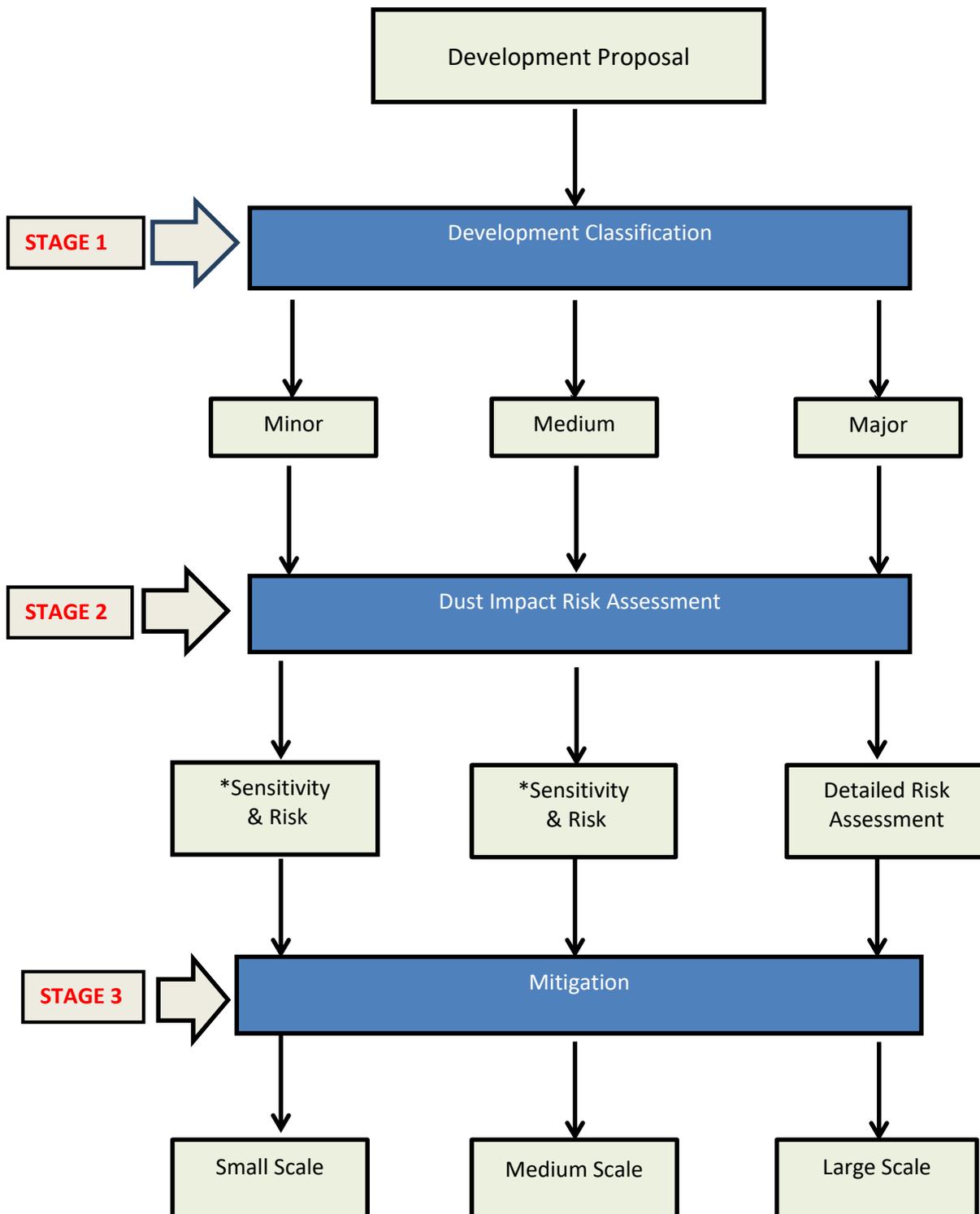
The requirement in most related planning conditions for the need to submit a “scheme” or “plan” that is acceptable does not provide sufficient information for the developer to undertake an effective assessment of the likely impact of the proposal, or know what appropriate mitigation measures are required. This leads to further time consuming negotiations that benefits no-one. This short guidance is provided in order to reduce the time taken by all parties and provides a clear understanding of what is required and how it is to be achieved.

Minerals and quarries are specifically identified through the National Planning Policy Framework and National Planning Practice guidance and are not covered by this note.

The level of impact and mitigation information required within this framework is achieved through the process illustrated in the flow chart overleaf.

¹⁵ ‘Dust’ in this guidance refers to particles that give rise to soiling, to human health and ecological effects.

The Emissions Management Assessment and Mitigation Flow Chart



*There is no safe level for exposure to fine 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.

ASSESSMENT & MITIGATION

A three stage process is described to provide sufficient information to enable the identification of appropriate mitigation measures to ensure the minimisation of dust impact on local receptors and air quality. The stages are:

- 1) Scale of the proposal for dust generation;
- 2) A dust impact risk assessment;
- 3) Appropriate mitigation measure implementation listing.

Five site activities are recognised as potential for dust generation:

- Demolition;
- Earthworks;
- Construction;
- Trackout (off-site vehicle movements);
- Non-road Mobile Machinery (NRMM).

NRMM Requirements

NRMM refers to machinery that is not intended for carrying passengers or goods on the road and installed with a combustion engine (either spark ignition or compression ignition). Examples on construction/demolition activities include (but not limited to): generators, bulldozers, pumps, construction machinery, mobile cranes, fork lifts, industrial trucks.

NRMM emissions are regulated by European Directive (EU 97/68/EC) as amended and enforced through the Road Mobile Machinery (Emission of Gaseous and Particulate Pollutants) Regulation 1999, as amended. A tightening of emissions is required through a progressive staged implementation (Stages 1 – V) by 2020.

1) SCALE OF PROPOSAL

The size of any proposal will determine the level of potential dust emission. Using the site activities, the table below classifies the scale of a proposal as Small, Medium and Large.

ACTIVITY	CRITERIA	SCALE
Demolition	<20,000m ³ total volume of structure working at <10m above ground.	Small
	20,000m ³ -50,000m ³ total volume of structure working at 10m-20m above ground.	Medium
	>50,000m ³ total volume of structure working >20m above ground.	Large
Earthworks	<2,500m ² total site area using <5 heavy moving vehicles.	Small
	2,500m ² -10,000m ² total site area, 5-10 heavy moving vehicles.	Medium
	>10,000m ² total site area >10 heavy moving vehicles.	Large
Construction	<25,000m ³ construction material. <10 dwellings.	Small
	25,000m ³ -100,000m ³ construction material. 10-50 dwellings.	Medium
	>100,000m ³ construction material. >50 dwellings.	Large
Trackout	<10 HDV (>3.5t) outward movements off-site in any one day.	Small
	10-50 HDV (>3.5t) outward movements in any one day.	Medium
	>50 HDV (>3.5t) outward movements in any one day.	Large

Whichever is the largest will be the overall scale.

2) DUST IMPACT RISK ASSESSMENT

The potential risk of dust impacting on receptors requires assessing to enable to gauge the level of required mitigation. The level of dust impact is associated with:

- The number, location and sensitivity of receptors;
- The type, location and frequency of site activity;
- The scale of the development.

Further information and reference is available at the Institute of Air Quality Management (IAQM) [Guidance](#) and the Mayor of London Control of Dust Supplementary Planning Guidance [London Guidance](#).

Small and Medium Risk Assessment

The number and degree of sensitive receptors in proximity to the proposal works are used to determine the level of risk.

Sensitive Receptors for SMALL and MEDIUM Proposals

High Sensitivity	Medium Sensitivity	Low Sensitivity
Hospitals and clinics	Schools	Farms
Hi-Tech industries	Residential Areas	Light & Heavy Industry
Painting & furnishing	Food Retailers	Outdoor Storage
Food Processing	Greenhouses & Nurseries	
	Horticultural Land	
	Offices	

Assessment of the dust impact risk for SMALL and MEDIUM proposals:

Sensitive Receptors	Number of Total Receptors	Distance from Source (m)		
		<20	<50	<100
High	>50	Large	Large	Medium
	10-50	Large	Medium	Small
	1-10	Medium	Small	Small
Medium	>1	Medium	Small	Small
Low	>1	Small	Small	Small

The highest outcome will be the overall level of risk

Assessment of the dust impact risk for designated LARGE proposals should follow the IAQM [Guidance](#)

3) MITIGATION MEASURES

The outcome of the scaling and risk assessment will identify the level of likely impact on the local amenity and air quality and the required level of mitigation. The mitigation is listed in any dust management plan or dust minimisation scheme together with responsibility for each measure implementation and control.

NRMM Controls

The NRMM standards apply to machinery of net power between 37kW and 560kW of variable and constant speed engines for NOx and Particulate Matter. These are:

- Sites classified as **MEDIUM** development are required to meet Stage IIA of the Directive as a minimum;
- Sites classified as **LARGE** will meet Stage IIB.

From 2020:

- Any construction/demolition site using NRMM will meet Stage IIB of the Directive, and;
- **MEDIUM** and **MAJOR** classified sites will meet Stage IV.

This is achievable by: re-organisation of NRMM equipment; replacement of non-compliant equipment; retrofit abatement technologies to non-compliant equipment; engine replacement. Exemption will only be allowed if: no compliant machinery is available or comprehensive retrofit is not feasible.

Local Weather Information

The Met Office now offer a specific construction site weather report to enable a more effective site environmental management programme [Met Office Construction Site Weather Reports](#)

REQUIRED MITIGATION MEASURES

Measure	Scale and Risk		
	Small	Medium	Large
Develop and implement a stakeholder communications plan that includes community engagement before work commences on-site.		✓	✓
Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.	✓	✓	✓
Display the head or regional office contact information		✓	✓
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. Make the log available to LPA if required.		✓	✓
Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.		✓	✓
Hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.			✓
Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of site boundary, with cleaning to be provided if necessary.		✓	✓
Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.		✓	✓
Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.			✓
Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	✓	✓	✓
Erect solid screens or barriers around dusty activities or the site boundary that is at least as high as any stockpiles on site.		✓	✓
Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period		✓	✓
Avoid site runoff of water or mud.	✓	✓	✓
Keep site fencing, barriers and scaffolding clean using wet methods.	✓	✓	✓
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.	✓	✓	✓
Cover, seed or fence stockpiles to prevent wind whipping.		✓	✓
Ensure all NRMM meet the required emission standards.		✓	✓
Ensure all vehicles switch off engines when stationary - no idling vehicles.	✓	✓	✓

Measure	Scale and Risk		
	Small	Medium	Large
Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	✓	✓	✓
Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).			✓
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.	✓	✓	✓
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	✓	✓	✓
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	✓	✓	✓
Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	✓	✓	✓
Avoid bonfires and burning of waste materials.	✓	✓	✓
DEMOLITION SPECIFIC			
Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).	✓	✓	✓
Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.	✓	✓	✓
Avoid explosive blasting, using appropriate manual or mechanical alternatives.		✓	✓
Bag and remove any biological debris or damp down such material before demolition.	✓	✓	✓
EARTHWORKS SPECIFIC			
Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.			✓
Only remove the cover in small areas during work and not all at once			✓

Measure	Scale and Risk		
	Small	Medium	Large
CONSTRUCTION SPECIFIC			
All contractors and sub-contractors to be made aware of and sign-up to the dust management scheme.	✓	✓	✓
Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.		✓	✓
Ensure 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.		✓	✓
For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.		✓	✓
TRACKOUT SPECIFIC			
Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.		✓	✓
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	✓	✓	✓
Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.		✓	✓
Record all inspections of haul routes and any subsequent action in a site log book.		✓	✓
Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.		✓	✓
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).		✓	✓
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.			✓