

IAQM consultation comments and responses

The guidance *Good practice on air quality monitoring for brownfield projects* had a member consultation run from the 17th June – 15th July 2025. The table below provides details of the comments received and responses from the working group on these comments.

Text Reference	Member Comment	Working Group Response
General comment	Does it include asbestos in air, and if not could it?	No change made as this is outside the current scope. It is something the working group may consider in a future revision.
General comments	First of all, I would like to thank you for putting together this much needed piece of guidance. I could have done with it over the years. Largely I feel that this covers all aspects of air monitoring when undertaking contaminated land investigations and is a sound document as it stands.	Noted.
General comments	Whilst you touch on active (pumped samples) and the duration of sampling needed. It may be useful to detail the methodology further and put in an indicative table of pumping time v estimated concentration. Gradko provide one with their tubes and it is detailed more thoroughly in MDHS 104. This might be useful to allow correct application of the methodology and avoiding potential breakthrough from over pumping. Following on from the previous point, whilst you mention BS16000-6 adding in a reference to the above mentioned mdhs 104 as this is much more readily available and details how you go about sampling with information on breakthrough volumes etc.	Added reference in footnote. Guidance notes the user should investigate with the laboratory depending on a specific site and expected concentrations. Expanded on footnote and added reference to MDHS 104 method.
General comment	There is a lot of content on stakeholder / community communication later in the document. The Introduction would benefit by signposting this very important element.	No change made as this is mentioned early in the introduction, while the Wayfinder also makes this clear
General comment	References to odour should all be directed to the latest IAQM odour guidance - rather than including sections on odour which in many cases appear to contrast with the views of the IAQM odour working group.	Not deemed appropriate at this stage as the odour guidance is not yet ready for member

		consultation and may change. The reference makes clear it is being updated.
General comment	The section on assessment criteria is too simplistic and should be given more thought.	Unspecific comment, no action can be taken. The table is intended to provide a starting point. The guidance describes the approach to identifying suitable criteria and is not intended to be a complete listing.
General comment	I would recommend the guidance is consulted with Simon Fifth of Firth Consultants Ltd, who is a risk assessor and land contamination expert and has significant experience on this topic. It would be my recommendation to have him be an external expert reviewer of the guidance.	Not deemed appropriate at this stage, the working group has included a wide range of expertise and member consultation has not raised concerns to this effect.
General comment	The authors have laid out the process from inception of the remediation project through to implementation of the project in logical steps in detail with very practical advice. However, there are minor typo mistakes in the document, as follows: 1. On page 10 the table is labelled Table 2, however there is no Table 1 in document before Page 10. Also the other tables in the document have been labelled as Table (section number). (Table Number) so table on page 10 should be labelled Table 2.1. 2. On page 31, the endnote 28 is missing from the reference list on page 71. 3. The format of the blue boxes in section 5 are in a different format to the rest of the documents, as there are no references to different box numbers. 4. Between pages 40 and 42 Box 6.2 is missing. 5. The last sentence in section 7.2 is incomplete as there is no reference to Figure 6. 6. In section 7, there are no boxes 7.1 and 7.2, listed in the document.	1. Table numbering updated. 2. Erroneous number removed. 3. Text box formatting edited. No references required. 4. Text box replaced. 5. Text edited. 6. Text box formatting edited. No references required. 7. This has been added to the list of references, and edit made in the text so it is referenced at first use.

	7. The reference to the VDI 3882 document on pages 59 & 61 is missing from the reference list.	
General comments	Firstly, we recognise that there are gaps in the guidance on an issue which we consider to be important and relevant to us in Hackney. Therefore, the creation of guidance is extremely welcome and we are supportive of its aims and objectives. In particular, we support the coordinated approach to tackling pollution to different media during the development control process.	Noted.
General comments	Based on our own experience, we would like to see guidance to support local authority officers in securing robust monitoring programmes together with standards for commonly encountered contaminants based on the health risks from exposure over set time periods. Much of the guidance currently available is based on indoor working environments to protect the health of workers or uses standards for ambient air quality which are for longer periods than the development phase. Therefore, guidance would be appreciated where it recognises the particular risks associated with a development phase that can last weeks to months and which may have particular variations in levels at receptor locations depending on the nature of the work being carried out. Having information available on the evidence of health risks would also be welcome as this would help to provide the rationale to the developer for the proposed control methods.	Various sources of assessment criteria are provided, but it is not the intention of the guidance to set new standards. The working group recommends benchmarking individual VOC measurements against what is available from reputable sources, with interpretation by an air quality specialist regarding the different averaging periods and duration of exposure compared to the available standard. Text has been added to this effect where the table is introduced.
General comments	Planning Conditions: While the guidance references the planning system, it would be helpful to include more concrete examples of planning condition wording. This would support local authorities in drafting enforceable and effective conditions related to air quality and odour monitoring.	The point raised is acknowledged, and some additional text has been added regarding planning conditions within section 3.5 of the report. Providing further examples is not proposed, as each LPA has its own unique preference for the wording of conditions / its own style etc. Moreover, there is a general trend to reducing obligations upon development where practical and therefore

		some LPA may not automatically consider the adoption of another condition as practical. Providing further specific wording may be considered as being overly prescriptive and not in alignment with the overall approach of the guidance. The working group has therefore chosen not to include specific examples.
General comments	Indicative Costs: Including indicative costs for the various monitoring techniques and survey types discussed (e.g. passive vs. active sampling, continuous monitoring, sniff testing) would be extremely helpful. This would assist regulators and developers in budgeting and in understanding the relative costs and benefits of different approaches.	Noted, and while this was considered in the drafting stage, however the working group chose not to include this as depends on duration, number, extent of analysis, etc and could get quickly out of date.
Section 1	Figure 1 Document Wayfinder is unclear in what it is trying to convey, and the arrows are hard to follow. The order in which some of the components are set out in the Wayfinder are not necessarily in the order they would be undertaken. For example, baseline air quality is featured in Section 4 of the guidance but in the Document Wayfinder figure it is shown to be a component of the potential on/offsite impacts after Section 6. This should be considered earlier in the process around designing a survey or as part of the data gathering stages, investigation data and literature review steps. Dispersion modelling is also featured before the baseline air quality and before the preliminary air quality results in the Document Wayfinder. The Document Wayfinder indicates that dispersion modelling would be undertaken before the 'survey design and set assessment criteria' outlined in Section 4 & 5 but would likely not be undertaken till later, in line with determining 'potential on/offsite impacts' where the Baseline AQ is currently located. It is recommended that the Document Wayfinder is formatted and re-ordered to better reflect this.	Updated the Wayfinder figure while a supplementary summary figure setting out key planning/assessment stages has been added at the end. Clarified the purpose of modelling which may be twofold: at the site conceptual model stage to understand where offsite risk is higher before setting up the survey, and once data are available. Removed reference to preliminary results.

	It is also not clear what the preliminary AQ results are, is this in reference to using a handheld photoionisation detector (PID) or equivalent to indicate initial volatile organic compounds (VOC) concentrations?	
Section 1	The document wayfinder on p8 of the guidance is slightly difficult to understand. There are a number of arrows which seem to be misplaced and it is difficult to work out the schematics of the diagram. Therefore, we would recommend revising the layout to make it appear clearer and tidier.	The Wayfinder diagram has been reformatted and a second diagram included at the end as a summary setting out the key stages.
Section 2	Throughout the document and particularly within Section 2, the terms VOC and hydrocarbons are used interchangeably but have different meanings. It would be worth adding a statement on the definition of these terms, outlining the difference between but stating that they are used interchangeably for the purposes of this document.	Numerous edits made throughout although in some cases it is necessary to specifically reference hydrocarbons.
Box 2.2	A minor point but there are a few formatting issues and readability throughout, namely page 11 where it talks about the inhalation pathways, and Box 2.2 seems to be incomplete.	Page breaks edited, Box 2.2 reformatted.
Box 2.2	On Page 13 at the end of Section 2.5 - Box 2.2 appears incomplete but then the text continues on Page 14 outside of the box.	Text box edited.
Table 2	In Table 2 on p.10, there is a description of various substances. In this description, benzene is described as being carcinogenic. However, this term is not used in the descriptions of other substances which are also known to be carcinogenic. Therefore, we would recommend consistency in the use of this description and/or further explanation e.g. the relative risks depending on the Group to which it belongs (Group 1 vs Group 2B).	IARC classification has been added with a footnote to the monographs website.
Table 2	Table 2 you add in a description of commonly encountered VOC, maybe this Table would be more useful if you put the Odour descriptor first, a description of potential origin and then possible substance.	Noted but considered necessary, layout retained.
Table 2	In Table 2 consideration should also be given to other odorous substances such as styrene.	Added styrene. Note that under the table it says "this is not a comprehensive list;

		historical site use, ground investigation data and site monitoring data should be reviewed to identify pollutants specific to the site in question."
Section 2.4	In Section 2.4 sources of VOCs, some other points to consider include: • When breaching a clay layer, if the clay confines contaminated water, this can lead to a significant odour release; • That each time contaminated soil is disturbed (e.g. each excavated bucket to a dumper, emptying dumper to a stockpile, loading to lorries) there is the potential for a fresh release of VOCs and odour; • Plant selection e.g. water treatment that minimises point vapour sources; and • Consideration of non-standard pathways. For example, venting from drainage from discharge of contaminated water to foul sewer and wicking/chimney effects in buildings	Text has been incorporated at various points in 2.4.
Section 2.5	In Section 2.5 health impacts it states that most VOCs are 'considered relatively safe if directly inhaled in trace, e.g. low parts per billion (ppb) amounts'. It is true that several VOCs are considered 'safe' or 'non-toxic' at trace concentrations of low ppb. However, some VOCs have known health effects in low or trace concentrations and this should not be minimised.	Noted. This is a quote from AQEG as per the reference provided. The rest of this sentence was intended to make this clear "<i>However, some can have direct toxicological impacts either as effects on the respiratory system (lung irritants) or cancer-causing agents (carcinogens).</i>.. <i>Emissions to atmosphere of VOCs, even if at a low level, during what can be lengthy remediation phases, can pose direct and indirect impacts on health due to direct toxicity from some individual VOCs."</i> The two paragraphs have been merged to avoid this interpretation.

Section 2.5	There are also only a small number of compounds that have been assessed for their toxicological impacts on human health, indicating that we do not definitively know if most VOCs are safe or nontoxic at trace compounds. We suggest edits for clarity to avoid doubt and adding a statement around this fact. “Although tens of thousands of chemicals are currently in use globally, only a relatively small proportion have undergone a comprehensive toxicological assessment to determine their potential impacts on human health”	Text added to the introduction of section 5 to underline a precautionary approach.
Section 2.5	Section 2.5 ‘health impacts’ notes that VOCs can contribute to the formation of secondary aerosols such as PM2.5 but omits that they can be a precursor to the formation of ground level ozone (O3). Ozone also has health impacts and should be included in this statement alongside PM2.5.	Text added to make reference to ozone.
Section 2.5	An acknowledgement should be made that some compounds are sensitisers and can cause headaches, irate eyes and wheezing. Normally, when the source is removed, the person quickly recovers without issue, similar to people reacting to household products, like bleach. As the smell is unfamiliar, this can cause distress. Also, it should be acknowledged in Section 2.5 that certain people in the population maybe more vulnerable such as those with respiratory illnesses. Where people with underlying health issues have concerns, they should consult with a medical professional such as their GP.	Text added at various points in 2.5 to reflect this, although the guidance stops short of providing health advice.
Section 2.5	Section 2.5 might be better split into “Direct health Impacts” and “Amenity and Indirect Health Impacts”. When describing direct health impacts it would be useful to distinguish between occupational exposure (to protect workers) and environmental standards (to protect community health). When describing amenity and indirect health effects it would be useful to discuss more around nuisance and wellbeing. I think these distinctions are important as they are later help in identifying relevant legislation, assessment criteria, monitoring methods and mitigation methods.	Section 2.5 has been reordered to deal first with direct health effects, then odour and then indirect effects of exposure to odour with supporting minor edits to the text. A figure is now included which aims to more clearly set out the scope of the document.

Section 3	Section 3 should perhaps start with describing differences (and similarities) between England, Wales, Scotland and Northern Ireland. Perhaps state that, although the regulations may be different, the fundamentals and principles (and the assessment criteria?) are the same. Section 3 might benefit from being restructured to reflect which regulations are relevant for direct health effects and which regulations are relevant for amenity and indirect health effects.	It is not practicable for this document to describe every regime. An introductory paragraph has been added to explain legislation is broadly similar but becoming more diversified. Text added at start of section 3.1, with subsequent paragraphs renumbered accordingly: "Environmental legislation in the UK is primarily devolved to each of the four nations (England, Scotland, Wales, and Northern Ireland) ..."
Section 3	Section 3 should highlight and describe the role and responsibilities of the EHO, particularly in terms of nuisance.	The text in Section 3.2.2 states " <i>Local authorities have a duty to investigate complaints about potential statutory nuisance</i> " and goes on to explain the application of nuisance legislation. This is considered to be sufficient detail for this document, which is focused on approaches to monitoring. There are several other publications which focus on nuisance therefore this is not considered a necessary change.
Section 3	Section 3 should also discuss further 'best practicable means' and how this may be used in defence in court. Not wanting to scare the readers (!) but the guidance should make it clear that this is not a 'nice to have' issue for the Contractor (or for the air quality consultant) but one that needs to be addressed in a defensible manner to ensure regulatory compliance.	Text added to describe in broad terms, however it would not be appropriate to include detailed discussion about legal action. The text highlights that a robust defence on best practicable means, requires having regard to industry recognised good practice and relevant guidance. There will always be site specific elements for the consultant/contractor to consider in more detail.

Box 3.2	Box 3.2 includes mention of an Odour Management Plan and references London authorities requiring this. This is a good example so we feel that this could be included as a Case Study which can be expanded to include further information / good practice. As the guidance discusses potential sources of VOCs and includes plant and machinery within this list, there is the potential to then include further guidance on limiting the emissions from these sources. Although it is London-specific, there is a Low Emission Zone for Non-Road Mobile Machinery and London boroughs use a standard planning condition to secure developer's compliance with the standards. This could be set out as an example of controlling emissions, not just of particulate matter and nitrogen dioxide but of other VOCs as well.	This point in the report is referring to planning conditions requiring odour management and monitoring. See response below. The point is acknowledged and added in a footnote, however this guidance is focused on emissions from the remediation of contaminated land itself. There is some discussion of non-remediation sources in Section 3.5.
Section 3.4	The paragraph that straddles across pages 17 and 18 makes a key point, and perhaps this should be a key recommendation of the guidance – the scoping stage of an EIA should identify the potential direct and indirect / amenity effects of air pollution associated with brownfield sites. I think the guidance would benefit from listing all the potential air quality impacts (makes it easier for the planning officer...) and then cross refer to other IAQM guidance (e.g. for PM) and emphasise this guidance is focussed on VOCs (this is said elsewhere in the guidance but gets a little 'lost'). To reinforce this point, are there any examples of scoping opinions from local planning authorities or the Planning Inspectorate we can include?	This section has been added to/restructured, and new diagrams added to the document set out the different stages and reinforce this point, however the focus on this document remains on the monitoring.
Section 4.2	I would also highlight that the monitoring needs to be sufficiently robust to be defensible in court.	Text added to address this point in general terms, in line with comments in response to the above point.
Section 4.2	Survey scope, it mentions the monitoring of pollutants either TVOCs, sub-groups or individual compounds. It makes no reference to monitoring top five, top ten or top 20 VOCs but this is mentioned later in Section 6.1. This should be added in this section for designing a survey.	Text has been added within the bullet point on diffusion tube monitoring to clarify what was meant by groups.

Section 4.2	Is MDHS 96 a valid monitoring method for VOCs? It is widely used in the occupational (industrial) hygiene industry for active sampling of VOCs using a charcoal sorbent tube (e.g. 226-01 or 226-09). This section should clarify if this is an approved method or not, or the use of a Tenax tube is the preferred method for active sampling	Updated the reference to MDHS and footnote added to recommend the surveyor discusses with the laboratory what type of sorbent is appropriate as it is not for IAQM to recommend this.
Section 4.4	You mention continuous monitoring but there does exist boundary GC/PID that allows you detect individual compounds (https://www.pollution.it/product/pyxisgc-btex) so it would be good to mention this as it could be a useful tool.	Noted and reference to this has been added to the section describing PIDs. It appears to be a useful pragmatic option although higher cost.
Section 4.4	Isn't the selection of monitoring techniques also dependant on the assessment criteria being used, noting that different criteria may be used at different locations?	This is what section 4.4 first paragraph states: <i>"The relevance of assessment criteria over different time periods might influence which monitoring techniques are most applicable e.g. whether there is a concern over long or short-term exposure."</i> Text added to clarify "and where" in the second paragraph, which then goes on to describe differences in concentrations.
Section 4.4	Section 4.4 has no consideration of using vacuum canisters instead of pumped tubes. Is this form of sampling not recommended, this position should be clarified in the guidance	Text added to include reference to vacuum canisters as an available method. The working group does not rule it out but notes that the method is not recommended for naphthalene which is a key brownfield remediation site pollutant.
Section 4.4	Section 4.4 would benefit from the inclusion of a table showing the advantages/disadvantages of each monitoring technique. Perhaps including examples of layered monitoring strategies for higher, moderate and lower risk sites.	The working group has considered this however decision made not to include this as could get quickly out of date and could also be misleading as brownfield sites are so different. The text provided sets out a range of advantages and disadvantages to be considered.

Section 4.4	In Section 4.4 when outlining different monitoring techniques, we recommend that some more detail should be provided on PID/FIDs, including: 1. Calibration/different lamps to get the right response for the compounds. 2. Different PIDs have different detection limits and reporting periods. We have recently seen issues where boundary PID monitors have not provided the detection limits required. 3. Using hand-held PID meters to spot check boundary PID monitors. Section 4.6 'Where to Measure' does not provide any indication on what height monitoring should be undertaken at in relation to the source, pathway or receptor. Is this down to professional judgement or are the criteria that should be followed. In designing a survey other factor to consider include: 4. Local / micro-climate, for example, changes in wind direction/funnelling due to buildings. 5. Weather effects (e.g., higher temperatures, temperature inversions). 6. Offsite sources and cumulative effects (e.g., car spraying). 7. Trial run the monitoring strategy in conjunction with localised excavation works. 8. LPA flexibility in considering partial discharges to pre-commencement conditions that allows a phased to collect additional information that builds confidence in the measures.	Noted, however some of these points are covered elsewhere. Additional text on PIDs has been added in section 4.4, with a comment on use of professional judgement in 4.6, and some of the 'additional factors to consider.' Item 7 in this list has not been included, as the document already mentions flexibility and changing the monitoring strategy over time if required. Item 8 depends on the planning condition/site so has not been included.
Section 4.4.1	Section 4.4.1 and Table 4.1 outline the averaging period for passive diffusion tube monitoring as being two to four weeks. This is appropriate for BREEAM and certain indoor air quality studies but for land contamination this is too long a sampling period. It is recommended that sampling is undertaken for no more than a week. Considering the one-to-two-week laboratory period, data will be at least two weeks old when compared with site-specific thresholds. If the monitoring period is two to	Noted, however, Passive Tenax should be used to inform on long term trends and compare to longer term exposures and is not intended for a contractor to rely on as a reactive measure. Exposure duration depends on the ambient concentrations expected. Not all sites will give rise to high concentrations to warrant 1 week

	four weeks, then the data could be up to six weeks old on receipt. By then, it could be too late to do anything if there is an issue	exposures and most suppliers support a range of 1-4 weeks.
Section 4.4.1	On page 24 (Diffusion Tube monitoring) you mention automatic thermal desorption tubes, this applies only to the laboratory for analysis and does not figure in the context of monitoring on site. To avoid confusion I would recommend the removal of the automatic.	Removed "A" from instances of ATD and edited glossary.
Section 4.4.1	Section 4.4.1 mentions Portable Gas Chromatographs (GC) as a form of specialised equipment used for direct reading of VOCs. However, they do not necessarily provide real-time response as there can be 10-15 minute lag between the event and the reading. The equipment cannot react quick enough to respond to a spike in odours. This should be included in the guidance alongside the fact that they are not considered a pragmatic option and the associated high costs.	Noted, however a lag of 15 minutes is not prohibitive, given the duration of activities on most remediation sites.
Section 4.4.1	Handheld PIDs are also useful for locating emission sources and for on-site evaluation of how effective a mitigation measure is.	Text added to reflect this in the second bullet point on handheld PIDs.
Section 4.4.1	Another important consideration is the time taken from sampling to getting the result, and how this ties into response / mitigation. This is partly why a combination of monitoring techniques are deployed; a real-time device may not give us a fully robust assessment of whether an assessment threshold is exceeded but it helps inform the management of site operations to mitigate emissions, a tenax tube may give us a robust assessment of whether long term assessment criteria are being achieved but will provide very limited (if any) practical feedback for site management.	Text added into 4.4.1 to further clarify the time lag in receiving diffusion tube results.
Section 4.4.1	Section 4.4.1 outlines different methods of measurement including pumped sampling. It refers to sampling flow rates being between 50ml/min and 100ml/min. Sample rates are determined by the duration of monitoring, the analyte, sorbent material and type of monitoring. Clarification should be added around this, and issues around low and high sampling rates highlighted such as channelling, breakthrough and insufficient contact time with the sorbent material. The text should also	Text added in a footnote to the bullet point on pumped sampling to highlight some of these issues. However in the interests of maintaining a concise document this has not been elaborated on further.

	recommend checking the sample flow rates before and after sampling to ensure the results are valid. Pumps are typically delivered calibrated by the laboratory that supplied them, but the addition of the sampling material will change the flow rate. It is important that accurate flow rates are recorded along with the sampling duration	
Section 4.4.1.1	I think we need to provide more discussion on who can perform a sniff test. For site management purposes, the Contractor should be able to undertake sniff test surveys on a daily basis. However, we should recognise that Contractor personnel working on site every day will become accustomed to any odours, limiting their ability to perform the sniff test – this might be sufficient for site management purposes but would not provide robust evidence that can be used as defence in court. These daily surveys need to be verified by an independent and certified sniff tester, following a sniff test survey plan and frequency agreed with the EHO. Note here this is an important method of engagement with the EHO to ensure regular feedback that air quality impacts are being managed with best practicable means.	Text added into 4.4.2.1 to clarify although in some cases verification by an independent certified may not be practicable.
Section 4.6	Remove reference to tall stacks?	Removed reference to "tall stacks" as they are unlikely to be encountered on brownfield sites.
Section 4.6	In my experience most brownfield sites surrounded by receptors are in complex topologies with building wake effects and other factors severely limiting the use of local dispersion models. Perhaps using several wind sensors around the site (co-located with noise / air quality sensors?) to generate a composite description of wind speed and direction on the site might be more practicable.	The guidance cannot be prescriptive as it is also intended to cover small sites where this wouldn't be proportionate. All dispersion models are limited and come with uncertainties. Clarified in Section 8.2 that more than one may be appropriate for a large site.
Section 5	Would really benefit from being restructured with reference to direct health effects and amenity / indirect health effects. There is a lot of emphasis on direct health effects and only two small paragraphs on amenity / indirect health effects, whereas the introduction suggests the emphasis of the guidance is the other way around.	There is already IAQM and H4 guidance on odour, the intention of this guidance is to fill the gap which is primarily on the direct health effects. While the guidance raises awareness of indirect effects on wellbeing there are no

		clear ways to measure this. The introduction sets out that the guidance is both direct and indirect health effects. A figure has been added in Chapter 2 to set out the scope.
Section 5	Add AQMP to glossary	Added, but amended to AQOMP to include odour, with a sentence introducing the table as this was missing.
Section 5	Brighton Gas Works Case Study – great case study! Did it work? Can we include any feedback from the council and local residents?	It worked insofar that the planning committee felt that it adequately addressed neighbours' concerns. It is not currently possible to include feedback at this stage while the planning decision is awaited but this can be incorporated into a later edition of the guidance.
Section 5	Section 5. The document lists various criteria but is not clear which should be used. A flow chart or decision tree would be helpful in determining the preferred assessment criteria.	Clarified to use the EA hierarchy in the first instance but other sources are available. It is for the surveyor to select appropriate sources for the pollutants they encounter on site. As such a wide range may be found, there cannot be a single preferred approach and this could be misleading for some more unusual sites.
Section 5	The assessment criteria should give consideration on how can risk levels be established, to determine low-risk and high- risk sites. The guidance should distinguish between small sites, large sites or complex sites and how the complexities of different sites assessed and how is mitigation applied.	Section 5 intends to explain that unlike contaminated land assessment, the criteria applied in air quality considerations are typically selected from available guidance using the hierarchy mentioned above. Risk is not only dependent on size of the site, as you could have a small site but due to proximity of receptors and/or size of the source it could be higher risk. The guidance cannot cover all eventualities, so no edit is proposed.

Section 5	We recommend setting the offsite receptor criteria based on anticipated duration of the works.	Comment is unclear as to where the change is proposed. Note, the guidance does not propose assessment criteria based on duration of the works, instead they should be used as benchmarks and interpreted by an air quality specialist who understands the difference in averaging periods. SALs are an example of criteria which can be varied based on duration, and an example is provided.
Section 5.1	On page 33, it states that “PHE (now UKHSA) – indoor air quality guidelines for VOCs, emergency response guidelines e.g. Acute Exposure Guideline levels (AEGs)25” and the associated reference is chemical hazards compendium. Whilst the compendia entries do provide (where available) information on AEGs, it may be prudent to reference the original source which is the US EPA https://www.epa.gov/aegl/about-acute-exposure-guideline-levels-aegls , rather than UKHSA. I also note that while the PHE indoor air quality guidelines for VOCs isn’t referenced in this sentence it is elsewhere in the guidance and is in the reference list.	PHE indoor guidance is referenced earlier in Section 2.4 of the report but a new cross reference has been added in Section 5 and a new reference changed to the source material for AEGs.
Table 5.3	Naphthalene - the 3 should be in the short term column not long term column.	No action required, this reflects latest EA guidance.
Section 6	This section appears to be more closely related to Section 4: Designing a survey and there is some overlap between sections. This section could be moved before the assessment criteria for ease when reading.	Noted, however the working group is happy with the current structure as the identification of assessment criteria is important to consider before the section commences on analysis and reporting. No edit proposed.
Section 6.1	Probably needs a box to cover H&S on site, working safely with the contractor, PPE, etc.	Not relevant to this guidance.
Section 6.1	Also take notes of weather conditions on the day.	Added text to reflect this.
Section 6.3	Final paragraph on page 41 refers to health based criteria. Also amenity / nuisance criteria?	Noted however the criteria for odour are in Section 5. This section focuses on data

		analysis, and there are no available criteria for interpreting odour/amenity. Clarified in Figure 2.
Section 6.3	Refers to use of sprays to reduce PM emissions. I take the earlier point that VOCs can be pre cursors of PM (a bit tenuous?) but, throughout the document, there is inconsistent reference to PM. The Introduction appears to scope it out and refers to other IAQM guidance. If this is the case, then remove all subsequent references to PM?	PM <u>monitoring</u> is not covered by this document, but it is relevant to point to crossovers within the text regarding commonalities within sources, nuisance, and where mitigation methods can abate both dust and odour.
Section 6.4	Perhaps needs an introductory paragraph on who is being reported to and how this may affect how the information is reported / communicated. Audiences would include: The Contractor; The Contractor's client; local planning authority / EHO; local community.	Added text to reflect this and the updated Wayfinder figure in Section 1 clarifies further.
Section 7	Section 7 would benefit from a description of the management of sensitive or contentious sites and how communication should be managed.	The points raised are discussed in sections 7.1 to 7.4 of the report and more detail is provide in Appendix A.
Section 7	Really important chapter!	Noted.
Section 7	Case Study Brighton Black Rock – great case study! What was the outcome? Did it work?	It worked insofar that the planning committee felt that it adequately addressed neighbours' concerns. It is not currently possible to include feedback at this stage while the planning decision is awaited but this can be incorporated into a later edition of the guidance.
Section 7	The communication section mainly focuses on traditional methods of communication but the use of digital communication methods such as dashboards could be good for communications and engagement. A dashboard can also be used to link up continuous monitoring and Site Action Level (SAL) if one is being used.	Added text in a bullet point at the end of section 6.4 on reporting.

Section 7	We would recommend that this section also makes reference to other guidance, such as SNIFFER (2010) Communicating understanding of contaminated land risks.	Added in Section 7 including a box of highlighting some of the benefits.
Section 7	We would stress the importance of a multi layered communication strategy which could include some or all of the following: 1. Daily reporting to LPA/EHO/EA to keep them sighted. 2. Drop-in sessions by the developer in advance of key work stages. 3. Large notices on boundary fences (to capture people passing by who have concerns). 4. Websites, social media. 5. Identifying key persons at sensitive offsite receptors (e.g., building managers). 6. Considering the use of specialist communication team including to respond to media requests. 7. Acknowledgement that some level of odours will be unavoidable that the developer is undertaking measures to minimise. As a watch point, we would state that single layer communication strategies e.g. letter drops tend not be effective.	Points 1 to 6 are discussed in detail within Appendix A. The relevance of Point 7 will be dependent upon site-specific factors and this statement may not be applicable to all sites and has therefore not been included.
Section 7.3	Toolbox talks are mentioned in Section 7.3 as well as in Box 6.1 and Appendix A. For managing communication and raising awareness, the guidance would benefit from a standardised IAQM toolbox talk that can be delivered by site managers to operatives and contractors to ensure consistency across the industry. Other standardised documents and signage could be produced with IAQM branding for use on sites.	The guidance is intended to support an air quality specialist in their understanding of the key elements to apply in their specific projects. It is beyond the scope of the guidance to provide toolbox talks, which should always be bespoke and adapted for the site in question.
Section 8	A visual representation of the hierarchy of controls at the beginning of Section 8: Mitigation would aid in the clarity of introducing this section and the approach to mitigation.	Noted, however the working group intention is that this section of the report is succinct in outlining measures, and underlining the principle of a mitigation hierarchy. This can be considered in a future edition.

Section 8	What are the proposed or preferred mitigation measures for VOCs at a brownfield site? It is hard to distinguish this from the text and this section would benefit from more details on the mitigation measures. This could be a bullet point list, a table or something similar to the Construction Dust Guidance.	The focus of this good practice guide is on air quality monitoring on brownfield sites. While a section on mitigation has been included for completeness, this guidance does not intend to fully cover mitigation, which would be developed with contractors. This may be considered in a future edition. See response below regarding bespoke, risk based mitigation.
Section 8	There is potential for overlap between the construction dust guidance and this guidance. How do the mitigation measures compare or impact each other? Will construction dust mitigation measures also have a benefit for VOCs and should the two be considered together	Text added in section 8. There will be some measures relevant to both.
Section 8	Will all sites be subject to the same form of mitigation or should a more risk-based approach be taken and sites assessed and mitigated based on individual risk?	It would not be the case that all sites have the same mitigation, and this is explained in 8.2. <i>"The most appropriate techniques for a specific site will depend on a range of factors, such as the type and extent of contamination, the location of and proximity to receptors, and the timeline for the project"</i> . Text added to clarify the mitigation hierarchy should however be relevant to all sites but the techniques should be proportionate to the risk.
Section 8	We recommend separating into reactive and proactive measures and presents pros/cons: Proactive: • Reduce contaminant levels prior to excavation using methods such as chemox, dewatering, soil and vapour extraction for example. • Tenting with negative pressure via activated carbon filters. Reactive:	This is effectively covered by the mitigation hierarchy now under heading 8.1. The suggested terms "proactive" and "reactive" have been incorporated.

	• Controlled excavations (e.g., slow down excavation rate). • Ability to scale a reactive strategy to respond to increase in odours. The size and condition of the site also influence the potential strategy and level of control.	
Section 8	Other points: 1. If a school is nearby, limit works, for example, around school drop off/pick-up times and if possibly undertake work during school holidays. 2. Undertake specific works in winter months, with lower temperatures, people more likely to have windows closed. 3. Dewater first to remove gross contamination prior to excavations. 4. Start with more limited works first (e.g., piling) or in a less contaminated area so that the controls/strategy (etc) can be established and built up. Avoid starting with the most contaminated areas first. 5. Considering loading contaminated soil directly to lorries. 6. Very careful consideration of odour suppression systems, especially at the site boundary. 7. Increase height of fences. 8. Odour suppression can cause more concern, as people think one chemical is being used to mask another chemical. Boundary odour suppression systems should only be used to take the edge of unpleasant odours and should only be a secondary measure.	The working group's objective was to produce good practice for air quality monitoring on brownfield sites. A chapter on mitigation was included for completeness, as monitoring and mitigation go hand in hand. Several of these points were included however a little more text has now been included. This chapter may be expanded on in a future edition but not at this stage.
Section 8.3	Community engagement can also help in forewarning local residents of particularly odorous activities being planned. If the resident knows of an activity coming up and knows how the Contractor is managing it and, importantly, knows when the activity will be finished, they may be less concerned (assuming all goes well, of course!)	Added text to reflect this.