



# Gatwick Airport Northern Runway Project

## Environmental Statement

### Appendix 5.3.2: Code of Construction Practice Annex 9 – Construction Dust Management Strategy – Tracked Version

## Book 5

VERSION: 3.0

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## 1 Introduction

### 1.1. Background

1.1.1 The **Code of Construction Practice (CoCP)** contained in the **Environmental Statement (ES) Appendix 5.3.2 [REP4-007]** sets out that Construction Dust Management Plans (CDMPs) will be prepared for approval by Crawley Borough Council (CBC) prior to the commencement of the 'relevant construction works'.

1.1.2 The CoCP is secured through Requirement 7 of the **Draft DCO [REP7-005]** and CDMPs are secured through Requirement 27 of the **Draft DCO [REP7-005]**, which states:

- 1) No construction activities that may generate dust may be carried out until a construction dust management plan for those activities has been submitted to and approved by CBC.
- 2) Each construction dust management plan submitted pursuant to sub-paragraph (1) must be substantially in accordance with the construction dust management strategy.
- 3) Construction activities that may generate dust must be carried out in accordance with the relevant construction dust management plan approved pursuant to sub-paragraph (1) unless otherwise agreed in writing by CBC.

1.1.3 Under Requirement 2A of the **Draft DCO [REP7-005]**, the host authorities and National Highways will be provided with a phasing scheme setting out the anticipated phases of construction works.

1.1.4 As explained in Section 5.8 of the CoCP, the CDMPs:

- will be site-specific, setting out how the works will be carried out to mitigate dust impacts and provide details of monitoring locations and consideration of whether monitoring locations need to change based on phasing and works being carried out; and
- for high risk sites, include a monitoring plan to determine the location of dust monitors and detailed plans for monitoring during the phasing of the construction activities relevant to the CDMP.

### 1.2. Purpose of this Document

1.2.1 Some of the Local Authorities through their Relevant Representations, which have informed the draft Statements of Common Ground (SoCG), have requested

that an Outline or Draft CDMP is provided as part of the application for the DCO Examination stage. Further to this, the joint authority Local Impact Report (LIR) submitted at Deadline 1 [[REP1-097](#)] sets out further detail on the Local Authorities’ requests for information to be included in a Dust Management Plan.

1.2.2 The purpose of this Construction Dust Management Strategy (CDMS) is to respond to the Local Authorities request by explaining how the CDMPs will be produced, outlining the proposed methodology and setting out an outline of a CDMP for a ‘high risk’ site as determined following the IAQM dust assessment guidance<sup>1</sup>. The Applicant has received comments on an earlier version of this document through the Construction Dust Management Plan Review [[REP4-053](#)] from the Joint Local Authorities (JLAs) at Deadline 4. This CDMS takes the JLAs comments into account including setting out which Project components are defined as "high risk".

1.2.3 To provide further information on how the CDMPs will be prepared in the future, this CDMS sets out:

- a summary of environmental impact assessment of construction dust;
- the methodology for identifying dust impact risk and appropriate mitigation measures;
- a spreadsheet template for calculating and tracking risk
- A list of the Project components defined as high risk; and
- an example outline of a CDMP for a ‘high risk’ site.

1.2.4 This CDMS also responds to matters requested in the Joint West Sussex Authorities Local Impact Report [[REP1-068](#)], as set out in Table 1 below.

**Table 1.1: CDMS items requested**

LIR request on the CDMS	How these will be provided
<p>The DMP should identify the locations and operations likely to create the highest level of adverse impacts from dust ensure suitable generic mitigation.</p>	<p>Each work package will be assessed as the detailed designs are completed. Prior to commencement of work on site the risk assessment as detailed in section 3 will identify the level of risk based on the IAQM guidance to determine a suitable level of mitigation and set out if monitoring is required.</p>

<sup>1</sup> Section 2 of ES Appendix 13.4.1 [APP-158] sets out how a high risk site would be identified

LIR request on the CDMS	How these will be provided
To include a map showing the forecast areas of High, medium, and low dust impact (without mitigation) and what activity is driving that impact.	Each work package will be assessed and a map can be provided as the detailed designs are completed.
Provision for a suitable period of baseline monitoring prior to works commencing.	Section 5.8.2 of the CoCP sets out that for high risk sites the Applicant must <i>"Undertake baseline monitoring at least three months prior to the commencement of works with suitable automatic (Osiris type) monitoring equipment. Once detailed design plans are available a Construction Dust Management Plan and monitoring plan will be created to determine the location of dust monitors and detailed plans for monitoring during the phasing of the construction activities. Monitoring will be carried out following best practice guidance as defined by the IAQM (Moorcroft et al., 2018)."</i>
The monitoring techniques planned, dust thresholds, monitoring durations and frequencies (where appropriate).	The monitoring techniques, dust thresholds and monitoring durations will be set out in the CDMPs based on the outline example provided in section <a href="#">5.74.7</a> .
The process of reviewing monitoring results including how the plan will be adjusted in response to elevated dust emissions e.g. an action plan for when monitored dust levels exceed a set threshold.	The process of review and actions would follow best practice methods based on the outline example provided in section <a href="#">5.84.8</a> .
Data sharing and reporting process with local authorities.	The process for sharing data and reporting will be based on the outline example provided in section <a href="#">5.64.6</a> .

## 2 Construction Dust Assessment

- 2.1.1 A construction dust assessment (contained in **the ES Chapter 13 Air Quality**) [\[REP3-018\]](#) has been carried out as part of the Environmental Impact Assessment, as reported in the ES, to inform appropriate control measures to be deployed during the construction works. The assessment of construction dust includes all construction activities related to the Project across the entire period of construction as outlined in **ES Chapter 5: Project Description** [\[REP6-013\]](#). This approach provided a conservative assessment and identified all receptors which could be affected by works associated with the Project. This in turn led to the development of mitigation measures following the IAQM best practice guidance, which states that, with the application of suitable mitigation measures, impacts can be reduced to a negligible level. The mitigation measures are committed to and secured by the CoCP [\[REP4-007\]](#).
- 2.1.2 [Table 2.1](#) ~~Table 2~~ signposts to sections of the ES with relevant construction dust information including the appropriate mitigation measures for all on-site activities during construction. **ES Appendix 13.9.1 Air Quality Figures – Part 5** [\[APP-070\]](#) present the construction dust buffers for all Project components considered.

**Table 2.1: Summary of Construction Assessment Details within the ES**

Topic	ES Reference
Construction Programme	ES Chapter 5: Project Description <a href="#">[REP6-013]</a> ES Appendix 5.3.3: Indicative Construction Sequencing <a href="#">[APP-088]</a>
Air Quality Legislation & Policy	Section 13.2 of ES Chapter 13 <a href="#">[REP3-018]</a>
Guidance	Section 13.3 of ES Chapter 13 <a href="#">[REP3-018]</a>
Baseline Air Quality Assessment & Local Monitoring	Section 13.7 of ES Chapter 13 <a href="#">[REP3-018]</a> Section 2 of ES Appendix 13.6.1: Air Quality Data and Model Verification <a href="#">[APP-159]</a>
Methodology of Construction Assessment	Section 2 of ES Appendix 13.4.1: Air Quality Assessment Methodology <a href="#">[APP-158]</a>
Construction Dust Assessment	Section 2 of ES Appendix 13.9.1 Air Quality Results Tables and Figures – Part 2 <a href="#">[APP-163]</a> ES Air Quality Figures – Part 5 <a href="#">[APP-070]</a>
Construction Period Mitigation	ES Appendix 13.8.1: Air Quality Construction Period Mitigation <a href="#">[APP-161]</a> , secured by ES Appendix 5.3.2: Code of Construction Practice <a href="#">[REP4-007]</a> DCO Requirement 7.

### 3 Construction Dust Management Plan Methodology

- 3.1.1 CDMPs will be prepared prior to the construction of each planned work package for the construction of the Project to mitigate dust impacts in accordance with the measures outlined in the CoCP [\[REP4-007\]](#) and best practice to reduce all impacts to a negligible level. The CDMPs will be subject to approval by CBC prior to the commencement of the relevant construction activities. In situations where the dust impacts are in a neighbouring authority, a copy of the relevant CDMP will also be sent to the Environmental Health department of the relevant authority so they may feed back to CBC, as the planning authority responsible for approving the CDMPs.
- 3.1.2 For each work package, the risk of dust impacts would be assessed by an air quality professional in line with best practice IAQM guidance, this would take into account the magnitude of work and cumulative effects considered in relation to works across the site as a whole which could be occurring in parallel. The risk would be assessed in line with STEP 2 of the IAQM dust guidance as provided in Section 2 of **ES Appendix 13.6.1 Air Quality Assessment Methodology** [\[APP-158\]](#). Mitigation measures would be identified based on the level of risk and applied as required, in order to reduce impacts to a negligible level.
- 3.1.3 Given the large number of work packages, the spreadsheet will be used by contractors to calculate and track risk for all work packages and determine which mitigation measures are required for each site. Figure 1 shows a screenshot of an example spreadsheet setup (please note, to make this of a scale readable, it is split into two sections).
- 3.1.4 The spreadsheet template will be shared with local authorities for review prior to works commencing and can be shared upon request once work has started and the sheet has been updated for each work package.
- 3.1.5 The spreadsheet follows the IAQM dust guidance and identifies the dust impact risk and appropriate mitigation measures. Please note that the spreadsheet only considers human receptors as ecological receptors are scoped out as detailed in Section 13.10.10 of the air quality assessment in **ES Chapter 13** [\[REP3-018\]](#).
- 3.1.6 In addition to the spreadsheet, each area specific CDMP will include a map to show the spatial extent of the works area, monitoring locations and receptors.
- 3.1.7 The spreadsheet will be used to identify high risk sites, for which a proposed real-time MCERTS certified Osiris particle monitoring plan will be created, an example outline of a CDMP for a high risk site is set out in Section [Error! Reference source not found.](#)<sup>4</sup>. It may also be appropriate to have a real-time

monitoring plan at medium risk sites. At high risk sites it may be appropriate to supplement monitoring with dust deposition monitoring techniques (e.g. Frisbee Gauges). This will be considered on a case by case basis, if the high risk sites meets the following criteria:

- Site activities at the boundary of the site and in close proximity to high sensitivity receptors as defined in the IAQM guidance;
- Site activities with increased potential for dust release;
- Site activities in summer months (dry weather conditions); and
- Dusty site activities occurring for a period of several weeks.

3.1.8 The contractor would work with the local authority to ensure the monitoring is appropriate for the site, based on the dust impact risk.

3.1.9 Section 2 of ES Appendix 13.4.1 [[APP-158](#)] sets out how a high risk site would be identified. The CDMPs will be made available upon request to the local authority.

Site Name	GIS Ref/ Google Map ID	Description of Work to be undertaken	Step 1: Screening based on dust emission magnitude criteria					Step 2: Screening based on receptor locations If Step 1 is Scoped Out = NA			Step 2 Cont. If Step 1 & Step 2 is Scoped Out = NA					
			Demolition Building volume <12,000m <sup>3</sup>	Earthworks Site area <18,000m <sup>2</sup>	Construction Building volume <12,000m <sup>3</sup>	Trackout Daily outward movements <20HDV	Step 1 Scoped Out?	Human receptors within 250m of site	Human receptors within 50m of construction route (up to 250m from site access)	Step 2 Scoped Out?	Soil Type	Prev Wind Direction	Local Air Quality Data (PM10 ug/m <sup>3</sup> )	Number of Receptors <20m of Works	Number of Receptors <50m of Works	Number of Receptors <100m + of Works
Example 1	X	XXX	NA	Yes	NA	NA	Yes	NA	NA	NA	NA	NA	NA	NA	NA	NA
Example 2	X	XXX	Yes	No	No	No	No	Yes	Yes	No	Clay (assumed worst case)	South Westerly	<24	0	0	10-100
Example 3	X	XXX	No	No	No	NA	No	No	No	Yes	NA	NA	NA	NA	NA	NA
Example 4	X	XXX	No	No	No	No	No	Yes	Yes	No	Clay (assumed worst case)	South Westerly	<24	1-10	10-100	>100

Dust Emission Magnitude				Area Sensitivity		Dust Impact Risk				Mitigation Required
Demolition	Earthworks	Construction	Trackout	Dust Soiling	Human Health	Demolition Risk	Earthworks Risk	Construction Risk	Trackout Risk	
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Small	Medium	Large	Large	Low	Low	Negligible	Low Risk	Low Risk	Low Risk	Minor works that will likely result in negligible or low risk. No need for dust monitoring. Existing CoCP measures should ensure no adverse dust effects.
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Large	Large	Large	Large	High	Medium	High Risk	High Risk	High Risk	High Risk	Monitoring Plan will be created following IAQM guidance.

Figure 1: Example Construction Dust Spreadsheet Methodology from left [top] to right [bottom], used to define Dust Impact Risk



## 4 Dust Emission Risk for Project Components

- 4.1.1 Section 2 of Appendix 13.9.1 Air Quality Results Tables and Figures – Part 2 [APP-163] provides the ES assessment of construction dust. Table 2.4 and Table 2.5 provides a summary of the dust emission risk for Demolition, Earthwork, Construction and Trackout activities.
- 4.1.2 Table 4.1 provides a summary of the maximum receptor sensitivity and risk of impact for the Project components. The proposed location of the key works components proposed as part of the Project are detailed in the ES Chapter 5: Project Description [REP6-013] and associated figures [REP6-015]. The spatial extent of the individual work plans are set out in **Works Plans – For Approval** [REP7-018].
- 4.1.3 There are three high risk project components identified. As described in Section 3, monitoring for Medium Risk sites will be determined on a case-by-case basis.

**Table 4.1: Summary of maximum risk of impact for each project component**

Component of Project	Maximum Risk of Impact		Real-Time Monitoring	Project Component Figure
	Dust Soiling	Human Health		
Early works, establishment of compounds, fencing, early clearance and diversion works and re-provision of essential replacement services	Medium	Low	To be determined at detailed design	Figure 5.2.1a [REP6-015]
Airfield Support Facilities	Low	Low	N/A	
Repositioning of the Existing Northern Runway	Medium	Medium	To be determined at detailed design	
Airfield works to support use of Repositioned Northern Runway	Medium	Medium	To be determined at detailed design	
Construction of Pier 7	Low	Low	N/A	
Extensions to North and South Terminals	Medium	Low	To be determined at detailed design	
Hotels and Office	Low	Low	N/A	Figure 5.2.1c [REP6-015]

Component of Project	Maximum Risk of Impact		Real-Time Monitoring	Project Component Figure
	Dust Soiling	Human Health		
Car parking	High	Medium	Yes	Figure 5.2.1b <a href="#">[REP6-015]</a>
Surface access improvements	High	Medium	Yes	Figure 5.2.1d <a href="#">[REP6-015]</a>
Reinstatement of final use at temporary construction compounds	Medium	Low	To be determined at detailed design	Figure 5.2.1f <a href="#">[REP6-015]</a>
Flood compensation areas	High	Low	Yes	Figure 5.2.1e <a href="#">[REP6-015]</a>
Environmental mitigation	Medium	Low	To be determined at detailed design	Figure 5.2.1g <a href="#">[REP6-015]</a>
Access to construction compounds	Medium	Low	To be determined at detailed design	

## 5 Example Outline of a CDMP

5.1.1 This section provides an example outline of a CDMP. For this example, a Project component which is considered likely to be a *high risk* site has been selected to demonstrate all relevant sections of a CDMP.

5.1.2 The example site selected is the Project component at Car Park H. The works proposed for the area currently used for Car Park H will include a new hotel, office and new car parking facilities<sup>2</sup> secured under Work No. 28 of the **Draft DCO** (Doc Ref. 2.1).

### 5.2. Introduction

5.2.1 The introduction will set out which work package the CDMP has been prepared for and who was responsible for the preparation and assessment of risk.

5.2.2 In all cases the assessment of risk will be based on the IAQM dust guidance (IAQM, 2024), or latest relevant version.

### 5.3. Summary of Risk Impacts

5.3.1 This section describes the results of a risk assessment of potential impacts of dust and particulate matter (PM<sub>10</sub>) emissions from the construction activities.

5.3.2 The conclusions of the risk assessment for this site are summarised in [Table 5.1](#) ~~Table 3~~.

**Table 5.1: Summary of risk impacts without mitigation**

Source	Dust Soiling	Human Health
Demolition	High	Low
Earthworks	High	Low
Construction	High	Low
Trackout	High	Low

5.3.3 The IAQM guidance is clear that, with appropriate mitigation in place, the impacts of construction dust will normally be ‘not significant’. Based on the findings of the assessment the appropriate level of mitigation has been determined so as to ensure that impacts will normally not be significant. The best-practice mitigation measures are described in the CoCP [[REP4-007](#)]. They are considered appropriate to mitigate the level of risk set out in [Table 5.1](#) ~~Table 3~~ [Error! Reference source not found.](#), with some measures only required during certain stages of the works.

<sup>2</sup> Note this is an example only based on the preliminary design information and which will be subject to detailed design.

#### 5.4. Nearby Sensitive Receptors

5.4.1 The Hilton Hotel to the south-west of the site represents high sensitivity receptors. There would be over 100 high sensitivity receptors, within 50m of the site boundary. The nearest receptors are to the west at the Hilton Hotel which will continue to operate during the construction phase. The 50m distance buffer is shown in [Figure 2](#)~~Figure 2~~.

#### 5.5. Mitigation measures and risk factors

5.5.1 As noted best-practice mitigation measures are described in the CoCP [[REP4-007](#)]. They are considered appropriate to mitigate the level of risk, however the following risk factors have also been identified as occurrences that may arise that may require contingency action in order to prevent dust emissions.

##### Adverse Weather

5.5.2 During extreme weather conditions, such as long periods of dry weather and/or high wind speeds, there is a risk that dust may be entrained or dispersed over a greater distance. During any such events, water suppression will be used liberally in order to prevent dust emissions beyond the site boundary.

5.5.3 Short-term weather forecasts will be used to plan future site operations, and hard standing will be wetted before winds blow towards sensitive receptors to prevent dust annoyance.

#### 5.6. Responsibilities and Records

##### Key Responsibilities

##### **GAL and Principal Contractors**

5.6.1 The day-to-day operations at the site will be the responsibility of the GAL and its Principal Contractor(s), who will be responsible for ensuring that the measures set out in the CoCP [[REP4-007](#)] are implemented fully and appropriately, and that the monitoring protocol set out in Section [5.74.7](#) and the response protocols in Section [5.84.8](#) are adhered to. If the monitoring indicates that dust emissions are likely to have an impact on the local community, then the local authority will be informed via email by the Principal Contractor; additional measures will be implemented where necessary.

5.6.2 If any exceptional dust and/or air emissions occur, or any complaints are received, they will be investigated by the Principal Contractor or a delegated representative, who will record the complaint. They will then identify the cause, take appropriate measures to reduce emissions in a timely manner, and record the measures taken. This information will be made available to the local authority

upon request. Section [5.84.8](#) details specific measures that will be taken to address dust issues, and the Appendices to this outline of a CDMP provide example forms to be used to record dust events.

#### **All staff**

5.6.3 All staff will be responsible for minimising dust emissions from the site and will be responsible for reporting dust problems to the Principal Contractor immediately, on an on-going basis.

5.6.4 All operational staff will be trained in their responsibilities with regard to dust control at the site. The Principal Contractor will maintain a statement of training requirements for each operational position, and a record will be kept detailing the training received by each member of staff.

#### **Contacts and Communications**

5.6.5 The name and contact details of the environment manager/engineer or the site manager will be displayed at the site entrance. These signs will also include the address and phone number for the contractors' UK head office.

#### **Managing the Strategy**

5.6.6 The Principal Contractor will review the CDMP at least every three months (where works are ongoing for more than that duration) in light of any complaints or issues that have been identified during the previous six months. The following issues will be considered during the review:

- effectiveness of mitigation measures employed;
- additional mitigation measures implemented within the previous three months;
- complaints received in relation to dust impacts at off-site receptors;
- review of any dust events recorded within the previous three months;
- review of the effectiveness of the visual monitoring scheme; and
- review of the effectiveness of personnel training on dust awareness.

5.6.7 Should any control measures be shown to be failing or should a need for further control measures be identified, new controls will be ~~agreed~~ [approved by CBC under DCO Requirement 27\(3\)](#) and implemented [accordingly](#). ~~in an updated Strategy.;~~

## 5.7. Monitoring

### Visual Inspections

- 5.7.1 A ~~weekly~~ daily visual inspection of the site will be carried out by the Principal Contractor, or an appropriately trained operator. The inspection will consist of a walk around the entire perimeter with observations made of any dust emissions. Particular attention will be paid to any areas where professional experience would suggest that current operations have a higher-than-normal risk of dust emissions.
- 5.7.2 This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of the site boundary, with cleaning to be provided if significant dust soiling is evident and found to be as a direct consequence of the proposed development. Inspection results will be recorded and the logs (examples in Appendices [A1 Weekly Inspection Checklist](#)~~A1~~ and [A2 Weekly Inspection Notes](#)~~A2~~) will be made available to the local authority when requested.
- 5.7.3 If significant dust is identified beyond the site boundary, a Dust Event Form will be completed (see Appendix [A3 Dust Event Form](#)~~A3~~), and investigation/remedial action will be taken, as outlined in Section 5.8. The Principal Contractor will review Dust Event Forms regularly to ensure that any necessary actions have been implemented, and to identify problem areas where additional mitigation against further dust emissions may be necessary.
- 5.7.4 The frequency of visual inspections will be increased when activities with a high potential to produce dust are being carried out on site and during periods of adverse weather.

### Meteorology

- 5.7.5 Meteorological conditions at the time of any significant dust emissions will be recorded in the Dust Event Form.

### Dust Soiling and Deposition Techniques

- 5.7.6 The IAQM guidance (IAQM, 2024) advises that it may be appropriate to undertake surveys of dust deposition/soiling rates for *Medium Risk* and *High Risk* sites and to supplement continuous PM monitoring where this is carried out. Dust soiling and deposition data can be collected using the following techniques:
- Deposit gauges (e.g. Frisbee Gauge)
  - Sticky Pads
  - Dust Soiling Gauges (e.g. glass slides)

5.7.7 The dust deposition/soiling techniques are relatively low cost and can be easily deployed on site without any electrical power. Deposited dust will be monitored at the locations along the works boundary which are close to nearby sensitive receptors.

#### Sampling frequency

5.7.8 The frequency of sampling for each technique is set out below, only applicable during periods of dry weather conditions.

- Frisbee-type Deposition Gauges: 4-week
- Sticky pads: 7 days
- Glass Slide Deposit Gauges: 7 days

5.7.9 Following the sampling period, the data requires subsequent laboratory analysis to determine a particle mass or dust soiling rate. Laboratory analysis of samples should be conducted by a laboratory that has appropriate (e.g. UKAS) accreditation for the tests.

#### Site Action Level

5.7.10 The Site Action Levels (SALs) for dust deposition are set out below, based on the IAQM guidance (IAQM, 2018).

- Frisbee-type Deposition Gauges: 200 mg/m<sup>2</sup>/day, averaged over a 4-week period
- Sticky pads: 5% EAC/day, measured over a 1-week period
- Glass Slide Deposit Gauges: 25 soiling units (su) per week, measured as a running 4-week average

5.7.11 If the SAL is exceeded, the actions set out in Paragraph 5.7.19 will be followed.

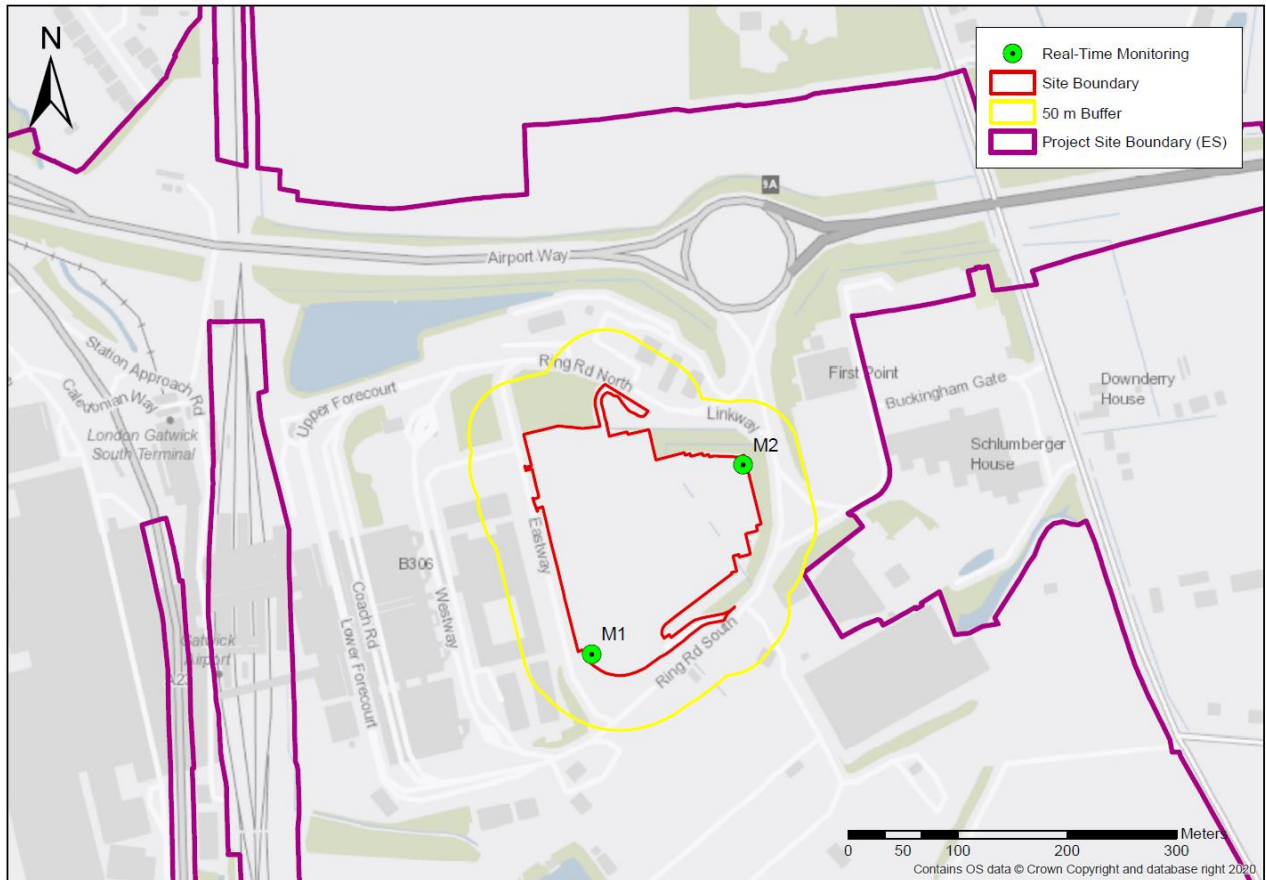
5.7.12 The results of the dust soiling and/or depositional data will be included in the monitoring summary reports detailed in the following sections.

#### PM<sub>10</sub> Monitoring

5.7.13 The IAQM guidance (IAQM, 2024) advises that for *high risk* sites, dust and PM<sub>10</sub> should be continuously measured during construction using a minimum of two automatic particulate monitors (such as, for example, Osiris dust monitors).

5.7.14 Monitoring would be undertaken either at the boundary of the site closest to receptors or for larger areas at locations upwind and downwind of the prevailing wind direction. In this instance, given that the site is considered to be *Low Risk* with respect to human health effects, two continuous monitoring locations are considered sufficient to alert the Principal Contractor to the potential for impacts at nearby receptors.

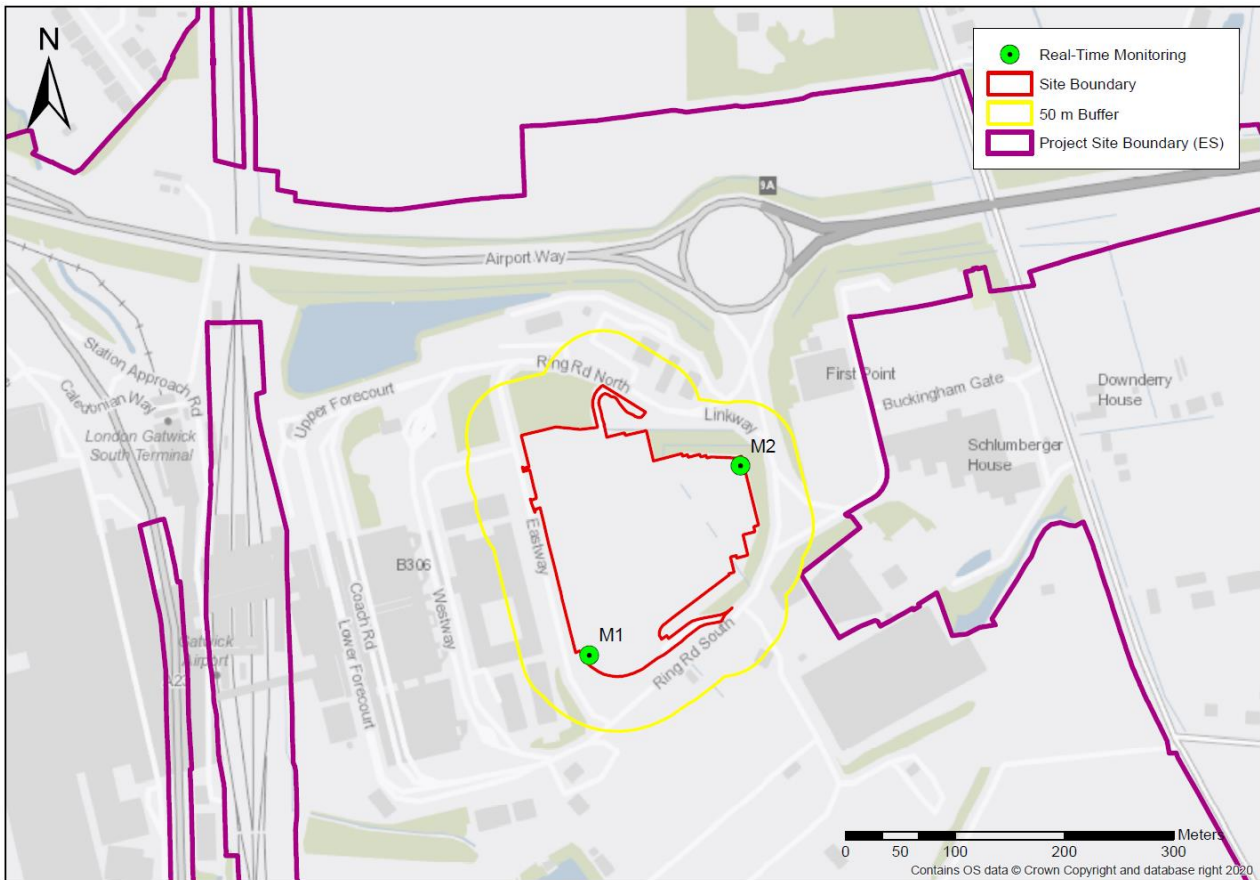
5.7.15 Proposed monitoring locations for this site are shown in



5.7.15 5.7.16 **Figure 2** Figure 2. The two locations M1 and M2 are considered appropriate for capturing dust risk at the site boundary at upwind and downwind locations. The exact locations will depend on their practicability, in particular with regards to the site layout, accessibility, availability of a structure to fix the monitor, and proximity to a power connection.

5.7.16 5.7.17 **Figure 3** shows the prevailing wind is from the southwest as shown by the wind roses, demonstrating the monitoring is suitably located.

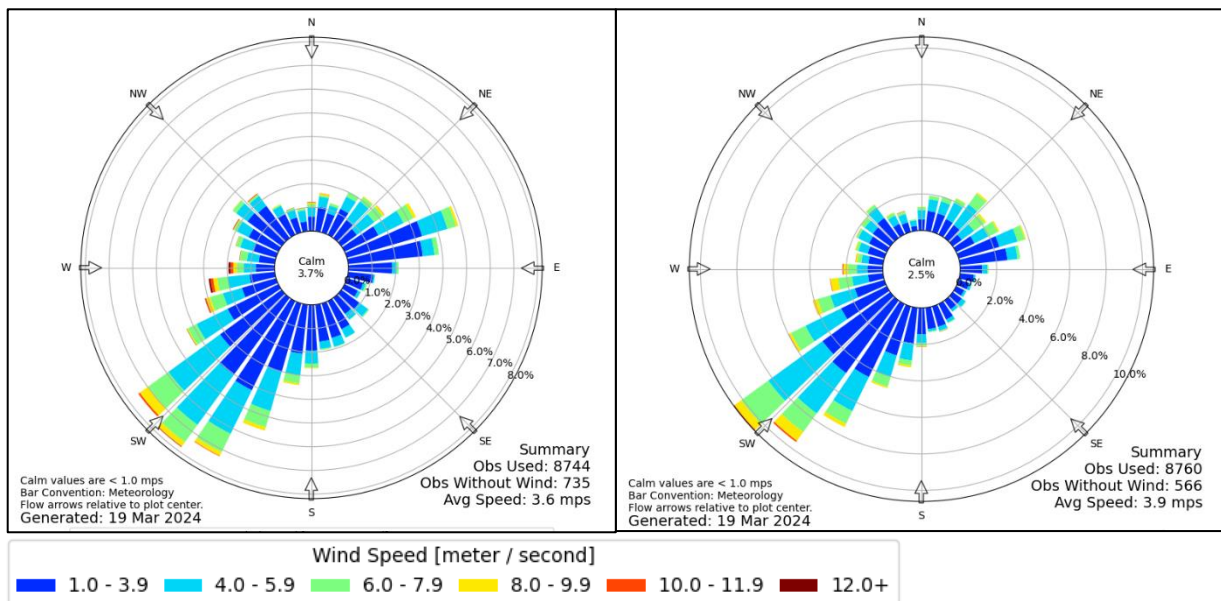




**Figure 2: Example of proposed monitoring locations**

**5.7.17****5.7.18** In this example, continuous PM<sub>10</sub> monitoring would be undertaken at two locations using MCERTS certified Osiris particle monitors capable of measuring and logging PM<sub>10</sub> in real-time, with the ability to download results from the units in real time using a GSM modem. These monitors are recommended for this purpose by the IAQM in its guidance on *Air Quality Monitoring in the Vicinity of Demolition and Construction Sites* (IAQM, 2018). Meteorological data can be gathered from the airport meteorological station, in order to gather site-specific wind speed and direction data.

**5.7.18****5.7.19** The collected data is recommended to be sent to a web-based location, this is considered to be an efficient method to manage any exceedances. The monitors can be housed in a lamp post box powered by mains electricity or powered by battery or solar power. These arrangements would be agreed with the appointed contractor in advance.

**Figure 3: Wind roses: Gatwick Airport in 2022 (left) and 2023 (right)**


### Site Action Level

**5.7.19** **5.7.20** The SAL for PM<sub>10</sub> monitoring will be set at 190 µg/m<sup>3</sup> averaged over a 1-hour period, based on the most recent guidance (IAQM, 2018). If the SAL is exceeded the Principal Contractor will be alerted via email alert system, and the following actions taken:

- the event will immediately be recorded in a log book, along with the date and time and details of any actions taken on site to reduce emissions;
- an assessment of the results will be commissioned to ascertain the potential cause of the exceedance;
- construction activities taking place at the time the action level was exceeded will be reviewed whilst the mitigation measures that are in place are reviewed and additional measures implemented; and
- the exceedance will be recorded by the Principal Contractor, as well as the actions taken to reduce emissions, within 24 hours.

**5.7.20** **5.7.21** If complaints are regularly received before the SAL is reached, the SAL should be reviewed and set at a level below which complaints are received. This SAL should then be reviewed every three months to assess its suitability.

**5.7.21** **5.7.22** Monitoring summary reports will be prepared and submitted to the local authority, annually. These reports will summarise the following:

- date and time of any breach of the SAL, with the 1-hour mean concentrations recorded clearly stated;

- summary table of exceedances of the trigger levels during the monitoring period;
- graphs of PM<sub>10</sub> concentrations during the monitoring period;
- valid data capture during the monitoring period;
- wind direction at the time of any breaches of the SAL;
- details of the identified cause of elevated dust emissions and mitigation measures;
- Depositional or dust soiling data; and
- Inspection and dust event forms

~~5.7.22~~5.7.23 Automatic alerts will also be emailed to the Principal Contractor if data collection ceases at either monitor due to loss of power, loss of signal, or equipment fault. The cause of data collection loss will be investigated immediately during the working day, or immediately at the start of the following working day, to ensure that power has not been lost or to allow monitor faults to be addressed as soon as possible, in order to minimise data loss. Periods of data loss will be identified in the monitoring reports, including the cause and solution.

~~5.7.23~~5.7.24 Should it be necessary to relocate either of the monitors during the construction programme, the local authority will be notified of any proposed changes in the location and operation of the monitors and will be allowed to agree the new location(s) prior to relocation.

## 5.8. Response and Reporting

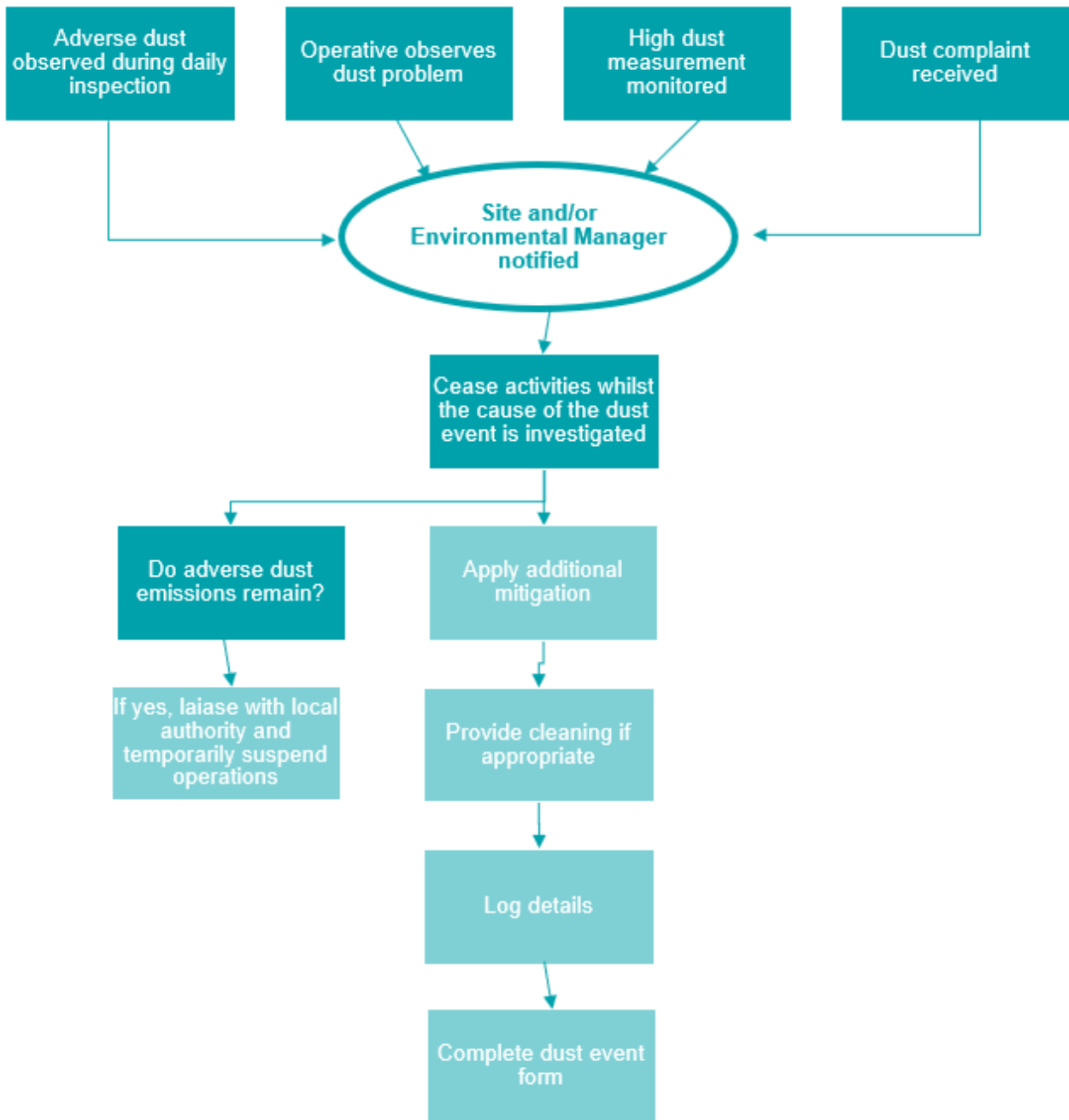
5.8.1 All significant dust events will be investigated, addressed and, if necessary, reported to the local authority. The flowchart set out in Figure 4 sets out the approach that will be taken when such events occur.

5.8.2 In the event that significant levels of dust are experienced off-site, additional mitigation measures will be employed. These will include:

- immediate identification of the source of the dust;
- the liberal use of water suppression;
- covering or sheeting sources of unacceptable dust emissions; and
- removal of excessively dusty material from the site.

5.8.3 In the event that unacceptable dust emissions continue, despite the additional mitigation measures, consideration should be given to modifying site operations, in liaison with the local authority, and temporarily suspending site operations until the issue can be resolved.

**Figure 4: Dust Event Response Flowchart**



## 6 References

Institute of Air Quality Management (IAQM) (2024) *Guidance on the assessment of dust from demolition and construction.*

Institute of Air Quality Management (IAQM) (2018) *Guidance on the Assessment of Dust from Demolition and Construction v1.1.*

## Appendices

### A1 Weekly Inspection Checklist

<i>Month of:</i>						
<b>Inspected Items</b>	<b>Frequency</b>	<b>Week 1</b>	<b>Week 2</b>	<b>Week 3</b>	<b>Week 4</b>	<b>Week 5</b>
Person completing the checklist	Initials					
Date of Inspection	Date					
Dust being controlled correctly by personnel	Weekly					
Visual inspection of mud/debris on haul routes	Weekly					
Visual inspection of dust soiling on local streets, cars and window sills	Weekly					
Bunded areas not drying out	Weekly					
Any skip doors operating satisfactorily	Weekly					
Dust monitoring equipment operating satisfactorily	Weekly					
Wind direction	Weekly					
Wind speed	Weekly					
Weather forecast	Weekly					

**A2 Weekly Inspection Notes**

<i>Month of:</i>
<b>Week 1</b>
<b>Week 2</b>
<b>Week 3</b>
<b>Week 4</b>
<b>Week 5</b>

**A3 Dust Event Form**

<i>Sheet No.:</i>
<b>Time &amp; date form completed:</b>
<b>Date, time and duration of event:</b>
<b>Location of dust?</b>
<b>Weather conditions (i.e. dry, rain, fog, snow):</b>
<b>Cloud cover (cloud height – low, high, very high, none, partial complete):</b>
<b>Wind Strength (light, steady, strong, gusts):</b>
<b>Wind direction (from/to):</b>
<b>Description of dust event (i.e. colour, particle size, any other comments):</b>
<b>On-site activities at the time the dust emission occurred:</b>
<b>Has a previous event occurred relating to this source:</b>
<b>Any other relevant information:</b>
<b>Any upwind dust?:</b>
<b>Operating conditions at the time the dust emission occurred:</b>
<b>Any remedial actions taken or to be taken:</b>
<b>Form completed by (name &amp; signature):</b>



**A4 Dust Complaint Form**

Sheet No.:	
<b>Date:</b>	<b>Time &amp; date of complaint:</b>
Name and address of complainant:	
Date, time and duration of offending dust:	
Location of dust, if not at the above address:	
Weather conditions (i.e. dry, rain, fog, snow):	
Cloud cover (Cloud height (low, high, very high): none, slight, partial complete):	
Wind strength (light, steady, strong, gusting):	
Wind direction (from/to):	
Complainant's description of dust & any other comments (i.e. colour, particle size):	
Has complainant previously made complaint relating to the site:	
Any other relevant information:	
Any upwind dust?:	
On-site activities at the time the dust emission occurred:	
Operating conditions at the time the dust emission occurred:	
Any remedial actions taken or to be taken:	
Form completed by (name & signature):	