

# **Dust Management Plan & NRMM Compliance for 152 - 154 Uxbridge Road Project**

# INTRODUCTION

This report addresses the air quality management measures for the upcoming construction activities at 152 - 154 Uxbridge Road Project. The report consists of;

- Introduction
- Air Quality Assessment
- NRMM Compliance
- Conclusion

# AIR QUALITY DUST RISK ASSESSMENT

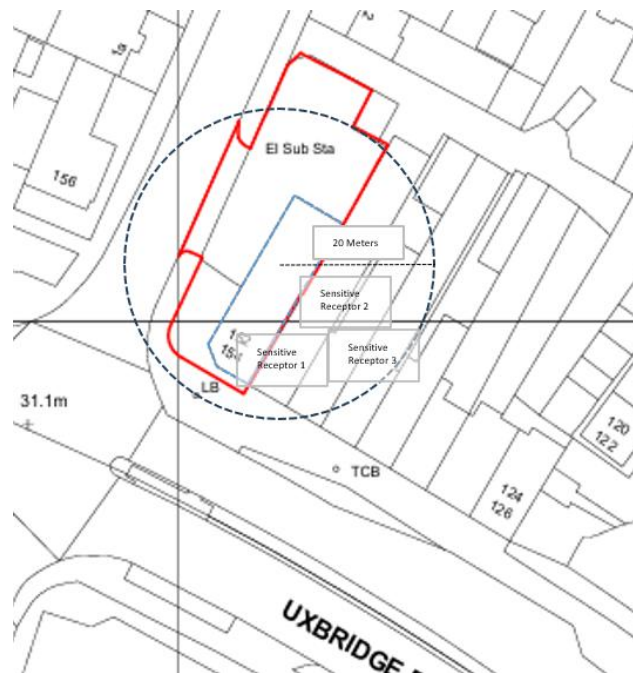
For this assessment, the *Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance July 2014* has been utilised to conduct a construction dust risk assessment.

This guidance offers a structured approach to assess the potential risk of dust generation associated with a development and recommends the necessary level of mitigation. The impact of the proposed development is categorized into one of three levels: 'Low Risk', 'Medium Risk', and 'High Risk'. Depending on the identified risk level, suitable mitigation measures can be implemented to reduce potential dust impacts during the construction phase.

Activity	Dust Emission Magnitude
Demolition	Small
Earthworks	Small
Construction	Small
Trackout	Small

- The dust emission magnitude for demolition is 'Small', with the total building volume to be demolished less than 20,000m<sup>3</sup>.
- The dust emission magnitude for earthworks is 'Small', with the total site area below 2,500m<sup>2</sup>.
- The dust emission magnitude for construction is 'Small', with the total building volume less than 25,000m<sup>3</sup>.
- The outward daily peak HGV movements will be below 10 HDV movements in a day, so the dust emission magnitude for trackout has been assigned as 'Small'.

According to the guidance, dust generated by a standard construction site can have an impact on sensitive human receptors such as nearby residential buildings and schools. These receptors are considered to be affected if they are within 350m of the site boundary or within 50m of the designated haul route (up to a distance of 500m from the site entrance). Dust impacts are likely to occur regardless of the orientation of these receptors to the dust source if they are located within 20m of the site.



The nearest receptors are shown in the figure above.

### **Sensitivity Of the Area to Dust Soiling Effects on People and Property**

The receptors are classified as a high-sensitivity receptor based on GLA Control of Dust and Emissions from Construction and Demolition SPG regarding people's sensitivity to dust soiling, as outlined below.

*High sensitivity receptor – surrounding land where:*

- *users can reasonably expect enjoyment of a high level of amenity; or*
- *the appearance, aesthetics or value of their property would be diminished by soiling; and*
- *the people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.*
- *indicative examples include dwellings, museums and other culturally important collections, medium- and long-term car parks and car showrooms.*

**TABLE 4.2 SENSITIVITY OF THE AREA TO DUST AND SOILING EFFECTS ON PEOPLE AND PROPERTY <sup>A B</sup>**

Receptor Sensitivity	Number of Receptors	Distance from the Source (m) <sup>c</sup>			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

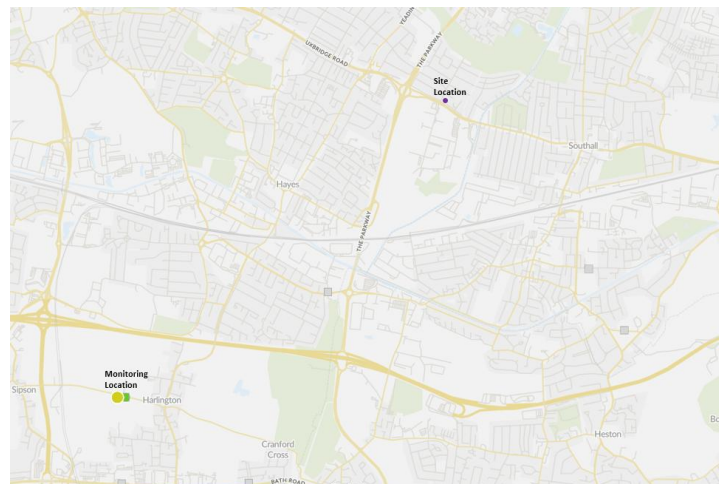
According to Table 2 of Sensitivity of the Area to Dust Soiling Effects on People and Property the site is classified as High.

### Sensitivities of People to the Health Effects of PM10

The school is classified as a high-sensitivity receptor based on GLA Control of Dust and Emissions from Construction and Demolition SPG regarding Sensitivities of People to the Health Effects of PM10, as outlined below.

#### *High sensitivity receptor*

- *locations where members of the public are exposed over a time period relevant to the air quality objective for PM10 (in the case of the 24-hour objectives, a relevant location would be one where individuals maybe exposed for eight hours or more in a day).*
- *indicative examples include residential properties. Hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.*



*The nearest monitoring location to the site is shown in the figure above.*



According to live data from Airly, an Airly CAQI score is 25.

PM10 levels are measured at 31 µg/m³, which is well below the WHO daily guideline of 45 µg/m³.

PM2.5 is at 20 µg/m³, and PM1 is at 13 µg/m³, reflecting medium levels of particulate matter.

Overall, the air quality poses minimal health risks.

**TABLE 4.3 SENSITIVITY OF THE AREA TO HUMAN HEALTH IMPACTS <sup>A B</sup>**

Receptor Sensitivity	Annual Mean PM <sub>10</sub> concentration <sup>C</sup>	Number of Receptors <sup>D</sup>	Distance from the Source (m) <sup>E</sup>				
			<20	<50	<100	<200	<350
High	>32 µg/m³	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32 µg/m³	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28 µg/m³	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	24-28 µg/m³	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	-	>10	High	Medium	Low	Low	Low
	-	1-10	Medium	Low	Low	Low	Low
Low	-	1-10	Low	Low	Low	Low	Low

According to Table 4.3 of Sensitivity of the Area to Human Health Impacts the site is classified as High.

Sensitivity of Area	Sensitivity of the surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	High Risk	High Risk	High Risk	High Risk
Human Health	High Risk	High Risk	High Risk	High Risk

The assessment has been carried out by considering the sensitivity of the receptors, their distance from the site, and the recorded PM10 concentrations. The potential impacts on human health, as well as dust soiling effects on people and property, have been evaluated accordingly. The results are summarised in the table above.

### Defining The Risk of Impacts

The magnitude of dust emissions identified has been combined with the assessed sensitivity of the area to evaluate the potential risk of impacts without any mitigation measures in place. Tables 4.6, 4.7, 4.8 and 4.9 outline the methodology for assigning risk levels to each activity.

In the tables, the black box indicates dust soiling effects on people and property and human health impacts. These boxes are marked directly on the tables to clearly show the assessed risk levels for each category.

**TABLE 4.6 RISK OF DUST IMPACTS – DEMOLITION**

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

**TABLE 4.7 RISK OF DUST IMPACTS – EARTHWORKS**

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

TABLE 4.8 RISK OF DUST IMPACTS – CONSTRUCTION

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

TABLE 4.9 RISK OF DUST IMPACTS – TRACKOUT

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

Potential Impact	Dust Emission Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium Risk	Low Risk	Low Risk	Low Risk
Human Health	Medium Risk	Low Risk	Low Risk	Low Risk

Based on the assessment, the risk associated with dust soiling is classified as 'Medium Risk' during the demolition phase, and 'Low Risk' during both the construction, earthworks and trackout phases. The risk to human health is considered 'Low Risk' during earthworks, construction and trackout, 'Medium Risk' during the demolition phase.



## Dust and Emission Control Measures

Mitigation measures appropriate for the proposed development, based on the GLA Control of Dust and Emissions from Construction and Demolition SPG, are outlined below. After implementing these measures, the impacts of the construction phase on dust soiling and human health are deemed to be insignificant.

Issue	Control Measure
Communications	<ul style="list-style-type: none"> <li>• Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.</li> <li>• Display the name and contact details of person(s) accountable for air quality pollutant emissions and dust issues on the site boundary.</li> <li>• Display the head or regional office contact information.</li> <li>• Develop a Dust Management Plan.</li> </ul>
Site Management	<ul style="list-style-type: none"> <li>• Record and respond to all dust and air quality pollutant emissions complaints.</li> <li>• Make the complaints log available to the local authority when asked.</li> <li>• Carry out regular site inspections to monitor compliance with air quality and dust control procedures, record inspection results, and make an inspection log available to the local authority when asked.</li> <li>• Increase the frequency of site inspections by those accountable for dust and air quality pollutant emissions issues when activities with a high potential to produce dust and emissions and dust are being carried out, and during prolonged dry or windy conditions.</li> <li>• Record any exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, and the action taken to resolve the situation is recorded in the log book.</li> </ul>

<p>Preparing and maintaining the site</p>	<ul style="list-style-type: none"> <li>• Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.</li> <li>• Erect solid screens or barriers around dust activities or the site boundary that are, at least, as high as any stockpiles on site.</li> <li>• Fully enclosure site or specific operations where there is a high potential for dust production and the site is active for an extensive period.</li> <li>• Install green walls, screens or other green infrastructure to minimise the impact of dust and pollution.</li> <li>• Avoid site runoff of water or mud.</li> <li>• Keep site fencing, barriers and scaffolding clean using wet methods.</li> <li>• Remove materials from site as soon as possible.</li> <li>• Cover, seed or fence stockpiles to prevent wind whipping.</li> <li>• Carry out regular dust soiling checks of buildings within 100m of site boundary and cleaning to be provided if necessary.</li> <li>• Agree monitoring locations with the Local Authority.</li> <li>• If council requires, commence baseline monitoring at least three months before phase begins.</li> <li>• If council requires, put in place real-time dust and air quality pollutant monitors across the site and ensure they are checked regularly.</li> </ul>
<p>Operating Vehicle/Machinery and Sustainable Travel</p>	<ul style="list-style-type: none"> <li>• Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone.</li> <li>• Ensure all non-road mobile machinery (NRMM) comply with the standards set within this guidance.</li> <li>• Ensure all vehicles switch off engines when stationary – no idling vehicles.</li> <li>• Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where possible.</li> <li>• Impose and signpost a maximum-speed-limit of 10mph on surfaced haul routes 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).</li> <li>• Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.</li> </ul>

	<ul style="list-style-type: none"> <li>Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).</li> </ul>
Operations	<ul style="list-style-type: none"> <li>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.</li> <li>Ensure an adequate water supply on the site for effective dust/particulate matter mitigation (using recycled water where possible).</li> <li>Use enclosed chutes, conveyors and covered skips.</li> <li>Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.</li> <li>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.</li> </ul>
Waste Management	<ul style="list-style-type: none"> <li>Avoid bonfires and burning of waste materials</li> <li>Reuse and recycle waste to reduce dust from waste materials</li> </ul>
Demolition	<ul style="list-style-type: none"> <li>Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).</li> <li>Ensure water suppression is used during demolition operations.</li> <li>Avoid explosive blasting, using appropriate manual or mechanical alternatives.</li> <li>Bag and remove any biological debris or damp down such material before demolition.</li> </ul>
Construction	<ul style="list-style-type: none"> <li>Avoid scabbling (roughening of concrete surfaces) if possible</li> <li>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.</li> </ul>
Trackout	<ul style="list-style-type: none"> <li>Regularly use a water-assisted dust sweeper on the access and local roads, as necessary, to remove any material tracked out of the site.</li> <li>Avoid dry sweeping of large areas.</li> </ul>

	<ul style="list-style-type: none"> <li>• Ensure vehicles entering and leaving sites are securely covered to prevent escape of materials during transport.</li> <li>• Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).</li> </ul>
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Measures will be put in place to prevent dust from spreading outside of the site in dry periods, including the covering of skips containing soils and/or demolition materials. This will be kept on site for the duration of the works.

The Site Manager will work closely with the Council's Environmental Health Department and Building Control Department in respect of noise, vibration, and air quality. Additionally, any loose material being transported or stored on site will be sheeted to prevent air quality contamination. All open waste skips and vans will be sheeted.

# NRMM COMPLIANCE

All Non-Road Mobile Machinery (NRMM) with a net power rating of 37 kW up to and including 560 kW used during the demolition, site preparation and construction phases will comply with the emission standards set out in the GLA SPG “Control of Dust and Emissions During Construction and Demolition” (July 2014), or any subsequent guidance.

The project site is located within the London Ultra Low Emission Zone (ULEZ), where enhanced air quality controls apply. Accordingly, the use of compliant, low-emission plant and equipment will be enforced throughout the works.

No NRMM that does not meet the required standards will be allowed on site at any time (whether in use or not) without the prior written consent of the Local Planning Authority (LPA). The Principal Contractor will maintain an up-to-date NRMM register for all relevant plant used on site and ensure it is kept current on the online register ( <https://nrmm.london/>). Evidence of compliance (e.g., plant details and emission standard) will be available for inspection upon request.

# CONCLUSION

Based on the dust risk assessment undertaken for this project, the site has been classified as presenting a Medium Risk of dust soiling during the demolition phase, and a Low Risk during the construction, earthworks and trackout phases.

The surrounding area comprises predominantly residential properties located in close proximity to the site boundary, which are considered to be high sensitivity receptors for dust soiling effects on people and property in accordance with GLA Control of Dust and Emissions from Construction and Demolition SPG.

Despite this sensitivity, the overall risk to human health has been assessed as Low during the construction, earthworks and trackout phases, and Medium during the demolition phase. This reflects the relatively limited scale and duration of the proposed works, together with the implementation of appropriate mitigation measures.

All demolition activities will be undertaken in a controlled and phased manner to minimise the potential for dust dispersion beyond the site boundary.

A range of proportionate dust control measures will be implemented throughout the works. These will include regular visual inspections at the site boundary, prompt corrective action in response to any visible dust emissions, and good site management practices in line with relevant GLA Control of Dust and Emissions from Construction and Demolition SPG. A dust complaints log will be maintained, and the site management team will remain responsive to any concerns raised by nearby sensitive receptors.

With these mitigation measures in place, the residual impact of dust emissions on nearby sensitive receptors is anticipated to be acceptable, and the proposed development is considered compliant with regulatory requirements and industry best practice in relation to air quality and dust control.