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14746AQ/T01/NJA
19 October 2018

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Charlie Ratchford Extra Care - Dust Management Plan

1.0 Summary

You are constructing a Community Resource facility and 38 new independent extra care living units on a vacant plot in Crogsland Road, London. This report is a detailed Dust Assessment and Dust Management Plan, by SRL Technical Services Ltd, to support the Construction Management Plan.

This is because:

- The site is in an Air Quality Management Area for PM_{10}.
- Construction works have a Medium risk for dust impacts. Mitigation procedures are classed as standard practice in The London Borough of Camden's Clean Air Action Plan (CCAAP).

I have performed a qualitative assessment of the potential impacts of construction activities associated with the Proposed Development on local air quality. The assessment identified that the Proposed Development is a medium risk for dust soiling, and a medium to low risk for human health effects. Through good site practice and by adopting suitable mitigation measures, the residual effects are likely to be small.

Yours sincerely,

Nicole Asante

For and on behalf of
SRL Technical Services Limited
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2.0 Introduction

This report describes potential air quality impacts relating to the proposed construction of a Community Resource facility and 38 new independent extra care living units on a vacant plot in Crogsland Road, London. The proposed development is located within a borough-wide Air Quality Management Area (AQMA) declared by the London Borough of Camden for PM10 and NO2

The potential air quality impacts associated with the construction phase of the proposed development relate to dust and particulate matter generated by construction activities.

This initial assessment report looks at the existing air quality conditions around the site, the possible effects on local receptors (e.g. residents), considers the local and national policy context, and describes the proposed assessment methodology.

3.0 Relevant Policy and Guidance

The Air Quality Strategy

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland[1] sets out air quality objectives and policy options to improve air quality in the UK. The main aim of the Strategy is to ensure that ambient air quality is of an acceptable level to protect human health and the environment. It takes account of the Limit Values set out in EU legislation.

Local Air Quality Management (LAQM)

The Environment Act 1995 introduced the LAQM system, whereby local authorities have a duty to review and assess air quality within their areas against the air quality objectives defined in the Air Quality Strategy. Where exceedances of the objectives are identified during this process, the authority must then declare an Air Quality Management Area (AQMA) and define the measures which will be implemented to improve air quality.

National Planning Policy Framework

The National Planning Policy Framework (2012)[2] sets out the Government's planning policies for England and outlines how they are expected to be applied to achieve the Government's aim of sustainable development. The NPPF states that:

"*To prevent unacceptable risks from pollution….. planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the*

[1] Department for Environment, Food and Rural Affairs (Defra) and the Devolved Administrations (2007). The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volumes 1 and 2)

[2] Department for Communities and Local Government (2012).

natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account."

The London Environment Strategy (2017)

The London Environment Strategy replaces the Mayors Air Quality strategy (2010). The overarching objectives, specific to air quality, are to improve air quality by reduction of road and non-road traffic emissions and legal compliance with UK and EU objectives. The strategy details actions such as the expansion of the Low Emissions Zone (and future upgrade to the Ultra-Low Emissions Zone) and incorporates existing strategies such as the London Plan.

Relevant policies include:

"*Policy 4.2.4 The Mayor will work with the government, the London boroughs and other partners to accelerate the achievement of legal limits in Greater London and improve air quality*"

"*Policy 4.3.4 Work to reduce exposure to indoor air pollutants in the home, schools, workplace and other enclosed spaces*"

The London Plan (2016)

The London Plan is a strategic plan for London, integrating economic, environmental, transport, and societal frameworks for the development of the city over the next 20-25 years. Policy 7.14 sets out several requirements for development proposals, excerpts from which are below:

"*minimise increased exposure to existing poor air quality and make provision to address local problems of air quality (particularly within Air Quality Management Areas (AQMAs)…)*"

"*promote sustainable design and construction…..The control of dust and emissions from construction and demolition*"

"*be at least 'air quality neutral' and not lead to further deterioration of existing poor air quality (such as areas designated as Air Quality Management Areas (AQMAs))*"

"*[Development proposals should] ensure that where provision needs to be made to reduce emissions from a development….. that it is possible to put in place measures having clearly demonstrated equivalent air quality benefits, planning obligations or planning conditions*"

The Camden Local Plan (2017)

Policy CC4 as shown within the Camden Local Plan (2017) states that "*The Council will ensure that the impact of development on air quality is mitigated and ensure that exposure to poor air quality is reduced in the borough. The Council will take into account the impact of air quality when assessing development proposals, through the consideration of both the exposure of occupants to air pollution and the effect of the development on air quality.*

Consideration must be taken to the actions identified in the Council's Air Quality Action Plan. Air Quality Assessments (AQAs) are required where development is likely to expose residents to high levels of air pollution. Where the AQA

shows that a development would cause harm to air quality, the Council will not grant planning permission unless measures are adopted to mitigate the impact. Similarly, developments that introduce sensitive receptors (i.e. housing, schools) in locations of poor air quality will not be acceptable unless designed to mitigate the impact. Development that involves significant demolition, construction or earthworks will also be required to assess the risk of dust and emissions impacts in an AQA and include appropriate mitigation measures to be secured in a Construction Management Plan."

Camden's Clean Air Action Plan 2016-2018

Camden's Clean Air Action Plan (CCAAP) identifies actions and mitigation measures to be implemented by Camden and other London boroughs to "*reduce NO_2 and particulate matter emissions from the key emission sources in the borough – road transport, gas boilers and new developments*" and outlines the requirement that new developments "*meet all best practice planning guidance available, including the GLA's 2014 Control of Dust and Emissions during Construction and Demolition SPG*"

This document references the Camden Local Plan and Camden's Environmental Sustainability Plan, Green Action for Change 2012 - 2020

Guidance

The following guidance documents have also been used where appropriate, in this assessment:

- Local Air Quality Management Technical Guidance (LAQM.TG(16))[3]
- Land-Use Planning and Development Control: Planning for Air Quality. V1.2[4]
- Guidance on the Assessment of Dust from Demolition and Construction[5]
- National Planning Practice Guidance - Air Quality[6]
- The Control of Dust and Emissions During Construction and Demolition - Supplementary Planning Guidance[7]

[3] Defra (2018). Part IV of the Environment Act 1995 Environment (Northern Ireland) Order 2002 Part III Local Air Quality Management Technical Guidance (TG16)

[4] Environmental Protection UK / Institute of Air Quality Management (2017).

[5] Institute of Air Quality Management (2014).

[6] Department of Communities and Local Government (DCLG) (2014).

[7] Greater London Authority (2014)

4.0 Existing Conditions

Existing air quality conditions near to the site have been defined based on a review of the following sources of data:

- The London Borough of Camden's (LBC) Review and Assessment reports and monitoring data;
- Defra's Local Air Quality Management (LAQM) Support Pages, including background maps;
- Maps and plans of the Site and surrounding area; and
- Maps and Data from the London Atmospheric Emissions Inventory (LAEI)

LBC have declared a borough-wide AQMA for the annual PM_{10} objective (and NO_2 which is outside the scope of this report). The Proposed Development is located within this AQMA.

A review of local mapping indicates that there are no industrial pollution sources in the immediate vicinity of the Site that will influence the local air quality; the main influence is emissions from road transport using the local road network.

Table 1 summarises the background pollutant concentrations of PM_{10} and $PM_{2.5}$ used in the assessment. Background concentrations of PM_{10} and $PM_{2.5}$ have been taken from Defra's background maps for 2017 to represent current conditions.

Table 1: Background Pollutant Concentrations (µg/m^3)

Grid Square	PM_{10}	$PM_{2.5}$
528500, 184500	18.8	11.8

LBC monitor concentrations of NO_2 using automatic and non-automatic (diffusion tube) monitors at several locations within their administrative area. Locations and monitoring data from the closest monitoring locations are in **Table 2**. **Figure 1** and **2** show the location of monitoring stations in relation to the site of the proposed development, and the site plan of the proposed development with nearby receptors respectively.

Figure 1: The locations of the proposed development (Site) and nearest air quality monitoring stations

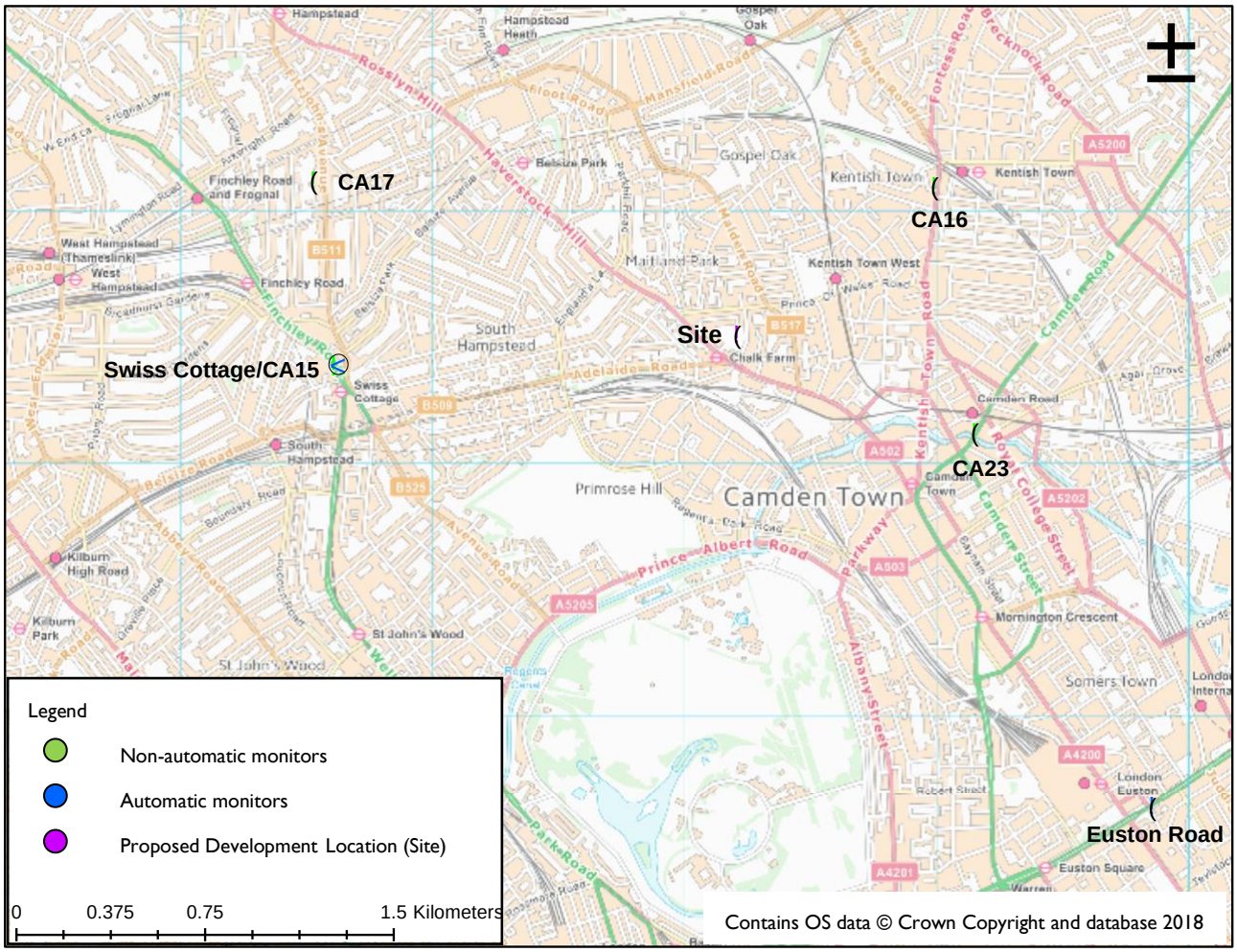
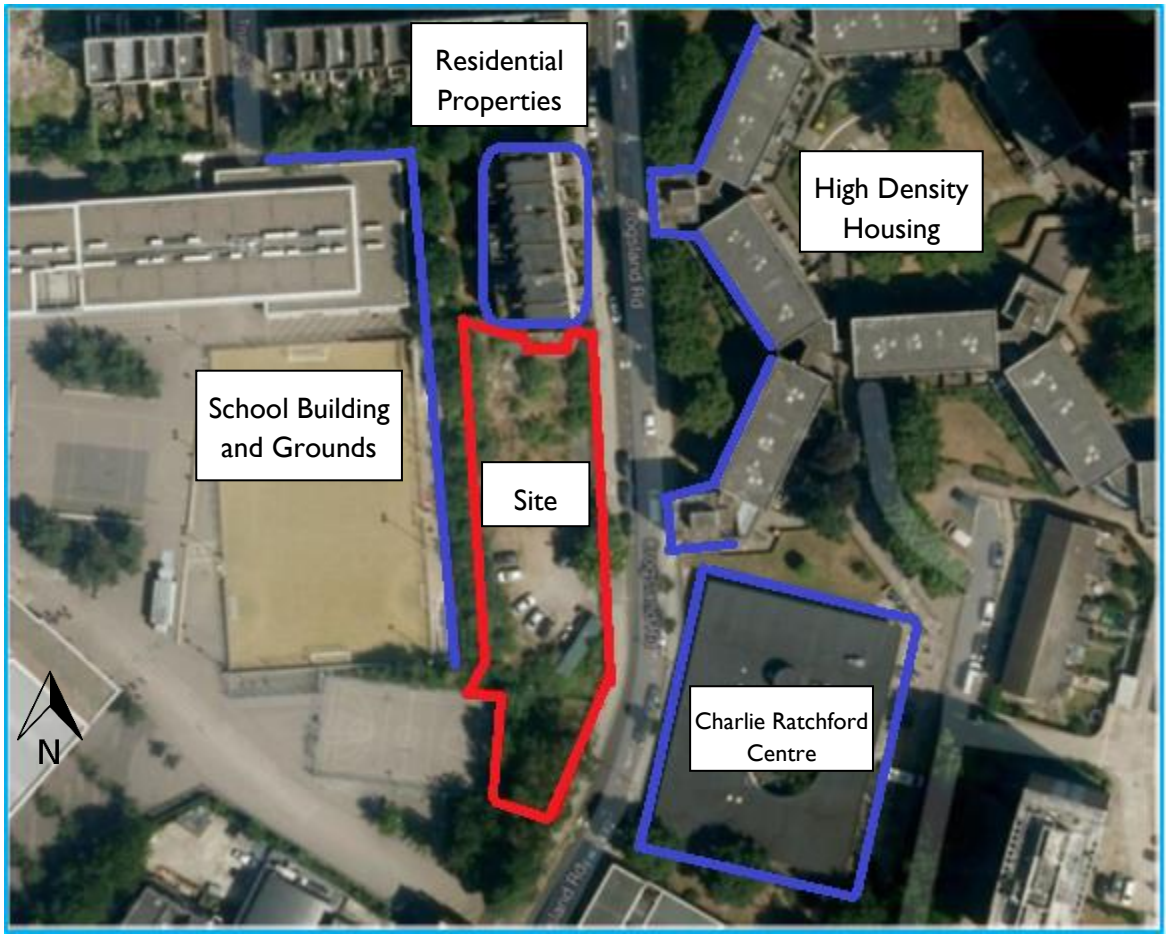


Figure 2: Site Plan - Site boundary (Red) and Nearby Receptors (Blue)



LBC measure PM_{10} and $PM_{2.5}$ concentrations using automatic monitors. Available data from the most representative monitoring sites may be observed in **Table 3** and **Table 4** respectively. Concentrations of PM_{10} and $PM_{2.5}$ are below objectives at both monitoring sites, with PM_{10} concentrations appearing to decrease overall, and remain at levels below air quality objectives over the 7 years. $PM_{2.5}$ concentrations have also remained below objectives since 2015, which is the first year in the period with valid capture data, with the two monitoring locations showing opposite trends: increasing at Swiss Cottage and decreasing at Euston road. It is important to take note that the Swiss Cottage monitor is in a kerbside location, and IAQM guidelines generally do not apply.

The below-objective concentrations of particulates (PM_{10} and $PM_{2.5}$) imply that the air quality in this area is currently acceptable, however, the proposed development will bring additional risk to air quality in the area during its construction and operational phases.

Table 3. PM_{10} Monitoring Data

Monitoring Site	Site Type	Annual Mean PM_{10} Concentrations (µg/m³)						
		2011	2012	2013	2014	2015	2016	2017
Automatic								
Swiss Cottage	Kerbside	27	23	21	22	20	21	20
Euston Road	Roadside	-	-	-	29	18	24	20
Objective								
40								

Values obtained from LB Camden's Air Quality Annual Status Report (2017)

Table 4. PM2.5 Monitoring Data

Monitoring Site	Site Type	Annual Mean $PM_{2.5}$ Concentrations (µg/m³)						
		2011	2012	2013	2014	2015	2016	2017
Automatic								
Swiss Cottage	Kerbside	-	-	-	-	12	15	16
Euston Road	Roadside	-	-	-	-	17	17	14
Objective								
25								

Values obtained from LB Camden's Air Quality Annual Status Report (2017)

5.0 Construction Impacts

During the construction phase, activities may generate dust and particulate matter which could result in complaints of nuisance and human health effects.

The likely level of risk has therefore been assessed following guidance published by the Institute of Air Quality Management (IAQM). The assessment considers the nature and scale of the activities undertaken and the sensitivity of the surrounding area. Mitigation measures proportionate to the level of risk identified are then set out.

As precise information on the number of vehicles and plant associated with each part of the construction phase is not yet known, a qualitative assessment of their impact has been done using professional judgement and by considering the following:

- The likely number and type of construction traffic and plant;
- The number and proximity of sensitive receptors to the Site;
- The likely duration of the construction period; and
- The nature of the activities undertaken.

The IAQM and The Control of Dust and Emissions During Construction and Demolition SPG assessment methodology has been used to determine the potential dust emission magnitude for the following four different dust and PM_{10} sources: demolition; earthworks; construction; and, trackout.

Demolition

- Only the removal of hardstandings are scheduled for the site, given the sites relatively small size and the fact that hardstandings are located at ground level, the potential dust emission magnitude is judged to be **small**.

Earthworks

- The total area of the Site is approximately 1500 m^2, with an approximate volume approaching 6000 tonnes of material to be moved. The exact number of earth-moving vehicles to be present on site is not yet known, however material is expected to be removed from the site at a rate of four vehicles per day. Soil characteristics, using the definitions from the British Geological survey's UK Observatory website, could be described as a medium/heavy with a clay/clay silt texture. Clayey soils are prone to creating dust when dry, however, the site area is small. Due to these factors, the potential dust emission magnitude is judged to be **medium** for earthwork activities as a worst-case scenario.

Construction

- The total volume of buildings to be constructed on the Site is estimated to be approximately 18,350 m^3. Potential sources of dust include, the storage and use of dusty materials, concrete cutting and the movement of vehicles over unpaved roads. The main construction materials will be concrete, steel, brick, glass and cladding. Concrete batching will occur offsite. Due to the volume of the proposed development, the potential dust emission magnitude is judged to be **small** for construction activities.

Trackout

- The number of Heavy-Duty Vehicles (HDVs) movements associated with the Site during construction is expected to be at least 8 per day averaged over the entire construction period. This number is anticipated to vary over the course of the construction phase. On average, is anticipated that there will be between 10 and 50 HDV outward movements per day, over an unpaved road length of <50 m. Therefore, it is judged that the potential dust emission magnitude is **medium** for trackout.

5.1 Sensitivity of the Study Area

Most dust will be deposited in the area immediately surrounding the site. The area surrounding the Site has a mix of uses.

Existing residential properties bound the site to the North, Haverstock School and sports pitch can be found beyond the West/South West boundary of the site. To the east is an existing Charlie Ratchford Centre and more residential properties. An area of retained trees are located beyond the Southern site boundary. The boundaries of all identified receptors are located within 50 m of the site boundary (in the case of the school, the main building is >100 m away from the proposed development boundary).

The residential properties rate as highly sensitive to dust soiling whilst the school and its associated sports pitch can be considered to have medium sensitivity to dust soiling due to the frequency of its use. The residential properties are also highly sensitive to human health effects, as is the school. The school's sports pitch would be are of medium sensitivity for human health effects.

Using the IAQM guidance, the overall sensitivity of the local area is:

- **High** for dust soiling. There are approximately 15 receptors (residences and. school grounds) within 20 m of the site boundary and > 50 receptors within 50 m of the site boundary, which may be affected by onsite works. Because Crogland Road is one way, construction vehicles would have to enter the site using Crogsland Road from the Prince of Wales Road end. Upon exiting the site, vehicles can only exit on to Haverstock Hill. This circuit will inevitably take construction vehicles past residential properties and the School. Within 50 m of the site entrance/exit, trackout could potentially affect > 20 receptors including the Charlie Ratchford Centre.

- **Medium** for human health. Although the Defra maps show urban background levels below-objective background PM_{10} concentrations (18.8 µg m^{-3}), LAEI emission maps predict values between 25 and 28 µg m^{-3}. While this is still below objectives, there is a slightly increased risk to receptors to emissions of PM_{10} for the duration of the works. Also to consider, is the close proximity (< 50 m) of some high

sensitivity receptors (namely the school and residents) to onsite works and to roads with potential for trackout from construction vehicles.

There are no designated ecological sites within 50m of the Site boundary nor within 50m of roads potentially affected by trackout so an assessment of the impact of the construction phase on ecological sites is not required.

5.2 Impact Assessment

The predicted dust emission magnitude has been combined with the defined sensitivity of the area to determine the risk of impacts during the construction phase, prior to mitigation. **Table 5** provides a summary of the risk of construction phase impacts for the Proposed Development. The risk category identified for each construction activity has been used to determine the level of mitigation required.

Table 5: Dust Risk Summary to Define Site Specific Mitigation

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

5.3 Construction Vehicles and Plant

The number of HDVs associated with the site during construction is estimated to be between 5 and 10 at the time of assessment and is anticipated to vary over the course of the construction phase. On average, it is anticipated that there will be fewer than 10 HDV outward movements per day. The threshold defined in the EPUK / IAQM planning guidance is 25 HDVs within an AQMA. Based on this, the impacts of HDV movements on air quality are expected to be negligible.

6.0 Dust Control and Mitigation

6.1 Dust Control

Potential dust emissions from the site may be generated from activities associated with:

- Handling and movement of stockpiles.
- Vehicle movements in/out of the site.
- Wind blowing across stockpiled materials; and
- Crushing and screening of wastes.
- Use of plant e.g. reinforcement cutting, drilling, generators etc.

Significant dust generation may also occur in dry weather conditions and strong winds

The following control measures are considered for implementation during the construction phase. Considered is the correct storage of raw materials, site management procedures, minimization of drop heights and wind:

- Dampening down techniques to be implemented at all times during Earthworks and Demolition and no demolition works shall be commenced without an adequate water supply to cover the whole working areas.
- Damping down during dry periods. Ensuring materials have a minimum of packaging.
- Providing regular road cleaning using road sweepers or brushes to control dust and mud.
- Limited areas of storage of materials on the South and East of the site; emphasis on Just In Time (JIT) deliveries
- Construction materials prepared offsite if possible
- Making sure all dust generating materials are adequately packaged and stored.
- Ensuring that all materials, with special care for dust generating materials, transported to and from site are in enclosed containers or fully sheeted/covered.
- Ensuring stock piles of topsoil etc. are kept below hoarding heights and kept damp in dry windy conditions.
- Ensuring all vehicles leaving the site have received a jet wash and wheel clean and that loads are covered where spoil or demolition material is being removed.
- Keeping the loading drop heights of spoil into lorries as low as possible
- Undertake air quality sampling/ Real-time dust monitoring and locations to be discussed and agreed with the London Borough of Camden to ensure that there are minimal impacts on existing air quality levels as per Camden's requirements

6.2 Dust Mitigation

Dust mitigation measures will be undertaken on site to mitigate dust emissions from the identified sources of generation.

Referring to visible dust, it is imperative to prevent statutory nuisance arising from the demolition, construction works or dusty activities. Therefore, a philosophy of the prevention of dust formation in the first place shall be adopted. Dealing with dust should be in the following fashion: 1. Prevention, 2. Suppression, and 3. Containment.

These three principles are well established and are central to the control strategies to control dust. They follow a hierarchy to control the emissions. Galliford Try typically implement dust control measures that comply with these principles as standard. Examples of this this may be observed in **figures B1** and **B2** in **Appendix B**

The tables in **Appendix A** identify mitigation procedures and will be implemented on site in order to minimize dust nuisance from operations likely to produce dust, with consideration to the risk levels previously identified in the screening assessment. The assessment of potential construction phase impacts has found that the Proposed Development is **medium** risk for dust soiling and a **medium** risk for human health effects in accordance to the guidance provided by Mayor of London's SPG and IAQM Planning guidance.

Regardless of the risk level, employees, workers on and sub-contractors the working on site will always follow best practice.

Appendix A - Construction Phase Mitigation Measures from *The Control of Dust and Emissions from Construction and Demolition* (2014)

The following mitigation measures are recommended to reduce the identified risk associated with dust soiling and human health effects during the construction phase. Where available, site specific details are given.

A1. MEASURES RELEVANT FOR DEMOLITION, EARTHWORKS, CONSTRUCTION AND TRACK-OUT

X - Desirable, XX - Highly Recommended

MITIGATION MEASURE		MEDIUM RISK		ADDITIONAL COMMENTS
Site management				
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.		XX		Site manager: Christopher Jackson Community liaison: Mark Brown
Display the name and contact details of person(s) accountable for air quality pollutant emissions and dust issues on the site boundary.		XX		Site manager: Christopher Jackson
Display the head or regional office contact information.		XX		
Record and respond to all dust and air quality pollutant emissions complaints.		XX		
Make a complaints log available to the local authority when asked.		XX		

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.		XX		
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.		XX		
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.		XX		HS&E-FRM-A01-02 Environmental Incident Report Form
Hold regular liaison meetings with other high-risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised.				
Preparing and maintaining the site				
Plan site layout: machinery and dust causing activities should be located away from receptors.		XX		

Erect solid screens or barriers around dust activities or the site boundary that are, at least, as high as any stockpiles on site.		XX		Hording to be erected around the site boundary
Fully enclosure site or specific operations where there is a high potential for dust production and the site is active for an extensive period.		XX		
Install green walls, screens or other green infrastructure to minimise the impact of dust and pollution.		X		
Avoid site runoff of water or mud.		XX		
Keep site fencing, barriers and scaffolding clean using wet methods.		XX		
Remove materials from site as soon as possible.		XX		Waste materials designated for pick up stored in delivery areas
Cover, seed or fence stockpiles to prevent wind whipping.		XX		
Carry out regular dust soiling checks of buildings within 100m of site boundary and cleaning to be provided if necessary.		X		
Provide showers and ensure a change of shoes and clothes are required before going off-site to reduce transport of dust.				

Agree monitoring locations with the Local Authority.		X		
Where possible, commence baseline monitoring at least three months before phase begins.		X		
Put in place real-time dust and air quality pollutant monitors across the site and ensure they are checked regularly.		X		
Operating vehicle/machinery and sustainable travel				
Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone.		XX		
Ensure all non-road mobile machinery (NRMM) comply with the standards set within this guidance.		XX		All Non-Road Mobile Machinery to be registered on the database
Ensure all vehicles switch off engines when stationary – no idling vehicles.		XX		
Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where possible.		XX		
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		X		

agreement of the local authority, where appropriate).				
Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.		XX		
Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).		XX		
Operations				
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.		XX		
Ensure an adequate water supply on the site for effective dust/particulate matter mitigation (using recycled water where possible).		XX		
Use enclosed chutes, conveyors and covered skips.		XX		
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.		XX		
Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as		XX		

soon as reasonably practicable after the event using wet cleaning methods.				
Waste management				
Reuse and recycle waste to reduce dust from waste materials		XX		
Avoid bonfires and burning of waste materials.		XX		

A2. MEASURES SPECIFIC TO DEMOLITION

MITIGATION MEASURE		MEDIUM RISK		ADDITIONAL COMMENTS
Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).		X		Included in CMP
Ensure water suppression is used during demolition operations.		XX		
Avoid explosive blasting, using appropriate manual or mechanical alternatives.		XX		
Bag and remove any biological debris or damp down such material before demolition.		XX		

A3. MEASURES SPECIFIC TO EARTHWORKS

MITIGATION MEASURE		MEDIUM RISK		ADDITIONAL COMMENTS
Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces.		X		
Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil.		X		
Only remove secure covers in small areas during work and not all at once.		X		

A4. MEASURES SPECIFIC TO CONSTRUCTION

MITIGATION MEASURE	LOW RISK			ADDITIONAL COMMENTS
Avoid scabbling (roughening of concrete surfaces) if possible	X			
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	X			
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.				
For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.				

A5. MEASURES SPECIFIC TO TRACKOUT

MITIGATION MEASURE	LOW RISK			ADDITIONAL COMMENTS
Regularly use a water-assisted dust sweeper on the access and local roads, as necessary, to remove any material tracked out of the site.	X			
Ensure vehicles entering and leaving sites are securely covered to prevent escape of materials during transport.	X			
Record all inspections of haul routes and any subsequent action in a site log book.				
Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems and regularly cleaned.				
Inspect haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;				
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	X			
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.				

Access gates to be located at least 10m from receptors where possible.				
Apply dust suppressants to locations where a large volume of vehicles enter and exit the construction site				

Appendix B

Figure B1. Galliford Try's Dust and Odour Control Measures Part 1

GallifordTry

ENVIRONMENTAL RISK ASSESSMENT
HS&S-STD-E06

Appendix 2 – Example Dust and Odour Control Measures *(continued)*

ACTIVITY	AVOID	REDUCE	CONTROL
Stockpiles & Storage Mounds	Avoid the long-term use of stockpiles, wherever possible, unless they perform the function of visual or noise screening	Consider the predominant wind direction when siting stockpiles to reduce the likelihood of affecting sensitive receptors from dust and / or odour	Seed, revegetate or turf long term stockpiles to stabilise surfaces or use surface binding agents that have been approved by the EA / NRW / SEPA
	Locate stockpiles out of the wind to minimise the potential for dust and / or odour generation	Keep stockpiles or mounds away from the site boundary, sensitive receptors, watercourses and surface drains	Dampen down stockpiles, especially during dry weather, whilst managing any run-off
	Store fine or powdery material inside buildings or enclosures.	Keep stockpiles to the minimum practical height (refer to HS&S-STD-L03)	Erect fences or using windbreaks such as trees, hedges and earth-banks of similar height and size to the stockpile to act as wind barriers
Cutting / Grinding / Grouting / Packing / Sawing	Minimise cutting and grinding on site, where possible	Use a wet cutting saw or using vacuum extraction	Use equipment that has a water suppressant or suitable local exhaust ventilation system
		Service all fans and filters to ensure they are properly maintained.	Spray water during cutting of paving slabs to minimise dust
Chutes and Skips	Use enclosed chutes and skips to prevent the escape of dust	Minimise drop heights into hoppers, lorries, skips or other plant	Dampen down surfaces
Sand, Grit and Shot-Blasting	Consider the use of alternative techniques (e.g., chemical)	Consider timing to avoid dry conditions	Use rigid or flexible framing to contain dust emissions
			Use air or water impenetrable walls to contain dust emissions
			Use vacuum extraction control methods
			Use exhaust air filtration control methods
			Ensure joints in the containment system are fully sealed.

Figure B2. Galliford Try's Dust and Odour Control Measures Part II

ENVIRONMENTAL RISK ASSESSMENT
HS&S-STD-E06

GallifordTry

Appendix 2 – Example Dust and Odour Control Measures *(continued)*

ACTIVITY	AVOID	REDUCE	CONTROL
Stockpiles & Storage Mounds	Avoid the long-term use of stockpiles, wherever possible, unless they perform the function of visual or noise screening	Consider the predominant wind direction when siting stockpiles to reduce the likelihood of affecting sensitive receptors from dust and / or odour	Seed, revegetate or turf long term stockpiles to stabilise surfaces or use surface binding agents that have been approved by the EA / NRW / SEPA
	Locate stockpiles out of the wind to minimise the potential for dust and / or odour generation	Keep stockpiles or mounds away from the site boundary, sensitive receptors, watercourses and surface drains	Dampen down stockpiles, especially during dry weather, whilst managing any run-off
	Store fine or powdery material inside buildings or enclosures.	Keep stockpiles to the minimum practical height (refer to HS&S-STD-L03)	Erect fences or using windbreaks such as trees, hedges and earth-banks of similar height and size to the stockpile to act as wind barriers
Cutting / Grinding / Grouting / Packing / Sawing	Minimise cutting and grinding on site, where possible	Use a wet cutting saw or using vacuum extraction	Use equipment that has a water suppressant or suitable local exhaust ventilation system
		Service all fans and filters to ensure they are properly maintained.	Spray water during cutting of paving slabs to minimise dust
Chutes and Skips	Use enclosed chutes and skips to prevent the escape of dust	Minimise drop heights into hoppers, lorries, skips or other plant	Dampen down surfaces
Sand, Grit and Shot-Blasting	Consider the use of alternative techniques (e.g., chemical)	Consider timing to avoid dry conditions	Use rigid or flexible framing to contain dust emissions
			Use air or water impenetrable walls to contain dust emissions
			Use vacuum extraction control methods
			Use exhaust air filtration control methods
			Ensure joints in the containment system are fully sealed.