RECYCLED MATERIAL SUPPLIES LIMITED

ENVIRONMENTAL MANAGEMENT SYSTEM

Dust & Emissions Management Plan (DEMP)
Reference: EMS-DEMP

Version 1 Dated 8 May 2025

Primrose Wharf
Knights Road
Silvertown
E16 2AT

DOCUMENT CONTROL SHEET

Version Reference	Date	Reason for Change	Issued by
1	8.5.2025	Application for Environmental Permit	AC

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1. INTRODUCTION

This document provides a Dust and Emissions Management Plan (DEMP) for operations at:

Primrose Wharf
Knights Road
Silvertown
E16 2AT

The site is centred at NGR TQ40270 79908.

The site is in an industrial estate with other industrial uses located northwest, north and northeast of the site.

1.1 Purpose

The purpose of this DEMP is to set out the operational controls and mitigation measures to minimise the likelihood of dust being generated and leaving the site boundary, associated with the permitted uses of the site. The following activities will take place:

- Waste recycling by crushing and washing.
- Waste storage
- Aggregate storage
- Concrete batching

It has been prepared using the Environment Agency's guidance and will form part of the Environmental Management System for the operations.

1.2 Background

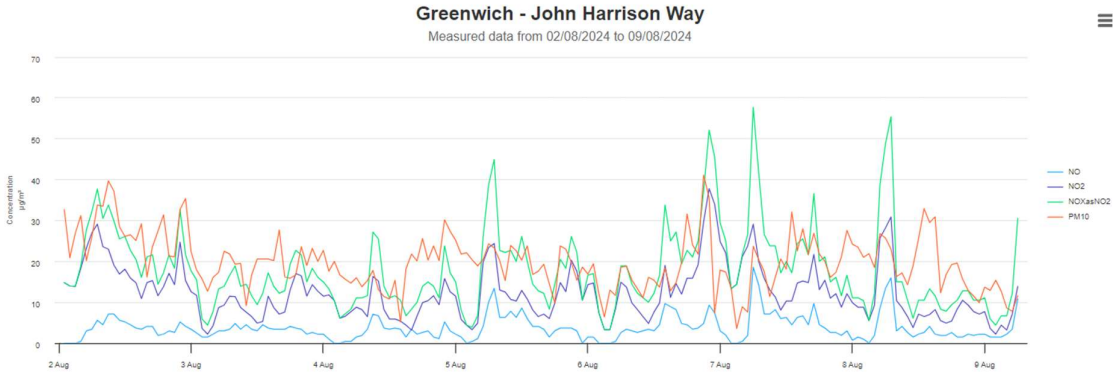
The site is in the London Borough of Newham (LBN). LBN declared the whole borough as an Air Quality Management Area in December 2019. The declaration was due to Particulate Matter PM10 and Nitrogen Dioxide NO_2.

The nearest Automatic Monitoring station is at Tower Hamlets Roadside.

The closest locally managed monitoring station with publicly available data is John Harrison Way (Greenwich) located approximately 1km to the south west of the site.

A plot showing the latest weekly measured data recorded at John Harrison Way monitoring station extracted from the London Air Quality Network website[1] is presented below. This website will be used to periodically review the air quality conditions in the local area.

[1] http://www.londonair.org.uk/london/



1.3 Management System

The Management System covers all aspects of operations and aims to effectively manage the impacts of the business on the environment. The key documents include:

a) Documents: Procedures to set out how to undertake operations and checking for any issues.

- EMS-OP-01 Operational Procedures
- EMS-DEMP-01 Dust Management Plan
- EMS-ERA-V1 Environmental Risk Assessment
  - Accident Management Plan
  - Climate Change Risk Assessment

b) Forms on which to record information and provide evidence of the system functioning properly.

2. OPERATIONS

2.1 Overview of Site Operations

This DEMP provides the control measures for all site-based activities, which will also include non-waste operations. The following key activities will take place.

Waste Recycling Building

All waste will be received within a building.

The building will be used to receive construction and demolition (C&D) waste for crushing and/or washing. The permitted throughput will be 350,000 tonnes per annum.

The building has been designed to accommodate the crushing plant. The waste will be unloaded inside the building and crushed. The products will be stored in aggregate bays outside. The products will meet end of waste criteria and will be returned to construction projects in London.

The building will also be used to receive C&D waste for washing. There will be a separate reception area for this waste. The waste will be loaded into the wash plant feed hopper inside the building.

The building will be 60m x 35m. It will be 12m at the rear, rising to 15m at the front. There will be two roller shutter doors for access. One will be used to access the concrete crushing operation, and one will be used to access the wash plant reception area.

The building will be enclosed on all sides, other than for the provision of roller shutter doors, pedestrian fire exits and the exit conveyor. The conveyor will be enclosed.

All vehicles will leave the site via the wheel wash.

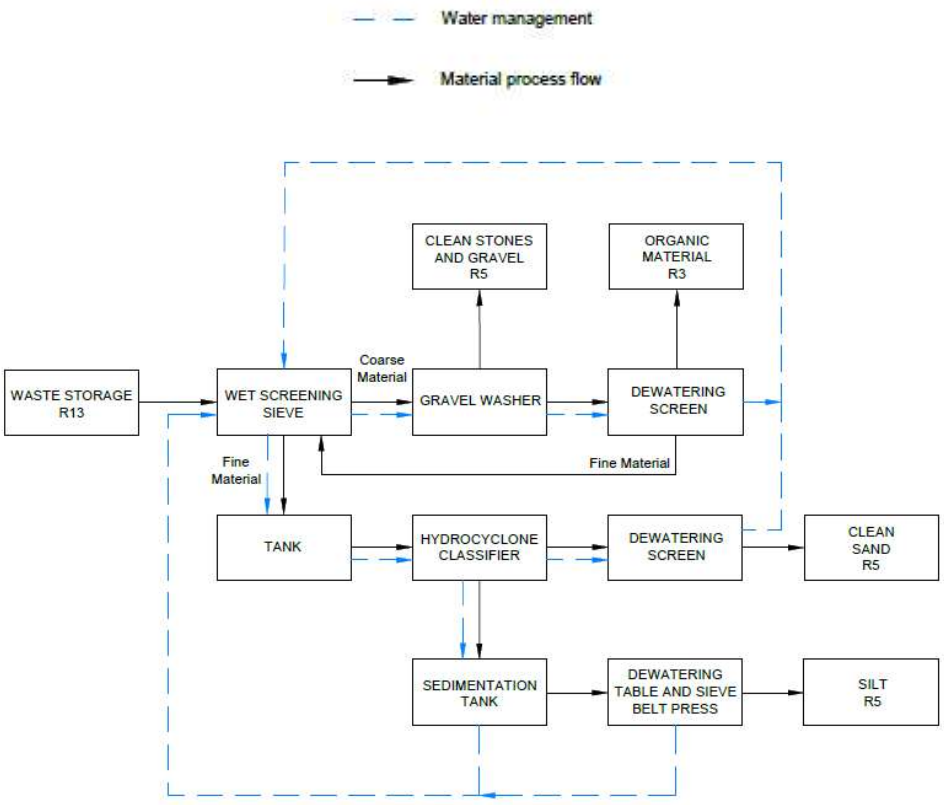
Suppression is discussed in Chapter 3.

Wash Plant

The wash plant will treat construction and demolition waste to separate waste into different fractions by particle size separation and gravity separation. The plant will be a bespoke system designed for RMS.

The process flow diagram is shown on Figure 1.

Figure 1 Process Flow for the Wash Plant



The processes undertaken in the wash plant comprise screening and sieving, washing, flotation, settlement and filtration. The wash plant consists generally of the following equipment:

- Input hopper
- Wet sieve
- Sword washer (gravel washing system)
- Hydrocyclone unit (sand cleaning and separation)
- Dewatering screens
- Sedimentation tank
- Sieve belt press
- Generator
- Pumps
- Conveyors
- Process water storage tank
- Silt Storage Tank

The washing process involves the separation of coarse sand and/or gravel particles from the finer silt particles. Waste is transferred within the wash plant using conveyors and enclosed pipework.

The waste will be received within a bay inside the building. It will be transferred to the feed hopper of the wash plant by loading shovel or excavator. The feed hopper will also be located inside the building. From the input hopper the material will be transferred by a conveyor onto a series of wet sieves of different mesh sizes (10mm, 20mm and 40mm) where the material is separated into coarse fractions which pass to a gravel washer and a fine fraction which passes to a cyclone. In the gravel washer the coarser material fraction is cleaned, and any residual fine material is washed off the coarse gravel. Gravel is screened and separated from the washer and deposited into a container or deposited directly onto the concrete surface and is then transferred to a storage area. Fine material separated from the gravel is transported back to the wet sieve.

From the wet sieve the separated sand/silt mixture falls into a tank and is pumped to the cyclone. In the cyclone the sand and the silt are separated. The sand is dewatered and deposited into a container or deposited directly onto the concrete surface and is then transferred to a storage area. The silt is transferred to a sedimentation tank and following settlement is pumped to a belt press for dewatering. The dewatered silt is deposited directly onto the concrete surface and will then be transferred to a storage area, pending loading onto a barge.

The process recycles water. The water is passed through a press to separate the fines from the water. The water will be recycled. The fines will produce a filter cake which will either be recirculated through the plant or sent off site.

The process will produce the following secondary aggregates:

- Silty Clay
- 0-2mm Coarse to very coarse sand
- 2-4mm Very fine gravel
- 4-10mm Fine gravel
- 10-20mm Medium gravel
- 20-40mm Coarse gravel
- Type 1 Unbound Mixture
- Class 6F5 Selected Granular Material

All these products will be used in the construction industry.

The process is a wet system, recycling the water through the washing process.

The residual silt will be removed from the site using the wharf. The silt will be stored in a covered area pending loading.

Concrete Batching

The concrete batching facility will be bespoke technology designed specifically for this site.

It will include storage silos, aggregate bays, concrete batching unit (within a building) and small office.

The incoming materials will include cement, aggregates and sand. The sand and aggregates will be imported using the wharf. The cement will be delivered by road and transferred into a storage silo, using enclosed pipework.

The aggregates will be loaded into a feed hopper. The sand will be loaded into a separate feed hopper. These materials will be conveyed into a mixing unit, where the cement is added from the silo tank.

A road mixer lorry will reverse into the building via the southern elevation, and the mixed materials will be transferred into the vehicle with water. The mixing will continue in the vehicle until it is ready to discharge at the end market.

The process is likely to produce in the region of 50,000m^3 of concrete per year.

In addition, material produced through the wash plant may be suitable for use in concrete batching.

2.2 Operational Hours

The proposed operational hours for the waste facility will be

07:00-17:00 Monday to Friday

07:00-1300 Saturday

No operations on Sunday or Public Holidays

The use of the wharf for loading / unloading will be determined by the tides and will be used outside of these hours.

2.3 Sources

The following waste types will be accepted at the site and have the potential to generate dust.

Table 1 –Wastes Typically Accepted at the Site that could generate dust

EWC Code	Description	Area in Site	Treatment Activities
17 01 01	Concrete	Main Building	Crushed
17 01 02	Bricks	Main Building	Crushed
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	Main Building	Crushed
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01	Main Building	Crushed
17 05 04	Soils and Stones	Main Building	Wash Plant
17 09 04	Mixed construction and demolition wastes other than those mentioned in 170901, 170902 and 170903	Main Building / Wash Plant	Wash Plant
19 12 12	Mixed C&D waste from other similar sites	Main Building / Wash Plant	Wash Plant

Other operations in the locality may also contribute to dust emissions. These are set out in Table 2. The area is subject to major development include the construction of the Silvertown Town, road upgrades and mixed residential led development.

Table 2 Sources of Dust and/or other Emissions

Company	Address	Type of Business	Distance from site boundary (m)
Tarmac	Knights Road	Aggregates processing. Concrete batching. External, open storage of aggregates including sand.	Adjoining northwest of site.
RMS*	Sunshine Wharf, Bradfield Road	Waste storage and processing. Open area processing. Temporary Operation	55m Southeast
Keltbray	Plaistow Wharf	Waste Recycling. External, open storage of waste and aggregates.	120m Northwest
Capital Concrete	St Vincent Ferrer Lane	Concrete batching with external storage of aggregates.	120m Northwest
Metro	Bradfield Road	Waste treatment to produce aggregates. External storage and treatment	55m Northeast
Cemex	Horn Link Way	Large aggregate processing operation	500m South
Southwark Metals	Horn Link Way	Metal recycling facility	940m south
Tarmac	Horn Link Way	Large aggregate processing operation	715m Southeast

*It is noted that the RMS Sunshine Wharf operation will continue for a short period before being returned to the landowner for development. Further significant construction work is planned for the local area. The new Royal Wharf development which is currently in the planning application stage has a construction programme of 7 years. The Silvertown Quays development is currently seeking to discharge planning conditions. Development is scheduled to take place over 11 years.

2.4 Mobile Plant

Nitrogen Dioxide gas is a by-product of internal combustion engines and the site uses several items of plant with internal combustion engines. The process equipment will be powered by 3-phase electric.

RMS has a policy of replacing old machinery with new. The following items are recent acquisitions for use at other sites. This table will be updated once the plant and machinery requirements have been confirmed.

Table 3 – Mobile Plant

Description	Make	Model	Emission Rating
Excavators	Hyundai	HX220	Stage V
Loading shovel	Volvo	L150H	Stage V
Crusher	Rubble master	RM90	Stage V
Crusher	Powerscreen	R400X	Stage IV
Loading shovel	Volvo	L150H	Stage V

RMS has a team of mechanics, and workshops at other locations. This allows RMS to carry out routine maintenance of all equipment. They also have equipment at other sites that can be redeployed as a contingency measure, as well as hiring equipment if required.

New equipment will be subject to service agreements.

All RMS Road vehicles will meet Euro VI engines.

RMS has achieved Gold standard for FORS and adopt a high standard of vehicle maintenance and safety equipment. Drivers receive regular training to comply with FORS.

As well as safety and compliance checks, drivers receive training to make sure that all vehicles are appropriately sheeted, engines are switched off when not being used and to drive sensitively in accordance with site rules.

The activities with the potential to generate and/or release particulate matter include the following:

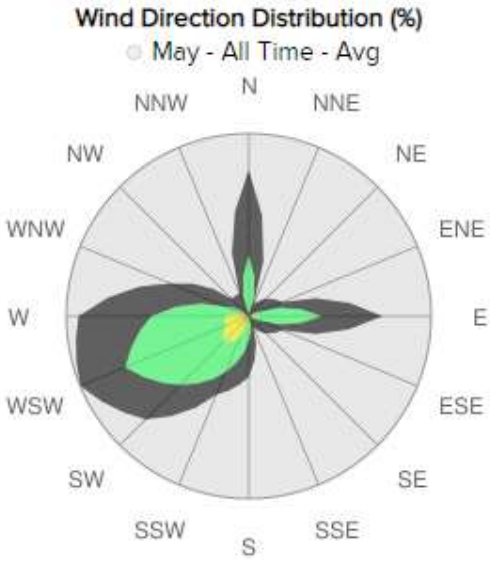
- Vehicles entering and/or leaving the site with mud on their wheels.
- The release of particulate matter and debris from waste loads as they are delivered to the site.
- The resuspension of particulate matter on roads and site surfacing by vehicles.
- The release of particulate matter when waste loads are deposited or set down prior to treatment.
- Loading of waste material into the crusher feed hopper.
- The release of particulate matter from the crusher during the physical crushing activity.
- The release of particulate matter from material transfer.
- Loading of waste material onto the wet screening sieve associated with the washing plant.
- Wind whipping of waste and materials stockpiled in the external bays at the site.
- Loading of stockpiled materials onto vehicles for transfer off site.
- Particulate emissions from the exhaust of vehicles and plant on site.

The management techniques to be employed at the site to control particulate matter are discussed in Section 3 of this document.

2.5 Pathways

Particulate matter is dispersed from the source to potential receptors by the wind. The wind rose for London City Airport for the period 2007 to 2023 is presented on Figure 2. London City Airport is located approximately 1.6km to the northeast of the site and is considered representative of the conditions in this location.

Figure 2 – Wind Rose for London City Airport[2]



Particle size is the key parameter when considering the transport of particulate matter in air. Coarse particles have much faster settling rates than finer particles and will therefore settle out as deposited dust generally close to the source, whereas fine particulate matter may remain airborne for longer periods and travel greater distances. Based on information published by DETR[3] large particles (>30µm) mostly deposit within 100m of the source, intermediate-sized particles (10µm to 30µm) are likely to travel up to 200m to 500m and smaller particles (<10µm) can travel up to 1km from the source, although very small particles can travel much further. TGN M17[4] states that:

> *'PM_{10} emissions from industrial combustion processes and road transport are considered to contain more fine material (i.e. $PM_{2.5}$) than, for example, mechanically-generated particulates from quarries and construction sites'*

[2] https://www.windalert.com/spot/15702

[3] Department of the Environment, Transport and the Regions (DETR) (2000a) Controlling and mitigating the environmental effects of minerals extraction in England. Mineral Planning Guidance Note 11, consultation paper. DETR, London. Cited in Technical Guidance Document (Monitoring) M17 – Environment Agency March 2004.

[4] Technical Guidance Note (Monitoring) M17 Monitoring Particulate Matter in Ambient Air around Waste Facilities Environment Agency Version 2 July 2013.

'Waste management operations that involve mechanical generation of PM rather than combustion, are also likely to release predominantly coarse particles.'

As the operations to be undertaken at the site have the potential for mechanical generation of particulate matter the particle size fraction relevant to potential emissions from the site is at the upper end of the PM_{10} fraction and coarse particles greater than PM_{10}. Based on this assessment an initial search radius of 1km has been specified when identifying receptors in the vicinity of the site.

2.6 Receptors

The potential human health receptors in the vicinity have been identified and are shown on Figure 3. The receptor type, distance and direction of the receptor from the site are listed in Table 4.

In terms of the sensitivity to dust the following has been adopted:

Type of Receptor	Sensitivity
Residential, schools, hospitals, nursing homes, Statutory Designations (SSSI, SPA, SAC)	High
Industrial premises, recreational grounds, Non Statutory Designations (Local Wildlife Sites),	Medium
Roads, Industrial premises (waste)	Low

There may be other unique receptors that do not fall within any of the above categories. These have been considered separately depending on the nature of the business and use. People on footpaths are transient receptors.

Figure 3 – Receptors (blue represents 1km)

South Westerly
Wind Direction

Table 4 Receptors

Legend	Receptor	Type	Sensitivity	Distance and Direction from Permit Boundary
	Knights Road / Bradfield Road	Road	Low	Immediately North
A	Industrial	Industry	Low	<10 – 270m Northeast
B	Industrial	Industry	Low	Adjoining Southeast
C	Lyle Park	Recreational	Medium	170m East
D	RMS – Waste	Waste	Low	60m East
E	Deanston Wharf	Residential / Commercial	High	270m East
F	Hanameel Street	Residential	High	275m Northeast
G	Olympian Way	Residential	High	485m Southwest
H	River Thames	Surface Water	Medium	Immediately Southwest
I	Plaistow Wharf	Waste	Low	215m Northwest
J	Tate & Lyle	Industrial	Low-Medium	Adjoining Northwest
K	Silvertown Tunnel	Road	Low	540m Northwest
L	Royal Victoria Dock	Surface Water / Recreation	Medium	470m North
M	North Woolwich Road	Road	Low	265m Northeast
N	Copeland Court	Residential	High	270m Northeast

Notes:
There are no European Designations (SAC, SPA, Ramsar), SSSI's, Nature Reserves within 1.8km of the site.
There is no Marine Conservation Zone in the vicinity of the site.
The whole of the London Borough of Newham is an Air Quality Management Area.
There are no Public Rights of Way in the vicinity of the site.
RMS Sunshine Wharf Site (label D) to be redeveloped as part of Royal Wharf development.

3. PARTICULATE MATTER MANAGEMENT TECHNIQUES

3.1 Responsibility for Implementation of the Plan

The Technically Competent Manager (TCM) has responsibility for ensuring these procedures are adhered to which includes communication with staff and contractors, and the provision of adequate training.

The Technically Competent Manager is responsible for updating and re-issuing these procedures as necessary and ensuring all staff are trained in new procedures. The TCM will be the main point of contact for ensuring implementation of this plan. In their absence, the Site Supervisor will be responsible for implementation.

All staff will be trained in these procedures. Staff training is set out in EMS-OP-01. All staff will be trained to a standard which enables them to perform the responsibilities. The TCM is responsible for delivering training and maintaining records. Training is reviewed on an annual basis.

A record of staff training will be kept for each staff member which includes inductions to new processes and procedures as needed.

If there are any changes to the operation which affect the dust management at the site, the TCM will carry out revised training and update the Management Plan accordingly.

The DEMP will be reviewed on an annual basis or sooner if requested by the EA. It will also be updated if the operator changes the operation.

Particulate matter at the site will be controlled by a combination of measures relating to waste delivery and receipt at the site, site infrastructure design and operational techniques employed at the site. The techniques selected for use at the site are based on well-established techniques to control the emissions of particulate matter.

Environment Agency guidance5 lists measures which may be appropriate for the control of emissions of particulate matter. The Agency also provides a template for DEMPs which provides advice on measures that can be used to control dust emissions.

3.2 Site infrastructure

The site infrastructure shown on Drawing Number RMS-PW-INF-01 comprises a fully enclosed waste management facility in which to house the concrete crusher and wash plant reception area. The elevations of the building are presented on Drawing No. RMS-PW-ELE-01.

The entire site is concreted.

A concrete batching operation is also provided.

[5] Control and monitor emissions for your environmental permit - GOV.UK (www.gov.uk)

The waste recycling building will be enclosed, with a roof. The proposed building will be 60m x 35m. It will be 12m at the rear, rising to 15m at the front.

The building will have two roller shutter doors, which will be kept closed unless required for access. There will be an exit for the conveyor belt which will be enclosed, and pedestrian fire escapes.

The building orientation is such that it will provide a barrier to the south westerly prevailing wind. The operations with the highest potential for the generation and release of particulate matter include unloading and crushing, both of which will be undertaken inside the building.

A suppression misting curtain will be installed across each door. There will be dust suppression inside the building to dampen the waste being unloaded and crushed. The crushing plant will have a spray bar on the exit conveyor.

There will be rain guns providing dust suppression around the site. The suppression system provides coverage across the entire site.

The silt storage bay will comprise of concrete walls up to 5m in height on three sides. The orientation of the silt bay has been determined by the need to access the bay to load the barge. The orientation will ensure that any south westerly wind towards the site, will blow into the bay, keep the silt within the enclosure. It must be noted that the silt is a dampened material derived from the wash plant.

The bay walls will be within a canopy structure to provide three sides and a roof to the silt bay. This will prevent wind whip and contain the silt within the bay. There will be no requirement to provide a freeboard, as the silt will be contained within the canopy.

Prior to loading, the site manager will check the weather conditions and moisture of the silt. A rain gun will be activated to dampen this working area during loading.

3.3 Housekeeping

The site manager will assess the site during the initial walkaround to establish the requirements for dust suppression usage for the day. This will be based on the weather conditions and forecast. During dry weather conditions, the following schedule is implemented:

Monday	0800-1000	1200-1400	1600-1800
Tuesday	0800-1000	1200-1400	1600-1800
Wednesday	0800-1000	1200-1400	1600-1800
Thursday	0800-1000	1200-1400	1600-1800
Friday	0800-1000	1200-1400	1600-1800
Saturday	0800-1000	1100-1300	N/A
Sunday	N/A	N/A	N/A

This schedule is designed to apply water during operations, but to also provide effective water management. Application of the mist spray for 2 hourly periods is sufficient to keep the working area inside the building damp to prevent dust emissions.

If the site manager deems it necessary to provide more coverage, the mist spray will be kept activated.

The site Housekeeping Schedule is provided in Appendix B.

Water for dust suppression will be stored in a 25,000l tank on site. There is a float switch device on this tank. As the water level reduces, the float switch activates to refill the tank. It is proposed to collect roof water from the building to store in this tank, which will then be topped up with mains water.

Aggregate storage bays will be provided. These will be fitted with a rain gun system, designed to dampen the stockpiles and outside yard area minimising the release of particulate matter through the action of the wind. The system is fully programmable so that it can be employed on a timed basis throughout the day or night and during weekends depending on the weather conditions or can be activated immediately as necessary. The site manager will determine the frequency and duration of use of the suppression system giving consideration to the daily operations to be undertaken at the site and the weather forecast. It is likely that the system will be used more frequently during dry, windy conditions. The position of the rain guns is shown on Drawing RMS-PW-DMP-01.

Unloading of materials from the barge will also be a wet processed, as the aggregates are transported in a dampened state.

The suppression system will be operated by suitably trained site staff under the supervision of the site manager or TCM.

3.4 Operational controls

All vehicles using the site will be instructed to sheet or otherwise contain their loads to prevent particulate emissions. Vehicle drivers will be instructed to de-sheet on site prior to unloading of the material at the site and drivers of vehicles transporting material from the site will be instructed to sheet or otherwise contain their load before they leave the site.

Waste received at the site will be subject to pre-acceptance checks and acceptance screening comprising, where appropriate, visual inspection to confirm that the load is consistent with the waste types permitted for acceptance at the site. In the event that unsuitable materials are delivered to the site, including wastes comprising solely or mainly dusts, powders or loose fibres the load will be rejected.

Waste will be unloaded inside the building. Vehicles will de-sheet when ready to discharge inside the building.

To minimise the deposition of mud that may subsequently dry and generate particulate matter if disturbed such as when tracked over by vehicles, all vehicles delivering waste to the site will use the wheel cleaning facilities before leaving the site. The wheel cleaning facilities will be maintained in full working order throughout the life of the site. The concrete site surface and the site access road will be swept with a road sweeper, which will be based at the site.

There will be two members of staff trained to drive the road sweeper, to provide continuous coverage throughout the day.

Vehicle speed limits will be imposed for safety reasons and to reduce the potential for significant particulate matter release. A speed limit will be imposed of 5mph and this will be reinforced with signage at the site entrance and regular training.

Insofar as it is practicable all site vehicle exhausts will be upward pointing to prevent the disturbance of particulate matter from the road surfaces.

It is considered that the combination of the site infrastructure designed specifically to minimise the generation and release of particulate matter together with installation and employment of the proven particulate matter suppression systems and operational controls employed at the site will provide effective control of particulate matter emissions at the site.

Table 5
Source, pathway, receptor linkages

Source	Pathway	Receptor	Type of impact	Control Measures
Unloading and processing waste	Tracking dust on wheels and vehicles	Local Roads	Visual soiling, also consequent resuspension as airborne particulates	All vehicles will leave the site using the wheel wash. This is purposedly designed for washing HGVs at construction sites. It uses recycled water and cleans the sides and underside of the vehicle. As the unloading of vehicles is controlled by a banksman it is unlikely that vehicles will be directed in a manner that results in waste being tracked out. A road sweeper will be deployed to clean the yard and access road. The entire site is concreted. The wheel wash is cleaned weekly which involves removing any sediment and replenishing the water. A jet wash will be provided as a contingency for cleaning and for keeping the access clean.
	Atmospheric dispersion	Nearby industrial premises (workers and pedestrians).	Visual soiling and airborne particulates	Vehicles will only be unsheeted when ready to discharge. The waste will be unloaded inside the building. Drop heights will be kept to a minimum and dust suppression activated during dry weather conditions. Dust suppression activated for external areas.
	Atmospheric dispersion	Residential properties	Visual soiling and airborne particulates	As above.
	Atmospheric dispersion	Atmosphere	Air quality	As above. Plus, full enclosure for unloading waste. Loading waste silt will be from a covered bay with dust suppression applied.
Debris	Falling of lorries	Local Roads	Visual soiling, and resuspension as airborne particulates	All vehicles delivering and collecting waste will be sheeted. A road sweeper will be deployed to clean the access and yard area. Daily site checks.
Vehicle exhaust emissions	Atmospheric dispersion	All	Airborne particulates	Regulatory controls and best-practice measures to minimise source strength
Non road going machinery exhaust emissions	Atmospheric dispersion	Local Environment	Airborne particulates	Regulatory controls and best-practice measures to minimise source strength.

Table 6 – Measures that will be used on site to control Dust

Abatement Measure	Description / Effect	Overall consideration and implementation
Enclosure within a building	Creating a solid barrier between the source of dust and particulates and receptors is likely to be the most effective method of control, provided that the building entrances and exits are well managed.	Receipt of waste and crushing to take place inside an enclosed building. The building has been designed and orientated to protect against prevailing wind. Building has four sides and a roof, with roller shutter doors on southern elevation. Doors to be kept closed when not used. External storage of aggregates within concrete bays. Aggregates produced from the wash plant are in a dampened state. Silt pending transfer by barge will be stored in a covered bay.
Negative pressure extraction	Within enclosed buildings, controlled extraction can be undertaken to ensure a constant negative pressure relative to the outside air. This system should prevent the emission of particulates from any openings in the building. Extracted air should be treated through a suitable filtration system prior to discharge to atmosphere. This method is more frequently applied for odour control.	The building doors will be opening regularly throughout the day using fast acting roller shutter doors, with misting systems activated. Staff will not typically work inside the building unless in a vehicle or mobile plant. A negative pressure system is not required.
Dust Extraction Systems	A large variety of abatement technologies exist for the removal of dust and particulates from a flowing gas and have typically been applied to combustion plants and other sites where controlled emissions of particulates occur. These include Electrostatic Precipitators (ESPs), wet scrubbers, baghouses (bag filters), viscous media (e.g. oil) filters and gravitational settling. Although not all of these may be appropriate for dust and particulate suppression at waste management sites, and they cannot be applied to controlling external fugitive emissions, they may be effective when coupled with local exhaust extraction, ventilation or negative pressure	Staff will not typically work inside the building unless in a vehicle or mobile plant. A dust extraction system is not required.

	extraction systems from enclosed buildings to remove dust and particulates from the airstream.	
Site / process layout in relation to receptors	Locating particulate emitting activities at a greater distance and downwind from receptors.	The site has been designed with the future development proposals in mind. The building orientation seeks to prevent views into the site and provide a barrier to any dust emissions generated. The particulate emitting activities include crushing which will be inside the building.
Site speed limit, 'no idling' policy and minimisation of vehicle movements on site	Reducing vehicle movements and idling should reduce emissions from vehicles. Enforcement of a speed limit may reduce re-suspension of particulates by vehicle wheels.	There is a speed limit on site, reinforced by signage. This signage is provided at another RMS site.  All plant and vehicles to be switched off when not used. Drivers are informed about anti-idling and to switch off engines when stationary for longer than 10 minutes. Vehicle movements controlled at the weighbridge with the driver given clear instructions for where to unload or collect.
Minimising drop heights for waste. Use of enclosed chutes for waste drops/end of conveyor transfers and covered skips / storage vessels.	Minimising the height at which waste is handled should reduce the distance over which debris, dust and particulates could be blown and dispersed by winds. Enclosing processes will further reduce dispersion.	Crushing inside the building. Drop heights to be minimised. Staff trained to minimise drop heights when moving materials. Wash plant is bespoke and is a damp process. Where possible, outgoing products to be loaded directly on to lorries to avoid double handling.

Sheeting of vehicles	Prevents the escape of debris, dust and particulates from vehicles as they travel.	All vehicles delivery and collection waste / aggregates to be sheeted/unsheeted within the site. RMS operate modern vehicles with automatic sheeting.
Good Housekeeping	Having a consistent, regular housekeeping regime will ensure the site is regularly checked and issued remedied to prevent and remove dust and particulate build-up	Daily checks. Use of road sweeper daily to keep access and yard clean. See housekeeping schedule.
Hosing of vehicles on exit	May remove some dirt, dust and particulates from the lower parts of vehicles.	Not necessary. There is a fully installed wheel wash.
Install a wheel wash	Provides a high pressure wash of vehicle wheels and lower parts (including under body) using a series of jet sprays. More effective if vehicles drive through the wheel wash slowly in order that there is sufficient time for dirt to be removed	A wheel wash will be operational at the site. All HGVs to leave via the wheel wash. This is an automatic system which activates when the vehicle enters. Water jets apply water to the base and sides of the vehicle. The wheel wash is cleaned weekly which involves removing any sediment and replenishing the water. A jet wash will also be installed to provide contingency for cleaning.
Ceasing operation during high winds and/or prevailing wind direction	Mobilisation of dust and particulates is likely to be greater during periods of strong winds and hence ceasing operation at these times may reduce peak pollution events.	Daily checks for weather. At the start of each week, the site manager will check the weather forecast. If severe high winds are expected, the site manager will check all stockpiles and ensure that additional water is applied to keep the material damp. With all the controls in place and the site location, it is unlikely that the site will need to cease operations during high winds.
Easy to clean concrete impermeable surfaces	Creating an easy to clean impermeable surface, using materials such as concrete as opposed to unmade (rocky or muddy) ground within the site and on site haul roads. This should reduce the amount of dust and particulate generated at ground level by vehicles and site activities.	The entire site is concreted.
Minimisation of waste storage heights and volumes on site	Minimising the height at which waste is handled should reduce the distance over which debris, dust and particulates could be blown and dispersed by winds. Reducing storage volumes should reduce the surface area over which particulates can be mobilised.	The bay walls will be 4m high. Stockpiles of aggregates will be limited to 3.5m against the wall to provide a freeboard of 0.5m which will help reduce windwhip. Site operations will be subject to storage limits.

Reduction in operations (waste throughput, vehicle size, operational hours)	Reducing the amount of activity on site, including no tipping, shredding, chipping or screening of high risk loads during windy weather as well as associated traffic movements should result in reduced emissions and re-suspension of dust and particulates from a site.	Daily checks for weather. At the start of each week, the site manager will check the weather forecast. If severe high winds are expected, the site manager will check all stockpiles and ensure that additional water is applied to keep the material damp. With all the controls in place and the site location, it is unlikely that the site will need to cease operations during high winds.
Remedial Measures		
Netting / micro netting around equipment	Erecting netting around equipment that could give rise to large amounts of dust and particulates may be effective within the site boundary and prevent their dispersion off-site / their re-suspension within the site.	The proposed controls in place do not require additional netting.
On-site sweeping	Sweeping could be effective in managing larger debris, dust and particulates but may also cause the mobilisation of smaller particles. Road sweeping vehicles damp down dust and particulates whilst brushing and collecting dust and particulates from the road surface, particularly at the kerbside.	A road sweeper is deployed daily at the site.
Site perimeter netting / micro netting	Erecting netting around the site perimeter may capture released debris and dust and particulates prior to it being dispersed off-site.	The proposed controls in place do not require additional netting.
Water suppression with hoses & water jets	Damping down of site areas using hoses can reduce dust and particulate re-suspension and may assist in the cleaning of the site if combined with sweeping.	The dust suppression involves the use of jets positioned around the site to apply water to stockpiles and operational areas. The jets have a range of at least 30m, which provides full coverage. The wash plant operation does not require suppression. There will be a hose adjacent to the site entrance to provide contingency cleaning for vehicles and to clean the site entrance.
Water suppression with mist sprays	Installation of mist sprays around sites, at building entrances/exits and within buildings at point source emissions like conveyors, trommels	The building to be fitted with mist spray curtain across the doors.

	etc. It can also assist in the damping down of dust and particulates, therefore, reducing emissions from site.	There are rain guns around the entire site boundary to cover the operational yard, site entrance and storage areas.
Water suppression with bowser	Using bowsers is a quick method of damping down large areas of the site with large water jets. This method could also be used on easy-to-clean, impermeable concrete surfaces.	For contingency and any additional water needs, the operator will hire a water cannon.
Shaker grids	Similar to cattle grids, these are installed at a site entrance and exit. The movement of vehicles over the grids shakes dust and particulates from the wheels, thus removing them before vehicles enter the site.	Not necessary
Water Cannons	Water cannons provide a means for delivery of powerful water streams from a water truck. With variable nozzles, the spray pattern can be controlled and varied between jet and fog. Typical water flows are up to 5000 litres per minute. Water cannons are most often used for fire protection, mining operations, heavy machinery wash down, cleaning and dust and particulate abatement.	For contingency and any additional water needs, the operator will hire a water cannon.
Screening of buildings / reducing large apertures using plastic strips	Installing plastic strips to cover entrances/exits to buildings may reduce emissions of dust and particulates dispersing through doorways.	Not required. Building will have roller shutter doors.
Application of CMA / chemical suppressant	Diluted Calcium Magnesium Acetate (CMA) or other chemical based dust suppressant is regularly applied by spraying using a back-pack applicator for small areas or by road sweeper to cover larger areas. CMA acts as a suppressant with the aim of reducing dust and particulate re-suspension and hence ambient concentrations.	There are no proposals to utilise CMA at the site. It is considered that the proposed dust suppression system will be sufficient to achieve adequate dust management.
Heavy Water	Heavy water is used to improve the compaction and stability and reduce dust and particulates on unsealed roads or areas of land. Ideally it is blended into the road construction material as the	There are no proposals to utilise heavy water at the site. It is considered that the proposed dust suppression system will be sufficient to achieve adequate dust management.

	road is constructed, but where this is not possible it can be sprayed onto the top of the road. Heavy water combines fast acting wetting agents with polymer binders, to allow penetration deep into the material and to 'agglomerate' the dust and particles together.	
Foam Suppression	The aggregate and mining industries frequently use foam suppression for the control of dust and particulate emissions, mixing the foam with broken material to increase efficiency. Foaming agents can be added to increase the efficiency of dust and particulate reduction. Foam suppression has seen increased attention in recent years and has previously been applied to waste transfer facilities where crushing of waste occurs. If using foam suppression to control dust and particulates from waste drops, the foam must be entrained within the waste material and as such must be injected prior to dropping the waste rather than at the bottom of the drop.	There are no proposals to utilise foam suppression at the site. It is considered that the proposed dust suppression system will be sufficient to achieve adequate dust management.

3.5 Other considerations

Water usage/ availability:

Water for dust suppression will be stored in a 25,000l tank on site. This will be fed with rainwater from roof, topped up with mains water. There is a float switch device on this tank.

As the water level reduces, the float switch activates to refill the tank.

There is 100,000l water tank available supporting the wash plant process.

The wheel wash re-uses the water throughout the working week. The system is cleaned weekly to remove any sediment and the water is replenished.

The use of the rain guns and misting system uses water to dampen material. It does not cause ponding or surface water run off. The waste and aggregates retain the water.

The drainage system has been designed to deal with rainwater runoff. During wet, rainy conditions, the suppression system will not be required and therefore will not generate additional water. During the dry season, the drainage system will manage surface water from the suppression system, although the majority of the water is absorbed by the waste and aggregates.

In the event of a drought:

In the unlikely event that there was a ban on the use of water, the operations would continue until such time as the water in the stored tanks had run dry. After which time, the operator will assess the conditions and if dust is observed to be leaving the building, the operations will cease until the water supply has been re-established.

Following a year of operation, the TCM will review the water collection / usage associated with the roof water collection system. If sufficient space is available, additional storage capacity will be provided to collect more water during the winter, for use in the drier periods.

Failure of Suppression System:

If the entire dust suppression system fails, the Site Manager will arrange for repair and decide on the best course of action depending on weather conditions. If the downtime is expected to be longer than 48 hours and the weather conditions are dry6, the Site Manager will have to provide interim dust suppression measures or cease operations until conditions improve, or the system has been repaired. Interim measures would include hiring mobile water cannons for a temporary period.

The system installed will be subject to a service agreement.

[6] Dry conditions refer to no precipitation (rain, drizzle, sleet, snow)

4. PARTICULATE MATTER MONITORING PROGRAMME

Monitoring at the site will comprise a combination of qualitative visual assessment and quantitative monitoring using static monitoring equipment.

4.1 Visual Dust Monitoring

During all site operations visual monitoring for emissions of particulate matter will be undertaken by suitably trained site personnel. Visual monitoring by suitably trained site personnel is the most effective method of detecting as quickly as possible emissions of particulate matter throughout the working day thereby facilitating promptly the assessment of such emissions and the selection and implementation as quickly as practicable of control measures as necessary. The effectiveness of the measures taken in controlling emissions will be assessed during inspections undertaken at the site following implementation of the control measures. Any problem that is observed will be reported to the site manager who will be responsible for investigating the cause and implementing any remedial action as necessary. The results of inspections and remedial measures taken will be recorded in the site diary.

Site personnel will be provided with the necessary training and instruction in respect of their duties relating to control of the process and emissions to air. Particular emphasis will be given to control procedures and monitoring during start-up, shut down and abnormal conditions. Site personnel will be trained to be aware of and to identify visual releases of particulate matter so that with consideration of the location within the site of the release and the prevailing wind direction they know how to implement the appropriate control measures for example instructing a vehicle to unload material in a different area of the site or use additional dust suppression in that area. The training will be provided by staff who are experienced in the visual assessment of particulate matter emissions from waste and or mineral processing operations. The training will be provided by the Compliance Manager, who has NEBOSH certification and is the TCM.

In addition to the on-going visual observations by site based staff, the Site Manager will carry out visual monitoring at specific locations around the site, throughout the working day. The monitoring positions are shown on Drawing RMS-PW-DMP-01. This will allow the Site Manager to check if dust is leaving the site boundary and if it is, identify the source and implement corrective action.

The TCM and Site Manager will have access to full site CCTV coverage. This will be monitored throughout the working day and corrective action implemented if dust is being generated.

The results of qualitative particulate matter monitoring will be reviewed periodically to facilitate the review and assessment of operational activities as necessary. The review will be carried out in conjunction with a review of meteorological data that are available and the site operations that took place during the monitoring period together with any complaints regarding particulate matter emissions that have been received.

In the event that based on the visual site observations there is an unacceptable particulate matter emission from the site, the Site Manager will investigate and implement corrective action.

4.2 Particulate Matter Monitoring

An Osiris Airborne Particulate Monitor (or similar) will be installed at the site. The location of the instrument will be agreed with the Environment Agency prior to installation. The instrument will be fitted with an anemometer to enable wind speed and wind direction to be measured simultaneously with PM10 concentrations.

The instrument measures PM10 concentrations in units of ug/m3 over a 5 minute averaging time and uploads the data in realtime to the AirQWeb Real-time Air Quality Data Monitoring Software. The Environment Agency guidance recommends that levels should be below 75ug/m3 over a 5 minute averaging period. The data will be sent to the Agency on a quarterly basis.

Any assessment of the data will take into account the proximity to other sources of dust. Any review of the monitoring data will consider the effect that other sources have on the monitoring equipment.

A site specific action level will be specified for the PM10 concentration recorded at the site. The purpose of the action level is to inform the operator that particulate matter concentrations at the site are at a level that may need action to control emissions to prevent an unacceptable release of particulate matter.

Operation of the PM Monitoring Equipment

The Compliance Manager will be responsible for the management of the monitor, in consultation with the Site Manager. The Site Manager will notify the Compliance Manager of any issues that may effect the readings.

The Compliance Manager will have access to the software and is responsible for ensuring the monitor is calibrated.

The data will be downloaded on to a spreadsheet and interrogated to review any exceedances above the 75 ug/m3 limit, against the direction. This will be used to check the source of the dust.

Within 12 months from the completion of the building, a full review of the monitoring data will be carried out.
There will be an alarm on the monitor notifying the Compliance Manager if PM10 exceed 75 ug/m3 limit. The data can be downloaded in excel and reviewed to assess whether there are off site sources of dust emissions that may have affected the equipment.

The Compliance Manager will carry out a review and if necessary seek further assistance from an external consultant.

4.3 Additional Detailed Monthly Reporting

If the action level of 75ug/m3 is exceeded for 6 consecutive, 5 minute intervals (25 minutes in total), concurrent with recorded wind directions suggesting the source of the particulate matter could be from the site activities, then operations will be suspended until the source has been

identified, and the measured PM concentrations drop below the action level of 75ug/m3 for 6 consecutive, 5 minute intervals.

The cause will be investigated, and corrective action implemented which will depend on the cause. For example, if the cause was staff error, then further training will be carried out.

If must be noted that there is significant construction work planned in the local area.

4.4 Quality Assurance/Quality Control/Record Keeping

The following information is recorded:

Make: to be completed
Serial Number: to be completed

The monitor will be calibrated every year as per manufacturers recommendation.

The calibration certificate will be kept by the Compliance Manager.

If the equipment is damaged and data is no longer being received, the Compliance Manager will report to the manufacturer and wait for instructions. If required, a replacement monitor will be provided whilst repairs are being carried out.

4.5 Record keeping

The compliance manager will retain the records associated with the installation, maintenance and calibration of the monitor and the monitoring data.

5. COMPLAINTS

The Site Manager has the overall responsibility for this procedure.

The administration staff will all be responsible for handling complaints and recording on the correct form. All complaints must be referred to the Site Manager.

In this context, a complaint may be received directly from a resident, customer, adjoining business, the Port of London Authority (PLA), or from a Regulator.

When the site receives a complaint, a record is summarised in the Site Diary. Full details will be provided on the complaints form, see Appendix A.

All staff based in the office will be trained on recording complaints and to make sure they notify the TCM immediately.

The TCM will review the activities that may have given rise to the complaint. If necessary, the CCTV footage will be reviewed to note any specific operational issues that may have given rise to the source of the complaint. Other actions will include:

- Review of site diary and London Air Quality Network monitoring stations for any unusual regional weather events occurring during the day on which the compliant was made, for example Saharan dust storms.
- Review site diary and establish what site activities were taking place at the time the complaint even occurred.
- Review waste types accepted that day.
- Identify whether there were any other activities in the area taking place that could have generated dust e.g. road works or construction works.
- If it is established that the emissions were attributable to activities being undertaken at the site, as necessary review the relevant operational procedures and implement improvements and provide additional training to site.
- The action taken will be reported to the Environment Agency.

The Site Manager will report the findings to the complainant and implement appropriate corrective action in accordance with a specific management plan or the Operational Procedures.

The TCM will aim to provide feedback within 48 hours of receiving the complaint.

If the site receives several substantiated complaints, the operator will engage the services of an Air Quality specialist to review the site operations and update this DEMP accordingly. Interim measures will be sought to improve conditions until a more permanent solution has

been assessed and implemented. If during the interim period, complaints continue to be received, the operator will cease operations until measures have been implemented to prevent dust emissions.

5.1 Engagement with the Community

The immediate neighbours will be contacted, and direct dial telephone details provided for the TCM and main officer number. Email contact details will also be provided.

APPENDIX A – COMPLAINT FORM

Notifier Details	
Name -	
Address – Postcode -	
Contact Details -	
Tel -	
Email -	
Date -	
Complaint Ref Number -	
Nature of Complaint	

Investigation Details	
Investigation carried out by -	
Position -	
Date & time investigation carried out -	
Weather conditions -	
Wind direction and speed -	
Investigation findings -	
Feedback given to Environment Agency and/or local authority -	
Date feedback given -	
Feedback given to public -	
Date feedback given -	

Review and Improve	
Improvements needed to prevent a reoccurrence -	
Proposed date for completion of the improvements -	
Actual date for completion -	
If different insert reason for delay -	
Does the dust management plan need to be updated -	
Date that the dust management plan was updated -	

Closure	
Site manager review date	
Site manager signature to confirm no further action required	

APPENDIX B
HOUSE KEEPING SCHEDULE

Action	Daily	Weekly	Monthly	Annually
Site Entrance				
Use road sweeper to keep the site entrance clean (throughout the day)	X			
Member of staff to use brush to manually clean edges in conjunction with road sweeper.	X			
Clean the wheel wash with annual service. Use of brush and shovels.		X		X
Jet wash the site entrance and yard		X		
Road sweeper used to clean section on Knights Road, outside the site.	X			
Pavement swept daily	X			
Main Waste Building				
Daily checks for the build-up of dust by Site Manager. Site Manager will set out cleaning requirements to be implemented following the check.	X			
Use road sweeper to clean the front of the building and accessible areas (throughout the day)	X			
Member of staff to use brush to manually clean edges in conjunction with road sweeper.	X			
Activate mist curtain to check operational, with annual service	X			X
Activate Dust Suppression system to check operational, with annual service	X			X
Full wash down of building interior and walls.				X
Clean plant and machinery		X		
Main yard area				
Daily checks for the build-up of dust. Site Manager will set out cleaning requirements to be implemented following the check.	X			
Use road sweeper to clean the yard.	X			
Member of staff to use brush to manually clean edges in conjunction with road sweeper.	X			
Activate dust suppression system to check operational, with annual service	X			X
When a bay is empty, clean dust from the bay walls and corners.			X	
Wash Plant				
Daily checks for the build-up of dust. Site Manager will set out cleaning requirements to be implemented following the check.	X			
Check process equipment for any build of up dust and arrange cleaning	X			
Wash down equipment with annual service		X		X
Clean control panels and control room	X			

Concrete Batching Plant				
Daily checks for the build-up of dust. Site Manager will set out cleaning requirements to be implemented following the check.	X			
Check process equipment for any build of up dust and arrange cleaning	X			
Wash down equipment with annual service		X		X
Clean control panels and control room	X			
Road Vehicles				
Cleaned daily with full wash down by external company weekly.	X	X		

Mist Curtain

Rain Gun with Range

Road Sweeper

Covered Bay

M1 Monitoring Location

Entire Site is concreted

Predominant wind is from south west

Road Sweeping Coverage
All yard to be swept

Client: Recycled Materials Supplies Ltd

Project: Dust Management Plan
Primrose Wharf
Knights Road
Silvertown
London
E16 2AT

Date: May 2025	Scale: 1:1000@A4
Drn: ARC	Drg No: RMS/PW/DMP/01