Client: A1 Sandwell Skips Limited
Address: 1-3 Roebuck Lane, Smethwick, Sandwell, West Midlands, B66 1BS.

A1 Sandwell Skips Limited

Dust Emissions Management Plan (DEMP)

Application to Vary Environmental Permit EPR/DB3408LE
1-3 Roebuck Lane, Smethwick, Sandwell, West Midlands, B66 1BS

16 January 2026

Our Reference: A1 Sandwell Skips Ltd-DEMP, RP04, Final

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A1 Sandwell Skips Ltd-DEMP, RP04, Final

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1 SITE DETAILS

1.1 BACKGROUND

1.1.1 A1 Sandwell Skips Limited ***(the Operator)*** operates a household, commercial and industrial waste transfer station with treatment at 1 to 3 Roebuck Lane, Smethwick, Sandwell, West Midlands, B66 1BS ***(the Site)***.

1.1.2 The Site has the benefit of an Environmental Permit (EPR/DB3408LE), which was first issued on 19 October 2006 and varied to a Standard Rules SR2015 No6 on 10 August 2016. The permit was transferred to A1 Sandwell Skips Limited on 19 November 2024.

1.1.3 The Operator seeks to vary the permit (EPR/DB3408LE) to a bespoke version to increase the maximum waste throughput to 200,000 tonnes per annum and to authorise the use of a proposed roofed and 3-sided building for waste storage (see below). There are no proposals to amend the authorised waste types or the permit boundary, which will remain unchanged. The Site will not accept hazardous wastes. The proposed site layout is shown on Drawing 'Indicative Site Layout and Storage - DW01'.

1.1.4 The requirement for a Dust and Emissions Management Plan (DEMP) is to ensure that all reasonable measures to mitigate against the dispersion of fugitive emissions are undertaken by reviewing the potential source of dust and emissions from the Site activities and assessing the impact these may have on identified sensitive receptors in the vicinity.

1.1.5 The Site currently incorporates a roofed shed, circa 30m x 17m in size, with an impermeable concrete base. Waste is loaded by mechanical mobile plant into an elevated hopper and trommel, located next to the shed on the external concreted yard. The trommel separates the fines from the larger fraction. Separated fines are gravity transferred to an engineered three-sided bay located immediately below the trommel, whilst the larger fraction is conveyed to an elevated picking station, where site operatives separate materials into cardboard, plastics, plasterboard, general waste, wood and scrap metal. The site operatives place the separated recyclables into one of 6 No chutes, which each gravity feeds the materials into a dedicated, engineered storage bay beneath the trommel. Materials are bulked up in the bays for off site transfer to authorised facilities for recycling. A water sprinkler system is installed inside the building roof for dust control.

1.1.6 The Operator proposes to install a large roofed, three-sided building along the southeast boundary of the Site, adjacent to Telford Way. The rear wall of the building will run adjacent to the road thereby enhancing the Site's dust control measures and minimising any potential for fugitive emissions to migrate towards the nearest residential properties, which are located east of the facility on Great Arthur Street, circa 85m distant.

1.1.7 The new building will incorporate 7 No engineered fireproof concrete bays for the containment of wastes. Each bay will be used for designated wastes as follows:

- Quarantine bay

- Trommel fines bay
- Wood bay
- Mixed construction waste bay
- Soil and stones bay
- General waste bay
- General waste bay.

1.1.8 The trommel hopper and trommel will also be relocated inside the new building, thereby ensuring that wastes are tipped, stored and processed inside roofed structures. The building will incorporate an impermeable concrete base and a water misting system for dust suppression.

1.1.9 The external yard is concreted throughout. Arco drains have been installed in the yard to direct surface water run-off to an underground sealed tank, the location of which is shown on Drawing 'Indicative Site Layout and Storage', DW02. Water level in the tank is subject to regular inspection, with the contents pumped out by road tanker for disposal off site to an authorised facility.

1.1.10 The Site is located on a large industrial estate and is accessed off Roebuck Lane, Galton Bridge, Smethwick. The facility is secured by 4.5m high perimeter concrete panel fencing and security gates, which are kept closed and locked outside of operational hours. The Site location and layout are shown on Drawing 'Indicative Site Layout and Storage - DW01'. The permit boundary is shown in green on the drawing.

1.1.11 CCTV cameras are installed for additional security. They provide coverage of all the Site.

1.1.12 This DEMP has been prepared in accordance with Gov.uk Guidance `Control and monitor emissions for your environmental permit` (most recently updated 11th June 2025). It provides an assessment of the production of fugitive emissions relating to waste handling operations on the Site and aims to identify potential sources of dust emissions, the associated potential impacts along with detailed measures to be implemented at the Site to mitigate dust and particulate matter.

1.2 THE SITE

1.2.1 The Site is located on a large industrial estate near Galton Bridge, Smethwick in Sandwell. It is located circa 6km northwest of Birmingham City Centre and 470m east of the M5 Motorway at the closest point.

1.2.2 The Site is accessed off Roebuck Lane to the immediate west, beyond which are the Operator's offices and workshop. Telford Way borders the Site to the immediate east, immediately beyond which is an area of woodland and then residential properties and a further area of industrial land. The Site is bordered to the immediate north and south by further woodland.

1.2.3 The Birmingham Canal is circa 27m north of the Site at the closest point. It aligns northwest to

southeast in the vicinity of the Site and enters a tunnel (Summit Tunnel) immediately below Roebuck Lane, existing circa 100m to the southeast. The Birmingham Level Canal is located circa 40m south of the Site and also aligns northwest to southeast in the vicinity of the facility (roughly parallel to the Birmingham Canal). It also enters a tunnel (Galton Tunnel), circa 40m from the Site.

1.2.4 Galton Bridge Railway Station is circa 93m west of the Site at the closest point, with the nearest railway line circa 44m north of the facility. A separate railway line is located circa 74m south of the Site (both lines serve Galton Bridge Railway Station).

1.2.5 The nearest residential properties are located on Great Arthur Street, circa 85m east of the Site. Further residential properties in proximity to the Site are located on Holly Lane, circa 143m south, Forest Close, circa 170m west, Fenton Street, circa 198m south southwest, Draycott Road, circa 200m south southwest and Waterfield Close, circa 223m west.

1.2.6 The nearest industrial premises are circa 78m northwest of the Site on the Summit Crescent Industrial Estate. Other industrial and commercial properties in close proximity are located circa 110m north of the Site off Roebuck Lane and circa 135m northeast of the facility off Bevan Way.

1.2.7 Review of Magic Map (https://magic.defra.gov.uk/) shows that there are no European Sites, i.e. Special Protection Areas (SPA), Special Conservation Areas (SAC) or Ramsar Sites within 2km of the Site.

1.2.8 There are no Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Biosphere Reserves, Marine Conservation Zones or Ancient Woodlands within a 2km radius of the Site boundary.

1.2.9 There is one Local Nature Reserve (LNR) within a 2km radius of the Site. Priory Wood LNR is circa 1,675m north of the Site at the closest point. Habitats include woodland, pools, streams and marsh. The site contains the ruins of a 12th Century priory.

1.2.10 The nearest Priority Habitat to the Site is an area of Deciduous Woodland that borders the facility to the immediate south.

1.2.11 Other areas of Priority Habitat in proximity to the Site comprise:

- Deciduous Woodland east of Telford Way, circa 23m east of the facility;
- Deciduous Woodland, circa 261m southwest of the facility;
- Lowland Heathland, circa 54m west of the facility;
- Woodpasture and Parkland BAP, circa 388m southeast of the facility
- Lowland Dry Acid Grassland, circa 271m southeast of the facility;
- Good quality semi-improved grassland, circa 447m southeast of the facility.

1.2.12 Magic map shows a Scheduled Monument circa 5m northeast of the Site boundary at the closest point. Known as Smeaton's Summit Bridge, the Natural England citation states that the reasons

for its designation and history are 'Not currently available'.

1.2.13 Sandwell MBC has declared an Air Quality Management Area (AQMA) for Nitrogen Dioxide (NO_2) for all of the Borough.

1.3 SITE RESPONSIBILITY OVERVIEW

1.3.1 The Site Manager or, during periods of absence, the company Director will have overall responsibility for ensuring that potentially dusty emissions arising from the Site are minimised and that all process controls are managed/maintained. Adequate staffing levels will be maintained at all times to ensure the effective operation of the facilities.

2 LEGISLATION AND POLICY

2.1 EUROPEAN DIRECTIVES

2.1.1 European Union (EU) air quality legislation is provided within Directive 2008/50/EC, which came into force on 11th June 2008. This Directive consolidated previous legislation which was designed to deal with specific pollutants in a consistent manner and provided new Air Quality Limit Values (AQLVs) for particulate matter with an aerodynamic diameter of less than 2.5µm. The consolidated Directives include:

- Directive 1999/30/EC - the First Air Quality "Daughter" Directive - sets ambient AQLVs for nitrogen dioxide (NO2), oxides of nitrogen (NOx), sulphur dioxide, lead and particulate matter with an aerodynamic diameter of less than 10µm (PM10);
- Directive 2000/69/EC - the Second Air Quality "Daughter" Directive - sets ambient AQLVs for benzene and carbon monoxide; and,
- Directive 2002/3/EC - the Third Air Quality "Daughter" Directive - seeks to establish long-term objectives, target values, an alert threshold and an information threshold for concentrations of ozone in ambient air.

2.1.2 The fourth daughter Directive was not included within the consolidation and is described as:

- Directive 2004/107/EC - sets health-based limits on polycyclic aromatic hydrocarbons, cadmium, arsenic, nickel and mercury, for which there is a requirement to reduce exposure to as low as reasonably achievable.

2.2 UK LEGISLATION

2.2.1 The Air Quality Standards Regulations (2010) came into force on 11th June 2010 and transpose EU Directive 2008/50/EC into UK law. AQLVs were published in these regulations for seven pollutants, as well as Target Values for an additional five pollutants.

2.2.2 Part IV of the Environment Act (1995) requires UK government to produce a national Air Quality Strategy (AQS) which contains standards, objectives and measures for improving ambient air quality. The most recent AQS was produced by the Department for Environment, Food and Rural

Affairs (DEFRA) and published in July 2007. The AQS sets out Air Quality Objectives (AQOs) that are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedances over a specified timescale. These are generally in line with the AQLVs, although the requirements for the determination of compliance vary.

2.2.3 Table 1 presents the AQOs for PM_{10}.

Table 1: Air Quality Objectives for PM_{10}

Pollutant	Air Quality Objectives	
	Concentration (µg/m³)	**Averaging Period**
PM_{10}	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum

3 BASELINE

3.1 BACKGROUND POLLUTANT CONCENTRATIONS

3.1.1 Existing air quality conditions in the vicinity of the Site were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

3.1.2 Predictions of background pollutant concentrations on a 1 km by 1 km grid basis have been produced by DEFRA for the entire United Kingdom to assist Local Authorities in their review and assessment of air quality. The Site is located in 1km x 1km grid square NGR: 401500 288500 (SP 01553 89363). Data for this location was downloaded from the DEFRA website (https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018) for the purpose of the assessment and is summarised in Table 2.

Table 2: Background Pollutant Concentration Predictions

Pollutant	Predicted Background Pollutant Concentration (µg/m³)		
	2022	**2023**	**2024**
NO_2	17.49792 µg/m³	16.96311 µg/m³	16.36936 µg/m³
PM_{10}	14.889368 µg/m³	14.744844 µg/m³	14.600319 µg/m³

3.1.3 According to DEFRA's Background Air Pollution Mapping Data, background emission concentrations in the locality of the Site since 2022, have been, and are predicted to be, below air quality standards. National air quality objectives and European Directive limits and target values stipulate that concentrations of PM_{10} measured at 24-hour mean levels should not exceed 50 µg/m³ for more than 35 times a year. NO_2 concentrations should not exceed 40µg/m³ when measured on an annual mean basis. Based on background concentrations, as tabulated above in Table 2, the air quality at the Site itself and in the vicinity is unlikely to exceed these parameters.

3.2 PREVAILING WINDS

Statistics on wind direction and wind speed are based on observations taken from the nearest weather station at Coleshill (c. 19.5 km east of the site) between January 2016 to September 2025, which indicates that prevailing winds originate predominantly from the south. The wind rose data is shown in Figures 1 and 2 below.

Figure 1: Rose diagram showing annual prevailing wind direction

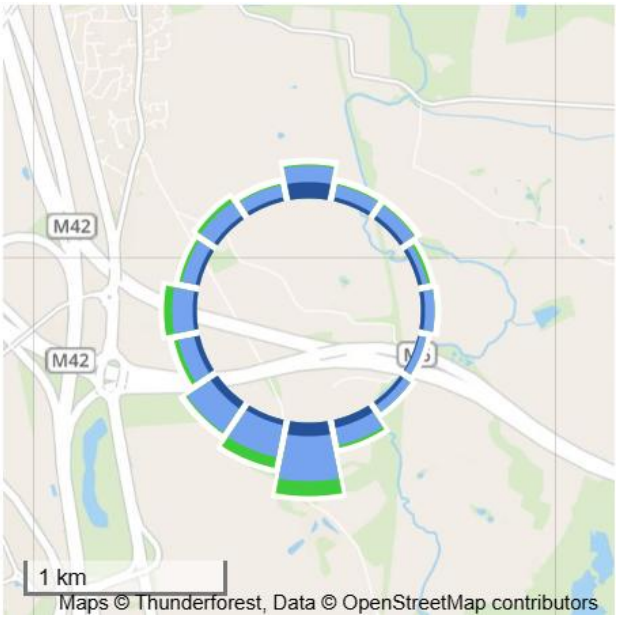
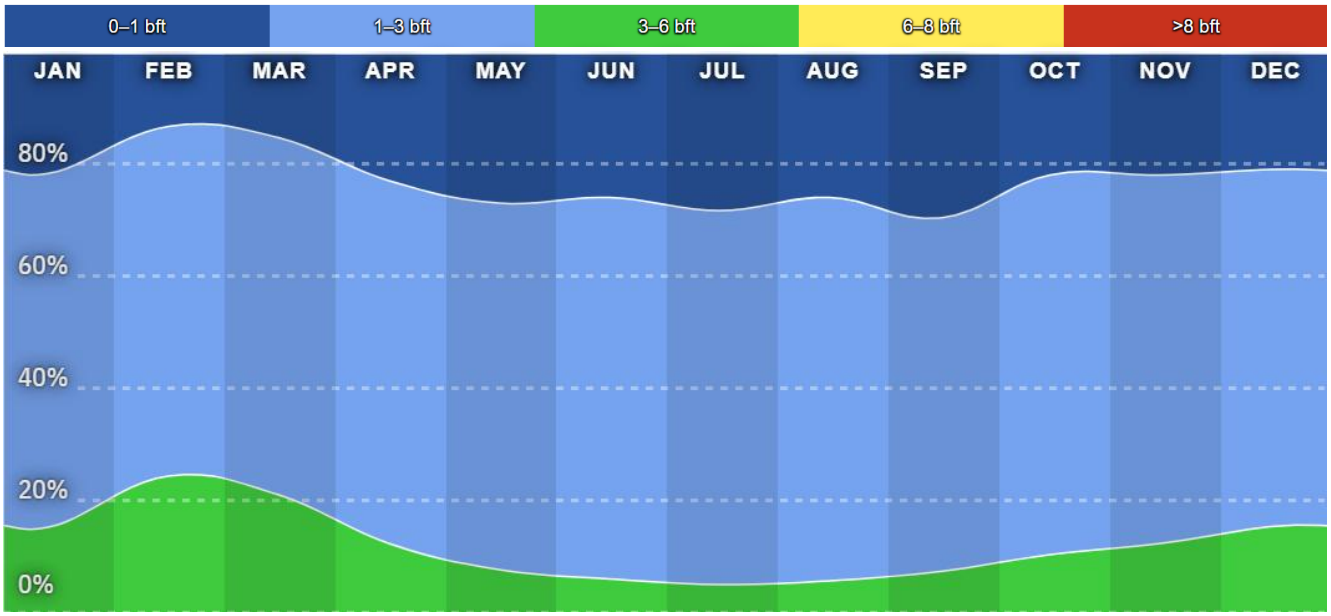


Fig. 2 Monthly wind direction and strength distribution



4 SENSITIVE RECEPTORS

4.1.1 Sensitive receptors at potential risk from any dust emissions at the Site are shown on the

Drawing 'Sensitive Receptors', DW02 and are listed in Table 3 below.

4.1.2 In terms of predicted exposure risk, levels have been determined via a qualitative assessment which evaluates the likelihood of exposure to dust emissions based on the receptors' proximity to the Site and the location of the sensitive receptors in regard to the prevailing wind direction as shown in Figure 1.

4.1.3 Generally, a 1km radius reflects the maximum potential distance that dust could reasonably be expected to cause affects in extreme meteorological conditions without any mitigation measures in place. Institute of Air Quality Management (IAQM) Guidance on the Assessment of Mineral Dust Impacts for Planning (May 2016) states that "it is commonly accepted that the greatest impacts will be within 100m of a source and this can include both large (>30 µm) and small dust particles. The greatest potential for high rates of dust deposition and elevated PM10 concentrations occurs within this distance. Intermediate-sized particles (10 to 30 µm) may travel up to 400m, with occasional elevated levels of dust deposition and PM10 possible. Particles less than 1µm have the potential to persist beyond 400m but with minimal significance due to dispersion." Environment Agency guidance on 'Monitoring of Particulate Matter in Ambient Air Around Waste Facilities' states that large particles (>30 µm) responsible for most dust annoyance mostly deposit within 100m of the source, intermediate-sized particles (10–30 µm) are likely to travel up to 200–500m and smaller particles (<10 µm) can travel up to 1 Km from the source.

4.1.4 Due to the high number of sensitive receptors, not all residential properties and local businesses etc are individually assessed, as there are several thousand locations within the assessment distance. Table 3 assesses the most proximate receptors within each category to provide information on the highest level of risk that would be encountered. Where mitigation measures demonstrate that the level of dust risk is low at the selected sites, it can be assumed that risk would also be low at more distant sites.

Table 3: Distance to Selected Sensitive Receptors

Receptor	Type of Facility	Distance (m) & Direction from Site	Overall Exposure Level Without Mitigation	Comments
Medical				
Cranstoun – Sandwell (Community Substance Misuse Service), Alberta Building, 128B Oldbury Road, Smethwick, West Midlands, B66 1JE	Medical	379m W	Medium	The receptor is upwind of the prevailing wind direction and over 250m distance.
Lodge Road Surgery, Smethwick, B67 7LU	Medical	413m SW	Medium	The receptor is upwind of the prevailing wind direction and over 250m distance.
Sandwell Maternity Hub, Oldbury Road, Smethwick, B66 1JA	Medical	455m W	Medium	The receptor is upwind of the prevailing wind direction and over 250m distance.
Hawthorns Medical Centre, 94 Lewisham Road, Smethwick, B66 2DD	Medical	716m E	Low / Medium	The receptor is downwind of the prevailing wind direction, but is relatively distant at over 500m.
St Paul's Surgery, 222 St Paul's Road, Smethwick B66, 1HB	Medical	813m W	Low	The receptor is upwind of the prevailing wind direction and is distant at over 750m.
Schools				
Stepping Stones Pre-School, West Smethwick Methodist Church, St Pauls Road, Smethwick B66 1EX	Pre-School	353m SW	Medium	The receptor is upwind of the prevailing wind direction and over 250m distance.
Bright Lights Day Care, Great Arthur Street, Smethwick, B66 1DH	Nursery School	537m SE	Low / Medium	The receptor is upwind of the Site and is relatively distant at over 500m.
Sandwell Community School - COPE Centre of Learning Campus, Holly Lane, Smethwick, B67 7JB	School	620m SSW	Low / Medium	The receptor is upwind of the Site and is relatively distant at over 500m.
Holly Lodge High School College of Science, Holly Lane, Smethwick, B67 7JG	School	630m SW	Low / Medium	The receptor is upwind of the Site and is relatively distant at over 500m.
Galton Valley Primary School	School	633m SE	Low / Medium	The receptor is upwind of the Site and is relatively distant at over 500m.

Receptor	Type of Facility	Distance (m) & Direction from Site	Overall Exposure Level Without Mitigation	Comments
GNG Nursery, Trinity Street, Smethwick, B67 7AA	Nursery School	865m SSE	Low	The receptor is upwind of the prevailing wind direction and is distant at over 750m.
Sandwell Academy, Halfords Lane, West Bromwich, B71 4LG	School	970m NE	Low	Although the receptor is downwind of the prevailing wind direction, it is distant at over 750m.
Care Homes				
ASRA Health and Social Care Centre, Asra House, Fenton Street, Smethwick, B66 1HR	Day Care	196m S	High / Medium	Although the receptor is upwind of the prevailing wind direction, it is in relatively close proximity at less than 250m of the Site. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.
Dignus, 1 Chance Drive, Smethwick B66 1TT	Retirement Home	790m WNW	Low	The receptor is distant at over 750m from the Site.
Karam Court Care Home, Highbury Road, Smethwick, B66 1QX	Care Home	853m W	Low	The receptor is upwind of the prevailing wind direction and is distant at over 750m.
Poplars Nursing Home, 66 South Road, Smethwick, B67 7BP	Nursing Home	997m S	Low	The receptor is upwind of the prevailing wind direction and is distant at over 750m from the Site.
Residential				
Great Arthur Street	Residential	85m E	High	The receptor is downwind of the prevailing wind direction and is in close proximity at less than 100m. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.
Holly Lane	Residential	143m S	Medium / High	Although the receptor is upwind of the prevailing wind direction, it is in relatively close proximity at less than 250m of the Site. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.
Forest Close	Residential	170m W	Medium / High	Although the receptor is upwind of the prevailing wind direction, it is in relatively close proximity at less than 250m of the Site. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.

Receptor	Type of Facility	Distance (m) & Direction from Site	Overall Exposure Level Without Mitigation	Comments
Fenton Street	Residential	198m SSW	Medium / High	Although the receptor is upwind of the prevailing wind direction, it is in relatively close proximity at less than 250m of the Site. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.
Draycott Road	Residential	200m SSW	Medium / High	Although the receptor is upwind of the prevailing wind direction, it is in relatively close proximity at less than 250m of the Site. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.
Waterfield Close	Residential	223m W	Medium / High	Although the receptor is upwind of the prevailing wind direction, it is in relatively close proximity at less than 250m of the Site. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.
Commercial and Industrial				
Summit Crescent Industrial Estate	Industrial	78m NW	High	The receptor is in close proximity to the Site at less than 100m. It is important that the odour control measures detailed in this OMP are implemented to control fugitive emissions from the Site.
DPD Group UK Ltd, Roebuck Lane, Smethwick, B66 1BY	Commercial	110m N	High	The receptor is downwind of the prevailing wind direction and in close proximity at a little over 100m distant. Therefore it is considered high risk to any odorous emission that is not mitigated by the Site. It is therefore important that the odour control measures detailed in this OMP are implemented to control fugitive emissions from the Site.
Smith Brothers Stores Ltd, Unit 4 Alpha Park, Bevan Way Smethwick, B66 1BZ	Commercial	135m NE	Medium / High	The receptor is downwind of the prevailing wind direction and is in relatively close proximity at less than 250m of the Site. It is important that the odour control measures detailed in this OMP are implemented to control fugitive emissions from the Site.
PHS Wastekit, Unit 6 Alpha Industrial Park, Bevan Way, Smethwick, B66 1BZ	Industrial	138m NNE	Medium / High	The receptor is downwind of the prevailing wind direction and is in relatively close proximity at less than 250m of the Site. It is important that the odour control measures detailed in this OMP are implemented to control fugitive emissions from the Site.

Receptor	Type of Facility	Distance (m) & Direction from Site	Overall Exposure Level Without Mitigation	Comments
LA Metals Ltd, Roebuck Lane, Smethwick, B66 1BY	Industrial	210m NNE	Medium / High	The receptor is downwind of the prevailing wind direction and is in relatively close proximity at less than 250m of the Site. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.
Hadley Group Holdings Ltd, Downing Street, Smethwick, B66 2PA	Industrial	226m E	Medium / High	The receptor is downwind of the prevailing wind direction and is in relatively close proximity at less than 250m of the Site. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.
MEP Hire Ltd, Unit 1, Alpha Park, Bevan Way, Smethwick B66 1BZ	Industrial	240m NE	Medium / High	The receptor is downwind of the prevailing wind direction and is in relatively close proximity at less than 250m of the Site. It is important that the dust control measures detailed in this DEMP are implemented to control fugitive emissions from the Site.
REM3DY Health Ltd, Unit 2 Alpha Business Park, Bevan Way, Smethwick, B66 1BZ	Industrial	271m NE	Medium	Although the receptor is upwind of the prevailing wind direction, it is over 250m distance.
Designated Habitats				
Deciduous Woodland	Priority Habitat	Adjacent S	Medium	Although the Deciduous Woodland is in close proximity to the Site, it is unlikely to be significantly impacted by any inadvertent dust emissions. In theory, coating vegetation with dust emissions may have some impact on photosynthesis and fauna associated with the Priority Habitat.
Deciduous Woodland	Priority Habitat	23m E	Medium	Although the Deciduous Woodland is in close proximity to the Site, it is unlikely to be significantly impacted by any inadvertent dust emissions. In theory, coating vegetation with dust emissions may have some impact on photosynthesis and fauna associated with the Priority Habitat.
Lowland Heath	Priority Habitat	54m W	Medium	Although the Priority Habitat is in close proximity to the Site, it is unlikely to be significantly impacted by any inadvertent dust emissions. In theory, coating vegetation with dust emissions may have some impact on photosynthesis and fauna associated with the Priority Habitat.

Receptor	Type of Facility	Distance (m) & Direction from Site	Overall Exposure Level Without Mitigation	Comments
Deciduous Woodland	Priority Habitat	261m SW	Low	See above
Lowland Dry Acid Grassland	Priority Habitat	271m SE	Low	See above
Woodpasture and Parkland BAP	Priority Habitat	388m SE	Low	See above
Good quality semi-improved grassland	Priority Habitat	447m SE	Low	See above
Railway				
Railway Line	Railway	44m N	Medium / Low	Although the railway line is downwind of the prevailing wind direction and in close proximity to the Site, it is unlikely that any dust emission would cause significant impact to railway infrastructure and trains will quickly travel beyond the proximity of the Site, meaning exposure time is likely to be very short. Rail personnel maintaining the line in proximity to the Site would have longer periods of occupancy. Dust control and mitigation measures set out in this DEMP will be implemented to minimise impacts on the railway and sensitive receptors.
Railway Line	Railway	74m S	Medium / Low	The railway line is upwind of the prevailing wind direction, although it is in relatively close proximity to the Site. It is unlikely that any dust emission would cause significant impact to railway infrastructure and trains will quickly travel beyond the proximity of the Site, meaning exposure time is likely to be very short. Rail personnel maintaining the line in proximity to the Site would have longer periods of occupancy. Dust control and mitigation measures set out in this DEMP will be implemented to minimise impacts on the railway and sensitive receptors.
Galton Bridge Railway Station	Railway Station	93m W	Medium	The railway station is upwind of the prevailing wind direction, although it is in relatively close proximity to the Site. Railway staff working at the station may have long periods of occupancy. Dust control and mitigation measures set out in this DEMP will be implemented to minimise impacts on the railway and sensitive receptors.

Receptor	Type of Facility	Distance (m) & Direction from Site	Overall Exposure Level Without Mitigation	Comments
Surface Water				
Birmingham Canal	Canal	27m N	Medium / Low	It is considered unlikely that any fugitive dust emissions would have a significant impact on the canal. People accessing the tow path or using the canal for recreational use (e.g. boating) are likely to have relatively short exposure periods.
Birmingham Level Canal	Canal	40m S	Medium / Low	It is considered unlikely that any fugitive dust emissions would have a significant impact on the canal. People accessing the tow path or using the canal for recreational use (e.g. boating) are likely to have relatively short exposure periods.
Scheduled Monument				
Smeaton's Summit Bridge	Scheduled Monument	5m NE	Low	It is considered unlikely that any fugitive dust emissions would have a significant impact on the scheduled monument.

5 OPERATIONS AT THE SITE

5.1 WASTE DELIVERIES

5.1.1 Waste producers are required to provide pre-acceptance documentation that includes details of:

- The waste description;
- The European Waste Classification (EWC) code;
- The source and nature of the waste, including its physical form;
- Any special handling measures;
- Any potential risks to process safety, occupational safety and the environment (e.g. from odour or dust);
- Details of the waste producer (name, address and contact details);
- Where the waste holder is not the producer, details of the waste holder (name, address and contact details);
- Information on the nature and variability of the waste production process and the waste;
- Age of the waste;
- Type of packaging;
- An estimate of the quantity to be received in each load and in a year.

5.1.2 Waste pre-acceptance details are checked by the Operator to make sure that only authorised wastes are delivered to the site. Any non-permitted or inherently dusty wastes that are identified during pre-acceptance checks will not be accepted.

5.1.3 Wastes are predominantly delivered to the Site by skip lorries, with vehicles accessing the facility via Roebuck Lane. Wastes are received in sheeted or enclosed containers.

5.1.4 All vehicles delivering wastes to the Site will stop at the weighbridge and will be weighed.

5.1.5 The weighbridge operator will examine waste descriptions and the information will be checked against the pre-acceptance documentation, six figure European Waste Catalogue Code(s) and other details on the Waste Transfer Note or Season Ticket (as appropriate) and against the waste types permitted by the Environmental Permit.

5.1.6 Waste will not be accepted if for any reason there is insufficient storage capacity available or if the Site is inadequately manned. This is to ensure that all waste is managed effectively to prevent pollution or loss of amenity.

5.1.7 Every delivery of waste will be recorded, detailing the date of the transaction, weight, waste type, registered carrier, Waste Transfer Note number and vehicle registration. Weighbridge staff will instruct waste delivery drivers to the appropriate tipping area in the Site for off-loading. A visual

inspection of the contents of all waste loads, including those received in enclosed containers, will be made during deposit.

5.1.8 Any discrepancies found as a result of the checks detailed above will result in the vehicle being detained whilst some, or all, of the following supplementary management decisions are taken:

- Referral to a Technically Competent Person (TCP) on site;
- Referral to the waste producer to confirm the nature of the waste load;
- Referral to the waste carrier's base;
- Referral to the Environment Agency;
- Redirection of delivery vehicle off site, to a suitably authorised facility; and
- If the waste has been discharged at the Site, removal of the waste to the secure quarantine skip, prior to off-site removal either to the waste producer or suitably authorised facility.

5.1.9 Any loads which contain non-permitted wastes or inherently dusty materials shall be rejected prior to delivery or unloading. In the event that non-permitted or dusty waste has been inadvertently deposited and the delivery vehicle has left the Site, it will be temporarily stored in an enclosed and lidded quarantine skip, pending its removal to the waste producer or an authorised facility.

5.1.10 Material rejected from the Site shall be issued with a record stating why, when and from which contract it was provided. This record shall be held on site for the Environment Agency to inspect. In addition the 'Record of Non-Conformance', Appendix 1, shall be completed and the record will be held on site.

5.1.11 A Waste Transfer Note will be raised for any load of non-permitted, non-hazardous waste that has been inadvertently deposited on site and requires removal where the delivery vehicle has already left the Site. In the unlikely event that any inadvertently deposited hazardous waste requires removal, a Hazardous Waste Consignment Note will be raised for the transfer.

5.1.12 The Operator will ensure that any non-permitted wastes requiring removal from the Site will be transferred by a Registered Waste Carrier to a facility authorised to receive such wastes.

5.1.13 Small amounts of contrary material present shall be removed by hand or machine and temporarily stored in the quarantine skip. Material in quarantine shall be removed from site to a suitably permitted facility, capable of dealing with the waste types.

5.2 OVERVIEW OF WASTE PROCESSING, DUST AND OTHER EMISSIONS CONTROLS

5.2.1 Waste storage and processing areas will comprise:

- A new three sided and roofed building, which will incorporate 7 No engineered fireproof concrete bays for waste storage as follows
  - Quarantine bay
  - Trommel fines bay

  - Wood bay
  - Mixed construction waste bay
  - Soil and stones bay
  - General waste bay
  - General waste bay.

- An existing trommel hopper and trommel, which will be relocated inside the new building. Waste will be loaded by mechanical mobile plant into the elevated hopper and trommel, which will separate the fines from the larger fraction. Separated fines will be gravity transferred to an engineered three-sided bay located immediately below the trommel, whilst the larger fraction will be conveyed to the adjacent roofed shed, which is used to house the picking station. The new building will incorporate a concrete base and water misting system.
- The existing roofed shed will continue to house the picking station, which will receive the separated larger fraction via conveyor from the new building. Inside the picking station, site operatives separate materials into cardboard, plastics, plasterboard, general waste, wood and scrap metal. The site operatives place the separated recyclables into one of 6 No chutes, which each gravity feeds the materials into a dedicated, engineered storage bay below. Materials are bulked up in the bays for off site transfer to authorised facilities for recycling. A water sprinkler system is installed inside the building roof for dust control.
- Screening and crushing plant, fitted with in-built reception hopper, which will be used to crush and separate inert wastes into various size fractions for reuse according to customer requirements.
- An external yard, which is concreted throughout. Arco drains have been installed in the yard to direct surface water run-off to an underground sealed tank, where collected runoff is stored prior to being pumped out by road tanker for disposal off site to an authorised facility.
- Empty skip storage area.
- A sealed and lidded quarantine skip for any inadvertently received non-hazardous wastes or inherently odorous or dusty wastes.
- Double skinned fuel tank;
- Weighbridge;
- Site office.
- Perimeter concrete panel fencing, 4.5m high, and lockable security gates at the Site entrance off Roebuck Lane.

5.2.2 Wastes are processed on a fast turnover basis, so that materials are processed and dispatched typically within 48 hours of receipt, although this may increase to 7 days during busy periods. Wastes are processed on a first in first out basis to ensure that materials are not allowed to accumulate over time and become potentially odorous or for hot spots to develop or for dusts to accumulate. When

a waste storage bay is emptied, care will be taken to ensure that materials in the corners of the bays are also removed and swept so that they are not allowed to accumulate over time.

5.2.3 Waste storage bays are shown in Table 4 below.

Table 4: Waste Storage

Waste stream	Location	How it is stored	Maximum length	Maximum width	Maximum height of waste	Volume	Maximum storage time
Quarantine Bay	See drawing DW01	Fireproof bay	15m	6m	4m	360m^3 (length x width x height)	7 days
Trommel Fines Bay	See drawing DW01	Fireproof bay	15m	6m	4m	360m^3 (length x width x height)	7 days
Wood Bay	See drawing DW01	Fireproof bay	15m	6m	4m	360m^3 (length x width x height)	7 days
Mixed Construction Waste Bay	See drawing DW01	Fireproof bay	15m	6m	4m	360m^3 (length x width x height)	7 days
Soils Bay	See drawing DW01	Engineered bay	8.2m	5.9m	4m	193.5m^3 (length x width x height)	7 days
General Waste Tipping Bay	See drawing DW01	Fireproof bay	15m	6m	4m	360m^3 (length x width x height)	7 days
General Waste Tipping Bay	See drawing DW01	Fireproof bay	15m	6m	4m	360m^3 (length x width x height)	7 days
Picking station Paper/Cardboard Bay	See drawing DW01	Fireproof bay	3m	3m	3m	27m^3 (length x width x height)	7 days

Waste stream	Location	How it is stored	Maximum length	Maximum width	Maximum height of waste	Volume	Maximum storage time
Picking station Plastics Bay	See drawing DW01	Fireproof bay	3m	3m	3m	27m^3 (length x width x height)	7 days
Picking station Plasterboard Bay	See drawing DW01	Fireproof bay	3m	3m	3m	27m^3 (length x width x height)	7 days
Picking station General Waste Bay	See drawing DW01	Fireproof bay	3m	3m	3m	27m^3 (length x width x height)	7 days
Picking station Wood Bay	See drawing DW01	Fireproof bay	3m	3m	3m	27m^3 (length x width x height)	7 days
Picking station Scrap Metal Bay	See drawing DW01	Fireproof bay	3m	3m	3m	27m^3 (length x width x height)	7 days
Picking station Light Fraction Bay	See drawing DW01	Fireproof bay	3m	3m	3m	27m^3 (length x width x height)	7 days

5.2.4 A water sprinkler system for dust suppression has been installed under the roof of the picking station shed. The new building will also be fitted with a water sprinkler system to enhance dust control measures during waste unloading, bulking-up and transfer. The use of a new 3 sided and roofed building for waste storage will minimise the risk of dust emissions from the Site.

5.2.5 Housekeeping measures include daily visual inspection of the Site. The facility will be swept during the course of the working day and at the end of the working day to ensure it is left clean and tidy both during and outside of operational hours. Site sweeping will be carried out by site operatives under the supervision of the Site Manager, company Director or the Technically Competent Person.

5.2.6 Additional sweeping and cleaning will take place if noticeable waste, dust or fluff accumulation is present or if there is the potential for associated emissions from the Site.

5.2.7 More thorough weekly inspections will be carried out and recorded. The weekly inspections include a review of:

- Waste buildings and storage bays;
- Integrity of the buildings and dust containment measures;
- Site surface and drainage system;
- Processing plant and equipment, e.g. conveyers, trommel, crusher/screener and mobile plant;
- Dust control measures;
- Litter control measures;
- Fuel storage tank;
- Mud and debris collection by the Site entrance and access onto Roebuck Lane;
- Vermin and insects;
- Spill kits / absorbent material for any inadvertent spillage;
- Underground water storage tank, fire extinguishers and water hoses;
- Perimeter fencing, lockable gates and overall security measures.

5.3 MOBILE PLANT

5.3.1 Nitrogen Dioxide gas is a by-product of internal combustion engines and the Site uses several items of plant with internal combustion engines. The following table lists the type, number and activity use for the mobile plant on site.

Table 5: Mobile Plant

Vehicles & Plant	Quantity	Activity
Skip Vehicles	3	Deliver and collect waste skips from household, commercial and industrial premises.
Roll-on-Off hook-lift vehicles	2	Despatch waste from the site.
360 Excavator (Wheeled Machine)	2	Loading bulk storage vehicles and containers
Loading Shovel	2	Movement, sorting and storage of waste. Also loading bulk haulage vehicles and containers.

5.3.2 All the Operator's lorries, mobile plant and mechanical equipment is subject to routine servicing and maintenance as per the manufacturers' guidance. Any required maintenance shall be carried out as soon as practicable to ensure continued running of the facility.

5.3.3 Daily visual inspection of lorries and mobile plant is undertaken to ensure the vehicles meet statutory requirements and are operating efficiently. In the event of poor engine performance or excessive particulate emissions from exhausts, additional servicing and maintenance will be undertaken.

5.3.4 Engines are switched off when vehicles and mobile plant are not in use. Vehicle engines are not allowed to idle when the plant is standing.

6 DUST AND PARTICULATE MANAGEMENT

6.1 RESPONSIBILITY FOR IMPLEMENTATION OF THE DEMP

6.1.1 The purpose of this DEMP is to ensure that all reasonable measures are undertaken to prevent or minimise dust emissions and prevent its escape from the Site boundary.

6.1.2 The Site Manager (Kuldeep Singh) has overall responsibility for ensuring that the potential for dust emissions arising from site operations is minimised. The Director (Joga Singh) is responsible for the DEMP during periods the Site Manager is absent due to annual leave or sickness.

6.1.3 Adequate staffing levels will be maintained at all times to ensure the effective operation of the Site. Staff training on dust control measures comprises a combination of induction training and toolbox talks to ensure personnel are familiar and competent with the measures in place and their operation and maintenance.

6.1.4 Staff will be trained in the contents and requirements of this DEMP and the dust prevention and mitigation measures in place. All existing and new staff members will receive training and refresher talks will be held annually.

6.1.5 In line with current industry best practice, the dust controls set out in this DEMP will be used as the 'appropriate measures' to minimise the risk of and, wherever possible, prevent outbreak of dust and particulates associated with operations at the Site.

6.1.6 Site meetings will be held on a weekly basis between the Site Manager and Technically Competent Person (Les Brazier) to discuss current and planned site operations with respect to their potential for

generating dust. Identified actions arising from the meetings and responsibilities for their completion will be recorded prior to their circulation within A1 Sandwell Skips Ltd to the relevant personnel.

6.1.7 This DEMP will be made readily available and clearly identified on site and all staff will be made aware of the location of the document.

6.1.8 This DEMP will be subject to annual review and additionally in the event of the following:

- Any incident that gives rise to a significant dust emission beyond the Site boundary
- An update to relevant Environment Agency guidance, e.g. if the document no longer meets the requirements
- An application to vary the permit
- If the wider environmental conditions change (e.g. if a school or hospital is built within 1km)
- If required by the Environment Agency as a result of the risks posed by the Site.

6.2 SOURCES AND CONTROL OF FUGITIVE DUST/PARTICULATE EMISSIONS

6.2.1 The operations on site that have the potential to produce dust and particulates are detailed below:

- Vehicles entering and/or leaving the Site with mud on the wheels and tracking dust on to or off the Site. The risks of this occurrence are considered low because all the Site surface comprises engineered concrete. Hoses are available to clean mud and debris off the wheels of vehicles exiting the Site if additional measures are required.
- Debris falling off lorries which arrive uncovered. The Operator requires waste loads to be delivered to the Site in contained waste vehicles or sheeted vehicles. Once a load has arrived at the Site and been weighed and checked at the weighbridge, acceptable loads will be directed to the new waste storage building, where loads will be promptly and efficiently tipped into the appropriate, designated bay. The Site operates a 10mph speed limit. Slow vehicle speeds reduce the amount of dust that is kicked up during vehicle movements and minimise the potential for debris to fall from lorries on site.
- Unloading and loading wastes from lorries. Wastes will be unloaded in the new waste building, into the designated storage bay. Drop heights will be minimised when materials are unloaded, bulked up or transferred by mechanical plant such as mechanical grabs and loading shovels. Waste storage bays and the external yard will be dampened down using water hoses during periods of dry weather or where a load is identified during the inspection process as ‘dusty’.
- Waste storage. Wastes will be stored inside buildings and dedicated engineered bays. This will provide significant protection from wind exposure and wind whipping, minimising the risk of fugitive dust emissions. The Site will operate a first in first out policy to minimise waste storage time. Typically, wastes will be stored and processed within 7 days of receipt. Bays will be emptied and swept, including the corners, to ensure that all debris is removed and that potentially dusty materials do not accumulate over a prolonged time at the Site.

- Waste processing. The trommel feed hopper, inclined conveyor and trommel will be relocated into the new building. The picking station is located in the existing roofed shed, which will minimise the exposure to wind whipping and significantly reduce the risk of dust emissions. Separated trommel fines will be transferred from the bay below the trommel into a designated larger bay (15m long x 6m wide) inside the new building. The drop height from the end of the conveyor into the bay will be minimised.

- Site surfaces. All site surfaces comprise engineered concrete.

- Loading waste materials back on to vehicles. The Operator will ensure that drop heights from loading shovels and mechanical grabs into lorries are minimised when materials are transferred off-site to authorised facilities. Vehicles will also be inspected during loading to ensure dust emissions are controlled and do not exit the Site boundary. Where necessary, water will be applied to loads during their loading into lorries to minimise the risk of dust emission.

- Particulate emissions from the exhaust of vehicles/plant/machinery on site. All the Operator's lorries, mobile plant and equipment is subject to routine servicing and maintenance as per the manufacturers' guidance. Any required maintenance shall be carried out as soon as practicable to ensure continued running of the facility.

- Daily visual inspection of lorries and mobile plant is undertaken to ensure the vehicles meet statutory requirements and are operating efficiently. In the event of poor engine performance or excessive particulate emissions from exhausts, additional servicing and maintenance will be undertaken.

6.2.2 The Operator will ensure efficient and regular housekeeping are used to maintain the Site in a tidy condition and minimise any risks of dust, litter or odour escaping the Site boundary.

6.2.3 Site cleaning procedures include sweeping out the bays, including the corners, to ensure all material is removed and potentially dusty residues do not remain in-situ.

6.2.4 Typically, the Site will be swept during the course of the working day and at the end of the working day to ensure the facility is left clean and tidy both during and outside of operational hours. Site sweeping will be carried out by site operatives under the supervision of the Site Manager or Technically Competent Person.

6.2.5 The trigger for additional sweeping and cleaning will be during periods of dry weather, which may give rise to dusty conditions, during daily site inspections if noticeable dust, litter or debris accumulation is present.

6.2.6 It is important to note that all the Site surfaces comprise concrete and engineered pavement and there is no requirement for vehicles to drive over unmade roads or surfaces or for wastes to be stored and processed on unmade land.

6.2.7 In the unlikely event that mud or dust is identified as an ongoing issue a road sweeper can be sourced from a local supplier.

6.2.8 In the event that circumstances beyond the control of the Operator (such as the breakdown of critical

plant on site or the closure and general non-availability of sites that the recycled and recovered materials are typically sent to) result in the quantity of waste building up to levels approaching the maximum authorised in the permit, alternative authorised facilities will be sought as a matter of urgency to ensure that waste levels are quickly controlled and materials do not give rise to fugitive emissions off site.

6.2.9 All wastes are dispatched from the Site in suitably enclosed or sheeted vehicles to authorised facilities in accordance with the Duty of Care and Waste Transfer Note / Season Ticket procedure.

Table 6: Source-Pathway-Receptor Routes

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud	Tracking dust on wheels and vehicles, then mud dropping off wheels/vehicles when dry	Local businesses in the vicinity of the Site. Users of Roebuck Lane, Summit Crescent and Telford Way.	Visual soiling, also consequent resuspension as airborne particulates.	All the Site surface comprises engineered concrete, which minimises the risk of mud being tracked onto the public highway. Any visible mud and debris on the wheels of vehicles exiting the Site will be removed. Hose pipes and brushes are available for this.
Debris	Falling off lorries	Surrounding businesses and local residents, note that the nearest houses are 85m from the Site.	Visual soiling, also consequent resuspension as airborne particulates.	Lorries will deliver wastes to the Site in sheeted vehicles or enclosed containers. Similarly lorries removing waste loads from the Site will be sheeted before exiting the facility.
Tipping, storage and sorting of wastes in the open	Atmospheric dispersion	Local businesses and residential properties in the vicinity of the Site.	Visual soiling and airborne particulates.	Wastes will be tipped, stored and processed in buildings, which provides significant protection from wind exposure and wind whipping and minimises the risk of dust emissions to the external environment. Minimise drop heights when materials are unloaded, bulked up or transferred by mechanical grabs, loading shovels and conveyors etc. Waste storage and processing areas and the external yard will be damped down with water if there is a risk of dust emissions.
Tipping, storage and sorting of waste inside buildings	Escape from buildings and subsequent atmospheric dispersion	Local businesses and residential properties in the vicinity of the Site.	Visual soiling and airborne particulates.	The use of a new three sided and roofed waste storage building, with internal engineered bays. The relocation of the trommel feed hopper and hopper into the building will significantly enhance dust control measures. Water will be applied to damp down waste storage bays to minimise the risk of fugitive dust escape from the buildings.
Vehicle exhaust emissions	Atmospheric dispersion	Local business and residents in the	Airborne particulates.	Lorries, mobile plant and equipment are subject to routine servicing and maintenance as per the manufacturers' guidance.

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
		vicinity of the Site. Users of the public highway, particularly Roebuck Lane, Summit Crescent and Telford Way.		Any required maintenance shall be carried out as soon as practicable to ensure continued running of the facility. Daily visual inspection of lorries and mobile plant is undertaken to ensure the vehicles meet statutory requirements and are operating efficiently. In the event of poor engine performance or excessive particulate emissions from exhausts, additional servicing and maintenance will be undertaken.
Non road going machinery exhaust emissions	Atmospheric dispersion	Local business and residents in the vicinity of the Site.	Airborne particulates.	All mobile plant and equipment, such as mechanical grabs, loading shovels, trommel and screener/crusher are subject to routine servicing and maintenance in accordance with the manufacturers' guidance. All maintenance and repair are undertaken as required. Daily visual inspection of mobile plant and equipment is undertaken to ensure statutory requirements are met and equipment is operating efficiently. In the event of poor engine performance or excessive particulate emissions from exhausts, additional servicing and maintenance will be undertaken.

Table 7: Measures that will be used on site to control dust/particulates (PM_{10}) and other emissions

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
Preventative Measures			
Enclosure within 3-sided, roofed building, with water sprinkler system installed beneath roof for dust suppression	Creating a solid barrier between the source of dust and particulates and receptors is likely to be an effective method of control.	Very effective despite costs and the high potential for disruption to already operational sites.	A proposed 3-sided, roofed building for waste storage and to house the trommel feed hopper, trommel and trommel fines storage bay. Significant upgrade works to be undertaken.
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.	Very effective. Reduces H+S risks for staff working on site. Operational costs and prohibitive footprint size makes a fully enclosed building at the Site unviable.	Negative pressure extraction is not proposed for the new waste building due to the use of a 3-sided structure and the cost and frequency of vehicles entering and exiting to deliver or remove wastes. However, waste storage bays and processing areas will be damped down with water to further minimise any risk of fugitive dust escape from the building and picking station shed.
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,	Very effective despite costs and potential disruption to already operational sites. Operational costs may be prohibitive. Should be identified clearly in the site management system and implemented as appropriate measures.	Dust extraction systems are not proposed for the new waste building and there are no point source emissions to atmosphere on site. There is no combustion of waste on site.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
	and they cannot be applied to controlling external fugitive emissions, they may be effective when coupled with local exhaust extraction, ventilation or negative pressure 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 may reduce receptor exposure, provided that emissions from the source are not dispersed over significant distances.	May be worthwhile in combination with other measures to reduce dust and particulate generation. If at all possible discuss at pre-application and prior to site design if the activity is known to be cause lots of dust and particulates. For existing sites this will require the operator to think about moving the site around or proposing temporary areas in inclement weather.	The new roofed, three-sided waste storage building will be located along the southeast boundary of the Site, adjacent to Telford Way. The rear wall of the building will run adjacent to the road thereby enhancing the Site's dust control measures and minimising any potential for fugitive emissions to migrate towards the nearest residential properties, which are located east of the facility on Great Arthur Street, circa 85m distant. It is considered that the use of the building will significantly reduce dust emissions. The building walls will provide a barrier from wind whipping.
Site speed limit, 'no idling' policy and minimisation of vehicle movements on site	Reducing vehicle movements and idling should reduce emissions from vehicles. Procurement policy to only purchase clean burn road vehicles and non-road going mobile machinery. Enforcement of a speed limit may reduce re-suspension of particulates by vehicle wheels.	Easy to implement as part of good practice. Should be identified clearly in the site management system and implemented as appropriate measures.	A 10mph speed limit is in force at the Site and engines are switched off when vehicles and mobile plant are not in use.
Minimising drop heights for waste. Use	Minimising the height at which waste is handled should reduce the distance over	Relatively easy to implement at many sites.	Drop heights will be minimised when wastes are unloaded, bulked up or transferred by

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
of enclosed chutes for waste drops/end of conveyor transfers and covered skips / storage vessels.	which debris, dust and particulates could be blown and dispersed by winds. Enclosing processes will further reduce dispersion.	These steps should be identified clearly in the site management system and implemented as appropriate measures.	mechanical plant such as mechanical grabs and loading shovels. Drop heights from the trommel and screener conveyors will also be minimised.
Good housekeeping	Having a consistent, regular housekeeping regime that is supported by management, will ensure site is regularly checked and issues remedied to prevent and remove dust and particulate build up.	Easy to implement and requires minimal equipment. Encourages a sense of pride and satisfaction amongst the staff which promotes vigilance and a positive culture. Staff should target the areas not caught by the road sweeper and other cleaning apparatus. Details on the frequency, job roles and areas covered should be documented here.	The Site operates a first in first out policy and typically wastes are processed within 7 days of receipt. Housekeeping measures in use at the Site include daily visual inspections of the facility (including the boundary) and the sweeping of waste storage and processing areas and the external yard during the course of the working day and at the end of the working day to ensure it is left clean and tidy both during and outside of operational hours. Site sweeping is carried out by site operatives under the supervision of the Site Manager, company Director or the Technically Competent Person.
Sheeting of vehicles	Prevents the escape of debris, dust and particulates from vehicles as they travel.	Relatively easy to implement at many sites. Should be identified clearly in the site management system and implemented as appropriate measures.	Waste loads are delivered to and removed from the Site in sheeted or enclosed skips and containers.
Hosing of vehicles on exit	May remove some dirt, dust and particulates from the lower parts of vehicles although likely to be less effective than a more powerful wheel wash.	May be worthwhile where wheel wash installation is not feasible, or where the wheel wash does not achieve the desired outcome. This should be in the site procedures and training. If the action works as a control measure, then	Hosing of vehicles before exiting the Site is undertaken where there is a risk of mud or debris falling from the wheels or body of the truck during transit. As all the Site surface comprises concrete, the risk of mud and debris tracking on to or staining the public highway is low.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
		consideration must be given to installing a wheel wash as the appropriate measure.	
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.	Likely to reduce dust and particulate emissions, however, not a long-term solution. Procedures should be in place to identify when operations will cease. May require a weather station to be installed.	In the event of extreme weather events, such as high winds, contingency measures are in place that include closing the Site. Waste deliveries will be suspended and any loads that arrive at the facility will be refused entry until incoming wastes can be correctly and safely received and processed.
Installed 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.	Proven results where wheel wash is well designed and vehicles drive through slowly on entry and exit. Should be identified clearly in the site management system and implemented as appropriate measures. The range of wheel wash technology is rather large and to avoid any knowledge gaps, this section should detail specifics about the wheel wash. Consider using photos to assist. You should consider the placement and positioning of the wheel wash in this document too along with contingency plans for downtime or breakdown.	A wheel wash is not installed at the Site, as all the surface of the facility comprises engineered concrete. Hoses and brushes are available to clean mud and debris off the wheels of vehicles exiting the Site, if additional measures are required.
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	Considered good overall based on dust and particulate reduction but potentially costly and disruptive to retrofit. For sites that have concrete surfaces ensure there are maintenance and cleaning procedures in	All the Site surface comprises engineered concrete (see above). The waste storage and processing areas and the external yard are subject to regular sweeping and cleaning. Water is applied from a hose to clean the

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
	dust and particulate generated at ground level by vehicles and site activities.	the management system and they are implemented.	yard surface as part of the on-going housekeeping measures.
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.	Likely minimal return on potentially costly layout changes. The amount of waste that can be managed on site without causing dust and particulate pollution should be identified in the management system and may have to be reduced if it is considered an appropriate measure.	The maximum waste storage height will be 4m and a 1m high freeboard will be maintained from the top of a waste stockpile to the top of the concrete bay wall. Bays will comprise rear push wall and 2 side walls.
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.	Effective in terms of dust and particulate reduction but unlikely to be popular/implemented by operators. It may be the only option when other steps fail. Ensure the site has procedures to reduce activity on site if required through complaints or known issues, or adverse weather conditions. This may include installing a weather station to alert the site to windy weather and when they need to reduce agreed activities.	Contingency measures are in place, including for extreme weather events, whereby waste deliveries to the Site will be suspended and any loads that arrive at the facility will be refused entry until incoming wastes can be correctly received, stored and processed in accordance with the permit. In the event that waste storage approaches capacity limits or the ability of the Site to process materials in accordance with the permit, wastes will be transferred off site to authorised facilities and customers. The Site has its own fleet of lorries, skips and containers and is able to act quickly to remove materials.
Remedial Measures			
Netting / micro netting around equipment and site perimeter.	Erecting netting around equipment that could give rise to large amounts of dust and particulates may be effective within the site	Reduces wind speed across the site which indirectly controls the potential for dust and particulate emissions.	Litter netting is not installed at the Site. The perimeter fence comprises a 4.5m high solid concrete panel fencing and wastes are

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
	boundary and prevent their dispersion off-site / their re-suspension within the site.	Maintenance should be covered in the management system and procedures. Effective for use as litter netting, but not for stopping dust from leaving the site boundary.	stored and processed in roofed buildings, fitted with engineered, 3-sided bays. In the unlikely event that these measures prove unlikely to control any inadvertent escape of litter, litter netting would be installed along the perimeter of the Site as an additional measure.
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. This may generate dust and particulate movement that may become a Health and Safety issue if the filters and spray bars on the sweepers are not maintained.	Easy to apply but less effective than other measures. Should be covered in the management system and procedures and implemented thoroughly.	Site cleaning procedures include sweeping out the waste storage bays, processing areas and external yard, including the corners, to ensure all material is removed and potentially dusty residues do not remain in-situ. The Site will be swept during the course of the working day and at the end of the working day to ensure the facility is left clean and tidy both during and outside of operational hours. The trigger for additional sweeping and cleaning will be during periods of dry weather, which may give rise to dusty conditions, during daily site inspections if noticeable dust, litter or debris accumulation is present or if any complaints about dust or litter etc arise from neighbours or regulators.
Water suppression with hoses	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.	Quite water intensive. Can reduce the calorific value of the material which should be considered if sent for energy recovery/biomass type operations.	Water hoses are in use at the Site and are available to support dust suppression measures.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
		Maintenance should be covered in the management system and procedures.	
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 etc. It can also assist in the damping down of dust and particulates, therefore, reducing emissions from site.	Very effective at controlling point source emissions of dust and particulates. Can be installed to conveyors and areas where waste is dropped. 'Halo' rings can be fitted to conveyor drops on concrete crushers and screeners to minimise dispersion. Not effective for use at site boundaries. Uses less water than water bowser Maintenance should be covered in the management system and procedures.	A water sprinkling/misting system is installed beneath the roof of the picking station shed and a separate unit will be installed in the new waste storage building. Water supply is currently from the mains.
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.	Highly water intensive and more likely to minimise dust and particulates on the ground that is at risk of being re-suspended rather than already airborne dust and particulates. Very effective at dampening down haul roads and large surface areas. Can also come with hose attachments and other attachments to increase its versatility.	See comment above re water misters and hose pipes etc. If these measures become insufficient to control dust, a water bowser will be sourced and supplied to the Site to provide additional water suppression of the waste storage and processing areas and the external yard.
Dust and particulate monitor with trigger alarm	Installation of a dust and particulate monitor with specified alarm trigger level can alert site staff when short-term particulate concentrations are elevated in order that site practices can be reviewed or application of mitigation measures increased.	Worthwhile installing as a real-time tracker of dust and particulate concentrations. Helpful to monitor environmental performance and also to track the effectiveness of improvements made at the site. It is important that the equipment is backed up by a suitable maintenance contract and initial capital costs, with	There are no current proposals to install a dust and particulate monitor with alarm trigger level due to the infrastructure improvements, including the use of buildings for all waste storage and processing.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
		maintenance is sub £10k for a suitable system. At multi-operator sites this kind of system can be used to demonstrate a specific site is not a source of dust and particulate pollution.	
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.	Unlikely to be as effective and as thorough wheel washing. Work better for sites without impermeable surfaces where large amounts of mud need to be shaken off tyres and undercarriages. Must then be used in accordance with a wheel wash before exiting site onto the public highway. Maintenance should be covered in the management system and procedures.	Shaker grids are not installed the site entrance and exit onto Roebuck Lane. All the Site surface comprises engineered concrete and hoses and brushes are available to clean mud and debris off the wheels of vehicles exiting the Site, if additional measures are required.
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.	Highly water intensive and more likely to minimise dust and particulates on the ground that is at risk of being re-suspended rather than already airborne dust and particulates. Covers a large area in a short amount of time. Can reduce the calorific value of the material which should be considered if sent for energy recovery/biomass type operations. Should be identified clearly in the site management system and implemented as appropriate measures. Produces large amounts of run-off that need to be managed to prevent pollution.	Hoses and a water sprinkler/misting system are used for dust suppression, together with the use of waste storage and processing buildings. In the unlikely event that this proves insufficient to control dust, a water cannon would be installed.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
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.	This is a well-established approach and works well in association with other measures e.g. hosing of waste and downward facing misters at building entrance. Reduces the encroachment of wind into the building and traps emissions on the inside. Vehicles can damage them and they do wear out over time. Sites could consider holding small supplies of spares. Maintenance should be covered in the management system and procedures.	The use of plastic strips across building doors is not currently proposed for the Site, due to the high frequency of vehicle entry and exit and the likely wear and damage, which would result in a very high frequency of replacement being required. The measures set out above are considered sufficient to control dust. In the unlikely event that this proves insufficient to control dust, plastic strips across building entrances would be considered further.
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.	Trials indicate this can be an effective process. It shouldn't be applied during rain and once applied it needs to be re-applied regularly. Works best when applied to clean surfaces and can also be applied to stockpiles to form a 'crust' and reduce wind-whipping. Price and efficacy vary depending on the brand selected. Maintenance should be covered in the management system and procedures.	The use of Calcium Magnesium Acetate (CMA) or other chemical suppressant to control dust is not considered viable due to the high frequency of waste deposit, material transfer using mechanical plant such as the mechanical grabs, loading shovel, conveyors and trommel and the loading of processed materials into lorries for off-site supply to customers. This results in frequent movement and transfer of wastes and a rapid turnaround of materials.
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 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	Potentially useful but only for sites with large areas of unmade ground. Should be identified clearly in the site management system and implemented as appropriate measures.	There are no unpaved surfaces at the Site, all the external yard comprises engineered concrete and the new waste building will incorporate a new concrete floor. The road to the Site entrance off Roebuck Lane comprises tarmac.

Abatement Measure	Description / Effect	Overall consideration and implementation	Trigger for implementation
	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.	Potential to be useful at waste transfer sites. There is some evidence that this method is highly effective for controlling dusts and particulates on conveyor drops. Should be identified clearly in the site management system and implemented as appropriate measures.	The use of foam suppression is not currently considered necessary or beneficial. If the hoses and sprinkler/misting system, which all apply water only for dust suppression, prove insufficient to control dust, then the use of a foam additive will be considered.

6.3 OTHER CONSIDERATIONS

6.3.1 In the event of a drought or prolonged periods of dry weather, e.g. due to climate change, the capacity of water availability on site will be increased, so that additional dust suppression can be applied (e.g. there is the potential to store water in IBCs). Should it be necessary to source additional water there is the potential to drill a borehole at the Site for groundwater extraction, subject to any abstraction licence and approval required from the Environment Agency.

6.3.2 In the event of extreme weather events, such as prolonged dry weather or drought, contingency measures are in place that include closing the Site. In such circumstances, waste deliveries will be suspended and any loads that arrive at the facility will be refused entry until incoming wastes can be correctly and safely received and processed, and dust adequately controlled.

6.4 VISUAL DUST MONITORING

6.4.1 Visual dust monitoring at the Site boundary will be carried out by a trained site operative as part of the routine inspections every working day, with any relevant observations recorded and retained on-site.

6.4.2 All plant will be inspected on a daily basis and cleaned after use, as appropriate, in order to prevent the accumulation of dust and loose materials.

6.4.3 Site operatives will be trained to remain vigilant for any observable dust emissions and to ensure that none escape the Site boundary. Any identified activity that causes an escape of visible dust from the Site will cease. Dampening down of the source of any fugitive emissions will be undertaken before operational processes resume.

6.4.4 Due to the levels of abatement measures to be integrated on the Site, including the use of waste storage and processing buildings, the likelihood of dust emissions impacting on the identified sensitive receptors will significantly improve and is expected to be sufficient to ensure adequate and efficient dust control. Therefore, no other forms of dust monitoring are proposed for the Site.

6.4.5 In the event that dust emissions are identified as an issue once the Site improvement and infrastructure works are complete, the Operator will review the mitigation measures and monitoring techniques detailed in this DEMP in order to reduce exposure levels and inhibit emissions dispersing from the Site. In this scenario, quantitative techniques will be considered as a monitoring process.

6.4.6 Dust monitoring results will be recorded in a site log. The Site Manager and Technically Competent Person will review the results as part of their management of the facility. The Operator is committed to the following as part of this DEMP:

- Continual improvement;
- Minimising the risk of pollution incidents and preventing any significant impacts to sensitive receptors, including detriment to local amenity;
- Operating the Site in accordance with all the latest regulatory guidance;
- Meeting environmental objectives, including dust control, independent of the Environmental

Permit.

7 ACTIONS WHEN ALARM TRIGGERED

7.1.1 In the event of an alarm or dust incident, the investigation undertaken by the Site Manager or Technically Competent Person will include inspection of the Site infrastructure and waste operations against the specific requirements of the facility dust controls set out above, to determine any diversion away from 'normal' site operating conditions and the require for additional control measures.

7.1.2 Key items for consideration will be as follows:

- Material inputs – change in waste type, volume, dust characteristics;
- Mechanical breakdown – e.g. of processing plant or delays in waste handling;
- Procedural failure (human error);
- Short-term abnormal weather patterns – wind direction, temperature, inversions, etc;
- Abnormal operating conditions – temporary highly dusty activities.

7.1.3 Upon identification of the likely dust source(s), the appropriate corrective and preventative measures will be identified and implemented under the direction of the Site Manager or Technically Competent Person. Additional support and technical expertise will be provided by internal / external technical specialists, as required.

7.1.4 Where necessary, the DEMP requirements will also be reviewed in order to ensure it continues to represent 'all appropriate measures'.

7.1.5 In the event that it proves impracticable to carry out adequate remedial measures within one working day, the Site Manager, company Director or Technically Competent Person will notify and agree with the Environment Agency the proposed actions and the timescales for their completion as a programme of works.

7.1.6 Any operation that is causing an escape of dust from the Site boundary will cease immediately until adequate control measures are implemented.

8 REPORTING AND COMPLAINTS RESPONSE

8.1 LOGGING OF COMPLAINTS AND INVESTIGATION

8.1.1 Any complaints about dust will be reported to the Site Manager, who in turn will notify the company Director and Technically Competent Person.

8.1.2 The following actions will be taken on receipt of an external complaint:

- The responsible person receiving the complaint at the Site will immediately record the key details, initiating the investigation process. Details will be entered on the Complaint Report Form (see Appendix 2). The form sets out the key information that should be recorded at this

time in order to facilitate further suitable investigation.

- The Site Manager will be informed of the complaint as soon as possible, including the location, time and date of the complaint being lodged.
- The Site Manager or Technically Competent Person will visit the complaint location as soon as possible, with the aim of undertaking monitoring within 2 hours if this is possible within the working day. The Site Manager or Technically Competent Person will subjectively determine the presence or absence of the cause of the complaint. Opportunities to meet the complainant to discuss the matter directly will be pursued, wherever possible.
- If the cause of complaint is present, the key 'FIDOR' criteria will be assessed at the complaint location, as follows:
    - Frequency – is the cause of the complaint, intermittent or persistent; is there a history of complaints at this location?
    - Intensity – is the cause of complaint faint, moderate, strong, or very strong?
    - Duration – how long is the cause of complaint present at this location?
    - Offensiveness – provide a description of the cause of complaint; is it high, moderate, or low offensiveness?
    - Receptor sensitivity - is the cause of complaint present at a remote or highly sensitive location; is it localised or widespread?

8.1.3 The Site Manager or Technically Competent Person will subsequently undertake the following further assessment process:

- Review of the operations at the Site prior to and at the time of the complaint.
- Review of the environmental control systems prior to and at the time of the complaint.
- Review of the previous complaint history at the location identified.

8.1.4 Where a significant complaint is substantiated by the Site Manager or Technically Competent Person, the Operator will contact the Environment Agency to discuss the incident as soon as possible following receipt of the complaint details, allowing sufficient time for the above investigation to be completed, and within a maximum target response period of 24 hours from complaint receipt. If the necessary contact details are available and direct feedback has been requested the Operator will also contact the complainant directly to discuss the issue, the findings of the subsequent investigation, and any actions arising.

8.1.5 Once actions have been completed the Site Manager or Technically Competent Person will visit the complaint location to ensure that the cause of complaint has subsided.

8.2 ENGAGEMENT WITH THE COMMUNITY

8.2.1 A1 Sandwell Skips Limited operates an open-door policy and neighbours and members of the public are welcome to contact the Site to discuss any issues with the site management team, including any

incidents of dust emission. Prior arrangement will be made with site personnel, where possible, for any site visit that may be required.

8.2.2 Site contact details and phone number are shown on the company website. Direct feedback to site is encouraged at all times in relation to any perceived issues associated with operational activities or dust emissions.

8.3 MANAGEMENT RESPONSIBILITY

8.3.1 The Site Manager is responsible for managing the complaints process at the Site and ensuring that any mitigation measures required are suitably implemented.

8.3.2 In the absence of the Site Manager due to sickness or annual leave, the company Director will assume responsibility.

8.3.3 The Site Manager or company Director will notify the Technically Competent Person and seek any support required.

Appendix 1 – Record of Non-Conformance

RECORD OF NON-CONFORMANCE	
Date and time non-conformance identified	
What happened, what was it about?	
What caused it?	
What have you done to make sure that it does not happen again?	
Was there any significant pollution – for example oil entering a surface water drain?	
If there was then you must notify the Environment Agency **Have you done so?**	**Yes/No/not applicable** **Time:** **Date:** **EA Incident number:**
Please print name and sign:	

Appendix 2 - Dust Complaint Form

DUST COMPLAINT FORM	
Customer Details	
Customer Name -	
Address – Postcode -	
Customer Contact Details -	
Tel -	
Email -	
Date -	
Complaint Ref Number -	
Complaint Details -	
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	