

Client: Clearfield Envirotech Limited

Address: Mc1, Road Five, Winsford Industrial Estate, Winsford, Cheshire, CW7 3RB

Clearfield Envirotech Limited
Mc1, Road Five, Winsford Industrial Estate, Winsford,
Cheshire, CW7 3RB



DUST AND EMISSIONS MANAGEMENT PLAN

06 September 2023

Our Reference: Clearfield-Winsford-RP05-Final (DEMP)



Waste And Industry Compliance Ltd

ENVIRONMENTAL CONSULTANCY SERVICES

	07748 363 125
	info@wasteandindustry.co.uk
	www.wasteandindustry.co.uk

Clearfield-Winsford-RP05-Final (DEMP)

Version & Status	Date Produced	Prepared, Checked and Authorised by:
Draft v1.0	23/07/2023	Waste and Industry Compliance Ltd.
Draft v2.0	06/08/2023	Waste and Industry Compliance Ltd.

This report has been prepared by Waste and Industry Compliance Limited with all reasonable skill, care and diligence in accordance with the instruction of the above-named client and within the terms and conditions of the Contract with the Client.

The report is for the sole use of the above-named Client and Waste and Industry Compliance Limited shall not be held responsible for any use of the report or its content for any purpose other than that for which it was prepared and provided to the Client.

Waste and Industry Compliance Limited accepts no responsibility of whatever nature to any third parties who may have been made aware of or have acted in the knowledge of the report or its contents.

Waste and Industry Compliance Limited
20 Walton Grange,
Stafford Road,
Stone,
Staffordshire, ST15 0ET

Telephone 07748 363 125
info@wasteandindustry.co.uk

CONTENTS

1	INTRODUCTION	4
1.1	Background	4
1.2	The Site.....	5
2	LEGISLATION AND POLICY	6
2.1	European Directives	6
2.2	UK Legislation	6
3	BASELINE.....	7
3.1	Background Pollutant Concentrations	7
3.2	Prevailing Winds.....	7
4	RECEPTORS	8
5	WASTE MANAGEMENT	16
5.1	Permitted Wastes.....	16
5.2	Waste Receipt	17
5.3	Non-Conforming Wastes.....	18
5.4	Waste Storage and Processing.....	18
5.5	Dust Control Measures.....	19
5.6	Material Exported Off-site	21
6	DUST AND EMISSIONS MANAGEMENT	21
6.1	Responsibility for Implementation of the DEMP	21
6.2	Sources and Control of Fugitive Dust Emissions	21
6.3	Visual Dust Monitoring.....	22
7	COMPLAINTS.....	29
7.1	Procedures in the Event of a Complaint	29
7.2	Mitigation Measures in the Event of a Substantiated Complaint.....	31
7.3	Timescales.....	31
8	REVIEW AND AUDIT.....	32
9	RECORDS.....	33
10	SUMMARY	33

DRAWINGS

Drawing No. DW01	Indicative Site Layout and Storage
Drawing No. DW02	Sensitive Receptors

1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1 This Dust and Emissions Management Plan (DEMP) has been prepared for a proposed non-hazardous waste plastic and cardboard recycling facility at Mc1, Road Five, Winsford Industrial Estate, Winsford, Cheshire, CW7 3RB (*the Site*). It is submitted in support of an application for a bespoke Environmental Permit for the Site.
- 1.1.2 This DEMP has been prepared in accordance with Government guidance 'Control and monitor emissions for your environmental permit' (<https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit#emissions-management-plan-for-dust>), which was most recently updated on 24 November 2022.
- 1.1.3 Clearfield Envirotech Limited (*the Operator*) will operate the facility to treat a range of non-hazardous plastic and cardboard wastes for recovery and recycling. All waste streams are accepted for the purpose of recycling and recovery. No wastes are received for the specific reason of treating them for disposal.
- 1.1.4 Using state of the art washing and separation technology, the plant is designed to achieve high rates of recycling, typically 70% or greater. It will recycle many non-hazardous plastics that are typically either landfilled or incinerated, thereby moving these materials up the waste hierarchy and making a significant contribution to recycling targets. The Site will have an annual waste throughput of up to 100,000 tonnes. Hazardous wastes will not be accepted at the facility.
- 1.1.5 The Site incorporates a dedicated and enclosed building, of brick and steel portal frame construction, which incorporates a fully sealed impermeable concrete base and is fitted with 4 roller shutter vehicular access doors on the northern side and 5 roller shutter doors on the southern side. Pedestrian access fire doors are also fitted for emergency evacuation.
- 1.1.6 All waste treatment activities will take place inside the building. Processing equipment will comprise shredding equipment, up to two wash plants, which each incorporate rear end drying, up to two plastic extrusion plants and a baler for baling recycled products prior to off-site supply to customers.
- 1.1.7 There is an external yard, which incorporates engineered, paved surfaces. It will be used for the storage of incoming baled wastes, prior to transferring them into the building for processing and recovery. A combination of open stockpiles with a minimum of 6m separation distances all around (i.e. to all four sides) and fireproof bays comprising 2 hour fire resistant concrete rear push walls and side walls will be used for the storage of baled waste. Where fire resistant bays are used, a 6m separation distance will be maintained in front of the bay and the maximum height of waste will be at least 1m lower than the top of the bay walls. All incoming wastes will be baled and stored on the external yard, inside the dedicated stockpile areas and engineered bays. Wastes will only be processed inside the building (there will be no internal waste storage).
- 1.1.8 The Site will operate on a 24 hours x 7 days basis. There will be no waste deliveries or recycled product collections between the hours of 7.00pm and 7.00am. During this time period, the doors to the building will be kept closed, including the roller shutter vehicular access door (except in the event of an emergency, such as a fire) and all activities will take place inside. The building will be staffed

throughout the operational period.

- 1.1.9 The proposed permit boundary, site layout and storage areas are shown on Drawing 'Indicative Site Layout and Storage-DW01'.
- 1.1.10 The requirement for a 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 Site activities and assessing the impact these may have on identified sensitive receptors in the vicinity.
- 1.1.11 This DEMP provides an assessment of the production of fugitive emissions relating to waste handling operations at the Site and aims to identify potential sources of dust emissions, the associated potential impacts along with detailed measures to be implemented to mitigate dust and particulate matter.

1.2 THE SITE

- 1.2.1 The Site is located on the Winsford Industrial Estate and is surrounded on all four sides by large industrial buildings. It is accessed off Road Five, which connects onto Road One that in turn leads onto the A54 'Middlewich Road'.
- 1.2.2 Winsford Industrial Estate is a large complex of industrial buildings and units extending circa 1.6km in a north south axis and circa 700m in an east west axis. The nearest non-industrial estate land to the Site are areas of farmland and woodland, circa 165m and 170m east of the Site.
- 1.2.3 The nearest residential properties are circa 540m west of the Site at the closest point, in the Wharton district of Winsford.
- 1.2.4 There are no hospitals or care homes within 1km of the Site. Wharton Primary Healthcare Centre is circa 855m west of the Site at the closest point.
- 1.2.5 Sunrise Nursery, for children up to 5 years old, and Willow Wood Community Primary School are respectively circa 760m west and 830m west of the Site at the closet point.
- 1.2.6 There is a railway line circa 525m west of the Site, which runs from Crewe to Runcorn and beyond, and serves Winsford Railway Station.
- 1.2.7 The Site is not located within an Air Quality Management Area (AQMA) or within 2km of an AQMA.
- 1.2.8 A review of Defra's Magic Map (<https://magic.defra.gov.uk/MagicMap.aspx>) shows that there are no European Sites, i.e. Special Protection Areas (SPA), Special Areas of Conservation (SAC), RAMSAR Sites, Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNR) or Local Nature Reserves (LNR) within 2km of the Site.
- 1.2.9 The nearest area of Priority Habitat is a belt of Deciduous Woodland located circa 250m north northeast of the Site. There are further areas of Priority Deciduous Woodland circa 570m and 730m northeast of the Site at the closest points. There is an area of Ancient Woodland circa 935m southeast of the Site.
- 1.2.10 There is a Scheduled Monument, Bostock Hall moated site, circa 580m northeast of the Site. There are no other Scheduled Monuments or any Registered Battlefield within 2km of the Site.

1.2.11 Sensitive receptors are shown on Drawing 'Sensitive Receptors'-DW02.

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 (NO_x), 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 PM₁₀.

Table 1: Air Quality Objectives for PM₁₀

Pollutant	Air Quality Objectives	
	Concentration (µg/m ³)	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 grid square NGR: 366500 366500 (SJ 66500 66500). 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/m ³)		
	2020	2021	2022
NO ₂	9.899732 µg/m ³	9.625448 µg/m ³	8.423993 µg/m ³
PM ₁₀	10.5123 µg/m ³	10.409714 µg/m ³	10.307131 µg/m ³

- 3.1.3 According to DEFRA’s Background Air Pollution Mapping Data, background emission concentrations in the locality of the Site since 2020, have been, and are predicted to be, significantly below air quality standards. National air quality objectives and European Directive limits and target values stipulate that concentrations of PM₁₀ measured at 24-hour mean levels should not exceed 50 µg/m³ for more than 35 times a year. NO₂ 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

- 3.2.1 Statistics on wind direction and speed are based on observations taken from the nearest weather station at Rostherne Mere (circa 18.5km northeast of the Site) between July 2015 and June 2023. This indicates that prevailing winds originate predominantly from the south, see Figure 1 monthly wind speed statistics and directions and Figure 2 monthly wind direction and strength distribution (including wind rose data).

Figure 1: Monthly wind speed statistics and directions for Rostherne Mere

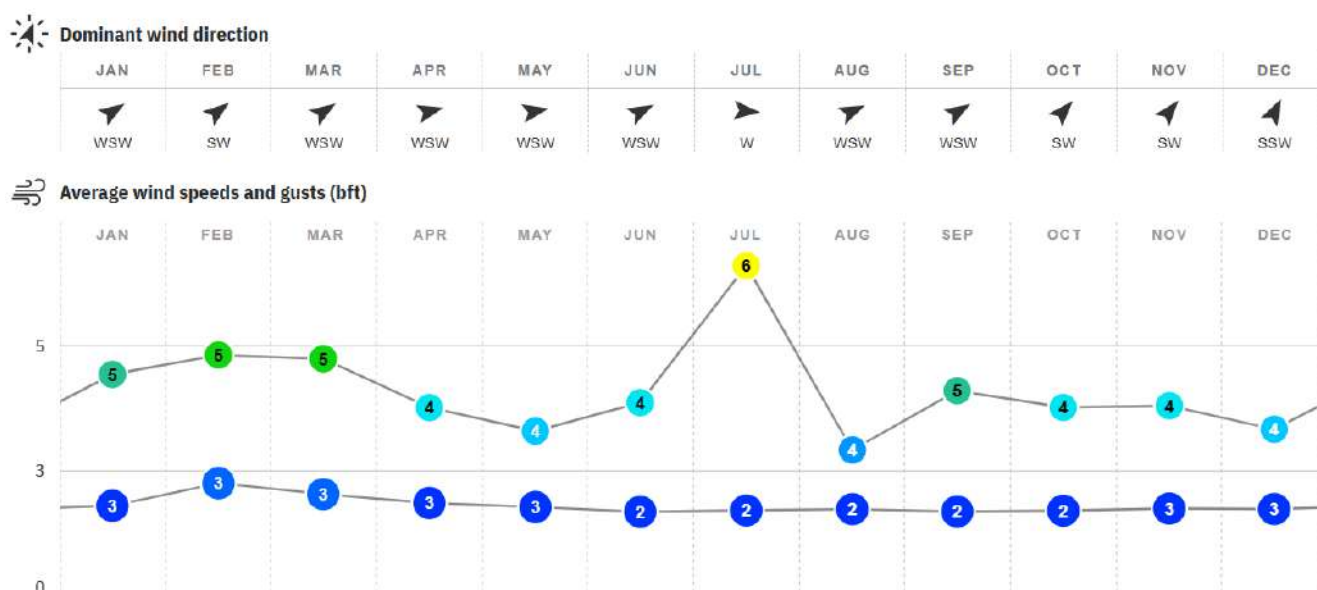
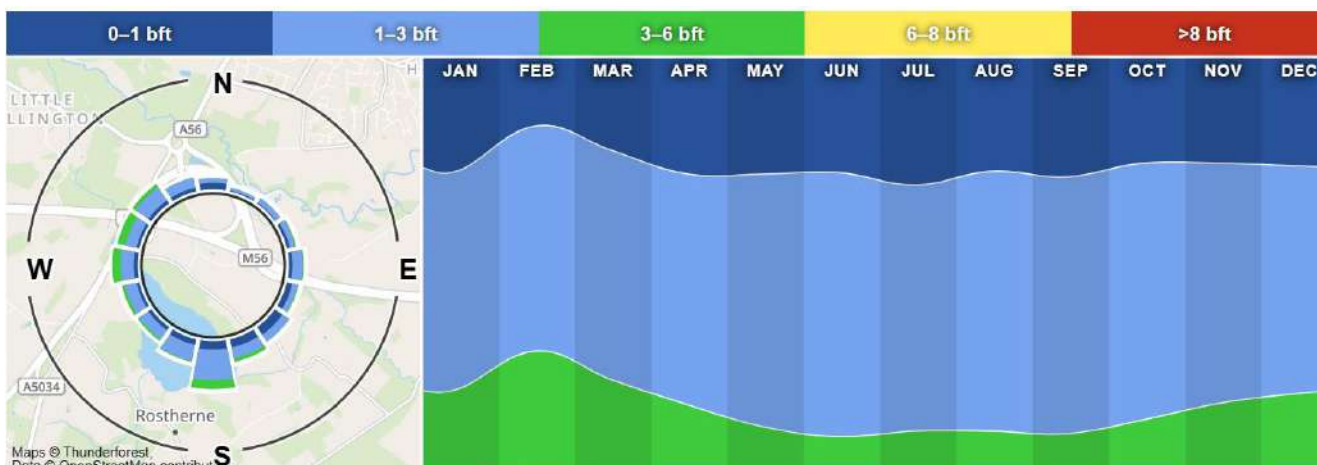


Figure 2: Monthly wind direction and strength distribution



4 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 Table 3 uses the hierarchy of hospitals, schools, childcare facilities, elderly housing, convalescent facilities (i.e. areas where inhabitants are more vulnerable to the adverse effects of exposure to dust), residential properties, industry, major infrastructure, amenity areas and designated habitat sites.
- 4.1.3 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

Figures 1 and 2.

- 4.1.4 There are no Special Protection Areas (SPA), Special Areas of Conservation (SAC), RAMSAR Sites, Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNR) or Local Nature Reserves (LNR) within 2km of the Site. In addition, the Site is not located in an AQMA or within 2km of one. Therefore, a 1km radius has been used as this generally 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 100 m 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 400 m, with occasional elevated levels of dust deposition and PM10 possible. Particles less than 1µm have the potential to persist beyond 400 m 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.
- 4.1.5 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: Dust Emissions Risk Assessment

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitigation
Medical					
Wharton Primary Healthcare Centre	885m W	Low	Low/Moderate	<p>Located upwind of the prevailing wind direction and relatively distant from the site (over 750m).</p> <p>Waste pre-acceptance and acceptance documentation and checks will be used to identify any inherently dusty waste loads. The Site will not be authorised to accept dusts and particulates, ash or other inherently dusty wastes. Any loads identified as dusts or particulates or inherently dusty will not be accepted at the Site. Any wastes delivered to the Site that are found to be dusty on arrival or deposit, will be reloaded onto the delivery vehicle for removal off-site to the waste producer or authorised facility. If the delivery vehicle has left the premises, the dusty waste will be damped down with water from a hose to control emissions and loaded into a sealed and lidded container for removal off-site to an authorised facility.</p> <p>All wastes will be processed inside a fully enclosed building, fitted with vehicular access roller shutter doors. Recovered products will be loaded inside the building for removal off-site to customers. The roller shutter doors will be kept closed other than when vehicles are entering and exiting the building. This will help to minimise fugitive dust emissions.</p> <p>The addition of water at the washing plant stage of processing ensures materials are predominantly processed in a damp condition, prior to being transferred to the extruder for extrusion and pelletising of final products. The extruder is an enclosed unit.</p> <p>All waste storage will be on the external yard, which comprises engineered surface. A combination of open stockpiles with a minimum of 6m separation distances all around (i.e. to all four sides) and fireproof bays comprising 2 hour fire resistant concrete rear push walls and side walls will be used for the storage of baled waste. Where fire resistant</p>	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitigation
				<p>bays are used, a 6m separation distance will be maintained in front of the bay and the maximum height of waste will be at least 1m lower than the top of the bay walls.</p> <p>Dust netting will be installed on the perimeter security fencing in the waste storage area to minimise the risk of any inadvertent dust escape from the Site. In addition, portable netting will be used and placed in close proximity to the potential source of dust emission, taking care to maintain the 6m separation distance from the front of bays or to all 4 sides of an open stockpile.</p> <p>Regularly emptying, sweeping and disinfection of waste storage bays, designated stockpile areas and other operational areas to ensure waste and dust deposits are not allowed to accumulate over an extended period of time and give rise to potential dust emissions.</p> <p>Hose reels will be installed and used to spray water to control dust emissions from waste storage and processing areas if required.</p> <p>Daily inspections of the operational area by the Site Manager or other Technically Competent Person to ensure dust emissions are not arising from the Site.</p>	
Residential Care Home					
None	-	-	-	-	-
Schools and Colleges					
Sunrise Nursery	760m W	Low	Low	Located upwind of the prevailing wind direction and relatively distant from the site (over 750m). Use of control measures in Section 6 and summarised above.	Low
Willow Wood Community Primary School	830m W	Low	Low	Located upwind of the prevailing wind direction and relatively distant from the site (over 750m). Use of control measures in Section 6 and summarised above.	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitigation
Residential Properties					
Bradbury Road	540m W	Low/Moderate	Low/Moderate	Located upwind of the prevailing wind direction and over 500m from the Site. Use of control measures in Section 6 and summarised above.	Low
Bollin Close	545m WSW	Low/Moderate	Low/Moderate	Located upwind of the prevailing wind direction and over 500m from the Site. Use of control measures in Section 6 and summarised above.	Low
Bollin Avenue	635m WSW	Low/Moderate	Low/Moderate	Located upwind of the prevailing wind direction and over 500m from the Site. Use of control measures in Section 6 and summarised above.	Low
Greenheyes Farm	735m NE	Low/Moderate	Low/Moderate	Although the residential property is downwind of the Site, it is located significantly more than 500m from the facility. Use of control measures in Section 5 and summarised above.	Low
Properties off A54 'Middlewich Road'	755m S	Low	Low	Residential properties are located upwind of the prevailing wind direction and relatively distant from the site (over 750m). Use of control measures in Section 6 and summarised above.	Low
Bostock Road	860m E	Low	Low	Residential properties are relatively distant from the site (over 750m). Use of control measures in Section 6 and summarised above.	Low
Stanthorne Grange	900m SE	Low	Low	Residential properties are located upwind of the prevailing wind direction and relatively distant from the site (over 750m). Use of control measures in Section 6 and summarised above.	Low
Industrial and Commercial					
Henkel Ltd	10m N	Medium/High	High	The company is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
Renray Healthcare Ltd	10m S	Medium/High	High	Although the company is upwind of the prevailing wind direction, it is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
GEMCO	10m W	Medium/High	High	Although the company is upwind of the prevailing wind direction, it is in close proximity to the Site and there is the potential for significant dust	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitigation
(Garage Equipment and Maintenance Company)				impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	
Valentte (Perfumes)	10m W	Medium/High	High	Although the company is upwind of the prevailing wind direction, it is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
Tithebarn Ltd	65m SE	Medium/High	High	Although the company is upwind of the prevailing wind direction, it is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
British Red Cross Depot	70m W	Medium/High	High	Although the company is upwind of the prevailing wind direction, it is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
Screw Fix	70m W	Medium/High	High	Although the company is upwind of the prevailing wind direction, it is in close proximity to the Site and there is the potential for significant dust impacts at this distance. Therefore it is important that the mitigation measures summarised above and detailed in Section 6 are used to prevent any significant risks to the neighbouring business.	Low
Sports and Playing Fields					
Bradbury Road Play Area	590m W	Low	Low/Moderate	Located upwind of the prevailing wind direction and over 500m from the Site. Use of control measures in Section 6 and summarised above.	Low
Railway					
Rail Line	525m W	Low/Moderate	Low/Moderate	Upwind of the prevailing wind direction and over 500m distant. Dust is unlikely to cause any impacts 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. The use of control	Low

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitigation
				measures detailed in Section 6 and summarised above would protect workers from any significant dust impacts.	
Surface Water					
Unnamed surface water ditch	157m E	Medium	Low/Moderate	Downwind of the prevailing wind direction. Dust is unlikely to cause any significant impacts at this distance on water quality or flora and fauna associated with the ditch. Personnel accessing the ditch in proximity to the site could have potential exposure to dust for relatively short periods. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low
Unnamed surface water ditch	178m NE	Medium	Low/Moderate	Downwind of the prevailing wind direction. Dust is unlikely to cause any significant impacts at this distance on water quality or flora and fauna associated with the ditch. Personnel accessing the river in proximity to the site could have potential exposure to dust for relatively short periods. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low
Agricultural Land					
Agricultural Land	165m E	Medium	Low/Moderate	The nearest agricultural land is downwind of the prevailing wind direction. Dust is considered unlikely at this distance to cause significant impacts to arable crops or grazing animals. However, agricultural workers could have potential exposure to dust for relatively short periods. The use of control measures detailed in Section 6 and summarised above would protect personnel from any significant dust impacts.	Low
Ancient Woodland					
Ancient Woodland	935m SE	Low	Low	Located upwind of the prevailing wind direction and relatively distant from the site (over 750m). Dust unlikely to cause any significant impacts on the flora and fauna. Use of control measures in Section 6 and summarised above.	Low
Scheduled Monuments					

Receptor	Distance from Site	Risk Without Mitigation	Unmitigated Consequences	Comments	Risk After Mitigation
Bostock Hall Moated Site	580m NE	Low/Moderate	Low/Moderate	Dust unlikely to cause any significant impacts on the structure of the Scheduled Monument. However, people accessing the site could have potential exposure to small quantities of dust for relatively short periods. Use of control measures in Section 6 and summarised above.	Low

5 WASTE MANAGEMENT

5.1 PERMITTED WASTES

5.1.1 The list of proposed wastes at the Site is detailed in Table 4 below, together with their associated dust emission risk under ‘normal’ operational conditions and without mitigation or control measures being applied. The maximum waste throughput at the Site will be 100,000 tonnes per annum and the maximum quantity of wastes stored on site at any one time will be 3,200 tonnes.

Table 4: Permitted Wastes

ECW Code	Description	Dust Emission Risk Without Mitigation
02 01	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing	
02 01 04	Waste plastics	Low
03 03	Wastes from pulp, paper and cardboard production and processing	
03 03 07	Mechanically separated rejects from pulping of waste paper and cardboard	Medium
03 03 08	Wastes from sorting of paper and cardboard destined for recycling	Low
07 02	Wastes from the MFSU of plastics, synthetic rubber and man-made fibres	
07 02 13	Waste plastic	Low
12 01	Wastes from shaping and physical and mechanical surface treatment of metals and plastics	
12 01 05	Plastics shavings and turnings	Medium
15 01	Packaging (including separately collected municipal packaging waste)	
15 01 01	Paper and cardboard packaging	Low
15 01 02	Plastic packaging	Low
15 01 05	Composite packaging	Low
15 01 06	Mixed packaging	Low
16 01	End-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)	
16 01 09	Plastic	Low
17 02	Wood, glass and plastic	
17 02 03	Plastic	Low
19 12	Wastes from the mechanical treatment of wastes (e.g. sorting, crushing, compacting, pelletising) not otherwise specified	
19 12 01	Paper and cardboard	Low
19 12 04	Plastic and rubber	Low
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in in 19 12 11 (limited to dry recyclables only)	Medium
20 01	Separately collected fractions (except 15 01)	
20 01 01	Paper and cardboard	Low
20 01 39	Plastics	Low

5.2 WASTE RECEIPT

- 5.2.1 As part of the waste acceptance procedures for the Site, waste producers will be required to provide details of any precautions that should be taken to control dust emissions. Wastes delivered to the Site will be wrapped and in baled form, which minimises the risks of fugitive dust emissions. Waste loads will also be required to be sheeted or contained in enclosed containers during delivery to and dispatch from the Site. Such materials will be sprayed with water during dry weather to control any dust emissions during off loading, storage and processing.
- 5.2.2 Customers delivering waste to the Site will be required to provide the Operator, in advance, with pre-acceptance documentation to fully characterise the nature of the proposed materials. In addition, a Waste Transfer Note or Season Ticket will be required to accompany the waste load during delivery to satisfy the requirements of the Duty of Care and the Waste (England and Wales) Regulations 2011.
- 5.2.3 The Operator will check pre-acceptance documentation from suppliers to ensure that only permitted waste streams are approved for delivery to the Site. Non-permitted wastes or other unsuitable wastes will not be accepted. In the unlikely event that any pre-acceptance documentation that indicates the load may be in loose powder or dust form will result in the load being refused prior to its delivery.
- 5.2.4 Checks will be made to establish whether the haulier is a Registered Waste Carrier or has a valid exemption from registration. Only registered carriers or those who are lawfully exempt from registration will be permitted to use the Site.
- 5.2.5 Site staff will examine the waste descriptions of incoming waste loads and the information will be checked against the previously supplied 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.
- 5.2.6 Every delivery of waste will be recorded, detailing the date of the transaction, weight, waste type, registered carrier, Waste Transfer Note number, vehicle registration and other pertinent information against a unique reference number. It will allow for tracking of wastes, the generation of reports and waste returns, as well as providing comprehensive, auditable information. Waste loads will arrive in sheeted or fully enclosed vehicles. Where possible the load will be visually inspected on arrival (i.e. prior to a further check upon deposit) and any deliveries found to be inherently dusty will not be accepted.
- 5.2.7 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.
- 5.2.8 A banksman will ensure that incoming waste delivery vehicles are directed to the appropriate wastes storage bays and designated stockpile areas. The vehicle will reverse up to the bays or designated stockpile area, where they will be unloaded and stacked by forklift or grab in the appropriate bay or stockpile area.
- 5.2.9 A visual inspection of the contents of all waste bales, including those received in enclosed containers, will be made during deposit.

- 5.2.10 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
 - Removal of the waste to the secure quarantine container, prior to off-site removal either to the waste producer or suitably authorised facility.
- 5.2.11 Records of all incoming waste loads will be kept on Site or in a secure location off site in accordance with The Duty of Care requirements and the Environmental Permit. Full details are included in the Environmental Management System (EMS) (Ref: Clearfield-Winsford-RP02-Final (EMS)).

5.3 NON-CONFORMING WASTES

- 5.3.1 Any loads which contain non-permitted wastes shall be rejected prior to delivery or unloading. In the event that non-permitted waste has been inadvertently deposited and the delivery vehicle has left the Site, it will be temporarily stored in an enclosed and lidded quarantine container, pending its removal to the waste producer or an authorised facility. Any dusty wastes requiring quarantine before removal from the Site will be sprayed with water to suppress potential dust emissions during handling.

5.4 WASTE STORAGE AND PROCESSING

- 5.4.1 Waste storage and processing areas comprise:
- A combination of designated stockpiles and fireproof concrete bays, located on the external yard area. Bay walls will be 4.4m high to provide a minimum 1m headroom above the top of the stacked bales, which will be up to 3.4m high. This will also provide some protection to stacked bales from winds.
 - Use of dust netting installed on the perimeter security fencing in the waste storage area to minimise the risk of any inadvertent dust escape from the Site. In addition, portable netting will be used and placed in close proximity to the potential source of dust or litter emission, taking care to maintain the 6m separation distance from the front of bays or to all 4 sides of an open stockpile.
 - A fully enclosed and sealed building, incorporating a concrete base and fitted with 4 roller shutter vehicular access doors on the northern side, 5 roller shutter doors on the southern side and pedestrian access doors.
 - Waste processing plant located inside the building:
 - Shredding plant, which incorporates an infeed conveyor to an enclosed hopper with

suction point to control dust emissions. A fill level sensor is installed to enable automatic feed. Material is transferred from the hopper to the cutting unit within the shredder, where material is shredded to a size of circa 80 to 110mm. Shredded materials are then transferred along the line to the wash plant.

- Wash water plant, which includes a 3 chamber pre-wash unit. The first chamber removes the largest fraction of contraries. Water injection causes an upward movement of the light fraction (i.e. plastics), whilst the heavier contraries fraction is discharged via a dual gate valve. The second chamber is designed for intensive pre-washing of the infeed material by injecting water to the surface. The material is conveyed by two parallel screws, the screw troughs of which are designed as screens. Contraries rinsed through the screens are removed via a gate valve. The water is steadily recirculated by a pump for reuse. The third chamber separates the remaining fines fraction of contraries. The cleaned and separated plastics fraction is transferred via a discharge chute and conveyed to mechanical drying and hydrocyclone density separation of light plastic fractions such as polyethylene (PE) and polypropylene (PP) from heavier fractions such as polyethylene terephthalate (PET), polyvinyl chloride (PVC) and any remaining contraries.
- Wash water recirculation plant. Used wash water will drain to a sealed collection pit where it is agitated and pumped to two connected parallel vibrating screening machines, which are used to separate and collect the residual solids fraction. The residual solids fraction is passed through a screw press, with the sludge discharged to a sealed container for removal off-site to a suitably authorised facility. The cleaned water collects in a screened water tank, from where it is recirculated by pumping back to the wet shredder for reuse.
- Extruders. Shredded, washed and dried plastics are fed to the extruder plant via a feed hopper and inclined conveyor. The extruder plant incorporates a preconditioning unit, where any remaining large plastic film sections are cut and the feed material heated and dried. This removes residual moisture from the plastic and continuously fills the extruder with heated, pre-compacted material. Preconditioned and heated material is fed to a first stage filtration unit, which removes impurities to minimise out-gas emissions or unpleasant odour. Degassed plastic melt is pumped through the extruder to a second stage filtration unit to further enhance the quality of final products. A rotating screw arrangement in the barrel of the extruder forces the low viscosity plastics through a die attached to end of the extruder. Following exit from the extruder die, materials are passed to an automated cutter, which cuts the melted polymer into balls. The material is then cooled and bagged for export off site as a raw material plastic product for reuse.
- Baler.

5.5 DUST CONTROL MEASURES

- 5.5.1 Wastes bales will be off loaded by forklift truck or grab and stacked inside the dedicated fireproof concrete bays or in the designated stockpile areas, prior to transfer into the building for processing,

- recycling and production of final products for off-site supply to customers. All wastes treatment activities, including the splitting of bales, will take place inside the building, which is fully enclosed.
- 5.5.2 The storage of all wastes in baled form minimises the potential for dust and litter emissions. In addition, the height of the bay walls will be a minimum of 1m higher than the top of the waste stack, which affords protection from the wind. Bales will not be stacked outside the confines of the bays or designated stockpile areas, including beyond the front of each bay or stockpile area.
- 5.5.3 Dust and litter netting will be installed on the perimeter security fencing in the waste storage area as a further measure to control the potential for any inadvertent dust or litter escape from the Site. In addition, portable netting will be used and placed in close proximity to the potential source of dust or litter emission, taking care to maintain the 6m separation distance from the front of bays or to all 4 sides of an open stockpile.
- 5.5.4 All the Site surfaces comprise engineered impermeable pavements 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.
- 5.5.5 All waste treatment processes will take place inside the building to control dust and litter emissions, including the splitting of bales prior to shredding. It is important to note that during the initial stages of waste treatment, water is added in the wash plant to clean the plastics and to aid sorting and separation. This means that the waste treatment process is predominantly in wet form, further reducing the potential for dust emissions.
- 5.5.6 The Site operates on a rapid turnover of non-hazardous wastes, which results in materials being stored, processed for recycling and transported off site to specialised recovery facilities and other authorised sites typically within 4 weeks of initial receipt. Wastes are stored for no longer than a fortnight prior to transfer into the building for processing and recycling into products.
- 5.5.7 The use of first in first out principles will ensure the Site operates a rapid turnover of waste materials and that the waste bays and stockpile areas are emptied frequently so that all materials are removed and the bays and stockpile areas are totally emptied. This prevents the potential for any build-up of dust and ensures that any dusty materials are rapidly removed.
- 5.5.8 Site cleaning procedures include sweeping out the bays and designated stockpile areas, including the corners, to ensure all material is removed and potentially dusty residues do not remain in-situ.
- 5.5.9 Typically, the Site will be swept throughout the working day to ensure the facility clean and tidy at all times. Site sweeping will be carried out by site operatives under the supervision of the Site Manager or other Technically Competent Person.
- 5.5.10 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 accumulation is present or if there is the potential for dust emission from the Site. The purpose of the sweeping and cleaning will be to ensure that dust emissions do not escape the Site boundary.
- 5.5.11 Hose reels will be installed at the Site and used to dampen any areas or wastes that have the potential to give rise to dust emissions, e.g. during hot and dry weather.
- 5.5.12 In the unlikely event that mud or dust is identified as an ongoing issue a road sweeper can be sourced

from a local supplier.

- 5.5.13 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 products are typically sent to) results 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 dust emissions.

5.6 MATERIAL EXPORTED OFF-SITE

- 5.6.1 All recycled and recovered products dispatched from the Site will be in suitably enclosed or sheeted vehicles to control the potential for dust emissions during transfer off site.
- 5.6.2 Material rejected from the Site will be issued with a record stating why, when and from which contract the waste was provided. This record is held on Site for the Environment Agency to inspect. In addition, the 'Record of Non-Conformance' will be completed with the record held on Site (see EMS).

6 DUST AND EMISSIONS MANAGEMENT

6.1 RESPONSIBILITY FOR IMPLEMENTATION OF THE DEMP

- 6.1.1 The Site Manager and other Technically Competent Person will oversee the implementation of the DEMP and ensure that the methods detailed within this document provide effective dust mitigation.
- 6.1.2 Where the responsible individual is unavailable to supervise the implementation of dust suppression measures, a suitably experienced site operative will be allocated responsibility.
- 6.1.3 If dust and particulate emissions continue to be observed following the use of the dust suppression measures outlined above, the DEMP will be reviewed and measures such as a fixed suppression system considered.
- 6.1.4 Amendments of the DEMP to reflect any potential improvements will be made during the review process.
- 6.1.5 During the induction process, all staff members will be trained in the dust suppression measures outlined in this DEMP. Refresher training will be provided in the scenario where additional dust suppression measures have been introduced to ensure staff remain competent.
- 6.1.6 The DEMP will be reviewed at least annually or following any adjustments in operations which have the potential to increase the level of exposure to surrounding sensitive receptors.

6.2 SOURCES AND CONTROL OF FUGITIVE DUST EMISSIONS

- 6.2.1 Detailed below are examples of potential sources of fugitive dust and particulate emissions associated with all the operations and activities at the Site:

- Vehicles entering and/or leaving the Site with mud on wheels, and tracking dust on to or off the Site;
- Debris falling off lorries which arrive uncovered;
- Vehicles and plant moving around the Site kicking up dust;
- Unloading of wastes;
- Waste storage and processing activities;
- Site surfaces (i.e. the ground, plant and equipment);
- Loading any inadvertently accepted non-permitted wastes back on to vehicles for removal off-Site to authorised facilities;
- Particulate emissions from the exhaust of vehicles/plant/machinery on site.

6.2.2 Table 5 below details the measures to be applied to the Site for each of the sources outlined above to break the source-pathway-receptor routes.

6.2.3 Preventative and remedial measures on the Site to alleviate potential fugitive dust and particulate emissions are tabulated in Table 6 below. These are grouped in terms of cost (low or medium) and can be used individually or in conjunction.

6.3 VISUAL DUST MONITORING

6.3.1 Visual dust monitoring at the Site boundary will be carried out as part of the routine daily inspections with any relevant observations recorded and retained on-site.

6.3.2 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.

6.3.3 Informal dust monitoring comprising of operational staff remaining vigilant for observable dust and particulate will be carried out during the operational process. Where uncontrollable dust emissions are identified, operations will cease, and the Site boundary will be examined to ensure emissions are not dissipating towards sensitive receptors. Dampening down of the source of any fugitive emissions will be undertaken before operational processes resume.

6.3.4 Due to the levels of abatement measures to be integrated on the Site as detailed above, the likelihood of emissions impacting on the identified sensitive receptors is considered low. Therefore, no other forms of dust monitoring are proposed for the Site.

6.3.5 In the unlikely event that dust emissions are identified as an issue, 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.

Table 5: Source, Pathway, Receptor Route

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
Mud	Tracking dust on wheels and vehicles. Mud dropping off wheels/vehicles when dry	Neighbouring industrial units and businesses in the vicinity and sensitive receptors identified in Table 3.	Visual build-up and soiling of dust and particulates, also consequent resuspension into the air column	<ul style="list-style-type: none"> The external yard comprises engineered impermeable surfaces. The building floor comprises concrete surface throughout. Vehicles will not be required to drive over any unpaved areas. Any accumulation of mud or dust at the Site, e.g. on the external yard area or entrance to the facility will be cleaned by sweeping. Water will be sprayed using a hose to dampen down any potentially dusty emissions. In the unlikely event that mud or dust is identified as an ongoing issue a road sweeper can be provided by a nearby supplier.
Debris	Falling off lorries	As above	Visual build-up and soiling of dust and particulates, also consequent resuspension into the air column	<ul style="list-style-type: none"> All waste loads are received in baled form, which will help to minimise any potential dust emissions. In addition, wastes will be delivered to the Site in contained waste vehicles or sheeted vehicles. Efficient and prompt unloading of vehicles and stacking of bales into the designated fireproof bays, which each comprise concrete side walls and rear push wall, and designated stockpile areas. Where fireproof bays are used, the height of the bay walls will be a minimum of 1m greater than the top of the highest stacked bale. Bales will not extend beyond the front of the bay or designated stockpile area. All areas subject to regular housekeeping. In the unlikely event that debris is identified as an ongoing issue, a road sweeper can be provided from a local road sweeper hire company.
Vehicles and plant moving around site	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	<ul style="list-style-type: none"> The external yard comprises engineered surfaces (see above). Vehicles will not 'tip' wastes, as materials will be unloaded by forklift or grab and stacked in the bays and designated stockpile areas. Wastes will be transferred from the bays and stockpiles into the building for processing and recycling into final products. Roller shutter doors to the building will be kept closed, except during vehicle entrance and exit from the building. Vehicles will not be required to drive over any unpaved areas. Therefore, dust generation will be minimal.

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
				<ul style="list-style-type: none"> The Site will operate a 10 mph speed limit. Slow vehicle speeds reduce the amount of dust that is kicked up during vehicle movements. All areas, vehicles and plant machinery are subjected to regular housekeeping and removal of loose particles.
Unloading, storage and processing of wastes	Atmospheric dispersion	Surrounding sensitive receptors	Visual soiling and dispersion of airborne particulates	<ul style="list-style-type: none"> Minimise source strength by means of unloading waste bales and stacking them in bays and designated stockpiles. Bales will only be split inside the building and not in the external yard. Split bales will be fed to the waste processing plant in the building for recycling into final products. Dampening down of material during dry periods or where the load is identified during the inspection process as `dusty`. Dust and litter netting will be installed on the perimeter security fencing in the waste storage area as a further measure to control the potential for any inadvertent dust or litter escape from the Site. In addition, portable netting will be used and placed in close proximity to the potential source of dust or litter emission, taking care to maintain the 6m separation distance from the front of bays or to all 4 sides of an open stockpile. All plant is inspected prior to and after use for dust and debris build-up. Plant is regularly cleaned down after use to prevent the accumulation of dust and loose material. All plant used on Site is maintained and serviced in accordance with manufacturers' guidelines and service agreements. Waste bales are stacked and stored in engineered bays with concrete side walls and push walls and designated stockpile areas. Where bays are used, the concrete walls help to prevent fugitive emissions from waste and product stockpiles by reducing exposure to winds etc. All wastes will be processed inside the building, which is fully enclosed. The addition of water at the washing plant stage of processing ensures materials are predominantly processed in a damp condition, prior to being transferred to the extruder for extrusion and pelletising of final products. The extruder is an enclosed unit.

Source	Pathway	Receptor	Type of impact	Where relationship can be interrupted
				<ul style="list-style-type: none"> Hose reels will be installed and used to spray water to control dust emissions from waste storage and processing areas if required.
Site surfaces	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	<ul style="list-style-type: none"> All site surfaces comprise engineered concrete.
Off-site removal of non-permitted waste	Atmospheric dispersion	Surrounding sensitive receptors	Airbourne particulates	<ul style="list-style-type: none"> Any dusty wastes requiring quarantine before removal from the Site will be sprayed with water to suppress potential dust emissions during handling. Any non-permitted wastes requiring removal from the Site will be transferred in suitably enclosed or sheeted vehicles to control the potential for dust emissions.
Exhaust emissions	Atmospheric dispersion	Surrounding sensitive receptors	Airborne particulates	<ul style="list-style-type: none"> Regulatory controls and best-practice measures to minimise source strength. Plant will be switched off when not in use. Delivery and collection vehicles will be required to switch engines off while unloading and loading where possible. Mobile plant to be fitted with upturn exhausts. All mobile plant to have radiator fan shields.

Table 6 Measures used on site to control Dust/Particulates (PM₁₀)

Abatement Measure	Description / Effect	Overall consideration and implementation
Low-Cost Options		
Site layout in relation to receptors	External and internal areas covered with impermeable surfaces.	<p>Wastes will be processed inside the building, which is fully enclosed.</p> <p>Unloaded wastes will be stacked and stored in dedicated fireproof bays, comprising concrete side walls and rear push walls, and designated stockpile areas. Where fireproof bays are used, the concrete walls will afford protection from dust emission.</p>

Abatement Measure	Description / Effect	Overall consideration and implementation
		<p>The use of a fully enclosed building to process waste, paved external access roads and concrete bays are an integral part of the site design and have not been constructed solely for the purposes of dust control, although they do provide a high level of abatement.</p> <p>The infrastructure and layout of the Site will ensure adequate dust control.</p>
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.	Site speed limit of 10mph will be enforced. Vehicle engines will be switched off when not in use, to minimise any idling.
Minimising drop heights for waste.	Minimising the height at which waste is handled should reduce the airborne generation of debris, dust and particulates.	As stated above, vehicles will be unloaded by forklift or grab. Wastes will not be tipped from vehicles. Bagged and baled plastic and cardboard products will be loaded into vehicles for off-site removal to customers. Products will not be dropped or tipped by machine into an open top vehicle. They will be loaded by stacking into the vehicle.
Medium Cost options		
Use of fully enclosed or sheeted vehicles or enclosed trailers to deliver wastes	Prevents the escape of debris, dust and particulates from vehicles as they travel.	Waste loads will be delivered in either fully enclosed or sheeted vehicles to avoid dispersion of emissions.
Hosing of vehicles on exit	May remove some dirt, dust and particulates from the lower parts of vehicles although unlikely to be necessary as all areas of the Site incorporate impermeable pavement.	As a preventative measure to reduce the deposition of dust and loose material off site.
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 dispersed. Reducing storage volumes	<p>The majority of the waste material will not be stockpiled over long periods of time prior to treatment on site for recycling or recovery and off-site supply to customers.</p> <p>Dust and litter netting will be installed on the perimeter security fencing and portable netting used in the waste storage area as a further measure to control the potential for any inadvertent dust or litter escape from the Site.</p>

Abatement Measure	Description / Effect	Overall consideration and implementation
	should reduce the surface area over which particulates can be mobilised.	
<p>Ceasing operation during high winds and/or prevailing wind direction</p>	<p>During periods of elevated wind speeds the processing of wastes within the building and the storage of baled wastes in concrete bays should still ensure that dust emissions are suitably controlled and minimised.</p>	<p>During periods of elevated wind speeds the receipt of wastes in wrapped and baled form will ensure that dust emissions are suitably controlled and minimised.</p> <p>Dust and litter netting will be installed on the perimeter security fencing in the waste storage area as a further measure to control the potential for any inadvertent dust or litter escape from the Site. In addition, portable netting will be used and placed in close proximity to the potential source of dust emission, taking care to maintain the 6m separation distance from the front of bays or to all 4 sides of an open stockpile.</p> <p>It is unlikely that operations will need to cease due to high winds, as all wastes delivered to the Site will be in baled form. Waste bales will be split and processed inside the building and bagged and baled products will also be stored and loaded for off-site supply to customers inside the building.</p> <p>High wind speeds and predicted high wind speeds will be assessed by the Site Manager or other Technically Competent Person and should wind speeds become so great that they are a risk to site personnel, local residents, neighbouring businesses and the environment then measures will be implemented to cease waste deliveries and close the Site.</p> <p>Hose reels will be installed at the Site and water applied to potentially dusty wastes and operational areas during dry and dusty conditions.</p>
<p>On-site sweeping</p>	<p>Sweeping could be effective in managing larger debris, dust and particulates but may also cause the mobilisation of smaller particles.</p> <p>Road sweeping vehicles damp down dust and particulates whilst brushing and collecting dust and particulates from the road surface, particularly at the kerbside.</p>	<p>As stated above, sweeping will form part of the general housekeeping of the Site to minimise the build-up of loose material and thus the generation of potential dust.</p>

Abatement Measure	Description / Effect	Overall consideration and implementation
	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.	
High-Cost Options		
Installation of a water sprinkler system to control dust and water storage.	The installation of a water sprinkler system on site could provide an additional dust control measure, e.g. by attaching water spraying equipment to the top of waste storage bay walls.	It is considered that the infrastructure and measures detailed above will provide a high level of dust control at the Site. A water sprinkler system would only be considered by the Operator if the existing infrastructure is no longer able to adequately control dust emissions.

7 COMPLAINTS

7.1 PROCEDURES IN THE EVENT OF A COMPLAINT

- 7.1.1 Clearfield Envirotech Ltd operates and maintains a detailed EMS for the Site, see Clearfield-Winsford-RP02-Final (EMS). Any complaints received concerning dust at the Site will be dealt with in accordance with the company's EMS complaints procedure.
- 7.1.2 Any complaints about dust will be reported to the Site Manager and other Technically Competent Person (with appropriate EPOC or WAMITAB Certificate) who is responsible for the site management, e.g. in the absence of the Site Manager due to illness or annual leave etc.
- 7.1.3 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 below). The form sets out the key information that should be recorded at this time in order to facilitate further suitable investigation.
 - The Site Manager or other Technically Competent Person will be informed of the complaint as soon as possible, including the location, time and date of the complaint being lodged.

Complaints Record	
Who made the complaint?	
Name:	
Address:	
Phone No:	
Date and time of complaint	
What caused it?	
Was anyone else aware of this? If so who	
What was the source of the problem, what went wrong? If source is unknown contact a suitably qualified person to investigate.	
What have you done to make sure it won't happen again?	

<i>Was there any significant pollution – for example oil entering a surface water drain?</i>	
<p style="text-align: center;"><i>If there was then you must notify Environment Agency</i></p> <p style="text-align: center;"><i>Have you done so?</i></p> <p style="text-align: center;"><i>You must also notify the local Environment Agency Office via email or letter.</i></p>	<p style="text-align: center;"><i>Yes/No/not applicable</i></p> <p style="text-align: center;"><i>Date and Time:</i></p> <p style="text-align: center;"><i>Environment Agency Incident number:</i></p>
<i>Please print name and sign:</i>	

7.1.4 In recognising that some complaints can be transient and short-lived, timely notification of complaints directly from the complainant or Environment Agency is imperative to allow for appropriate investigation. If the complaint occurs more than 12 hours before notification is provided to the Operator, it may not be possible to substantiate the complaint or pinpoint the cause. The Operator will, however, contact the complainant where possible, review any operations at the time which had the potential to cause the complaint and complete and record a comprehensive complaint investigation. For complaints received within 12 hours of the incident the following actions will be undertaken:

- The Site Manager or other 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 other 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?

7.1.5 The Site Manager or other 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.

7.1.6 Where a significant complaint is substantiated by the Site Manager or other 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.

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

7.2 MITIGATION MEASURES IN THE EVENT OF A SUBSTANTIATED COMPLAINT

7.2.1 In the event of a substantiated dust complaint, the investigation undertaken by the Site Manager or other Technically Competent Person will incorporate detailed assessment 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.

7.2.2 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.

7.2.3 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 other Technically Competent Person. Additional support and technical expertise will be provided by internal / external technical specialists, as required.

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

7.3 TIMESCALES

7.3.1 In the event that it proves impracticable to carry out adequate remedial measures within one working day, the Site Manager or other 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.

8 REVIEW AND AUDIT

- 8.1.1 The Operator will maintain a Non Conformance Register, which includes a unique reference number for any non-conformance or complaints incidents, the date of the incident, who reported the incident, a description of the incident, who investigated the incident, what were the actions or outcomes of the investigation (including any mitigation measures) and whether the incident has been addressed and closed or is still ongoing.
- 8.1.2 The Non-Conformance Register will be reviewed each month as part of the monthly management meetings. Any complaints about amenity issues such as dust, odour or pests will be discussed and actions suggested and agreed to ensure improvements are made and the likelihood of such incidents reduces going forward.
- 8.1.3 The Operator will undertake an annual audit of the EMS and the Non-Conformance Register (including complaints history). The purpose is to ensure the Site is:
- Continually improving;
 - Minimising the risk of pollution incidents and preventing any significant impacts to sensitive receptors, including detriment to local amenity;
 - Operated in accordance with the latest regulatory guidance;
 - Meeting environmental objectives independent of the Environmental Permit.
- 8.1.4 This DEMP will also be formally reviewed at annual intervals in order to ensure the stated management controls and conditions continue to reflect best available techniques and the operational requirements/sensitivities at the Site, which may change over time.
- 8.1.5 An updated copy of the DEMP will be submitted to the Environment Agency following review, as required. Where the Operator recognises the requirement for the immediate implementation of changes to the DEMP to prevent or reduce significant dust emissions, measures will be put in place to prevent any pollution or harm.
- 8.1.6 If, on review of the performance of the facility, the Operator and/or the Environment Agency propose to seek revision of this plan, then the following course of action will be undertaken by both parties:
1. In potentially critical circumstances where the Operator recognises the requirement for the immediate implementation of changes to the DEMP to prevent or reduce significant dust emissions, these changes will be discussed with the Environment Agency without delay but may be actioned by the Operator, as necessary.
 2. Where the Operator proposes changes to the DEMP that involve a more strategic and/or phased approach rather than a need for immediate implementation, a formal proposal will be submitted by the Operator to the Environment Agency setting out the specific issues arising from document review, and the options/issues requiring the Operator's further attention following Environment Agency approval. The Environment Agency will review the Operator's submission/updated DEMP and confirm they are satisfied with the proposed changes. The agreed required changes will then form the future 'appropriate measures' for

the Site with regard to dust management and control.

- 8.1.7 Where changes to the DEMP are proposed by the Environment Agency, these will be discussed with the Operator setting out the Environment Agency's clear expectation from the changes, in addition to timescales for their implementation. It is recognised that these changes may range from matters that require immediate implementation to those that may be implemented over an extended timeframe. In each case, the required changes will be discussed with the Operator and an appropriate action plan agreed. The Operator will (wherever possible) undertake the identified changes in accordance with the timescales proposed for the work, at which point the updated 'appropriate measures' will take effect.

9 RECORDS

- 9.1.1 Records will be kept in accordance with the Environmental Permit and the requirements of this DEMP.

- 9.1.2 Records will include:

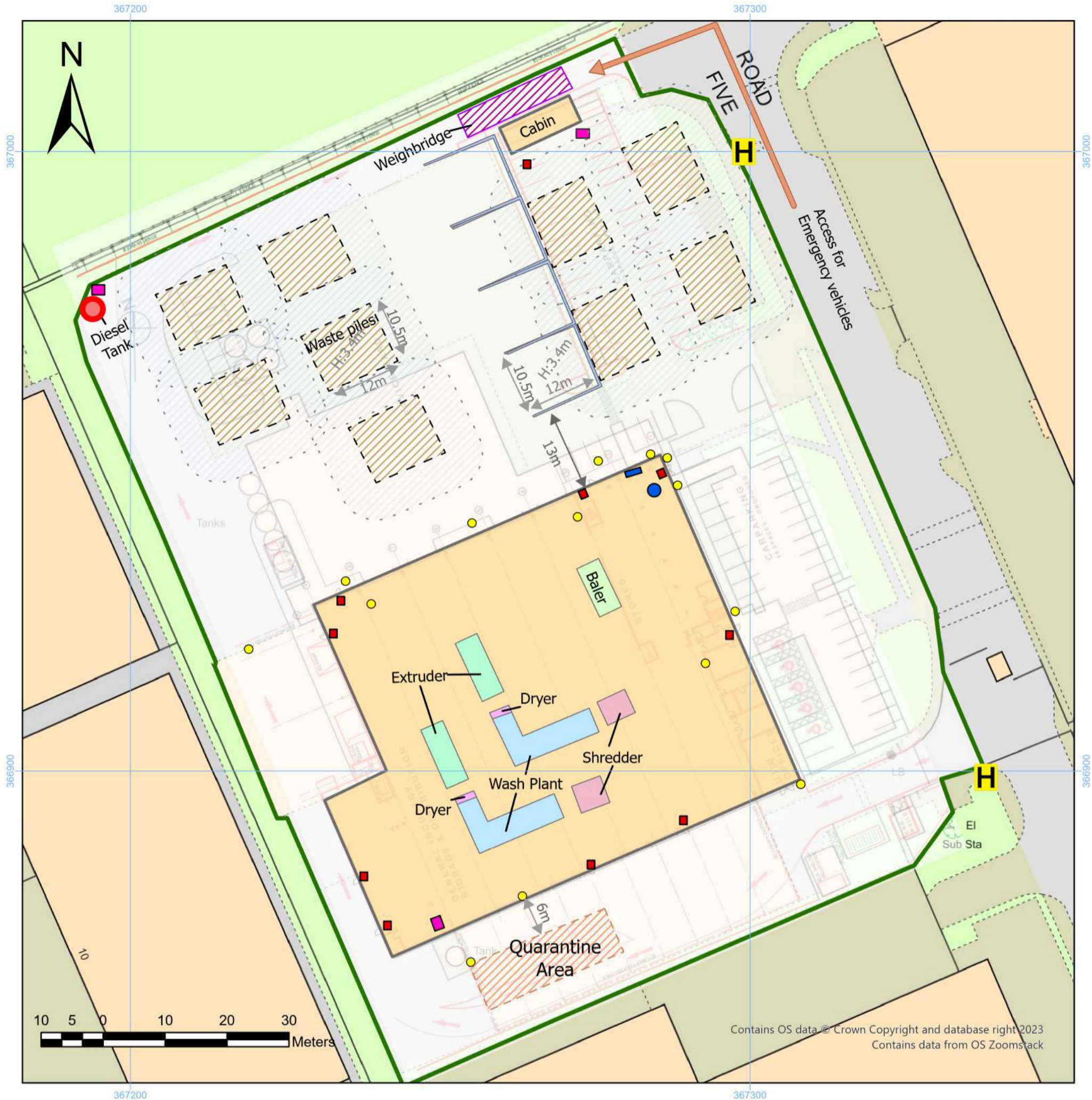
- Details recorded during the weekly site inspections by the Site Manager or other Technically Competent Person;
- Copies of any completed Complaint Reporting forms (including mitigation measures), in the event of a complaint;
- Incidents of any dust issues recorded on site at any time (i.e. not just during daily and weekly inspections);
- Copy of Non-Conformance Register.

10 SUMMARY

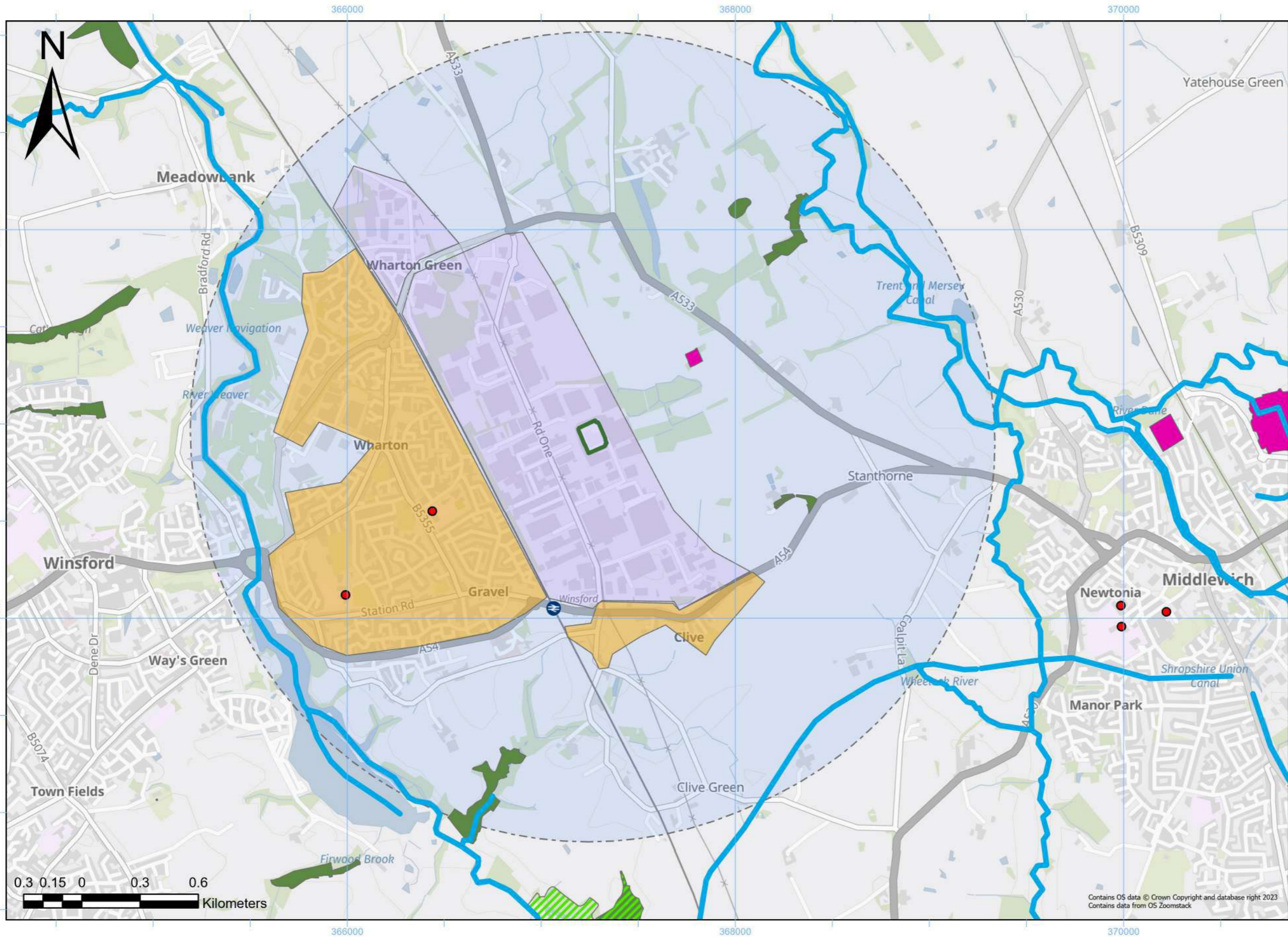
- 10.1.1 This Dust and Emissions Management Plan (DEMP) supports an application for a bespoke Environmental Permit for Clearfield Envirotech Ltd.
- 10.1.2 This DEMP has been produced in accordance with Gov.uk guidance 'Control and monitor emissions for your environmental permit' (published 1st February 2016 and last updated 17th May 2021).
- 10.1.3 The DEMP has identified the potential sources of dust and particulate emissions on Site, the potential impacts and exposure levels along with measures to be implemented to mitigate against such discharges.
- 10.1.4 Sensitive receptors and residential properties have been identified as determined by their vulnerability to the adverse effects of exposure to elevated levels of airborne dust and particulate matter.
- 10.1.5 Wastes delivered comprise non-hazardous household, commercial and industrial plastic and cardboard wastes. The plant is designed to achieve high rates of recycling, typically 70% or greater. It

can also recycle many non-hazardous plastic wastes that are typically either landfilled or incinerated, thereby moving these materials up the waste hierarchy and making a significant contribution to recycling targets.

- 10.1.6 All wastes will be received in baled form, which minimises the potential for dust emissions. Bales will be off loaded, stacked and stored in engineered fireproof concrete bays and designated stockpile areas. Where fireproof bays are used, the height of the bay walls will be a minimum of 1m higher than the top of the waste stack in each bay, which will afford protection from the wind.
- 10.1.7 Dust and litter netting will be installed on the perimeter security fencing in the waste storage area as a further measure to control the potential for any inadvertent dust or litter escape from the Site. In addition, portable netting will be used and placed in close proximity to the potential source of dust emission, taking care to maintain the 6m separation distance from the front of bays or to all 4 sides of an open stockpile.
- 10.1.8 Bales will be transferred into the building and then split and processed inside.
- 10.1.9 All waste treatment processes will be undertaken in the building. Water is added at an early stage of the treatment process, i.e. in the wash plant, which results in wastes being treated and processed in a damp condition prior to being transferred to a fully enclosed extruder for extrusion, pelletising and bagging of plastic products, which further reduces the possibility of dust emissions.
- 10.1.10 The use of a 10 mph speed limit on site helps to minimise any fugitive emissions of dust and particulates during vehicle delivery and exit from the facility. Drop heights will be minimised by using a forklift or grab to stack wastes and materials during unloading and loading operations, thereby avoiding tipping onto the floor or into an open topped lorry.
- 10.1.11 Hose reels will be installed at the Site. The site entrance, external access road and operational areas will be dampened down with water during dry and dusty conditions should this be deemed necessary by the Site Manager or other Technically Competent Person.
- 10.1.12 On site sweeping will take place when conditions require. All areas and plant will be subjected to general housekeeping to prevent the accumulation of dust and loose material.
- 10.1.13 The Site Manager and other Technically Competent Person will be responsible for the implementation of the DEMP and the application of appropriate, recommended dust suppression measures.
- 10.1.14 Any complaints received concerning dust and particulate emissions at the Site will be dealt with in accordance with this DEMP and the company's EMS complaints procedure.
- 10.1.15 The investigation will be instigated by the Site Manager or other Technical Competent Person following the completion of the Complaints Report Form.

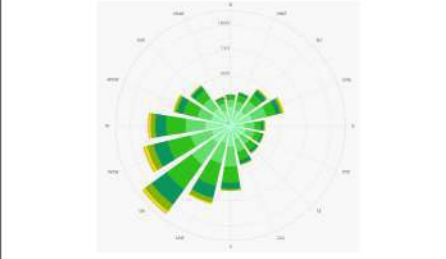


Title: indicative Site Layout & Storage			Legend Permit Boundary Bays 6m separation buffer Fire Extinguisher Water Mains tap Spill Kit Water Hose Diesel Tank CCTV Fire Hydrant
Site Location: Rd Five, Winsford Industrial Estates, Winsford, CW7 3QY			
Scale: 1:650	Page Size: A3	Author: S. Barnes	
Date: 04/09/2023		Version: FINAL	
Drawing Number: Clearfields-Winsford-DW01			
<p>All Dimensions to be checked on site and not scaled from this drawing. This document and its design is copyright of Waste & Compliance Ltd. and should not be reproduced in part or whole without permission. It shall be read in conjunction with accompanied consultant documents and associated project documents. This drawing is not for construction.</p>			
Contains OS data © Crown copyright [OS OpenMap Local] [2023].			
			Grid ref: SJ 67255 66946



Legend

-  Permit Boundary
-  Buffer
- Receptors**
-  Commercial
-  Residential
-  School
-  Watercourse
-  Special Protection Areas
-  Special Areas of Conservation
-  Sites of Special Scientific Interest
-  Ancient Woodland
-  Scheduled Monuments
-  National Nature Reserves
-  Local Nature Reserves



Author: S. Barnes. Contains OS data © Crowncopyright [OS OpenMap Local] [2023]. Emapsite 885778.
All Dimensions to be checked on site and not scaled from this drawing.
This drawing is not for construction
This document and its design is copyright of Waste & Compliance Ltd. and should not be reproduced in part or whole without permission. It shall be read in conjunction with accompanied consultant documents and associated project documents.
All services to be checked on site and not scaled from this drawing

<p>Title: Sensitive Receptors</p>	<p>Date: 15/08/2023</p>	<p>Page Size: A3</p>	<p>Drawing Number: Clearfields-Winsford-DW02</p>
<p>Site Location: Winsford Industrial Estate, Road Five, Winsford, CW7 3SG.</p>	<p>Version: FINAL</p>	<p>Scale:1:20,000</p>	<p>Grid reference: SJ 67273 66909</p>