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Report No 11561/31

September 2022

EMISSIONS MANAGEMENT PLAN
for
SANDONS FARM WASTE RECYCLING FACILITY
ADLINGTON, CHORLEY

Prepared for

CHORLEY SAND AND AGGREGATES LIMITED
The Office
Rigby House Farm
The Common
Adlington
Chorley
Lancashire
PR7 4DS

DOCUMENT CONTROL SHEET

SITE	SANDONS FAMR WASTE RECYCLING FACILITY
PERMIT NUMBER	EPR/EB3806TM
DOCUMENT TITLE	EMISSIONS MANAGEMENT PLAN
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1. INTRODUCTION

1.1 Report Context

1.1.1 The Arley Consulting Company Limited (TACCL) has been commissioned by Chorley Sand & Aggregates Limited to prepare an environmental permit variation application for the Waste Recycling Facility, located at Sandons Farm Quarry in Adlington near Chorley, Lancashire. An Emissions Management Plan (EMP) is required in support of this application.

1.1.2 Sandons Farm Quarry is an existing sand quarry located approximately 1 km west of Adlington in Chorley, Lancashire. The landfill operates under permit no EPR/CB3606CU. The recycling facility ('the facility'), sited within the permit boundary of Sandons Farm Inert Landfill Site ('the site'), currently operates in accordance with Standard Rules 2010 No 12 (SR2010 No12). Operations include crushing and washing of construction, demolition and excavation waste to produce soil, soil substitutes and aggregate products.

1.1.3 Washing has been carried out on site under the Standard Rules permit since around 2015. Environment Agency officers have informed the operator that a bespoke permit will be required to continue the operation. The operator wishes to make the following changes:

- Move to a bespoke permit to specifically allow washing
- Increase the throughput of waste from 75,000 tonnes per year to 200,000 tonnes per year
- Add EWC 17 09 04 mixed construction and demolition waste
- Remove a number of waste codes and restrict the permitted list of waste to Chapter 17 codes only
- A small expansion to the site boundary

1.1.4 Waste processing activities at the facility have the potential to generate dust and particulate emissions, which may pose a risk of dust soiling impacts, ecological impacts or risks to human health from respirable particulates.

1.1.5 EA guidance requires that an EMP for dust is provided for waste activities regulated by a bespoke permit for waste treatment at a site within 500 m of a sensitive receptor, such as residential properties. The closest residential properties to the facility are at Sandons Farm approximately 296 m to the south-east.

1.1.6 The aim of the EMP is to identify the potential risks of fugitive emissions from waste operations at the facility, consider the impact to identified receptors and set out the required mitigation measures for the management of any dust emissions arising. The EMP has been prepared using the following guidance:

- Environment Agency Risk Assessment for Environmental Permits[1]
- Institute of Air Quality Management (IAQM)[2]
- Control & Monitor Emissions for your Environmental Permit[3]

1.2 Site Details and Surrounding Area

1.2.1 Sandons Farm Quarry is centred on National Grid Reference SD 5939 1328, approximately 1 km west of Adlington and approximately 4 km to the south-east of Chorley town centre, Lancashire.

1.2.2 The larger landfill site is generally square in shape and lies between woodland and open fields to the south-west, west and north-west, bound by a curve of the Leeds Liverpool Canal to the north, and by the western reaches of Adlington to the east. Farmland lies beyond the canal to the north and north-east towards the A6 Westhoughton Road.

1.2.3 The aggregate recycling facility is situated in the south-western corner of the site. The approximate National Grid Reference for the centre of the facility is SD 5919 1328. The location of the site and facility is shown on Drawing No 11561/14D contained in Appendix A.

1.2.4 Surrounding land uses of the facility include the following:

- Sandons Farm inert landfill site adjacent to the east
- Western reaches of Adlington town further east
- Woodland and agricultural land to the west and north
- Leeds & Liverpool Canal and agricultural land to the north-east (bounding the landfill)
- Castle House Farm Landfill Site (restored sand pit) to the south

1.2.5 The relevant local authority for the facility is Chorley Council.

1.3 AQMA Status

1.3.1 According to the DEFRA interactive map tool[4] the site is not located within an Air Quality Management Area (AQMA).

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1 https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit

2 IAQM Guidance on the assessment of dust from demolition and construction, January 2014. Whilst this guidance is specifically for 'construction dust', in the absence of separate guidance for dust from waste or mineral sites, the IAQM guidance provides an appropriate basis for waste dust assessment.

3 https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit

1.3.2 Reference to the UK Ambient Air Quality Interactive Map[5] identifies the background annual mean PM_{10} concentration for the area in 2020 as 11.33 µg/ m^3, which is well below the annual mean Air Quality Objective of 40 µg m^3.

1.4 Wind Direction

1.4.1 Figure 1 shows a wind rose[6] for data collected at Blackpool Airport which is the closest recording station at approximately 33 km to the north-west.

1.4.2 The wind rose shows that the prevailing wind direction is from the west with wind speeds most frequently between 10 to 20 knots, ie moderate to fresh breeze on the Beaufort scale. The strongest winds typically come from the west-southwest and are recorded at speeds greater than 20 knots, ie strong breeze and above. Winds from the east are typically lower in strength and most frequently recorded at speeds less than 15 knots.

1.4.3 With reference to the data it is considered that wind direction at the site will be variable but with a prevalence towards the north-east, east and south-east ie towards the closest residential properties.

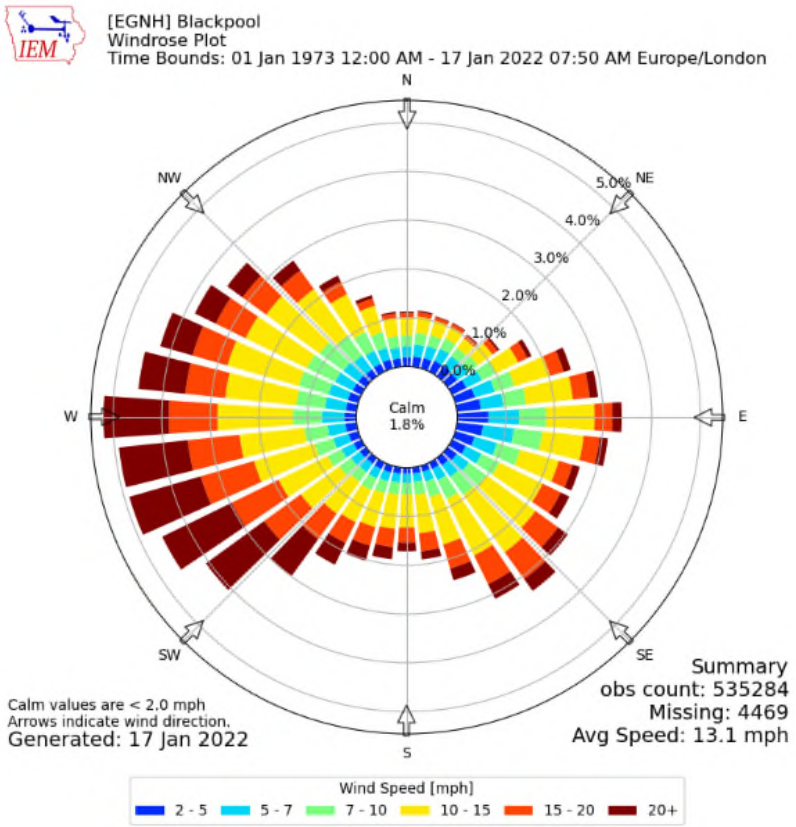

Figure 1: Wind Rose for Blackpool Airport (July 2015 to July 2020)

[4] https://uk-air.defra.gov.uk/aqma/maps

[5] Data obtained using interactive background maps https://uk-air.defra.gov.uk/data/gis-mapping

[6] Wind rose generated by Iowa Environmental Mesonet provided by Iowa State University (accessed at https://mesonet.agron.iastate.edu/sites/locate.php?network=GB__ASOS)

1.5 Rainfall

1.5.1 Reference has been made to Met Office data for Rochdale which is the nearest climate station to the site. Total average annual rainfall during the period 1981 to 2010 was 1119 mm. The number of days of rainfall greater than or equal to 1 mm was 162 days on average each year, therefore providing natural dampening approximately 44% of the year.

2. ASSESSMENT OF RECEPTORS

2.1 Site Setting

2.1.1 The aggregate processing facility is located in a semi-rural setting in south Lancashire. Access to the site is from the west, off A5106 Wigan Lane. The site location and surrounding area setting is shown on Figure 2 below.

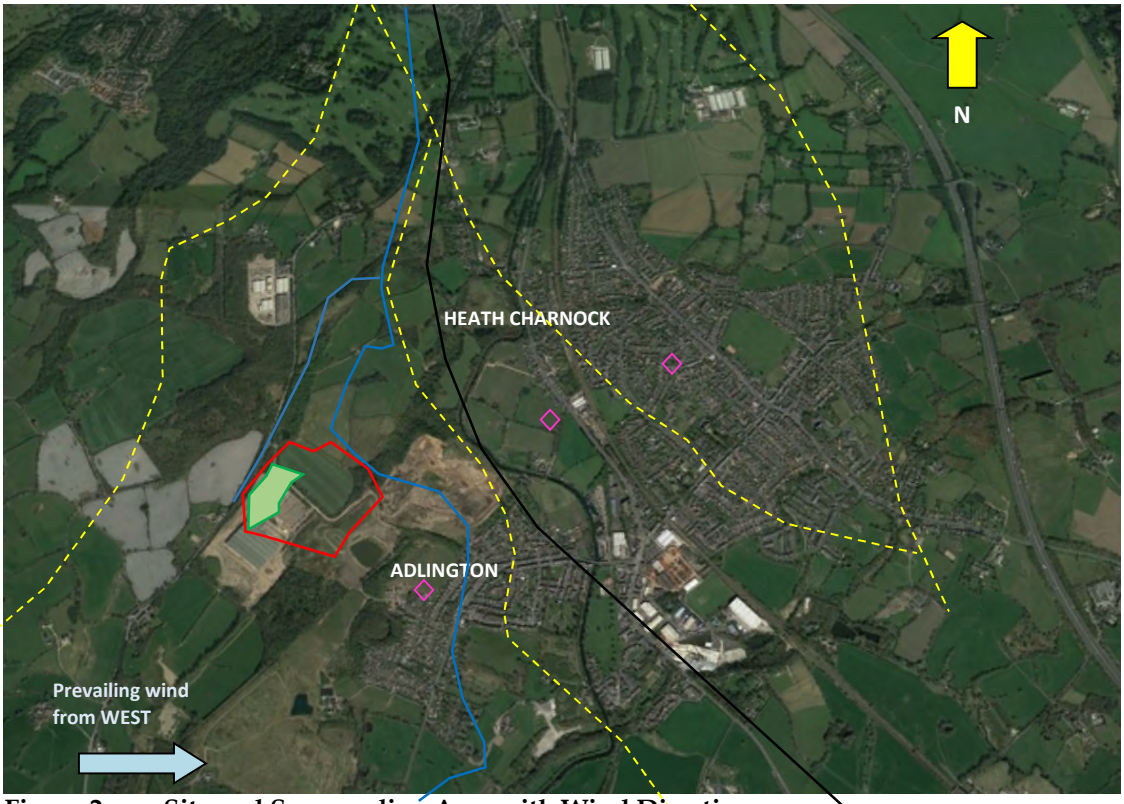

Figure 2: Site and Surrounding Area with Wind Direction

KEY

Permit Boundary

Prevailing Wind Direction

School

Sandons Farm Quarry Site

Watercourse

Major Transport Route

Rail Line

2.1.2 The aggregate recycling facility is located within the larger Sandons Farm Quarry which also operates as an inert landfill. The Sandons Farm inert landfill site was permitted in 2015 and there have been two recent extensions of the operational landfill boundary since then. Operations at the inert landfill (eg HGV movements and placement of waste material) also have the potential to generate dust. A Mud Management Plan is in place for the whole site which provides management controls to minimise dust/mud hazards from the landfill as well as the treatment facility.

2.1.3 The closest main roads are Wigan Lane approximately 0.5 km to the west and Church Street (A6) which is located approximately 670 m to the east.

2.1.4 Small residential areas of Adlington and Heath Charnock lie approximately 0.3 km to the east and 4 km north-east of the site. The closest residences to the aggregate processing facility are Sandons Farm (296 m to the south-east) and the Rigshaw Bridge Cottages which lie approximately 316 m to the east. The closest residences in Adlington are approximately 340 m to the south-east.

2.1.5 The Leeds and Liverpool Canal bounds the landfill site to the north-east and Eller Brook is located approximately 56 m to the west of the facility.

2.1.6 There are a number of public footpaths located in the surrounding rural area, as shown on Drawing No 11561/40A.

2.1.7 There are no European Habitats Sites or Sites of Special Scientific Interest (SSSI) within 2 km of the site.

2.2 Surrounding Topography/Vegetation

2.2.1 The recycling facility is situated in an area with relatively flat topography at an elevation of approximately 85 m AOD.

2.2.2 Adjacent to the west and north-west is dense woodland elevated above the site at about 90 m AOD. To the east is the inert landfill which extends approximately 300 m further east. As part of the more recent extension to the landfill, a 5 m screening mound was constructed on the eastern boundary of the landfill to provide screening to residential properties in the vicinity of Carrington Road, Adlington.

2.2.3 A hedgerow follows the border of the Leeds and Liverpool Canal to the east along the towpath. This hedgerow becomes denser further north-east where it lies adjacent to and affords some screening for the properties at Rigshaw Bridge Cottages.

2.2.4 A dense corridor of vegetation grows on either side of the public footpath that follows Sandy Lane which borders the south-eastern corner of the larger landfill site thereby providing some screening for the northern reaches of Lewis Close and the housing estate beyond.

2.3 Receptors

2.3.1 The EMP should be considered in conjunction with the Environmental Risk Assessment (Report No 11561/18). The potential receptors within 1 km have been identified and shown in Table 1 and on Drawing No 11561/40A in Appendix A.

2.3.2 Guidance requires that the area of consideration for receptors is expanded to 1 km from the facility with respect to the potential impact by dust, and that a further assessment is made to identify which of these are likely to be sensitive to dust. Potentially sensitive sites include: schools/childcare facilities, protected species/habitat sites, elderly housing, and hospitals/convalescent facilities.

2.3.3 The sensitivity of each receptor to dust soiling effects to people or property, human health effects of PM_{10} and the ecological effects of dust deposition has been assessed using the IAQM guidance.

2.3.4 The sensitivity of surrounding receptors to human health effects has been assessed based on 2020 background annual mean PM_{10} concentration at < 11.33 $\mu g/m^3$.

Ref	Receptor	Direction from site	Distance from Boundary (m)	No of Receptors	Receptor Sensitivity		
					Dust Soiling	Human Health Impacts	Ecological Impacts
Residential/Commercial Properties							
1	Rigshaw Bridge Cottages	E	316	10-100	Low	Low	-
2	Sandons Farm	SE	296	1-10	Low	Low	-
3	Allanson Hall Farm	E	416	1-10	Low	Low	-
4	Residences in Adlington	SE	340 – 1 km	>100	Low	Low	-
5	Gardeners Cottage	N	578	1-10	Low	Low	-
6	Nightingales Farm	N	712	1-10	Low	Low	-
7	Residences in Heath Charnock	NE	559 – 1 km	>100	Low	Low	-
8	Coppull Brow Farm	W	583	1-10	Low	Low	-
9	Rigby House Farm	S	662	1-10	Low	Low	-
10	Shepherds Cottage	S	956	1-10	Low	Low	-
11	Harrisons Farm	SE	853	1-10	Low	Low	-
34	Adlington Industrial Estate	E	891	10-100	Low	Low	-
35	Burnett Cars	NE	500	10-100	Low	Low	-
Transport Network							
12	Sandy Lane (Private Road)	S	20	-	Low	Low	-
13	Roads in Adlington	E	290 – 1 km	-	Low	Low	-
14	Church Street (A6)	E	600	-	Low	Low	-
15	Wigan Lane	W	470	-	Low	Low	-
16	Roads in Heath Charnock	NE	600 – 1 km	-	Low	Low	-
17	Preston to Bolton Rail line	E	710	-	Low	Low	-
Public Rights of Way							
18	Footpath 9-1-FP12	S	Adjacent	-	Low	Low	-
19	Footpath 9-1-FP11	E	307	-	Low	Low	-
20	Footpath 9-1-FP10	E	470	-	Low	Low	-
21	Footpath 9-1-FP13	S	269	-	Low	Low	-
22	Footpath 9-1-FP63	NW	483	-	Low	Low	-
23	Footpath 9-1-FP54	W	491	-	Low	Low	-
24	Footpath 9-1-FP56	NW	565	-	Low	Low	-
25	Footpath 9-1-FP19	SE	601	-	Low	Low	-
26	Footpath 9-1-FP20	SE	831	-	Low	Low	-
27	Footpath 9-1-FP14	S	617	-	Low	Low	-
Agricultural							
28	Arable and grazing land	N, NE, NW, S, E	125 (closest point)	-	Low	-	-

Table 1: Potential Receptors Within 1 km

Ref	Receptor	Direction from site	Distance from Boundary (m)	No of Receptors	Receptor Sensitivity		
					Dust Soiling	Human Health Impacts	Ecological Impacts
Controlled Waters							
29	Eller Brook	W	56 (closest point)	-	-	-	Low
30	Leeds and Liverpool Canal	NE	145 (closest point)	-	-	-	Low
31	Ponds	N, E, S, W	36 - 800	-	-	-	Low
32	Drains/Issues	N, E, S, W	170 - 1km	-	-	-	Low
33	White Bear Marina	E	550	-	-	-	Low
Recreation/Amenity							
36	Jubilee Playing Fields	SE	769	>100	Low	Low	-
37	Allotments	E	364	>100	Low	Low	-
Schools/Colleges/Hospitals/Nursing Homes							
38	Adlington Primary School	E	645	>100	Low	Low	-
	Adlington St Pauls Primary School	NE	950	>100	Low	Low	-
	Grove House Care Home	NE	880	>100	Low	Low	-

Table 1 (cont): Potential Receptors Within 1 km

2.4 Receptor Sensitivity Assessment

Residential Receptors

2.4.1 The closest residential properties are Rigshaw Bridge Cottages, approximately 316 m to the east and Sandons Farm approximately 296 m to the south-east. Properties off Carrington Road are approximately 340 m east with the small town of Adlington beyond.

2.4.2 Housing is considered to be a high sensitivity receptor due to the expected high level of amenity. However, due to the distance of the closest receptors from the potential dust source (ie approximately ~300 m) the sensitivity to dust soiling for the closest residential receptors is assessed as low, based on IAQM guidance.

2.4.3 All residential receptors are assessed as low sensitivity to human health impacts arising from dust due to the distance from source and the low mean background PM_{10} concentration of 11.33 $\mu g/m^3$, which is well below the environmental benchmark of 40 $\mu g/m^3$.

Industrial & Commercial Receptors

2.4.4 Adlington industrial estate is located 891 m to the east and Burnett Cars is located approximately 500 m to the north-east. Whilst these receptors are considered as being of medium sensitivity to both dust soiling and human health impacts (based on IAQM guidance), both of these commercial/industrial receptors have been assessed as being low sensitivity to both dust spoiling and human health impacts due to the distance from the dust source and low background PM_{10} concentration of 11.33 $\mu g/m^3$.

Agricultural Receptors

2.4.5 The area surrounding the site includes several agricultural holdings and grazing land, which in general are regarded as being low sensitivity receptors. Based on IAQM guidance sensitivity is further mitigated by distance if the potential dust source is >20 m from the receptor.

Public Rights of Way

2.4.6 The designated footpaths within the vicinity of the site have been assessed as low sensitivity to dust soiling and human health due to transient exposure, ie users are likely to be present for limited periods of time only. Based on IAQM guidance, receptor sensitivity is also mitigated by distance if the potential dust source is >20 m which is the case for most of the footpaths' routes.

Schools/Colleges/Hospitals/Nursing Homes

2.4.7 Schools, elderly housing, hospitals and other similar locations are considered to be sensitive receptors because occupants are potentially susceptible to the adverse effects of dust emissions.

2.4.8 Two primary schools have been identified within 1 km of the site: Adlington Primary School located approximately 645 m to the east and Adlington St Pauls Primary School approximately 950 m to the north-east. The locations of the schools are shown on Figure 2 above and Drawing No 11561/40A in Appendix A.

2.4.9 Each school receptor has been assessed as low sensitivity to human health effects and any amenity impacts from dust due to distance from the source (> 350 m) as outlined in the IAQM guidance.

2.4.10 Grove House Care Home is located approximately 880 m to the north-east. Due to the distance from dust source, this receptor is also assessed as being low risk.

2.4.11 There are no hospitals located within 1 km of the recycling facility.

Controlled Waters

2.4.12 The closest surface water course is Eller Brook approximately 56 m to the west. The Leeds-Liverpool Canal is situated around 145 m to the north-east at its closest point.

2.4.13 Based on IAQM guidance, these watercourses are assessed as having low sensitivity to dust impacts, due to their distance and also as there is dense vegetation screening Eller Brook and the hedgerow which borders the Leeds Liverpool Canal.

Ecological Receptors

2.4.14 There are no designated wildlife sites within 1 km of the site. The closest such site is the West Pennine Moors Site of Special Scientific Interest (SSSI) which is located approximately 3.3 km east-north-east.

Highways, Roads & Railways

2.4.15 Transport links are generally considered to be low sensitivity receptors due to their low level of expected amenity and transient use, as per IAQM guidance. Based on this guidance sensitivity is further mitigated by distance if the potential dust source is >20 m from the receptor.

2.4.16 The Preston to Bolton Railway line is located approximately 710 m to the east of the site, however due to the distance, impacts from dust generated by aggregate processing are highly unlikely to cause a nuisance to this receptor and as such the rail line has been assessed as a low risk receptor.

3. SITE OPERATIONS

3.1 Site Layout

3.1.1 Access to Sandons Farm Quarry is from the west, off A5106 Wigan Lane, via a concrete road which turns to hardcore close to the quarry/landfill entrance. From here the aggregate recycling facility is accessed via a hardcore road. The site layout is shown on Drawing No 11561/14D, in Appendix A.

3.1.2 The site is securely fenced and there are lockable gates at the quarry/ landfill site entrance as well as at Wigan Lane. The gates are locked when the site is closed.

3.1.3 Close to the entrance is a weighbridge and self-contained office/welfare unit which serves both the quarry/landfill operations and the recycling facility. A wheel wash is located on the concrete road for exiting vehicles.

3.1.4 The recycling facility is located in the western area of the quarry.

3.1.5 Adjacent to the west and north-west of the facility is dense woodland which rises to afford dust screening. The north, east and south-east face into the quarry/landfill. The topography slopes towards the east, into the quarry.

3.1.6 The site is surfaced with compacted hardstanding and concreted areas beneath and around the wash plant.

3.1.7 A settlement lagoon is located at the lowest point on the eastern boundary of the facility. Surface water drains to this pond and soaks away into the underlying strata. Water is also harvested from this pond to top up the wash plant.

3.2 Aggregate Processing Operations

3.2.1 Treatment consists of manual sorting and separation, crushing, washing, screening and blending of waste for recovery as a soil, soil substitute or aggregate.

3.2.2 A range of recycled products are produced including 6F2, pipe bedding, grit sand and fill sand. Products are manufactured according to a Quality Manual and tested in accordance with end of waste requirements as per the WRAP quality protocol.

3.2.3 Construction and demolition waste is imported to site and stockpiled for treatment. Hardcore can be crushed to produce 6F2 and dispatched after testing with no further treatment or sent for further processing via the wash plant to produce stone and sand products.

3.2.4 Waste hardcore/stone is fed through a feed hopper into a wash box which removes silt. The washed stone mix is then conveyed into a log wash which floats off any light contaminants such as plastic and wood. The stone mix is dewatered as it leaves the log wash and fed into a screening deck for grading into the various size products. Silty water is allowed to settle and the settled sludge is filtered to produce a silt filtercake. Filtered water is recycled back into the plant.

3.2.5 Recovered products from the washing process are graded stone, grit sand and silt (filtercake). Some of the grit sand blended with silt filtercake to produce a fill sand product. Aggregate products are stored along the eastern boundary in separate loose stockpiles as shown on Drawing No 1156/14D in Appendix A.

3.2.6 Waste products include solids recovered from the log wash which are mainly small pieces of wood and plastic. This is stored in a bay and sent off-site for disposal to a permitted site.

3.2.7 The washing plant is a wet process which prevents the generation of dust emissions during treatment. The dry screener and separate crusher have built-in dust suppression sprinklers which are used whenever the plant is operating.

3.2.8 Incoming waste and final products are stored on hardstanding within the processing area.

3.3 Overview of Waste Processing and Emissions Controls

3.3.1 Dust/particulate emission mitigation and control will primarily be through avoidance/containment. If there are potential emissions, then these will be mitigated further by suppression measures. In summary:

Avoidance/Containment

- Speed limit restriction on site (10 mph) in order to minimise the disturbance of any surface debris.

- The site access road is predominantly concreted and is approximately 700 m long. It is maintained in good order to facilitate effective cleaning and minimise dust generation.

- Daily inspections of site roads and surfaces are undertaken to monitor for dust or debris accumulations.

- Road sweepers are deployed when required.

- Vehicles exit site through a wheel wash.

- There is dense woodland to the west and north-west and a 5 m high bund on the eastern boundary of the landfill to provide screening to residential properties in Adlington.

- Movement of material at the site is conducted by fully trained and competent operators who are aware of the requirement for careful movement and avoidance of double handling.

- Vehicles transporting material into or out of the site are requested to be covered.

- Drop heights are minimised during tipping and handling of incoming and processed wastes to reduce the potential of raising dust.

Suppression:

- Site surfaces and stockpiles are damped with water on dry days using a water bowser.

- The crusher is fitted with spray bars for dust suppression.

3.4 Mobile Plant and Equipment

3.4.1 Mobile plant and mechanical treatment equipment will be used at site. Where possible, plant and equipment will be chosen which meets the High Tier Emissions Ratings[7].

3.4.2 Regular servicing of plant, vehicles and machinery will be carried out according to applicable legislation and manufacturers' recommendations. Daily checks on vehicles and plant are carried out by the operative before use.

[7] Emissions Standards are set out in the 'Non-Road Mobile Machinery (Emission of Gaseous and Particulate Pollutants) Regulations 1999', as amended.

3.4.3 All drivers of mobile plant and operators of stationary plant will be fully trained in the correct and safe use of the relevant machinery to ensure that the operating techniques are undertaken in line with the guidance within the manufacturers' instructions.

3.4.4 Staff will be trained on the use of mobile plant to reduce emissions where possible, eg anti-idling.

3.5 Water Supply

3.5.1 The water bowser is filled with water from the pond shown on Drawing No 11561/40A (ref 31). This can be supplemented with mains water as a back up in dry conditions.

3.5.2 In the event of water restrictions (eg due to drought conditions) leading to insufficient availability to operate dust suppression systems then contingency measures will be implemented, as required (refer to Section 6).

4. DUST AND PARTICULATE MANAGEMENT

4.1 Responsibility for Implementation of Plan

4.1.1 The Site Manager (SM) has overall responsibility for the control of waste operations at site and is responsible for ensuring that the procedures in the EMP are followed. The SM will ensure:

- The EMP is effectively communicated to all staff, and that any additional staff that may be required are competent to undertake their roles.
- All operations and management procedures outlined in the EMP are implemented and complied with.
- The completion and safe storage of all required records for the EMP.
- The EMP is reviewed annually, or following:
  - Permit variation
  - Accident, complaint or breach of permit
  - A new environmental issue
  - Any major changes to site operations.

4.1.2 The SM may delegate some mitigation tasks to site representatives (eg dust monitoring, use of water sprays for dust suppression, training of other staff), as appropriate.

4.2 Sources and Control of Dust/ Particulates

4.2.1 Potential emissions that may be generated from waste operations at the site are predominantly dust/particulates and include the following:

- Dust/particulates from HGV movements, uncovered vehicles carrying dust-generating waste, or mud on the wheels deposited from vehicles off-site.
- Dust/particulates from tipping, movement and processing of imported wastes.

- Dust/particulates from waste in storage areas, including incoming construction and demolition waste and aggregate products.

- Dust/particulates generated from site roads and surfaces.

- Exhaust emissions from the use of mobile plant, treatment plant and generators.

- Exhaust emissions from HGV movements.

4.2.2 Tables 2 and 3 below detail the sources of emissions at the site and include the pathways to identified receptors. Proposed mitigation and control measures are provided for each source-pathway-receptor linkage, and an assessment of overall risk is provided for each emission source.

Source	Pathway	Receptor	Type of Impact	Mitigation and Control Measures	Overall Risk
Mud: HGV movements Brought out on wheels of vehicles and deposited off-site	Wheels and vehicles tracking mud on and off-site and dropping off when dry, then resuspension as airborne particles	Local residents Local Amenities Surrounding employees	Dust deposition soiling surfaces Visible dust plumes Elevated PM_{10} and associated health impacts Ecological impacts	**Avoidance/Containment:** Limit vehicle speeds to <10 mph. Well maintained site surface and roads and deployment of road sweeper if required. Wheel wash used by all exiting HGVs. Vegetation screening on west and east. **Suppression:** Dampen roads or stockpiles as required. **Management Control:** Regular monitoring of off-site roads and use of road sweeper. Visual dust monitoring during daily checks. Customers instructed to cover vehicles, when feasible, before entering and leaving site.	**Low**
Dust /particulates: Generated from waste tipping, processing, movement, stockpile storage, uncovered loads, site surfaces	Atmospheric dispersion (wind-blown dust)	Local residents Local Amenities Surrounding employees	Dust deposition soiling surfaces Visible dust plumes Elevated PM_{10} and associated health impacts Ecological impacts	**Avoidance /Containment:** Pre-acceptance procedures in place to minimise acceptance of dust-generating wastes. Minimise drop heights during tipping and movement of wastes/processed wastes. Clean up any spillages that occur during material loading/unloading. Careful placement of material into stockpiles, treatment plant or vehicles by fully trained and competent operatives. Vegetation screening on west and east. **Suppression:** Stockpiles and roads will be dampened if dust is being generated. Washing is a wet process and other treatment plant is fitted with dust suppression. **Management Control:** Visual dust monitoring during daily checks. Waste pre-acceptance procedures in place in order to identify and reject unsuitable material prior to arrival at site.	**Low**

Table 2: Assessment of Risks from Dust Generation

Source	Pathway	Receptor	Type of Impact	Mitigation and Control Measures	Overall Risk
HGV exhaust emissions	Atmospheric dispersion	Local residents Local Amenities Surrounding employees	Increase in airborne particles and in nitrogen dioxide, sulphur dioxide and associated human health impacts	**Avoidance/ Containment:** Regulatory controls and best practice measures are in place. **Management Control (EMS):** Limit vehicle speeds to < 10 mph. Ensure all vehicles switch off engines - no idling vehicles. Regular inspection and maintenance. Use of higher tier emission standard machinery/ plant[7] where available.	**Very Low**
Mobile plant exhaust emissions	Atmospheric dispersion	Local residents Local Amenities Surrounding employees	Increase in airborne particles and in nitrogen dioxide, sulphur dioxide and associated human health impacts	**Avoidance/ Containment:** Regulatory controls and best practice measures are in place. Use of higher tier emission standard machinery/ plant[7] where available. **Management Control (EMS):** Ensure all vehicles switch off engines - no idling vehicles. Regular inspection and maintenance.	**Very Low**

Table 3: Assessment of Risks from Engine Emissions

4.3 Monitoring and Inspections

4.3.1 The SM or delegated representative will undertake daily site inspections which will include dust soiling checks of site surfaces to monitor compliance with the EMP. Any remedial actions taken will be recorded in the site diary.

4.3.2 Site operatives will be trained to ensure they are familiar with the EMP and will in effect carry out visual assessment of dust throughout the day. Operatives are trained to be more aware of dust potential during periods of strong winds.

4.3.3 If visible dust is observed or conditions are likely to raise dust emissions then preventative/ suppression mitigation measures will be implemented, as detailed in Section 6.

4.3.4 Monitoring of particulates (PM_{10}) is not considered to be warranted at this site due to the low sensitivity of surrounding receptors, and the avoidance, and suppression mitigation measures set out in the EMP.

4.4 Housekeeping

4.4.1 A road sweeper is used for all site surfaces and the off-site road. In addition the site surfaces are scraped clean using the loading shovel.

4.4.2 Table 4 below details the housekeeping schedule that is in place.

Frequency	Action
Daily	Visual inspection for dust on surfaces and plant – any actions required that are not part of daily routine are recorded in the daily log Bowser deployed to spray site surface and stockpiles when not raining Shovelling/tidying debris using loading shovel
Weekly	Road sweeper deployed to clean up and down access road Wheel wash water replenished
Monthly	Wheel wash desilted – debris scraped out with loading shovel

Table 4: Housekeeping Schedule

5. PARTICULATE MATTER MONITORING

5.1 Due to the low sensitivity of surrounding receptors, and the avoidance, containment and suppression mitigation measures employed at the site, as outlined 3.3 above, monitoring of particulates (PM_{10}) is not proposed.

6. CONTINGENCY AND ACTION PLAN

6.1 In the event that dust/particulates or excessive vehicle emissions are perceived as a concern by site operatives or as the result of a complaint, the source will be investigated immediately by the SM, or delegate.

6.2 When investigating any such report, the following factors will be considered:

- Location of the source relative to receptors;
- Prevailing wind directions on site; and
- Dust/particulates and vehicle emissions from other sources (ie landfill).

6.3 Remedial actions will be undertaken immediately where possible. Appropriate actions will be taken on an escalating basis and include the following as appropriate:

- Simple repairs or modifications to plant or machinery or switching off equipment.
- Deployment of road sweeper to clean and dampen access roads.
- Use of water suppression on stockpiles or site surfaces.
- Temporary suspension of waste processing operations and/or acceptance of incoming waste.

6.4 The SM will coordinate more complex responses, which could include: review of customers at the pre-acceptance stage if certain hauliers continue to bring in mainly dusty loads or have excessive exhaust emissions; implementing a local community engagement exercise; or liaising with regulators.

6.5 Any incidents, their outcomes and details of any remedial actions taken related to emissions will be recorded in the site diary.

6.6 The SM will ensure that the site is equipped with contingency provisions for replacement plant and parts relating to emissions management equipment (eg water bowser and road sweeping equipment). The aim will be to repair equipment within 24 hours of breakdown.

6.7 If key suppression equipment cannot be repaired or replaced within 24 hours, or other failure occurs (eg freezing water or water supply restrictions), the SM will consider whether to suspend processing operations. This decision will be based on the potential impact of dust emissions as a result of the breakdown or system failure.

6.8 Contingency Actions are summarised in Table 5.

Event	Action
Dust soiling on surfaces within site	- check if surfaces and stockpiles have been damped down, repeat if dry - check dust suppression is working on plant - check drop heights on conveyors and adjust to as low as practical - check wheel wash has been cleaned and topped up
Visible dust plume being carried off site	- temporarily suspend operations to investigate source/cause of dust emission - repeat damping down of surfaces and stockpiles
Complaints received from neighbours	- investigate the weather conditions on the day of complaint - check plant settings and identify any issues or errors - check stockpiles and surfaces - report back investigation findings to complainant - deploy road sweeper

Table 5: Contingency Actions

7. REPORTING AND COMPLAINTS PROCEDURES

7.1 Reporting of Complaints

7.1.1 Any complaints relating to the site will be dealt with according to the Complaints Procedure (reference CSA/EMS/CP) which forms part of the EMS. This is summarised below.

7.1.2 All complaints received, either via the local authority, EA or directly from members of the public, are recorded and investigated by the SM. A response is reported back to the complainant.

7.1.3 A record of incidents, accidents or non-conformances will be kept including the following information:

- Date and time of incident
- What happened
- What caused it
- Details of any contamination
- Who was involved
- What action was taken
- Were external agencies involved
- Any changes that have been made to the procedures/ EMS to ensure the incident does not reoccur

7.1.4 Operations can be suspended whilst the complaint is investigated and remedial action applied.

7.2 Management Responsibilities

7.2.1 The responsibility of handling complaints is with the SM. Incidents are investigated by the SM, or delegate, whereby rectifying action is determined.

8. SUMMARY AND EMP REVIEW

8.1 Waste operations carried out at the aggregate processing facility have the potential to generate fugitive emissions. However, mitigation measures will be in place to reduce off-site impacts.

8.2 The sensitivity of receptors to adverse impacts from dust has been assessed in accordance with IAQM guidance and determined to be low. The closest sensitive receptors were identified as local residents along Carrington Road/Adlington, but due to their distance from the dust source and intervening 5 m screening bund, these receptors are considered to be at low risk of dust/emissions nuisance.

8.3 Primary control of dust emissions will be through avoidance and suppression measures, which includes: pre-acceptance procedures; on-site speed limit of 10 mph; well-maintained and clean access road; suspension of treatment during high winds if dust cannot be adequately contained; and dampening of site surfaces and stockpiles with water on days without rain.

8.4 The risk of adverse effects from dust has been determined as low to very low following the implementation of mitigation measures.

8.5 The EMP forms part of the site EMS and will be reviewed annually or following incidents or complaints.

C Gettinby
PhD BSc (Hons) MCIWM
Director

APPENDIX A

Drawings

NORTH

DENSE WOODLAND

Foot Bridge

PRE-TREATMENT STORAGE AREA FOR WASH PLANT

TREATMENT PLANT

GRADED STONE/ SAND STORAGE AREA

DRY CRUSHING AREA FOR 6F2

SETTLEMENT LAGOON

FINISHED PRODUCT STORAGE AREA

TARMAC STORAGE BAY

W/B

Leeds and Liverpool Canal

Towing Path

Rigshaw Bridge Cottages

Pond

LOCATION OF 5m BUND

Track

Pond

CASTLE HOUSE FARM LANDFILL

DENSE WOODLAND

SANDY LANE

Sandons Farm

CARRINGTON ROAD

Graemar

KEY

RECYCLING CENTRE BOUNDARY

PERMIT BOUNDARY FOR EPR/CB3606CU

NOTES: TOPOGRAPHIC SURVEY CONDUCTED IN DECEMBER 2018.

REV.	DESCRIPTION	DATE	BY
D	MINOR AMENDMENTS	30/08/22	MYB
C	ADDED ARTIFICIAL GEO BARRIER, SCALE CHANGED	31/10/19	MYB
B	MINOR MODIFICATIONS	31/10/19	MYB
A	REVISED RECYCLING CENTRE BOUNDARY, ADDED STORAGE AREAS, CHANGED SCALE	10/10/19	MYB

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CLIENT.

CHORLEY SAND & AGGREGATES LIMITED

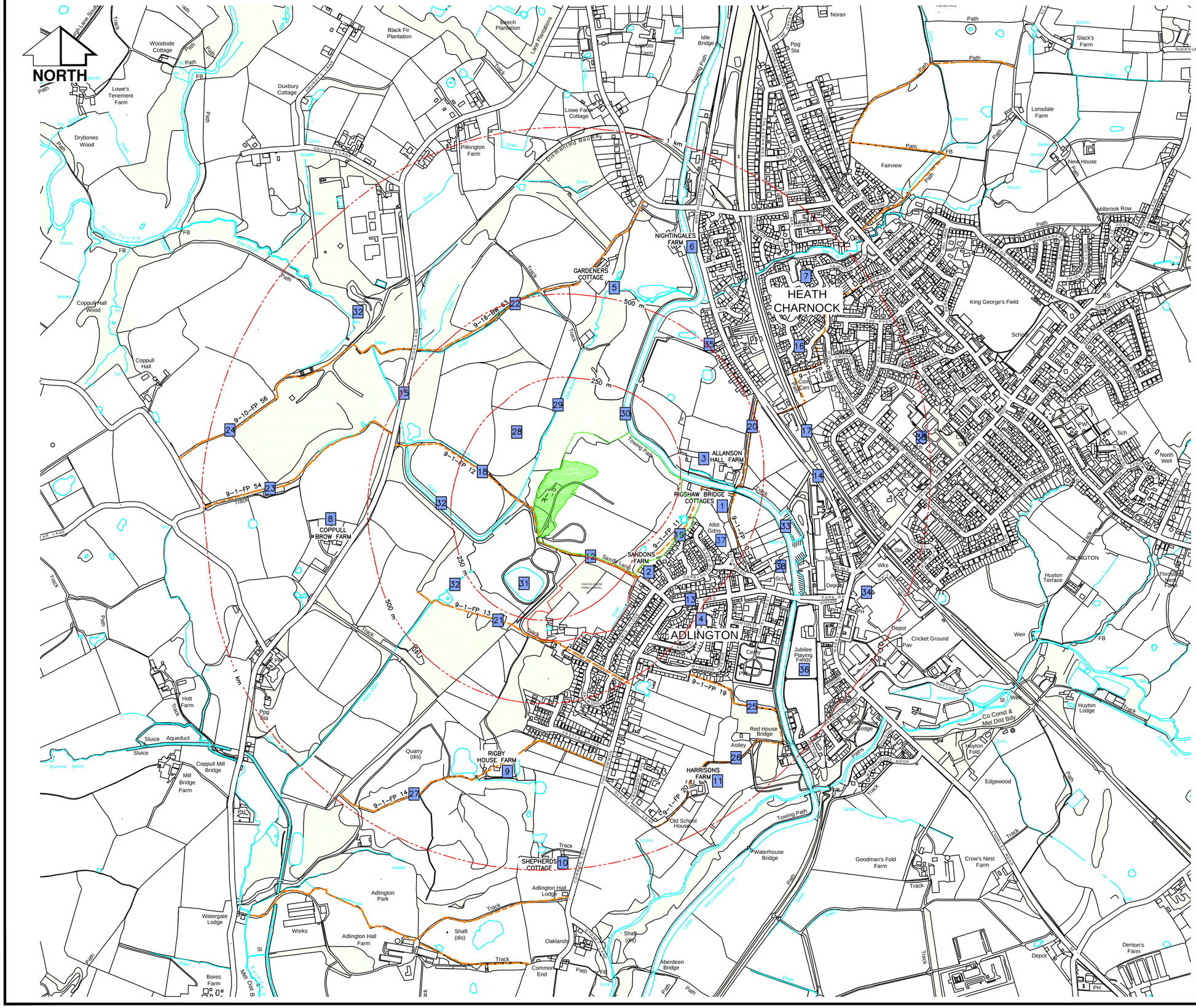
JOB TITLE.

SANDONS FARM RECYCLING FACILITY

DRAWING TITLE.

SITE PLAN

DRAWN BY.	APPROVED BY.	DRAWING No.
MC	ML	11561/14D
DATE. 26/04/2013	SCALE @ A3. 1:2000	



KEY

- AGGREGATE RECYCLING FACILITY
- PERMIT BOUNDARY FOR EPR/CB3606CU
- RECEPTOR DISTANCE OFFSETS
- PUBLIC FOOTPATH
- 28 — RECEPTOR REFERENCE (REFER TO REPORTS 11561/18 & 11561/31)

PREVAILING WIND

REV.	DESCRIPTION	DATE	BY
A	AMENDED SITE BOUNDARY, MINOR MODS	22/08/22	MYB

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CLIENT.
CHORLEY SANDS & AGGREGATES LIMITED

JOB TITLE.
SANDONS FARM RECYCLING FACILITY

DRAWING TITLE.
RECEPTORS

DRAWN BY.	APPROVED BY.	DRAWING No.
MYB	CG	11561/40A
DATE.	SCALE @ A2.	
02/04/2020	1:8,000	

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