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ENERGY AND CLIMATE CHANGE
ENVIRONMENT AND SUSTAINABILITY
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LAND AND PROPERTY
MINING AND MINERAL PROCESSING
MINERAL ESTATES
WASTE RESOURCE MANAGEMENT

QUERCIA LIMITED

CLAYTON HALL LANDFILL EXTENTION

DUST MANAGEMENT PLAN

DECEMBER 2024

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QUERCIA LIMITED

CLAYTON HALL LANDFILL EXTENTION

DUST MANAGEMENT PLAN

DECEMBER 2024

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APPENDICES

DRAWINGS	TITLE	SCALE
ST18115-004A	Clayton Hall Landfill Receptor Plan	1:20,000

VERSION CONTROL

Issue Date	Version	Prepared By	Key Changes
December 2024	1	DDA (Wardell Armstrong)	Original

1 INTRODUCTION

1.1.1 Quercia Limited ("Quercia") have commissioned Wardell Armstrong to prepare an environmental permit variation application to their Clayton Hall Landfill Site in Chorley, Lancashire.

1.1.2 The environmental permit allows the disposal of non-hazardous waste to landfill (permit reference is EPR/BV1364ID).

1.1.3 The permit variation seeks to include an extension to the Phase 4 of Cell 4B located to the south of the landfill.

1.1.4 This Dust Management Plan has been prepared as part of a permit variation application relating to the extension of the landfill. The landfill is already permitted to accept a range of non-hazardous waste streams, and no new additional waste streams are proposed to be deposited into the landfill extension area.

1.1.5 This document outlines the methods by which Quercia will systematically assess, reduce, and prevent potential dust and particulate emissions from wastes received onto Site and deposited into Clayton Hall Landfill. This DMP provides the explicit list of 'appropriate measures' required for effective dust management and control and serves to aid the decision making process on the choice of controls, general site design and operational practice in line with current industry best practice. The Dust Management Plan (DMP) is a working document with the specific aim of ensuring that:

- all potential dust sources are identified;
- dust impact is considered as part of routine inspections;
- dust is primarily controlled at source by good operational practices, the correct use and maintenance of plant, and operator training;
- all appropriate measures are taken to prevent, or where that is not reasonably practicable, to minimise dust emissions to air from the installation that may be considered offensive at locations outside of the installation boundary;
- people outside of the site are not exposed to levels of dust that would result in annoyance, loss of amenity or respiratory irritation; the risk of unplanned dust releasing incidents or accidents is minimised; and
- site developments take into account dust potential and potential impacts from work carried out.

1.1.6 This DMP has been prepared in accordance with Environment Agency guidance: 'Control and Monitor your Emissions' and the Environment Agency's template for Dust and Emission Management Plans.

1.1.7 This plan will be used in conjunction with other documents that form part of Quercia's Environmental Management System to ensure that the new activities are managed in a way that prevents or at least minimises pollution.

2 SITE SETTING AND SENSITIVE RECEPTORS

2.1 Site Location and Site Setting

2.1.1 The Site address is Clayton Hall Landfill, Clayton Hall Sand Quarry, Dawson Lane, Whittle-le-Woods, Chorley, PR6 7DT.

2.1.2 The National Grid Reference (NGR) for the Site is SD 56787 22022.

2.1.3 The Site is located approximately 9km south of Preston, and approximately 3km north of Chorley.

2.2 Sensitive Receptors

2.2.1 Sensitive receptors within proximity of the Site which may be particularly sensitive to dust emissions are listed in Table 2.1 below. Receptors particularly sensitive to dust include receptors such as domestic residences, care homes, schools, workplaces. Sensitive receptors comprising schools, nurseries, care homes and hospitals are also shown on drawing ST18115-004

Table 2.1: Receptors within 2km of Clayton Hall Landfill

Receptor	Receptor Type	Approximate distance/Direction from Installation Boundary
Houses off Spring Meadow, Clayton-le-Woods	Houses	20m, northwest
Leyland Golf Club Limited, golf course	Recreational	60m, southwest
Oak House	Houses	70m, west
Spring Meadow Community Centre	Recreational	150m, east
Happy House Preschool and Nursery	School	250m, west
Glenstone Manor Day Nursery	School	360m, south
Houses off Juniper Croft	Houses	375m, northeast
Lisieux Hall, Assisted Living Residence	Care Home	400m, southeast
Allotments	Recreational	580m, southeast
Willowbank Rest Home	Care home	600m, northwest
Lancaster Lane Community Primary School	School	640m, west
Rowandale Care Home	Care home	860m, northeast

Table 2.1: Receptors within 2km of Clayton Hall Landfill		
Receptor	Receptor Type	Approximate distance/Direction from Installation Boundary
Buckshaw Retirement Village, Oakbridge Retirement Villages, The Lodge	Care homes	860m, southwest
Clayton-le-Woods Church of England Primary School	School	890m, northeast
Whittle-le-Woods CE Primary School	School	900m, east
Clayton-le-Woods Manor Road Primary School	School	900m, northeast
High Cliffe Retirement Village	Care home	1km, east
Buckshaw Hospital	Hospital	1.1km, west
Lilliput Nursery School	School	1.2km, east
Little Acorns Nursery School	School	1.2km, northeast
Future Champions Nursery	School	1.3km, east
St Catherine's Catholic Primary School	School	1.4km, northwest
Trinity Church of England Methodist Primary School/Talking Tots/Buckshaw Playgroup	School	1,4km, south
St Bede's Roman Catholic Primary School/Billington Bears Nursery	School	1.7km, northeast
Cambian Red Rose School	School	1.7km, northeast
Lever House Primary School	School	1.7km, northwest
Balshaw's Church of England High School	School	1.8km, west
Farrington Primary School	School	1.9km, northwest

2.2.2 Average wind direction data available from the Met Office for the nearest airfield, Blackpool Airport, which is located approximately 26.7km to the northwest from the Site indicates the prevailing wind direction is from the west/southwest. Figure 1 provides the wind rose from the Met Office website indicating the prevailing wind direction.

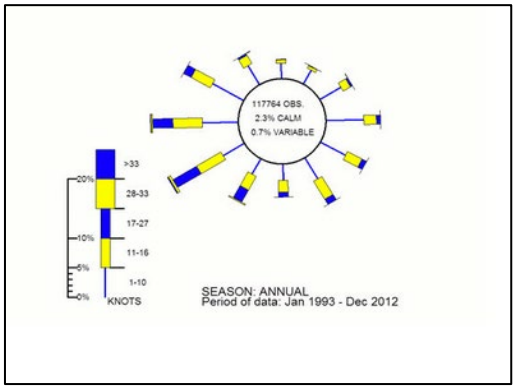


Figure 1: Met Office Windrose showing average prevailing wind direction at Blackpool Airport (January 1993 – December 2012).

2.2.3 The wind direction information is also shown on the receptor plan drawing ST18115-004.

2.3 Source-Pathway-Receptor Conceptual Site Model

2.3.1 Table 2.2 below provides the Source-Pathway-Receptor Conceptual Site Model for the landfill with respect to fugitive dust emissions, and the control measures required to be implemented.

Table 2.2: Source-Pathway-Receptor Conceptual Site Model

Source	Pathway	Receptor	Control Measure
Unloading and tipping of materials into the landfill	Airbourne Wind whipping of dusty materials	Local residents, local businesses, local wildlife/habitats	Incoming loads to be sheeted Minimising drop heights Dampening where necessary Consideration of wind direction so that where possible tipping face in more sheltered location
Crushing and screening of inert materials to ensure their suitability as landfill cover	Airbourne	Local residents, local businesses, local wildlife/habitats	Activities to temporarily stop during periods of dry weather and high winds

Table 2.2: Source-Pathway-Receptor Conceptual Site Model			
Source	**Pathway**	**Receptor**	**Control Measure**
Open air stockpiles of waste	Airbourne Wind whipping of dusty materials	Local residents, local businesses, local wildlife/habitats	Minimising the stockpiling of material as far as possible Dampening of dry material with water
Vehicle movements	Airbourne Tracked out of the site or disturbed by vehicles	Local residents, local businesses, local wildlife/habitats	Site access roads maintained with compacted hard core Dampening down sweeping of surfaced site roads where necessary On site speed limit 10mph
Carriage of dust/mud onto highways	Tracked out of the site on vehicle wheels/vehicle chassis	Local residents, local businesses	Wheel wash available on Site Regular inspections of site roads and nearby highways

3 POTENTIAL ON-SITE SOURCES OF DUST

3.1.1 The non-hazardous cells of Clayton Hall Landfill are permitted to accept potentially dust generating wastes, for example crushed rocks, sand, sawdust, wood shavings, bottom ashes, soils.

3.1.2 There is also a Recycling Centre/Material Recycling Facility (permit reference EPR/AP3897CJ) within the installation boundary, which is also operated by Quercia. Treatment comprises of sorting, shredding, compacting and baling of wastes inside the MRF building. The wastes to be accepted into the MRF include materials which may generate dust such as wood, concrete, bricks, tiles and ceramics.

3.1.3 Potential sources of dust associated with the site activities are as follows:

- vehicle movements - delivery vehicles, movement of waste around the site/for deposit into the landfill, mobile plant in and around the site;
- temporary stockpiles of waste;
- crushing and screening of C&D waste for the purposes of landfill cover and maintenance of Site roads;
- material handling including unloading and deposit into the landfill.

3.1.4 Section 4 provides the dust control measures to be implemented to reduce the likelihood of dust emissions arising from the handling and emplacement of wastes.

4 DUST AND PARTICULATE MATTER CONTROL MEASURES

4.1 General

4.1.1 The effectiveness of the dust control measures will be reviewed at least once per year. This interval may be shorter if there have been dust complaints received or changes to the operations or infrastructure.

4.2 Process Overview

4.2.1 Incoming vehicles carrying waste loads will be directed to the weighbridge, where loads are weighed and inspected.

4.2.2 Any wastes which are identified as being a banned waste (e.g. liquid waste, highly flammable waste such as lithium-ion batteries, textiles containing POPs) will be rejected from the site.

4.2.3 Materials are then diverted into the reception area.

4.2.4 Materials suitable for landfill cover/site road maintenance will be transferred to a dedicated storage area. Where required, materials may be crushed and screened to ensure that they are suitable for use as landfill cover.

4.2.5 Non-hazardous and inert materials suitable for disposal into the landfill are then transferred to the tipping face, deposited and then compacted within the landfill void.

4.3 Transport, Plant and Equipment

4.3.1 Vehicles delivering waste will be sheeted or covered when entering and exiting the Site, to prevent escape of dust during transportation of incoming waste.

4.3.2 On Site speed limits of 10mph will be enforced to limit the generation of dust by vehicle movements on entrance/exit roads.

4.3.3 The site management will ensure that sufficient plant and equipment is maintained at the facility to adequately handle all delivered waste in an efficient manner.

4.3.4 All plant and equipment shall be maintained in good working order and in accordance with the supplier's or manufacturer's recommendations. Plant operators shall be responsible for daily and weekly vehicle checks of their respective machines. Any defects shall be reported to the site management promptly and rectified as soon as possible. Records will be retained on the operator maintenance and defect sheets.

4.4 Meteorological Observations

4.4.1 The fill direction and sequence of infilling will be carried out with due consideration to the meteorological conditions. The site has its own weather station allowing accurate monitoring of weather conditions.

4.4.2 In the event of strong winds and dry weather, consideration will be made as to whether operations should temporarily cease.

4.5 Landfill Cover

4.5.1 Landfill cover is used to prevent wind-blown dust from waste deposits in the landfill becoming airborne. Only suitable materials will be selected for this use.

4.5.2 By the end of each working day, cover is applied to the top, working flanks and working faces of the operational area. Daily cover is progressively applied to the waste surface, materials used are derived from suitable imported waste or material available on site which includes inert materials (e.g. soils and hardcore), clay, compost/compost rejects.

4.5.3 A stockpile of cover material is maintained, as necessary, in the vicinity of the working face, in order to ensure that exposed waste can be covered at the end of each working day or sooner if conditions dictate.

4.6 Water Supply and Dust Suppression

4.6.1 If site vehicle movements generate dust, a bowser will be used to dampen roads and surfaces where necessary. The bowser will be maintained on-site at all times and be kept full to ensure timely execution when needed.

4.6.2 Vehicles will be inspected on leaving the site and will be cleaned via the wheel wash wherever necessary.

4.6.3 The wheelwash will be maintained in accordance with the manufacturer's instructions.

4.6.4 Water suppression will be utilised as and when dust is visually detected in the airflow.

4.7 Waste Reception and Storage

4.7.1 All waste received at the site is initially assessed by the weighbridge operator to ensure it complies with the waste transfer note description and the permitted waste types for the facility. Any unauthorised waste that has not been unloaded will be

refused access to the site. Further details of waste acceptance procedures are contained within Quercia's Waste Acceptance Procedure.

4.7.2 Most waste is transported to the site is in enclosed waste delivery vehicles. Waste shall be discharged from the delivery vehicle directly into the waste reception area and consolidated by mobile plant after visual inspection.

4.7.3 Wastes will be damped down as necessary to prevent emissions of dust.

4.8 Housekeeping

4.8.1 All surfaced site roads will be swept at regular intervals to prevent the accumulation of dusty or muddy material. General housekeeping will be undertaken daily, and checks will be carried out to ensure smooth and efficient running of the site.

4.8.2 Temporary roads will be properly maintained with suitable hardcore and compacted to minimise the potential for dust and mud to be generated.

4.8.3 Mobile plant will be subject to regular inspections to ensure waste does not accumulate on the machine and will be cleaned as necessary.

4.8.4 Site infrastructure will be inspected for damage and wear by site management or an appointed responsible person at pre-defined intervals.

4.8.5 Site roads and operational areas will be sprayed/dampened down if appropriate.

4.9 Training

4.9.1 All Quercia personnel working at the facility will be subject to a formal documented training programme in accordance with company procedures. Matters relating to site environmental management and control form part of this core training programme for all individuals.

4.9.2 This will include awareness of dust emissions and their potential impacts, basic control measures to be used and how to report environmental issues to management.

5 DUST MONITORING

5.1 General

5.1.1 Dust and particulate matter monitoring will comprise of:

- monitoring of meteorological conditions;
- daily visual monitoring and Site inspections.

5.1.2 The above monitoring methods are discussed further in the following sections.

5.2 Meteorological Conditions

5.2.1 In promoting proactive management of the risks arising at the site, site management will maintain an awareness of the local daily and weekly weather forecast and may alter site operations accordingly.

5.3 Daily Visual Monitoring and Site Inspections

5.3.1 All site personnel are responsible for reporting dust related problems. The site management will be notified immediately of any detectable emissions of dust that are considered to have potential to give risk to an off-site impact.

5.3.2 The site management will ensure that routine inspections are made of the site during operational periods in order to identify any dust sources and if necessary to establish whether dust is discernible at the perimeter of the site.

5.3.3 All staff responsible for assessing dust will receive training from the site management on the dust inspection procedure.

5.3.4 In addition, inspections of site roads and nearby highways will be made to ensure that dust or dusty wastes are not generating mud which is being tracked out of the site. A wheel wash will be used for vehicles exiting the site.

6 COMPLAINTS PROCEDURE

6.1.1 Any complaints will be taken seriously and responded to without delay.

6.1.2 If a complaint is received that relates to emissions of dust from the Site, the Site Manager will be notified as soon as possible, and an investigation will be undertaken to determine the cause of the dust emissions.

6.1.3 The Site Manager will acknowledge the complaint by contacting the complainant and details of the complaint will be recorded in the Dust Complaint Form (provided in Appendix 1). Details of the actions that are undertaken in response to the complaint will also be recorded on the form.

6.1.4 The results of the investigation and any remedial measures that are taken to resolve the complaint will also be recorded on the form.

6.1.5 The results of the investigation and any remedial measures that are taken to resolve the complaint will be made available to the Environment Agency upon request. Records will be kept of inspections and any actions taken to resolve any identified emissions.

7 DOCUMENT REVIEW AND RESPONSIBILITY

7.1 Review Requirement and Timescale

7.1.1 While operations continue at the site that could give rise to the generation of dust, this Dust Management Plan will be formally reviewed at minimum annual intervals to ensure it continues to reflect the ongoing site status and associated sensitivity/risk.

7.1.2 Any required changes to the conditions set out within this document will be formally agreed with the Environment Agency prior to their implementation.

7.1.3 A version control record will be made in the subsequent reissuing of the Dust Management Plan.

7.2 Review and Plan Update

7.2.1 This management plan sets out the appropriate measures Quercia will undertake in controlling any dust or potentially dusty activities from the facility. If, on review of the performance of the facility, Quercia and/or the Environment Agency propose to seek a revision of this plan, then the following course of action will be undertaken by both parties.

1) In potentially critical circumstances where Quercia recognises the requirement for the immediate implementation of changes to the management plan to prevent or reduce significant dust emissions, these changes will be discussed with the Environment Agency without delay but may be actioned by Quercia ahead of formal agreement with the Environment Agency.

2) Where Quercia proposes changes to the management plan that involve a more strategic and/or phased approach, rather than a need for immediate implementation, a formal proposal will be submitted by Quercia to the Environment Agency setting out the specific issues arising from document review, and the options/issues requiring Quercia's further attention following Agency approval. The Environment Agency will review Quercia's submission/updated management plan and confirm they are satisfied with the proposed changes. Where possible, the response should be within 28 days of receipt of Quercia's submission. The agreed required changes will then form the future 'appropriate measures' for the site with regard to dust management and control.

3) Where changes to the management plan are proposed by the Environment Agency, these will be discussed with Quercia 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 Quercia and an appropriate action plan agreed. Quercia 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.

7.3 Responsibility

7.3.1 It is the responsibility of senior Site staff to ensure that the Dust Management Plan is enforced and that all employees are made aware and understand the contents of the plan.

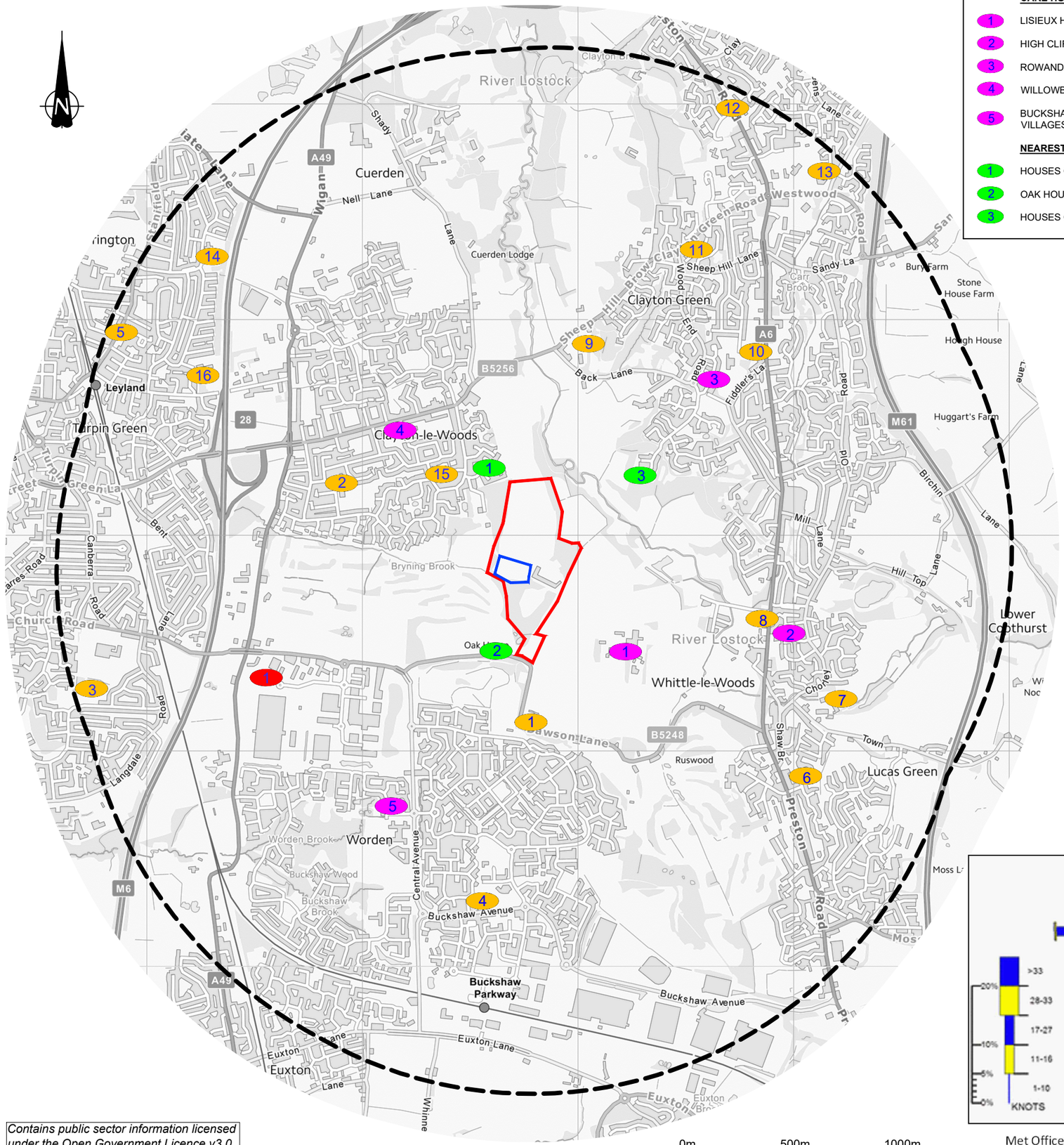
APPENDIX 1

Dust Complaint Log

DUST COMPLAINT LOG

Date		Time	
Person receiving complaint			
Complainant Name			
Complainant Address			
Complainant Phone number			
Nature of Complaint (When, where, how much dust)			
Weather Conditions (temperature, precipitation wind strength and direction at time of incident)			
Investigation findings			
Environment Agency Advised (date/time)			
Action Required			
Action Taken			
Action signed off			

DRAWINGS



CARE HOMES

1. LISIEUX HALL
2. HIGH CLIFFE RETIREMENT VILLAGE
3. ROWANDALE CARE HOME
4. WILLOWBANK REST HOME
5. BUCKSHAW RETIREMENT VILLAGE/OAKBRIDGE RETIREMENT VILLAGES/THE LODGE

NEAREST RESIDENTIAL RECEPTORS

1. HOUSES OFF SPRING MDW
2. OAK HOUSE
3. HOUSES OFF JUNIPER CROFT

KEY

- CLAYTON HALL LANDFILL INSTALLATION BOUNDARY
- CELL 4B PHASE 4 EXTENSION AREA
- 2km BOUNDARY OFFSET FROM SITE

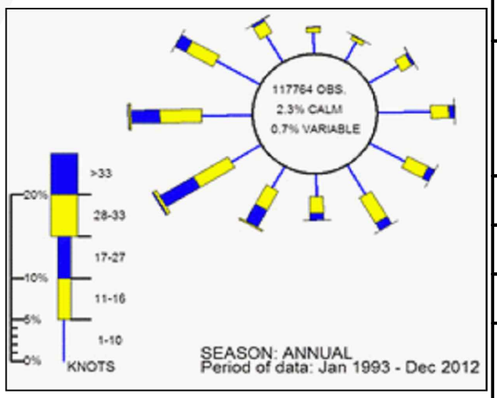
SCHOOLS/NURSERIES

1. GLESTON MANOR DAY NURSERY
2. LANCASTER LANE COMMUNITY PRIMARY SCHOOL
3. BALSHAW'S CHURCH OF ENGLAND HIGH SCHOOL
4. TRINITY CHURCH OF ENGLAND METHODIST PRIMARY SCHOOL/TALKING TOTS/BUCKSHAW PLAYGROUP
5. FARINGTON PRIMARY SCHOOL
6. FUTURE CHAMPIONS NURSERY
7. LILLIPUT NURSERY SCHOOL
8. WHITTLE-LE-WOODS CE PRIMARY SCHOOL
9. CLAYTON-LE-WOODS CHURCH OF ENGLAND PRIMARY SCHOOL
10. CLAYTON-LE-WOODS MANOR ROAD PRIMARY SCHOOL
11. LITTLE ACORNS NURSERY SCHOOL
12. CAMBIAN RED ROSE SCHOOL
13. BILLINGTON BEARS/NURSERY/ST BEDE'S CATHOLIC PRIMARY SCHOOL
14. LEVER HOUSE PRIMARY SCHOOL
15. HAPPY HOUSE PRESCHOOL AND NURSERY
16. ST CATHERINE'S RC PRIMARY SCHOOL

HOSPITALS

1. BUCKSHAW HOSPITAL

0m 500m 1000m
SCALE 1:20,000



Met Office Windrose for Blackpool Airport (Source: Met Office Website)

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D
A	FIRST ISSUE	19/12/24	SJB	AC	AC

CLIENT

QUERCIA LIMITED

PROJECT

ENVIRONMENTAL PERMIT VARIATION

DRAWING TITLE

CLAYTON HALL LANDFILL
RECEPTOR PLAN

DRG No.	REV	SUIT. CODE
ST18115-004	A	

DRG SIZE	SCALE	DATE
A3	1:20000	19-08-24

DRAWN BY	CHECKED BY	APPROVED BY
DR	AC	AC

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