Air Quality Assessment

Proposed Waste Transfer Station, Land at end of Falconer Road, Haverhill, Suffolk

WIDDINGTON RECYCLING LTD

R25.12183/2/AG
Date of Report: 03 April 2025

REPORT DETAILS

Client	Widdington Recycling Ltd
Report Title	Air Quality Assessment – Proposed Waste Transfer Station, Land at end of Falconer Road, Haverhill, Suffolk
Site Address	Land at end of Falconer Road, Haverhill, Suffolk CB9 7UU
Report Ref.	R25.12183/2/AG
Vibrock Contact	vibrock@vibrock.com

QUALITY ASSURANCE

Issue No.	Issue Date	Comments	Author	Technical Review
1	25/09/24	n/a	[redacted] A Gutteridge MIEnvSc Consultant	[redacted] R Smith GradIEMA Consultant
2	03/04/25	Amendments following Suffolk County Council Comments	[redacted] A Gutteridge MIEnvSc Consultant	[redacted] R Smith GradIEMA Consultant

This report has been prepared by Vibrock the trading name of Vibrock Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Vibrock Limited
Shanakiel
Ilkeston Road, Heanor
Derbyshire, DE75 7DR
Tel: +44 (0) 1773 711211
Fax: +44 (0) 1773 711311
Email: vibrock@vibrock.com
Web: www.vibrock.com

COMPETENCY AND EXPERTISE

The Company

Vibrock Limited is an established independent environmental consultancy who has been providing noise, dust and vibration consultancy services to industry since 1991. Vibrock Limited is a member of the Association of Noise Consultants (ANC), and the British Occupational Hygiene Society (BOHS), and its Consultants are Associate or Corporate Members of the Institute of Acoustics (IOA), Institution of Environmental Sciences (including the Institute of Air Quality Management), Institute of Environmental Management and Assessment, and the Institute of Explosive Engineers.

The Authors

Russell Smith BSc (Hons), MSc, MIOA, GradIEMA has undertaken responsible work in occupational noise, indoor air quality personal assessment, and environmental noise and air quality assessment since 2013. This includes a wide range of applications within the industrial, waste management, and mineral extractive sectors. Mr Smith graduated with first class honors of an Institute of Engineering and Technology accredited undergraduate degree programme, and completed an Institute of Environmental Management and Assessment accredited Master's degree. In addition to these academic achievements and experience, Mr Smith holds memberships to the Institute of Acoustics and the Institute of Environmental Management and Assessment.

Aaron Gutteridge BSc (Hons), MSc, MIOA, MIEnvSc: an MSc Applied Acoustics Graduate joined Vibrock Limited May 2015, where he has worked in an Environmental Consultant role specialising in Environmental Acoustics and Air Quality. Mr Gutteridge regularly undertakes various environmental assessments, such as air quality studies for environmental impact assessments, industrial noise assessments and environmental noise assessments. Mr Gutteridge has completed both an 'International Environmental Policy and Law Certificate of Credit' and an 'Environmental Impact Assessment Certificate of Credit' as part of the Postgraduate Certificate in Environmental Management. Mr Gutteridge holds memberships to both the Institute of Acoustics, and the Institution of Environmental Sciences (including the Institute of Air Quality Management).

NON-TECHNICAL SUMMARY

1. An application is being submitted for a proposed waste transfer facility located on the land at the end of Falconer Road, Haverhill. The application area is approximately 1.4 hectares with a throughput of recycled material of 75,000tpa. The proposed site will comprise of a waste transfer facility which will process inert waste material predominantly from construction and demolition industries. The processing of such inert materials will involve the crushing, screening (via screeners and trommel) and picking via a manual picking station. The processed material will be stored in bays protected by concrete walls ready for collection. The processed material will either be applied to a further use or be sent for safe disposal. The site will also have a weighbridge, welfare facilities, rainwater collection tank and a concrete wall around the perimeter of the proposed site between 2m and 4m in height.

2. The proposed development has the potential to generate dust and other airborne pollutants in the immediate vicinity of the operations. The likelihood of problems caused by such pollutants will be largely influenced by the effectiveness of on-site environmental control.

3. Hence potential dust sources have been identified and best practice dust control measures recommended to minimise any such disturbance at nearby sensitive locations.

4. Climatic conditions local to the site have been accessed and analysed to give an indication of how often the application site could be susceptible to fugitive dust events. Such occasions are relatively few.

5. Using DEFRA Automatic Urban and Rural Network (AURN) 2018 baseline data and predictions, a PM_{10} assessment in line with the latest guidance has been undertaken and this clearly shows that the Air Quality Objectives are not expected to be exceeded.

6. Given the intended dust control measures, it is considered that the site can be operated with minimal impact on nearby sensitive receptors.

CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 Widdington Recycling Ltd are applying for a proposed waste transfer station which will process inert waste materials from construction and demolition. The proposed facility will be located at the end of Falconer Road, Haverhill. The end-product that the facility will generate will be collected ready for secondary use or disposal. The proposed application site is around 1.4 hectares in area, with a proposed concrete wall surrounding the site perimeter to a height of 2m-4m. Designated storage bays for the processed material will be protected by 4m high concrete 'lego' blocks. A weighbridge and welfare facility will also be established on site.

1.2 The waste transfer facility application site is surrounded by industrial sites to the immediate north and east, with a residential area of the market town of Haverhill to the west. The local nature reserve site of Haverhill Railway Walks separates the application site from the residential area.

1.3 The site will process material at a rate of 75,000tpa.

1.4 The proposed development adheres to the aims and objectives and Policy GP4 of the Suffolk Minerals and Waste Local Plan, adopted July 2020. This document is utilised to ensure Suffolk can provide minerals and waste development effectively, safely and sustainably. The waste transfer station application also conforms to St. Edmundsbury Core Strategy, December 2010 Policy CS2 Sustainable Development; this document provides the core strategy for development in the area, ensuring efficient, sustainable use of land and resources in the area.

1.5 All the sensitive receptors that have the potential to overlook the application site will be screened via a concrete wall 2m or 4m in height. A hedgerow will also be planted the west and north perimeter to provide soft screening in addition to the concrete wall.

1.6 A mixture of skips and bulkers will import inert materials for processing. The onsite excavator, waste handler and loading shovel will handle this material which will be processed in the waste transfer station. The finished product will then be stored in the site yard in designated bays ready for collection.

1.7 The closest sensitive receptors to the site are identified within Figure 2. There are no Sites of Special Scientific Interest (SSSI) within 1km of the application area. There is one ecological receptor. This is the Local Nature Reserve site of Haverhill Railway Walks which is an area that follows the old railway, which is covered in scrub and larger trees, providing a wildlife corridor.

1.8 There are no AQMA's declared within 1km of the application site.

1.9 Observations in the area were conducted on 11 September 2023 and 18 September 2023 in-line with Appendix 4 of this report.

2.0 LEGISLATION, POLICY AND GUIDANCE

2.1 Legislation

The Air Quality (Standards) Regulations

2.1.1 Concentrations of key pollutants in outdoor air are regulated by the Air Quality Standards Regulations 2010 (amended in 2016).

2.1.2 These Regulations seek to control human exposure to pollutants in outdoor air to protect human health and the environment by requiring concentrations to be within specified limit values.

Air Quality Strategy: Framework for Local Authority Delivery, 2023

2.1.3 This document outlines the government strategic framework for local authorities to deliver on long-term air quality goals and setting out the newly updated particulate matter ($PM_{2.5}$) targets to be achieved by 2040.

2.1.4 Furthermore, the limits and targets for particulate matter (as PM_{10} and $PM_{2.5}$) are summarised in Table 1 below.

Table 1. National Air Quality Objectives

Pollutant	Concentration measured as:	Objective	Date to be achieved by (and maintained after)
PM_{10}	24-hour mean	50 µg/m^3 not to be exceeded more than 35 times a year	31 December 2004
	Annual mean	40 µg/m^3	
$PM_{2.5}$	Annual mean	Target of 35% reduction in concentrations compared to 2018 baseline	Legally Binding Target: 1 January 2040
		10 µg/m^3	Legally Binding Target: 1 January 2040
		Target of 22% reduction in concentrations compared to 2018 baseline	Interim target: 1 January 2028
		12 µg/m^3	Interim target: 1 January 2028

Air Quality Strategy, Framework for local authority delivery, DEFRA

The Environment Act

2.1.5 The Environment Act 1995 required the Government to produce a national Air Quality Strategy (AQS) for the UK setting out air quality standards, objectives, and measures for improving ambient air quality.

2.1.6 Under the Environment Act 2021, the Secretary of State must review the Strategy for England at least every five years, with a commitment for an initial review within 12 months of the measures coming into force. The first review will be published in 2023.

2.2 National Policy

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 2007

2.2.1 This Air Quality Strategy was published by DEFRA and sets out air quality objectives (AQO) and policy options to further improve air quality in the UK from today into the long term. As well as direct benefits to public health, these options are intended to provide important benefits to quality of life and help to protect our environment.

2.2.2 Chapter 2 of the Air Quality Strategy describes various pollutants and the potential effects on health and the environment. This chapter also charts a number of pollutants and the limits and targets associated with them.

The Clean Air Strategy, 2019

2.2.3 This strategy sets out the comprehensive actions required across all parts of government and society to improve air quality.

2.2.4 The strategy sets out how we will:

- protect the nation's health
- protect the environment
- secure clean growth and innovation
- reduce emissions from transport, homes, farming and industry
- monitor our progress

2.2.5 It complements three other UK government strategies: the Industrial Strategy, the Clean Growth Strategy and the 25 Year Environment Plan.

Air Quality Strategy (AQS): Framework for local authority delivery in England 2023

2.2.6 This document, published by DEFRA in 2023, sets out a strategic framework to enable local authorities to deliver for their communities and contribute to the government's long-term air quality goals.

2.2.7 It fulfils the statutory requirement of the Environment Act 1995 as amended by the Environment Act 2021 to publish an Air Quality Strategy setting out air quality standards, objectives, and measures for improving ambient air quality every 5 years.

National Planning Policy Framework (NPPF)

2.2.8 The NPPF was first published on 27 March 2012 and last updated on 20 December 2023. This sets out the government's planning policies for England and how these are expected to be applied.

2.2.9 Where issues of air quality impact are concerned the NPPF provides brief guidance in Chapter 15 '*Conserving and enhancing the natural environment*' as follows:

Paragraph 180:

Planning policies and decisions should contribute to and enhance the natural and local environment by preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.

Paragraph 191:

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.

Paragraph 192:

Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

Planning Practice Guidance

2.2.10 Planning Practice Guidance (PPG) is a web-based resource, which accompanies the NPPF, giving guidance on numerous categories, with the 'air quality' category (ID:32) providing guidance on how planning can take account of the impact of new development on air quality.

2.2.11 Paragraph 001 of the Air Quality section (ID: 32) of the PPG gives an overview what air quality considerations are needed to be addressed. Referring to the 2008 Ambient Air Quality Directive, which is where the Air Quality Standards Regulations are derived. Reiterating the legally binding Air Quality Objectives and stating the UK's commitments to reducing emissions of 5 damaging air pollutants: fine particle matter, ammonia, nitrogen oxides, sulphur dioxide, and non-methane volatile organic compounds. This section also gives an overview of DEFRA's modelling and monitoring of air quality and discusses the local air quality management regime.

2.2.12 Paragraph 002 of the Air Quality section of the PPG advises that planning new developments needs to consider observed trends in local air quality, impact of the air pollution, cumulative impact including vehicle emissions, and mitigation measures.

2.2.13 Paragraph 005 suggests that air quality considerations are relevant to the development management process when a development may be located in a poor air quality area, or may have an adverse impact on sensitive receptors nearby, or if users of the development may experience poor health due to air quality emissions from the development.

2.2.14 Issues that need to be considered when assessing air quality impacts are detailed in paragraph 006. Vehicle emissions and their effects, introducing a new point source of air pollution, the exposing of air pollutants including dust, giving rise to potentially unacceptable impacts such as dust during the construction on nearby sensitive receptors and the potential adverse effect on biodiversity in the area.

2.3 Local Policy and Information

Local Air Quality Management

2.3.1 Local Authorities are required to periodically review and assess air quality within their area of jurisdiction under the system of Local Air Quality Management (LAQM).

2.3.2 Local air quality is assessed against the AQOs with AQMAs declared when there is an exceedance or likely exceedance of an AQO.

2.3.3 After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12 - 18 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

West Suffolk Annual Status Report (ASR) 2023, West Suffolk Council, June 2023

2.3.4 This document outlines the AQMA's that have been declared within the West Suffolk Council boundary:

> We do not currently have plans to revoke either of the AQMAs, however, they are both now below the objective and it may be suitable to revoke both AQMAs following the completion of 2023 monitoring.
>
> A major housing development is proposed close to the Sicklesmere Road AQMA and construction may start shortly. Although in the long term the development will provide a relief road and is anticipated to reduce air pollution, the temporary negative impacts from construction activities and properties occupied before the completion of the relief road need to be considered.
>
> The Great Barton AQMA has had three years below the relevant air quality objective, however, two of these years were impact by COVID-19 restrictions and these should not be considered representative. The monitoring from 2023 will help to better establish the basis for revocation (or otherwise) of this AQMA.

Table 0.1 – Declared air quality management areas

AQMA Name	Great Barton AQMA	Sicklesmere Road, Bury St Edmunds, AQMA
Date of declaration	Declared 11 May 2011, Revoked 1 January 2013, Declared 18 April 2017	Declared 13 April 2018
Pollutants and air quality objectives	NO_2 annual mean (40µg/m3)	NO_2 annual mean (40µg/m3)
One line description	An area incorporating Gatehouse Cottage and 1 to 8 The Street (A143), in the Parish of Great Barton.	2 and 7 Sicklesmere Road and 28 Southgate House, Rougham Road, in the Parish of Bury St Edmunds (Southgate Ward)
Is air quality in the AQMA influenced by roads controlled by Highways England?	No	No
Level of exceedance: declaration	48.2 µg/m³ (2011)	44.7 µg/m³
Level of exceedance: current year	No exceedance – 35.2 µg/m3	No exceedance – 31.8 µg/m3
Number of years compliant with air quality objective	Three years	Five years
Name and date of AQAP publication	Great Barton AQMA Action Plan – November 2020	Sicklesmere Road AQMA Action Plan – November 2020
Web link to AQAP	Air quality	Air quality

Suffolk Minerals and Waste Local Plan, Adopted July 2020

2.3.5 The Suffolk Minerals and Waste Local Plan, is the land use planning strategy for minerals and waste related development in the county. It provides the basis for investment in new minerals and waste development in Suffolk.

Aims and objectives

Aim 1: To make adequate provision for minerals and waste development within Suffolk by:

Objective 1: providing Policies that set out the provision to be made for minerals and waste development within Suffolk, taking into account the need to move waste management up the waste hierarchy, waste net self-sufficiency, and the contribution that can be made from recycled aggregates.

Objective 2: providing a Key Diagram that illustrates a spatial strategy for the location of minerals and waste development and shows centres of population (as an indication of sources of waste arisings and aggregates demand), transport links and areas of constraint.

Objective 3: identifying environmentally acceptable sites for sand & gravel extraction and sites for waste management on the Proposals Map.

Objective 4: providing general Policies for the consideration for planning applications for minerals and waste management development.

Aim 2: To avoid, minimise and mitigate the impact of minerals and waste development on the environment by:

Objective 5: including environmental protection policies for the consideration of minerals proposals that make reference to the impact upon nature conservation, landscape character, the historic environment or human health from noise, dust, air quality, visual intrusion, traffic, tip and quarry slope stability, differential settlement of quarry backfill, flood risk, water resources, contamination and cumulative impacts.

Objective 6: including a policy for the consideration of proposals for borrow pits, agricultural reservoirs, flood alleviation and/or public water supply.

Objective 7: including environmental protection policies for the consideration of waste proposals that make reference to the impact upon water quality, flood risk, land instability, landscape character, visual impacts, nature conservation, historic environment, traffic and access, dust, air quality, odour, vermin and birds, noise, light vibration, litter, land-use conflict and cumulative impacts.

Aim 3: To safeguard minerals and waste development from other forms of development by:

Objective 8: identifying all existing and potential minerals and waste development including rail depots, and port facilities, and added value plant sites e.g. concrete batching, coated stone and aggregate recycling that require safeguarding from other forms of development, directly or by proximity, and providing an accompanying appropriate safeguarding policy.

Objective 9: providing minerals safeguarding plan showing those sand and gravel resources which require safeguarding from other forms of development, directly or by proximity, and an accompanying appropriate safeguarding policy.

Policy GP4: General environmental criteria

Minerals and waste development will be acceptable so long as the proposals, adequately assess (and address where applicable any potentially significant adverse impacts including cumulative impacts) on the following:

a) pluvial, fluvial, tidal and groundwater flood risk;

b) vehicle movements, access and the wider highways network;

c) landscape character, visual impact, setting, and designated landscapes including Areas of Outstanding Natural Beauty and the Broads;

d) biodiversity including Natura 2000 sites, ancient woodlands and trees;

e) geodiversity;

f) historic environment, archaeology, heritage assets and their setting;

g) public rights of way;

h) neighbouring land-use;

i) soil resources including the best and most versatile agricultural land;

j) noise and vibration;

k) air quality including dust and odour;

l) light pollution;

m) the local water environment;

n) land instability;

o) airfield safeguarding;

p) the differential settlement of quarry backfilling;

q) mud and aggregates on the road;

r) litter, vermin and birds;

s) The use of alternative forms of transport including the use of rail freight shipping should be considered; or

t) military and civil aviation.

Proposals should meet or exceed the appropriate national or local legislation, planning policy or guidance for each criterion, including reference to any hierarchy of importance. Proposals should aim to achieve a biodiversity net gain. Proposals should demonstrate that when considering the potential for significant adverse impacts upon features of acknowledged environmental importance, that the hierarchy of firstly avoidance, then mitigation and finally compensation has been followed.

St. Edmundsbury Core Strategy, December 2010

2.3.6 St. Edmundsbury Core Strategy is the land use planning strategy for development in the county. It provides the basis for investment in new developments in the St Edmundsbury area.

Policy CS2 Sustainable Development

A high quality, sustainable environment will be achieved by designing and incorporating measures appropriate to the nature and scale of development, including:

The protection and enhancement of natural resources:

A) making the most resource efficient use of land and infrastructure;
B) protecting and enhancing biodiversity, wildlife and geodiversity, and avoiding impact on areas of nature conservation interest in both rural and built up areas;
C) identifying, protecting and conserving: a network of designated sites including the Breckland Special Protection Area (SPA)* and other sites of national and local importance; Biodiversity Action Plan (BAP) habitat and species; wildlife or green corridors, ecological networks; and other green spaces will be identified, protected and habitats created as appropriate;
D) conserving and, wherever possible, enhancing the character and quality of local landscapes and the wider countryside and public access to them, in a way that recognises and protects the fragility of these resources;
E) conserving and, wherever possible, enhancing other natural resources including, air quality and the quality and local distinctiveness of soils;
F) protecting the quality and availability of water resources;
G) maximising the efficient use of water including recycling of used water and rain water harvesting;
H) maximising the potential of existing and new sources of energy from biomass including timber and other energy crops; and

Sustainable design of the built environment:

I) providing the infrastructure and services necessary to serve the development;
J) incorporating the principles of sustainable design and construction in accordance with recognised appropriate national standards and codes of practice to cover the following themes:-

- **Energy and CO_2 Emissions – seeking, where feasible and viable, carbon neutral development, low carbon sources and decentralised energy generation;**
- **Water – ensuring water efficiency by managing water demand and using such waste water reuse methods as rainwater harvesting and grey water recycling;**
- **Materials - minimising the use of resources and making use of local materials;**
- **Surface Water Run-off – incorporating flood prevention and risk management measures, such as sustainable urban drainage;**
- **Waste – adhering to the waste hierarchy during construction and following development to prevent waste generation and ensure reuse, recovery and recycling;**

- **Pollution – remedying existing pollution or contamination and preventing further pollution arising from development proposals;**
- **Transport – minimising the need for travel and ensuring a balance between transport infrastructure and pedestrians;**
- **Health and Wellbeing – ensuring that the development enhances the quality of life of future occupants and users;**
- **Ecology – valuing and enhancing the ecological features of the development site, where appropriate.**

K) ensuring that developments and their occupants are capable of managing the impact of heat stress and other extreme weather events;
L) making a positive contribution towards the vitality of the area through an appropriate mix of uses. In areas of strategic growth this will include employment, community, retail, social, health and recreation facilities (including the protection and provision of informal and formal recreation, parks, open spaces and allotments);
M) creating a safe environment which enhances the quality of the public realm;
N) making a positive contribution to local distinctiveness, character, townscape and the setting of settlements;
O) conserving or enhancing the historic environment including archaeological resources.

Where appropriate, site specific and area targets, along with detail of viability, to meet national standards and codes, will be set out in the Development Management document, Area Action Plans and the Rural Site Allocations document.

*** Only development that will not adversely affect the integrity of the SPA will be permitted. In applying this policy a buffer zone has been defined that extends 1,500m from the edge of those parts of the SPA that support or are capable of supporting stone curlews, within which:-**
a) Permission may be granted for the re-use of existing buildings and for development which will be completely masked from the SPA by existing development; alternatively
b) Permission may be granted for other development not mentioned in sub paragraph (a) provided it is demonstrated by an appropriate assessment that the development will not adversely affect the integrity of the SPA.

A further 1,500m buffer zone has been defined which extends around those areas (shown on the Proposals Map) outside of the SPA which have supported 5 or more nesting attempts by stone curlew since 1995 and as such act as supporting stone curlew habitat, within which permission may be granted in accordance with a) and b) above. Additionally within this zone, where it can be shown that proposals to mitigate the effects of development would avoid or overcome an adverse impact on the integrity of the SPA or qualifying features, planning permission may be granted provided the Local Planning Authority is satisfied that those proposals will be implemented. In these areas development may also be acceptable providing alternative land outside the SPA can be secured to mitigate any potential effects.

Development at Risby (which lies partly within the 1,500m stone-curlew buffer) will be possible if it is fully screened from the Breckland SPA by existing development. A project level appropriate assessment should be undertaken to ensure no adverse affect upon the integrity of the SPA.

A 400m buffer zone has been defined around those parts of the SPA that support or are capable of supporting nightjar and woodlark. Any development proposal within this zone will need to clearly demonstrate that it will not adversely affect the integrity of the SPA.

2.4 Technical Guidance

Institute of Air Quality Management (IAQM), Guidance on the Assessment of Mineral Dust Impacts for Planning, May 2016

2.4.1 It is considered that the IAQM Guidance provides an appropriate framework for assessing dust impacts at mineral sites and other similar operations including waste recycling facilities.

2.4.2 This IAQM document has been prepared to assist practitioners undertake dust assessments for mineral sites. It aims to provide advice on robust and consistent good-practice approaches that can be used to assess the operational phase dust impacts.

Institute of Air Quality Management (IAQM), Guidance on land-use planning and development control: Planning for air quality 2017

2.4.3 Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) have produced this guidance, which replaces the 2010 EPUK Guidance document, to ensure that air quality is adequately considered in the land-use planning and development control processes.

3.0 BASELINE CONDITIONS

3.1 Sensitive Receptors

3.1.1 Sensitive receptors are locations which might be affected by dust emissions during waste related activities. Human receptors include locations where people spend time and property which may be impacted by dust. Ecological receptors are habitats that might be sensitive to dust.

3.1.2 PM_{10} needs to be assessed if there are sensitive receptors within 1 km (to be consistent with the national PPG); however, for disamenity dust it is commonly accepted that adverse dust impacts are uncommon beyond 250m.

Human

3.1.3 A 'human receptor' refers to any location where a person may experience the disamenity effects of dust, or the health effects from exposure to PM_{10}.

3.1.4 Locations sensitive to potential dust disamenity impacts were identified from a desk-top study of the area up to 250m from the proposed dust generating activities. These are shown in Figure 2.

Ecological

3.1.5 An 'ecological receptor' refers to any sensitive habitat with the potential to be affected by dust deposition.

3.1.6 There is one ecological receptor considered in this assessment, due to its size it has been split into two assessment locations shown in Figure 2.

3.2 Meteorology

Windspeed and Direction

3.2.1 The generation and dispersal of dust is highly dependent upon meteorological conditions prevalent at the time. Weathernet has advised that wind speed and direction data are recorded at Andrewsfield Weather Station approximately 19 km south of the Widdington Recycling Ltd Application site.

3.2.2 Weathernet considers that the data recorded at Andrewsfield Weather Station over the period January 2014 to December 2023 would be representative of the conditions experienced in the vicinity of the waste transfer station proposals.

3.2.3 Observations of the wind speed and direction recorded over this ten-year period, comprising some 87,384 hourly observations, have been used to compile the relevant wind rose shown in Appendix 1.

Rainfall Data

3.2.4 In the guidance 'The Environmental Effects of Dust from Surface Mineral Workings' published in 1995 by the DoE (now part of DEFRA) together with guidance in the former MPS2, it is generally accepted that wind blow of dust does not occur on days when rainfall is above 0.2mm.

3.2.5 An indication of the proposed long term average annual number of dry days (i.e. less than 0.2 mm) for the site has been taken from the met data recorded at Andrewsfield Weather Station. This dataset indicates that there is an average of 123 days per year with rainfall less than 0.2 mm, i.e. approximately 34% of the year.

Dry Windy Working Days

3.2.6 The frequency of use and the effectiveness of the control measures will largely depend upon climatic conditions together with the separation distances involved between any potential dust source and residential locations.

3.2.7 The highest potential for dust dispersal and deposition occurs on dry windy days and the risk of dust deposition at a particular location is determined by the frequency of these dry winds blowing towards them from a dust generating activity.

3.2.8 The meteorological data presented in Appendix 1 and 2 has been analysed to quantify the number of dry working days in which the wind direction is in a particular sector as shown in Table 2. The calculations have been based on 123 'dry' days per year (Appendix 2) and adapted to allow for working days only, i.e. 5½ days per week, 47 weeks per year, giving a total of 88 working days per year with rainfall less than 0.2mm.

Table 2. Number of Dry Working Days Per Year

Wind Direction	Frequency of Occurrence % (from Appendix 1)	No. of Dry Working Days Per Year
North	5.8	7.1
North North East	7.0	8.6
East North East	5.8	7.1
East	4.7	5.8
East South East	6.3	7.7
South South East	6.1	7.5
South	6.4	7.9
South South West	13.2	16.2
West South West	18.1	22.3
West	11.5	14.1
West North West	7.8	9.6
North North West	6.6	8.1
Calm/Variable	0.6	0.7

3.2.9 Dust is not likely to be carried by winds of less than 5.6 ms^{-1} (i.e. less than 11 knots). This value of 5.6 ms^{-1} derives from the Beaufort Wind Scale and is very much in line with the value of 5.4 ms^{-1} as used by the United States Environmental Protection Agency in their dust emission calculations. The value is also below the 5.8 ms^{-1} stated within guidance from MIRO and the Department of the Environment for the initiation of dust emission for disturbed pebbly soils.

3.2.10 An assessment of the likelihood of a dust occurrence is presented in Table 3 below:

Table 3. Likelihood of Dust Occurrence

Wind Direction	No. of Dry Windy Working Days	Dry Windy Working Days as % of the total Number of Dry Working Days per Year (123)
North	0.5	0.4
North North East	0.9	0.7
East North East	1.6	1.3
East	0.9	0.7
East South East	1.2	1.0
South South East	1.1	0.9
South	0.5	0.4
South South West	6.1	5.0
West South West	10.8	8.8
West	5.0	4.1
West North West	1.6	1.3
North North West	0.7	0.6

3.2.11 Based on the above analysis and with wind at the site predominantly originating from the west-south-west, the likelihood of dust occurrence is expected to be in the region of 11 days per year.

3.3 Existing Air Quality

Local Air Quality Management and Monitoring

3.3.1 As required by the Environment Act, West Suffolk Council has undertaken review and assessment of air quality within their area of jurisdiction. This process has indicated that there are two AQMA's in the council boundary. These are detailed within the West Suffolk Council Annual Status Report.

Background Pollutant Concentrations

3.3.2 Particulate matter is generally categorised based on the size of the particles. PM_{10} particles are those with a mean aerodynamic diameter less than 10 micrometres (microns), with the smaller $PM_{2.5}$ particles being defined as those with a mean aerodynamic diameter less than 2.5 microns.

3.3.3 Particulate matter is made up of a wide range of materials and arises from a variety of sources. Concentrations of particulate matter comprise primary particles emitted directly into the atmosphere from combustion sources and secondary particles formed by chemical reactions in the air. Particulate matter derives from both human activity and natural sources (such as sea spray and Saharan dust). In the UK the biggest human activity sources are stationary fuel combustion and transport.

3.3.4 As an indication of the likely level of PM_{10} and $PM_{2.5}$ particulates at the site, data has been accessed for the relevant 1km squares of the Automatic Urban and Rural Network (AURN), by way of using the Local Air Quality Management Background Mapping Data Tool available on the DEFRA website under the UK Air Information Resources. This resource currently uses projections based on the 2018 AURN dataset.

3.3.5 The levels for the grid squares which contain the closest receptors to the application site are detailed in Table 4 below. The data presented is for projected concentrations for years 2024, 2027 and 2030.

Table 4. Annual Average Background Concentrations

Location	Year	PM_{10} $\mu g/m^3$	$PM_{2.5}$ $\mu g/m^3$
Grid Square 567500, 243500 Containing: Thistledown, Maple Park, Haverhill Business Park, and LNR Haverhill Railway Walks South	2024	15.64	8.85
	2027	15.47	8.71
	2030	15.48	8.72
Grid Square 567500, 244500 Containing: 28 Ashlea Road, Cambridge House, Worcester House, 1 Sturmer Road, 5 Sturmer Road, 1-6 Charrington Close, Charter House Ind. Est. Sturmer End Ind. Est, Spring Rise, and LNR Haverhill Railway Walks Northwest	2024	14.27	8.86
	2027	14.10	8.71
	2030	14.11	8.72

3.3.6 The IAQM guidance states that if the long-term background PM_{10} concentration is less than 17$\mu g/m^3$ there is little risk that the continued use of a mineral site in terms of emissions would lead to exceedances of the annual mean objectives

4.0 POTENTIAL EMISSIONS

4.1 Introduction

4.1.1 The operations involved in the importation, processing, movement, and storage of inert materials have the potential to generate dust emissions. The proposed working of the waste transfer station on the land at the end of Falconer Road Haverhill will process recycled aggregate at a rate of 75,000 tonnes a year.

4.2 Transportation Operations (Import and export)

4.2.1 A mixture of skips and bulkers will import inert materials for processing.

4.2.2 The inert material will consist of waste materials from construction and demolition sites with potential to have a high potential for dust emission when handling the material. Dust suppression measures detailed within this chapter and within Appendix 3 will be implemented to reduce the potential for dust emission from the site.

4.2.3 The drop height from mobile plant, such as loading shovel bucket to the feed hopper of the waste transfer station or HDV will be minimised, the on-site speed limit of 10 mph will be in use, and the use of an on-site sprinkler system will help to minimise dust emissions from the operation.

4.2.4 Site flooring will be paved/hardstanding.

4.2.5 Mobile plant exhausts and cooling fans will be discharged away from the ground to prevent dust mobilisation.

4.2.6 All mobile plant will be regularly maintained.

4.3 Materials Handling

4.3.1 On-site there will be a loading shovel which will service the waste transfer station, maintain the storage bays, and load HDV vehicles for collections.

4.3.2 The excavator and waste handler will manage the imported inert materials and aid the waste transfer facility where appropriate.

4.3.3 The dust mitigation measures discussed previously including the minimisation of drop heights, the control of vehicle speeds and regular maintenance of vehicles will continue to help to minimise dust emissions from these sources.

4.4 Mineral Processing Plant and Stocking Area, and Off-site Vehicles

4.4.1 The processing plant will consist of crushers, screeners, trommel screens, shredders, and a picking station.

4.4.2 The ground surfacing around the plant area and stocking area will comprise of paved hardstanding ground. A site speed limit of 10 mph will apply around the processing plant and stocking areas.

4.4.3 All lorries (HGVs) leaving site will have their load sheeted.

4.4.4 Designated storage bays for the processed material will be protected by 4m high concrete 'lego' blocks.

4.4.5 The site will benefit from a sprinkler system.

4.5 Potential Emission Magnitude

4.5.1 Guidance from the Institute of Air Quality Management "*Guidance on the Assessment of Mineral Dust Impacts for Planning, 2016*" suggests that the magnitude of potential dust emission should be classified on a scale of impact as small, medium, or large based upon the judgement of the assessor.

4.5.2 Table 5 shows the potential scale of impact of the proposed waste transfer facility operations when not considering any planned or recommended dust mitigation measures.

Table 5. Residual Source Emission Classification

Dust Source	Description	Overall Classification
Materials Handling	The closest approach distance materials handling activities will take place to the site boundary is less than 50m.	Small
	Materials handling will take place on paved, hardstanding floor.	
	All materials handling operations will benefit from concrete site perimeter wall.	
	The inert materials from construction and demolition sites are deemed to have a low moisture content / high dust potential.	
	Materials Handling will be carried out by an excavator, waste handler and a loading shovel.	

Dust Source	Description	Overall Classification
On-Site Transportation	The yard area will be paved and hardstanding.	Small
	Speed controls of 10mph will be utilised.	
	A loading shovel will be used to move materials on-site.	
Mineral Processing	The mineral processing plant will consist of a crushing and screening plant.	Small
	Both the raw and end products being a material of low moisture content.	
	Material processing at a rate of 75,000 tpa	
	Processing activities are housed.	
Stockpiles/Exposed Surfaces	Daily material transfer.	Small
	Material extraction rate of 75,000tpa.	
	End-product material of low moisture content.	
	Stocking bays are shielded by designated 4m high concrete bay walls.	
	Entire site to be shielded by perimeter concrete walls varying between 2m-4m in height.	
Off-site Transportation	Site will be hard surfaced.	Small
	There will be an average of 70 HDV movements per working day.	

5.0 ASSESSMENT OF DUST EFFECTS

5.1 Dust Events

5.1.1 A dust event will only occur if the necessary conditions are present. It is necessary to have a fine material available which can be picked up, carried, and then deposited by the wind. Such materials are more readily available if dry and physically disturbed. Thus, not all site operations are dusty because of the lack of physical disturbance.

5.1.2 There must also be a wind of sufficient strength to transport fine particles, and for a particular property to be at risk the wind must blow in that particular direction from the source. The critical wind speed at which a particle becomes airborne depends on many factors including particle size, shape, and density. For most mineral dusts the critical wind speed is about 5.6 ms^{-1} (12 mph - 11kts - Force 4 on Beaufort Scale).

5.1.3 For a dust event to occur there must also be a failure of dust control measures. Particles greater than 30µm make up the greatest proportion of dust emitted from mineral processing and largely deposit within 100m of sources. Particles between 10 and 30µm are likely to travel from 250 to 400m, while sub 10µm particles, which make up a small proportion of dust emitted from most mineral processing operations, may travel up to 1km from sources.

5.2 Frequency and Proximity

5.2.1 In considering the climatic conditions, it is clear the winds will predominate from the west-south-west quadrant with an analysis of the number of dry windy working days giving a maximum of some 11 such in any one year.

5.2.2 The IAQM Guidance on the Assessment of Mineral Dust Impacts for Planning presents the following categorisation of frequency of potentially dusty winds and categorises receptor distance from source as distant, intermediate, or close as displayed in Tables 6 and 7 below.

Table 6. Categorisation of Frequency of Potentially Dusty Winds

Frequency Category	Criteria
Infrequent	Frequency of winds (>5m/s) from the direction of the dust source on dry days are less than 5%
Moderately Frequent	The frequency of winds (>5m/s) from the direction of the dust source on dry days are between 5% and 12%
Frequent	The frequency of winds (>5m/s) from the direction of the dust source on dry days are between 12% and 20%
Very Frequent	The frequency of winds (>5m/s) from the direction of the Dust source on dry days are greater than 20%

Table 7. Categorisation of Receptor Distance from Dust Source

Category	Criteria
Distant	Receptor is between 200 and 400m from dust source
Intermediate	Receptor is between 100 and 200m from dust source
Close	Receptor is less than 100m from the dust source

5.2.3 The assessment locations are identified on Figure 2.

Table 8. Categorisation of Receptor Distance and Wind Frequency

Receptor	Approximate Distance/Direction at the Closest Approach to Application Boundary	Distance Category	Frequency of Winds Dry Windy Working Days from Direction of Application Site	Frequency Category
Thistledown	160m SW	Intermediate	2.1%	Infrequent
28 Ashlea Road	50m W	Close	2.1%	Infrequent
Cambridge House	70m NW	Close	2.6%	Infrequent
Worcester House	105m NW	Intermediate	1.9%	Infrequent
1 Sturmer Road	165m N	Intermediate	6.3%	Moderately Frequent
5 Sturmer Road	155m N	Intermediate	6.3%	Moderately Frequent
1-6 Charrington Close	115m N	Intermediate	14.2%	Frequent
Charter House Ind. Est.	20m N	Close	6.3%	Moderately Frequent
Sturmer End Ind. Est	5m N	Close	21.3%	Very Frequent

Receptor	Approximate Distance/Direction at the Closest Approach to Application Boundary	Distance Category	Frequency of Winds Dry Windy Working Days from Direction of Application Site	Frequency Category
Maple Park	25m E	Close	15.9%	Frequent
Haverhill Business Park	55m SE	Close	2.1%	Infrequent
Spring Rise	5m E	Close	19.5%	Frequent
LNR Haverhill Railway Walks -S	5m S	Close	2.1%	Infrequent
LNR Haverhill Railway Walks NW	5m W	Close	4.7%	Infrequent

5.3 Pathway Effectiveness

5.3.1 The effectiveness of the pathway for dust propagation may be evaluated with reference to Table 9 below.

Table 9. Categorisation of Pathway Effectiveness

Receptor Distance Category		Frequency of potentially dusty winds			
		Infrequent	Moderately Frequent	Frequent	Very Frequent
	Close	Ineffective	Moderately Effective	Highly Effective	Highly Effective
	Intermediate	Ineffective	Moderately Effective	Moderately Effective	Highly Effective
	Distant	Ineffective	Ineffective	Moderately Effective	Moderately Effective

5.3.2 In order to determine pathway effectiveness from the IAQM Guidance, the receptor distance category and frequency of potentially dusty winds are combined, the results of which are presented for each receptor location below.

Table 10. Pathway Effectiveness

Receptor	Pathway Effectiveness
Thistledown	Ineffective
28 Ashlea Road	Ineffective
Cambridge House	Ineffective
Worcester House	Ineffective
1 Sturmer Road	Moderately Effective
5 Sturmer Road	Moderately Effective
1-6 Charrington Close	Moderately Effective
Charter House Ind. Est.	Moderately Effective
Sturmer End Ind. Est	Highly Effective
Maple Park	Highly Effective
Haverhill Business Park	Ineffective
Spring Rise	Highly Effective
LNR Haverhill Railway Walks (S)	Ineffective
LNR Haverhill Railway Walks (NW)	Ineffective

5.4 Estimation of Dust Impact Risk

5.4.1 An estimation of dust risk is established for each location based on the pathway effectiveness of dust transmission (Table 10) and the worst-case categorisation of residual dust source emission (Table 5) with reference to Table 11.

Table 11. Estimation of Dust Impact Risk Categorisation

		Residual Source Emissions		
		Small	**Medium**	**Large**
Pathway Effectiveness	**Highly Effective Pathway**	Low Risk	Medium Risk	High Risk
	Moderately Effective Pathway	Negligible Risk	Low Risk	Medium Risk
	Ineffective Pathway	Negligible Risk	Negligible Risk	Low Risk

Table 12. Estimation of Dust Impact Risk

Receptor	Estimation of Dust Impact Risk
Thistledown	Negligible Risk
28 Ashlea Road	Negligible Risk
Cambridge House	Negligible Risk
Worcester House	Negligible Risk
1 Sturmer Road	Negligible Risk
5 Sturmer Road	Negligible Risk
1-6 Charrington Close	Negligible Risk
Charter House Ind. Est.	Negligible Risk
Sturmer End Ind. Est	Low Risk
Maple Park	Low Risk
Haverhill Business Park	Negligible Risk
Spring Rise	Low Risk
LNR Haverhill Railway Walks (S)	Negligible Risk
LNR Haverhill Railway Walks (NW)	Negligible Risk

5.4.2 For the purpose of identifying receptor sensitivity, the IAQM 2016 Guidance suggests that residential dwellings should be classed as a high sensitivity receptor, and Local Wildlife Sites with specific sensitivities should be classed as a medium sensitivity receptor.

5.5 Magnitude of Dust Effects

5.5.1 The magnitude of dust impact is evaluated by combining the dust impact risk with the receptor sensitivity (noted above), as shown in Table 13.

Table 13. Magnitude Descriptors

		Receptor Sensitivity		
		Low	**Medium**	**High**
Dust Impact Risk	**High Risk**	Slight Adverse Effect	Moderate Adverse Effect	Substantial Adverse Effect
	Medium Risk	Negligible Effect	Slight Adverse Effect	Moderate Adverse Effect
	Low Risk	Negligible Effect	Negligible Effect	Slight Adverse Effect
	Negligible Risk	Negligible Effect	Negligible Effect	Negligible Effect

5.5.2 An assessment of the magnitude of dust effect is presented for each of the receptor locations presented in Table 14.

Table 14. Magnitude of Dust Effect

Receptor	Magnitude of Dust Effect
Thistledown	Negligible Effect
28 Ashlea Road	Negligible Effect
Cambridge House	Negligible Effect
Worcester House	Negligible Effect
1 Sturmer Road	Negligible Effect
5 Sturmer Road	Negligible Effect
1-6 Charrington Close	Negligible Effect
Charter House Ind. Est.	Negligible Effect
Sturmer End Ind. Est	Negligible Effect
Maple Park	Negligible Effect
Haverhill Business Park	Negligible Effect
Spring Rise	Negligible Effect
LNR Haverhill Railway Walks (S)	Negligible Effect
LNR Haverhill Railway Walks (NW)	Negligible Effect

5.6 Mitigation

5.6.1 When conditions for dry windy working days do occur, the implementation of the dust suppression measures discussed in Section 4 and Appendix 3 will ensure that dust emissions are minimised. The use of such best practice measures, which have been implemented at mineral and/or waste operations throughout the United Kingdom, suggest that such measures will be effective.

5.6.2 The worst-case scenario presented above is for site activities carried out at the closest possible location within the application boundary relative to each sensitive receptor.

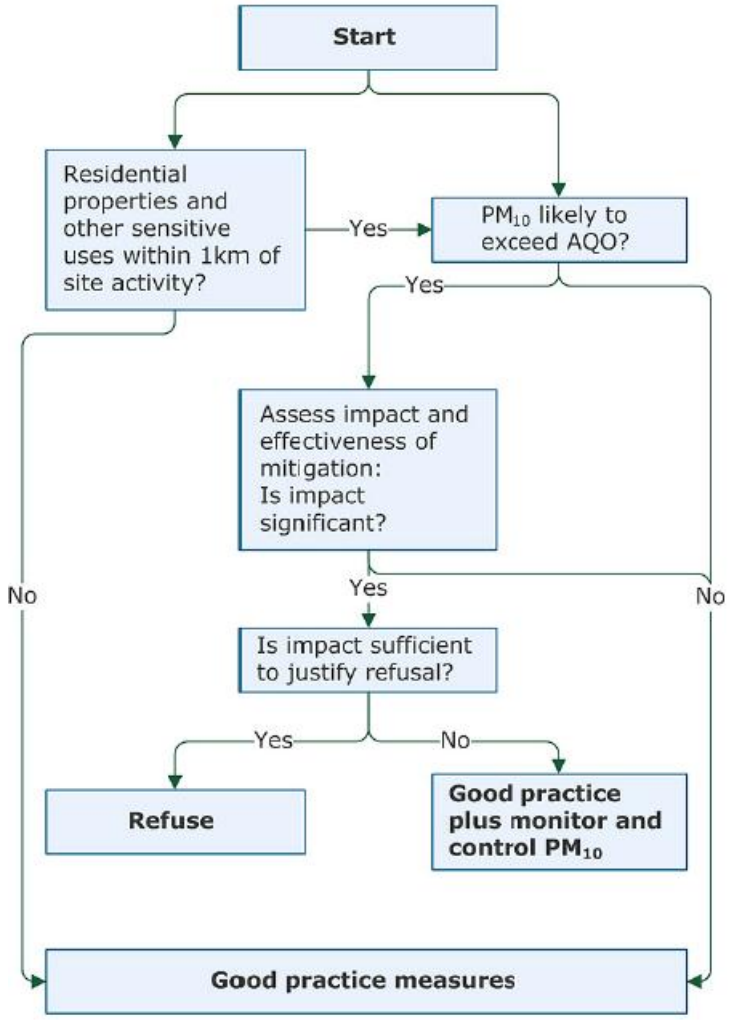
6.0 ASSESSMENT OF HUMAN HEALTH EFFECTS

6.1 PM_{10} Assessment

6.1.1 The 1999 DETR publication "Do particulates from opencast coal mining impair children's respiratory health?" recommends an assessment framework with respect to PM_{10} particulates.

6.1.2 The framework takes a step-by-step approach to PM_{10} looking at various factors in time via a scheme of straightforward questions set out in a "Proposed Site Assessment Flowchart". If the site is not likely to have a significant impact, then best practice measures are recommended. If, however, its impact is significant, either a refusal should follow or additional monitoring and control.

6.1.3 The Planning Practice Guidance to the National Planning Policy Framework contains an amended version of the assessment framework (shown below).



6.1.4 To follow the framework, the first step is to assess whether the site has a community or particularly sensitive users / premises within 1000m of the site boundary.

6.1.5 The second step is then to assess whether the extra burden of PM_{10} particulates from the site is likely to exceed the National Air Quality Objectives (AQO).

6.1.6 To undertake this assessment it is recommended that Automatic Urban and Rural Network (AURN) data be accessed.

6.1.7 If the AURN data indicates that the additional load attributable to site operations, would bring the area above the AQO, then this would indicate that there may be a need for monitoring and control mechanisms. These would be required to be put into place to reduce the potential to create PM_{10} dust from the site on those days that exceed the standard.

6.1.8 If the AURN data indicates that the additional load attributable to site operations alone would not cause any breach of the AQO, this would indicate that there would be no justification for any additional monitoring and controls over and above best practice measures.

6.1.9 This study has accessed air quality data from the DEFRA website for the relevant grid squares which contain the closest residential receptors. The website uses the AURN dataset from the 2018 baseline. The data has been predicted annually up until 2030.

6.1.10 The IAQM Guidance suggests that based on the currently available information 17 µg/m³ is a suitable screening value for an assessment of annual mean PM_{10} concentrations. All assessment locations can therefore be screened out of further PM_{10} assessment, with grid reference 567500, 243500 having the largest PM_{10} concentration of the assessed location with a value of 15.64 µg/m³.

6.1.11 As previously noted within this report, sub 10µm particles, which make up a small proportion of dust emitted from most mineral operations, may travel up to 1km from sources. Of the total PM_{10} dust fraction there will be a percentage of the smaller $PM_{2.5}$ particulate matter.

6.1.12 In the May 2016 publication by the Institute of Air Quality Management "Guidance on the Assessment of Mineral Dust Impacts for Planning" it is stated that:

"The other potential air quality impact is the increase in ambient suspended particulate matter (PM) concentrations local to the site. As noted earlier, the PM_{10} fraction is relevant to health outcomes. For quarries most of this suspended dust will be in the coarse sub-fraction ($PM_{2.5-10}$), rather than in the fine ($PM_{2.5}$) fraction."

6.1.13 On the basis of the above comment and the nationally derived ratio of $PM_{2.5}/PM_{10}$; 0.7, it is considered an additional burden of 0.5 μgm^{-3} $PM_{2.5}$ to the annual mean would represent a worst case.

6.1.14 The application of a 0.5 µg/m³ loading to the highest $PM_{2.5}$ concentration considered in this assessment of 8.86 µg/m³ for the year 2024 at Grid Squares: 567500, 244500 gives a projected $PM_{2.5}$ burden with the addition of site operations of 9.36 µg/m³ for the Grid Square containing Ashlea Road, Cambridge House, Worcester House, Sturmer Road, Charrington Close, Charter House Industrial Estate, Sturmer End Industrial Estate, Spring Rise, and the Local Nature Reserve of Haverhill Railway Walks (Northwest). The worst-case projected concentration therefore complies with the $PM_{2.5}$ January 2040 annual mean target of 10 µg/m³.

6.1.15 If the development is permitted, an increase in the annual mean concentration of PM_{10} and $PM_{2.5}$ would not exceed the Air Quality Objectives.

7.0 TRAFFIC IMPACTS

7.1 EPUK and IAQM guidance suggests a two-stage approach to determining if an air quality assessment of traffic impact is required.

7.2 The first stage is intended to screen out smaller development and/or developments where impacts can be considered to have insignificant effects. The second stage relates to specific details regarding the proposed development and the likelihood of air quality impacts.

7.3 If none of the criteria are met, then there should be no requirements to carry out an air quality assessment for the impact of the development on the local area, and the impacts can be considered as having an insignificant effect.

7.4 Where an air quality assessment is identified as being required, then this may take the form of either a Simple Assessment or a Detailed Assessment.

7.5 The proposed waste transfer station on Falconer Road meets the Stage 1 criteria by virtue of the size of the application site and it is therefore considered appropriate to proceed to Stage 2.

7.6 The Stage 2 criteria provides a range of more specific guidance and includes the following criteria which may be relevant to the proposed development:

- Where the development will cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors of more than 100 AADT within adjacent to an AQMA or more than 500 AADT elsewhere;

- Where the development will cause a significant change in Heavy Duty Vehicle (HDV) traffic flows on local roads with relevant receptors of more than 25 AADT within adjacent to an AQMA or more than 100 AADT elsewhere;

- Where the development will introduce a new junction or remove an existing junction near to relevant receptors. This applies to junctions that cause traffic to accelerate/decelerate such as traffic lights and roundabouts.

7.7 It is understood that the proposed quarry development would not result in an increase in HDV flows of more than 100 AADT. The application site is not located within an AQMA. Based on the processing of 75,000 tonnes per year being transported by HDV's hauling an average weight of 12 tonnes, the total AADT for the proposed waste transfer facility development is 35 vehicles per day.

7.8 The IAQM Land-Use Planning & Development Control: Planning for Air Quality states: The presence of a heavily trafficked road, with emissions that could give rise to sufficiently high concentrations of pollutants (in particular NO_2) may require further assessment. However, the proposed scheme is not expected to exceed the Stage 2 criteria, and no further assessment is required. The potential air quality impacts from traffic associated with the development are not considered to be significant.

8.0 DUST MANAGEMENT

8.1 The table below presents an assessment of dust effects from site operations such as material processing, on-site transportation, material handling and off-site transportation. The information below is in accordance with the guidance contained published by the IAQM.

Table 15. Summary of Dust Effects

Receptor	Worst Case Residual Source Emissions	Pathway Effectiveness	Dust Impact Risk	Receptor Sensitivity	Magnitude of Dust Effect	Magnitude of Dust Effect – After Mitigation Methods Implemented
Thistledown	Small	Ineffective	Negligible Risk	High	Negligible Effect	Negligible Effect
28 Ashlea Road	Small	Ineffective	Negligible Risk	High	Negligible Effect	Negligible Effect
Cambridge House	Small	Ineffective	Negligible Risk	High	Negligible Effect	Negligible Effect
Worcester House	Small	Ineffective	Negligible Risk	High	Negligible Effect	Negligible Effect
1 Sturmer Road	Small	Moderately Effective	Negligible Risk	High	Negligible Effect	Negligible Effect
5 Sturmer Road	Small	Moderately Effective	Negligible Risk	High	Negligible Effect	Negligible Effect
1-6 Charrington Close	Small	Moderately Effective	Negligible Risk	High	Negligible Effect	Negligible Effect
Charter House Ind. Est.	Small	Moderately Effective	Negligible Risk	Medium	Negligible Effect	Negligible Effect
Sturmer End Ind. Est	Small	Highly Effective	Low Risk	Medium	Negligible Effect	Negligible Effect
Maple Park	Small	Highly Effective	Low Risk	Medium	Negligible Effect	Negligible Effect
Haverhill Business Park	Small	Ineffective	Negligible Risk	Medium	Negligible Effect	Negligible Effect
Spring Rise	Small	Highly Effective	Low Risk	Medium	Negligible Effect	Negligible Effect

Receptor	Worst Case Residual Source Emissions	Pathway Effectiveness	Dust Impact Risk	Receptor Sensitivity	Magnitude of Dust Effect	Magnitude of Dust Effect – After Mitigation Methods Implemented
LNR Haverhill Railway Walks S	Small	Ineffective	Negligible Risk	Medium	Negligible Effect	Negligible Effect
LNR Haverhill Railway Walks NW	Small	Ineffective	Negligible Risk	Medium	Negligible Effect	Negligible Effect

8.2 As shown in Table 15, the potential dust impact from site operations at all assessment locations has been assessed as a Negligible Effect. Further mitigation measures have been stated below.

8.3 The following actions (7.6 – 7.12) will be taken to ensure that the dust control measures identified in Section 4.0 and Appendix 3 are effectively implemented. The implementation of appropriate dust control will effectively mitigate any potential dust impact.

8.4 The site operator will comply with any conditions which may be specified in the planning conditions imposed by any Planning Authority relating to dust. The operator will refer to the planning conditions and determine an appropriate response, considering current and forecast weather conditions.

8.5 All site personnel will be trained as to the potential sources and effective mitigation of dust.

8.6 Regular visual inspections will be conducted within the site and on the local road network by the site personnel, as deemed necessary and especially during dry windy conditions to ensure that any dust sources are identified and dealt with promptly.

8.7 A complaints log will be held on site. In the event of receiving a dust complaint, the name and location of the complainant, the nature of the dust related complaint, the site activity and prevailing weather conditions at the time of the complaint will be noted. The site foreman will investigate the complaint and take any remedial action which is deemed appropriate.

8.8 In the event of a failure of dust mitigation measures, for example in extreme weather conditions, the dust generating activity will be suspended, until appropriate dust mitigation is implemented or until a change in weather condition occurs.

8.9 It is important for the site to keep good communication within the community to inform of any temporary/irregular activity that may cause a significant increase to dust emissions from site. Setting up accessible liaison arrangements and providing information on site workings freely will be beneficial to the nearby community.

8.10 The use of a concrete perimeter wall, and concrete 'lego' block material storage bays will be an effective measure to reduce dust effects on nearby sensitive receptors.

8.11 The use of an on-site sprinkler system and the deployment of a road sweeper are all ways in which dust can be supressed, thus lowering dust levels caused by vehicles movements.

8.12 Further notes on mitigation measures for materials handling and vehicle movements can be seen in Appendix 3.

9.0 CUMULATIVE IMPACT

9.1 Within 1,000m of the proposed application site, according to the West Suffolk Council Planning Application Map Search function, there are very few outstanding planning applications within the last 2 years which have the potential to result in a cumulative impact on the surrounding area when considered alongside the Haverhill Waste Transfer Station proposals. The applications under review or recently reviewed are minor changes to existing industrial premises, residential premises or minor landscaping changes.

9.2 Cumulative impacts regarding the proposed site are deemed to have a Negligible Effect on nearby sensitive receptors.

10.0 CONCLUSIONS

10.1 The proposed development has the potential to generate dust and other airborne pollutants, however it is considered that any dust occurrence events will be limited, of short duration, and will be minimised by implementation of the dust control recommendations.

10.2 With regard to PM_{10} and $PM_{2.5}$ dust levels from the site, analysis has been made of the air quality data. The conclusion of the analysis was that AQO will not be exceeded. In addition, the potential air quality impacts from traffic associated with the development is negligible and the need of further assessment screened out.

10.3 The proposed development meets the air quality and dust requirements of national and local policy and guidance which seek to prevent new and existing developments from contributing to unacceptable levels of air pollution by avoiding, minimising and mitigating the potential impacts of waste development on the environment.

10.4 Overall the potential impacts on air quality due to the proposed development, with the implementation of suitable dust mitigation measures, is not considered to be significant.

11.0 REFERENCES

1. The Environmental Effects of Dust from Surface Mineral Workings, DOE, 1995.
2. The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 2003.
3. The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 2007.
4. Clean Air Strategy. Department for Environment, Food & Rural Affairs, Ministry of Housing, Communities & Local Government, Department for Transport, Department of Health and Social Care, HM Treasury, and Department for Business, Energy & Industrial Strategy. January 2019
5. National Planning Policy Framework, Ministry of Housing, Communities & Local Government, July 2021.
6. Planning Practice Guidance – Minerals, Department for Communities and Local Government, October 2014.
7. Planning Practice Guidance – Air Quality, Department for Communities and Local Government, November 2019.
8. Air Quality Standards Regulations, June 2010 (amended 2016).
9. Air Quality Strategy: Framework for Local Authority Delivery, 2023
10. Part IV, Environment Act, 1995.
11. The Environment Act, 2021.
12. Guidance on Land-Use Planning and Development Control: Planning for Air Quality: Environmental Protection UK and IAQM, January 2017.
13. Good Practice Guide: control and measurement of nuisance dust and PM_{10} from the extractive industries. Mineral Industry Research Organisation, February 2011.
14. Minerals Policy Statement 2. Controlling and mitigating the environmental effects of minerals extraction in England. Annex 1: Dust, Office of the Deputy Prime Minister, 2005.
15. Her Majesty's Inspectorate of Pollution, Technical Guidance Note (Dispersion) D1, HMSO, June 1993.
16. Guidance on the Assessment of Mineral Dust Impacts for Planning, IAQM, May 2016.
17. Local Air Quality Management Technical Guidance (TG16), DEFRA, April 2021.
18. West Suffolk Annual Status Report (ASR) 2023, West Suffolk Council, June 2023
19. Suffolk Minerals and Wate Local Plan, Adopted July 2020
20. St. Edmundsbury Core Strategy, December 2010

FIGURE 1

Proposed Site Layout

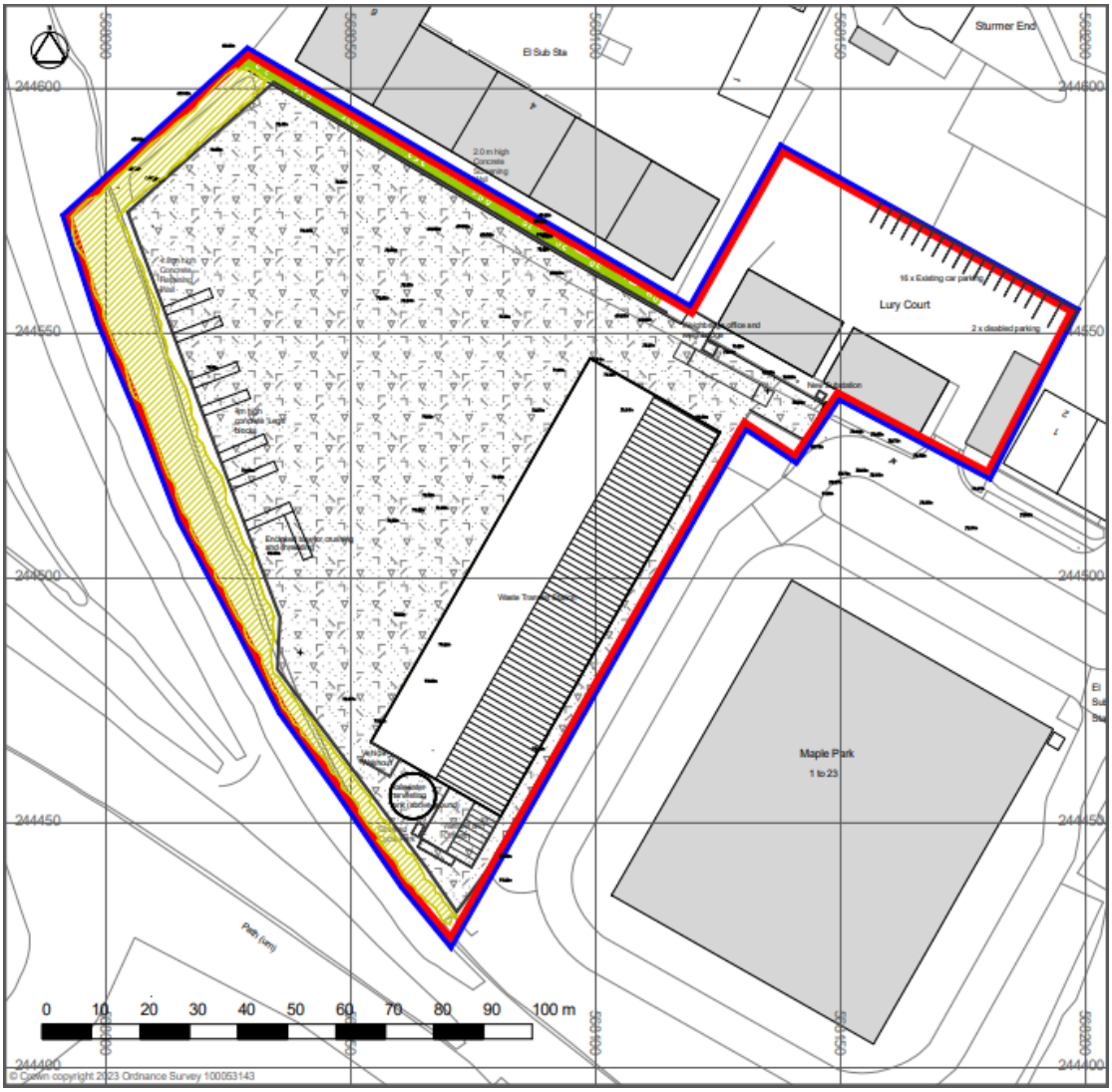
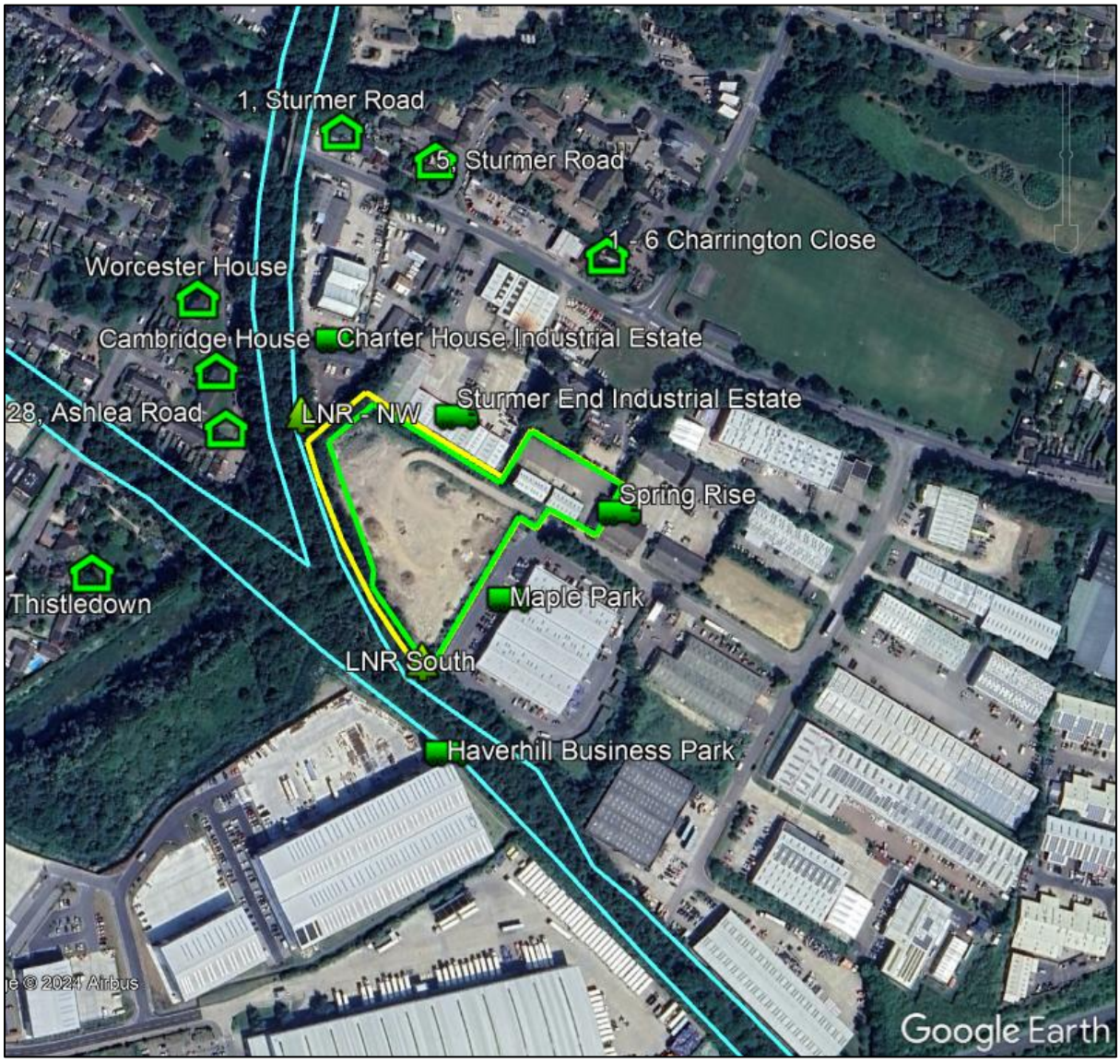


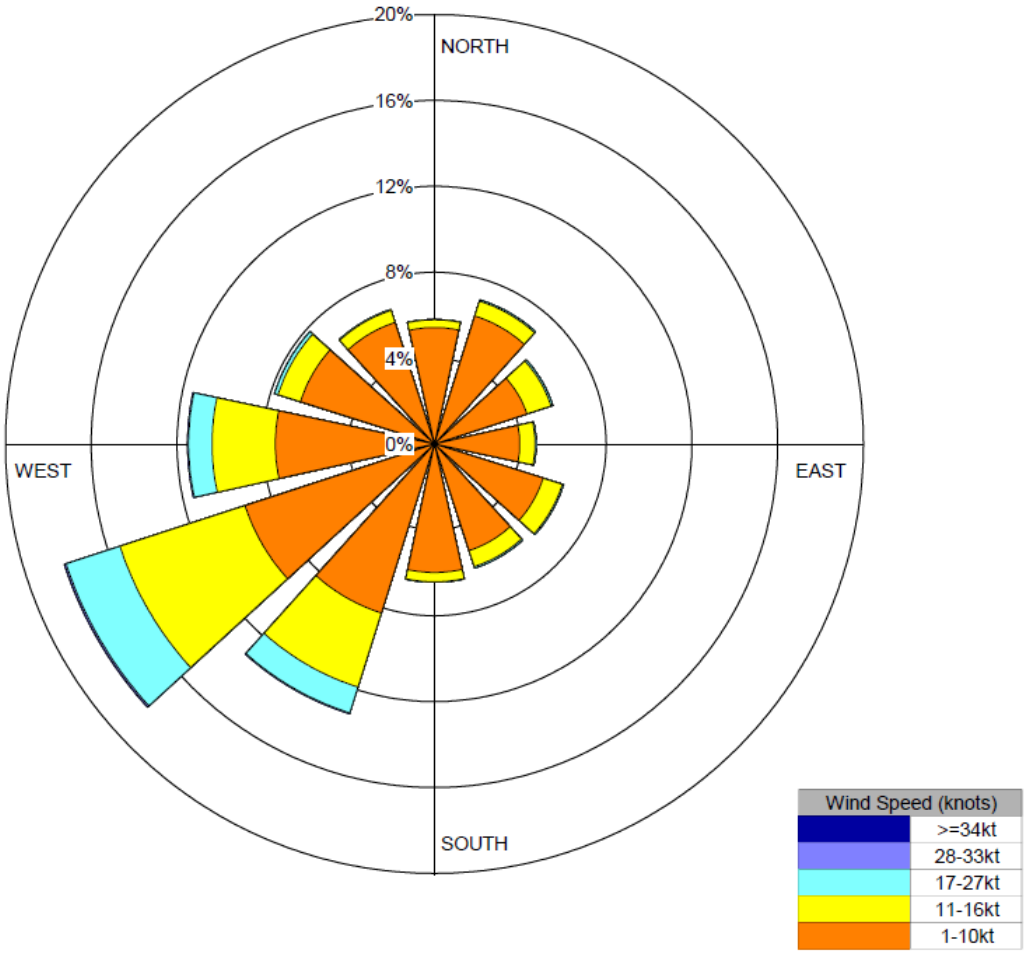
FIGURE 2

Assessment Locations



APPENDIX 1

Wind Rose



Total Number of Hours Sampled	87,384 hours
Mean Wind Speed	8.09 knots

APPENDIX 2

Mean Number of Days with Rainfall Less Than 0.2mm

Site: Andrewsfield

10-year period from January 2014 to December 2023

Month	No of days
January	11.5
February	10.5
March	14.5
April	18.1
May	17.9
June	18.7
July	17.9
August	16.8
September	16.2
October	11.9
November	9.2
December	10.5
Annual	**173.7**

APPENDIX 3

Summary of Dust Control Measures

Site Operation	Dust Control Measures
Site Preparation Materials Handling On-site Transportation Mineral Processing Stockpiles/Exposed Surfaces Off-site Transportation	• Water to be used as required via static dust suppression systems • Speed controls to be implemented on all haul routes 10 mph • Road sweeper to be utilised on local road network • Drop heights to be minimised • Mobile plant exhausts and cooling fans to point away from ground • All loaded HGVs exiting the site to be sheeted • Staff Training

APPENDIX 4

IAQM Guidance

Describing Site Characteristics and Baseline Conditions

IAQM recommends that the site is visited at the beginning of the assessment to understand the site itself and its locality including local factors that can affect dust emissions and dispersion.

The proposed development and the surrounding area should be described. Factors that need to be taken into account are:

- Extent of site including site boundary;
- Existing site operations, including currently-consented workings;
- Scale and duration of operations, including phasing;
- Type and location of processing activities, including secondary processing
- Mineral type/characteristics (size, moisture content, friability, colour, opacity);
- Production rate;
- Method/s of working;
- Method/s of materials handling;
- Location/s of storage areas and stockpiles; and
- Location/s and number of access routes and haul roads.

The assessment should also take into account the principal existing dust sources (other than the application site) such as dust from existing mineral operations, agricultural activities and construction activities. The following information is likely to be required to understand the site characteristics and the baseline conditions:

- The main existing sources of dust in the area. This should include any available monitoring data;
- Background PM_{10} concentrations provided by Defra, and, if available, any existing relevant local monitoring data;
- The location and nature of dust sensitive receptors, shown on a map and/or in a table detailing the direction, and distance from the site boundary or relevant site activity;
- The location of likely sources of dust emission from within the site;
- Any natural or existing mitigating features such as topography and areas of vegetative screening; and
- Local wind roses showing the frequency of directions and speed, and possibly rainfall and ground moisture conditions.

APPENDIX 5

Construction Dust Assessment

APPENDIX 6

Dust Management Plan