



Environmental Risk Assessment



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SITE DETAILS

Murfitts Industries Ltd,
48 Hardwick Grange,
Warrington,
WA1 4RF

OPERATOR DETAILS

Murfitts Industries Limited,
Avenue One,
Letchworth Garden City,
SG6 2HU

PERMIT APPLICATION REFERENCE

TBC

DOCUMENT REFERENCE

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CONTENTS

1. INTRODUCTION	6
1.1. Scope.....	6
1.2. Aims.....	6
2. SITE SETTING	7
2.1. Location	7
2.2. Humans and Property	7
2.3. Environmentally Sensitive Sites.....	8
2.3.1. Designated Environmental Receptors	8
2.3.2. Non-Statutory Designated Receptors	9
2.4. Geology.....	10
2.5. Hydrogeology	10
2.6. Hydrology	11
Flood Risk	11
2.7. Air Quality.....	12
2.8. Nature of Risk Assessment	12
3. METHODOLOGY	13
3.1. Hazard Identification.....	13
3.3. Receptors.....	15
3.4. Prevailing Wind Direction	20
3.5. Pathways.....	20
3.6. Risk.....	21
3.7. Risk Management	22
3.8. Residual Risk	23
4. RISK ASSESSMENT.....	24
5. APPENDICES	25

TABLES

TABLE	TITLE
Table 1	Designated Sites
Table 2	Surface Water Features
ERA1	Identified Hazards
ERA2	Receptors
ERA3	Pathways
ERA4	Probability of Exposure
ERA5	Consequence of Exposure
ERA6	Assessing Overall Risk
ERA7	Environmental Risk Points

FIGURES

FIGURE	TITLE
Figure 1	Aerial image of the site, showing the permit boundary in green

DRAWINGS

REFERENCE	TITLE	DATE
K18.14~20~001	Permit Boundary Plan	21/07/2023
K18.14~20~002	Sensitive Receptors 1km	21/07/2023
K18.14~20~003	Site Setting Plan (2 km)	21/07/2023
K18.14~20~004	Site Layout Plan	21/07/2023
K18.14~20~007	Site Layout Plan and Drainage Plan	21/07/2023

APPENDICES

REFERENCE	TITLE
Appendix A	ERA Tables
Appendix B	Groundsure Report (GS-RGO-27J-2BH-VGA)
Appendix C	NIA for a proposed Tyre Recycling Plant at Warrington

1. INTRODUCTION

This document is the Environmental Risk Assessment (ERA) that accompanies the application for a Bespoke Environmental Permit Application at 48 Hardwick Grange, Warrington, WA1 4RF. The site is located at National Grid Reference SJ 65032 90046.

The application has been prepared by Wiser Environment Limited on behalf of the applicant Murfitts Industries Limited. The ERA has been produced in line with Environment Agency guidance, 'Risk assessments for your environmental permit'¹.

This ERA identifies potential environmental risks and proposes mitigating measures that can reduce adverse impacts and should be read in conjunction with the other supporting documents included within the application.

1.1. Scope

This risk assessment is based on the source-pathway-receptor approach. All potential sources of pollution associated with waste acceptance, storage and treatment for recovery activities have been assessed against the principal receptor types identified within the site's vicinity.

The requirement for risk management measures is then dependent on a viable pathway being present between the source and the receptor. Where such pathway exists, management measures are required to reduce risk.

1.2. Aims

This assessment aims to consider potential environmental hazards associated with the activity, to identify sensitive receptors which these may impact, and determine the influence management practice has on reducing risk.

¹ [Risk assessments for your environmental permit - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit), updated 31 August 2022

2. SITE SETTING

2.1. Location

The proposed site is located in the Grange Industrial area (see Figure 1 below) bordered by other established industrial and commercial activities. Woolston Park is the closest residential area, located approximately 400 m West-South-West of the site. The M6 is approximately 250 m East-North-East of the site, whilst the centre of Warrington is 5 km west of site.

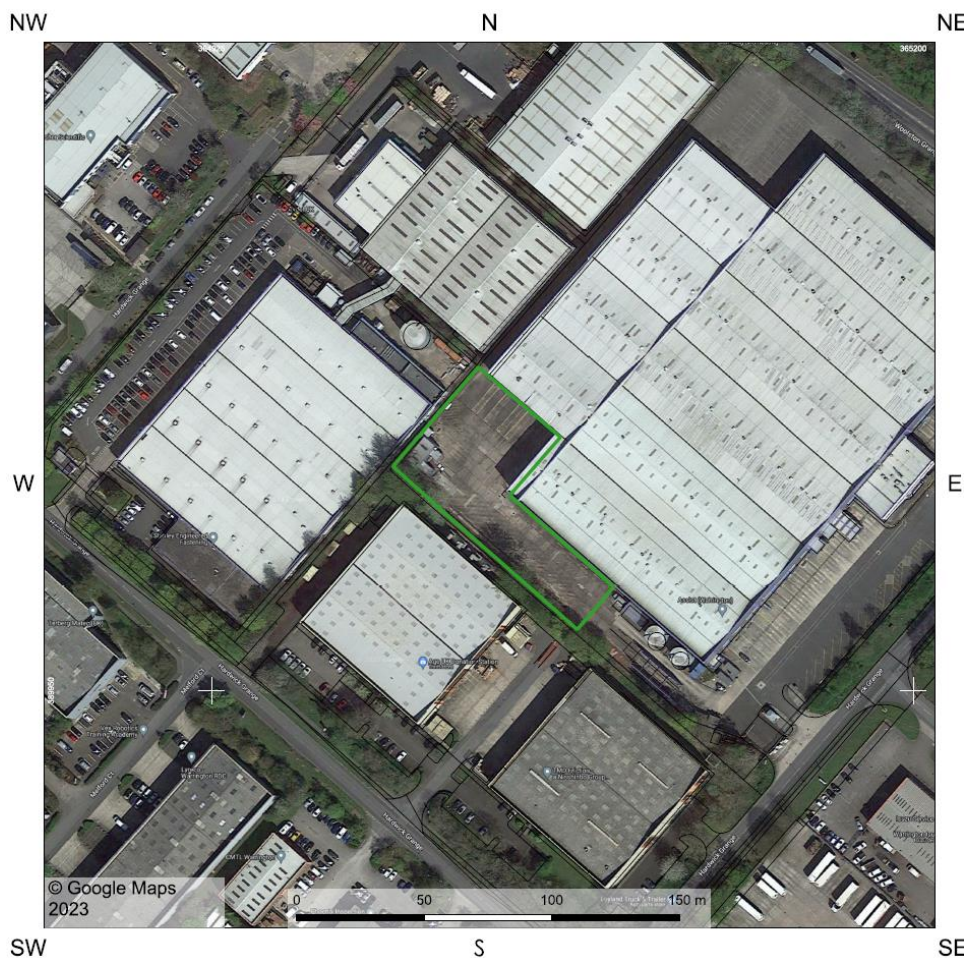


Figure 1 Aerial image of the site, showing the permit boundary in green

2.2. Humans and Property

The nearest residential area (ID1) is approximately 400 m West-South-West of the permit boundary shown on the Site Setting Plan (K18.14~20~003), and K18.14~20~002 Sensitive Receptors 1km. Woolston Residential Area, North of the A57 is positioned 415 m South-South-West of the site, with an additional 14 residential areas positioned within 2km of the proposed site location.

There are 19 sensitive public use facilities with The Church of Ascension being the closest at 530 m South-West of the site (ID1).

With regard to commercial sites, there are 18 recognised commercial areas within a 2km radius with the closest being Hardwick Grange (ID1) which immediately surrounds the proposed site, and Woolston Nursery at 460 m away in an East-North-East direction (ID2).

There are 16 recreational areas within the 2km radius, with the closest being Woolston Park at 465 m West of the site (ID1).

Seven agricultural unit receptors have been identified within the 2km radius, the closest being Moss Lane Farm 310 m North-North-East of the proposed permit boundary (ID1).

There are 6 identified critical infrastructure sites within a 2km radius including Birchwood Railway Station 690 m North-North-East of the proposed site, and the Rixton Moss Airfield 950 m East-North-East of the permit boundary.

2.3. Environmentally Sensitive Sites

Environmentally sensitive sites include;

Sites of Special Scientific Interest (SSSI); Special Areas of Conservation (SAC); Special Protection Areas (SPA); RAMSAR sites; National Nature Reserves (NNR); Ancient Woodlands (AW); Local Nature Reserves (LNR); County Wildlife Sites (CWS); World Heritage Sites; Areas of Outstanding Natural Beauty (AONB); National Parks; and Biodiversity Action Plan (BAP) priority habitats.

2.3.1. Designated Environmental Receptors

There are, in total, 3 designated sites positioned within 2 km of the proposed site. Two are SSSIs, Woolston Eyes SSSI 1.3 km South of the proposed site and Risley Moss SSSI 1.8 km North-East of the proposed site (also a SAC). Paddington Meadows is an LNR positioned 1.8 km South-West of the site.

Table 1 Designated Sites

ID	DESCRIPTION	NEAREST LOCATION FROM SITE (APPROX.)	DIRECTION FROM SITE
1	Woolston Eyes SSSI	1.3 km	S
2	Risley Moss SSSI, SAC and Local Nature Reserve	1.8 km	NE
3	Paddington Meadows Local Nature Reserve	1.8 km	SW

2.3.2. Non-Statutory Designated Receptors

As shown below there are 10 Non-Statutory Designated Receptors, (Site Setting Plan K18.14~20~003; K18.14~20~002 Sensitive Receptors 1km), within a 2 km radius of the proposed site. All of which are UK Biodiversity Action Plan (BAP) Sites². There are 7 related to Deciduous Woodland, 1 relating to Lowland Raised Bog and 2 related to Lowland Fens

Table 2 Non-Designated Sites

ID	DESCRIPTION	NEAREST LOCATION FROM SITE (APPROX.)	DIRECTION FROM SITE
1	BAP Deciduous Woodland - Grange Industrial Estate	205 m	NE
2	BAP Deciduous Woodland - Woolston Park	490 m	W
3	BAP Deciduous Woodland - Birchwood Airport	880 m	NE
4	BAP Deciduous Woodland - Moss Side Farm	915 m	ESE
5	BAP Deciduous Woodland - Birchwood	1 km	NNW
6	BAP Lowland Raised Bog and Deciduous Woodland - Oakwood (Birchwood Brook)	1.2 km	NE
7	BAP Lowland Fens and Deciduous Woodland - Thelwall Viaduct	1.3 km	SSE
8	BAP Lowland Fens - Woolston Eyes	1.3 km	SSE

² <https://hub.jncc.gov.uk/assets/bdd8ad64-c247-4b69-ab33-19c2e0d63736>

ID	DESCRIPTION	NEAREST LOCATION FROM SITE (APPROX.)	DIRECTION FROM SITE
9	BAP Deciduous Woodland - Padgate	1.4 km	WNW
10	BAP Deciduous woodland -Woolston Eyes No.4 Bed	1.4 km	SW

2.4. Geology

2.4.1. Artificial Ground and Made Ground

The site is located in an area designated as Artificial and Made ground (Landscaped Ground (undivided)). The site will benefit from an impermeable site surface and sealed drainage system.

2.4.2. Superficial and Drift Geology

Underlying the impermeable site surface are superficial geological deposits known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

The superficial geological deposits below site consist of Glaciofluvial Sheet Deposits – sand and gravel.

2.4.3. Bedrock and Solid Geology

Bedrock geology is the main mass of rocks underlying the Superficial deposits, forming the Earth and is present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water. There is evidence of Wilmslow Sandstone being the predominant bedrock formation underlying site and was formed in the Early Triassic Epoch.

2.5. Hydrogeology

The Superficial aquifer is the status of groundwater held within superficial geology. There are records of a Secondary A Aquifer on site (which are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. Formerly classified as minor aquifers) and an Unproductive Aquifer which are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

The Bedrock aquifer is the status of groundwater held within bedrock geology. There is a Principal aquifer below site which are described as geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers.

2.6. Hydrology

Table 3 Surface Water Features

DESCRIPTION	NEAREST LOCATION FROM SITE (APPROX.)	DIRECTION FROM SITE
Spittle Brook	695 m	NW
Grey Mist	1.3 km	SW
River Mersey	1.3 km	SSE
Woolston Weir	1.3 km	SSE
Woolston Eyes SSSI	1.6 km	SSW

2.7. Flood Risk

2.7.1. Risk of Flooding from Rivers and Sea

The UK Government Flood Risk Check states that there is a Very Low Risk of flooding from Rivers and Sea on site³.

³ [Check the long term flood risk for an area in England - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

2.7.2. Surface Water Flooding

The UK Government Flood Risk Check states that there is a Very Low Risk of surface water flooding at the site².

2.7.3. Groundwater Flooding

The UK Government website to check flood risk states that flooding from groundwater is unlikely in this area².

2.8. Air Quality

The proposed site is not situated within an Air Quality Management Area⁴. A 50m continuous strip on both sides of the M6 is designated an AQMA, due to potential exceedances of the annual nitrogen dioxide objective.

2.9. Nature of Risk Assessment

This document provides a broad and general assessment of the risk factors considered to be of significance for the site, and an evaluation of the impact from the principal risk factors to receptors within the site vicinity.

⁴ <https://uk-air.defra.gov.uk/aqma/maps/>

3. METHODOLOGY

3.1. Hazard Identification

A hazard is something with potential to cause harm to something else. Table ERA1 below identifies the principal hazard types which may be associated with the proposed activity; and indicates where hazards are identified and determined to be of significant potential risk to determine further assessment. Potential hazards from this activity are as follows:

ERA1 Identified Hazard Types

PRINCIPAL HAZARD TYPE	SUB-HAZARD TYPE	POTENTIAL SOURCE	RISK	REQUIRES FURTHER ASSESSMENT
Odour	N/A	<ul style="list-style-type: none"> Waste Delivery Storage Treatment Process Material Dispatch 	<ul style="list-style-type: none"> Some non-conforming waste could be delivered 	✓ ERA 8
Point Source Emissions to Air	None	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	No
Fugitive Emissions to Air	Dust and Particulate Matter	<ul style="list-style-type: none"> Waste Delivery Treatment Process Material Dispatch 	<ul style="list-style-type: none"> Deposit of EoL tyres on site Shredding or granulating of EoL tyres Loading of chips or granulated materials 	✓ ERA 8
	Litter and Debris	<ul style="list-style-type: none"> Waste Delivery Treatment Process Material Dispatch 	<ul style="list-style-type: none"> Loss of material during unloading, treatment and dispatch of waste 	✓ ERA 9
Fugitive Emissions – Pests	Pests, vermin, scavengers	<ul style="list-style-type: none"> Storage 	<ul style="list-style-type: none"> Some non-conforming waste could be delivered 	✓ ERA 10
Fugitive Emissions – Mud and Debris	Mud & debris	<ul style="list-style-type: none"> Waste Delivery Treatment Process Material Dispatch 	<ul style="list-style-type: none"> Some non-conforming waste could be delivered Mud tracked in to/out of site by vehicles 	✓ ERA 11
Fugitive Emissions – to Water	Contaminated runoff	<ul style="list-style-type: none"> Run off from stored waste pre-treatment Run off from stored waste post treatment Surface water run off Fire waters 	<ul style="list-style-type: none"> Waste will be stored within an area with an impermeable site surface Waste post treatment stored on an impermeable site surface, serviced by an interceptor. All hazardous liquids will be stored in appropriate containers with secondary containment. Localised secondary containment will be provided for potential fire 	✓ ERA 12

PRINCIPAL HAZARD TYPE	SUB-HAZARD TYPE	POTENTIAL SOURCE	RISK	REQUIRES FURTHER ASSESSMENT
			water in the event of a fire. • Waste processing occurs externally.	
Accidents	Transferring substances	• Waste delivery • Treatment process	• Loss of waste from vehicle • Spillages from process equipment	✓ ERA 13
	Plant or equipment failure	• Waste delivery • Failure of tanks	• Spillages from vehicles bringing waste to site • Leakages from waste drum/oil tanks	
	Flooding	• Flood risk from rivers or the sea • Surface water flooding	• Very Low risk • Very Low risk	
	Vandalism	• Unauthorised access	• Damage to critical elements of process or storage containment or vehicles.	
	Fire	• Stored waste • Mobile plant/process equipment	• Uncontrolled emissions or smoke and fire water	
Noise and Vibration	Transferring substance	• Stored waste • Mobile plant / process equipment	• Uncontrolled emissions of noise to surrounding commercial and residential receptors	✓ ERA 14
Climate Change	Extreme maximum & minimum temperature Extreme rainfall Drier summers River flow	• Stored Waste • Mobile plant / process equipment • Flood risk from rivers or the sea • Surface water flooding	• Uncontrolled emissions or smoke and fire water • Potential for increased waste reactions or fires involving heat sensitive or combustible waste. • Increase in high temperature expansion and stress of plant, pipework and fittings. UV degradation of plastic pipes and hoses causing them to fail. • Increased dust emissions from processing areas, stockpiled material and site roads. Reduced availability of water for dust suppression. • Long periods of hot and dry weather leads to drought significant impact on water supplies. • Potential increased risk of wildfires impacting the site.	✓ ERA 15
	Sea level rise			

3.3. Receptors

A receptor is the object (e.g., person, organism, resource, or property) impacted by a hazard. For example, odour may cause offence to a human (the receptor). When identifying receptors which may be at risk from the site, the following have been considered:

- Ancient woods
- Locations used to grow food or to farm animals or fish
- Drain and sewer systems
- Factories and other businesses
- Fields and allotments used to grow food
- Footpaths
- Roads and railways
- Groundwater beneath the site
- Homes, or groups of homes
- Playing fields and playgrounds
- Private drinking water supplies
- Regionally important geological sites
- Schools, hospitals, and other public buildings
- Water
- Conservation and habitats protected areas and areas of scientific interest

Sensitive receptors are shown on the Site Setting Plan (K18.14~20~003) and K18.14~20~002 Sensitive Receptors 1km. The IDs on the Site Setting Plan correspond to the Receptors Table (ERA2) below.

ERA2 Receptors

Identified on Site Setting Plan (K18.14~20~003) and Sensitive Receptors (K18.14~20~002)

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE	DIRECTION
HUMANS AND PROPERTY	-	Site Workers	On site	-
	-	Site Visitors	On site	-
	INHABITANTS OF RESIDENTIAL PROPERTIES			
	1	Residential Area East of Woolston Park	405 m	WSW
	2	Woolston Residential Area North of A57	415 m	SSW
	3	North Martinscroft	765 m	S
	4	South Martinscroft	1 km	S
	5	Woolston Residential Area East of Paddington	1 km	W
	6	Longbarn Residential Area	1 km	WNW
	7	Oakwood Residential Area	1 km	NNE
	8	Moss Side Farm	1 km	ESE
	9	Marshall's Farm	1.2 km	ENE
	10	New Moss Farm	1.2 km	ESE
	11	Locking Stumps Residential Area	1.4 km	NNW
	12	Paddington	1.4 km	WSW
	13	Fearnhead Residential Area	1.5 km	WNW
	14	Green Valley Farm and surrounding residencies	1.6 km	ESE
	15	Birchwood Residential Area	1.7 km	N
	16	Holly Bush Lane Residencies	2 km	ESE
	SENSITIVE PUBLIC USE			
	1	The Church of the Ascension	530 m	SW
	2	Woolston Church of England (Aided) Primary School	570 m	SW
	3	St Peter's Catholic Primary School	690 m	WSW
	4	King's Leadership Academy Warrington	765 m	WSW
	5	Woolston Community Primary School	890 m	SW
	6	Birchwood Community High School	970 m	NNW
	7	SS Peter and Michael Catholic Church Woolston	970 m	SSE
	8	New Horizons Alternative Provision	1.2 km	WNW
	9	Woolston Brook School	1.2 km	WSW
	10	Green Lane Community School/Woolston Learning Village	1.3 km	SW
11	Wind In The Willows Childcare Ltd (Woolston)	1.4 km	SW	
12	University of Chester Warrington Campus	1.4 km	NW	
13	Bruche Community Primary School	1.5km	WSW	
14	Birchwood Church of England Primary School	1.6 km	NNE	

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE	DIRECTION
	15	Christ Church Church of England Primary School	1.7 km	WNW
	16	Padgate Community Centre	1.8 km	W
	17	Locking Stumps Community Primary School	1.8 km	NNW
	18	Christ Church C Of E Church	1.9 km	WNW
	19	Padgate Academy/The Padgate Centre	1.9 km	WNW
COMMERCIAL USE				
	1	Hardwick Grange - Industrial Site	0 m	On site
	2	Woolston Nursery	460 m	ENE
	3	Quality Nishikigoi and Hens Haven	625 m	ENE
	4	Birchwood Boulevard	650 m	NNW
	5	Olympic Park	670 m	NW
	6	Birchwood Shopping Centre	670 m	NNW
	7	Holiday Inn Warrington, an IHG Hotel	1.1 km	SE
	8	Premier Inn Warrington (M6/J21) hotel	1.1 km	SE
	9	Grosvenor Grange	1.1 km	ESE
	10	Grey Mist Mere Industrial Site	1.2 km	SSW
	11	Juniper Farm & Mercedes-Benz of Warrington	1.3 km	WNW
	12	Birchwood Office Park	1.3 km	NW
	13	Nelson's Quarterdeck	1.5 km	NE
	14	Rixton Dog School Training & Behaviour Centre	1.7 km	ESE
	15	Mitsubishi Motors and The Dog Partridge Hotel	1.7 km	NE
	16	Turf & Feather & Ken's Chinese Takeaway	1.7 km	NW
	17	Bridgewater Place	1.7 km	NNE
	18	The Station House	1.8 km	WNW
RECREATIONAL AREAS				
	1	Woolston Park	465 m	W
	2	Woolston Neighbourhood Hub	725 m	SW
	3	Monk Sports & Social Club	900 m	WSW
	4	Weir Lane Green	1 km	SE
	5	Birchwood Girls Football Club	1 km	N
	6	Nottingham Close Green	1 km	SSW
	7	Lincoln Close Green	1.1 km	SSE
	8	Raspberry Fields Pony Parties	1.1 km	ESE
	9	Woolston Social Club	1.2 km	WSW
	10	Birchwood Golf Club	1.3 km	NW
	11	Longbarn Park	1.4 km	WNW
	12	Grey Mist Mere	1.4 km	SSW
	13	Oakwood Play Park	1.4 km	NNE

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE	DIRECTION	
	14	Crab Lane Playing Fields	1.7 km	NW	
	15	Priestly Park	1.8 km	WNW	
	16	Padgate Tennis and Bowling Club	1.9 km	WSW	
	AGRICULTURAL				
	1	Moss Lane Farm	310 m	NNE	
	2	Brookfield	625 m	ESE	
	3	Open Arable Lane & Pastures South East of Birchwood Brook	1 km	NE	
	4	Moss Barn Farm	1 km	ENE	
	5	Moss Side Farm	1.1 km	ESE	
	6	Battery Kane Orchard	1.2 km	SE	
	7	Open Arable Lane & Pastures North of River Mersey and East of M6	1.5 km	NW	
	CRITICAL INFRASTRUCTURE				
	1	Motorway – M6	255 m	NE	
	1	Birchwood Railway Station	690 m	NNE	
	2	Rixton Moss Airfield	950 m	ENE	
	3	Hydropol Woolston Weir	1.2 km	SSW	
	4	Cheshire Fire Service	1.5 km	NNE	
	5	Birchwood Police Station	1.7 km	N	
	6	Padgate Railway Station	1.8 km	W	
	ROADS AND RAILWAYS				
	-	B5210 Woolston Grange Avenue	175 m	NNE	
	-	M6	255 m	NE	
	-	Gig Lane	405 m	SSW	
	-	A57 Manchester Road	730 m	SSE	
	PUBLIC RIGHTS OF WAY				
	-	Nicol Avenue to Juniper Lane	525 m	ESE	
	-	Nicol Avenue	565 m	ESE	
	-	Manchester Road to Redwood Close	750 m	NNW	
	-	Manchester Road to New Cut Heritage Ecology Trail	845 m	NNE	
	-	Somerset Way Through Woolston Park	910 m	WSW	
WATER	SURFACE WATER				
	-	Spittle Brook	695 m	NW	
	-	Grey Mist	1.3 km	SW	
	-	River Mersey	1.3 km	SSE	
	-	Woolston Weir	1.3 km	SSE	
	-	Woolston Eyes SSSI	1.6 km	SSW	
	GROUNDWATER				
-	Bedrock - Principal aquifer	On site	-		

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE	DIRECTION
	-	Superficial Aquifer - Secondary A	On site	-
	-	Superficial Aquifer - Unproductive	On site	-
ENVIRONMENTALLY SENSITIVE SITES	DESIGNATED SITES			
	8	Woolston Eyes SSSI	1.3 km	S
	11	Risley Moss SSSI, SAC and Local Nature Reserve	1.8 km	NE
	NON-STATUTORY DESIGNATED SITES			
	1	BAP Deciduous Woodland - Grange Industrial Estate	205 m	NE
	2	BAP Deciduous Woodland - Woolston Park	490 m	W
	3	BAP Deciduous Woodland - Birchwood Airport	880 m	NE
	4	BAP Deciduous Woodland - Moss Side Farm	915 m	ESE
	5	BAP Deciduous Woodland - Birchwood	1 km	NNW
	6	BAP Lowland Raised Bog and Deciduous Woodland - Oakwood (Birchwood Brook)	1.2 km	NE
	7	BAP Lowland Fens and Deciduous Woodland - Thelwall Viaduct	1.3 km	SSE
	8	BAP Lowland Fens - Woolston Eyes	1.3 km	SSE
	9	BAP Deciduous Woodland - Padgate	1.4 km	WNW
	10	BAP Coastal and Floodplain Grazing Marsh - Paddington Meadows	1.8 km	SW
11	BAP Deciduous Woodland - Paddington Meadows	2 km	SW	
HERITAGE SITES	LISTED BUILDINGS, PARKS & SCHEDULED MONUMENTS			
	1	No.4 Grade II Listed Buildings	815 m	SSE
	2	Grade II Listed Building	1.6 km	NW
	3	No.2 Grade II Listed Buildings	1.8 km	NNW
	4	No.4 Grade II Listed Buildings	1.9 km	WSW
	5	Grade II Listed Building	2 km	ESE

3.4. Prevailing Wind Direction

The closest observing station where weather data is available is Liverpool Airport, approximately 19 km West of Warrington⁵, with additional weather data collected from City Airport Manchester, Manchester Airport and Blackpool Airport. All four stations indicate a predominantly easterly wind direction in Warrington throughout the year, on average.⁶

3.5. Pathways

The pathway is the means by which the hazard reaches the receptor and forms the link between the two. For example, a dust hazard may reach a receptor by travelling through air, with the air therefore being the pathway.

The source-pathway-receptor link must be present for there to be a risk. Management measures applied at the site act to minimise the overall risk by impeding or removing the pathway.

⁵ <https://weatherspark.com/y/147787/Average-Weather-at-Liverpool-Airport-United-Kingdom-Year-Round#Sections-Sources>

⁶ <https://weatherspark.com/y/39797/Average-Weather-in-Warrington-United-Kingdom-Year-Round#Sections-Sources>

ERA3 Pathways

RECEPTOR	HAZARD	PATHWAY
Humans and Property	Odour	Transmitted through the air
	Dust and Particulate Matter	Transmitted through the air
	Noise	Transmitted through the air
	Birds, Vermin & Insects	Physical travel
	Fire	Physical contact and spread
Groundwater	Contaminated runoff	Infiltration through the ground
Surface Water	Contaminated runoff	Direct discharge from site
Environmentally Sensitive Sites	Dust and Particulate Matter	Transmitted through the air
	Noise	Transmitted through the air
	Fire	Physical contact and spread
Atmosphere	Dust and Particulate Matter	Transmitted through the air

3.6. Risk

Assessment of risk is based on the probability of receptor exposure to the identified hazards and the consequences of such exposure. The initial assessment of risk is made assuming no risk management practices are applied.

A matrix is used to determine overall risk and uses the following definitions:

ERA4 Probability of Exposure

PROBABILITY OF EXPOSURE
HIGH – <i>exposure is probable</i> : direct exposure likely with no / few barriers between hazard, source and receptor.
MEDIUM – <i>exposure is fairly probable</i> : feasible exposure possible, barriers to exposure less controllable.
LOW – <i>exposure is unlikely</i> : several barriers exist between hazards source and receptors to mitigate against exposure.
VERY LOW – <i>exposure is very unlikely</i> ; effective, multiple barriers in place to mitigate against exposure.

ERA5 Consequences of Exposure

CONSEQUENCES OF EXPOSURE
HIGH – <i>the consequences are severe</i> : sufficient evidence that short or long term exposure may result in serious damage.
MEDIUM – <i>consequences are significant</i> ; sufficient evidence that exposure to hazard may result in damage that is not severe in nature and reversible once exposure ceases (e.g. irritant).

CONSEQUENCES OF EXPOSURE
LOW – <i>consequences are minor</i> ; damage not apparent though reversible adverse changes may occur.
VERY LOW – <i>consequences are negligible</i> ; no evidence of adverse changes following exposure.

Comparison between probability and consequence provides the overall risk which is reached as follows:

ERA6 Assessing Overall Risk

		CONSEQUENCES			
		Very Low	Low	Medium	High
LIKELIHOOD	High	Low	Medium	High	High
	Medium	Low	Medium	Medium	High
	Low	Low	Low	Medium	Medium
	Very Low	Very Low	Low	Low	Low

3.7. Risk Management

Risk management practices for the key hazards identified above are summarised in Section 4 of this ERA. The information presented below is supported by various documents, such as the BS4142 Noise Impact Assessment carried out by Spectrum Acoustic Consultants (Appendix C), and this is clearly indicated within each table presented.

In addition, risk management measures have been developed with reference to relevant guidance documents, the following being of particular note:

- Environmental Management – Guidance: Risk assessment for your environmental permit⁷
- Guidance: Noise and vibration management: environmental permits⁸
- Guidance: Control and monitor emissions for your environmental permit⁹

⁷ [Risk assessments for your environmental permit - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit), Updated 31 August 2022

⁸ [Noise and vibration management: environmental permits - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/noise-and-vibration-management-environmental-permits), Updated 31 January 2022

⁹ [Control and monitor emissions for your environmental permit - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit), Updated 24 November 2022

- Sector Guidance Note S5.06: Recovery and disposal of hazardous and non-hazardous waste.¹⁰

This risk assessment details the key management measures for identified risks.

3.8. Residual Risk

The application of management practice results in a residual risk which is detailed in Section 4 of this document.

¹⁰ [Sector Guidance Note S5.06: recovery and disposal of hazardous and non-hazardous waste - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/744442/sector-guidance-note-s5.06-recovery-and-disposal-of-hazardous-and-non-hazardous-waste.pdf), Updated 10 October 2018

4. RISK ASSESSMENT

The key hazards identified for the activity have been subject to a risk assessment against management practice. Each hazard is assessed in a separate table (Appendix A). The information presented is, as appropriate, supported by other documents and these are referenced.

Many of the hazards identified in the tables located in Appendix A relate to 'Environmental Risk Points (ERP)' identified throughout the processes:

ERA7 Environmental Risk Points (ERP)

REFERENCE	PROCESS
ERP1	Material receipt
ERP2	Material storage pending treatment
ERP3	Production processes
ERP4	Material dispatch

5. APPENDICES

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Appendix A

Environmental Risk Assessment Tables

(30/05/2023)

Appendix B

Groundsure Report (GS-RGO-27J-2BH-VGA)

(25/04/2023)

Appendix B

Groundsure Report (GS-RGO-27J-2BH-VGA)

(25/04/2023)

Appendix C

Noise Impact Assessment (cja4781)

(10/07/2023)



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