ENVIRONMENTAL PERMIT VARIATION APPLICATION – ENVIRONMENTAL & ACCIDENTS RISK ASSESSMENT

CROFT QUARRY
MARION'S WAY
CROFT
LEICESTERSHIRE
LE9 3GP

Document Reference: AI1009/10.R1
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Project Quality Assurance
Information Sheet

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CROFT QUARRY, MARION'S WAY, CROFT, LEICESTERSHIRE

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1	03/09/2024	Additional ecological receptors included	SP	DT

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ENVIRONMENTAL PERMIT VARIATION APPLICATION

ENVIRONMENTAL RISK ASSESSMENT

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1.0 Introduction

1.1 Sirius Environmental Limited ('Sirius') has been commissioned by Aggregate Industries UK Limited ('Aggregate Industries') to prepare an Environmental Risk Assessment to support the operation of a waste recovery activity for the restoration of Croft Quarry, Marion's Way, Croft, Leicestershire, LE9 3GP. This risk assessment also considers the proposed extension of the operational areas in which the existing screening and crushing and proposed soil washing waste treatment activities will be carried out.

1.2 This risk assessment has been undertaken in accordance with the Environment Agency Guidance on 'Risk assessments for your environmental permit' (Updated 21 November 2023). This assessment considers risk posed by the waste activities to the local amenity from potential fugitive emissions and accidents. A summary of the management measures in place to manage any associated risks is also included.

2.0 Site Setting

2.1 Croft Quarry is located immediately to the north of the village of Croft and approximately 500m to the south-west of the village of Huncote, Leicestershire. The application site has a postcode of LE9 3GP and is centred on a National Grid Reference (NGR) of SP 51269 96539. The location of the quarry relative to its surroundings is presented in **Drawing Nos. AI1009/14/01** & **AI1009/14/02**. The entire Croft Quarry site extends over an area of c. 111.5ha, of which the footprint of the quarry void in which waste will be deposited equates to ~48ha of the total site area.

2.2 To the northwest of the proposed landfill area is the Croft Hill Site of Special Scientific Interest (SSSI), which is bound to its west by the unclassified roads named 'Croft Hill Road' and 'Huncote Road'. Huncote Road proceeds to run along the western boundary of the application site until reaching Croft Village which is located to the south of the application site. Beyond Huncote Road and Croft Hill Road is agricultural land. The dominant land use to the north, west and south of the proposed landfill site is arable agricultural with the south dominated by residential developments.

2.3 In addition to the Croft and Huncote residential developments, residential properties are located beyond the western boundary of the application site along Huncote Road, Thurlaston Lane, Stanton Lane and Marston Road. Located to the south of the landfill site are the South Leicester railway branch and the B4114 (Coventry Road) and a few light industrial units. Both the South Leicester Railway and B4114 run southwest-northeast along the site's southern boundary.

2.4 Three Sites of Special Scientific Interest (SSSIs) within 650m of the application site boundary. One of these SSSIs; Croft Pasture, is located approximately 620m to the southwest of the application site and comprises of acidic mixed grassland; which has been identified as containing Bullhead fish, brown trout and spined loach; designated as protected species, within the stretch of the River Soar that traverses Croft Pasture SSSI. The remaining two SSSIs are located within the application site boundary, the first; Croft Hill, is located adjacent to the north-western corner of the proposed application site and has been designated a SSSI due to the presence of rare grasses; designated as a protected habitat under Lowland dry acid grassland as well as Deciduous Woodland. The second SSSI within the application site boundary contains the quarry void itself which forms the Croft and Huncote Quarry SSSI. This site was

awarded SSSI status due to the exposures of Ordovician tonalitic igneous rock, attendant zeolite mineralisation and younger manganese mineralisation of Triassic age.

2.5 The Huncote New Hill Nature Reserve is located adjacent to the eastern boundary of the application site boundary. The nature reserve contains a variety of habitat types including grassland, wetlands, young woodland and also houses the Croft Quarry Pond Local Wildlife Site.

2.6 In addition to the Croft Quarry Pond Local Wildlife Site, three other Local Wildlife Sites (LWSs) are located within 200m of the proposed site boundary. The first LWS is classified as Croft Quarry itself with the other two LWSs corresponding to the River Soar and Croft Roadside Verge. Both of which are located to the south of the proposed development.

2.7 The existing site comprises operational mineral extraction areas, areas undergoing restoration, the current mineral processing plant, concrete block plant and recycling and associated areas of hardstanding and open storage. These operations are set behind mature vegetation (including perimeter hedgerows) and developing woodland.

2.8 **Table EARA1** summarises the potential sensitive receptors that have been identified through a desk top assessment of the locality and the corresponding minimum distance from the permit site boundary. The locations of the receptors are shown in **Drawing No. AI1009/14/11.**

Table EARA1: Potential Sensitive Receptors identified within 1km of the site

ID	Receptor Name	Type of Receptor	Approximate nearest distance from the operational boundary	Direction from proposed landfill footprint
R1	Croft and Huncote Quarry	Site of Special Scientific Interest	On-Site	N/A
R2	Croft Hill	Site of Special Scientific Interest and Priority Habitats (Deciduous Woodland, Low Lying Acid Grassland)	Adjacent	Northwest
R3	The Huncote New Hill Nature Reserve & Croft Ponds LWS	Local Nature Reserve & Local Wildlife Sites	Adjacent	East
R4	Public Footpaths	Public Right of Way	Adjacent up to 440m	North and South
R5	Coventry Road (B4114)	Public Highway	~550m	South
R6	Croft Hill Road	Public Highway	Adjacent	North
R7	Thurlaston Lane	Public Highway	Adjacent	North
R8	Huncote Road	Public Highway	Adjacent	West
R9	Stanton Lane	Public Highway	Adjacent	West
R10	Marston Road	Public Highway	Adjacent	Southwest
R11	South Leicester Railway	Public Transportation	Adjacent	South
R12	Croft Village	Residential / Recreational / School	Adjacent	South
R13	River Soar, Thurlaston Brook and Broughton Astley Brook	Water Body, Local Wildlife Site & Priority Species *(Bullhead cottus, Brown/Sea trout, Spined loach)*	Adjacent+	North, East, South
R14	Residential Properties along Huncote Road	Residential	Adjacent	West

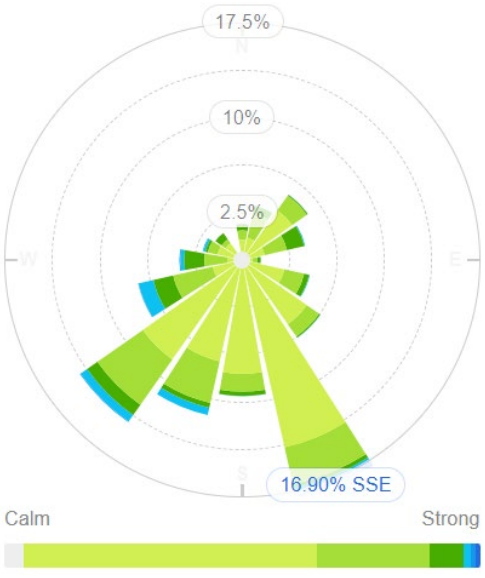
ID	Receptor Name	Type of Receptor	Approximate nearest distance from the operational boundary	Direction from proposed landfill footprint
R15	Agricultural Land	Agricultural	Adjacent up to 1km	All Directions
R16	Residential Properties along Marston Road	Residential	Adjacent up to 240m	West
R17	Winston Avenue	Commercial / Industrial	~30m	South
R18	Croft Pasture and Roadside Verge	Site of Special Scientific Interest, Local Wildlife Site and Priority Habitats (Deciduous Woodland, Low Lying Acid Grassland)	~70m to ~425m	Southwest
R19	Huncote Village	Residential / Recreational / School	~350m	Northeast
R20	Residential Properties on Stanton Lane	Residential	~290m to 600m	West
R21	Standalone Residential Properties	Residential	~500m to 950m	East, South
R22	Three Boundaries Business Park	Commercial / Industrial	~700m	South
R23	Elms Farm Industrial Park	Commercial / Industrial	~850m	Northeast
R24	Deciduous Woodlands	Priority Habitats	Adjacent+	West, South, Southwest, Northeast

Meteorological Conditions

2.9 A wind rose based on the five-year mean of meteorological data recorded at Church Lawford (~22km south of Croft) is presented in **Figure EARA1**. The predominant wind direction depicted from the south-southeast, with a significant contribution from the south to southwest. Winds from these directions amount to ~52% of the wind.

Figure EARA1: Five-year (2018-2023) average wind statistics for Church Lawford

Directio	Proportio
N	2.60%
NNE	4.00%
NE	5.73%
ENE	4.60%
E	1.32%
ESE	4.93%
SE	6.81%
SSE	16.90%
S	9.75%
SSW	11.38%
SW	14.18%
WSW	7.63%
W	4.5%
WNW	2.91%
NW	2.37%
NNW	0.00%



3.0 Risk Assessment

Risk Assessment Methodology

3.1 The risk assessment has been prepared using the widely-accepted source-pathway-receptor methodology, and is the preferred method specified in the EA guidance. Where any complete source-pathway-receptor linkage exists, the magnitude of any such risk is qualified by the probability and consequence of any such risk occurring. The criteria to be adopted for the risk assessment are present in **Table ERA2.**

Table EARA2: Risk Assessment Criteria

Probability ⇨ Consequence ⇩	Very Low	Low	Moderate	High
Very Low	Negligible	Very Low	Low	Low-Moderate
Low	Very Low	Low	Low-Moderate	Moderate
Moderate	Low	Low-Moderate	Moderate	High
High	Low-Moderate	Moderate	High	Very high

3.2 An Environmental Risk Assessment for the waste operations is presented in **Appendix EARA1**. The assessment covers the following potential risks:-

- Fugitive emissions to air;
- Mud and Debris on the road
- Bird, Vermin and Insects
- Noise & Vibration;
- Odour;
- Fugitive emissions to water
- Accidents

3.3 More detailed assessments relating to the stability of the waste mass being used to restore the quarry and the long-term risks posed by the permanent deposits to the hydrogeological environment are presented in separate detailed assessments that accompany the permit application.

APPENDIX EARA1
Environmental Risk Assessment Matrix

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is the agent or process with potential to cause harm?	*What are the harmful consequences if things go wrong?*	*How might the receptor come into contact with the source?*	*What is at risk? What do I wish to protect?*	*How likely is this contact?*	*How severe will the consequences be if this occurs?*	*What is the overall magnitude of the risk?*	*On what did I base my judgement?*	*How can I best manage the risk to reduce the magnitude?*	*What is the magnitude of the risk after management?*
Dust/Particulates									
Particulate matter and dusts from delivery, handling and deposition of wastes materials, including trafficked mud and debris.	Harm to human health - respiratory irritation and illness.	Air transport, deposition then inhalation.	Local human population *(R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R14, R16, R17, R18, R19, R20, R21, R22 & R23)*	Moderate	High	**High**	Permanent deposits of wastes will be between ~60m and ~230m below surrounding ground levels. Wastes will not consist solely or mainly of dusts, powders or loose fibres. Wastes may be delivered and temporarily stored in open stockpiles in the waste reception area. Areas of human occupation within 50m of the present and proposed boundaries of Croft Quarry Site boundary. Receptors ‘R19’ and ‘R23’ and areas of ‘R4’, ‘R8’ and ‘R21’ are downwind of prevailing wind, although they are not within 500m of the waste reception and temporary stocking areas. Existing perimeter vegetation and earth bunds will provide screening.	A Dust Emissions Management Plan (DEMP) will be maintained for all waste operations carried out at the site. All delivery and dispatch vehicles/containers (road and rail) to be sheeted or fully enclosed. Rail deliveries to be unloaded within the Rail Handling Shed. Wastes to be transferred from waste reception area to tipping face via enclosed conveyor systems or by dumpers. Drop heights into loading conveyor and dumpers will be minimised with all plant operators appropriately trained. The Site Manager or instructed site personnel will undertake regular inspections of site surfaces and the public highway in order to identify the need for any cleaning requirements. Observations from all inspections will be logged. All haul roads outside of the quarry void to be of concrete hardstanding and kept free from mud and debris Vehicle speed limits across the site will be limited to 15mph to minimise dust arisings, and 20mph along Marion’s Way. Vehicles will be required to pass through a wheel washing facility prior to leaving the site to prevent the deposition of material onto the public highway; Mechanical road sweeper and/or towed spray bowser will prevent waste surfaces and haul roads from becoming dry and dusty, especially during periods of dry weather. Water sprays or surface binders will be utilised to maintain damp surfaces on exposed tip and stockpile faces and any exposed friable surfaces during dry and windy (>10m/s) weather. A permanent misting system will be installed at the waste stocking area in the southwest section of the site, in the vicinity of Dovecote Road and Shades Close; Fence, earth bunds and tree lines along site perimeter to be maintained during the operational life of the restoration activities. Dust monitoring is currently carried out in support of the existing mineral extraction activities. This will continue until the site is fully restored.	Low
	Nuisance - dust on property, clothing etc.	Air transport then deposition	Local human population *(R12, R14, R16, R17, R19, R20, R21, R22 & R23)*	Moderate	Moderate	**Moderate**			Low
	Smothering of habitats and crops	Air transport then deposition	Local wildlife habitats/ species *(R1, R2, R3, R13, R15, R18 & R24)*	Moderate	Moderate	**Moderate**	Areas of receptors R13 and R15 are located downwind of prevailing wind direction. Wastes will be deposited between ~60m and ~230m below surrounding ground levels. Wastes will not consist solely or mainly of dusts, powders or loose fibres. Existing perimeter vegetation and earth bunds will provide screening.		Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is the agent or process with potential to cause harm?	*What are the harmful consequences if things go wrong?*	*How might the receptor come into contact with the source?*	*What is at risk? What do I wish to protect?*	*How likely is this contact?*	*How severe will the consequences be if this occurs?*	*What is the overall magnitude of the risk?*	*On what did I base my judgement?*	*How can I best manage the risk to reduce the magnitude?*	*What is the magnitude of the risk after management?*
Particulate matter and dusts from the physical treatment of wastes	Harm to human health - respiratory irritation and illness.	Air transport, deposition then inhalation.	Local human population *(R4, R5, R6, R7, R8, R9, R10, R11, R12, R14, R16, R17, R19, R20, R21, R22 & R22)*	Moderate	High	**High**	The location in which the treatment operations will be carried out will change as mineral processing and construction product manufacture adapt to local market changes. Wastes will not consist solely or mainly of dusts, powders or loose fibres. Wastes maybe delivered and temporarily stored in open stockpiles in the waste reception area. Areas of human occupation within 50m of the southwestern area in which screening and crushing treatment operations will be carried out. Receptors ‘R19’ and ‘R23’ and areas of ‘R4’, ‘R8’, ‘R18’ and ‘R21’ are downwind of prevailing wind, although they are not within 500m of the proposed waste area in which the treatment operations will be carried out. Existing perimeter vegetation and earth bunds will provide screening. Soil washing activities will ensure that materials treated in this manner are damp so will not pose a significant risk of dust emissions.	A Dust Emissions Management Plan (DEMP) will be maintained for all waste operations carried out at the site. The Site Manager or instructed site personnel will undertake regular inspections of site surfaces and the public highway in order to identify the need for any cleaning requirements. Observations from all inspections will be logged. All haul roads outside of the quarry void to be of concrete hardstanding and kept free from mud and debris Vehicle speed limits across the site will be limited to 15mph to minimise dust arisings Vehicles be required to pass through a wheel washing facility prior to leaving the site to prevent the deposition of material onto the public highway; Mechanical road sweeper and/or towed spray bowser will prevent haul roads from becoming dry and dusty, especially during periods of dry weather. Water sprays or surface binders will be utilised to maintain damp surfaces on exposed stockpile faces and any exposed friable surfaces during dry and windy (>10m/s) weather. A misting/spray systems will be installed on the treatment plant. Fence, earth bunds and tree lines along site perimeter to be maintained during the operational life of the restoration activities. Dust monitoring is currently carried out in support of the existing mineral extraction activities. This will continue until the site is fully restored.	Low
	Nuisance - dust on property, clothing etc.	Air transport then deposition	Local human population *(R12, R14, R16, R17, R19, R20, R21, R22 & R23)*	Moderate	Moderate	**Moderate**			Low
	Smothering of habitats and crops	Air transport then deposition	Local wildlife habitats/ species *(R1, R2, R3, R13, R15, R18 & R24)*	Moderate	Moderate	**Moderate**	Areas of receptors R3, R13 and R15 are located downwind of prevailing wind direction and are adjacent to the southern and eastern edges of the proposed operational areas. Wastes will not consist solely or mainly of dusts, powders or loose fibres. Existing perimeter vegetation and earth bunds will provide screening.		Low
Release of asbestos fibres during delivery, handling and deposit of waste materials	Harm to human health - respiratory irritation and illness.	Air transport, deposition then inhalation.	Local human population *(R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R14, R16, R17, R18, R19, R20, R21, R22 & R22)*	Moderate	High	**High**	Permeant deposits of wastes be between ~40m and ~230m below surrounding ground levels. Areas of human occupation within 50m of the present and proposed boundaries of Croft Quarry Site boundary. Receptors ‘R19’ and ‘R23’ and areas of ‘R4’, ‘R8’ and ‘R21’ are downwind of prevailing wind, although they are not within 200m of the waste reception and temporary stocking areas. Existing perimeter vegetation and earth bunds will provide screening.	A Dust Emissions Management Plan (DEMP) will be maintained for all wastes operations carried out at the site. All delivery and dispatch vehicles/containers (road and rail) to be sheeted or fully enclosed. Rail deliveries to be unloaded within the Rail Handling Shed Wastes to be transferred from waste reception area to tipping face via enclosed conveyors systems or by dumpers. Drop heights into loading conveyor and dumpers will be minimised with all plant operators appropriately trained. Asbestos containing wastes will be tipped is areas of the site that will be pre-prepared on a daily basis.	Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is the agent or process with potential to cause harm?	*What are the harmful consequences if things go wrong?*	*How might the receptor come into contact with the source?*	*What is at risk? What do I wish to protect?*	*How likely is this contact?*	*How severe will the consequences be if this occurs?*	*What is the overall magnitude of the risk?*	*On what did I base my judgement?*	*How can I best manage the risk to reduce the magnitude?*	*What is the magnitude of the risk after management?*
								Waste materials containing asbestos fibres (up to 0.1%) will subject to a booking system ahead of delivery. Deliveries will only be accepted in if sufficient quantities of asbestos-free cover materials will be available. The Site Manager or instructed site personnel will undertake regular inspections of site surfaces and the public highway in order to identify the need for any cleaning requirements. Observations from all inspections will be logged. All haul roads outside of the quarry void to be of concrete hardstanding and kept free from mud and debris Vehicle speed limits across the site will be limited to 15mph to minimise dust arisings Vehicles be required to pass through a wheel washing facility prior to leaving the site to prevent the deposition of material onto the public highway; Mechanical road sweeper and/or towed spray bowser will prevent waste surfaces and haul roads from becoming dry and dusty, especially during periods of dry weather. A permanent misting system will be installed at the waste stocking area in the southwest section of the site, in the vicinity of Dovecote Road and Shades Close. Water sprays or surface binders will be utilised to maintain damp surfaces on exposed tip and any other exposed friable surfaces during dry and windy (>10m/s) weather. Fence, earth bunds and tree lines along site perimeter to be maintained during the operational life of the restoration activities. Dust monitoring will include asbestos screening. This will continue until the site is fully restored.	
Odours									
Odours from delivery, treatment and of wastes/materials Handling and deposition of inert waste	Nuisance, loss of amenity	Air transport then inhalation.	Local human population *(R12, R14, R16, R17, R19, R20, R21, R22 & R23)*	Very Low	Moderate	**Low**	Site located in rural setting. Only inorganic wastes will be accepted and deposited at the site. Most waste will be delivered via rail with initial inspections carried out when received. Areas of human occupation within 300m of site boundary. The majority of wastes will be delivered via rail, with waste inspections carried out at the rail depots receiving the waste ahead of delivery to site.	All wastes loads delivered and dispatched from the site will be sheeted or fully enclosed. Deliveries by rail will be inspected at the rail handling depots at which they are bulked ahead of transfer to the site. All wastes to be inspected prior to acceptance at the site. Fence, earth bunds and tree lines along site perimeter to be maintained. The Site Manager or instructed site personnel will undertake regular olfactory assessments to identify any odorous emissions relating to the waste operations. The results from all inspections will be logged.	Negligible

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is the agent or process with potential to cause harm?	*What are the harmful consequences if things go wrong?*	*How might the receptor come into contact with the source?*	*What is at risk? What do I wish to protect?*	*How likely is this contact?*	*How severe will the consequences be if this occurs?*	*What is the overall magnitude of the risk?*	*On what did I base my judgement?*	*How can I best manage the risk to reduce the magnitude?*	*What is the magnitude of the risk after management?*
Litter									
Litter within waste handled at the site	Nuisance, loss of amenity, road traffic accidents and harm to animal health	Vehicles entering and leaving site. Air transport and then deposition	Local human population, livestock and wildlife. Local road users. *(All Receptors)*	Very Low	Moderate	**Low**	Little potential for litter generation due to the types of waste accepted on site.	All deliveries or dispatches of waste to be sheeted or enclosed. Deliveries by rail will be inspected at the rail handling depots at which they are bulked ahead of transfer to the site. All wastes to be inspected prior to acceptance at the site. Security fence to be maintained along site boundary to prevent litter escaping and daily litter inspections carried out on site. Daily litter inspections will be carried out across the site. Litter picking to be carried out on signs of litter generation. The source of any litter will also be investigated and remedied.	Very Low
Mud and Debris									
Waste debris and mud on local roads Tracking of mud and debris onto public roads causing accident, hazards and nuisance to road users.	Nuisance, loss of amenity, road traffic accidents and harm to animal health	Vehicles entering and leaving site.	Local human population, livestock and wildlife. Road users (R5)	Low	Moderate	**Low-Moderate**	Internal roadways and wheel washes present at the quarry prior to vehicles exiting on Coventry Road. Majority of wastes will be delivered by rail.	All deliveries or dispatches of waste to be sheeted or enclosed. All vehicles to be inspected prior to leaving site. Wheel cleansing facilities to be provided / utilised as appropriate. Internal roads within the main reception area will comprise hard surfacing to minimise tracking of mud and debris onto public roads. Public roads will be monitored daily and more frequently during adverse weather conditions. The site entrance will be inspected daily for evidence of mud and debris. Site entrance to be mechanical swept to remove mud and debris deposited.	Low
Scavengers and Pests									
Scavenging animals and scavenging birds, Pests (e.g. flies) attracted to or infesting wastes	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity. Negative effects on habitats and crops	Air transport and over land.	Local human population, crops and local habitats (All receptors)	Very Low	Low	**Very Low**	Permitted waste unlikely to attract scavenging animals and birds. Only non-degradable materials will be accepted at site for restoration of the quarry Site is located in a rural area. Insect pests can multiply on permitted wastes, particularly in summer months when waste is likely to have a higher odour potential and attracts flies.	Deliveries by rail will be inspected at the rail handling depots at which they are bulked ahead of transfer to the site. All wastes to be inspected prior to acceptance at the site. Discharge of deliveries to the site will be supervised by trained site operatives.	Negligible

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is the agent or process with potential to cause harm?	*What are the harmful consequences if things go wrong?*	*How might the receptor come into contact with the source?*	*What is at risk? What do I wish to protect?*	*How likely is this contact?*	*How severe will the consequences be if this occurs?*	*What is the overall magnitude of the risk?*	*On what did I base my judgement?*	*How can I best manage the risk to reduce the magnitude?*	*What is the magnitude of the risk after management?*
Noise & Vibration									
Noise and vibration caused by engine noise and vibrations from loading shovel, lorry movements, treatment plant etc.	Nuisance, loss of amenity, loss of sleep or harm.	Noise through the air and vibration through the ground.	Local human population *(R12, R14, R16, R17, R19, R20, R21, R22 & R23)*	Moderate	Moderate	**Moderate**	Waste activities will be carried out in a established industrial setting. Proximity of receptors to site and the presence of mature vegetation and ancillary industrial structures between identified noise sources and receptors. Waste treatment restricted to: 06:00 – 19:00 Monday to Saturday. Deliveries of waste via rail and transfer of materials via the conveyor system into quarry void will be 24/7. Waste treatment activities to include screening and crushing in the southwestern portion of the ancillary operations area whilst soil washing activities will be carried out in the northeastern section of the ancillary operations area. Waste operations will largely be carried out between ~230 to ~40m below surrounding ground levels, with ancillary site buildings present along southern and south-eastern boundaries. Additionally, developed trees and hedgerows surround the quarry site.	Fence, earth bunds and tree lines along site perimeter to be maintained. A noise attenuation fence will be erected and maintained along the western and southwestern boundary of the site. The fence will be installed to a minimum of 3.5m high. Screening and crushing activities will be supported by the construction of a lego brick wall close to the plant to a minimum height of 3.5m, situated along the south and southwestern edges of the operational area for this activity. Speed limit of 15mph to apply on internal roads throughout Croft Quarry. Roads will be maintained and kept free of ruts and potholes to minimise body slap. All site plant used on site will be operated and maintained in accordance with manufacture's recommendation. Noise levels will be monitored daily by site manager) or nominated deputy) to ensure that operations are not resulting in significant levels of noise beyond the site boundary. Daily subjective monitoring will be supported by quarterly noise surveys required under current Planning consent conditions. Mobile plant will utilise white noise reversing alarms with no audible warning noise. Drop heights will minimised. The waste conveyor transporting material unloaded from the rail unloading building to the quarry void will be completely covered. Acoustic fencing will be located as close as possible to the conveyor allowing for maintenance access. The walls and roof of the rail unloading building will be double clad and the northern façade of the unloading building will be completely sealed. Night-time railway containers will only be unloaded within the confines of the rail unloading building and both railway doors will be fitted with strip doors. Furthermore, the locomotive drive train will be positioned to the east of the unloading building throughout night-time unloading operations and the western doors of the unloading building will be shut once the final three railway containers are within the unloading building.	Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is the agent or process with potential to cause harm?	*What are the harmful consequences if things go wrong?*	*How might the receptor come into contact with the source?*	*What is at risk? What do I wish to protect?*	*How likely is this contact?*	*How severe will the consequences be if this occurs?*	*What is the overall magnitude of the risk?*	*On what did I base my judgement?*	*How can I best manage the risk to reduce the magnitude?*	*What is the magnitude of the risk after management?*
								The unloading feed hopper and drive system for the conveyor system will be located within the unloading building.	
Water									
Generation of contaminated run-off and leachate from waste deposits and other hazardous substances handled on site (e.g. fuels, oils etc)	Harm to protected site through nutrient enrichment, leachate, contaminated surface water runoff	Surface water run-off, and sub-surface transport of leachates then base and spring flows to rivers.	Groundwater, surface water bodies and their associated habitats. *(R1, R2, R3, R13, R15 & R18)*	Moderate	Moderate	**Moderate**	Quarry located in Secondary B Aquifers with no licensed or private water abstraction within 500m of the site	Engineered containment proposed in quarry void. Written waste acceptance procedures in place to prevent the acceptance of non-conforming wastes. All plant and equipment will be maintained in accordance with manufacturers recommendations All potential polluting raw materials (e.g. fuels or oils) will be stored within bunded or double skinned tanks or located on spill trays.	Low
Sediment/silt and contaminated run-off from waste reception and stocking area	Harm to protected site through nutrient enrichment, leachate, contaminated surface water runoff	Surface water run-off, over spill of wastes, over and sub-surface transport of leachates then base and spring flows to rivers.	Surface water bodies and their associated habitats. (R3, R13)	High	Moderate	**High**	River Soar is routed through the waste reception and storage area. Croft Ponds LWS (R3) is separated by a topographical divide that would prevent run-off reaching this receptor	The waste reception area will be engineered with impermeable pavement that directs all runoff to the existing or new site drainage network for treatment, monitoring and discharge. Engineered retaining push walls will be erected along the edge of the River Soar. All containment infrastructure will be regularly inspected and maintained. The River Soar routing through the site will be visually inspected daily to identify any evidence of pollution from the waste operations carried out at the site.	Low
Flooding of site	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream.	Flood waters	Local human population and local environment (All Receptors)	High	Low	**Moderate**	The waste reception and storage areas are located within Flood Zones 2 and 3 associated with the River Soar. The wastes will be non-hazardous and will not lead to contamination of other land. Fuels and other potential polluting substances handled and stored on site.	The operator will subscribe to Environment Agency flood alerts. The storage infrastructure for fuels and other potentially polluting substances will be will be locate outside the flood ones designed to be resilient to flood damage. Engineered containment measures will reduce flow velocities of the flood waters and minimise the erosion of waste piles.	Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
What is the agent or process with potential to cause harm?	*What are the harmful consequences if things go wrong?*	*How might the receptor come into contact with the source?*	*What is at risk? What do I wish to protect?*	*How likely is this contact?*	*How severe will the consequences be if this occurs?*	*What is the overall magnitude of the risk?*	*On what did I base my judgement?*	*How can I best manage the risk to reduce the magnitude?*	*What is the magnitude of the risk after management?*
Accidents/Incidents									
Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff or fire fighters. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Local human population and local environment. (All Receptors)	Very Low	Moderate	**Low**	All wastes handled at the site are non-combustible.	Operational plant will be regularly inspected and maintained in accordance with the manufacturer's recommendations The waste reception area at the rail head will be engineered with impermeable pavement that directs all runoff and fire water to the existing or new site drainage network for treatment, monitoring and discharge.	Very Low
Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/vandals. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Local human population and local environment. (All Receptors)	Low	Low	**Low**	All wastes handled at the site are non-combustible. The site is fully secured with perimeter fencing and CCTV.	Security measures will be regularly inspected and maintained	Very Low