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Environmental Risk Assessment

v0.1

Environmental and sustainability solutions provided to
Brockley Wood Ventures Ltd



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1.0 INTRODUCTION

1.1 Purpose

This risk assessment is to cover the activities to be carried out by Brockley Wood Ventures Ltd (BWV Ltd), 'the operator', under the Environmental Permitting (England and Wales) Regulations 2016 (as amended), for the proposed 'Deposit for the Purposes of Recovery' (DfR) permitted activity at;

Land at Brockley Wood,
Belstead
Suffolk
IP8 4JW

1.2 Site setting

The total extraction site area is approximately 35 ha and is in a rural setting approximately 6.5 km to the southwest of Ipswich town centre, approximately 1 km south-west of Belstead village, 1 km south-east of Copdock village and 3 km north of Bentley village.

The site is adjacent to the A12, which runs along the western boundary. An access track defines the southeastern boundary, which is lined by hedgerows and trees.

The immediate surrounding landscape is predominantly agricultural with scattered properties including Bentley Old Hall to the south-east and Charity Farm to the north-east. Commercial facilities, including Ainscough Crane Hire, are positioned to the north-west.

The site itself is bounded by hedgerows and woodland, including Old Hall Wood and Brockley Wood along the eastern boundary.

1.3 Operational background

BWV Ltd have sought full planning permission for the use of land for the extraction, processing, sale and distribution of sand and gravel with associated plant and related sales and distribution, access works and phased restoration, using extractive and non-extractive wastes including recovered and imported materials, and aftercare plan. The site is anticipated

to achieve an output of approximately 180,000 tpa, resulting in a quarry life of approximately 15 years.

The Deposit for Recovery (DfR) activity will fulfil the 'backfilling' requirement for returning the quarry space to agricultural land as specified in the planning permission.

The proposals have the potential to cause noise and air quality impacts because of fugitive dust emissions associated with the operation of the scheme, as well as road traffic exhaust emissions from vehicles travelling to and from the site.

An Air Quality Environmental Impact Assessment (AQA) was therefore undertaken to determine baseline conditions and consider potential effects because of the proposals. This is detailed in the following risk assessment and Dust & Emissions Management Plan (DEMP).

2.0 OPERATION DETAILS

The proposed backfilling activity will remain for the life of the quarry as it is required to comply with the requirements of the planning permission.

The primary activities taking place at the site include.

- Aggregate extraction and the storage and deposit of extractive wastes (permitted under the Mining Waste Directive).
- A non-extractive waste recovery facility (separately permitted by the Environment Agency (EA) that will produce suitable materials for the required sub- and topsoil.
- The backfilling, deposit for the purposes of recovery (DfR) activity will use the extractive waste from the mineral extraction (overburden and inter burden) along with suitable non-extractive waste materials to produce sub- and topsoils where insufficient resource is available on site. The DfR operational area itself will be that of the area proposed for sand and gravel extraction, as such it will commence below, but reinstate back to the current ground levels.

This qualitative environmental risk assessment followed these steps:

- Identified and considered risks for the proposed site, and the sources of those risks.
- Identified the receptors (people, animals, property and anything else that could be affected by the hazard) at risk from the site.
- Identified the possible pathways from the sources of the risks to the receptors.
- Assessed risks relevant to the specific activity and checked that they are acceptable and can be screened out.
- States the measures in place to control risks if they are too high.

A copy of the risk assessment is contained within the management system.

2.1 Risks from the site

The risk assessment identifies whether any of the following risks could occur and what the environmental impact could be:

- Any discharge, for example sewage or trade effluent to surface or groundwater accidents.
- Odour.
- Noise and vibration.
- Uncontrolled or unintended ('fugitive') emissions, e.g., dust, litter.
- Visible emissions, e.g., visible dust plumes.

Where these are not considered to be significant risks, this is stated in the assessment.

For each risk that applies, each actual or possible hazard was identified and stated:

- The hazard, e.g., dust, litter, type of visible emission.
- The process that causes the hazard, e.g., screening and crushing aggregates and extractive and non- extractive materials.
- The receptors, e.g., people, animals, property and anything else that could be affected by the hazard.
- The pathways, i.e., how the hazard may get to a receptor.
- The measures that will be taken to reduce any risks.
- Probability of exposure, for example whether a risk is unlikely or highly likely.
- Consequences, i.e., what harm could be caused.
- What the overall risk is, based on what has already been stated in the table, e.g., 'low when management techniques are applied'.

2.2 Risks from noise and vibration

An assessment of predicted noise levels for the following activities has been carried out for and covered the following on-site operations.

- Phased excavation, bunding and stockpiling of materials.
- Phased restoration of site to existing site levels using overburden and recovered inert materials.

To determine the impact of operation of the plant area as advised in the scoping opinion received from Suffolk County Council an assessment was carried out in accordance with BS 4142:2014+A1:2019. The assessment used SoundPLAN computer modelling software to

predict noise levels during site operations including the processing plant. The assumptions made and noise source data used in the assessment concluded that the working and restoration of the site is not expected to give rise to a significant adverse impact.

2.3 Identify risk of accidents

Examples of possible accidents include:

- Transferring substances, e.g., loading or unloading vessels
- Overfilling vehicle fuel tanks
- Plant or equipment failure, e.g., over pressurised tanks and hydraulic pipework
- Vandalism
- Flooding
- Inadequate bunding around tanks

The risk of accidents was assumed that operator error will occur at least once every 100 times an operation is carried out, e.g.

- drop or damage a drum from a forklift
- have a spillage from a tanker

2.4 Identify receptors

All the receptors that are potentially at risk from the site have been identified.

The main receptors that are potentially at risk were given the main focus, e.g., any groundwater beneath the site, any other receptors near the site were also considered.

These receptors included:

- Protected sites and species.
- Anywhere 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.
- Groundwater beneath the site.

- Homes, or groups of homes (such as villages or housing developments).
- Playing fields and playgrounds.
- Private drinking water supplies.
- Regionally important geological sites.
- Schools, hospitals and other public buildings.
- Water, e.g., ponds, streams, rivers, lakes or the sea.
- Conservation and habitats protected areas and areas of scientific interest (SSSIs, SPA, SAC, RAMSAR sites).

The risk assessment includes a scale plan that shows:

- The site.
- Nearby receptors.

3.0 SUMMARY OF KEY PARAMETERS

Table 3-1: Summary of key parameters

Facility	Brockley Wood 'Deposit for Recovery' Facility
Operator	BROCKLEY WOOD VENTURES LTD
Permit ref	tbc
Location	Brockley Wood Belstead Suffolk
NGR	TM 11694 40020
what3words	quench.ecologist.apples
Location of key environmental sites	See section 3.0
Risk assessment carried out by	Graeme Kennett
Date	23 rd December 2025
Risk Criteria Summary	
Parameter 1	The site operates as a 'backfilling' activity. Waste is stored (R13) prior to deposit.
Parameter 2	Please see BWV_NTS
Parameter 3	Quantity of waste accepted at the facility <250,000 tonnes per annum.
Parameter 4	All quarantined waste will be stored and treated on an impermeable surface with a sealed drainage system.
Parameter 5	There are no point source discharges to controlled waters.
Parameter 6	The activities are not carried out within a groundwater source protection zone 2, or within 250 m of any well, spring, borehole used for the supply of water for human consumption, including private water supplies.
Parameter 7	The activity is carried out within 250 m of the nearest sensitive receptor.
Parameter 8	The deposit activity is not carried out within 1000 m of a European Site or a Site of Special Scientific Interest (SSSI)
Parameter 9	The deposit activity is not carried out within 1000 m of a LNR

4.0 SUMMARY LIST OF ENVIRONMENTAL RECEPTORS

Table 4-1: Summary of environmental receptors

Site Name/Description	Distance from site	Details
Designated and non-designated habitats and wildlife sites		
Statutory designated sites		There are no statutory designated sites within the site boundary, however Brockley wood is a designated (but non-statutory) County Wildlife Site (CWS). There are no historic monuments within site, however there are several listed buildings in the area surrounding the site, such as Charity Farm and Bentley Old Hall.
Priority habitat inventory		
		None
Groundwater and abstractors		
		N/A
Groundwater vulnerability		
		Medium/High
Source Protection Zones		
		Zone III (Total catchment)
Water protection zone and status		
		Drinking Water Safeguard Zones (Surface Water)
Soil classification		
		Three main soil types: coarse loamy and sandy soils; medium loams over gravel and heavy slowly permeable soils. The site is a combination of subgrade 3a and 3b agricultural quality, variably limited by wetness and droughtiness restrictions.
Surface water		
		Two easterly flowing streams that are present on the site both converge just to the east of Old Hall Wood where the stream then flows south-east into the Alton Reservoir approximately 2 km from the site.
Flood risk		
		Flood Zone 1 but has an area of fluvial Flood Zone 3 within it.

5.0 SUMMARY LIST OF SENSITIVE RECEPTORS

Table 5-1: Summary list of sensitive receptors

Ref	Receptor	Type	Direction	Distance	Grid reference
SR01	Brockley Wood CWS [E4-E6]	Ecological	NNW-NNE	75	TM 1152 3988
SR02	Old Hall Wood CWS [E1-E3]	Ecological	ENE	175	TM 1223 3993
SR03	Bentley Long Wood AW [E7-E8]	Ecological	SW	800	TM 1091 3944
SR04	Woodland	Ecological			TM 1188 4048
SR05	Bentley Old Hall	Residential	ESE	475	TM 1188 3972
SR06	36/37 Bentley Lane	Residential	ENE	1030	TM12974049
SR07	Hare Cottage	Residential	N	760	TM11944086
SR08	Charity Farm	Residential	ENE	690	TM 1229 4042
SR09	London Road	Infrastructure	W	275	TM 1123 4081
SR10	Crope Hall	Residential	ENE	660	TM 1241 4050
SR11	Railway line	Infrastructure	W	1560	TM1332 4003
SR12	St Mary the Virgin	Place of Worship	N	543	TM 1265 4109
SR13	Belstead Village Hall	Leisure	NW	944	TM 1314 4089

6.0 RISK CRITERIA RATING

6.1 Scope

Risk ratings are based on the likelihood of an event occurring multiplied by the severity of potential impact. Ratings are made of residual risk following implementation of preventative measures on site. The following scale is applied to rate these parameters:

Table 6-1: Risk criteria

Severity		Likelihood	
1	No environmental harm arising	1	Very unlikely to happen
2	Fleeting localised impacts	2	Low probability/occasional
3	Localised impacts medium term	3	Likely to occur
4	Wider scale impacts of a fleeting nature, or localised impacts of a more persistent nature	4	Highly likely to occur
5	Widespread/persistent impacts on high amenity/sensitive sites	5	Inevitable

Final calculated risk levels rating bands are as follows:

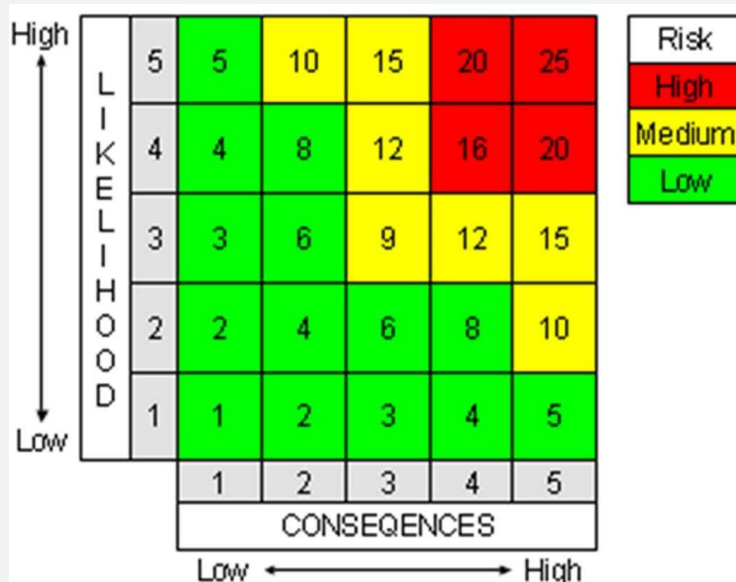


Figure 6-1: Risk level bands

6.2 Risk assessment

Table 6-2: Risk Criteria

What do you do that can harm and what could be harmed?			Managing the Risk	Assessing the Risk		
Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
<i>What has the potential to cause harm?</i>	<i>What is at risk? What is to be protected?</i>	<i>How can the hazard get to the receptor?</i>	<i>What measures will be taken to reduce the risk? Who is responsible for what?</i>	<i>How likely is contact (1-5)</i>	<i>What is the harm that can be caused? (1-5)</i>	<i>What is the risk that remains? (Likelihood x Severity)</i>
Dust from the movement of vehicles to and from the site	Local human population	Air Windblown dispersion in the atmosphere	Two-way metalled road between the A12 and operational area. Haul roads have a consolidated but permeable surface. All active site roads have an imposed speed limit of 10mph. Main access roads swept with a mechanical road sweeper as and when conditions dictate.	Very unlikely to happen. 1	Nuisance – dust on cars, clothing and inhalation of dusts 1	Low 1
Mud on roads from the movement of vehicles to and from the site	Local human population	Deposited on the ground by vehicles entering and exiting the site	Provision of a two-way metalled road between the A12 and operational area. Haul roads to have a consolidated but permeable surface. Wheelwash in place.	Very unlikely to happen. 1	No environmental harm arising. 1	Low 1

			All active site roads will have an imposed speed limit of 10mph. Main access roads to be swept with a mechanical road sweeper as and when conditions dictate.			
Release of particulate matter from input material deliveries to, stored and despatched from site.	Local human population	Air Windblown dispersion in the atmosphere	Material arrives as wastes and are unlikely to generate dust. All vehicles using the facility will ensure their loads are adequately sheeted or otherwise contained.	Very unlikely to happen. 1	Nuisance – dust on cars, clothing and inhalation of dusts 2	Low 2
Input material may contain litter.	Local human population	Air Windblown dispersion in the atmosphere	Input material derived from strictly controlled sources and is unlikely to contain litter. Any office waste generated on site will be stored in sealed bins and removed from site on a regular basis to ensure that volumes of all types of waste do not accumulate on site. Any litter is cleared from any affected areas outside the site as soon as	Very unlikely to happen. 1	Nuisance – dust on cars, clothing and inhalation of dusts 2	Low 2
	Adjacent land					

			possible.			
Odour from delivered input material	Local human population	Air Windblown dispersion in the atmosphere	Input material has a low propensity to produce, or release, odour.	Odours are unlikely to impact on local receptors as materials are non- odourous. 1	Localised impacts medium term 1	Low 1
Odour from storage of input material in the process	Local human population	Air Windblown dispersion in the atmosphere	Input material has a low propensity to produce, or release, odour.	Odours are unlikely to impact on local receptors as materials are non- odourous. 1	Localised impacts medium term 1	Low 1
Flies in waste	Local human population	Air Windblown dispersion in the atmosphere	The input material is not susceptible to fly infestation	Flies are unlikely to impact on local receptors as waste is not susceptible to fly infestation. 1	Nuisance – unlikely 1	Low 1
Rodent infestation	Local human and wildlife population	Land	The input material is not susceptible to rodent infestation	Rodents are unlikely to impact on local receptors as waste is not susceptible to infestation. 1	Nuisance – unlikely 1	Low 1

Scavenging birds and animals	Local human and wildlife population	Land	The input material is not attractive to scavengers	Scavengers are unlikely to impact on local receptors as waste is not attractive. 1	Nuisance – unlikely 1	Low 1
Noise from vehicle movements/deliveries	Users of highway, local workplaces, and local dwellings.	Air	Vehicle movements are scheduled to occur Monday to Friday during normal working hours. The Site Manager is responsible for ensuring vehicles are turned around efficiently, with least impact on the neighbouring properties and that vehicles are removed from the surrounding roads quickly. Plant (and haul roads) maintained in good order and operated in a manner conducive to not generating unnecessary noise. Reversing alarm sounders on site- based mobile plant of the non- tonal type, unless otherwise by health & safety considerations.	Site located adjacent to a busy dual carriageway (A12) with good access to main routes. LGV ban on the use of other access routes. Location has good access for the highway. Infrequent impact to neighbours to cause nuisance 2	Nuisance from noise. Duration short as vehicle movements reduced 1	Low 2

Noise/vibration from plant	Local human and wildlife population	Air	Plant (and haul roads) maintained in good order and operated in a manner conducive to not generating unnecessary noise.	Very unlikely to happen. 1	Nuisance – from noise vibration 1	Low 1
Delivery of input materials	Ground	Spillage through ground	All deliveries will be supervised and will take place during normal working hours. The input material is solely suitable non-hazardous wastes. State of repair of the surface is monitored on a regular basis, and proactive maintenance carried out if necessary. No liquid wastes accepted. Permitted waste types are non-hazardous so any waste washed off site will add to the volume of the local post-flood clean-up workload, rather than the hazard. Site is in an area at very low risk of flooding.	Low as supervised delivery procedure in place . 1	Pollution of watercourse/ groundwater/land 3	Low 3
	Groundwater					
	Surface water					
Flooding of site	Local human population and local environment	Contaminated flood waters	Permitted waste types are non-hazardous so any waste washed off site will add to the	No history of flooding in the area. Site is within	Contamination of	Low 1

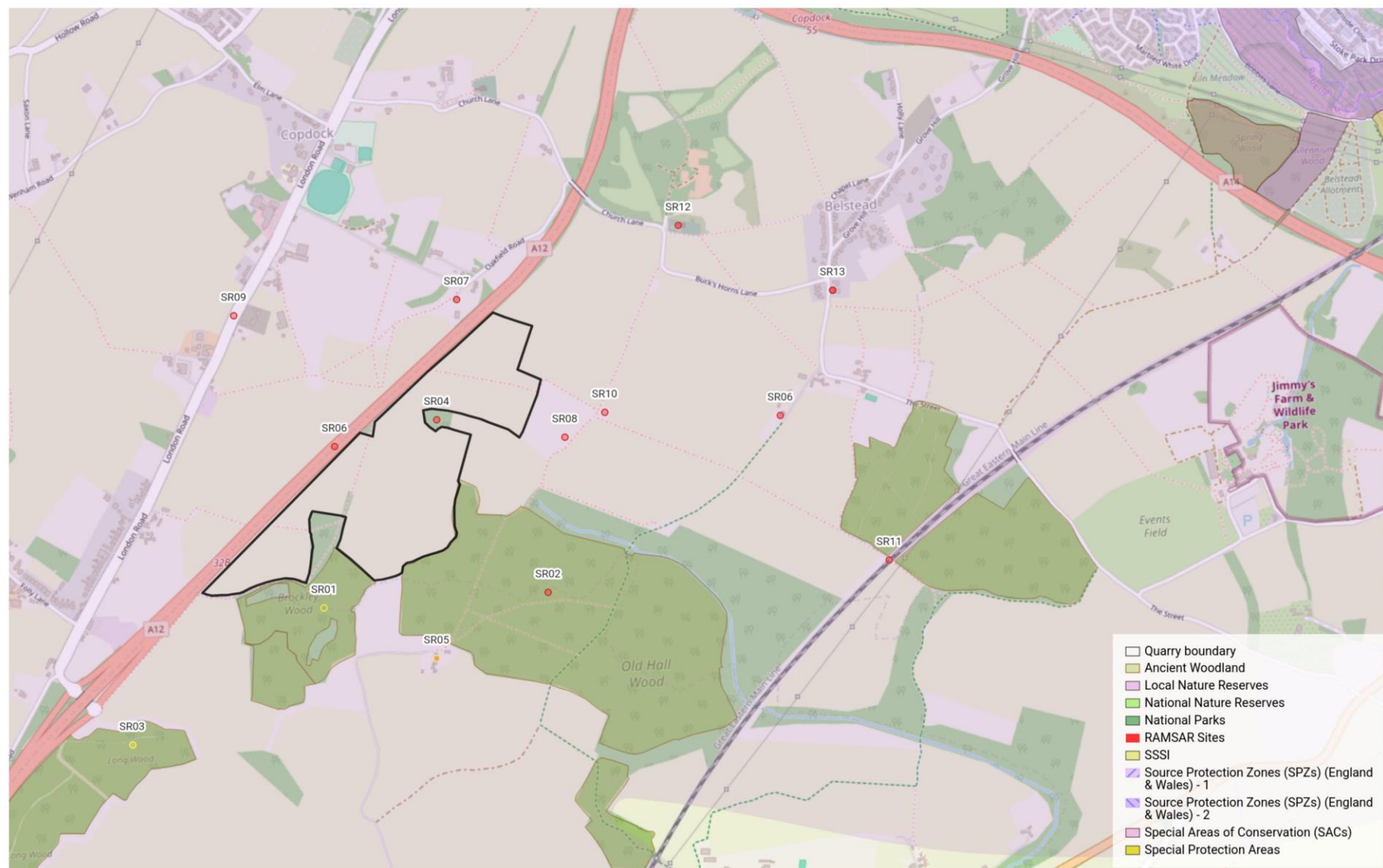
			volume of the local post-flood clean-up workload, rather than the hazard. Site is in an area at very low risk of flooding.	an area identified at very low risk of flooding. 1	buildings / natural habitats downstream 1	
Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	All surface waters close to and downstream of site.	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Any liquids kept in containers and provided with secondary containment. Permitted waste types do not include sludges or liquids.	Very unlikely to happen. 1	Pollution of watercourse/ land 4	Low 4
	Groundwater	Transport through soil/groundwater then extraction at borehole.				
Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Local human population and local environment	Air transport of smoke. Firewater runoff from site.	Input materials are not considered flammable. Permitted activities do not include the burning of waste. All plant and equipment are modern and are fitted with fire suppression systems.	Very unlikely to happen. 1	Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or vandals. Pollution of water or land. 3	Low 4
Unauthorised access to site	Bodily injury to persons or animals entering site	Direct physical contact	The site is located within the quarry and surrounded by	Low as site is locked and fenced when not manned.	Bodily injury/damage to plant	Low 3

			perimeter fencing and a lockable gate to the entrance. Site office entrance is security controlled and locked always when staff are not present on site. The site is fitted with remote 24/7 CCTV system so staff are alerted to the presence of intruders. All vehicles/people entering the site received by the main reception operator who will be present in the area while the site is open.	Access to the site is controlled during operating hours. 1	3	
Arson and / or vandalism causing the release of polluting material to air (smoke or fumes), water or land.	Local human population, staff, firefighters, vandals or local environment.	Air transport of smoke. Firewater runoff from site.	The site is located within the quarry and surrounded by perimeter fencing and a lockable gate to the entrance. Site office entrance is security controlled and locked always when staff are not present on site.	Low as site is locked and fenced when not manned. Access to the site is controlled during operating hours. 1	Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or vandals. Pollution of water or land. 3	Low 3

Harm to protected site through nutrient enrichment, leachate, contaminated surface water run-off, smothering, disturbance or predation.	Protected sites - European sites and SSSIs protected species/habitats and other nature conservation sites (LWS)(LNR).	Any	Deposit activity not carried out within 1000m of a protected site.	Very unlikely to happen. 1	Pollution of watercourse/ land 1	Low 1
Acceptance of waste filter cakes [01 04 12]	Groundwater	Transport through soil/groundwater then extraction at borehole.	Leachability results benchmarked against inert landfill WAC at the pre-acceptance stage. The risk profile of the material will be properly understood. Filter cakes that exceed the inert WAC will progress no further at pre-acceptance. Leachability testing indicates minimal metal mobilisation; operational controls further reduce infiltration. No domestic boreholes within XXm of site.	Very unlikely to happen. 1	Pollution of watercourse/ land 5	Low 5
Acceptance of waste filter cakes [19 02 06]						

			Clay-rich filter cake retains water and contaminants; no chemical additives; monitored deposition ensures limited contact with groundwater.			
	Protected sites - European sites and SSSIs protected species/habitats and other nature conservation sites (LWS)(LNR).	Any	Deposit activity not carried out within 1000m of a protected site.	Very unlikely to happen. 1	Pollution of watercourse/ land 1	Low 1
	Protected Ancient Woodland	Any	Filter cakes will be used as a clay liner and will not come in to contact with woodlands as these areas will remain undisturbed for the lifetime of the activity (Including extraction).	Very unlikely to happen. 1	Pollution of watercourse/ land 1	Low 1
	Local human population	Any	Filter cakes will be used as a clay liner and will not come in to contact with human population.	Very unlikely to happen. 1	Pollution of watercourse/ land 5	Low 5

Brockley Wood Sensitive Receptor Plan



7.0 IMPACT ON THE ENVIRONMENT

This environmental risk assessment (ERA) has been carried out to assess the environmental risks posed by the proposed activity.

There are no point source emissions to land, air, surface or groundwater from the proposed facility.

Operational procedures at the site will monitor and manage amenity and accident risks from the proposed activities and includes provision for the monitoring of odour, noise, and fugitive emissions.

The impact of the proposed development on surrounding human and environmental receptors has been assessed in the ERA.

As the management measures detailed in the risk assessment will be in place from commencement of operations, the conclusion has been reached that the proposed waste materials and treatment activities, are unlikely to result in a significant accident risk or risk to the local environment, including from odour and noise, or pollution of surface or ground waters.

8.0 SITE MANAGEMENT

Site management will comprise of the following staff members;

- A Technically Competent Manager (TCM); who will manage the operation and regularly attend site in compliance with the defined attendance requirement.
- A site supervisor; who will be responsible for the ongoing operation who may also undertake office and plant operation duties.
- Other trained plant operators as required.

9.0 SITE CONDITION REPORT

The proposed facility will operate with due regard to the conditions of the environmental permit and all relevant environmental legislation to ensure that land and groundwater is protected during the lifetime of the site and that the land is in a satisfactory state when the permit is eventually surrendered where the [Landfill and deposit for recovery: aftercare and permit surrender - GOV.UK guidance](#) will be followed.

The possibility of any significant releases to the ground occurring during the lifetime of the permit is limited. Minor spillages, if they occur, will be dealt with immediately by trained staff using appropriate spill response procedure and spill kits located around the site.

10.0 SOURCES OF INFORMATION

Proposed Quarry at Brockley Wood Settings Assessment - Cotswold Archaeology October 2021 [CA Report SU0283_2]

Air Quality Environmental Impact Assessment Brockley Wood, Belstead - Redmore Environmental Ltd March 2022 [4730r1]

Proposed Quarry Assessment of Sound Levels – Sharps Redmore February 2022 [2120502]