AN APPLICATION FOR A BESPOKE ENVIRONMENTAL PERMIT FOR AN INERT AND EXCAVATION WASTE TREATMENT FACILITY TO BE OPERATED BY TARMAC AT BAYSTON HILL QUARRY, SHARPSTONE LANE, SHREWSBURY, SY3 0AW

NUISANCE AND AMENITY ENVIRONMENTAL RISK ASSESSMENT (ERA)

Report reference: TAR/BSN/LJB/5759/01/ERA
July 2024

Baddesley Colliery Offices, Main Road, Baxterley, Atherstone, Warwickshire, CV9 2LE
Tel. (01827) 717891

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1. Introduction

1.1 MJCA is commissioned by Tarmac Trading Limited (Tarmac) to prepare an application for a bespoke Environmental Permit for an inert and excavation waste treatment facility to be operated by Tarmac at Bayston Hill Quarry, Sharpstone Lane, Shrewsbury, SY3 0AW (the site). The site is centred approximately at National Grid Reference (NGR) SJ 50136 09540 and covers an area measuring approximately 1.8 hectares. The location of the site and the Environmental Permit boundary are shown on Figure ERA1. The waste treatment facility will be located in the north west corner of the wider Baston Hill Quarry which covers an area of approximately 65 hectares. This document comprises a nuisance and amenity environmental risk assessment (ERA) prepared to support the application based on the risk screening matrix provided in Table ERA 1 and the assessment presented in Table ERA 2.

1.2 The ERA considers potential receptors and pathways for impacts based on the understanding of the environment surrounding the site that is presented in the Site Condition Report (SCR) and Dust and Emissions Management Plan (DEMP) report presented at Appendix D and Appendix F respectively to the application report and Figure ERA 1, and the maps included in the Envirocheck report provided at Annex A to the SCR report. The assessment of the risks associated with the treatment of waste at the site is based on the general principles in the Environment Agency guidance “Risk assessments for your environmental permit” published on the GOV.UK website on 1 February 2016, last updated 21 November 2023.

1.3 The identification of potential receptors has been informed by information presented on the Defra MAGIC website, the pre-application Nature and Heritage Conservation Screening Report received from the Environment Agency (EA), the DEMP and the SCR. This risk assessment takes into consideration receptors within 500m of the site with the exception of statutorily designated nature conservation sites for which the relevant distance is up to 2km.

1.4 Based on the screening results from the pre-application Nature and Heritage Conservation Screening Report there is the potential for Great Crested Newts (GCNs) to be present within 250m of the proposed site. A copy of the pre-application Nature and Heritage Conservation Screening Report is presented at Appendix A of the permit application.

1.5 Based on information from the Defra MAGIC website there are no National Parks, Areas of Outstanding Natural Beauty, Marine Conservation Zones, Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or National Nature Reserves (NNRs) located within 2km of the site. There is one Site of Special Scientific Interest (SSSI) and one Ramsar site within 2km of the site boundary. As shown on Figure ERA 1, Bomere, Shomere and Betton Pools SSSI and Midland Meres & Mosses – Phase 1 Ramsar site are located just over 1km south of the site boundary. The areas covered by the SSSI and the Ramsar site overlap. As shown on Figure ERA 1, parts of the Rea Brook Valley Local Nature Reserve (LNR) are located to the north and north west of the site approximately 1km away from the site.

1.6 There are no World Heritage Sites, Scheduled Monuments or Listed Buildings within 500m of the site. As shown on Figure ERA 1, Betton Alkmere Grade II listed building is the closest listed building to the site, located approximately 560m to the southeast of the site and '*Moated site, fishponds, and ridge and furrow cultivation remains, 260m southwest of Betton Alkmere*' Scheduled Monument is the closest Scheduled Monument to the site, located approximately 510m south east of the site.

1.7 Based on information from the Defra MAGIC website there are no areas of Ancient Woodland within 1km of the site and there is an area of Deciduous Woodland Priority habitat approximately 150m north east of the site.

1.8 Based on information from the Defra MAGIC website the site is not located in a groundwater Source Protection Zone (SPZ).

1.9 Based on information viewed on the Defra UK Air Information Resource website, the site is not located in an Air Quality Management Area (AQMA).

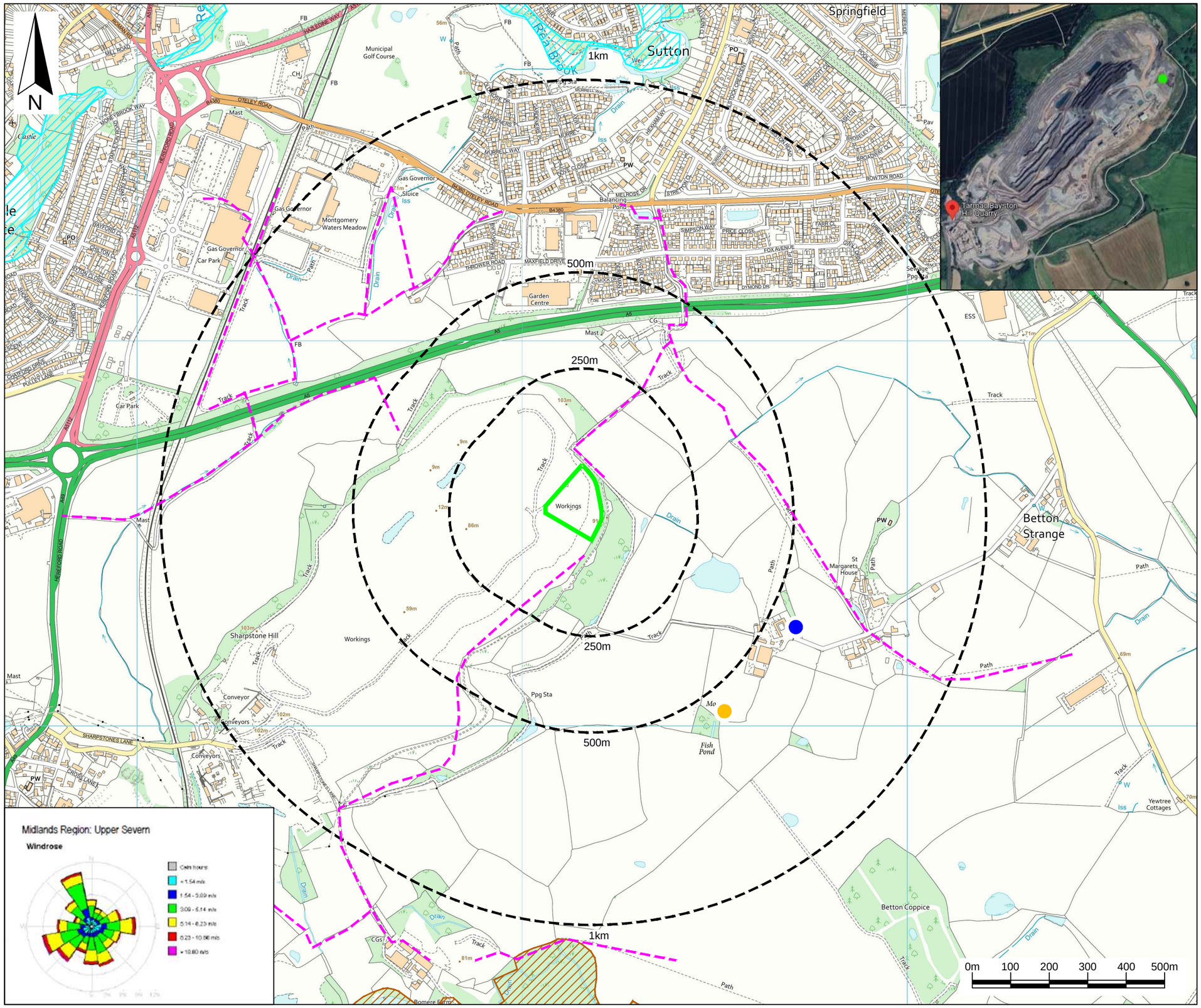
1.10 There are no residential receptors within 250m of the site. As shown on Figure ERA 1, a housing estate is located to the north of the site on the opposite side of the A5, just under 500m away from the site.

1.11 The wind rose from the Environment Agency Midlands Region Upper Severn shown on Figure ERA 1 shows that the prevailing wind direction is from the WSW with components from the NNW and east. There are no residential receptors within 500m downwind of the site.

1.12 The nuisance and amenity environmental risk assessment risk screening matrix is presented in Table ERA 1 and the risk assessment is presented in Table ERA 2.

2. Conclusions

2.1 The ERA presented in Table ERA 2 that has been completed to support the application demonstrates that the operation of the facility has a low or very low risk of adverse impact on the surrounding environment including sites of heritage or nature conservation interest.



Key / Notes

- Environmental Permit boundary
- Offset from the Environmental Permit boundary
- Public rights of way
- Approximate location of Site of Special Scientific Interest (SSSI) - Bomere, Shomere and Betton Pools and Midland Meres & Mosses – Phase 1 Ramsar site
- Approximate location of Local Nature Reserve
- Approximate location of Grade II Listed building - Betton Alkmere
- Approximate location of Scheduled Monument - Moated site, fishponds, and ridge and furrow cultivation remains, 260m southwest of Betton Alkmere

Rev	Status	Drn	App	Chk	Date
	Final	KR	LJB	AW	12/07/24

Site: BAYSTON HILL QUARRY

Client: TARMAC A CRH COMPANY

Title: The site setting

Figure ERA 1

Scale: 1:10,000@A3

Drawing Ref: TAR/BSN/05-24/24386

MJCA
Technical advisers on environmental issues
Baddesley Colliery Offices,
Main Road, Baxterley, Atherstone,
Warwickshire, CV9 2LE.
Telephone : 01827 717891
Fax : 01827 718507

TABLES

Table ERA 1 Risk screening matrix (waste treatment activity)

RISK TYPE	ODOUR		NOISE AND VIBRATION		FUGITIVE EMISSIONS								
					PARTICULATE MATTER				LITTER		BIRDS, VERMIN AND INSECTS		MUD ON THE ROAD
GENERIC HAZARDS / GENERIC RECEPTORS[1]	Waste storage and handling	Waste delivery	Waste delivery	Waste storage and handling	Waste delivery	Waste storage and handling	Restored surfaces	Access routes	Waste delivery	Waste storage and handling	Waste delivery	Waste deposition	Vehicle Movements
DOMESTIC DWELLING	x	x	x	x	x	x	x	x					
SCHOOLS AND COLLEGES													
HOSPITALS													
OFFICES/COMMERCIALPREMISES	x	x	x	x	x	x	x	x					
INDUSTRIAL PREMISES	x	x	x	x	x	x	x	x					
PUBLIC FOOTPATH OR BRIDLEWAY	x	x	x	x	x	x	x	x					
HIGHWAYS OR ROADS					x	x	x	x					x
PARKS AND PUBLIC OPEN SPACES	x	x	x	x	x	x	x	x					
FARMLAND WITH LIVESTOCK			x	x	x	x	x	x					
FARMLAND ARABLE					x	x	x	x					
PRIORITY HABITAT					x	x	x	x					
NATURE SITE OF LOCAL IMPORTANCE (e.g. LNR, CWS)					x	x	x	x					

RISK TYPE	ODOUR		NOISE AND VIBRATION		FUGITIVE EMISSIONS								
					PARTICULATE MATTER				LITTER		BIRDS, VERMIN AND INSECTS		MUD ON THE ROAD
GENERIC HAZARDS / GENERIC RECEPTORS[1]	Waste storage and handling	Waste delivery	Waste delivery	Waste storage and handling	Waste delivery	Waste storage and handling	Restored surfaces	Access routes	Waste delivery	Waste storage and handling	Waste delivery	Waste deposition	Vehicle Movements
SITE OF SPECIAL SCIENTIFIC INTEREST (within 2km)					x	x	x	x					
SPECIAL AREA OF CONSERVATION (within 2km)													
Ramsar Sites (within 2km)					x	x	x	x					
SPECIAL PROTECTION AREA (within 2km)													
LISTED BUILDINGS (within 500m)													
SCHEDULED MONUMENT (within 500m)													
AIRPORT													
RAILWAY													
SURFACE WATER					x	x	x	x					

x = generic receptor type present and generic hazard considered as part of this assessment set out in Table ERA 2

[1] All generic receptors within 500m have been identified unless an alternative distance has been identified.

Table ERA 2 – Assessment of nuisance and amenity risks associated with the treatment of waste at Bayston Hill Quarry

What do you do that can harm and what could be harmed?			Assessing the risk			Managing the risk	
Hazard	Receptor (see Table ESSD 2)	Pathway	Probability of exposure	Consequence	What is the overall risk?	Risk management	What is the residual risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk? The balance of probability and consequence	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	What is the risk that still remains?
Odour							
There are no potential sources of odour at the site.	Local human population	Air transport then inhalation	Very Low	Nuisance, loss of amenity	Very Low	The only waste accepted will be road planings under waste code 17 03 02. Odour is not associated with this waste type. Waste acceptance procedures will be in place.	Negligible
Noise							
Crushing, screening, mobile plant and vehicles	Local human population	Air	Low	Nuisance from noise	Low	There are no residential receptors within 250m of the site. The closest residential receptors are located in the housing estate to the north west of the site just under 500m away from the site. The A5 dual carriageway is located between the site and the housing estate. The following noise and vibration control measures will be implemented at the site to minimise any potential noise and vibration impacts: • Consistent with the planning permission for the site, waste activities will not be undertaken outside of daytime hours. • Plant and machinery are regularly well maintained, serviced in accordance with	Low

What do you do that can harm and what could be harmed?			Assessing the risk			Managing the risk	
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What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk? The balance of probability and consequence	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	What is the risk that still remains?
						manufacturers' instructions and where appropriate fitted with exhaust silencers. • The site surfacing is maintained to minimise the potential for defects such as pot-holes • Unnecessary horn usage and revving of engines is avoided • Equipment is switched off or throttled-down when not required • Drop heights of materials are minimised where possible • Plant and vehicles are started up sequentially rather than all together. Although it is considered unlikely that the limited activities will have a significant environmental impact in respect of noise, the potential impacts of noise from the development will be assessed in a Noise Impact Assessment (NIA). Based on operational changes currently ongoing in the wider Bayston Hill Quarry, at the time of preparation of this application in June 2024 it was not considered to be the most suitable time to record baseline noise conditions at the site to support the NIA. A baseline noise survey has been programmed for autumn 2024 and the NIA will be prepared shortly after this and provided to the Environment Agency to confirm the conclusions of this qualitative risk assessment.	

What do you do that can harm and what could be harmed?			**Assessing the risk**			**Managing the risk**	
Hazard	Receptor (see Table ESSD 2)	Pathway	Probability of exposure	Consequence	What is the overall risk?	Risk management	What is the residual risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk? The balance of probability and consequence	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	What is the risk that still remains?
Vibration							
Crushing, screening, mobile plant and vehicles	Local human population	Ground	Very Low	Nuisance from vibration	Very Low	Based on the location of the waste activities approximately 500m away from the closest receptors and the location of the receptors on the other side of the A5 dual carriageway, it is considered that the potential for the waste activities to have a significant impact in respect of vibration is negligible. The control measures in respect of noise described above will also minimise the potential for vibration.	Negligible
Fugitive emissions							
Particulates from access routes, waste delivery, waste storage and waste treatment	Local human population / properties / farmland arable / public highway / water bodies / sensitive habitat	Air	Low	Deposition of particulate matter	Medium to low	The only waste accepted will be road planings under waste code 17 03 02. Dust, loose fibres or significant amounts of particulate matter is not associated with this waste type. A Dust and Particulate Matter Emissions Management Plan (DEMP) has been prepared to support the operation of the site. The DEMP describes the operations at the site which may have the potential to have an impact on air quality as a result of emissions of particulate matter, describes the operational controls which will be implemented to minimise emissions and describes the monitoring which will be carried out to confirm the effectiveness of the management controls.	Low

What do you do that can harm and what could be harmed?			Assessing the risk			Managing the risk	
Hazard	Receptor (see Table ESSD 2)	Pathway	Probability of exposure	Consequence	What is the overall risk?	Risk management	What is the residual risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk? The balance of probability and consequence	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	What is the risk that still remains?
The wastes that will be accepted have a very low potential to generate litter or to attract birds, vermin or insects.	Local human population / properties / farmland arable / public highway / water bodies / sensitive habitat	Air	Negligible	Nuisance associated with litter	Negligible	Acceptance procedures will be in place. The road planings waste type to be accepted at the site has a very low potential to generate litter, attract scavenging animals and scavenging birds or insects.	Negligible
Mud and debris deposited on the public highway	Public highway	Vehicle movements	Low	Mud on the public highway	Low	Wheel cleaning facilities already are provided in the main quarry. Vehicles associated with waste operations will use the wheelwash facilities when travelling from the site to the public highway. All site roads will be inspected daily and maintained in a condition consistent with minimising the risk of the accumulation of mud and debris on the highway. A mobile road sweeper will be used as necessary. Further information is provided in the DEMP presented with this permit application report.	Low
Contamination from wastes accepted	Groundwater/ surface water	Infiltration/ run-off	Low	Contamination of groundwater/ surface water	Low	The site is not located in a groundwater SPZ. The only waste type to be accepted at the site comprises road planings (17 03 02) which has a low potential to leach contaminants. This is confirmed by the generic risk assessment for SR2009No6, which includes waste type 17 03 02, which confirms that the waste types are inert and are unlikely to contaminate groundwater. SR2009No6 does not require waste types (including 17 03 02) to be	Low

What do you do that can harm and what could be harmed?			Assessing the risk			Managing the risk	
Hazard	Receptor (see Table ESSD 2)	Pathway	Probability of exposure	Consequence	What is the overall risk?	Risk management	What is the residual risk?
What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk? The balance of probability and consequence	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	What is the risk that still remains?
						stored on an impermeable surface with a sealed drainage system.	
Accidents							
Waste stored and treated on site	Local human population gaining unauthorised access to the waste operation	Direct physical contact	Low	Bodily injury	Low	The waste type that will be accepted at the site should not cause harm to human health by virtue of its composition. Security measures which are implemented currently in respect of the existing mineral extraction operations comprising the use of fencing, safety signs and regular inspections will continue to be implemented to minimise the potential for unauthorised entry to the site. The main quarry gates are locked outside normal working hours.	Very low
Vehicle movements on site	Local human population gaining unauthorised access to the site	Direct physical contact	Low	Bodily injury	Medium	Security measures are implemented currently in respect of the existing mineral extraction operations and will continue to be implemented to minimise the potential for unauthorised entry to the site. Vehicles will employ suitable non-tonal reversing alarms.	Low
Accidental release of fuel	Water resources	Infiltration to ground	Low	Contamination of water resources	Medium	Company operational, maintenance, inspection and accident management procedures are in place and will be implemented. Spillage kits are available and site personnel are trained in their use.	Low

What do you do that can harm and what could be harmed?			**Assessing the risk**			**Managing the risk**	
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What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk? The balance of probability and consequence	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	What is the risk that still remains?
Flooding	The generic receptors identified in Table ERA 1	Flood waters	Low	Flooding associated with the generic receptors identified in Table ERA 1	Low	Based on the Environmental Agency Flood Map for Planning the site is located within Flood Zone 1 which is land that has a low probability of flooding with less than 1 in 1,000 annual probability of river or sea flooding. The site is within an area with a very low risk of flooding from surface water. Based on the information provided in the Envirocheck report appended to the Site Condition Report the site is located within an area with limited potential for groundwater flooding to occur at the surface.	Low
Fire	Atmospheric emissions	Air	Very low	Nuisance from smoke and odour Contamination of water resources	Very low	As the waste accepted at the site will be non-flammable and non-combustible the risk of occurrence of fires is negligible. As a result associated risks from fire-fighting water being discharged to controlled waters are negligible.	Negligible
Waste operations may cause harm to and deterioration of nature conservation sites.	Protected sites - European sites and SSSIs	Air or run off	Very Low	Harm to protected site through contamination, nutrient enrichment, smothering, disturbance, predation etc.	Very Low	Measures are in place to minimise the risk of unacceptable impacts from the waste operations on the surrounding environment which will be protective also of SSSIs and Ramsar sites There are no SSSI's or Ramsar sites within 1km of the site. It is considered that the potential hazards from the permitted activities pose a negligible risk to the SSSI and Ramsar sites.	Negligible

What do you do that can harm and what could be harmed?			**Assessing the risk**			**Managing the risk**	
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What has the potential to cause harm?	What is at risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk? The balance of probability and consequence	What measures will you take to reduce the risk? If it occurs – who is responsible for what?	What is the risk that still remains?
Waste operations may cause harm to and deterioration of nature conservation sites.	Wildlife sites of regional or local importance and protected habitat Rea Brook Valley LNR, GCNs and deciduous Woodland Priority habitat	Air or run off	Very Low	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Very Low	Measures are in place to minimise the risk of unacceptable impacts from the waste operations on the surrounding environment which will be protective also of local nature reserves and protected/priority habitats. It is considered that the potential hazards from the permitted activities pose a negligible risk to the local nature reserves and protected/priority habitats.	Negligible
Waste operations may cause harm to and deterioration of heritage conservation sites.	Designated heritage sites – Scheduled Monuments and Listed Buildings	Direct physical contact	Negligible	Deterioration of designated heritage sites	Negligible	There are no relevant heritage conservation sites within 500m of the site.	Negligible