



**AN APPLICATION FOR AN ENVIRONMENTAL PERMIT
TO AUTHORISE THE DEPOSITION OF WASTE ON
LAND AS A RECOVERY ACTIVITY IN ORDER TO
RESTORE AREA Z AT THE ROXWELL QUARRY
COMPLEX, ESSEX**

**NUISANCE AND AMENITY ENVIRONMENTAL RISK
ASSESSMENT (ERA)**

Report reference: TAR/AZ/AW/5513/01/ERA
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1. Introduction

- 1.1** MJCA is commissioned by Tarmac Cement and Lime Limited (Tarmac) to prepare an application for a bespoke Environmental Permit (EP) for the deposition of waste on land as a recovery activity to restore Area Z (the site) at the Roxwell Quarry Complex, Essex. 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 Environmental Setting and Site Design (ESSD) report. Table ERA 2 should be read together with the maps included in the Envirocheck report provided in the ESSD report. The assessment of the risks associated with the restoration of the site is based on the information on the design and operation of the site described in the ESSD and the general principles in the Environment Agency guidance “Risk assessments for your environmental permit” published on the GOV.UK website on 1 February 2016.
- 1.3** 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.

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.

Table ERA 1 Risk screening matrix (deposit of waste on land as a recovery activity)

RISK TYPE	ODOUR		NOISE AND VIBRATION		FUGITIVE EMISSIONS								
					PARTICULATE MATTER				LITTER		BIRDS, VERMIN AND INSECTS		MUD ON THE ROAD
GENERIC HAZARDS	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
GENERIC RECEPTORS ¹													
DOMESTIC DWELLING			X	X	X	X	X	X					
SCHOOLS AND COLLEGES													
HOSPITALS													
OFFICES/COMMERCIALPREMISES			X	X	X	X	X	X					
INDUSTRIAL PREMISES			X	X	X	X	X	X					
PUBLIC FOOTPATH OR BRIDLEWAY			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					
FARMLAND WITH LIVESTOCK			X	X	X	X	X	X					
FARMLAND ARABLE					X	X	X	X					
PRIORITY HABITAT													
NATURE SITE OF LOCAL IMPORTANCE (e.g. LNR, CWS)													

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GENERIC HAZARDS	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
GENERIC RECEPTORS ¹													
SITE OF SPECIAL SCIENTIFIC INTEREST (within 2km)													
SPECIAL AREA OF CONSERVATION (within 2km)													
SPECIAL PROTECTION AREA OR OTHER RELEVANT SSSI (within 2km)													
LISTED BUILDINGS (within 500m)			X	X	X	X	X	X					
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 permanent deposit of inert waste at the site

What do you do that can harm and what could be harmed?			Assessing the risk			Managing the risk	
Hazard	Receptor (see Table ESID 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.						The wastes will be inert wastes. Acceptance procedures will be in place.	Negligible
Noise							
Mobile plant and vehicles including waste deposition	Local human population	Air	Medium to low	Nuisance from noise	Medium to low	The potential impacts of noise from the development have been assessed as part of the planning application process and the control of noise is the subject of conditions of the planning permission. Measures to minimise the generation of noise from the activities will be implemented to support the operations at the site including the use of site plant and vehicles with manufacturer fitted silencers. All site based plant and vehicles will be the subject of a Planned Preventative Maintenance programme and will be maintained accordingly. The internal haul roads and access road will be inspected on a regular basis and maintained so that potholes are identified and repaired as soon as is reasonably practicable.	Very low
Vibration							
Mobile plant and vehicles including waste deposition	Local human population	Ground	Low to very low	Nuisance from vibration	Medium to low	Potential sources of vibration are limited to site-based activities only. It is considered that these are more likely to be associated with ground borne vibration rather than transmissions of vibration	Very low

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						through the air. Based on the nature and location of the proposed activities it is considered unlikely that ground borne vibration will have a significant effect on potential receptors within the vicinity of the site. In the unlikely event that vibration becomes an issue in respect of the permitted operations at the site a vibration management plan will be prepared and implemented.	
Fugitive emissions							
Particulates from access routes, waste delivery, waste storage and waste deposition	Local human population / properties / farmland arable / public highway / water bodies / sensitive habitat	Air	Low	Deposition of particulate matter	Medium to low	The potential impacts of dust from the development have been assessed as part of the planning application process and mitigation measures have been developed. Wastes comprising solely or mainly dusts, powders or loose fibres will not be accepted. Detailed procedures for the management of particulate matter at the site will be implemented including non-acceptance of wastes with a significant potential to give rise to windblown dust during adverse weather conditions together with visual monitoring and damping of granular waste loads, haul roads and other areas during dry conditions using a mobile bowser.	Low to very low
The inert wastes that will be accepted have a						Waste deposited in the site area will be under close visual observation by site personnel at all times during placement and levelling when the	Negligible

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very low potential to generate gas						presence of biodegradable waste materials in the waste will be clearly visible so that biodegradable materials inadvertently deposited can be removed. The site waste acceptance and operational procedures will provide confidence that the deposited waste is inert.	
The inert wastes that will be accepted have a very low potential to generate litter or to attract birds, vermin or insects.						Acceptance procedures will be in place.	Negligible
Mud and debris deposited on the public highway	Public highway	Vehicle movements	Low	Mud on the public highway	Low	The long site haul road to the public highway will be effective in minimising the risk of the deposit of mud and debris on the public highway. Wheel cleaning facilities will be provided if necessary. 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.	Low

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Accidents							
Waste stored and deposited on site	Local human population gaining unauthorised access to the waste operation	Direct physical contact	Low	Bodily injury	Low	The inert waste types that will be accepted at the site should not cause harm to human health by virtue of its composition. Security measures comprising the use of fencing as necessary, safety signs and regular inspections will be implemented to minimise the potential for unauthorised entry to the site. The site gates from the public highway will be 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	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 will be implemented. Spillage kits will be available and site personnel will be trained in their use.	Low

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Flooding	Roads, buildings, gardens or natural habitats downstream	Flood waters	Low	Flooding of roads, buildings, gardens or natural habitats downstream	Low	With the exception of a small area in the north west the whole of the site the subject of the application is located in Flood Zone 1 which is defined as land assessed as having a less than 1 in 1,000 annual probability of river flooding (<0.1%). Based on the restoration profile there will be no significant change in the rate of transfer of run-off from the site to the surface water system as a result of the site.	Low
Fire	Atmospheric emissions	Air	Very low	Nuisance from smoke and odour Contamination of water resources	Very low	As the materials deposited 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.	Very low
Waste operations may cause harm to and deterioration of nature conservation sites.	Protected sites - European sites and SSSIs	Air or run off	N/A	Harm to protected site through contamination, nutrient enrichment, smothering, disturbance, predation etc.	N/A	There are no European sites or Sites of Special Scientific Interest within 2km of the site.	N/A
Waste operations may cause harm to and deterioration of nature	Wildlife sites of regional or local importance	Air or run off	N/A	Harm to protected site through toxic contamination, nutrient	N/A	There are no European sites or Sites of Special Scientific Interest within 2km of the site.	N/A

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conservation sites.	and protected habitat			enrichment, smothering, disturbance, predation etc.			
Waste operations may cause harm to and deterioration of heritage conservation sites.	Designated heritage sites – Scheduled Monuments and Listed Buildings	Direct physical contact	Medium	Movement of vehicles and the deposition of particulate matter	Low	Measures will be in place to minimise the risk of unacceptable impacts from the waste operations on the surrounding environment which will be protective also of the surrounding designated heritage conservation sites, including four listed buildings.	Low