Bleak Hill III

784-B031732

Environmental Risk Assessment

Environmental Permit Application

CEMEX UK Materials Limited

December 2022

Document prepared on behalf of Tetra Tech Environment Planning Transport Limited.
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TABLE OF CONTENTS

LIST OF TABLES

DRAWINGS

P6/206/7/A - Final Restoration
P6/206/5, Rev B (Plans I – XI) – Phasing Plans
CEM/B031732/REC/01 – Receptor Plan

APPENDICES

Appendix A - Environmental Risk Assessment
Appendix B – Nature and Heritage Screen (EPR/LB3601SD/A001)

1.0 INTRODUCTION

1.1 REPORT SCOPE

1.1.1 This section of the Environmental Permit application corresponds to Section 6 of Part B2 of the Environmental Permit application forms, and has been prepared on behalf of the operator, CEMEX UK Operations Limited (CEMEX).

1.1.2 The operator seeks to gain a bespoke waste recovery permit for the permanent deposit of inert waste to land at Bleak Hill III to facilitate the restoration scheme (Drawing Number P6/206/7/A) as approved under planning permission 19/11326 granted by Hampshire County Council (HCC).

1.1.3 This Environmental Risk Assessment (ERA) is limited to a qualitative assessment of the potential risks to the environment and human health specifically related to the proposed activity. This report will identify any significant risk and demonstrate that the risk of pollution will be acceptable by taking the appropriate measures to manage the risk.

2.0 ENVIRONMENTAL RISK ASSESSMENT

2.1 METHODOLOGY

2.1.1 This report has been prepared following the Environment Agency's (EA) Risk Assessment guidance. It specifically relates to the potential risks associated with the following risk types: -

- Odour;
- Noise and vibration;
- Fugitive emissions; and
- Accidents and incidents.

2.1.2 This risk assessment addresses the above, and is based on the following methodology: -

- Identification of potential sources of risks;
- Identification of all potential receptors to risk; and
- Risk assessment of each risk type.

2.1.3 The ERA is a tool used to identify the pollutant linkage i.e. source-pathway-receptor. For most risks, the atmosphere is the main pathway and will always exist. Therefore, the ERA deals primarily with the sources and receptors and is provided in Appendix A and summarised below.

2.1.4 A Nature and Heritage Conservation Screen (Reference Number EPR/LB3601SD/A001) was requested from the Environment Agency. This screen determines the presence of any sites of nature and heritage conservation, or protected species or habitats that may be impacted by the proposal.

2.1.5 The results of the screen (Appendix B) identified three local wildlife sites within 200m, these are as follows:-

- Lomer Copse;
- Ringwood Forest and Homewood; and
- Lomer meadow

2.1.6 Furthermore, the screen indicates that there is an area of deciduous woodland within up to 50m of the site which is designated as a protected habitat.

2.2 SOURCES

2.2.1 The potential sources of risks have been considered for each risk type, as provided in Appendix A and summarised below:

Odour

- Waste materials

Noise and Vibration

- Engine noise from vehicles ;
- Use of reverse vehicle warnings;
- Use of plant and machinery; and
- Engineering works.

Fugitive emissions

- Particulate matter i.e. dust;
- Scavenging birds;
- Mud; and
- Litter

Accidents

- Fire or failure to contain firewater;
- Leaks and spillages;
- Flooding; and
- Vandalism

2.3 PATHWAYS

2.3.1 The pathways have been identified for each risk type as shown in Table 1:

Table 1: Potential Pathways

Risk Type	Pathway
Odour	Atmosphere
Noise and vibration	Atmosphere
Fugitive emissions	Atmosphere
Accidents	Atmosphere
	Surface water run-off
	Infiltration
	Percolation

2.4 RECEPTORS

2.4.1 Receptors within 1km of the proposed application boundary, including those identified in the Nature and Heritage Conservation Screen (Appendix B), have been listed in Table 2 and are shown on Drawing Number CEM/B031732/REC/01. The main pathway for the identified sources will be atmosphere and as such, atmospheric conditions can affect dispersion rates and hence potential risk. As a result, the location of each receptor in relation to the site may influence the potential impact of the risk, as summarised in Table 2.

Table 2: Receptors Within 1Km of the Site

ID	Receptor	Direction from Operational Area	Minimum Distance from the Permit Application Boundary (approx. m)
Domestic Dwellings			
1	Properties on Harbridge Drove	NE	55

2	Properties on Bleak Hill	E	80
3	Properties on Kent Lane	SE	784
4	Properties of Alderholt	NW	777
Commercial and Industrial Premises			
5	Bleak Hill Plants	NE	Adjacent
6	Snowdrop Cottage	SE	970
7	Warren Park Farm	W	501
8	Snowdrop Cottage (Indoor accommodation)	SE	970
9	Foxhill Farm, Alderholt	NW	530
10	Huzzey J (Self-catering accommodation)	W	740
11	Take a Tuk – New Forest	N	900
Schools / Hospitals / Shops/Amenities			
12	Alderholt Recreation Ground	NW	615
13	Alderholt Sports & Social Club	NW	765
Highways or Minor Roads			
14	Harbridge Drove	E	Adjacent
15	Lomer Lane	E	Adjacent
16	Harbridge Green	E	Adjacent
17	Kent Lane	E	842
18	Hillbury Road	N	410
19	Ringwood Road	N	238
20	Northern End Lane	NE	502
Ancient Woodland			
21	Ancient Woodland – Ancient and Semi-Natural Woodland	SW	656
22	Ancient Woodland – Ancient and Semi-Natural Woodland	SE	841
Protected Habitats			
23	Deciduous Woodland	W	366
24	Deciduous Woodland in Kent Hill	SE	179
25	BAP Priority Habitat –Woodpasture and Parkland	W	On boundary
26	BAP Priority Habitat – Woodpasture and Parkland	SE	676
27	Deciduous Woodland in Bleak Hill	E	184
28	Deciduous Woodland	N	22
29	Deciduous Woodland	NW	57
30	Deciduous Woodland	S	927
31	Deciduous Woodland	S	289
32	Deciduous Woodland	SE	772
33	Deciduous Woodland surrounding Warren Park Farm	NW	462
34	Deciduous Woodland	NE	837
35	Deciduous Woodland	W	464

36	Deciduous Woodland (Primrose Cottage)	NE	770
37	Deciduous Woodland	W	835
Nature and Heritage Conservation Sites – Local Wildlife Sites (LWS)			
38	Ringwood Forest & Home Wood	W	On boundary
39	Lomer Copse	E	155
40	Lomer Meadow	E	155
Listed Buildings and Scheduled Monuments			
41	Primrose Cottage, Harbridge Drove, Ellingham, Harbridge and Ibsley, New Forest, Hampshire (Grade II Listed)	SE	367
42	Fernhill Cottage, 35, Bleak Hill, Ellingham, Harbridge and Ibsley, New Forest, Hampshire (Grade II Listed)	E	599
Sensitive Land Uses			
43	Bleak Hill Farm	E	Adjacent
44	Hill View Farm	E	254
45	Oak Tree Farm	N	333
46	Warren Park Farm	W	845
Surface Water e.g. rivers and streams			
47	Lake	S	644
48	Lake	W	468
49	Lake	W	693
50	Hammer Brook	SW	661
51	Turmer Brook	SE	1km
Groundwater (sensitivity)			
According to the Multi-Agency Geographic Information for the Countryside's (MAGIC) website, the site is located on a Medium-High scale on the Groundwater Vulnerability Map. In terms of aquifers, the MAGIC website does not include the site in any aquifer designations.			

2.5 RISK ASSESSMENT

2.5.1 The ERA (Appendix A) looks at each specific hazard identified and assesses the likelihood of those hazards impacting on the receptors. This is achieved by fulfilling the following objectives: -

- Identify the location and nature of each hazard;
- Identify the specific receptors potentially at risk and assess the sensitivity of each receptor;
- Provide a qualitative assessment of the risk posed to each sensitive receptor;
- Identify management and monitoring techniques; and
- Provide recommendations for more detailed assessments where necessary.

2.6 SUMMARY OF ERA

2.6.1 The ERA (Appendix A) indicates that the proposed development will have no significant impact in terms of odour, noise and fugitive emissions, and the likelihood of accidents is minimal.

DRAWINGS

P6/206/7/A - Final Restoration

CEM/B031732/REC/01 – Receptor Plan

P6/206/5, Rev B (Plans I – XI) – Phasing Plans

APPENDICIES

APPENDIX A - ENVIRONMENTAL RISK ASSESSMENT

Table A1:Odour Risk Assessment and Management Plan

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?**
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?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Receipt of odorous wastes	Occupiers of domestic dwellings listed in Table 2 above. Commercial and industrial units users in Table 2 above. Amenities in Table 2 above	Atmosphere	The site will only accept wastes that are not putrescible and therefore will not biodegrade to produce offensive odours. As such, the risk of odour is not expected to increase. There will be strict waste acceptance procedures in place to minimise the risk of non-compliant wastes being accepted. Details of these procedures are provided in the Operating Techniques (Appendix C of the Environmental Permit Application). All site operatives will be vigilant with regards to identifying non-compliant wastes and any non-conformances or odour issues will be reported to the Site Manager.	Unlikely due to the nature of the proposed waste types and the measures in place.	Odour annoyance	Not significant due to management techniques employed.

Table A2: Noise and Vibration Risk Assessment and Management Plan

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?**
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?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Vehicle movements on site and haul roads.	Occupiers of domestic dwellings listed in Table 2 above. Commercial and industrial units users in Table 2 above.	Atmosphere.	Load will only be delivered to the site during the hours stipulated in the planning permission (07:00 – 18:00 Monday – Friday and 08:00-13:00 on Saturdays). All plant and machinery will have effective silencers where practicable and be maintained in accordance with the manufacturer's requirements to minimise the risk of mechanical failure which could result in increased noise emissions. All equipment and vehicles when not in regular use shall be switched off. A series of bunds, measuring from 3m to 5m high will be developed along the perimeter of the application site using topsoil and overburden soils (as shown on Drawing Number P6/206/5, Rev B (Plans I – XI)). This will minimise the potential for noise to impact receptors listed in Table 2. All noise and vibration generating activity will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Not significant due to management techniques employed.

Noise from reverse vehicle warnings	Occupiers of domestic dwellings listed in Table 2 above. Commercial and industrial units users in Table 2 above.	Atmosphere.	Vehicle movements will only be undertaken during the hours stipulated in the planning permission (07:00 – 18:00 Monday to Friday and 08:00 - 13:00 on Saturdays), with the exception of emergency repairs. Utilisation of low-level warning signals. A series of bunds, measuring from 3m to 5m high will be developed along the perimeter of the application site using topsoil and overburden soils (as shown on Drawing Number P6/206/5, Rev B (Plans I – XI)). This will minimise the potential for noise to impact receptors listed in Table 2. All noise generating activities will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Unlikely due to measures in place.	Intermittent noise and vibration disturbance.	Not significant due to management techniques employed.
Noise from the loading/unloading of wastes	Occupiers of domestic dwellings listed in Table 2 above. Commercial and industrial units users in Table 2 above.	Atmosphere.	All noise generating activities will be confined to the hours stipulated under the planning permission (07:00 – 18:00 Monday to Friday and 08:00 - 13:00 on Saturdays), with the exception of emergency repairs. The loading/unloading of wastes will be undertaken in a controlled manner to keep noise/vibration to a minimum. Vehicles will be directed by site operatives to minimise the drop height when depositing loads at the site. Drop heights will be minimised as much as practicable. A series of bunds, measuring from 3m to 5m high will be developed along the perimeter of the application site using topsoil and overburden soils (as shown on Drawing Number P6/206/5, Rev B (Plans I – XI)). This will minimise the potential for noise to impact receptors listed in Table 2. All noise generating activities will be monitored closely and site operatives will be vigilant and report any excessive noise or vibration issues to the Site Manager.	Intermittent during operating hours.	Intermittent noise and vibration disturbance.	Not significant due to management techniques employed.

Table A3: Fugitive Emissions Risk Assessment and Management Plan

What do you do that can harm and what could be harmed?			Managing the risk	Assessing the risk		
Hazard	**Receptor**	**Pathway**	**Hazard**	**Receptor**	**Pathway**	**Hazard**
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?**	**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?**	**What has the potential to cause harm?**
To Air						
Dust emissions from vehicle movements	Occupiers of domestic dwellings listed in Table 2. Workforce in commercial and industrial properties adjacent to the site listed in Table 2. Amenities listed in Table 2. Priority habitats listed in Table 2. Local Wildlife Sites listed in Table 2.	Atmosphere	Vehicles delivering waste to the site will be covered or sheeted to prevent the generation of dust whilst the waste is in transit. Within the site, internal haulage is restricted to clearly delineated routes, generally on a prepared surface. This will minimise the risk of dust generation from uneven surfaces. All vehicle drivers will comply with the speed limits within the site and on the access roads. The Site Manager will undertake a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the Site Manager. The site is situated within a wider quarry site (operated by CEMEX) which benefits from a wheel wash that is located to the south of the wider quarry site. As part of the proposal, CEMEX intend the use the same access road and facilities that are in place for the wider quarry site. As such, the wheel wash will be used by all outgoing vehicles subsequently minimising the risk of dust developing. The wheel wash will be checked monthly and any necessary repair work will be carried out as soon as practicable. In the event of a breakdown, additional road cleaning equipment will be provided.	Dust could potentially reach the nearby dwellings, commercial and industrial properties and designated sites and priority habitats when a strong wind blows in their direction. Management actions should prevent this happening.	Local nuisance Potential respiratory health risk to public and staff. Smothering.	Not significant due to management techniques employed.

			A mobile water bowser will be utilized to suppress any dust that develops on the access road. If necessary, a road sweeper will be contacted to clean the site access road where vehicles leave the site. Dust will be managed in accordance with the Dust Management Plan that's provided as Appendix J of the environmental permit application.			
Dust generated during loading/unloading of waste	Occupiers of domestic dwellings listed in Table 2. Workforce in commercial and industrial properties adjacent to the site listed in Table 2. Amenities listed in Table 2. Priority habitats listed in Table 2. Local Wildlife Sites listed in Table 2.	Atmosphere	The loading/unloading of wastes would be undertaken in a controlled manner to keep dust emissions to a minimum. Extra care would be taken with the deposit of waste during periods of prolonged dry weather or high winds. The Site Manager will undertake a daily visual assessment of dust levels and all site operatives will be vigilant and report any problems to the manager. Drop heights would be minimised as much as practicable to reduce the generation of dust from loading/unloading activities. Dust will be managed in accordance with the Dust Management Plan that's provided as Appendix J of the environmental permit application.	Dust could potentially reach the nearby dwellings when a strong wind blows in their direction. Management actions should prevent this happening.	Local nuisance	Not significant due to management techniques employed.
To Water						
Contaminated rainwater run-off.	Groundwater. Surface water features listed in Table 2.	Direct surface water run-off from site. Infiltration. Percolation.	The proposed waste types are inert and therefore non-hazardous. As such, any run-off that is generated on site will simply be rainwater which has passed through inert soils, and therefore is not likely to be contaminated. An attenuation layer will be constructed to prevent leaching of contaminants into the groundwater. A Hydrogeological Risk Assessment has been produced in support of the application.	Unlikely due to the nature of the proposed waste types and the measures in place.	Contamination of surface water bodies and groundwater.	Not significant due to management techniques employed and the inert

			There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the Operating Techniques (Appendix C of the Environmental Permit Application).			nature of the waste types.
Pests/Scavenging birds						
Birds and Pests.	Occupiers of domestic dwellings listed in Table 2. Workforce in commercial and industrial properties adjacent to the site listed in Table 2. Amenities listed in Table 2. Priority habitats listed in Table 2. Local Wildlife Sites listed in Table 2.	Air. Ground.	The proposed waste types are not putrescible and will therefore not be attractive to pests or scavenging birds. There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the Operating Techniques (Appendix C of the Environmental Permit Application). The Site Manager will undertake regular reviews of pests and scavenging birds at the site. All site operatives will be vigilant and report any problems to the Site Manager.	Very unlikely due to the inert nature of the waste material	Nuisance to local residents. Predation of species in Priority Habitats and Local Wildlife Sites.	Not significant due to the inert nature of the waste type and the management of the facility.
Mud						
Mud arising from vehicles movements	Highways listed in Table 2.	Tracked by vehicles.	As above, the wider quarry site benefits from a wheel wash which is adjacent to the site entrance on the access road. This will be used by all outgoing vehicles and therefore minimise the risk of mud to develop. The site will also utilise a mobile water bowser to suppress any mud that develops on the access road.	Unlikely due to measures in place.	Mud on roads is unsightly and can increase the risk of road traffic incidents.	Not significant due to management techniques employed.

			The amount of mud on local roads will be monitored daily by site operatives. In the event that mud is deposited on the access road and/or highway then a road sweeper will be employed if necessary.			
Litter						
Litter arising from vehicle movements and high winds.	All receptors listed in Table 2.	Air Tracked by vehicles.	Due to the nature of the proposed waste types, litter will not be generated at the site. The proposed waste types are not considered to represent a significant risk of litter. There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the Operating Techniques (Appendix C of the Environmental Permit Application). A vigilant watch for litter will be undertaken by site operatives. In the unlikely event that litter is generated by the activity, the Site Supervisor will implement a litter collection as necessary.	Very unlikely due to measures in place.	Local nuisance.	Not significant due to the inert nature of waste received and management techniques employed.

Table A4: Accident and Incident Risk Assessment and Management Plan

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?**
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?**	**What measures will you take to reduce the risk? If it occurs – who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence.**
Fire or failure to contain firewater.	Groundwater. Surface water features listed in Table 2. Occupiers of domestic dwellings listed in Table 2 above. Commercial and industrial units users in Table 2 above. Priority Habitats listed in Table 2 above. Local Wildlife Sites listed in Table 3.	Infiltration. Contaminated rainwater runoff.	The risk of fire is considered to be low as the proposed waste types are not flammable. There will be strict waste acceptance procedures in place at the site to prevent the acceptance of non-conforming waste types. Details of the waste acceptance procedures are provided in the Operating Techniques (Appendix C of the Environmental Permit Application). The Operator will undertake routine maintenance of all equipment in accordance with the manufacturer's guidance. This will minimise the risk of mechanical failure which may result in an increased risk of combustion. Site notices and training will be undertaken regarding fire hazards. The Site Manager will be responsible for actions undertaken in the event of a fire.	Very unlikely due to the nature of the waste types and the measures in place.	Contamination of local groundwater and/or surface water. Local nuisance from smoke.	Not significant due to the inert nature of waste types and likelihood of a fire on site.
Leaks/spillages of fuel/oil.	Groundwater. Surface waters listed in Table 2.	Surface run-off. Infiltration.	The operator will undertake regular maintenance of plant equipment in accordance with manufacturer's guidance. This will minimise the risk of mechanical failure which may result in leaks.	Unlikely due to measures in place.	Contamination of land and watercourses.	Not significant due to management techniques employed.

		Percolation	Daily vehicle / plant checks to ensure any fuel/oil leaks etc. are repaired as soon as possible. The Site Manager will be responsible for ensuring effective remediation and documenting any incident.			
Flooding.	Groundwater. Surface water bodies listed in Table 2.	Infiltration. Contaminated surface water runoff.	The site is not located in an area at risk of flooding from Rivers. The waste is unlikely to cause contamination of groundwater through infiltration due to the nature of the proposed waste types. Due to the nature of the waste types which are proposed to be used, in the event that flood or surface water comes into contact with the wastes, significant pollution or contamination of groundwater or surface water is considered unlikely.	Unlikely due to measures in place.	Disruption to works on site. Contamination of local groundwater and/or surface water. Contamination of local agricultural land.	Not significant due to the management techniques employed.
Vandalism.	Groundwater. Surface water features listed in Table 2. Occupiers of domestic dwellings listed in Table 2 above. Commercial and industrial units users in Table 2 above. Priority Habitats listed in Table 2 above. Local Wildlife Sites listed in Table 2.	Unauthorised entry to the site.	As part of the mineral extraction and restoration operations, the site will benefit from barriers that satisfy the requirements of the Quarry Regulations 1999 to prevent unauthorised access to the site. Such barriers will comprise a combination of bunds (as detailed on Drawing Number P6/206/5, Rev B (Plans I - XI) and fencing and lockable gates. The site will be secure from public access by lockable gates at the site entrance. Any identified damage to the gate and the perimeter fence that could compromise the site security will be recorded and temporarily repaired as necessary before the end of the working day. Permanent repair or replacement will be undertaken as soon as practicable. There will be procedures in place which will require all visitors to the site to sign in on arrival and sign out on departure.	Unlikely due to measures in place.	Release of polluting materials to air (smokes or fumes) water or land.	Not significant due to management techniques employed.

APPENDIX B – NATURE AND HERITAGE SCREEN (EPR/LB3601SD/A001)