

Risk Assessment for the Asphalt Recycling Facility at the Wainwright Avonmouth Asphalt Facility

Facility:	Bespoke Waste Operation: Treatment of waste asphalt to produce aggregate/substitute roadstone.
Location:	Land adjacent to the Wainwright Avonmouth Asphalt Facility, Rockingham Park, Smoke Lane, Avonmouth, Bristol, BS11 0FJ
Location of environmentally sensitive sites (km / m):	Within 390m (see below)
Risk assessment carried out by:	Nicholas Dunn- Land & Mineral Management
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The scope of the permit and associated rules is defined by the following risk criteria:

Parameter 1	Permitted activities - The storage of waste (R13) and treatment to produce substitutes roadstone/aggregate(R5).
Parameter 2	Permitted waste types - Non Hazardous and no wastes consisting solely or mainly of dusts, powders or loose fibres or waste in liquid form.
Parameter 3	Quantity of waste accepted at the facility: 50,000 tonnes per annum.
Parameter 4	The activities are not be carried out within an Air Quality Management Area (AQMA) designated for particulate matter in the form of PM10.
Parameter 5	Specified wastes type is allowed to be sorted and processed on hard standing in SR2010No12.
Parameter 6	No source discharges to controlled waters from areas of the facility used for the storage or treatment of wastes.
Parameter 7	The activities carried out within 390m of a European Site (Severn Estuary - Special Area of Conservation, Special Protection Area and Ramsar site) and a Severn Estuary Site of Special Scientific Interest (SSSI).
Parameter 8	Facility is not within 250 metres with the presence of great crested newts, where it is linked to the breeding ponds of the newts by good habitat; 50 metres of a site that has relevant species or habitats protected under the Biodiversity Action Plan that the Environment Agency considers at risk to this activity or 50 metres of a National Nature Reserve (NNR), Local Nature Reserves(LNR), Local Wildlife Site (LWS) or Ancient woodland.
Parameter 9	Site within 15 m of a Scheduled Ancient Monument:- Heavy Anti-aircraft battery 520m east of Holes Mouth
Parameter 10	Facility is with 10 metres from any watercourse although there is no point source emission from the areas used for waste acceptance, storage or processing.
Parameter 11	The facility is not within 50 metres of any spring or well, or of any borehole not used to supply water for domestic or food production purposes or 50m from any spring or well or any borehole used for the supply of water for human consumption including private water supplies.
Parameter 12	Only a single waste code accepted: EWC 17 03 02
Parameter 13	Nearest residential property is 2.1 km to south east.
Parameter 14	Office 35m to the south west.

Data and information				Judgement				Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	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?	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? (This residual risk will be

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Local human population	Releases of particulate matter (dusts).	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Low	Low	Low	Only one waste type permitted, which has a very low risk of dust generation due to it being aggregate coated in bitumen. Permitted waste type is non hazardous and does not include dust, powders or loose fibres and has no potential to produce bioaerosols. Due to the aggregate being coated in bitumen the treatment activities are unlikely to produce particulate matter so a low magnitude risk is estimated. The low permitted level of throughput and small size of the facility means there is a low potential for exposure for anyone working close to the site (apart from the operator and employees). Due to the aggregate being coated in bitumen there is low potential for increased dust generation from permitted activities during prolonged dry periods e.g. summer months. HGVs and plant running on surfaced areas which reduces possibility of exposure.	Environmental Management System (EMS). Daily monitoring. Road sweeping and water bowing when required. Crushing and screening controlled by LAPPC Permit (PGN 3/16 (12)).	Low
Local human population	As above	Nuisance - dust on cars, clothing etc.	Air transport then deposition	Low	Low	Low	As above.	As above	Low
Local human population, livestock and wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Very low	Very low	Very low	Permitted waste type has a very low litter potential.	Appropriate measures in EMS include clearing litter arising from the activities from affected areas outside the site.	Very low

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Local human population	Waste, litter and mud on local roads	Nuisance, loss of amenity, road traffic accidents.	Vehicles entering and leaving site.	Low	Low	Low	Road safety, local residents often sensitive to mud on roads.	EMS. Daily monitoring. Road sweeping and water bowing when required.	Low
Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation.	Very low	Very low	Very low	Local residents often sensitive to odour, however permitted waste types have very low odour potential.	EMS. Daily monitoring. Road sweeping and water bowing when required. Crushing and screening controlled by LAPPC Permit (PGN 3/16 (12)).	Very low
Local human population	Scavenging animals and scavenging birds	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land	Very low	Very low	Very low	Permitted waste will not attract scavenging animals and birds. It is very unlikely to become a nesting/breeding site due to regular disturbance,	EMS. Daily monitoring	Very low
Local human population	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity	Air transport and over land	Very low	Very low	Very low	Permitted waste type does not attract pests.	EMS. Daily monitoring	Very low
Local human population and local environment	Flooding of site	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream.	Flood waters	Very low	Very low	Very low	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 enclosed by fences so very unlikely to be washed off site. Heavy and bulky nature of the waste means it could not be washed off site.	EMS. Daily monitoring	Very low

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Local human population and / or livestock after gaining unauthorised access to the waste operation	All on-site hazards: wastes; machinery and vehicles.	Bodily injury	Direct physical contact	Very low	Very low	Very low	Permitted waste types are non hazardous and to bulky to ingest. Site is fenced and secured.	EMS. Daily monitoring	Very low
Local human population and local environment.	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.	Low	Low	Low	Permitted waste types are non-combustible. Site is fenced and secured. Plant stored in the Asphalt Plant when not in us.	EMS. Daily monitoring	Low
Local human population and local environment	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.	As above.	Low	Low	Low	As above.	As above. Permitted activities also do not include the burning of waste.	Low

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All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Acute effects: oxygen depletion, fish kill and algal blooms	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Low	Low	Low	Permitted waste type do not include sludges or liquids and do not leach so no potential for contaminated rainwater run-off. No point source emissions from waste acceptance, storage and processing areas.	EMS. Daily monitoring	Very low
All surface waters close to and downstream of site.	As above	Chronic effects: deterioration of water quality	As above. Indirect run-off via the soil layer	Low	Low	Low	Permitted waste type do not include sludges or liquids and do not leach so no potential for contaminated rainwater run-off.	EMS. Daily monitoring	Very low
Groundwater	As above	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through hardcore surface/soil into groundwater then extraction at borehole.	Low	Low	Low	Permitted waste type do not include sludges or liquids and do not leach so no potential for contaminated rainwater run-off.	As above	Very low
Local human population	Contaminated waters used for recreational purposes	Harm to human health - skin damage or gastro-intestinal illness.	Direct contact or ingestion	Low	Medium	Low	Unlikely to occur, but might restrict recreational use.	As above	Very low
Local human population	Noise and vibration	Nuisance at nearest office.	Noise through the air and vibration through the ground.	Low	Low	Low	Office workers sensitive to noise. See Noise Assessment. Operations will not cause vibration.	Noise Management Plan. EMS.	Very low.
Protected sites - European sites, SSSIs etc.	Any	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	Very low	Low	Low	Potential hydrological link via ground waters but permitted waste type do not include sludges or liquids and do not leach so no potential for contaminated rainwater run-off. This risk assessment has demonstrated very low risk associated with air quality and noise. Nevertheless, the facility is located on an large industrial estate with an oil refinery and railway line between the Facility and the protected habitats.	EMS.	Very low