ENVIRONMENTAL AND ACCIDENT RISK ASSESSMENT

ASPHALT WASTE RECYCLING FACILITY
HD RICKETTS
WEEFORD QUARRY
LONDON ROAD
SUTTON COLDFIELD
B75 5SY

Document Reference: TA1061/07.R0
August 2023

Project Quality Assurance
Information Sheet

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ASPHALT WASTE RECYCLING FACILITY, HD RICKETTS, WEEFORD QUARRY, LONDON ROAD, SUTTON COLDFIELD, B75 5SY

Report Status : Final

Report Reference : TA1061/07.R0

Report Date : August 2023

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Revision	Date	Amendment Details	Author	Reviewer
0	Aug 2023	First Issue	K Jenkins	D Thomas

ASPHALTWASTE RECYCLING FACILITY
HD RICKETTS,
WEEFORD QUARRY,
LONDON ROAD,
SUTTON COLDFIELD,
B75 5SY

ENVIRONMENTAL PERMIT APPLICATION
ENVIORONMENTAL AND ACCIDENT RISK ASSESSMENT

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1.0 INTRODUCTION

1.1 Scope

1.1.1 This document presents an assessment of the risks to the environment and amenity posed by the operation of an asphalt recycling facility at Weeford Quarry, Sutton Coldfield.

1.1.2 This risk assessment has been undertaken in accordance with the Environment Agency (EA) Guidance on 'Risk Assessments for your Environmental Permit'; published 1st February 2016 (last updated 31st August 2022).

1.2 Site Setting

Site Description

1.2.1 The recycling facility will be located within the footprint of Weeford Quarry, London Road, Sutton Coldfield, B75 5SY. The proposed site is situated approximately on National Grid Reference: SK 13970 02329 as shown on **Drawing No.: TA1061/10/01**. The Weeford Quarry depot is situated in a rural area on the outskirts of the town of Sutton Coldfield. Weeford village lies approximately 1.8km north east of the site. The small village of Little Hay lies approximately 1.7km west of the site. The village of Hints is situated approximately 2km east-northeast. The specific area where the regulated facility will operate is shown on **Drawing No.: TA1061/10/02.**

1.2.2 All the waste storage and treatment operations will be undertaken within the site area identified in **Drawing No.: TA1061/10/02.** Access to and egress from the site is gained from one designated route through Weeford Quarry between the HD Ricketts site and the Tarmac Weeford Asphalt Plant site, off London Road (A38). London Road subsequently connects to Weeford interchange to the north and Bassetts Pole roundabout to the south. Materials for processing will be stored local to the treatment area and these locations are identified in **Drawing No.: TA1061/10/03.**

1.2.3 The closest residential properties to the recycling facility are Brockhurst Park Farm which is located approximately 750m east-southeast of the site and two unnamed properties situated ~770m east and 900m east of the site. Potential receptors to the site are further discussed in section 2.3 of this document.

1.2.4 The site is located within the administrative area of Lichfield District Council, which has two Air Quality Management Areas (AQMA's) designated within its Authority area. These include an area encompassing the Muckley Corner Roundabout on the A5 along with a number of surrounding buildings which lies ~7.1km north-west of the site, and the A38, Streethay to Alrewas, which lies ~8.2km north of the site. The pollutant declared for both of these AQMA's is Nitrogen Dioxide (NO2). The Birmingham City AQMA also lies ~1.9km south-southwest of the site, for which the declared pollutants are Nitrogen Dioxide (NO2) and Particulate Matter PM10.

1.2.5 The site is located within a Nitrate Vulnerable Zone (NVZ) as designated by DEFRA for surface and groundwater.

1.2.6 The site is not within 1km of statutory designations including Areas of Outstanding Natural Beauty (AONB), Local Nature Reserves (LNR), National Nature Reserves (NNR), Ramsar Sites, Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC) or Special Protected Areas (SPA).

1.2.7 There are two Local Wildlife Sites (LWS) within 1km of the application site boundary.

1.2.8 A review of the dominant wind direction indicates that the prevailing wind blows in from the south and south-west and towards the north and north-east.

Geology

1.3 Information on the published geology of the site area has been collated from the British Geological Survey (BGS) 1:50,000 scale map and an Environmental Statement (Volume 1) prepared by Tetra Tech as part of a Planning Application for Weeford Quarry.

1.4 In the region around the wider site area of Weeford Quarry, bedrock is found to be outcropping. The application site is directly underlain by the Lower Triassic Sherwood Sandstone Group, comprised regionally of the Chester Formation which presents the productive horizon exploited in the wider Weeford Quarry. it is estimated to be ~30-90m in thickness. The Hopwas Breccia Formation forms the base of the Chester Formation and is uplifted immediately to the east of the Site, where it outcrops in isolated outliers. Both the Chester Formation and the Hopwas Breccia dip gently to the northwest. The base of the Sherwood Sandstone forms a regional unconformity resting on the underlying Carboniferous Strata, the thickness of which is unproven.

1.4.1 The application site is directly underlain by up to an ~25m thickness of conglomerates and reddish brown, cross-bedded, pebbly sandstones with subordinate beds of red-brown mudstone of the Chester Formation, which overlay ~10m of the Hopwas Breccia Formation. The base of the Hopwas Breccia is defined by the red-brown mudstones and sandstones of the Salop Formation.

Hydrogeology

1.4.2 The underlying Chester Hopwas Brecia Formations form a hydraulic continuous unit that is collectively classified as a Principal Aquifer. These are defined as aquifers with high permeability and water storage potential which may support water supply and / or river base flow on a strategic scale.

1.4.3 The geological data indicates that the Lower Sherwood Sandstone Group is stratified, and likely to comprise high permeability sands and soft sandstones, gravels and conglomerates and interbedded, lower permeability silts, clay and marls. The greater proportion of lower permeability strata towards the base of the Chester Formation, and the presence of the lower permeability, cemented Hopwas Breccia are likely to limit vertical movement of groundwater through the base of the Chester Formation. The underlying low permeability marls, clays and silts of the Warwickshire Group are likely to further restrict vertical movement of groundwater from or to the Lower Sherwood Sandstone Formation.

1.4.4 Although the dip of the Chester Formation is shown to be to the west (BGS, 1970), mineral investigations at Weeford Quarry indicate that the local dip of the Chester Formation is actually to the north and north west. It is likely, therefore, that groundwater will flow northwards within higher permeability strata within the Chester Formation to intercept the Black Brook. In the immediate vicinity of Weeford Quarry, the Chester Formation is largely unsaturated, and the water table is found at the base of the Chester Formation or within the top part of the Hopwas Breccia.

1.4.5 RMC (1995) reports that groundwater is expected to lie at some depth within the Upper Carboniferous strata and RMC (1989) reports that, during the drilling of thirteen boreholes at Weeford Quarry in 1985 and 1988, completed to depths between 155.6 mAOD and 126 mAOD, within the Chester Formation, no groundwater was encountered.

1.4.6 In the absence of current local piezometric data, the desk study evidence indicates that the Chester Formation is likely to have an unsaturated zone of ~20m beneath the site relative to groundwater levels of ~132mAOD across the application site.

1.4.7 There are no private water supplies or licensed abstractions within 500m of the site. The nearest licensed groundwater abstraction is associated with Little Hay Pumping Station, which is located ~1.75km WNW of the application site. The application site lies within a Groundwater Source Protection Zone (SPZ) III (Total Catchment) for this abstraction.

1.4.8 The DEFRA Groundwater Vulnerability Map shows the groundwaters beneath the site are classed as high vulnerability due the absence of any low permeability superficial deposits and the high permeability of the bedrock.

Hydrology

1.4.9 There are several surface water ponds located ~10m to the west, ~200m to the south east and ~295m to the north east of the facility site. The ponds are situated within the quarry footprint. There are several more surface water ponds located beyond the Quarry footprint ~790m to the north west, beyond the A38 and M6 Toll.

1.4.10 The nearest river is the Black-Bourne Brook which is located ~1.2km to the northeast, north, and west of the site. From its source near Aldridge where it is known as the Black Brook, it flows north, to the west of the village of Shenstone, then flows east past Weeford towards Fazeley, where the name changes to the Bourne Brook. It then continues flowing through to the confluence with the River Tame.

1.4.11 The aquifer underlying the site is likely to provide baseflow to this river. However, information obtained from the Environment Agency Catchment Classification data (Cycle 3; 2019) shows the Black-Bourne Brook is classified with 'Poor Ecological Status'. The site operations are unlikely to exacerbate the current ecological status of the Black-Bourne Brook.

1.4.12 With regard to flood risk the site has a chance of flooding by surface waters of between 0.1% and 1% each year, with a low risk of flooding. The site also has a very low risk of flooding from rivers and sea which means the site has a chance of flooding of less than 0.1% each year.

1.4.13 There are no water abstraction licences located within 500m of the site.

1.4.14 There are two consented discharges located within 1 km of the site. Both are located to the north east of the site, one is for trade discharge - site drainage and the other is for sewage trade effluent.

1.5 Potential Sensitive Receptors

1.5.1 **Table EARA1** summarises the potential sensitive receptors that have been identified through a desk top study of the locality and the corresponding minimum distance from the proposed permit boundary of the asphalt recycling

facility. The locations of the receptors are shown in **Drawing No.: TA1061/10/04.**

Table EARA1: Identified Potential Sensitive Receptors within 1km of Weeford Quarry Asphalt Recycling Facility.

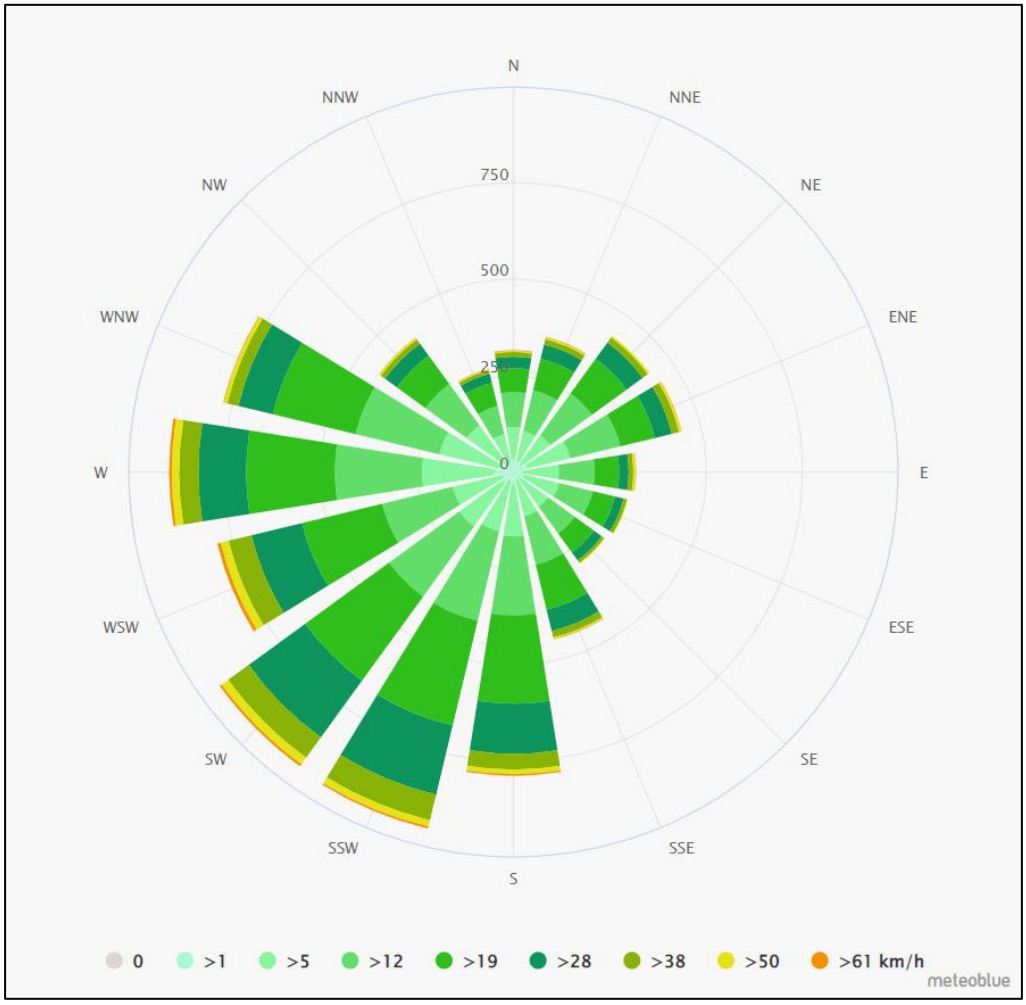
Ref	Receptor Name	Receptor Type	Approximate distance from the operational area	Direction from proposed facility
R1	Surface water features ponds (unnamed)	Ponds	10 – 790m	N, S & W
R2	Priority Habitat	Deciduous Woodland	165m – 635m	NW, NE, E, SE, SW & W
R3	London Road (A38)	Highways	200m	W
R4	Agricultural land	Agricultural	220m +	All directions
R5	M6 Toll	Highways	330m	W
R6	Priority Habitat Weeford Park	Ancient Woodland	410m	SE
R7	Woodland Plantation (Coach and Horses Plantation)	Horticulture	450m	N
R8	Priority Habitat Millditch Wood	Ancient Woodland	540m	NE
R9	Rough Leasow	Local Wildlife Site	547m	NE
R10	M6 Tollbooth (Southbound)	Highways/ Commercial	560m	NW
R11	Brockhurst Park Farm	Residential	750m	ESE
R12	Brockhurst Stables (Horse Riding School)	Residential	750m	ESE
R13	Brockhurst Residential Properties	Residential	770-900m	E
R14	Brockhurst Lane	Residential	830m	SE
R15	Rockery Lane	Residential	840m	E
R16	Manley Wood	Local Wildlife Site	897m	W
R17	Weeford Quarry	Industrial / Commercial	0-897m	All directions

Meteorological Conditions

1.5.2 The local wind speed and direction data has been obtained from the Meteoblue Meteorological Website for Sutton Coldfield. The wind rose, as shown by **Figure EARA1** shows the percentage of wind vector that could be generated in each of the 16 points of a compass.

1.5.3 The wind rose indicates that the predominant wind directions are from the south western quadrants. It can be observed from **Figure EARA1** that the prevailing wind is from the south west.

Figure EARA1: Wind Rose for Sutton Coldfield (Source: Meteoblue)



1.6 Risk Assessment

Risk Assessment Criteria

1.6.1 The risk assessment will be prepared using the widely accepted source-pathway-receptor methodology, and is the preferred method specified in the EA guidance. Where any complete source-pathway-receptor linkage exists, the magnitude of any such risk is qualified by the probability and consequence of any such risk occurring. The criteria to be adopted for the risk assessment are present in **Table EARA2**.

Table EARA2: Risk Assessment Criteria

Probability ⇨ Consequence ⇩	Very Low	Low	Moderate	High
Very Low	Negligible	Very Low	Low	Low-Moderate
Low	Very Low	Low	Low-Moderate	Moderate
Moderate	Low	Low-Moderate	Moderate	High
High	Low-Moderate	Moderate	High	Very high

1.6.2 An environmental and accident risk assessment for the waste operations is presented in **Appendix EARA1**. The assessment covers the following potential risks;

- Fugitive emissions to air (dust and particulates);
- Odour;
- Litter;
- Mud and Debris on the road;
- Scavenging Birds, Vermin and Insects;
- Noise & Vibration;
- Fugitive emissions to water;
- Accidents; and
- Abnormal conditions.

APPENDIX EARA1

Risk Assessment Matrix

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
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?*	*What is at risk? What do I wish to protect?*	*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?*
Dust/Particulates									
Particulate matter and dusts from delivery vehicles, handling and unloading wastes/materials, including trafficked mud and debris, dust from waste storage and treatment.	Harm to human health - respiratory irritation and illness.	Air transport, deposition then inhalation.	Local human population	Low	High	**Moderate**	Prevailing winds are from the southwestern quadrant and from the WNW. Most dust/particulates will deposit within 500m of the source. The closest residential property (Brockhurst Park Farm) lies 750m to the ESE of the site. Receptors such as public highways and private roads are unlikely to be affected by dust due to their transient nature.	All haul routes will be maintained in good condition and be kept clean and free of debris. All loads will be sheeted, or kept in enclosed containers where appropriate, whilst in transit to and from the site. Where inbound sub-contract haulage vehicles are not sheeted, they will be informed of the company requirements accordingly. Loading of all vehicles, including internal traffic, will be supervised to ensure vehicles/containers are not overfilled. All loads will be checked prior to dispatch to ensure that vehicles are clean and free from debris. Vehicles will be thoroughly washed down as necessary prior to onward movement off site. All waste storage will be conducted to the highest of housekeeping standards. All entry points to the processing area will be kept restricted, except for when access is required. Water sprays (bowser and/or fogs) will be utilised where required to dampen surfaces and reduce dust emissions. Daily inspections of the site for aerial emissions will be performed as part of the management procedures. Engineered surfacing (Tarmacadam or concrete) will be installed across the operational areas to prevent tracking of dusts on vehicles. A site speed limit will be enforced to limit dust suspension by vehicle wheels.	Low
	Nuisance - dust on property, clothing etc.	Air transport then deposition	Local human population	Low	Moderate	**Low-Moderate**			Low
	Smothering of habitats and crops	Air transport then deposition	Local wildlife habitats/species	Moderate	Moderate	**Moderate**	Prevailing winds are from the southwestern quadrant and from the WNW. Most dust/particulates will deposit within 500m of the source. One protected deciduous woodland is located ~350m to the E of the application site. All others protected deciduous and ancient woodlands are located more than 500m of the site and are not located downwind of the prevailing wind direction.		Low
Odours									
Fugitive odours from delivery and dispatch of wastes/materials Fugitive odours from waste unloading, handling and treatment of waste. Fugitive odour emissions from waste storage Fugitive odour release during an abnormal event such as a spill or leak	Nuisance, loss of amenity	Air transport then inhalation.	Local human population	Very Low	Low	**Very Low**	The likelihood of odours arising as a result of the permitted operations is minimal to non-existent due to the material consisting mainly of road planings which are inherently non-odorous. There is also no heat involved in any of the treatment processes that could result in the production of an odour. Prevailing winds are from the southwestern quadrant and from the WNW. The closest residential property (Brockhurst Park Farm) lies 750m to the east-south-east of the site. Receptors such as public highways and private roads are unlikely to be affected by odours due to their transient nature.	Waste types accepted for processing (non-putrescible road plainings) are not of the type that could be odorous as received or become odorous once stored. In any event the following procedures will be adopted: Incoming loads of waste will be visually checked at either the site entrance or during off-loading in the inert waste recycling area. Odorous wastes will be rejected or stored in enclosed receptacles in the quarantine area. Daily inspection of the site for odours will be performed as part of the management procedures.	Negligible

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Litter									
Litter from waste delivery vehicles Litter from waste stored on site Litter from the welfare and office facilities	Nuisance, loss of amenity, road traffic accidents and harm to animal health	Vehicles entering and leaving site. Air transport and then deposition	Local human population, livestock and wildlife. Local road users. *(All Receptors)*	Very Low	Low	**Very Low**	Waste types to be permitted at the site very unlikely to generate litter. The application site is located within a wider quarry complex which is remote from potential sensitive receptors.	Types of waste accepted (Road Planings) are unlikely to lead to issued due to the lack of light fraction windblown elements. All vehicles hauling waste will be sheeted / netted or enclosed. Non-conforming wastes will be hand or mechanically extracted and stored within an enclosed receptacle. Strict compliance with waste acceptance procedures will be required at all times. Good housekeeping will be promoted in order to keep storage areas, treatment areas and haul roads as clean as possible. Daily inspection of the site for windblown fraction will be performed.	Very Low
Mud and Debris									
Waste debris and mud on local roads Tracking of mud and debris onto public roads causing accident, hazards and nuisance to road users.	Nuisance, loss of amenity, road traffic accidents and harm to animal health	Vehicles entering and leaving site.	Local human population, livestock and wildlife. Road users *(All Receptors)*	Low	Moderate	**Low-Moderate**	Significant intervening distance between the application site and the adjoining public highways.	Entrance way and main site access roads are surfaced (tarmac or concrete), with the recycling site also surfaced in concrete, which will prevent the general and subsequent tracking of mud and debris. No wastes are permitted to be deposited outside of the designated waste storage areas (i.e. on soft ground where mud could be trafficked). All vehicles hauling waste and recycled products will be sheeted (or instructed to do so) or fully enclosed where appropriate to avoid the loss of waste/materials during transport. Vehicles will be checked for mud prior to being dispatched. Wheel wash facilities are available within the wider quarry complex prior to leaving the site. All vehicles will be supervised during loading to ensure that vehicles are not overfilled. A mechanical road sweeper will be deployed to the wider facility once a week or as necessary. Daily inspection of the site for mud and debris will be performed as part of the management procedures.	Low
Scavengers, Insects and Other Pests									
Scavenging animals and scavenging birds, Pests (e.g. flies) attracted to or infesting wastes	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity. Negative effects on habitats and crops	Air transport and over land.	Local human population, crops and local habitats. *(All receptors)*	Very Low	Low	**Very Low**	The types of waste proposed to be accepted for processing at the facility are not of the nature that could typically attract pests, i.e. non-putrescible No priority habitats or species with close proximity of the site at risk from scavengers.	Waste types accepted for processing (non-putrescible road planings) are overall not of the type that could be infested once stored. Notwithstanding this, daily inspections of the incoming waste loads will be carried out as part of the wider site management procedures. Incoming loads of waste will be visually checked at either the site entrance or during offloading in the appropriate area. Although unlikely, any infested wastes will be rejected or stored in enclosed receptacles in the quarantine area. First in, first out principles will be employed to prevent excessive waste storage timings.	Negligible

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Noise & Vibration									
Noise and vibration caused by engine noise and vibrations from site plant and equipment, lorry movements etc.	Nuisance, loss of amenity, loss of sleep or harm.	Noise through the air and vibration through the ground.	Local human population	Very Low	Moderate	**Low**	Nearest noise sensitive receptor is located ~750m from the application site.	All machinery used on site will be operated and maintained in accordance with manufacturers' recommendations. Unloading, processing and loading the materials will be undertaken within strict operational parameters, to ensure that noise and vibration from this activity is mitigated as necessary. Noise monitoring will be undertaken if necessary. Should unacceptable emissions of noise or vibration occur, the incident will be noted, and a record made. Implementation of additional screening to operations if found to be required. Daily plant pre-start checks will be carried out and recorded.	Negligible
Water									
Generation of contaminated run-off and leachate from wastes and other hazardous substances handled on site (e.g. fuels, oils etc).	Harm to protected site through nutrient enrichment, leachate, contaminated surface water runoff	Surface water run-off, and sub-surface transport of leachates then base and spring flows to rivers.	Groundwater, surface water bodies and their associated habitats.	Low	Moderate	**Low-Moderate**	Analytical testing has been undertaken on the tar-bound road planings, and this has confirmed the material has a very low leaching potential. There are no private water supplies or licensed abstractions or within 2km of the site.	External materials storage and processing will be undertaken in specific areas which will have engineered drainage controls in place to ensure containment of uncontrolled surface water run off (e.g. drainage of engineered impervious catchment area to a low point, consisting of a fully engineered sump). Asphalt waste processing and storage presents a low to insignificant risk to the hydrological regime due to the nature of materials accepted and associated controls that are in place. Highest risk operations (e.g. refuelling plant) will be undertaken with the necessary primary, secondary and tertiary containment measures. Regular monitoring will be undertaken to ensure compliance. No point source off site discharges are associated with the inert waste storage and processing areas. Spill kits, absorbent granules are available throughout the site ready for immediate deployment. Good housekeeping will be promoted in order to keep storage areas as clean as possible. Daily inspection of the site for spillages / leaks etc will be performed as part of the management procedures.	Very Low
Flooding of the site	Contamination of buildings, gardens, agricultural land, natural habitats etc downstream resulting from waste washed off-site.	Flood waters	Local human population, crops and local habitats. *(All receptors)*	Very Low	Low	**Very Low**	The application site lies within a Flood Zone 1 and, therefore, has a low risk of flooding with a 1 in 1,000-year (0.1%) chance of flooding. The site is at low risk from pluvial flooding due to the permeable nature of the strata in the areas surrounding the application site.	None	Very Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Accidents									
On site hazards: wastes, machinery, vehicles, surface water attenuation pond.	Bodily injury	Direct physical contact	Local human population	Low	High	**Moderate**	The site is fully secured to prevent trespass.	Facility will have perimeter fencing, lockable gates and CCTV installed. The site will be protected with remote surveillance out of normal hours of operation. All site staff and visitors will receive an induction to the site to ensure safety protocols are adhered to. Appropriate personal protective equipment (PPE) will be provided for all site staff, particularly those handling waste. Designated pedestrian routes are clearly marked around the site. In the event of any significant environmental emergency/incident, a representative of Tarmac Limited will notify the Environment Agency (EA) by telephone immediately, but first having due regard for the incident at hand and any remediation actions required to ensure the safety of site personnel and the immediate environment.	Low
Fire resulting from arson/vandalism or an accident causing the release of polluting materials (smoke or fumes) to air, water or land.	Bodily injury	Direct physical contact	Local human population	Very Low	Moderate	**Low**	The site is secured outside of operational hours. No combustible waste are handled at the site.	Facility will have perimeter fencing, lockable gates and CCTV installed. The site will be protected with remote surveillance out of normal hours of operation. All plant and equipment will be inspected daily and serviced in line with manufacturers recommendations/specifications All visitors to the site (including personnel) must report to the site office to sign in. Fire fighting equipment will be available and maintained, and site operators will be trained in their correct use. Surface gradients of the engineered surfaces within the application site will direct any potentially contaminated fire water to the sealed sump with pumping facility pending transfer off-site.	Very Low
Leaks and Spillages from on-site plant/vehicles, waste or contaminated rainwater runoff (including firewater).	Deterioration of water quality, contamination of ground/surface waters,	Direct run off from site across ground surface, indirect runoff via the soil layer or transport through soil/groundwater	Groundwater, surface water bodies and their associated habitats.	Moderate	Moderate	**Moderate**	Liquid wastes will not be accepted at the site. The site surface water collection networks discharges to surface water.	All operations will be closely monitored to allow immediate deployment of mitigation measures in the event of a spillage. All Asphalt wastes will be stored on concrete surfacing with integral sealed drainage system. Vehicles for dispatch will not be overfilled and will be supervised during loading. All plant and equipment will be inspected daily and serviced in line with manufacturers recommendations/specifications All vehicles hauling waste will be sheeted or enclosed. All operational fuels and waste liquid tanks will be self-bunded and/or surrounded by bunds to a minimum of 110% of the tank's capacity. All bund side walls and bases will be impermeable. All refuelling operations will be conducted in line with Tarmac's Re-fuelling Method Statement (*see Appendix 6 of Doc Ref: TA1061/05*). Absorbent spill kits will be available for use should any spillage occur.	Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Abnormal Conditions									
Containment Damage from fuel/oils and hazardous waste storage areas	Contamination of surrounding land, groundwater and surface water.	Direct run off from site across ground surface, indirect runoff via the soil layer or transport through soil/groundwater	Groundwater, surface water bodies and their associated habitats.	High	Moderate	**High**	Application site located over permeable strata and that is designated as a Principal Aquifer. There are no private water supplies or licensed abstractions within 2km of the site.	All operational fuel tanks will be double skinned or surrounded by bunds to a minimum of 110% of the tank's capacity. The effective capacities of all bunds will be maintained. Any repairs will be affected as soon as possible or within 5 working days (subject to replacement material availability). Mitigation measures will be undertaken immediately if there is a possibility of pollution. Contaminated surface water will be directed over the impervious catchment area to an engineered sump and pumping facility for transfer off site of any surplus water.	Low
Power loss to emission control systems	Harm to human health and local habitats and surface water via fugitive emissions Nuisance to local human receptors via fugitive emissions	Airborne transport	Local human population, crops and local habitats. *(All receptors)*	Very Low	Moderate	**Low**	Prevailing winds are from the southwestern quadrant and from the WNW. Most dust/particulates will deposit within 500m of the source. The closest residential property (Brockhurst Park Farm) lies 750m to the ESE of the site. Receptors such as public highways and private roads are unlikely to be affected by odours due to their transient nature. One protected deciduous woodland is located ~350m to the E of the application site. All others protected deciduous and ancient woodlands are located more than 500m of the site and are not located downwind of the prevailing wind direction.	There are no major process plant items which rely on mains power. No mains water is utilised in the treatment process so operations will remain unaffected by a cut in supply. If power/water is lost for a sufficiently long period of time where it has the potential to affect ancillary functions outside of the permitted area (e.g. weighbridge, mess facilities wash-down area, then alternative means of power generation will be sought). Rainwater will be available within quarry storage lagoons and engineered sump for use in site operations, e.g. road cleansing/dust suppression.	Very low
Vandalism and security breach	Bodily injury	Direct physical contact	Local human population	Low	Moderate	**Low-Moderate**	-	Facility will have perimeter fencing, lockable gates and CCTV installed. The site will be protected with remote surveillance out of normal hours of operation. All visitors to the site (including personnel) must report to the site office to sign in. Wider steelworks complex where the site is located is not accessible to the general public.	Very Low

Data and information				Judgement				Action (by permitting)	
Source	**Harm**	**Pathway**	**Receptor**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**
Operator error	Bodily injury Harm to human health - respiratory irritation and illness. Nuisance – dust, olfactory, and noise emissions Contamination of surrounding land, groundwater and surface water.	Direct physical, air transport then deposit or inhalation, direct run off	Local human population, crops and local habitats. *(All receptors)*	Low	High	**Moderate**	-	Technically competent people will oversee the management of activities of the site, in accordance with the fit and proper person assessment. Training (including refresher training) will be given to all site staff on the environmental permit, health and safety and incident response.	Low
Cross-connected drains	Deterioration of water quality, contamination of ground/surface waters,	Direct run off from site across ground surface, indirect runoff via the soil layer or transport through soil/groundwater	Groundwater, surface water bodies and their associated habitats.	Very Low	Moderate	**Low**	No sub-surface drains linked to the application site.	All drainage systems will be installed in accordance with a clear design brief and supervised during their construction. No sub-surface drainage pipe runs will be present, with surface gradients used to direct surface water falls to the engineered sump.	Negligible
Emissions from plant or equipment due to abnormal conditions	Harm to human health - respiratory irritation and illness.	Air transport, deposition then inhalation.	Local human population	Very Low	Moderate	**Low**	Unlikely to affect nearest residential properties due to the intervening distances from the site.	Commissioning tests will be performed on all plant/ equipment, to ensure integrity, prior to full scale use. All machinery used on site will be operated and maintained in accordance with manufacturers' recommendations. Alarms and interlocks will be used on major items of plant and equipment to monitor performance. Strict operating guidelines will ensure adherence with start-up and shut down procedures. All equipment will be underlain with a suitable operational engineered surface. All machinery will be subject to regular checks and maintenance.	Low
Inadequate waste acceptance procedures	Harm to human health - respiratory irritation and illness. Bodily harm Nuisance (e.g. dust for non-compliant particularly dusty waste loads)	Transported by vehicle	Site operatives and site users	Low	Moderate	**Low-Moderate**	-	All wastes will undergo a strict pre-acceptance and acceptance procedure in accordance with Duty of Care Requirements. Incoming waste will be visually checked at the weighbridge to confirm the waste type. Accompanying paperwork will be scrutinised to ensure the details are correct and all fields are completed. All waste loads will be visually inspected during deposit in the waste reception areas. Any non-conforming wastes will be segregated as soon as possible and stored in the quarantine area awaiting removal off site.	Very Low