

H1 Environmental Risk Assessment

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Customer:		Tazrock Ltd
Requirement:	H1 assessment	New application
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Site location and background Information

Located on the perimeter of the Hirwaun Industrial Estate (Heads of the Valleys), the site lies c.2km directly West of the town of Hirwaun and approximately 1.5km North-east from Rhigos. These are the closest bulk residential areas to the proposed site. The expansive Tower Colliery is 1km to the south of the site. The Site is surrounded by a dense area of woodland with intervening belts of trees and fields beyond. In the wider landscape, the land-use is dominated by rural pastures, agricultural land and industrial estates.

Inert recycling involves the sorting and separation of material through screening and crushing for recovery.

The H1 Risk Assessment includes full consideration of any impacts from the site on several Site of Special Scientific Interest (SSSI), the Cors Bryn y Gaer (450m to the East), Moel Penderyn (1.3km to the West and NW) and Woodland Park and Pontpren (1.3km to the North East).

This H1 Assessment considers the sources of the risks, the receptors, and the possible pathways from source to receptor. Abatement techniques, should they be required, are considered as is the probability of exposure, the consequences and the overall risk posed.

Hazard	Receptor	Pathway	Risk Management	Exposure Probability	Consequence	Overall Risk
Odour						
Odour from waste delivery, off-loading, storage and processing.	The industrial units nearby	Air	Due to the nature of the wastes being applied for, odour is not foreseen to be an issue. Inert, tarmac wastes do not typically present as odour producing wastes.	Unlikely.	Odour annoyance to anyone living or working close to the site.	Not significant
Odour from recovered materials, prior to off-Site dispatch.	As above.	Air	Due to the nature of the wastes being applied for, odour is not foreseen to be an issue. Inert, tarmac wastes do not typically present as odour producing wastes.	Unlikely.	Odour annoyance to anyone living or working close to the Site.	Not significant
Noise and Vibration						
Engine noise from vehicles entering and exiting the Site, including reversing beepers.	Industrial units in closest proximity.	Noise via atmosphere and vibration through ground.	<p>To minimise noise emissions, all vehicles, plant and machinery operated at the Site are maintained in accordance with the manufacturer's specification. Plant and vehicles are switched off when not in use and no activity are carried out beyond the permitted hours of working.</p> <p>Routine maintenance of treatment plant and equipment is carried out to minimise noise emissions.</p> <p>In the event of any noise complaints from local residents and other businesses, details will be logged in accordance with the EMS.</p> <p>Mitigation measures will be reviewed and good practice for the control of site noise sources will be implemented, as appropriate, to ensure a high level of control. For example, reversing beepers can be altered to the 'white noise' type to be invasive.</p>	Unlikely due to the mitigation measures in place.	Noise annoyance to anyone working close to the Site.	Not significant

Noise from waste processing activities	Industrial units	Air	<p>A review of the plant to be used has been undertaken for the site and has identified potential noise sources. The vehicles and plant such as screening plant, crushing plant and loading shovel etc. have the potential to create noise emissions.</p> <p>The site processing area is surrounded by dense woodland (50m thick at its narrowest point) and is essentially 'tucked away'. The site will also construct a 3m earth bund if required to further contain noise emissions created. The site building also acts as a noise barrier to the east.</p> <p>Drop heights will be reduced to lower the risk of noise creation from this aspect of operations.</p> <p>The plant and equipment are also maintained in accordance with the manufacture instructions.</p> <p>Due to the natural and built barriers across and surrounding the site, it is extremely unlikely that the SSSI located 450m from the Sites boundary will be impacted by noise and that industrial units will not be impacted to an extent beyond 'normal' levels.</p>	Unlikely due to the mitigation measures in place.	Noise nuisance to local businesses	Low
Fugitive Emissions-air						
Dust from waste processing activities	Local industrial units and closest SSSI	Air transport, inhalation and/or deposition	<p>A Dust Management Plan (DMP), report reference Taz_DMP, is currently in place on the Site and recommendations within the plan will be adhered to should there be any complaints or obvious dust emissions noted during daily Site inspections.</p> <p>For all mitigation measures used on site please refer to Taz_DMP.</p>	Unlikely due to mitigation measures and prevailing wind direction.	Potential harm to human health – respiratory irritation and illness. Potential SSSI damage through deposition.	Low-human health Medium-SSSI

The facility is surrounded by natural woodland and so this would prevent a high proportion of dust escaping beyond the site boundary. The woodland depth and area would also prevent a high percentage of wind getting to the plant and stockpiled material. The prevailing wind direction means that the wind would be directly blocked from the West, South, North, South-west and North-west. The site also has a large office building that would limit the wind impact upon the site from an Easterly direction. Should any dust escape, a hose or water bowser will be used on Site to dampen down surfaces to minimise any dust emission.

The crusher has the potential to emit the most dust when operating. However, the continuous monitoring of the machine operator will maintain the adequate internal suppression while the machine is being used. Spot checks will also be undertaken throughout operational hours by the site supervisor for the site. If dust is noted at any time, and appears to be leaving the site boundary, the additional suppression systems used routinely on site (sprays/ bowsers) will be diverted to the crusher. This will be particularly important in warmer, drier weather.

Cors Bryn y Gaer SSSI is located circa 450m from the Site. Institute of Air Quality Management (IAQM) Guidance on the Assessment of Mineral Dust Impacts for Planning (May 2016) states that "it is commonly accepted that the greatest impacts will be within 100 m of an emission source, and this can include both large (>30 µm) and small dust particles.

The greatest potential for high rates of dust deposition and elevated PM10 concentrations occurs

within this distance. Intermediate-sized particles (10 to 30µm) may travel up to 400 m, with occasional elevated levels of dust deposition and PM10 possible. Particles less than 10 µm have the potential to persist beyond 400 m but with minimal significance due to dispersion.

Due to the distance of the Site to the SSSI, any inadvertent dust emissions from the facility are highly unlikely to have any notable impact on the designated nature site.

Dust from vehicle movements.

Industrial units.

Air transport then inhalation and/or deposition.

Vehicle movements have the potential to emit low levels of particulates particularly during prolonged dry periods e.g. summer months. Procedures to prevent dust emissions include the following: the Site entrance and access road comprise engineered tarmac surfaces, which are swept to prevent dust accumulation. Site vehicles are limited to speeds of ≤10 mph.

The waste storage, processing and product storage areas comprise engineered hardstanding surface.

If on-Site conditions become dusty, a water bowser or hose will be used on the Site access road and the working areas, where required. Should the adjacent public highway become muddy, a road sweeper will be hired as needed (this is considered unlikely as the Site surface comprises engineered surface).

The Site boundary is inspected daily for any dust or particulates escaping the Site. In the event of any dust emissions or complaints received about dust or particulate emissions, details will be logged in accordance with the EMS. Mitigation measures will

Most airborne dust particles fall out of the airstream within 100m of travel, there is a belt of trees bordering the site that will serve as a barrier. The likelihood of dust impact is therefore low likelihood.

Potential harm to human health - respiratory irritation and illness.

Not significant, as probability of exposure is low.

be implemented, as appropriate, in accordance with the DMP to ensure a high level of control.

Fugitive emissions-water

Flood water and contaminated surface water runoff.	Local surface waters and groundwater.	Direct runoff.	<p>The Camnant Brook flows approximately 20m to the North/North-West of the site boundary.</p> <p>The distance to the nearest surface water body would suggest that it is potentially at risk of cross contamination from shallow groundwater on site and through infiltration of waste storage. Due to the inert nature of the waste however, this is very unlikely.</p> <p>The site drains via natural infiltration through the hardstanding so no surface water flows across the site.</p> <p>There is no pathway from the site to the SSSIs located nearby.</p> <p>The site has thick vegetation and an earth bund preventing any surface flows from site to the watercourse.</p>	Unlikely	Increased suspended solids potential. Contaminants from small organic component of waste stream unlikely.	Not significant
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Fugitive Emissions-mud and debris

Mud and debris being liberated beyond the Site boundary.	Neighbouring roads.	Tracked off site.	<p>The Site entrance and access road comprise engineered tarmac surfaces, which is swept or hosed down to prevent any mud and dust accumulation, as required. All Site vehicles are limited to speeds of ≤10 mph.</p> <p>As part of the daily inspection regime, the Site is visually inspected for the presence of mud and debris. Should the adjacent public highway become muddy, a road sweeper will be deployed on an as</p>	Unlikely	Potential risk of vehicle accidents if mud accumulation occurs and is not treated.	Not significant
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and when required basis. If the problems do occur and are persistent, a wheel wash (or similar) will be considered.

Pests and vermin

Pest and/or vermin infestation of waste loads.	Industrial units.	Airborne (flies and other insects, scavenging birds). Land (rodents and other vermin).	Inert waste loads are not inherently attractive to pests and vermin and are not likely to provide a source of food.	Very unlikely	Potential nuisance to anyone living or working close to the Site.	Not significant
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Litter

Litter deposits within waste loads or on Site.	Industrial units.	Airborne	The types of waste to be accepted are not typically associated with litter. Any small-scale contaminants within the material will be hand-picked and stored in a skip on site pending recovery elsewhere.	Unlikely	Potential nuisance to anyone living or working close to the Site.	Not significant
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Fires

Fires on Site from plant and equipment. (Including arson and/or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Staff, visitors, other personnel on Site, local population, plant and equipment. Surface water courses, soil and groundwater.	Air transport of smoke. Spillages and uncontained firewater, e.g. by direct run-off from Site	Due to the waste types accepted, they are not going to be the cause of a fire. The most likely cause of a fire would be the plant and equipment. These are maintained on a regular basis to ensure they are working effectively to minimise the risk of fire. The complex is secured outside operational hours. Fire extinguishers are located in the Site Office and all Site staff are trained in the event of a fire using the fire-fighting equipment available. If deemed necessary, the fire brigade will be contacted and Natural Resources Wales informed. No materials are burnt on Site.	Unlikely	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists / vandals. Pollution of waters and soils.	Not significant
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Leaks and Spillages

Leak from the waste oil / diesel storage areas on Site (including overfilling, vandalism etc.)

Surface water courses, soils and groundwater.

Percolation through the ground.

All on site vehicles are inspected daily before operation to identify any leaks which will be dealt with accordingly.

Absorbent material contained within spill kits are kept on site and used by trained staff to treat any spillages of potentially polluting liquids.

Unlikely

Potential Contamination of local water courses and underlying groundwater.

Not significant

To create this Environmental Risk Assessment, H1 software was used:

Waste type	Nature of waste	Hazard rating	R or D method	R or D code	R or D method impact score	Amount of waste per year (tonnes)
Non-hazardous Tarmac	Inert	1	Recycling	R3orR5	3	100,000

Metal processing= $1 \times 3 = 3 \times 100,000 = 100,000$ total impact score.

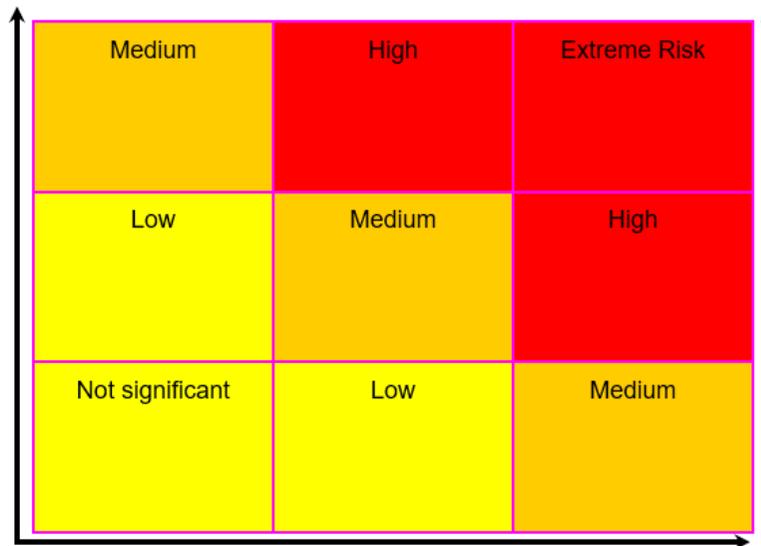
This Risk Assessment should be reviewed if it is no longer valid due to operational changes etc or it shall be review annually to ensure that it is still current and accurate.

Low

Medium

High

Probability of exposure



Magnitude of Risk

Consequence of exposure