Client: Checkfire Limited
Address: Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, CF83 3HU

Checkfire Limited, Unit 10B, Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, CF83 3HU

Application for Bespoke Environmental Permit

Environmental Risk Assessment

09 February 2026

Our Reference: Checkfire Ltd-Environmental Risk Assessment-RP05-Final, Rev A

Waste And Industry Compliance Ltd

ENVIRONMENTAL CONSULTANCY SERVICES

☎	07748 363 125
✉	info@wasteandindustry.co.uk
🖱	www.wasteandindustry.co.uk

Checkfire Ltd-Environmental Risk Assessment-RP05-Final, Rev A

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Waste and Industry Compliance Limited
94 Wrekin Road,
Wellington,
Telford,
Shropshire,
TF1 1RJ

Telephone 07748 363 125
info@wasteandindustry.co.uk

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1 INTRODUCTION

1.1 BACKGROUND

1.1.1 This Environmental Risk Assessment has been prepared on behalf of Checkfire Limited ***(the Operator)*** for Unit 10B, Sir Alfred Owen Way, Pontygwindy Industrial Estate, Caerphilly, CF83 3HU ***(the Site)***.

1.1.2 The Operator seeks a bespoke Environmental Permit for the Site to authorise the return of out of date, spent and no longer required fire extinguishers from customers so that they can be safely emptied and decommissioned. In addition, small quantities of associated packaging wastes are received from customers, such as carboard, plastic wrapping and containers used to transfer the fire extinguishers to the Site. All packaging waste arises from the supply or return of fire extinguishers to or from customers.

1.1.3 The Site incorporates an enclosed and roofed concrete block and steel portal framed building fitted with impermeable concrete slab throughout. An external yard in front of the building comprises a combination of engineered concrete and block surfaces and is used for the storage of packaging waste in an enclosed and lidded skip.

1.1.4 Deliveries of out of date, spent or no longer required fire extinguishers are off-loaded and transferred into the building for storage and processing. A drainage channel inside the building leads to an internal dedicated concrete sump, where any inadvertent spillage of fire extinguisher media is collected before being pumped to an IBC for authorised disposal off-site.

1.1.5 In addition, a second lateral drain has been installed inside the building across the entire internal width of the roller shutter vehicular access door and pedestrian access door to prevent any possible escape of liquid spillages to the external environment. The drain falls to a dedicated concrete sump. Any accidental spillages or leakage of liquid or foam from IBCs or fire extinguishers inside the building that drains towards the entrance doors would collect in the lateral drain then fall to the concrete sump, from where it would be pumped to an IBC inside the building for authorised disposal off-site. There are no drainage outlets inside the building to the external environment or public sewer.

1.1.6 A CCTV drainage survey was undertaken by AR Drainage Solutions on 13 November 2024. The Site Drainage Plan shows the foul sewer and storm water sewer on the external yard.

1.1.7 Site activities are summarised as follows:

- The receipt, storage and decommissioning of up to 60,000 out of date or spent or no longer required fire extinguishers per month (i.e. up to 720,000 units per annum);
- The storage and transfer of small quantities of non-hazardous packaging waste associated with the return of fire extinguishers to the Site (e.g. cardboard, plastic and paper packaging);
- Baling cardboard wastes on site;
- The emptying and transfer of spent and no longer required fire extinguisher foam media to an activated carbon absorption plant, which captures and contains contaminants in the carbon media, with the cleaned liquid media transferred into dedicated IBCs for off-site removal as a non-hazardous waste to authorised facilities. The used carbon absorption media is returned to the supplier for off-site processing;

- The emptying and transfer of spent or no longer required fire extinguisher powder media to a bagging plant for collection in bulk 1 tonne bags for transfer off-site to an authorised recycling facility;
- The emptying and discharge of spent deionised water to foul sewer in accordance with a Trade Effluent Discharge Consent issued by Welsh Water;
- The dismantling of empty foam, powder and deionised water fire extinguishers, with the metal and plastic components supplied to authorised off site recycling facilities. Dismantled metal components are transferred via a conveyor to a 40 cubic yard skip located inside the building for bulking up and transfer off-site to an authorised scrap metal recycling facility;
- The storage of out of date or spent or no longer required CO_2 fire extinguishers, prior to their off-site removal to an authorised facility for emptying of gas media, refilling with new media and reconditioning of the cannister for supply to customers. Any CO_2 cylinders that cannot be reconditioned off site are emptied and then returned to the Site for dismantling and recycling of metal and plastic components etc.

1.1.8 The maximum annual waste throughput at the Site will be **15,080 tonnes**. Of this total, up to 1,500 tonnes per annum may be hazardous waste from foam filled fire extinguishers. The receipt of hazardous waste will be less than 10 tonnes per day and the maximum storage capacity of hazardous waste will be significantly less than 50 tonnes at any one time.

1.1.9 The Site will not accept nitrogen or halon filled fire extinguishers.

1.1.10 No substances that would be classified as 'dangerous' under the Control of Major Accident Hazards (COMAH) Regulations will be used at the Site for the operation of the facility.

1.1.11 This Environmental Risk Assessment is submitted in support of a bespoke permit application for the Site and includes details of how the Site will be managed to minimise the risks of pollution from operations, maintenance, accidents, incidents and any non-conformances.

1.2 SENSITIVE RECEPTORS

1.2.1 The nearest residential properties are circa 145m west on Pantycelyn Drive, 150m west on Herbert Drive, 160m southwest on Lewis Drive, 165m south southwest on Howard Drive, 200m southwest on Dyfed Drive and 200m west on Davies Drive. The nearest domestic properties east of the Site are on Pontygwindy Road, circa 215m from the facility.

1.2.2 There is one European Site (i.e. Special Protection Area (SPA), Special Conservation Area (SAC) or Ramsar Site) within 10km of the Site, namely Cardiff Beech Woods SAC, which is circa 4,190m south of the facility. Therefore, there are no European Sites within 2km of the facility.

1.2.3 There are two Sites of Special Scientific Interest (SSSI) within a 2km radius of the Site, namely Llanbradach Quarry SSSI, circa 983m to the north northwest and Gwaun Gledyr SSSI, circa 1,700 to the southwest of the facility.

1.2.4 There are nine Sites of Importance for Nature Conservation (SINCs) within a 2km radius of the Site, namely:

- Nant yr Aber SINC, circa 344m south southeast of the facility;
- Coed y Brain, Penyrheol SINC, circa 532m northwest of the facility;
- Mynydd Dimlaith and Cwm-y-Bwch, southeast of Llanbradach SINC, circa 1,036m north northeast of the facility;
- Rhymney River SINC, circa 1,187m east of the facility;
- Cwm yr Aber, South of Abertridwr SINC, circa 1,316m southwest of the facility;
- Mynydd Eglwysilan, north of Senghenydd SINC, circa 1,736m northwest of the facility;
- Gypsy Lane Wetland, south of Groeswen SINC, circa 1,792m southwest of the facility;
- Caerphilly/ Machen Disused Railway, east of Trethomas SINC, circa 1,848m southeast of the facility;
- Coed y Maerdy, east of Caerphilly SINC, circa 1,988m southeast of the facility.

1.2.5 There are Areas of Ancient Semi Natural Woodland circa 45m west southwest, 255m southwest and 340m southeast of the Site, with a belt of Ancient Woodland (Unknown Category) circa 255m east of the facility.

1.2.6 Priority Habitat comprises:

- An area of 'Purple Moor Grass and Rush Pastures' circa 466m south of the Site at the closest point;
- A Traditional Orchard, circa 838m north northeast of the Site, at the closest point;
- An area of 'Lowland Fens and Reedbeds', circa 1,022m north of the Site at the closest point;
- An area of 'Lowland Heath', circa 1,349m northeast of the Site at the closest point;
- Areas of 'Wood Pasture' and 'Lowland Heath', circa 1,476m north northeast of the Site at the closest point;
- An area of 'Lowland Dry Acid Grassland', circa 1,645m north northeast of the Site at the closest point;
- An area of 'Upland Heath', circa 1,647m northwest of the Site at the closest point;
- Several pockets of 'Purple Moor Grass and Rush Pastures', the closest one of which is circa 1,757m southwest of the Site;
- Three pockets of 'Purple Moor Grass and Rush Pastures', the closest one of which is circa 1,796m east southeast of the Site.

1.2.7 Review of the National Biodiversity Network Atlas (https://wales-records.nbnatlas.org/explore/your-area#51.5889|-3.2257|12|ALL_SPECIES) shows that there are no recordings of protected species at the Site. The nearest recorded species to the Site was a grey squirrel *(Sciurus carolinensis),* circa 199m to the west. The nearest recorded protected species was a badger, circa 322m west northwest of the Site.

1.2.8 The National Biodiversity Network lists the following recordings within a 1km radius of the Site.

Table 1: National Biodiversity Network Recordings of Fauna Within a 1km Radius of the Site

	Common Name	Species	Records
1.	Hedgehog	*Erinaceus europaeus*	84
2.	Daubenton's Bat	*Myotis daubentonii*	31
3.	Blackbird	*Turdus merula*	16
4.	Grey Squirrel	*Sciurus carolinensis*	15
5.	Swift	*Apus apus*	14
6.	Bullhead	*Cottus perifretum*	14
7.	European Eel	*Anguilla anguilla*	12
8.	Magpie	*Pica pica*	11
9.	Brown/Sea Trout	*Salmo trutta*	11
10.	Buzzard	*Buteo buteo*	10
11.	Jackdaw	*Coloeus monedula*	10
12.	Blue Tit	*Cyanistes caeruleus*	10
13.	Carrion Crow	*Corvus corone*	9
14.	Robin	*Erithacus rubecula*	9
15.	Great Tit	*Parus major*	9
16.	Atlantic Salmon	*Salmo salar*	9
17.	Stone Loach	*Barbatula barbatula*	8
18.	Dipper	*Cinclus cinclus*	8
19.	Chaffinch	*Fringilla coelebs*	8
20.	Japanese Knotweed	*Reynoutria japonica*	8
21.	[Not supplied]	*Hydropsyche siltalai*	7
22.	Himalayan Balsam	*Impatiens glandulifera*	7
23.	Lily Beetle	*Lilioceris lilii*	7
24.	House Sparrow	*Passer domesticus*	7
25.	fish leech	*Piscicola geometra*	7
26.	Woodpigeon	*Columba palumbus*	6
27.	Herring Gull	*Larus argentatus*	6
28.	Lesser Black-backed Gull	*Larus fuscus*	6
29.	Badger	*Meles meles*	6
30.	Minnow	*Phoxinus phoxinus*	6
31.	[Not supplied]	*Polycentropus flavomaculatus*	6
32.	[Not supplied]	*Rhyacophila dorsalis*	6
33.	Wren	*Troglodytes troglodytes*	6
34.	Water hog lice/slaters	*Asellus (Asellus) aquaticus*	5
35.	[Not supplied]	*Elmis aenea*	5
36.	Brook-side Feather-moss	*Hygroamblystegium fluviatile*	5
37.	Kneiff's Feather-moss	*Leptodictyum riparium*	5
38.	[Not supplied]	*Limnius volckmari*	5
39.	Jenkins' Spire Snail	*Potamopyrgus antipodarum*	5
40.	Dunnock	*Prunella modularis*	5
41.	[Not supplied]	*Sericostoma personatum*	5
42.	Kingfisher	*Alcedo atthis*	4
43.	Wandering Snail	*Ampullaceana balthica*	4
44.	River limpets	*Ancylus fluviatilis*	4
45.	Goldfinch	*Carduelis carduelis*	4
46.	Greenfinch	*Chloris chloris*	4
47.	[Not supplied]	*Esolus parallelepipedus*	4
48.	Greater Water-moss	*Fontinalis antipyretica*	4
49.	Jay	*Garrulus glandarius*	4
50.	[Not supplied]	*Oreodytes sanmarkii*	4

1.2.9 There are three Scheduled Monuments within a 2km radius of the Site (https://datamap.gov.wales/maps/new?layer=inspire-wg:Cadw_SAM#/), namely:

- Caerphilly Iron Furnace, circa 1,184m southwest of the facility;
- Caerphilly Castle, circa 1,186m south of the facility;
- Cornish Type Engine House, Bryngwn Colliery, circa 1,311m northeast of the facility.

1.2.10 Review of Caerphilly Borough Council data (https://www.caerphilly.gov.uk/CaerphillyDocs/FOI/Historic-Sites-(1).aspxs) shows that there are 3 other historic sites within 2km of the facility, namely:

- David Williams ('Shôn Gwialan') Memorial, circa 1,593m south of the facility;
- Evan James ('Ieuan ap Iago') Memorial, circa 1,593m south southeast of the facility;
- Tommy Cooper statue, circa 1,630m south southeast of the facility.

1.2.11 St Martin's Church is circa 1,960m south of the Site.

1.2.12 Review of https://www.caerphilly.gov.uk/things-to-do/green-spaces/public-rights-of-way shows that there are a number of Public Rights of Way within proximity of the Site, including:

- Footpath (CAER/FP58/1), circa 204m south of the facility at the closest point;
- Footpath (CAER/FP56/1), circa 208m northwest of the facility at the closest point;
- Footpath (LANB/FP52/2), circa 348m north northwest of the facility at the closest point;
- Footpath (PTE/FP53/1), circa 387m west of the facility at the closest point;
- Footpath (LANB/FP74/1), circa 398m northwest of the facility at the closest point;
- Footpath (CAER/FP57/1), circa 417m southeast of the facility at the closest point;
- Footpath (CAER/FP54/7), circa 502m east northeast of the facility at the closest point;
- Footpath (CAER/FP59/1), circa 560m south southeast of the facility at the closest point.

1.2.13 There are no Marine Special Protection Areas, National Nature Reserves, Biosphere Reserves or Local Nature Reserves within 2km radius of the Site.

1.2.14 There are no World Heritage Sites within 10km of the Site.

1.2.15 There are no National Parks or Areas of Outstanding Natural Beauty (AONBs) within 10km of the Site.

1.2.16 British Geological Survey mapping (https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/) shows that bedrock geology at the Site comprises Grovesend Formation - Mudstone, siltstone and sandstone. This is a sedimentary bedrock formed between 309.5 and 308 million years ago during the Carboniferous period. Superficial geology at the Site comprises Alluvium - Clay, silt, sand and gravel. These are sedimentary superficial deposits formed between 11.8 thousand years ago and the present during the Quaternary period.

1.2.17 Both the bedrock aquifer and the superficial deposits at the Site are classed as Secondary A Aquifers,

i.e. permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

1.2.18 As all the Site surface comprises engineered pavement (i.e. both the building and external yard), there are no pathways to the underlying aquifers and groundwater.

1.2.19 The Site is not located within 3km of a groundwater Source Protection Zone.

2 RISK ASSESSMENT

1.1.5 The Environmental Risk Assessment for the Site is shown in Table 2 below. It considers both normal and abnormal conditions, such as extreme weather.

Table 2: Environmental Risk Assessment

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
Odour						
Odour from waste delivery, off-loading and storage and processing inside the building.	The nearest residential properties to the Site are: - circa 145m west on Pantycelyn Drive - circa 150m west on Herbert Drive - circa 160m southwest on Lewis Drive - circa 165m south southwest on Howard Drive - circa 200m southwest on Dyfed Drive - circa 200m west on Davies Drive -- circa 215m east on Pontygwindy Road. The site is bordered by industrial units to the west, south and east. Sir Alfred Owen Way is to the immediate north, beyond which are other industrial units. Designated nature sites, protected species, Scheduled	Air	Wastes received at the Site comprise out of date, spent or no longer required foam, powder, deionised water and CO_2 fire extinguishers. Nitrogen and halon fire extinguishers are not accepted at the facility. Fire extinguisher media is non-odorous. In addition, small quantities of associated packaging are also received, such as cardboard, plastic wrapping and wooden, metal and plastic containers/crates used to transfer fire extinguisher cylinders to and from the Site. All wastes are processed inside the building. Packaging waste is stored in a sealed and lidded skip located on the external yard. Decanted and treated foam and powder are, respectively, stored in IBCs and 1 tonne 'Big Bags', which are loaded on to lorries from a loading area on the external yard. Decanted, deionised water is discharged to foul sewer in accordance with a Trade Effluent Discharge Consent. The Site operates on a first in first out basis to ensure that wastes are received, processed and dispatched typically within 2 working days, although this may extend to 5 working days during busy periods. Housekeeping measures include daily sweeping during the course of the working day and at the end of the working day to ensure the Site is clean and tidy (the powder bagging area is typically vacuumed). The corners or waste storage and processing areas are swept and cleaned as a minimum every 5 working days, although durations are typically shorter.	Unlikely as waste types and treatment activities are not odorous	Odour annoyance to anyone living or working close to the Site.	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
	Monuments, historic sites, public rights of way.		Additional sweeping and cleaning will take place if noticeable waste, dust or fluff accumulation is present or if there is the potential for associated emissions from the Site. The building is enclosed and comprises concrete block and metal sheeting clad construction, with impermeable concrete base. It is fitted with roller shutter vehicle entrance and exit door at the northern entrance and a pedestrian access door. All waste treatment processes will be located within the building. The Site boundary will be inspected on a daily basis for odour. However, there is no history of odour emissions or complaints associated with Site and the risk of odour is considered very low due to the waste types received and the short duration time of materials on site. In the unlikely event that significant odour is detected or a complaint is received about odour, it will be monitored and logged in accordance with the Environmental Management System procedures in place. Mitigation measures will be implemented, as appropriate, to ensure a high level of control.			
Odour from recovered materials, prior to off-Site dispatch.	See above. Residential, industrial and commercial properties in the vicinity of the Site. Designated nature sites, protected species, Scheduled Monuments, historic sites, public rights of way.	Air	See above.	Unlikely as waste types and treatment activities are not odorous	Odour annoyance to anyone living or working close to the Site.	Low
Odour from oil storage tank.	See above. Residential, industrial, commercial properties and designated nature sites, protected species, Scheduled	Air	Any fuels or oils stored on Site, e.g. for use in mobile plant, will be stored in dedicated tanks or containers. These will be either double skinned tanks or located in an impermeable bunded area, with a capacity of at least 110% of the largest tank's contents. The use of enclosed containers or tanks will prevent the escape	Unlikely as emission from the tank or containers	Odour annoyance to anyone living or	Very Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
	Monuments, historic sites, public rights of way.		of leaks and odours. Notwithstanding the above, the Operator will undertake daily olfactory monitoring at the Site boundary and if odour is detected at levels that may cause a nuisance, the incident will be investigated and any actions necessary discussed with Natural Resources Wales and implemented as a priority.	would be minimal.	working close to the Site.	
Noise and Vibration						
Engine noise from vehicles entering and exiting the Site, including reversing bleepers and waste processing activities and equipment.	See above. Residential, industrial, commercial properties in neighbouring areas. In addition, noise has the potential to cause disturbance to fauna associated with nature sites. Areas of Ancient Semi Natural Woodland, circa 45m west southwest, 255m southwest and 340m southeast of the Site, with a belt of Ancient Woodland (Unknown Category) circa 255m east of the facility. The Nant yr Aber Site of Importance for Nature Conservation (SINC) is circa 344m south southeast of the facility, whilst the Coed y Brain Penyrheol SINC is circa 532m northwest.	Noise via the atmosphere and vibration through the ground.	The Site is located on a large industrial estate, with industrial premises to the immediate west, south and east. Other industrial premises are located to the immediate north of Sir Alfred Owen Way. The nearest residential properties are circa 145m distant. All waste processing equipment will be located inside the enclosed building, which comprises concrete block and metal sheeting clad construction. The Site's operational hours are 06.30am to 4.00pm Monday to Friday. There is no nighttime working associated with the Site. To minimise noise emissions, all vehicles, plant and machinery operated at the Site will be maintained in accordance with the manufacturer's specification. Plant and vehicles will be switched off when not in use. Routine maintenance of treatment plant and equipment will be carried out to minimise noise emissions. Noise has the potential to cause disturbance to wildlife inhabiting designated nature sites, ancient woodland and people accessing and working in such areas. However, the mitigation measures summarised above and the distance of the Site to Sites of Importance for Nature Conservation (SINCs) and	Unlikely due to the distance of the Site to the nearest residential properties and the mitigation measures in place.	Noise annoyance to anyone living or working close to the Site (excluding operators or employees). Noise disturbance to wildlife in designated habitat sites.	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
	Mynydd Dimlaith and Cwm-y-Bwch, southeast of Llanbradach SINC, circa 1,036m north northeast of the facility; Rhymney River SINC, circa 1,187m east of the facility; Cwm yr Aber, South of Abertridwr SINC, circa 1,316m southwest of the facility; Mynydd Eglwysilan, north of Senghenydd SINC, circa 1,736m northwest of the facility; Gypsy Lane Wetland, south of Groeswen SINC, circa 1,792m southwest of the facility; Caerphilly/ Machen Disused Railway, east of Trethomas SINC, circa 1,848m southeast of the facility; Coed y Maerdy, east of Caerphilly SINC, circa 1,988m southeast of the facility. Llanbradach Quarry Site of Special Scientific Interest (SSSI) is circa 983m to the north northwest.		SSSIs etc results is negligible risk of noise disturbance at designated nature sites. In the event of any noise complaints from local residents and other businesses, details will be logged in accordance with the Environmental Management System. Mitigation measures will be implemented, as appropriate, to ensure a high level of control.			

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
	Gwaun Gledyr SSSI is circa 1,700 to the southwest. Caerphilly Iron Furnace (Scheduled Monument), circa 1,184m southwest of the facility; Caerphilly Castle (Scheduled Monument), circa 1,186m south of the facility; Cornish Type Engine House, Bryngwn Colliery (Scheduled Monument), circa 1,311m northeast of the facility. Visitors to historic sites and users of public rights of way.					
Fugitive Emissions – Air						
Dust from vehicle movements, waste storage and processing inside the building and loading onto vehicles for off-site removal of IBCs, 'Big Bags' and other containers used to store	See above. Residential, industrial and commercial properties. Designated nature sites, protected species, Scheduled Monuments, historic sites, public rights of way.	Air transport then inhalation and/or deposition.	A Dust Management Plan has been prepared for the site and is included as part of the permit application. Wastes stored and processed inside the building are unlikely to give rise to dust emissions external to the Site. The only waste processing activity that has the potential to give rise to significant dust is the emptying and bagging of powder media into 1 tonne 'Big Bags', but this activity is undertaken at the rear of the building, furthest away from the vehicular and pedestrian access doors. Disused, spent and returned powder is drawn by a vacuum pump through a dedicated hose that is connected to the fire extinguisher cylinder head at one end and into a 1,200 litres reception silo. The vacuum pump is fitted with a microporous	Unlikely due to the distance of the Site to the nearest residential properties and designated habitats, and the mitigation measures in place.	Dust annoyance to anyone living or working close to the Site (excluding operators or employees). Potential for ecological impacts on designated habitats.	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
CO_2 fire extinguishers.			filter. The vacuum and filter minimise dust emissions from the process. The 'Big-Bag' is attached to the bottom of the silo and is secured by a metal clamp to ensure a tight seal and to minimise any fugitive emission of powder inside the building. Filled and sealed 'Big Bags' are loaded onto curtain sided lorries or other suitable vehicles for transfer off-site to an authorised recycling facility for use as a fertiliser additive. Vehicle movements have the potential to emit particulates particularly during prolonged dry periods, e.g. summer months. Procedures to prevent dust emissions include the following: the external yard comprises engineered surfaces, including a concrete kerbed loading area, and the building floor comprises concrete throughout. The building and external yard are swept to prevent dust accumulation. There are no unpaved surfaces. If on-site conditions become dusty, a hose will be used on the external yard and, if required, inside the building. In the unlikely event that the public highway becomes muddy from site activities, a road sweeper will be hired as needed. The Site boundary will be inspected on a daily basis 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 Environmental Management System. Mitigation measures will be implemented, as appropriate, to ensure a high level of control.			

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
Fugitive Emissions - Water						
Flood water and contaminated surface water runoff.	Local surface waters and groundwater, e.g. Nany yr Aber, which flows into the River Rhymney. Designated nature sites and protected species.	Direct run-off from Site to adjacent, uncontained areas and percolation into soil and groundwater.	NRW's Flood Risk Map Viewer shows that the Site's external yard is located on a combination of low, medium and high flood risk from surface water and small rivers. A Groundsure Report for the Site and surrounding land states that there are no records of historic flooding from rivers, the sea, groundwater and surface water at the Site. Flood records began in 1946. A lateral drain has been installed inside the building, across the entire width of the roller shutter vehicular access door and pedestrian door to prevent any possible escape of inadvertent liquid spillages through the doors to the external environment. The drain falls to a dedicated concrete sump and has been installed so that it is not possible for any liquids to by-pass it, e.g. by draining around the sides. The lateral drain ties into the sides of the sealed building walls, thereby preventing any possibility of liquids by-passing the drain. Any liquids that collect in the concrete sump would be pumped to an IBC inside the building for authorised disposal off-site. There is an external lateral drain across the yard that drains run-off water from the building roof. This drain leads to the Nant yr Aber. The Operator has installed a manual shut off valve in the external drain, so that in the event of any potentially polluting liquids from the Site entering the drain, they could be prevented from draining into the Nant yr Aber by closing the shut off valve. A concrete and kerbed loading and unloading area is located on the external yard. The kerbed area is circa 5m x 4m and has been designed to contain the contents of an IBC in the event that it is inadvertently punctured or topples over during loading. The area is kerbed to 3 sides, with the unkerbed side enabling access and egress by the forklift truck to load and unload lorries. The unkerbed side is upgradient, i.e. nearest the public highway, meaning that	Low	Increased suspended solids, potential contaminants and organic component of waste stream.	Low due to the mitigation measures put in place by the Operator, such as the installation of a cut of valve on external drains, the construction of a concreted and kerbed loading area and the installation of an internal drain to a concrete lined sump, across the vehicular and pedestrian access doors to prevent any possible escape of liquids from the building.

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
			any accidental spillage or leakage during loading or unloading would be contained by the kerbed area. Any other fuels or oils stored on Site, e.g. for use in mobile plant, will be stored in either dedicated tanks or containers. These will be either double skinned tanks or located in an impermeable bunded area, with a capacity of at least 110% of the largest tank's contents. Any complaints received at the Site about surface water run-off will be monitored and logged in accordance with the Environmental Management System in place. Mitigation measures will be implemented, as appropriate, to ensure a high level of control.			
Fugitive Emissions - Mud and Debris						
Mud and debris being liberated beyond the Site boundary.	Sir Alfred Owen Way and neighbouring roads on Pontygwindy Industrial Estate.	Transportation of mud and debris from the Site on the under carriage and wheels of vehicles exiting the Site.	The building, external yard and access off Sir Alfred Owen Way comprise engineered surfaces. Vehicles are not required to drive over unpaved areas. A sealed drainage system is installed at the Site. This minimises any potential for mud and debris generation on site surfaces. As part of the daily inspection regime, the Site will be visually inspected for the presence of mud and debris. Should the adjacent industrial estate roads become muddy due to site activities, a road sweeper will be deployed on an as and when required basis. Any complaints received at the Site about mud and debris will be monitored and logged in accordance with the Environmental Management System procedures in place. Mitigation measures will be implemented, as appropriate, to ensure a high level of control.	Unlikely	Potential risk of vehicle accidents if mud accumulation occurs and is not treated.	Very Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
Pests and vermin						
Pest and/or vermin infestation of waste loads.	See above. Residential, industrial and commercial properties in the neighbouring areas. Designated habitats.	Airborne (flies and other inspects, scavenging birds). Land (rodents and other vermin).	Fire extinguisher media does not provide a food source for pests and vermin and only small quantities of associated packaging wastes are received at the facility, which are stored in a sealed and lidded container. Waste pre-acceptance procedures will be used to identify any potential loads that should be rejected from the Site prior to delivery, including any that may be infected with pests, vermin or insects. In addition, visual inspection of waste loads on arrival will ensure that any non-permitted or unsuitable wastes are rejected or if inadvertently received either reloaded onto the delivery vehicle or stored in a secure and lidded quarantine area for priority removal from the Site to an authorised facility. The Site Manager or Operations Director will carryout weekly inspections of the Site, including the outside building perimeter, to assess whether any vermin or pest infestations are present. Wastes will be processed on a first in first out basis to ensure a rapid turnaround of materials and the minimisation of storage times. The maximum storage time of materials on site will be 5 working days, although typically materials will be processed and dispatched within 2 working days. As part of the first in first out policy, waste will be managed in series so that the longest deposited materials will be processed and removed first. Care will be taken to ensure that the corners of the waste processing areas, storage areas and the building are emptied and swept, so that materials are not allowed to accumulate and become potentially putrescible or attractive to vermin etc. In the unlikely event of infestations or any complaints received at the Site, details will be logged in accordance with the	Unlikely	Potential nuisance to anyone living or working close to the Site. Gulls and other scavenging birds have the potential to cause disturbance and predation of wildlife in designated habitat sites.	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
			Environmental Management System procedures in place. Mitigation measures will be implemented, including contacting a pest control contractor, to ensure a high level of control.			
Litter						
Litter deposits within waste loads or on Site.	See above. Residential, industrial and commercial properties in the neighbouring areas. Designated nature sites, protected species, Scheduled Monuments, historic sites, public rights of way.	Airborne	There is the potential for packaging wastes associated with the delivery of spent, disused or returned fire extinguishers to become airborne, e.g. plastic wrapping, carboard and paper. However, all waste loads will be stored and processed inside the building, which is enclosed and fitted with roller shutter vehicle entrance and exit door. Separated carboard and plastic packaging will be separately fed to a small baler located inside the building, with the baled cardboard and plastics typically being removed each day to a local recycling facility in Bedwas. Other packaging wastes such as removed plastic wrapping, paper, plastic and wooden items are stored in a sealed and lidded skip located on the external yard, prior to removal off site to an authorised facility. The lid is kept closed except when wastes are being placed inside, after which it is immediately shut. In the event that litter escapes the Site it will be collected and appropriately disposed of as a matter of urgency. In the event of litter complaints received at the Site, details will be logged in accordance with the Environmental Management System procedures in place. Mitigation measures will be implemented, as appropriate, to ensure a high level of control.	Unlikely	Potential nuisance to anyone living or working close to the Site. Unsightly impact on adjacent areas, including designated habitat sites.	Low
Fires						

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
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 human population, plant and equipment. Designated nature sites, protected species, Scheduled Monuments, historic sites, public rights of way. Surface water courses, soils and groundwater.	Air transport of smoke. Spillages and uncontained firewater, e.g. by direct run-off from Site.	A detailed Fire Prevention and Mitigation Plan (FPMP) has been prepared for the Site that meets the requirements of NRW`s Fire Prevention and Mitigation Plan Guidance-Waste Management, Guidance Note 16, version 2 August 2017. Reference has also been made to the Waste Industry Safety and Health Forum document entitled Reducing Fire Risk at Waste Management Sites, issue 2, April 2017. The requirements of the FPMP, including fire suppression system in the building and separation distances for combustible waste storage etc will minimise the risk of any fire occurrence and spread at the Site (see FPMP). Fire extinguisher media is not combustible and the storage of IBCs containing deionised water and foam and 'Big Bags' filled will 1 tonne of powder acts as a fire wall to minimise any risk of a fire spreading. On Site plant and equipment will be maintained on a regular basis to ensure it is working effectively to minimise the risk of fire. The building is secured outside operational hours. Fire extinguishers will be located in the building and staff are trained in their use. If deemed necessary, the fire brigade will be contacted and NRW informed. No materials will be 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.	Low
Oil/Diesel Leak						
Leak from the waste oil / diesel storage areas on Site (including overfilling, vandalism etc.)	Surface water courses, public sewer, soils and groundwater.	Percolation through the ground.	Fuel is not stored on site, as the only mobile plant is a forklift truck, which is electric. Any fuels or oils kept on Site will be stored in dedicated tanks or containers. These will be either double skinned tanks or located in an impermeable bunded area, with a capacity of at least 110% of the largest tank's contents. The use of enclosed containers or tanks will prevent the escape of leaks or inadvertent spillage to uncontained areas.	Unlikely	Potential Contamination of local water courses and underlying groundwater.	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
			The building incorporates a concrete floor throughout and a sealed drainage system. The external yard comprises a combination of engineered concrete and block paving surfaces. Absorbent material (e.g. sand) and spill kits are kept on Site and used to treat any spillages of potentially polluting liquids. All Site staff will be trained in the relevant procedures on Site. The operational procedures on Site form part of the Environmental Management System.			
Spillages						
Potentially polluting liquids can runoff on to uncontained land or enter nearby drains that fall to public sewer or surface water courses.	Surface water courses, public sewer, soils and groundwater.	Run-off of spillage into drains and percolation through the ground.	**Spillages inside building** Any spillages inside the building are controlled as follow: • Spill kits are located on site and operatives are trained in their use. • A drainage channel inside the building leads to an internal dedicated concrete sump, where any inadvertent spillage of fire extinguisher media is collected before being pumped to an IBC for authorised disposal off-site. • A separate lateral drain has been installed inside the building across the entire internal width of the roller shutter vehicular access door and pedestrian door to prevent any possible escape of liquid spillages to the external environment. The drain falls to a dedicated concrete sump. Any accidental spillages or leakage of liquid or foam from IBCs or fire extinguishers inside the building that drains towards the entrance doors would collect in the lateral drain then fall to the concrete sump, from where it would be pumped to an IBC inside the building for authorised disposal off-site.	Unlikely	Potential contamination of local water courses and underlying groundwater.	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
			There are no drainage outlets inside the building to the external environment or public sewer. **Spillages on the external yard** Any accidental spillages on the external yard are controlled as follow: • Spill kits are located on site and operatives are trained in their use. • A dedicated loading and unloading area has been constructed on the yard, which comprises impermeable concrete pavement circa 5m x 4m in area. It is kerbed to 3 sides, with the unkerbed side enabling access and egress by the fork-lift truck to load and unload lorries. The external yard slopes from the public highway on Sir Alfred Owen Way to the front of the building. The unkerbed side of the unloading area is up gradient, i.e. nearest the public highway, meaning that any accidental spillage or leakage during loading or unloading would be contained by the kerbed area. The size of the kerbed area is such that it can contain the entire contents of an IBC in the event a container was accidentally punctured or tipped over during loading or unloading. Contained liquid would then be pumped into a separate and sealed IBC for authorised disposal off site. • A lateral drain is located across the external yard that drains run-off water from the building roof. This drain leads to the Nant yr Aber. The Operator has installed a manual shut off valve in the external drain, so that in the event of an accidental spillage of potentially polluting liquid on the external yard, the shut off valve would be closed to prevent any run-off into the Nant yr Aber. The spillage would then be pumped to IBCs for			

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
			sealed storage prior to off-site removal to an authorised wastewater treatment facility. Upon safe removal of all spilled pollutant from the drain by pumping into an IBC, the shut off valve would be reopened. • Emergency spillage procedures form part of the EMS. Spill kits and absorbent granules are kept on site and used to treat any spillage that may arise. Used spill kits and/or absorbent and any contaminated materials etc are removed and stored in a sealed container, prior to authorised disposal.			
Site Security / Vandalism						
Site security / vandalism Entry from unauthorised persons, resulting in fire, injury, accidental damage, arson or vandalism.	Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters. Pollution of water or land.	Air, Land and Water	The Site is fully secured. The roller shutter vehicle access door and pedestrian entrance and emergency exit doors are securely locked outside of operational hours. A comprehensive CCTV security system will be installed to provide complete coverage of the Site. The CCTV system will be monitored outside of operational hours by a third-party company to ensure coverage on a 24 hours x 365 days per year basis. This will ensure a high standard of site security is maintained. The high standard of site security to prevent and detect any attempts at unauthorised entry minimises the potential for arson attacks or vandalism.	Unlikely due to the security measures on site.	Potential pollution or environmental harm. Risk of accidents and injury. Damage to plant and equipment etc	Low
Maintenance						
Risk of emissions and accidents if plant and equipment is not properly maintained, leasing to	See above. Residential, industrial and commercial properties in the neighbouring areas. Designated nature sites, protected species, Scheduled Monuments,	Air, Land and Water	All plant and equipment on Site will be inspected, serviced and maintained as per manufacturer guidance and 'Preventative Maintenance Checklist' detailed in the Environmental Management System. Detailed weekly inspections will be carried out by the Site Manager and Technically Competent Person and recorded on	Risk of critical failure resulting in emissions or accidents is considered unlikely.	Potential pollution or environmental harm. Risk of accidents and injury. Damage to plant and equipment etc	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
malfunction or breakdown	historic sites, public rights of way.		the 'Inspection Record' included in the Environmental Management System. The weekly inspections include a review of: Site entrance and external yard; Concrete pad; General site cleanliness and sweeping of storage areas (including corners) and other operational areas; Carbon absorption unit, including valves, flanges, pressure valves and connections to eliminate leakages; Bagging plant; Cardboard and plastics baler; Inclined conveyor; Site drainage, including concrete sumps; External drainage cut off valve; Loading area and kerbing; Fire prevention and control system; Litter; Odour; Dust; Mud / dirt; Pests, vermin, insects and scavenging birds; Security. Detailed maintenance schedules are in force for all plant and equipment.			
Extreme Weather						
Risk of extreme weather resulting in a failure to safely operate the Site, resulting in wastes being inappropriately managed and risk of accidents	See above. Residential, industrial and commercial properties in the neighbouring areas. Designated nature sites, protected species, Scheduled Monuments, historic sites, public rights of way.	Air, Land and Water	Wastes are stored and processed inside the building, which is fully enclosed and fitted with roller shutter vehicular access door, pedestrian door and emergency exit door. It has an impermeable concrete base. The storage and processing of wastes inside the building largely protects operations from extreme weather events, such as snow, freezing temperatures and heavy rainfall. Although the packaging waste skip is located on the external yard, it is fully sealed and lidded. The lid is kept closed except when packaging wastes are being deposited inside. The use of a sealed and lidded skip protects the waste from rainfall and snow etc. In the event that weather is so extreme that it prevents operations being undertaken in a safe and controlled manner, contingency arrangements are available at short notice to divert incoming waste loads or transfer wastes already received at the Site to other suitably authorised facilities. Incidents that	Unlikely as waste storage and processing is undertaken in a fully enclosed building, with the exception of packaging waste, which is stored in a sealed and lidded skip located on the external yard.	Unlikely	Low

Hazard	Receptor	Pathway	Risk Management	Probability of Exposure	Consequence	What is the Overall Risk
			may cause contingency arrangements to be implemented include extreme weather that prevents vehicles or staff safely reaching the Site or compromises the operational efficiency of the facility.			
Plant and Equipment Failure						
See above. Detailed maintenance schedules are in force for all plant and equipment to minimise the risk of plant and equipment failure.						