Final V1

Pembrokeshire County Council Waste Transfer Station

Environmental Permit Variation Application

Environmental Risk Assessment

Environmental Permit Ref.: EPR/PB3490HV

Project code: 416.00798.00037
Date: May 2019

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Acknowledgements

The content of this Report has been based upon information provided by WRAP Cymru and Pembrokeshire County Council.

1.0 Introduction

The Waste and Resource Action Programme (WRAP), on behalf of Pembrokeshire County Council (PCC), has instructed SLR Consulting Limited (SLR) to prepare an Environmental Risk Assessment (ERA) in support of a bespoke Environmental Permit (EP) variation for the PCC Waste Transfer Station (WTS), Pembroke Dock, under the Environmental Permitting (England and Wales) Regulations 2016 (as amended).

1.1 Methodology

This ERA is an assessment of the risks to the environment and to human health that may be associated with the proposed operations at the site.

The assessment has been completed in accordance with the Environment Agency (EA) Technical Guidance *'Risk Assessments for your Environment Permit'* (May 2018) which is also adopted by Natural Resources Wales (NRW). The aim of the assessment is to identify any significant risks and demonstrate that the risk of pollution or harm will be acceptable by taking the appropriate measures to manage these risks.

This ERA uses the following approach for identifying and assessing the risks from the proposed operation:

Step 1 Identify risks and sources of risk from your activity.

Step 2 Where risks are identified from Step 1 then identify the receptors that could be affected.

Step 3 Identify potential pathways between the sources of risk and receptors.

Step 4 Assess the risks and check that they are acceptable. Justify appropriate measures to control your risks, if necessary.

Step 5 Submit your assessment.

Section 2.0 of this document is a screening step to identify the risks requiring consideration as part of this assessment.

Section 3.0 identifies people or parts of the environment that could be harmed (at potentially significant risk) by the activity. The ERA for an EP variation application requires all receptors that are near the site and could reasonably be affected by the activities to be identified and considered as part of the assessment.

For the purposes of this ERA, a 1km radius from the site's EP boundary has been adopted in reviewing potentially sensitive receptors of ecological importance along with features such as sites of cultural and natural heritage. A radius of 500m from the site's EP boundary has been adopted for all other potentially sensitive receptors (for example, residential, commercial, industrial, agricultural and surface water receptors).

Section 4.0 of this document presents the assessment and demonstrates that any risks of pollution or harm will be mitigated to manage the risk.

This ERA should be read in conjunction with the following documents:

- Non-Technical Summary;
- Drawings:

    - 001 Site Location Plan;
    - 002 Environmental Permit Boundary; and
    - 003 Environmental Site Setting; and
    - 004 Site Layout and Fire Management.
- Operating Techniques;
- Site Condition Report;
- Fire Prevention & Mitigation Plan;
- Odour Impact Assessment;
- Odour Management Plan; and
- Noise Impact Assessment.

2.0 Identifying the Risks

Step 2 is a screening step to identify the potential risks to the environment from the development. The following are generally considered to require assessment for bespoke operations:

- Amenity and Accidents;
- Site Waste (Installations Only);
- Global Warming Potential;
- Odour;
- Noise; and
- Point source emissions to air, water and land.

There will be no point source emissions to groundwater, surface water, air or land resulting from the proposed application and neither will there be any site waste arising or global warming potential.

Therefore only 'Amenity and Accidents', remains applicable for assessment in this instance, and includes the consideration of noise and vibration, fugitive emissions (including dust, mud, litter and pests) and accidents.

Odour has been considered separately in the Odour Impact Assessment (416.00798.00037/OIA) and Odour Management Plan (416.00798.00037/OMP) which are included within Sections 9 and 10 of this EP variation application.

3.0 Site Setting and Receptors

3.1 Site Setting

The site is situated in Pembroke Dock which is approximately 3km north west of Pembroke in south west Wales. The site is located within The Dockyard and is accessed via Whites Farm Way which links into the A477 further to the east. The National Grid Reference (NGR) for the site is SM 95702 03746.

The immediate surrounding land use is predominantly industrial/commercial with a residential area to the south and Milford Haven waterway to the north. The site's location is illustrated on Drawing 001 and the EP boundary is illustrated on Drawing 002.

The surrounding land uses and local receptors within 500m are identified on Drawing 003, Environmental Site Setting, in addition to the cultural and natural heritage within 1km.

A summary of the site's immediate surrounding land uses is identified in Table 3-1 below.

Table 3-1
Surrounding Land Uses

Boundary	Description
North	Industrial and commercial businesses located within The Dockyard and the Milford Haven waterway.
East	Industrial and commercial businesses located within The Dockyard. Beyond this lies the town of Pembroke Dock with associated residential areas.
South	An unoccupied area of The Dockyard followed by South Pembrokeshire hospital. The residential areas of Llanreath and the South Pembrokeshire golf club lie beyond this.
West	A waste water treatment works is located adjacent to the site beyond which lies the Milford Haven waterway.

The immediate surrounding land uses are described in further detail below.

3.1.1 Dockyard

The site is located within The Pembroke Dockyard, and premises associated with the operation of the Dockyard lie adjacent to the site's northern, eastern and southern boundary.

3.1.2 Residential Properties

The nearest residential receptors are located along Martello Road approximately 120m south of the site's boundary. Larger residential areas located within Pembroke Dock town lie approximately 300m to the east.

3.1.3 Local Transport Network

Whites Farm Way is used to access the site and it located adjacent to the site's eastern boundary. The Pembroke Dockyard is accessed off the A477 to the east.

The wider local road network is illustrated on Drawing 003.

3.1.4 Hospitals

South Pembrokeshire hospital is located approximately 60m south of the site. The Surehaven Pembroke hospital is located 130m south east of the site's boundary.

3.1.5 Waste Water Treatment Works

The Welsh Water waste water treatment works is located adjacent to the site's western boundary.

3.1.6 Golf Course

South Pembrokeshire golf club is located approximately 240m south of the site's boundary.

3.1.7 Open Ground

There are several small areas of open ground within 500m of the site's boundary. The closest of these lies approximately 60m south west.

3.1.8 Surface Water Features

The Milford Haven waterway is located to the west and north of the site and at its closest point is approximately 70m to the west.

3.2 Geology

A review of the British Geological Survey (BGS) map[1] reveals that the majority of the site is underlain by a bedrock of Pembroke Limestone Group – Limestone. The northernmost part of the site is underlain by a bedrock of Black Rock Subgroup and Gully Oolite Formation (undifferentiated) – Limestone. Both types of bedrock are indicative of a local environment previously dominated by shallow carbonate seas.

There are no recorded superficial deposits.

3.3 Hydrogeology

3.3.1 Aquifer Designations

The bedrock underlying the Site is classified as a Principal Aquifer which is defined as "*geology that exhibit high permeability and/or provide a high level of water storage*".

3.3.2 Source Protection Zones

A review of the Lle Map Browser[2] confirms that the site does not lie within a Source Protection Zone.

3.4 Hydrology

The Groundwater Vulnerability layer on the Onshore GeoIndex website[3] reveals that the site lies within an area known for groundwater vulnerability classified as a Principal Aquifer.

A small area of the car park to the south of the site buildings is designated as having a low surface water flood risk. The remainder of the site is not identified as being at risk from flooding[4].

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[1] *British Geological Survey, Available at www.bgs.ac.uk, accessed in February 2019*
[2] http://lle.gov.wales/map, accessed February 2019
[3] *http://mapapps2.bgs.ac.uk/geoindex/home.html accessed February 2019*
[4] *NRW Long Term Flood Risk Maps, accessed February 2019*

3.5 Ecology

The following information has been assessed to determine the ecological site setting:

- MAGIC Mapping Website[5];
- Lle Map Browser; and
- Natural Resource Wales Designated Sites Tool[6].

Searches have confirmed that there is one Site of Special Scientific Interest (SSSI) and one Special Area of Conservation (SAC) within 1km of the site's boundary.

3.5.1 Sites of Special Scientific Interest

The Milford Haven Waterway SSSI (70m west) is designated as a SSSI for its geology, ancient woodland, marine biology, saltmarsh, swamp, saline lagoons, rare and scarce plants and invertebrates, nationally important numbers of migratory waterfowl, greater and lesser horseshoe bats and otter.

3.5.2 Special Area of Conservation

The Pembrokeshire Marine/Sir Benfro Forol is classified as a SAC due to the coastal lagoons, Atlantic salt meadows, estuaries, inlets and bays, mud and sand flats, reefs, sandbanks and sea caves. The SAC is also found approximately 70m from the site's western boundary.

The searches confirmed that there are none of the following within the 1km:

- Ramsar's;
- Special Protection Area's (SPA).
- Areas of Outstanding Natural Beauty;
- Local Nature Reserves;
- National Nature Reserves; and
- National Parks.

3.6 Cultural and Heritage

3.6.1 Listed Buildings

A review of the Cadw website revealed that there are several listed buildings within 1km of the site's boundary as illustrated on Drawing 003. Two of the listed buildings lie within 10m of the site's boundary as shown below:

- A Former Foremen's Office is located approximately 10m north; and
- The Timber Pond located approximately 8m west.

3.6.2 Scheduled Monuments

There are 4 scheduled monuments within 1km of the site's boundary:

- Paterchurch Tower: 20m south east;
- Bomb stores at west end of Fort Road: 110m south west;
- South West Dockyard Tower: 150m south west; and

[5] *https://magic.defra.gov.uk/MagicMap, accessed February 2019*
[6] *NRW Designated Site Search, accessed February 2019*

- Defensible Barracks, Pembroke Dock: 500m south east.

The search on Cadw confirmed that the following features do not lie within 1km of the site:

- World Heritage Sites;
- Registered Battlefields; and
- Registered Parks and Gardens.

3.7 Identified Receptors

Table 3-2 and Drawing 003 identify the receptors which are considered to be potentially sensitive and could reasonably be affected by activities at the site.

Table 3-2
Identified Receptors

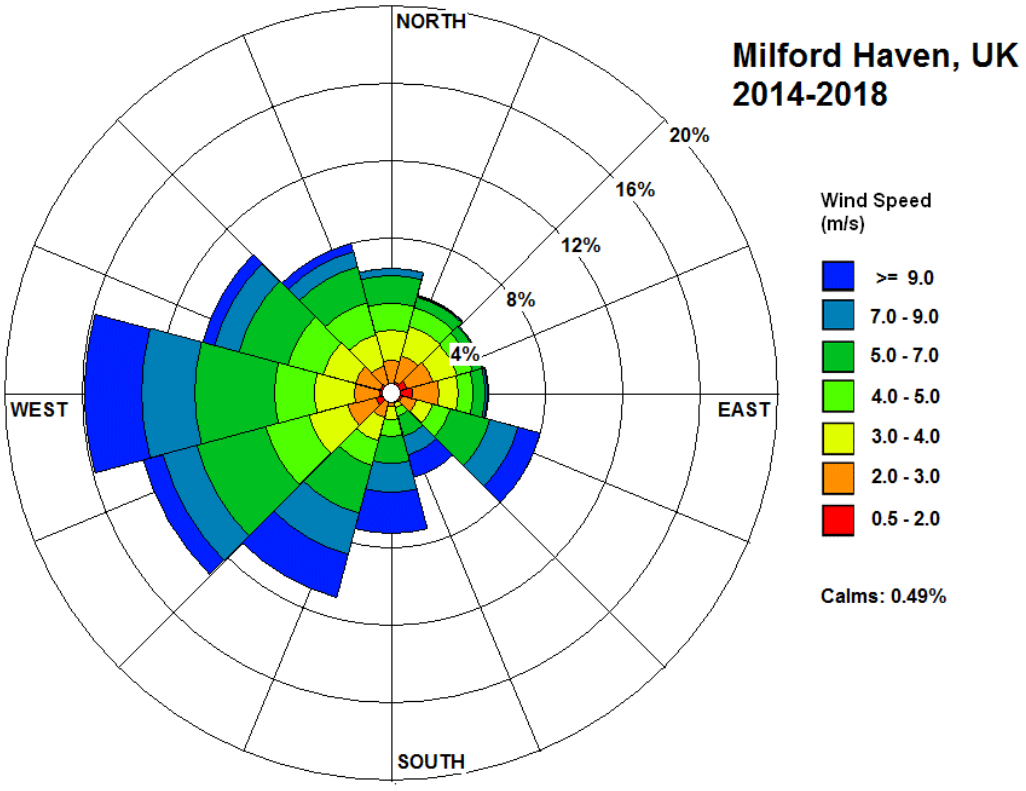
Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Local receptors located within 500m of the EP boundary as shown on Drawing 003			
Pembroke Dockyard	Dockyard	North, East and South	Adjacent
Welsh Water	Waste Water Treatment Works	West	Adjacent
Whites Farm Way	Local Road Network	East	Adjacent
South Pembrokeshire Hospital	Hospital	South	60
Open Ground	Open Ground	South-west	60
Milford Haven Waterway	Surface Water Feature	West and North	70
Martello Road	Residential	South	120
Surehaven Pembroke Hospital	Hospital	South-east	130
South Pembrokeshire Golf Course	Golf Course	South	240
Pembroke Dock	Residential	East	300
Ecological, Cultural and Natural Heritage identified within 1km of the EP boundary as shown on Drawing 003			
The Timber Pond	Listed Building	West	8
Former Foremen's Office	Listed Building	North	10

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Paterchurch Tower	Scheduled Monument	South-east	20
Milford Haven Waterway	Site of Special Scientific Interest (SSSI)	West	70
The Pembrokeshire Marine/Sir Benfro Forol	Special Area of Conservation (SAC)	West	70

3.8 Windrose

Figure 3-1 shows the wind patterns between 2014 and 2018 as identified by the Milford Haven meteorological station. The most prominent wind direction is from the south west. Winds from the north and east are relatively infrequent.

Figure 3-1
Milford Haven Meteorological Station, 2014-2018



4.0 Environmental Risk Assessment

The following tables in this section assess the site in terms of potential hazards posed, receptors and pathways, along with management and assessment of the identified risks.

As detailed in Section 2.0, only the risks associated with the WTS will be assessed as part of this application.

The probability of exposure is the likelihood of the receptors being exposed to the hazard, and is defined as low, medium or high. These terms are qualified as follows:

- Low: exposure is unlikely, barriers in place to mitigate against exposure.
- Medium: exposure is fairly probable, barriers to exposure less controllable.
- High: exposure is probable, direct exposure likely with few barriers.

The methodology outlined in Section 1.1 of this report is the basis on which it is determined whether the operations will lead to significant impacts on the surrounding environment. Where a conclusion of 'not significant' has been reached, it is proposed that the mitigation and management measures that will be in place at the site will be sufficient to ensure that there will be no impact at the surrounding environment.

Table 4-1
Noise Risk Assessment and Management Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Noise from vehicular movements (site access road and internal site movements). Noise from operation of site plant including loading and unloading of materials and operation of the baler.	Potentially sensitive receptors as listed in Table 3-2, including residential properties, the Dockyard, hospitals, the golf course and local cultural and heritage features.	Air	The noise risk from the proposed variation to the EP have been assessed in a Noise Impact Assessment (NIA) included within Section 8 of the variation application. The assessment concluded that there is a very low risk of adverse impact from noise generated by the proposed variation. Notwithstanding this, the following mitigation measures will be employed on site to ensure noise remains low risk. The site is located within an industrial setting. The nearest residential receptors are located approximately 120m to the south of the site. Receptors sensitive to noise, for example residential properties, are not in the direction of the prevailing wind. All waste treatment and storage will occur within either Unit 41, 29 or 29A.	Mobile. Intermittent throughout the day. Medium.	Noise nuisance and loss of amenity.	Not significant – See NIA (ref: 416.00798.00037/NIA).

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			Site operations will be restricted to hours specified in the planning consent. Speed limits will be implemented for vehicles using the site. Site access and operational areas will be maintained and repaired to minimise emissions of noise due to uneven and poor surfacing. Plant will be selected and operated to minimise noise. All site plant and machinery will be operated and maintained in accordance with manufacturer's specifications. Site plant will be subject to a planned preventative maintenance schedule. If horns or alarms are deemed to cause unacceptably high levels of noise, alternative technologies will be explored and implemented. Auditory inspections will be carried out daily and in response to complaints. A record of the inspection findings and any complaints will be made in the site diary. The Site Manager will be responsible for implementing risk management measures in accordance with the site's Environmental Management System (EMS).			

Table 4-2
Fugitive Risk Assessment and Management Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
To Air:						
Dust from: ■ Vehicle movements ■ Waste storage and treatment ■ Dusty wastes ■ Unloading and loading of waste ■ Waste storage	Potentially sensitive receptors as listed in Table 3-2, including residential properties, the Dockyard, hospitals, the golf course and local cultural and heritage features.	Air	Wastes consisting solely or mainly of dusts, powders or loose fibres will not be accepted at the site. All waste treatment and storage will occur within either Unit 41, 29 or 29A. Drop heights will be minimised to prevent emissions of dust. Sources of dust at the site will be minimal. Notwithstanding this, receptors sensitive to dust, for example residential properties and potential habitat areas such as the mudflats associated with Milford Haven Waterway SSSI to the west, are not in the pathway of the prevailing wind. Speed limits will be implemented for vehicles using the site. Site access and operational areas will be maintained and repaired to minimise emissions of dust due to uneven and poor surfacing.	Low	Dust nuisance	Not Significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			All roads and operational areas will be swept where necessary to reduce dust emissions. All vehicles delivering waste to the site will be sheeted or covered. Daily, visual inspection at all areas of the site and site boundary will be carried out by site personnel. If significant visual dust is observed at the boundaries of the operational areas, action will be taken to suppress the dust. This will likely comprise the use of a mobile bowser or spray to dampen the surfaces. In addition to dust suppression measures, an investigation to establish the cause of the dust will be undertaken and action taken accordingly, e.g. if the problem is caused by a particular waste type, cease accepting that waste until a suitable method statement detailing how the waste is handled, has been prepared and implemented. A record of the inspection findings and remedial action taken will be made in the site diary. The Site Manager will be responsible for implementing risk management measures in accordance with the site's EMS.			

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
To Water						
Run-off from stockpiles and site surfaces Percolation of contaminated water	Surface water: The Milford Haven Waterway is located 70m to the west of the permit boundary. Groundwater within bedrock deposits.	Overland Percolation through the ground	All waste will be stored and treated on impermeable concrete surfacing with sealed construction joints either within the building or within containers outside the building (glass storage only under the S2 exemption). Glass will be tipped within a designated bay within Unit 41, however, the exemption will be used for the storage of commercial glass outside in a container. On average this container will be used twice a day. The main details of the site's drainage system are illustrated on Drawing 004. There is no drainage within Units 41, 29 and 29A and external site drainage is managed as follows. The site currently operates under a discharge consent to public sewer (SW650). The drainage channel situated at the entrance to Unit 41 and surface water from the external yard area between Units 41 and 29 all drains to foul sewer. The surface water outlet located in the external yard area between Units 41 and 29, drains to the pickling pond (salt water tidal lagoon) and is plugged to ensure no release of surface water from the site. Clean surface water collected from the building roofs and from the external yard area in the northern part of	Low – due to preventative management measures in place and the waste types accepted on site	Contamination of surrounding surface water and groundwater	Not significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			the site is channelled to a surface water outlet which flows to the pickling pond. An open drainage channel located at the entrance of Unit 29A also drains to the pickling pond surface water outlet. PCC's EMS for the site will include a routine monitoring and maintenance schedule to ensure the integrity and performance of the surfacing and drains. A full maintenance lease for the integrity of the buildings and the site will be in place between PCC and the Milford Haven Port Authority (MHPA). In addition, the EMS will detail how incidents which could affect the drainage system will be managed. Strict waste acceptance procedures will ensure that only permitted waste types are accepted on site. If non-conforming wastes are delivered and unloaded they will be isolated and removed from site at the earliest opportunity. If identified on the vehicle, the waste will not be deposited on site and will be rejected and sent off site to a suitably permitted facility. If identified following tipping in the building, the waste will be removed to the designated quarantine area pending removal off site to a suitably licensed facility. The location is shown on Drawing 004.			

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.			
Pests						
Birds, vermin and insects	Potentially sensitive receptors as listed in Table 3-2, including residential properties, the Dockyard, hospitals, the golf course and local cultural and heritage features.	Via air (flies) or over ground (vermin).	Dry recyclate is not considered to attract birds, vermin and insects. Food waste has the greatest potential to attract birds, vermin and insects. To minimise the potential for infestations, food waste will be delivered to the site in sheeted containers. Food waste will then be stored at the WTS in containers that are sealed at the bottom and sides and located within the building. Waste acceptance procedures will ensure that only authorised wastes are accepted. Site operatives will be vigilant and undertake a daily inspection for sightings of birds, vermin and insects. The findings of the visual inspection will be recorded in the site diary.	Low	Nuisance, loss of amenity and harm to human health.	Not Significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			If birds, vermin or insects are identified at the site, a specialist pest control contractor will be employed to undertake remedial measures. The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.			
Mud/Litter						
Mud on roads from vehicle movements.	Local road network including roads within the Dockyard and the A477.	Transferral of mud on vehicle wheels	The site comprises a mix of impermeable concrete surfacing and tarmac roads. These areas will be maintained free of potholes and significant quantities of mud and debris. All vehicles will be covered when loads are entering and exiting the facility. Before leaving the site, vehicles will be cleaned as necessary and checked to ensure that their load is secure. Roads will be swept and cleaned whenever necessary. If mud, debris or waste arising from the site is deposited outside the site, the affected area will be cleaned, and traffic will be isolated from sources of mud and debris within the site.	Low – due to lack of mud sources	Mud on road, road safety	Not significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.			
Litter from waste	Potentially sensitive receptors as listed in Table 3-2, including residential properties, the Dockyard, hospitals, the golf course and local cultural and heritage features.	Airborne Litter	Waste acceptance procedures will ensure that only authorised wastes are accepted. Vehicles delivering waste to the site will be covered or sheeted to prevent the littering of waste. All waste treatment and storage will occur within either Unit 41, 29 or 29A. Bins will be provided on site around welfare areas for the use of site visitors and personnel. A daily inspection and litter pick of the site and perimeter will take place. The findings of the visual inspection will be recorded in the site diary. Any excessive litter material at the site or on the highways will be cleared using a mechanical sweeper and/or litter picker if required. The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.	Low	Nuisance from litter	Not significant

Table 4-3
Accidents Risk Assessment and Management Plan

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
Spillage and Leakage	Local land quality, surface water and groundwater	Runoff and percolation through ground	Vehicle refuelling will not occur on site. 2,000 litres of red diesel will be stored in a tank the location of which is shown on Drawing 004. The tank will be integrally bunded providing a leakage containment bund capable of containing at least 110% of the volume of the tank or 25% of the total tank volume, whichever is the greater. Storage tanks will be constructed to the appropriate British Standard. Tanks will be inspected visually on a daily basis by the site staff to ensure the continued integrity of the tanks and identify the requirement for any remedial action. Minor spillages will be cleaned up immediately, using sand or proprietary absorbent to clean up liquids and placed in alternative containers. Materials suitable for absorbing and containing minor spillages will be maintained on site. After use the materials will be bagged up and stored within the	Low	Contamination of land, groundwater and surface water	Not significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			building prior to removal off site to a suitably licensed facility. The site staff will undertake daily monitoring for evidence of spillage and leakage. Alongside regular visual inspections, tanks will be fitted with level indicators to prevent overfilling. In the event of a major spillage, immediate action will be taken to contain the spillage and prevent liquid from entering surface water drains and any permeable ground. The spillage will be cleared immediately and placed in containers for off-site disposal and NRW will be notified. Details of such spillages will be kept for the lifetime of the permit. The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.			
Fire	Potentially sensitive receptors as listed in Table 3-2, including residential properties, the Dockyard, hospitals, the golf course and local	Air (smoke) Ground (spillages and firewater)	The site will be managed in accordance with the approved Fire Prevention ad Mitigation Plan (416.00798.00037/FPP).	Medium	Nuisance (smoke and fumes) and harm to human health.	Not significant – due to the comprehensive mitigation and management methods outlined in the

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
	cultural and heritage features.				Water contamination (runoff).	Fire Prevention Plan.
Vandalism and Security	Harm to Human Receptors, Ecological Receptors, Commercial/industrial receptors, Land and Water	Land and air	The site will be almost entirely enclosed by a mixture of metal palisade fencing and security fencing topped with barbed wire (where the perimeter is not formed by a building). Access to the site's north western boundary must be open at all times to allow for the movement of boats through The Dockyard to and from the waterside. All doors to site offices and the doors to Units 41, 29 and 29A will be locked outside of operational hours to prevent unauthorised access. There will be lockable gates at the site's access points and the gates will be locked outside of operational hours. An additional security barrier will be constructed outside the site offices to prevent unauthorised access by vehicles. The buildings will be inspected daily by the operations staff to identify deterioration and damage and the need for any repairs. If damage is identified, the Site Manager will be informed. The buildings will be maintained and repaired to ensure their continued integrity. If damage is sustained, repairs	Low	Theft, Plant failure, harm to human health	Not significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			will be made by the end of the working day. If this is not possible, suitable measures will be taken to prevent any unauthorised access to the site and permanent repairs will be affected as soon as practicable. All visitors to the site will be required to register in the visitor's book and sign out again on exit. This minimises the risk of unauthorised visitors being present at the site. The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.			
Unauthorised Waste Acceptance	Potentially sensitive receptors as listed in Table 3-2, including residential properties, the Dockyard, hospitals, the golf course and local cultural and heritage features.	Via air (odours). Overland (to sewers, surface and groundwater).	Upon delivery, waste will be subject to strict waste acceptance procedures to identify, reject and/or segregate potentially non-conforming waste. Only waste authorised by the permit will be accepted at the site. All non-municipal wastes will be subject to inspection and checking against the declaration on the waste transfer note. If unauthorised waste is delivered to the site, the waste will be segregated and handled in one of the following ways:	Low	Odour nuisance. Water contamination.	Not significant

What do you do that can harm and what could be harmed			Managing the Risk	Assessing the Risk		
Hazard	**Receptor**	**Pathway**	**Risk management**	**Probability of exposure**	**Consequence**	**What is the overall risk**
What has the potential to cause harm?	**What is at risk what do I wish to protect?**	**How can the hazard get to the receptor?**	**What measures will you take to reduce the risk? – Who is responsible for what?**	**How likely is this contact?**	**What is the harm that can be caused?**	**What is the risk that still remains? The balance of probability and consequence**
			■ Deposited within the residual waste; ■ Handpicked in the existing bay; or ■ Reprocessed until it reaches the appropriate quality. If unable to be reprocessed, the non-conforming waste will be removed from site to a suitably authorised facility. The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.			
Flooding	Surface water, soils and groundwater. Potentially sensitive receptors as listed in Table 3-2, including residential properties, the Dockyard, hospitals, the golf course and local cultural and heritage features.	Flood waters over land	As indicated in Section 3.4, a small area of the car park to the south of the site buildings is designated as having a low surface water flood risk. The remainder of the site is not identified as being at risk from flooding. Notwithstanding this, the surfacing and drainage at the site will be maintained to prevent localised flooding following heavy rainfall. The Site Manager will be responsible for implementing risk management measures in accordance with the EMS.	Very Low	Contaminated flood waters impacting land in residential, ecological and commercial areas	Not significant

5.0 Conclusion

This ERA has been undertaken in accordance with EA guidance. The assessment is provided as part of the application for an EP for the PCC Waste Transfer Station.

This qualitative risk assessment has considered noise, fugitive emissions, dust, releases to water, litter, and potential for accidents and incidents. The assessment concludes that with the implementation of the risk management measures described above, potential hazards from the development are not likely to be significant and no further assessment is required.

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