Metal recycling, vehicle storage, depollution & dismantling (authorised treatment) facility

Environmental Risk Assessment

Report Number 2135r4v1d0621

Site Location:
Pembrokeshire Metal Recycling
Carew pavilion
Carew Airfield
Tenby
SA70 8SX

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1 INTRODUCTION

1.1 Background

Pembrokeshire Metal Recycling (PMR) proposes to operate an End of Life Vehicle authorised Treatment Facility (ELV ATF) and Metal Recycling Facility at their site at Carew Airfield, Pembrokeshire (see Figure 1). The facility has been in successful operation as a scrap metal facility for several years under a T9 exemption. During this period there have bene no pollution incidents or fires.

As part of the bespoke permit application NRW has requested PMR to describe the environmental risk posed by the new proposals.

2 OVERVIEW OF PROPOSALS

2.1 Site Layout

The site layout is shown in Figure 2. This shows that the operation will be essentially split between:

- a building for non-ferrous storage and vehicle depollution and
- an external impermeable concrete yard measuring 2608m^2 for waste acceptance, temporary storage and cutting

In combination, these measures will continue to protect the environment from the potentially polluting activities.

2.2 Waste Management

The proposed annual throughput will be 40000 tonnes scrap metal and 8000 tonnes hazardous waste (ELV).

Most waste accepted and processed at the site is directly collected by PMR from commercial sites in secure containers provided to customers or delivered to site by other waste carriers. This ensures that pre-waste acceptance checks can often be undertaken by PMR personnel and this limits the likelihood of non-conforming waste turning up at the site.

2.3 Pollution Control Measures

The whole of the outdoor yard and floor of the building is constructed of concrete as shown in Plates 2-1 and 2-2. Around the perimeter of the yard is a 100mm concrete upstand that prevents run-off escaping. All rainfall falling onto the yard is therefore collected and directed by open gulley drains towards a ~30m^3 underground storage tank. Clean roof run-off is to be collected in IBCs.

Plate 2-1 Site perimeter bunding

Plate 2-2 Pollution control infrastructure

3 ENVIRONMENTAL SETTING

3.1 Site Location

As shown on Figure 1, the operation is located just southeast of Sageston and Carew in rural Pembrokeshire at Grid Reference 205870, 202630. The site is located on the former Carew Airfield and is largely surrounded by open countryside, as shown on the aerial image in Figure 3 and Plate 3-1.

Plate 3-1 View south towards operation from Carew airfield entrance

3.2 Current Site Use

The site is currently used as a scrap metal recycling facility and has been in continual operation for several years under a T9 waste exemption without incident.

3.3 Previous Land Use

Examination of the historical Ordnance Survey Plans has revealed that in 1865 the site lay in a rural setting comprising fields. This position remain unchanged until the 1940s. Initially used as a grassed airfield, on the 1953 mapping reveals the site to be located on an Airfield with concrete runways. By 1968 the airfield is labelled as "disused" and since then has become used for a range of uses. The site itself was used for storage prior to the current operator registering a T9 waste exemption several years ago.

3.4 Geology

The site is underlain by solid geology comprising the Pembrokeshire Limestone Group, Carboniferous in Age. No superficials are recorded to overly the bedrock.

3.5 Surface Water

The nearest surface water feature is located some 492m east of the site and the site is considered not to be susceptible to flooding from Rivers or Sea without defences.

3.6 Groundwater

As the site is located on Limestone bedrock, the underlying groundwater is categorised as a Principal Aquifer. Principal aquifers offer significant groundwater resources and need to be protected and managed.

3.7 Designated and Protected sites

There is ancient woodland some 1.3-1.4km to the north and south and also Special Areas of Conservation (SAC) to the northwest. The nearest feature is at Carew (~1.2km northwest) and is the Atlantic Salt Marshes. Other designated sites at Carew include Pembrokeshire Marine SAC, Pembrokeshire Bat SAC, Carew Castle SSSI and Milford Haven Waterway SSSI.

3.8 Meteorology

Wind direction is predominantly dominated by southwesterly and westerly weather systems. Rainfall totals approximately 1000mm per annum.

3.9 Receptors

The location of key receptors is shown on Figure 3.

3.9.1 Human

The site is located in a rural location with few human or environment receptors within immediate proximity apart from the underlying Principal aquifer. There are no close residential properties. There are no residential properties within 300m of the site and only one within 500m. There is also no school, hospital, nursing home or food preparation facility within 500m. Farm buildings used for animal husbandry are located 100m east but there is no residential property. Approximately 60m north is a non-residential caravan site used by

holidaymakers. The site is adjacent to a Go-Karting facility. There is no school, hospital, nursing home or food preparation facility within 500m. Some of these features are identified on Figure 3.

3.9.2 Environmental

The site is underlain by a Principal aquifer. This is the principal environmental receptor and why PMR has invested in sealed drainage and site building.

3.9.3 Infrastructure

Much of the land surrounding the site is used for agriculture. Electrical transmission pylons traverse overhead ~50m east of the site.

The A477 runs west to east 500m north of the site.

3.9.4 Protected Sites

Several designated sites are located within 2km of the site. Details of the closest designated site are provided in Table 3-1. These are all located to the northwest of the site.

Table 3-1 Designated sites with 1km

Site	Location	Summary reason for designation	Pathway via which designated site could potentially be impacted
Pembrokeshire Marine SAC	1.1km to the northwest	Marine wildlife – habitats and species	Release to controlled water Particulate fall-out Noise and vibration Odour Pests Litter
Pembrokeshire Bat Sites and Bosherton Lakes SAC	1.1km to the northwest	Horseshoe bats and grassland habitat	Noise and vibration Particulate fall-out Odour Litter Pests
Carew Castle SSSI	1.1km to the northwest	Horseshoe bats and grassland habitat	Noise and vibration Particulate fall-out Litter Pests
Milford Haven Waterway SSSI	1.1km to the northwest	Marine wildlife – habitats and species	Release to controlled water Particulate fall-out Noise and vibration Litter Pests

4 EVALUATION OF POTENTIAL IMPACTS

4.1 Methodology

Based on an understanding of the proposals and site setting, a tabulation of plausible exposure pathways has been compiled. This summarises the identified plausible pollution linkages using the conventional source-pathway-receptor relationships. Where these linkages are present and plausible an assessment of potential impacts has been made. This subsequently informs the need for site management and monitoring plans, the controls required in the EMS and the risk of pollution from the site.

The initial impact assessment has three stages:

1. identify risks from the proposed activities using conceptual site model (source – pathway – receptor)
2. characterise and assess the risks and mitigation measures in place
3. justify residual risk based on appropriate measures to control identified risks, if necessary

4.2 Identification and Evaluation of Potential Risks

To provide a structured transparent framework, generic assessment criteria have been clearly defined. The assessment of potential impacts is based on a tabulated risk assessment identifying the exposure pathways schematically shown in the conceptual model. The approach enables hazards and receptors to be readily identified. If a pathway exists that potentially connects the hazard to the receptor, then there is a risk of impact that requires evaluation, management and potentially mitigation. If a pathway does not exist there is no risk of impact. This approach has been adopted as it should be acceptable to all stakeholders with the methodology and findings transparent, defensible and repeatable.

For each plausible impact identified, the probability and consequence of the event occurring has been evaluated.

In accordance with the concept of risk assessment, each impact has been characterised in terms of the possible consequence and likelihood. These two terms are functions of five sets of criteria which are defined below:

Consequence of Impact

The consequences of a hazard being realised may be actual or potential harm and is a measure that combines the assessment of:

- Magnitude – the severity of the impact.
- Scale – the geographical extent of influence of the impact.
- Duration – the time period over which the impact will continue to be experienced.

In this assessment the overall consequence of an impact will be rated as very high, high, moderate, low or very low.

Likelihood of Impact

Probability of exposure is the likelihood of the receptors being exposed to the hazard. Example definitions:

- Very high – exposure is inevitable with no control measures between source and receptor
- High – exposure is probable: direct exposure likely with no/few barriers between hazard source and receptor;
- Moderate – exposure is fairly probable: feasible exposure possible - barriers to exposure less controllable;
- Low – exposure is unlikely: several barriers exist between hazards source and receptors to mitigate against exposure:
- Very Low – exposure is very unlikely: effective, multiple barriers in place to mitigate against exposure.

For each of these criteria, a rating system has been developed. An explanation of the ratings associated with each of the above criteria are provided in Table 4-1 and Table 4-2. To facilitate a semi-quantitative evaluation of the potential impacts, each criteria has been given a numerical score between 1 and 5. Where there is insufficient data to categorise an impact against the criteria, the impact is assigned an appropriate default value and labelled 'unknown'. In these instances, a conservative approach is adopted and negative impacts are assigned a value of 5, reflecting the theoretical worst case scenario. Positive impacts that cannot be confidently rated against the criteria are assigned a value of 3, reflecting a theoretical mid case.

To obtain the overall **consequence** rating of the potential impact, the numerical values for each criteria (magnitude, scale and duration) are added together. Similarly, to obtain the overall **likelihood** of an impact, the exposure and probability scores are added together. The range of possible values for consequence is therefore 3-15, and the range for likelihood is 2-10.

Table 4-1 Criteria for evaluation of the likelihood of possible impacts

			Discrete Event	**Prolonged Exposure from a Single Activity or Event**	
Frequency to Impact	An indication of the frequency of the activity that may cause the impact, or the continuity of the exposure, either negative or positive	Very high	Daily or continuous	Exposure in perpetuity	5
		High	Weekly/once per week	Continuous exposure beyond the waste transfer operation but not in perpetuity	4
		Moderate	Monthly/once per month	Continuous exposure during waste transfer operation (for months/	3
		Low	Bi-annually	Continuous exposure during waste transfer operation (for weeks)	2
		Very low	Annually or less frequently	Prolonged exposure but for a very short duration (for few days)	1
		Unknown	Frequency of activity unknown	Continuity of exposure unknown	5*
Probability of Occurrence	An assessment of the degree of certainty associated with a potential impact, either negative or positive	Highly Likely	Very likely or certain to occur		5
		Likely	Likely to occur		4
		Possible	May possibly occur		3
		Unlikely	Unlikely to occur		2
		Highly Unlikely	Very unlikely to occur, or almost impossible		1
		Unknown	Probability of occurrence unknown		5*

** Score of 3 assigned for positive impacts*

Table 4-2 Criteria for evaluation of the consequence of possible impacts

Criteria	Description	Possible Results		
		Term	Description	Score
Magnitude of Impact	An indication of the severity of the impact, either positive or negative	Very High	Extreme negative effect – Where environmental functions or processes permanently cease Extreme positive effect – Permanently off-sets consumption of natural	5
		High	Severe negative effect – Where environmental functions or processes are altered to the extent that they temporarily cease Severe positive effect - Temporarily off-sets consumption of natural	4
		Moderate	Moderate negative effect - the affected environment is altered, but functions continue, albeit in a modified way Moderate positive effect – Consumption of natural resources continues, but a significantly lower quantity is required	3
		Low	Minimal negative effect - affects the environment in such a way that functions and processes are not affected Minimal positive effect - Consumption of natural resources continues, but a large amount is still required	2
		Very low	Minimal or negligible effect	1
		Unknown	Magnitude of impact unknown	5*
Scale of Impact	An indication of the geographical extent of the impact, either negative or positive	National	Affects international resources	5
		Regional	Affects the resources of Wales and the UK	4
		District	Affects off-site resources within adjacent County Boroughs	3
		Local	Affects the project area e.g. Carew airfield and surrounding agricultural land	2
		Site-	Localised, confined to site	1
		Unknown	Extent of impact unknown	5*
Duration of Impact	An indication of the duration or time over which the impact will be experienced, either negative or positive	Permanent	Will remain permanently	5
		Long Term	Extends beyond the waste transfer operations but not permanent	4
		Medium	Throughout the recycling operation	3
		Short	Shorter than the recycling operations	2
		Transient	Very short duration	1
		Unknown	Duration of impact unknown	5*

** Score of 3 assigned for positive impacts*

Based upon the overall aggregate scores for consequence and likelihood, each impact is assigned a qualitative term, ranging from 'very low' to 'very high'. The range of values equating to 'very low' and 'very high' have been chosen to approximate the 10th percentile and 90th percentile values of the overall ranges, for both consequence and likelihood. This system is summarised in Table 4-3.

Table 4-3 Overall consequence and likelihood ratings

Overall Likelihood	Sum of Exposure + Probability	2-3	4-5	6-7	8-9	10
		Very Low	Low	Moderate	High	Very High
Overall Consequence	Sum of Magnitude + Scale + Duration	3-4	5-7	8-11	12-14	15
		Very Low	Low	Moderate	High	Very High

Finally, the overall significance associated with the impact is determined by cross-referencing the overall consequence and likelihood ratings, as shown in Table 4-4. This determines the overall significance of the impact, which is assigned one of five qualitative terms, ranging from 'very low significance' to 'very high significance'. Each of the qualitative terms and implication of these levels of significance for the proposed screening and recovery activities are provided in Table 4-5.

Table 4-4 Matrix used to determine overall significance of potential impact

		OVERALL CONSEQUENCE OF IMPACT (Sum of Magnitude + Duration + Scale)				
		Very Low	**Low**	**Moderate**	**High**	**Very High**
OVERALL LIKELIHOOD OF IMPACT (Sum of Exposure and Probability)	**Very Low**	Very Low	Very Low	Low	Low	Moderate
	Low	Very Low	Low	Low	Moderate	High
	Moderate	Low	Low	Moderate	High	High
	High	Low	Moderate	High	High	Very High
	Very High	Moderate	High	High	Very High	Very High

Table 4-5 Explanation and interpretation of significance ratings for impacts remaining after mitigation

Significance of Impact After Mitigation	**Implications for Project**	
Very high	Extremely beneficial and enduring effect	Fatal flaw. There is a high probability that severe harm could arise to a designated receptor from an identified hazard.
High	Very substantial improvement to existing resources	Unacceptable effect. Harm is likely to arise to a designated receptor from an identified hazard without intervention.
Moderate	Appreciable improvement to, or will sustain, existing resources	Effect is serious enough to cause concern. Changes to waste operation should be considered. It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild.
Low	Some benefits	Acceptable effect - the possibility of the impact occurring is by no means certain and the consequence of exposure is such that there would be no measurable harm.
Very low	Negligible effect - probable that impact could occur but the impact would not be measurable	Negligible effect - probable that impact could occur but the impact would not be measurable.

4.2.1 Presentation of Impacts

In view of the large amount of data to be handled, matrices are used to present the potential impact ratings associated with the proposed activities in a clear, transparent and consistent manner.

Individual tables corresponding to each aspect (such as air quality, surface water) are used to assess the risks associated with the potential impacts.

5 IMPACT ASSESSMENT

5.1 Site Context

The scope of the Permit sought and the location of the site and the control measures that will be implemented will influence the potential risks posed to the environment. These operational control measures and aspects are listed below:

- Storage and processing of waste will occur on impermeable surface with sealed drainage
- Quantity of waste accepted at the facility will be controlled by Permit and site layout requirements of approved fire plan
- All ELVs shall be stored on an impermeable surface with sealed drainage system and depolluted indoors
- There are no direct emissions / pathways between site activities and identified receptors
- Most wastes are under the control of PMR prior to being brought to site
- Only modest quantities of scrap metal will be stored at the site at any one time
- The activities will not be carried out in a manner which significantly increases any of the identified risks

In addition:

- The activities are not within 1000m of a European Site (candidate or Special Area of Conservation, proposed or Special Protection Area or Ramsar site) or a Site of Special Scientific Interest (SSSI) – this limits the possibility of impact.
- There is just one residential property within 500m
- There is no school, hospital, nursing home or food preparation facility within 500m
- The site is outside of any Air Quality Management Areas

The proposed operation shares many similarities with the T9 waste operation that has been ongoing at the site for several years. During the operation of the site under the T9 waste exemption there have been no pollution incidents or complaints relating to noise, odour, dust or litter.

5.2 Evaluation of Impacts

The output of the assessment is summarised in the matrices presented in Table 5-1.

Table 5-1 Summary of Environmental Risk Assessment

Data and information					Judgement			Action		
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**	**Procedure No**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**	
Local human population	Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Very Low	Low	**Very Low**	Permitted waste types do not include dusts, powders, biodegradables or loose fibres. There are no residential properties in close proximity.	Ensure waste acceptance identifies potentially problematic waste. Temporarily cease operating if there is a significant problem. Prepare management plan through consultation with NRW if required.	Very Low	P008
Local human population	As above	Nuisance - dust on cars, clothing etc.	Air transport then deposition	Very Low	Low	**Very Low**	No local residents. Site to be routinely swept. Low number of vehicle movements.	As above	Very low	P008
Local human population, livestock and wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Low	Very Low	**Very Low**	Permitted waste types are metals under control of PMR with little opportunity for light fraction wastes being present. No local residents. Perimeter fence prevents most litter escape.	As above. Litter will be collected as necessary. Maintain good level of housekeeping.	Very low	P009

Table 5-1 Continued

Data and information					Judgement			Action		
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**	**Procedure No**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**	
Local human population	Waste, litter and mud on local roads	Nuisance, loss of amenity, road traffic accidents.	Vehicles entering and leaving site.	Very Low	Very Low	**Low**	Permitted waste types are metals under control of PMR with little opportunity for light fraction wastes being present. No local residents. Site can only be accessed along predominantly tarmac / cement roadway. Low number of vehicle movements.	As above. Litter will be collected as necessary.	Very low	P010
Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation.	Very Low	Very Low	**Very Low**	Remote location. Low odour potential waste. No local residents.	Ensure waste acceptance identifies potentially problematic waste. Prepare management plan through consultation with NRW if required.	Very Low	P012
Local human population	Noise and vibration	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Low	Very Low	**Low**	Remote location. No permanent local residents. Low number of vehicle movements. Vehicles under control of PMR Few complaints to date	Ensure all plant subject to planned preventative maintenance. Minimise metal drop heights Subjectively monitor site noise levels during site inspections based on experience. Operate in accordance with noise assessment and management plan	Low	P007
Local human population	Pests such as scavenging animals and scavenging birds	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land	Very Low	Low	**Low**	No local residents. Remote location. Permitted wastes unlikely to attract scavenging animals and birds. Post-consumer food containers not routinely accepted. Waste only in storage for short duration. No standing water due to drainage system.	Ensure waste acceptance identifies potentially problematic waste. Prepare management plan through consultation with NRW if required.	Very low	P011

Table 5-1 Continued

Data and information					Judgement			Action		
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**	**Procedure No**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**	
Local human population	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity	Air transport and over land	Very Low	Low	**Low**	As above. Permitted wastes unlikely to attract pests.	As above	Very low	P001, P011
Local human population and / or livestock after gaining unauthorised access to the waste operation	All on-site hazards: wastes; machinery and vehicles.	Bodily injury	Direct physical contact	Medium	Medium	**Medium**	Site security measures are in place to protect assets. Site boundary is fenced and secure and site is located within Carew Airfield which is itself secure. Access to liquid wastes restricted. All liquids shall be provided with secondary containment.	Activities shall be managed and operated in accordance with a management system which will include site security measures to prevent unauthorised access.	Low	PO14
Local human population and local environment.	Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or arsonists/ vandals. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Medium	Low	**Low**	As above. No local residents. Site has sealed drainage.	As above. EMS includes fire and spillages. Tyre storage in dedicated container to prevent fire spread. Fire separation distances to be maintained.	Low	P001, P002, P003, FPMP
Local human population and local environment	Accidental fire causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters. Pollution of water or land.	As above.	Medium	Low	**Low**	As above.	Permitted activities do not include the burning of waste. Fire plan and strict waste acceptance and storage procedures to be implemented to minimise risk.	Low	P001, P002, P003, FPMP

Table 5-1 Continued

Data and information					Judgement			Action		
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**	**Procedure No**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**	
All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Acute and chronic effects	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Very Low	Low	**Low**	No surface water in proximity. Site has bunded sealed drainage. All liquids shall be provided with secondary containment. All waste will be stored and treated on impermeable surface with sealed drainage.	Ensure EMS is implemented and all procedures routinely reviewed and improved as necessary.	Very Low	POO4
Groundwater in SPZ	As above	Chronic or acute effects e.g. contamination of groundwater	Transport through soil/groundwater	Low	Moderate	**Low**	Site located on Principle Aquifer. Site is bunded with sealed drainage. All fluids stored in bunded container. All infrastructure subject to preventative maintenance plan.	Ensure EMS is implemented. Ensure underground tank and associated infrastructure is fit for purpose and routinely emptied and maintained.	Low	P001, P004, P005, P006

Table 5-1 Continued

Data and information					Judgement		Action			
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**	**Procedure No**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**	
Designated sites (Pembrokeshire Marine SAC, Pembrokeshire Bat SAC, Carew Castle SSSI, Milford Haven Waterway SSSI)	Releases of particulate matter (dusts) and micro-organisms (bioaerosols) and litter	Harm to protected site through particulate fall-out / smothering	Air transport then deposition	Very Low	Medium	**Very Low**	Permitted waste types do not include dusts, powders, biodegradables, odorous wastes or loose fibres Site is over 1000m to the southeast of designated sites. Wind direction typically westerly and south-westerly at the site. Activity not likely to generate particulate matter beyond site boundary.	Ensure EMS implemented during day-to-day operations.	Very Low	
Designated sites (Pembrokeshire Marine SAC, Pembrokeshire Bat SAC, Carew Castle SSSI, Milford Haven Waterway SSSI)	Odour	Nuisance and toxicity to wildlife	Air transport then inhalation.	Very Low	Low	**Very Low**	As above.	As above	Very Low	
Designated sites (Pembrokeshire Marine SAC, Pembrokeshire Bat SAC, Carew Castle SSSI, Milford Haven Waterway SSSI)	Noise and vibration	Nuisance to wildlife	Noise through the air and vibration through the ground.	Very Low	Very Low	**Very Low**	Noise from site activities not likely to be detectable at designated sites which are over 1000m away. Designated sites are to north and northwest and prevailing wind direction is from southwest.	Ensure EMS implemented.	Very Low	
Designated sites (Pembrokeshire Marine SAC, Pembrokeshire Bat SAC, Carew Castle SSSI, Milford Haven Waterway SSSI)	Arson and / or vandalism causing the release of polluting materials to air (smoke or particulates), water or land.	Respiratory irritation to wildlife, modification / loss of habitat including particulate fall out and release of polluting substances to land and water	Air transport of smoke and particulates. Spillages and contaminated firewater by direct run-off from site as surface run-off or via land and groundwater	Low	Medium	**Low**	Designated sites are to north and northwest and prevailing wind direction is typically from southwest. Site has bunded sealed drainage with no direct pathway to receptors.	Ensure sealed drainage system is inspected and maintained. Ensure FPMP is fully implemented and risk of fire always minimised.	Very Low	P001, P002, P003, FPMP

Table 5-1 Continued

Data and information					Judgement			Action		
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification for magnitude**	**Risk management**	**Residual risk**	**Procedure No**
What is at risk? What do I wish to protect?	**What is the agent or process with potential to cause harm?**	**What are the harmful consequences if things go wrong?**	**How might the receptor come into contact with the source?**	**How likely is this contact?**	**How severe will the consequences be if this occurs?**	**What is the overall magnitude of the risk?**	**On what did I base my judgement?**	**How can I best manage the risk to reduce the magnitude?**	**What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).**	
Designated sites (Pembrokeshire Marine SAC, Pembrokeshire Bat SAC, Carew Castle SSSI, Milford Haven Waterway SSSI)	Impact to controlled waters (surface water and groundwater)	Negative impact on water draining into sensitive habitats.	Direct run-off from site across ground surface, via surface water drains, ditches etc. Infiltration through soil to groundwater and movement towards identified habitats	Low	Medium	**Low**	Site is over 1000m away from designated receptors and there is no direct connection. Site is bunded with sealed drainage. All liquids to be stored in bunded secure containers.	Ensure EMS is implemented.		
Designated sites (Pembrokeshire Marine SAC, Pembrokeshire Bat SAC, Carew Castle SSSI, Milford Haven Waterway SSSI)	Pests such as scavenging animals, birds and flies	Nuisance to wildlife, wildlife movement, predation and negative change of habitat	Pest at site and transfer of pests from site to designated sites	Not considered plausible as site operations are over 1000m from designated sites and site activities will not encourage pests. No biodegradable waste at site. No direct connection from site to designated sites. Risk profile would be reviewed if pests did become a problem.						

5.3 Outcome of Impact Assessment

Provided that management plans are in place and fully adopted, the assessments demonstrate that the proposed activities will not result in unacceptable environmental impacts. At this stage, the assessment also demonstrates that management plans for the control of dust, odour and noise are not required due to the location of the site and nature of the operation. These would, however, be required if the predictions made in the assessment are not validated during operations.

To ensure that the predictions made in the assessment are achieved will, however, require the control measures identified to be fully adopted. To minimise the opportunity of these measures not being fully implemented, the operation of the site will continue to be in accordance with a documented management system which will specifically include measures aimed at protecting the environment. These will include:

- Processing of waste in accordance with an Environmental Permit and a documented management system.
- Management of site by personnel with relevant and current WAMITAB certification and waste management experience.
- Ensuring areas used to store and process wastes will continue to be on an impermeable surface with sealed drainage .
- Separating potentially combustible waste in accordance with an approved Fire Prevention and Mitigation Plan.
- Not burning waste, either in the open, inside buildings or in any form of incinerator.
- Only treating wastes in accordance with the Permit.
- Not accepting dusts.
- Ensuring where disposal is necessary, this will be undertaken in a manner which minimises its impact on the environment.
- Preventing the activities extending beyond the Permit boundary.
- Implementing preventative maintenance programme for all plant and infrastructure.

5.4 Positive Impacts

To satisfy the Permit requirements, this assessment has focussed on identifying the potential negative environmental risks associated with the proposed waste management facility so that these can be managed and mitigated, as far as practicable, within the site management systems. In this context, the positive impacts associated with the development are not highlighted. Some of the direct positive impacts will include:

- Recovery of additional waste.
- Full time employment and associated personal and community benefits within a rural area.

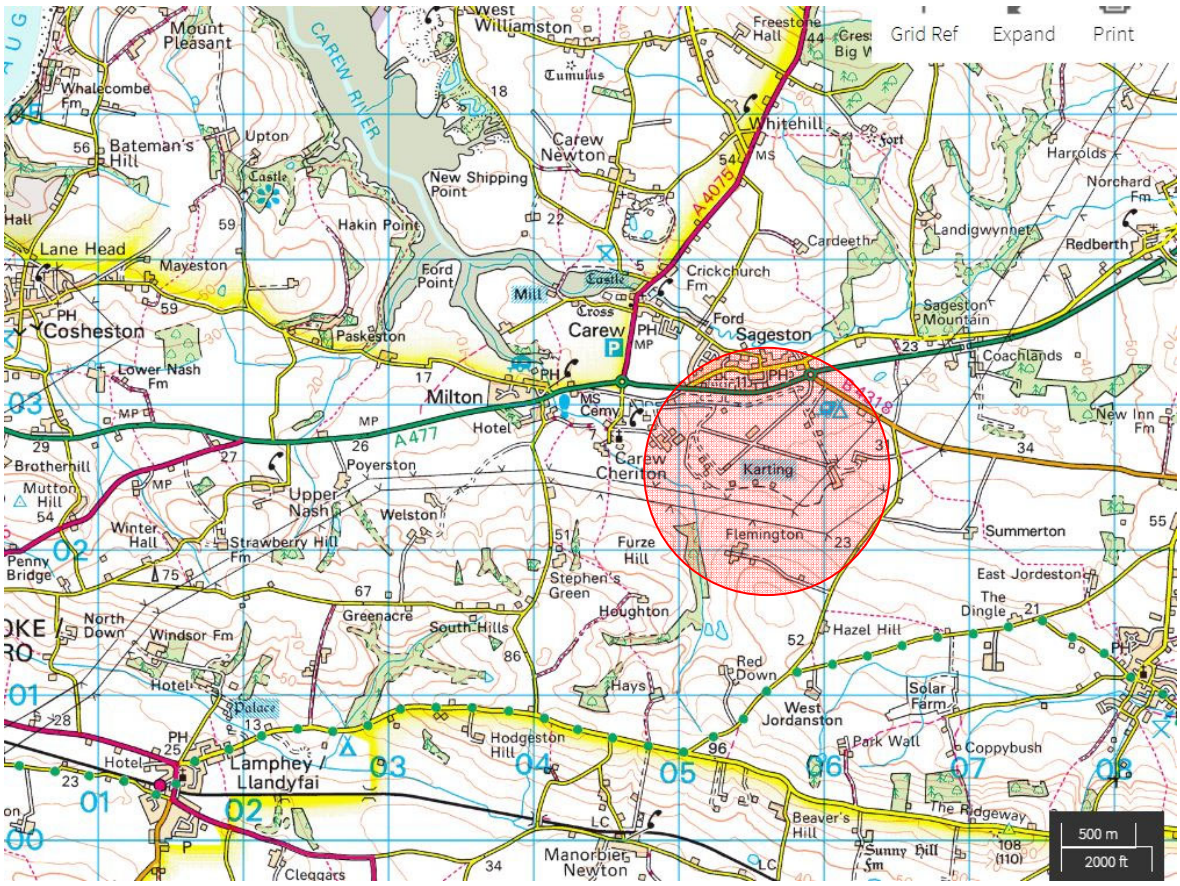
6 SUMMARY

The assessment predicts that the proposed operation will not significantly alter the risk that the site poses to the environment or neighbours.

To ensure the pollution control system remains effective, the infrastructure will require regular inspection and preventative maintenance in accordance with the EMS. A dynamic monitoring programme has also been developed (see separate Monitoring Plan).

There are no point source emissions from the operation. The risk assessment has also considered potential emissions from odour, noise, dust, pests, mud and litter and found that such emissions should not give rise to pollution due to the remote location of the site, the lack of immediate receptors and the EMS in place. There is a single residential property located over 300m from the site and no school, hospital or nursing home, food preparation facility or similar within 500m. On this basis, specific emission management plans have not been prepared for these aspects but procedures are in place within the EMS to ensure that the operation does not give rise to these fugitive emissions. Management plans and further risk assessment may be warranted if the position and type of receptors change and / or the operation does not perform as predicted in this assessment.

Figure 1 Site Location Plan



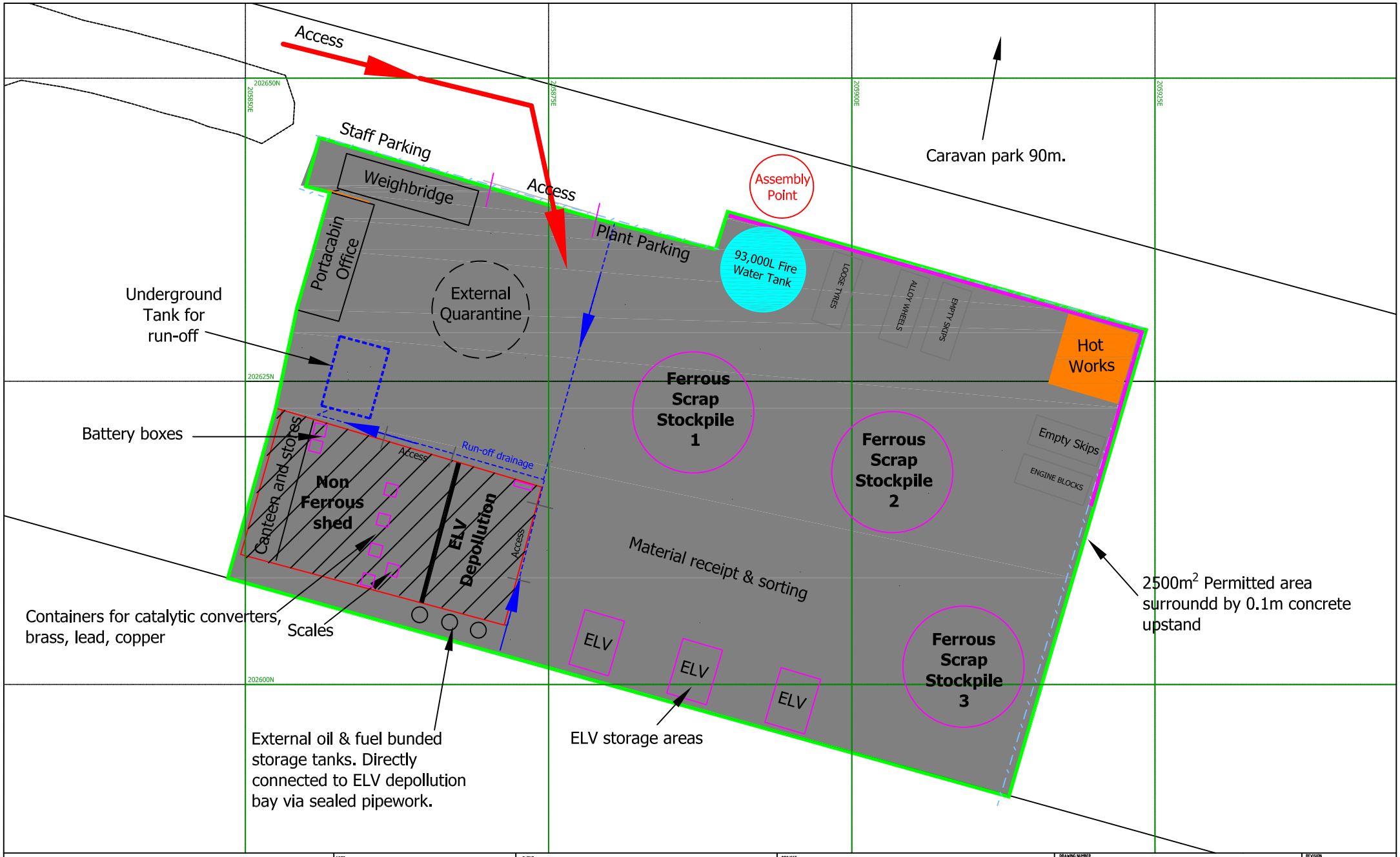


Figure Number 2135/2

Legend

- Concrete
- Building
- Permit boundary
- Solid hoarding
- Electrical box

NOTE

CLIENT: Pembrokeshire Recycling Ltd

PROJECT: ELV ATF

TITLE: Site Layout and Access

Rev	Date	Status/Ammendments

DRAWING NUMBER: 2135/2

REVISION: 0

SCALE: As Shown

DATE: 07/22

DRAWN: BR

CHECKED:

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Drawing Number 2135/3	NOTE	CLIENT: **Pembrokeshire Recycling Ltd**	PROJECT: **ELV ATF**	DRAWING NUMBER: **2135/3**	REVISION: **0**
Legend Permit Boundary Permit Boundary beneath overhead bridge		Rev / Date / Status/Ammendments	TITLE: **Aerial Image of Key Features**	SCALE AT A2: **As Shown** · DATE: **06.21** · DRAWN: **KP** · CHECKED	

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