# Caulmert Limited

Engineering, Environmental & Planning
Consultancy Services

## Bryn Posteg Landfill Site

## Sundorne Products (Llanidloes) Ltd

### Waste Recovery Plan

## Schedule 5 Response

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**APPROVAL RECORD**

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| **Site:** | **Bryn Posteg Landfill Site** |
| **Client:** | **Sundorne Products (Llanidloes) Ltd** |
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**DISCLAIMER**

# WASTE RECOVERY PLAN

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## APPENDICES

Appendix 1: REST 01 - Waste Acceptance for Restoration Soils procedure

# 1.0 INTRODUCTION

## 1.1 Background

1.1.1 This Waste Recovery Plan has been prepared on behalf of Sundorne Products (Llanidloes) (Ltd) trading as Potters Waste Management (Potters) under Environmental Permit EPR/BU7766IC operate Bryn Posteg Landfill Site. It is prepared to set out the reasons as to why the proposed placement of inert waste at Bryn Posteg Landfill Site is to be classed as a recovery as opposed to a disposal operation.

1.1.2 This report forms part of the improvement condition to the Schedule issued from NRW regarding the most recent permit variation at Bryn Posteg to produce a waste recovery plan for the closure and restoration of this site.

1.1.3 The sites current landfill permit allows for the import of soil restoration wastes for use. An additional 50,788$m^3$ is necessary to complete the works. It is estimated that restoration of the remaining area will be completed by within the next 2-3 years dependent upon infilling rates

1.1.4 Bryn Posteg Landfill has been operating for a number of years under various planning consents, the most recent and extant planning consent is planning permission ref M/2004/1362. Under ref M/2004/1362 pre-settlement restoration contours were proposed under Drawing Ref 9.

1.1.5 Parts of the site have been completed and restored whilst some have been completed but not fully restored. The site has one operational phase remaining.

1.1.6 Additional soil restoration material will be imported to complete the site restoration to the final plan, drawing DRGW 13.

1.1.7 Natural Resources Wales references the Environment Agency guidance for Waste Recovery Plans, and since the withdrawal of RGN13 by the Environment Agency in 2016 the requirements for waste recovery permits and associated operations have changed. This permit variation application aims to amend the current permit to support the use of additional imported materials to enable restoration of the site, as there is a shortfall of material at the site. The waste recovery plan has been written in accordance with the most recent NRW guidelines.

1.1.8 The permit variation will progress on the basis of an obligation to do the work. In this instance the obligation is that of the planning consent planning permission ref M/2004/1362

## 2.0 DETAILS OF THE SITE AND THE PROPOSED WASTE DEPOSIT

### 2.1 Site location and surrounding land use

2.1.1 The Bryn Posteg Landfill Site is located 2.8km to the south east of Llanidloes. It is accessed from the B4518 Llanidloes to Tylwch public highway. The landfill site occupies a total plan area of approximately 20.97 hectares, and generally comprises:

- landfill cells;
- materials recycling facility;
- offices and welfare facilities;
- biomass boiler / electricity generator;
- leachate water treatment components;
- surface water treatment facilities.

2.1.2 The site is broadly rectangular in plan. Its southwest boundary is adjacent to the B4518 highway. The northwest, northeast and southeast boundaries are adjacent to open pasture/grazing land.

2.1.3 The receptors surrounding the site are outlined in the Amenity and Accidents Risk Assessment (3428-CAU-XX-XX-RP-V-0301-A0-C1) and a summary of the nearby receptors is shown in drawing 3428-CAU-XX-XX-RP-DR-S-1805.

2.1.4 There are no cultural or natural heritage sites within 1km of the site boundary, Llanidloes Museum is located 2.7km north west.

***Environmentally sensitive habitats***

2.1.5 There are no Sites of Special Interest (SSSI) within 1km of the site boundary or any other sensitive ecological designations.

### 2.2 Site history and development

2.2.1 Bryn Posteg Landfill Site is situated approximately 2.8km south-east of Llanidloes, s and is centred at National Grid Reference SN 971 822.

2.2.2 The site has been developed in the surface void associated with an old lead mine. Approximately 19 hectares of the site have been subject to controlled landfill since 1982. The site was operated by Montgomery District Council, later Powys County Council, from 1982 until April 1997, when it was taken over by Evans Logistics, now Potters Waste Management.

2.2.3 The site previously operated under a Waste Management Licence and was issued with a PPC permit in 2004 (now transferred to Environmental Permit). It is currently operating under Environmental Permit EPR/BU7766IC.

2.2.4 The site accepts municipal waste which consists of 60-70% household waste and 30-40% commercial trade waste. The waste accepted at the site is processed in a Materials Recycling Facility (MRF). The outputs from the process are; metals which are screened out and recycled,

oversized fraction (>80 mm) which is landfilled, and fines (<80 mm) which are composted for two weeks and subsequently landfilled.

2.2.5 Bryn Posteg Landfill Site is located at the site of a former lead mine. The site has been developed over several years with the first waste being accepted into Phase 1 in 1982. The site is currently divided into 9 Phases which, in turn, are divided into subcells (Drawing 3400.HRA.01). The current tipping operations are continuing in Phase 9C and 9D. It is noted that in some documentation Cell 9D is referred to as subcells 9D & 9E.

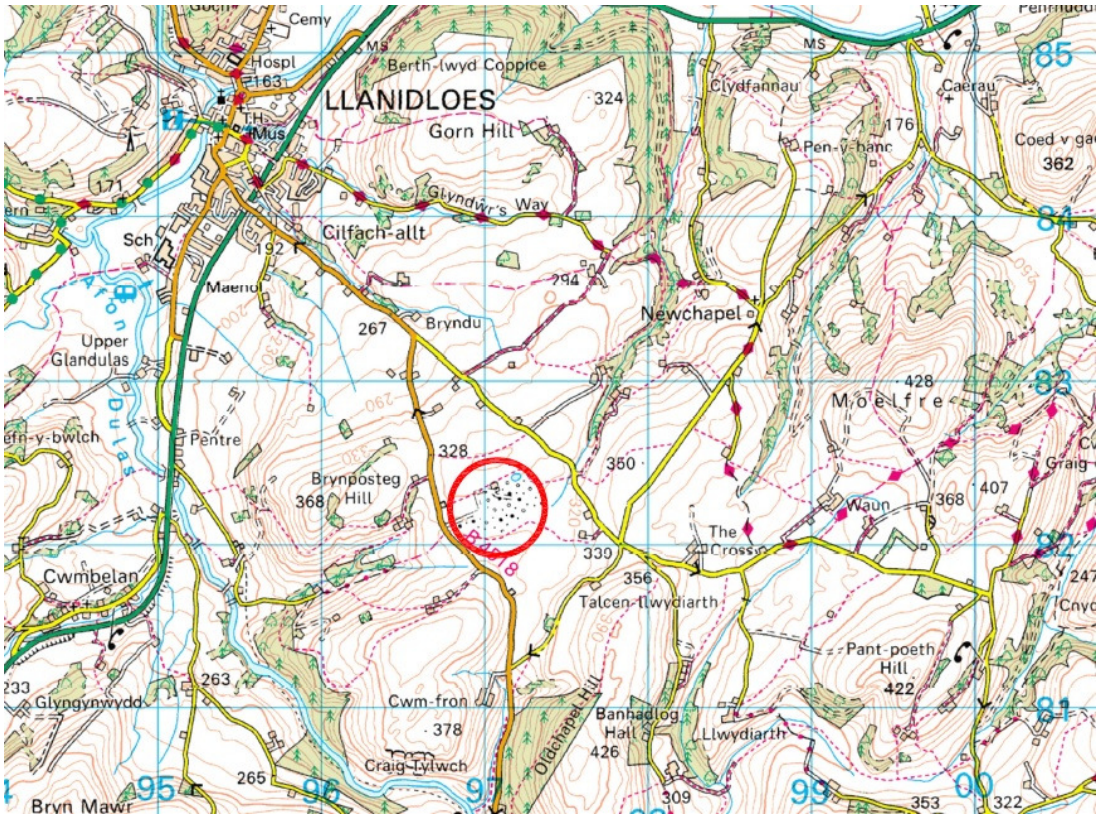



**Figure 1:** Site Location Plan

2.2.6 The approved restoration scheme involves low level restoration of the site to woodland and agriculture, however in order to achieve this, the extracted mineral must be replaced with additional imported inert waste materials.

2.2.7 The restoration/soils handling scheme requires 0.8m of subsoil and 0.2m of topsoil to be placed over the landfill cap

2.2.8 Detailed below is the history of the site showing individual phase or cell development.

**Table 2. Development History of Site**

| Phase | Filling Period | Base of Cell (mAOD) | Lining Details | Capping Details | Area m² |
|---|---|---|---|---|---|
| 1 | 1982- | 310 | 1m insitu clay (demonstrated by trial pits) | 1m compacted boulder clay | 3863 |

| Phase | Filling Period | Base of Cell (mAOD) | Lining Details | Capping Details | Area $m^2$ |
|---|---|---|---|---|---|
| 2 | | 310 | 1m clay "target permeability 1 x $10^{-9}$m/s"[1] Permeability range 5.9 x $10^{-10}$m/s to 1.7 x $10^{-8}$m/s with moisture content 11-14% | 1m compacted boulder clay | 13677 |
| 3A, 3B, 3C | 1991-1994 | 311 | 1m clay "target permeability 1 x $10^{-9}$m/s"[1] Permeability range 5.9 x $10^{-10}$m/s to 1.7 x $10^{-8}$m/s with moisture content 11-14% | LLDPE cap – lap and lay 0.75m soils | 22960 |
| 4A, 4B | 1994-1995 | 311 | 1m clay "target permeability 1 x $10^{-9}$m/s"[1] Permeability range 5.9 x $10^{-10}$m/s to 1.7 x $10^{-8}$m/s with moisture content 11-14% | 4A = LLDPE cap-lap and lay 0.75m soils. 4B = re-capped with welded membrane | 15175 |
| 5 | 1995-1996 | 311 | 1m clay "target permeability 1 x $10^{-9}$m/s"[1] Permeability range 5.9 x $10^{-10}$m/s to 1.7 x $10^{-8}$m/s with moisture content 11-14% | LLDPE cap – lap and lay 0.75m soils | 10567 |
| 6 | 1996-1998 | 310 | GCL & HDPE liner with CQA by Aspinwall. Underlying clay permeability 5.9x$10^{-10}$m/s to 1.7x $10^{-8}$ m/s | Welded geomembrane with 0.75m soils | 6762 |
| 7 | 1998-2002 | 310 | GCL & HDPE liner with CQA by Evans Logistics and CL Associates Geocomposite underdrainage layer connected to vertical riser | GCL with 0.4m soils | 8626 |
| 8 | 2002-2003 | 310 | GCL & HDPE liner with CQA by Enviroarm | GCL with 0.4m soils | 8346 |
| 9A | | 307 | 0.5m mineral liner with CQA, GCL and Geomembrane 27 perm tests on clay. 4.6 x $10^{-10}$ m/s max perm, average 1.36 x $10^{-10}$ m/s for base[(2)] | Geomembrane with 1m soils | 8938 |
| 9B | | 307 | 0.5m mineral liner with CQA, GCL and Geomembrane. 30 permeability tests 1.8 x $10^{-11}$m/s to 2.5 x $10^{-10}$m/s [(2)] | Welded geomembrane with 1m soils | 8895 |
| 9C | Ongoing | 307 | 0.5m mineral liner with CQA, GCL and Geomembrane | Operational | 14432 |
| 9D, (&9E) | Ongoing | 307 | 0.5m mineral liner with CQA, GCL and Geomembrane | Operational | 22415 |

1 Enviroarm Ltd, Regulation 15 Risk Assessment, 2002
2 CQA data reported by Potters Waste Management Ltd

## 2.3 Proposal for waste importation and deposit

2.3.1 This waste recovery plan has been produced to support the permit variation is to amend the final restoration profile of the landfill to the latest restoration contours (3495-CAU-XX-XX-DR-S-1813) to account for previous over tipping and to enable the satisfactory completion of the site through the importation of soils as a recovery operation.

2.3.2 Cells 1 to 9B are all capped. Cells 1 and 2 are capped with 0.5m mineral liner and 0.5m restoration soils. Cells 3 to (some of Cell) 6 have received a 1mm lap-lay geomembrane liner covered with 0.75m restoration soils. Cell 6 has a welded geomembrane cap (1mm HDPE) covered by 0.75m of restoration soils. Cells 7 and 8 have a GCL cap that currently is covered with around 400mm of subsoil. The final restoration of this will have a minimum of 1 metre of soils. Cells 9A to 9C were capped in summer 2017.

***Quantity of waste material required***

2.3.3 It is proposed that the site will be restored in accordance with the latest plan. Proposed restoration contours are shown in drawing 3428-CAU-XX-XX-DR-S-1813 P2.

| Phase | Area remaining for restoration $m^2$ | Depth of soils required | Volume $m^3$ |
|---|---|---|---|
| 1 | 1931 (half needs additional soils) | 0.5m | 966 |
| 2 | Complete | N/A | N/A |
| 3A, 3B, 3C | Complete | N/A | N/A |
| 4A, 4B | Overtipped by 9b and 9c | N/A | N/A |
| 5 | Complete | N/A | N/A |
| 6 | Complete | N/A | N/A |
| 7 | Overtipped by 9b and 9c | N/A | N/A |
| 8 | 8346 | 0.7 m remaining | 5842 |
| 9A | 8938 | 0.4m remaining | 3575 |
| 9B | 8895 | 0.4m remaining | 3558 |
| 9C | 14432 | 1m required | 14432 |
| 9D, (&9E) | 22415 | 1m required | 22415 |

2.3.4 Therefore, under the current scheme a total of 50,788m3 of additional soils are required

***Revised Restoration Scheme***

2.3.5 A revised restoration scheme has been prepared as part of the planning application to regularise the landfill profile at the site. A copy of the Revised Restoration Master Plan (18/03/RP/01) is enclosed within this report.

2.3.6 This scheme now includes tree planting over an area of the site which will require 1.5m of soils in accordance with guidance on the planting of trees on landfill sites. The proposed tree planting covers an area of 24,491$m^2$ that will require an additional 0.5m depth in addition to that already approved resulting in a requirement for a further 12,245m3 of soils.

2.3.7 Therefore, a total of 63,033m3 will be required subject to approval of the revised restoration scheme.

***Source of inert materials for restoration***

2.3.8 It is proposed to accept wastes for recovery to enable site restoration. These are detailed in the tables below, with table 1 detailing the wastes included within this recovery plan, and table 2 listing the wastes to only be accepted following the submission of an updated waste recovery plan, which will provide further information on specification, application rates and include a risk assessment for the storage and use of these wastes.

**Table 1**

| | |
|---|---|
| **01** | **WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS** |
| **01 04** | **wastes from physical and chemical processing of non-metalliferous minerals** |
| 01 04 08 | waste gravel and crushed rocks other than those mentioned in 01 04 07 |
| 01 04 09 | waste sand and clays |
| **02** | **WASTES FROM THE PREPARATION AND PROCESSING OF MEAT, FISH AND OTHER FOODS OF ANIMAL ORIGIN** |
| **02 04** | **wastes from sugar processing** |
| 02 04 01 | soil from cleaning and washing beet |
| **17** | **CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)** |
| **17 05** | **soil (including excavated soil from contaminated sites), stones and dredging spoil** |
| 17 05 04 | soil and stones other than those mentioned in 17 05 03 |
| 17 05 06 | dredging spoil other than those mentioned in 17 05 05 |
| **19** | **WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE** |
| **19 12** | **wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletizing) not otherwise specified** |
| 19 12 09 | minerals (for example sand, stones) |
| **19 13** | **wastes from soil and groundwater remediation** |
| 19 13 02 | solid wastes from soil remediation other than those mentioned in 19 13 01 |
| 19 13 04 | sludges from soil remediation other than those mentioned in 19 13 03 |
| **20** | **MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS** |
| **20 02** | **garden and park wastes (including cemetery waste)** |
| 20 02 02 | soil and stones |

**Table 2**

| | |
|---|---|
| **03** | **WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD** |
| **03 03** | **wastes from pulp, paper and cardboard production and processing** |
| 03 03 05 | de-inking sludges from paper recycling |
| 03 03 09 | lime mud waste |

| 19 | WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE |
|---|---|
| **19 05** | **wastes from aerobic treatment of solid wastes** |
| 19 05 03 | off-specification compost |
| **19 08** | **wastes from waste water treatment plants not otherwise specified** |
| 19 08 05 | sludges from treatment of urban waste water |
| **19 09** | **wastes from the preparation of water intended for human consumption or water for industrial use** |
| 19 09 02 | sludges from water clarification |

***Method of placement***

2.3.9 The proposed restoration method entails bringing waste soils into the site to achieve the restoration of the site to the proposed restoration profile.

2.3.10 The thickness of inert waste soils required across the site depends on the extent of restoration in the various areas of site. Cells 1 and 2 are capped with 0.5m mineral liner and 0.5m restoration soils. Cells 3 to (some of Cell) 6 have received a 1mm lap-lay geomembrane liner covered with 0.75m restoration soils. Cell 6 has a welded geomembrane cap (1mm HDPE) covered by 0.75m of restoration soils. Cells 7 and 8 have a GCL cap that currently is covered with around 400mm of subsoil. The final restoration requires have a minimum of 1 metre of soils.

2.3.11 The restoration contours are shown on drawing 3495-CAU-XX-XX-DR-S-1813.

## 2.4 Storage of Restoration Soils

2.4.1 To enable the placement of soils to be undertaken on a campaign basis during suitable weather conditions and promptly following capping works, it is proposed to stockpile restoration soils ready for use.

2.4.2 The location for soil storage is shown on drawing 3428-CAU-XX-XX-DR-S-1809 which is the current location used for soils storage. It is anticipated that up to 20,000 tonnes maybe stored within this area awaiting restoration works.

## 2.5 Pre-Acceptance of Waste

2.5.1 Sundorne Products will obtain the following information from the waste producer, where appropriate, to enable consideration of the waste load prior to acceptance for recovery. This information is required for all new waste enquiries:

- Waste description, including European Waste Catalogue (EWC) code;
- Description of the process producing the waste;
- Method of transport/delivery; and
- The typical waste composition.

2.5.2 Where required, sufficient data will be gathered for each waste stream to be assessed prior to acceptance for recovery. A tracking system will be employed at the pre-acceptance stage to ensure that incoming waste can be verified during acceptance.

2.5.3 Pre-acceptance testing will be undertaken where appropriate.

## 2.6 Preventing Contamination (Waste Acceptance)

2.6.1 The intention of on-site acceptance procedures is to verify and characterise the waste as it arrives at the site. Wastes will not be accepted unless an assessment has been undertaken of the suitability as a restoration material.

2.6.2 Wastes will be delivered to the facility by a combination of heavy and light goods vehicles. On entering the site access road, signs will direct vehicles to the site weighbridge which is monitored. directly from the weighbridge office. Waste is only accepted at the site if it is in accordance with the provisions laid down in The Environmental Protection (Duty of Care) Regulations 1991 (and subsequent amendment in 2003), and in accordance with the sites Environmental Permit (EP) and associated Schedule of Tonnages and EWC codes.

2.6.3 A record is kept of the date and time of restoration material deliveries, quantities and the nature of the waste deposited at the site, the name of the company and their representative delivering (if applicable) each load of waste and the vehicle registration number. Wherever practicable, each load is inspected by the trained, nominated person to determine the basic characteristics of the waste. Subject to verification that the waste is suitable for treatment at the site and the accompanying waste transfer documentation is correct, the waste is accepted into the site. If the load does not hold the required paperwork, an attempt shall be made to verify the delivery. The vehicle will be told to park up in the waste quarantine area, until such time as the paperwork is confirmed or otherwise and the load approved or rejected. If the waste is unsuitable, the load remains on the vehicle for acceptance elsewhere within the facility or immediate off-site transfer. Such events will be recorded in the site diary and NRW informed.

2.6.4 Should a load be deposited and found to be non-compliant, and the producer/carrier has left the site, this load will be re-containerised, and placed in the load quarantine area awaiting collection for delivery to a suitably permitted facility unless it is decided it can be accepted for disposal in the landfill. Such events will be recorded in the site diary.

## 2.7 Criteria for Waste Acceptance

2.7.1 Basic characterisation will consider the short and long-term leaching behaviour and/or characteristic properties of the restoration material. During basic characterisation it is likely that the following information will be acquired from the producer/carrier:

- Source and origin of the waste;
- Information on the process producing the restoration material (description and characteristics of raw materials and products);
- When the pre-treatment requirements are finalised and implemented, a description and confirmation of the pre-treatment applied to the restoration material or a recorded statement of reasons why pre-treatment was not considered necessary;

- Appearance of the waste e.g. smell, colour and physical form;
- Code in accordance with the European Waste Catalogue (EWC);

### 2.8 Waste Acceptance Procedure

2.8.1 A specific waste acceptance procedures for the deposit of soils for recovery, *'REST 01 - Waste Acceptance for Restoration Soils procedure'* is contained within Appendix 1

## 3.0 RISK ASSESSMENT

3.1.1 A risk assessment has been undertaken to determine if the operational activities may have an effect on any sensitive receptors located close to the land to which restoration will take place.

3.1.2 Bryn Posteg landfill site is situated in a rural area with no close areas of dense population. The nearest town of Llanidloes is situated 2.8km to the north-west of the site. The closest properties to the site are: Bryn Posteg Farm (250 m west), Valley View (100 m north-west), Maes-Socyn (350 m south-west), Talan-Llwydiarth (450 m south-east), Rhoswen (200 m east), Pant (250 m east) and Penbryndu (300 m north), Tawelfa (310m north). The properties Valley View, Rhoswen and Pant are within 250 m of the site boundary.

3.1.3 The B4518 road is located adjacent to the south west of the site. To the north, north east and south east is predominantly agricultural land.

3.1.4 Nany y Bradnant stream is located adjacent north east of the site boundary. The nearest major watercourse is the River Dulas located approximately 1.5km west of the site. Tylwch Road is located adjacent south west of the site.

3.1.5 There are no Sites of Special Scientific Interest (SSSI) within 1km of the site boundary or any other sensitive ecological designations.

3.1.6 There are no schools or hospitals within 500m of the site boundary.

3.1.7 There are no groundwater source protection zones located within 500m of the proposed site.

3.1.8 The receptor plan, drawing number 3428-CAU-XX-XX-DR-S-1805, shows the locations of receptors within a 500m radius of the landfill. These nearby receptors and any protected sites within a 1km radius of the area of the landfill are summarised in the table below:

| **Receptors** | | |
|---|---|---|
| **Boundary of Landfill Site** | **Land Use** | **Distance/Direction** |
| **Northern Boundary** | Agricultural land<br>Residential | Adjacent<br>300m N |
| **Eastern Boundary** | Agricultural land<br>Bryn-du Road<br>Residential | Adjacent<br>300m E<br>200m E |
| **Southern Boundary** | Agricultural<br>Residential | Adjacent<br>150m S |

| **Receptors** | | |
|---|---|---|
| **Boundary of Landfill Site** | **Land Use** | **Distance/Direction** |
| | Unnamed road | 420m S |
| **Western Boundary** | B4518<br>Residential | Adjacent<br>350m W |
| **Human receptors** | Visitors and workers on landfill<br>Residential within 500m | On site<br>150m S nearest point |
| **Groundwater** | Non-aquifer | N/A |
| **Surface Water** | Stream<br>Afon Dulas | Adjacent NE<br>1.5km W |
| **SSSIs** | None within 1km | N/A |

3.1.9 Possible hazards (i.e. odour sources, sources of noise or vibration, sources of fugitive emissions that could be harm the environment or escape beyond the permit boundary and possible sources of accidents that could harm the environment) have been identified. For each possible hazard, an assessment of the risk that poses to potential receptors has been carried out; taking into account the control measures in place.

**Table 1: Amenity Risk Assessment Table**

| 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?<br>If it occurs – 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** | | | | | | |
| Release of particulate matter from soils during unloading, storage and spreading deposit and spreading. | Nearby residential properties, users of B4518 road. | Air - via wind borne dust and particulates.<br>Prevailing south westerly wind | Specific control measures include:<br>No placement operations shall take place during adverse weather conditions.<br>water bowser to be used to supress dust if required.<br>The management plan for the site includes procedures to minimise dust from all the operations on site.<br>A dust management procedure forms part of the site management system.<br>The dust management procedure will also be reviewed and amended should it be highlighted that there is need for further measures to be taken. | Dust can affect downwind receptors during strong winds. However, If mitigation measures are adhered to, receptors should not be only be affected. | Nuisance - dust on cars, clothing etc. | Low |

| | | | | | | |
|---|---|---|---|---|---|---|
| Noise from incoming and outgoing traffic, restoration works | Residential receptors within 500m<br><br>Users of surrounding roads | Air | Measures to mitigate against excessive noise from site activities are detailed in noise management plan include:<br>• Any site vehicles and equipment will be maintained in accordance with manufacturers' specifications.<br><br>Actions in the event of excessive noise detected outside the site:<br>• The site manager should be informed.<br>• The source of noise should be identified, and the activity should be stopped until appropriate measures to reduce noise levels from that activity are implemented. Appropriate measures needed will depend on the reason for the excessive noise generation. | **Unlikely**: Low level noise may be audible from the proposed activities beyond the site boundary. The noise is likely to be intermittent traffic noise. | Noise from operations may cause annoyance to people in nearby industrial premises and residential properties. | **Low risk.** |
| **To Water** | | | | | | |
| Run off from restored areas and during storage | Surface water | Surface water drainage system. | Placement of soils will not take place during periods of heavy rainfall in order to prevent excessive runoff.<br><br>The management procedures for the site will include procedures to minimise the risk of run-off contaminated with suspended solids being discharged to surface water.<br><br>Surface water runoff from application area will drain into surface water storage/settlement ponds before discharging into surface water. | Low given the nature of the waste to be deposited & surface water management system<br><br>(Accidental spillages are dealt with in Table 4). | Contamination of surface water. | Low |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | The Discharge will be monitored on a regular basis as a requirement of the separate landfill Permit. | | | |
| Runoff from restoration areas into ground | Groundwater – site is on a secondary aquifer, not within groundwater protection zone. | Migration through landfill containment and underlying soil layer. | Activities will be managed and operated in accordance with a management system (waste acceptance procedures)<br>Groundwater is monitored on a regular basis as a requirement of the landfill permit. | wastes are considered to have a much lower magnitude risk compared with other wastes contained within the landfill | Contamination of groundwater | Very low |
| **Pests** | | | | | | |
| Rats /flies/birds | Nearby Residential receptors | Over ground | Provided that the waste acceptance procedures are adhered the risk from pests is minimal. | N/A | N/A | Very low |
| **Mud/Litter** | | | | | | |
| Litter | Nearby Residential receptors, users of B4518 road and agricultural land | Air<br>Prevailing south westerly wind | Waste unlikely to give rise to litter. | Local residents often sensitive to litter, however permitted waste types have low litter potential | Nuisance to nearest properties and roads | Low risk |
| Mud/debris from waste storage area | Residential receptors within 500m | Deposited by vehicles with dirty wheels | The whole site is hard surfaced.<br>Internal site roads to be kept free of waste. | **Unlikely**: Hard surfacing reduces the risk of mud/debris and | Low level nuisance to other road users, and debris on the road will be a | **Low risk** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Users of surrounding roads | | | facilitates cleaning the site. | nuisance rather than a safety issue. | |

**Table 2 Accidents Risk Table**

| 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? If it occurs – 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 |
| **Accidents** | | | | | | |
| Acceptance of contaminated waste | Groundwater and surface water | Migration through site and underlying soil layer to groundwater. Surface water system | Activities will be managed and operated in accordance with a management system: pre-acceptance & waste acceptance procedures will include visual inspection on receipt and quarantine/rejection procedures. | waste type only a lower magnitude risk provided waste acceptance procedures followed | Pollution of surface water and or groundwater | Low |
| All on-site hazards: wastes, machinery and vehicles. | Site users/trespassers | Direct physical contact | Activities will be managed and operated in accordance with a management system (will include site security measures to prevent unauthorised access, traffic management to separate pedestrians from traffic). | Vehicle movements and plant usage relatively low. | Bodily harm | Low |
| Arson and / or vandalism | The release of polluting materials to air (smoke or fumes), water or land | Air transport of smoke. Spillages and contaminated firewater by direct run-off | Activities will be managed and operated in accordance with a management system (will include site security measures to prevent unauthorised access). | Permitted waste types are non- combustible therefore only a v. low magnitude risk is estimated | Nuisance or pollution of nearby water courses | Very Low |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | from site and via surface water drains and ditches. | | | | |
| Accidental fire | The release of polluting materials to air (smoke or fumes), water or land | Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches. | Activities will be managed and operated in accordance with a management system (will include site security measures to prevent unauthorised access). | Permitted waste types combustible so have only a low magnitude risk | Nuisance or pollution of nearby water courses | Low |
| Flooding of site | If waste is washed off site it may contaminate surface water | Flood waters | Restored areas of site not at flood risk. | Permitted waste types are unlikely to cause significant pollution so any waste washed off site will add to the volume of the local post-flood clean-up workload, rather than the hazard. Not within flood protection zone | Nuisance or pollution of nearby water courses | Insignificant. |

## 5.0 WASTE RECOVERY PLAN

### 5.1 Guidance on waste recovery

5.1.1 Natural Resources Wales states that Waste Recovery Plans must be written in line with the Environment Agency guidance. The guidance on recovery now states the operator has to show: evidence of financial gain by using non-waste materials, evidence that funding has been secured to cover the expected cost of the work using non-waste; or evidence that there is an obligation to the work, for example being required by a planning condition to restore the land according to an approved plan.

### 5.2 Legal Obligation

5.2.1 In the case of Bryn Posteg, the planning consent exists which requires the restoration of the site.

5.2.2 Waste acceptance procedures are in place at the site to ensure only these wastes are accepted. Inert waste is suitable for the intended purpose and is unlikely to cause pollution to the environment.

### 5.3 Evidence Waste is Suitable

3.2.1 Waste acceptance procedures are applied to the wastes received for deposit at the site to ensure that only waste that are suitable for recovery are accepted. This includes pre-acceptance checks and acceptance checks to ensure that the material has been correctly categorised and matches its description.

3.2.2 The recovery works deliver agricultural and ecological benefits by restoring the land to a suitable configuration in accordance with plans. Inert wastes utilised as part of the recovery operation will assist with the ground reinstatement.

### 5.4 Quantity of Wastes

5.4.1 To enable the restoration of the remaining site, will require the importation of 50,788 m3 (91,418 tonnes) of soils will be used. The tonnage of inert material has been calculated from the most recent survey.

5.4.2 The calculation has been based on current ground level contours compared with the approved restoration contours. A conversion factor of 1.8 has been applied to convert $m^3$ into tonnes which is considered standard industry practice.

5.4.3 This volume of inert waste takes into account the material already available at the site. Only the material required to restore the site to approved levels will be accepted onto site, the minimum amount possible will be used.

## 5.5 Conclusions

5.5.1 It is considered that the proposed use of inert waste for recovery will not cause pollution to the surrounding environment and the minimum amount of waste will be imported. A quantity of 50,788 $m^3$ of waste soils under the current scheme and 63,033m3 under the proposed scheme, are left to be imported to site to complete the site restoration.

5.5.2 'Recovery' is defined in the Waste Framework Directive as "*any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy*". In this instance, there are insufficient materials on-site that could have been used on those areas where levels need to be raised to the approved restoration contours and a suitable landform for its designated after use. The proposed use of inert waste therefore serves a useful purpose in replacing on-site or other imported materials.

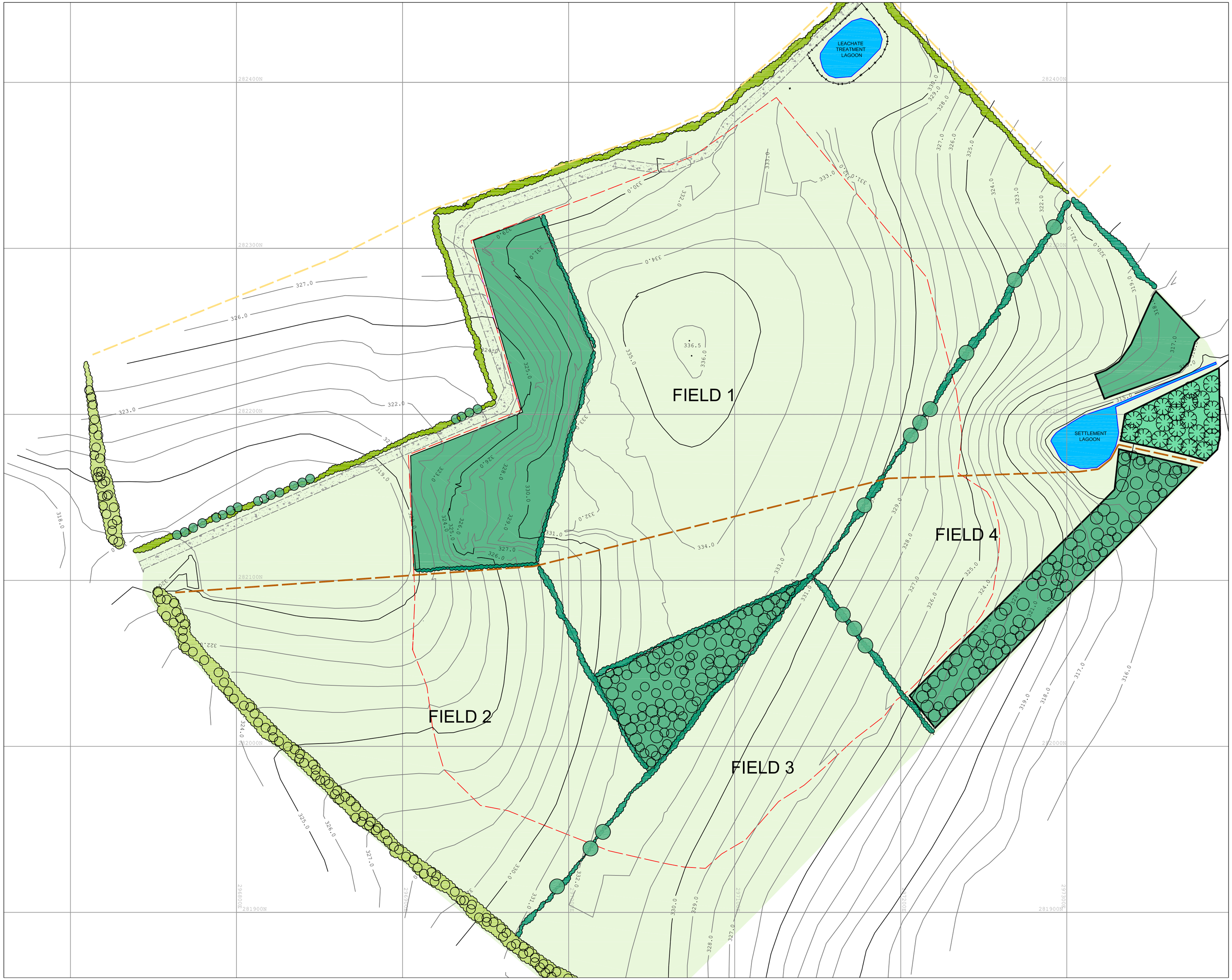
5.5.3 It is considered that the proposed use of inert waste for restoration at Bryn Posteg Landfill Site meets the above definition.

# 6.0 REFERENCES

Reference to EA Guidance on Waste Recovery Plans: October 2018:
https://naturalresources.wales/permits-and-permissions/waste/waste-permits/permanent-deposit-of-waste-for-recovery/?lang=en

EA - Guidance Note: Waste recovery plans and Permits. October 2018:
https://www.gov.uk/guidance/waste-recovery-plans-and-permits#waste-recovery-plan

**DRAWINGS**




LEGEND

- Post Settlement Contour.
- Existing woodland to be retained.
- Proposed woodland.
- Proposed scrub.
- Proposed individual tree.
- Proposed species rich grassland .
- Proposed hedge.
- Planted bund.
- Realigned footpath.
- Limit of landfill.
- Proposed access track.
- Existing footpath.

EVANS LOGISTICS

BRYN POSTEG LANDFILL SITE

RESTORATION MASTERPLAN

| | |
|---|---|
| DRAWN BY: NW | DATE: 20.10.2004 |
| CHECKED BY: MN | SCALE @ A2: 1:1500 |
| APPROVED BY: MN | ISSUING OFFICE: PEOVER |

| DRAWING NUMBER | ISSUE | REVISION |
|---|---|---|
| DRWG 13 | | - |

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CAD FILE REF: XX.DWG

N

296700E
296800E
296900E
297000E
297100E
297300E
297400E
297500E
282400N
282300N
282200N
282100N
282000N
281900N
281800N

EXISTING PASTURE

EXISTING ACCESS

EXISTING WASTE TRANSFER STATION

EXISTING BUND

SCATTERED SCRUB

SCATTERED SCRUB

Key:

- Post settlement proposed contour
- Existing vegetation to be retained
- Proposed native woodland
- Proposed native scrub
- Proposed specimen tree
- Proposed species rich grassland
- Proposed native hedge
- Existing bund planted with native trees and shrubs
- Proposed access or existing
- Existing settlement lagoon (to remain)

Notes:
Drawing based upon Caulmert Drawing:
Proposed Revised Final Contours dated 14.03.18
Reference: 3495 CAU-XX-XX-DR-S-1813 Rev P2

| | | | | |
|---|---|---|---|---|
| V4 | JB | PW | JB | 15.08.18 |
| V3 | SG | JB | JB | 25.06.18 |
| V2 - existing veg added | SG | JB | JB | 13.06.18 |
| V1 | SG | JB | JB | 11.06.18 |
| Issue | Drawn | Checked | Approved | Date |

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POTTERS
WASTE MANAGEMENT

Project Title
BRYN POSTEG
LANDFILL SITE

DRAFT FOR COMMENT ONLY

Drawing Title
RESTORATION
MASTERPLAN

Drawing Number 18/03/RP/01

| Size | Scale | Issue |
|---|---|---|
| A1 | 1:1250 | V4 |


## NOTE

1. DO NOT SCALE FROM THIS DRAWING, WORK FROM FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM U.N.O.

2. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING WILL BE ALLOWED WITHOUT THE PRIOR PERMISSION IN WRITING.

3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.

SITE BOUNDARY

SOILS STORAGE AREA

| REV | MODIFICATIONS | BY | RE | AP | DATE |
|---|---|---|---|---|---|
| P1 | ISSUED FOR COMMENT | EJD | AS | AS | 22.10.18 |

POTTERS WASTE MANAGEMENT

PROJECT:

BRYN POSTEG LANDFILL SITE

TITLE:

SOILS STORAGE AREA

| DRAWN BY | DATE | |
|---|---|---|
| EJD | 22.10.2018 | |
| REVIEWED BY | SCALE @ A1 | JOB REF: |
| AS | 1:1250 | 3428 |
| AUTHORISED BY | ISSUE | REVISION |
| AS | A0 | P1 |

DRAWING NUMBER

3428-CAU-XX-XX-DR-S-1809

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engineering environmental planning

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**APPENDIX 1**

REST 01 - Waste Acceptance for Restoration Soils Procedure

| | |
|---|---|
| Procedure No.: | **REST-01** |
| Revision Level: | **0** |
| Revision Date: | |

# STANDARD OPERATING PROCEDURE

**Site Management System: Acceptance of recovery soils for restoration**

| | |
|---|---|
| **Title:** | Waste Acceptance for Restoration Soils – Bryn Posteg |
| **Procedure no:** | REST-01 |

| Revision | Description of change | Author | Effective Date |
|---|---|---|---|
| 0 | Initial release | Andy Stocks | 01/11/18 |

## 1.0 PURPOSE

The purpose of this procedure is to ensure that: -

- only permitted waste soils are accepted for the restoration of Bryn Posteg Landfill
- adequate Duty of Care checks are carried out and records kept,
- wastes are stored or deposited in the correct areas, and
- explain what to do about non-permitted wastes that have been deposited at the site.

## 2.0 SCOPE

Waste accepted for the restoration of the site in accordance with the Waste Recovery Plan.

## 3.0 RESPONSIBILITY

Site manager
Site supervisor
Site operatives
Weighbridge clerk
Technically competent manager

## 4.0 PROCEDURE

### 4.1 Pre-Acceptance Checks

4.1.1 The responsible person should obtain the following information from the waste producer, where appropriate, to enable consideration of the waste load prior to acceptance for recovery. This information is required for all new waste enquiries:

- Waste description, including European Waste Catalogue (EWC) code;
- Description of the process producing the waste;
- Method of transport/delivery; and
- The typical waste composition.

4.1.2 Waste testing should be carried out prior to acceptance where the waste has arisen from

- Land that has or may have been contaminated by previous use
- A waste treatment or transfer facility
- Any site where you have reason to suspect that the waste may have been contaminated
- Waste to be accepted under EWC codes 19 13 02 and 19 13 04

**4.2 Testing and waste Acceptance criteria**

4.2.1 Where testing is required, waste should not be accepted if it exceeds the Waste Acceptance Criteria (WAC) limit values provided in the table below

| Parameter | Limit (mg/kg) | Reference source |
|---|---|---|
| Arsenic | 168 | C4SL - parks |
| Beryllium | 63 | LQM |
| Boron | 46,000 | LQM |
| Cadmium | 880 | C4SL - parks |
| Chromium (III) | 33,000 | LQM |
| Chromium (VI) | 250 | C4SL - parks |
| Copper | 44,000 | LQM |
| Lead | 1300 | C4SL - parks |
| Nickel | 3400 | LQM |
| Selenium | 1800 | LQM/SGV |
| Vanadium | 5000 | LQM |
| Zinc | 170,000 | LQM |
| PAH | 100 | Inert WAC |
| Mineral oils (C10-C40) | 500 | Inert WAC |
| BTEX | 6 | Inert WAC |

**4.3 Waste acceptance at weighbridge**

4.3.1 All vehicles delivering waste must first report to the weighbridge / site office.

4.3.2 There must be a Duty of Care transfer note for all wastes being brought onto the site.

***Carrier registration***

4.3.3 The weighbridge clerk will check that the customer is a registered waste carrier. Existing customer's registration details will be recorded on the weighbridge database. New customers will need to supply evidence of a valid Carrier's Certificate and be set up as new customer on system. (Local authorities and charities do not need to be registered waste carriers.)

4.3.4 If the Carrier's Certificate has expired, the weighbridge clerk will advise that the customer should contact the NRW to register.

***Weighbridge waste checking and rejection***

4.3.5 For one-off deliveries the Duty of Care transfer notes are checked by the weighbridge operator. Alternatively, the documentation is validated against previous season ticket arrangements.

4.3.6 In the event of there being no properly completed transfer note the name and address of the supplier is recorded against the registration number of the vehicle and the details of the materials delivered.

4.3.7 The weighbridge clerk will question the driver if unsure about the waste description to ensure it complies with the requirements of the environmental permit for the site. The clerk will make a visual check, whenever possible, to ensure an adequate description has been provided.

4.3.8 The weighbridge clerk must ensure that all new consignments have been approved for acceptance (see pre-acceptance checks) by the site manager or other responsible person.

4.3.9 If the waste is acceptable, the customer will be directed to the appropriate unloading area.

4.3.10 If it is not clear if the waste is acceptable or it is described incorrectly on the waste transfer note, the customer should be directed to a segregated area and the site supervisor or technically competent manager should be contacted for further advice.

4.3.11 If the waste is <u>not</u> acceptable under the terms of the permit, the weighbridge clerk should: -

- Refuse entry to the site;
- If possible, advise on alternative disposal options;
- Make record of the waste rejection in site diary with date, time, waste description, reasons for rejection, customer name and vehicle's registration number;
- If deemed necessary, the advice of NRW may be sought.

**4.4 Waste deposit and inspection in the waste transfer yard**

4.4.1 The site operatives should assist in directing the customers to the correct areas for either storage or direct deposit of the restoration soils.

4.4.2 When the waste is unloaded, the site operatives must inspect the waste to check that it meets the waste description and is acceptable at the site.

***Waste 'contraries' – rejection or quarantine***

4.4.3 If the waste does not match its description or includes contraries (materials within the load that does not match the waste description), the appropriate action must be taken dependent on the amount and risk associated with the non-conforming waste. Where there is doubt over

the appropriate action to take, the site supervisor or technically competent manager should be contacted for further advice. The following actions should be taken:

- If only a small amount of contraries are detected of materials which are otherwise permitted on the site, these contraries can be segregated and placed in the appropriate storage area within the site.
- If only a small amount of contraries are detected of a waste type that is not permitted on the site, then the contraries need to be segregated. If possible, the customer should be asked to remove the contraries and dispose of them elsewhere. If the waste has already been accepted, however, the contraries should be segregated and quarantined. Quarantined waste should be placed in a suitable container and labeled as to its content.
- If the load in general is found not to be as described but would otherwise be acceptable at the site, then it may be appropriate to amend the waste transfer note and accept the load.
- If it is deemed that the load is unacceptable, it should be reloaded and rejected following the procedure outlined above.

4.4.4 In all circumstances where loads are found to contain contraries, this should be recorded in the Site Diary. Customers who repeatedly bring in loads with unacceptable wastes or incorrectly described wastes, should be contacted to discuss how to prevent it reoccurring.

**4.5 4.1 Training**

4.5.1 All personnel involved in the acceptance of inert waste at Bryn Posteg will be fully trained on the waste acceptance procedures and must be capable of:

- Understanding the inert waste acceptance criteria for the site and site management policies;
- Understanding the information which should be provided on the documentation accompanying loads;
- Identifying inert wastes that should not be accepted at the site; and
- Following specific procedures in the event that the documentation is incorrect, or the waste load does not comply with the waste types accepted at the site.

**4.6 Legal compliance for waste transfer notes and consignment notes**

4.6.1 The site manager must ensure that the company's own waste transfer note template complies with the requirements of the Duty of Care for Waste (Section 34 of the Environmental Protection Act 1990).

4.6.2 It should also be ensured that the company is registered as a registered waste carrier.

## 5.0 REFERENCES

- waste list
- Waste transfer notes
- Hazardous waste consignment notes
- Company Registered Waste Carrier certificate
- Weighbridge tickets
- Site Diary

## APPENDIX A – LIST OF WASTES FOR RESTORATION

| Waste code: | Description: |
|---|---|
| 01 | WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS |
| 01 04 | wastes from physical and chemical processing of non-metalliferous minerals |
| 01 04 08 | waste gravel and crushed rocks other than those mentioned in 01 04 07 |
| 01 04 09 | waste sand and clays |
| 02 | WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING |
| 02 04 | wastes from sugar processing |
| 02 04 01 | soil from cleaning and washing beet |
| 17 | CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES) |
| 17 05 | soil (including excavated soil from contaminated sites), stones and dredging spoil |
| 17 05 04 | soil and stones other than those mentioned in 17 05 03 |
| 17 05 06 | dredging spoil other than those mentioned in 17 05 05 |
| 19 | WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/INDUSTRIAL USE |
| 19 12 09 | minerals (for example sand, stones) |
| 19 13 | wastes from soil and groundwater remediation |
| 19 13 02 | solid wastes from soil remediation other than those mentioned in 19 13 01 |
| 19 13 04 | sludges from soil remediation other than those mentioned in 19 13 03 |
| 20 | MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS |
| 20 02 | garden and park wastes (including cemetery waste) |
| 20 02 02 | soil and stones |

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