

DC and IE SHERVINGTON

**Ty Mawr Farm, St Brides, Wentlooge,
Newport, NP10 8SF.**

**Bespoke Environmental Permit Application for
the Restoration of Former Landfill Site**



Produced by Crestwood Environmental Ltd.

24 January 2017

Crestwood Report Reference: Table of Contents

| Version & Status | Date Produced | Written / Updated by: | Checked & Authorised by: |
|-----------------------------|----------------------|---|-------------------------------------|
| Final | January 2017 | Charlotte Hedgecock MSc GradMCIWM Stephen Barnes BSc (Hons), MCIWM | Sid Lambert (Managing Director) |
| | | | |
| | | | |

This report has been prepared in good faith, with all reasonable skill, care and diligence, based on information provided or known available at the time of its preparation and within the scope of work agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

The report is provided for the sole use of the named client and is confidential to them and their professional advisors. No responsibility is accepted to others.

Crestwood Environmental Ltd.
1 & 2 Nightingale Place
Pendeford Business Park
Wolverhampton
West Midlands
WV9 5HF

Tel: 01902 229 563

Email: info@crestwoodenvironmental.co.uk
Web: www.crestwoodenvironmental.co.uk

CONTENTS

APPLICATION FORMS

Part A1 Application Form
Part B2 Application Form
Part B4 Application Form
Part F1 Application Form
WAMITAB Certificate
EPR OPRA Spreadsheet

REPORTS

| | |
|-----------------|---|
| CE-TM-0937-RP08 | Non-Technical Summary |
| CE-TM-0937-RP02 | Site Condition Report |
| CE-TM-0937-RP04 | Environmental Management System |
| CE-TM-0937-RP05 | Waste Recovery Plan |
| CE-TM-0937-RP06 | H1 Risk Assessment |
| CE-TM-0937-RP03 | Extended Phase 1 Habitat Survey |
| CE-TM-0937-RP07 | Hydrological and Hydrogeological Assessment |

APPENDICES

Appendix 1 Planning Permission (ref 99/0621)
Appendix 2 Approved Restoration Plan - Drawing No 3231dwg102, Rev C
Appendix 3 Topographic Survey (December 2016)

LIST OF DRAWINGS:

| | | |
|--------------------------------------|------------------------|------------|
| Drawing No CE-TM-0937-DW03 | Phase 1 Habitat Plan | 1:1,800@A3 |
| Drawing No CE-TM-0937-DW05 | Outline Landraise Plan | 1:2,000@A3 |
| Drawing No CE-TM-0937-DW05, Figure 2 | Cross Sections | 1:1,000@A3 |

Application for an environmental permit:

Part A – About you

| | |
|---|--|
| <p>Fill in this part A if you are applying for a new permit, applying to change or surrender an existing permit, or want to transfer an existing permit to yourself.</p> <p>Please check that this is the latest version of the form available from our website.</p> <p>Please read through this form and the guidance notes that come with it. All relevant guidance documents can be found on our website.</p> <p>Where you see the term 'document reference' on the form,</p> | <p>give the document references and send the documents with the application form when you've completed it.</p> <p>Contents</p> <p>1 About you</p> <p>2 Applications from individuals</p> <p>3 Applications from organisations of individuals</p> <p>4 Applications from public bodies</p> <p>5 Applications from a registered company or other corporate body</p> <p>6 Your address</p> <p>7 Contact details</p> |
|---|--|

1 About you

Are you applying as an individual, an organisation of individuals (for example, a partnership), a company (this includes Limited Liability Partnerships) or a public body?

- | | | |
|---|-------------------------------------|------------------------|
| An individual | <input checked="" type="checkbox"/> | <i>Go to section 2</i> |
| An organisation of individuals (for example, a partnership) | <input type="checkbox"/> | <i>Go to section 3</i> |
| A public body (such as a local council) | <input type="checkbox"/> | <i>Go to section 4</i> |
| A registered company or other corporate body | <input type="checkbox"/> | <i>Go to section 5</i> |

2 Applications from individuals

2a Please give us the following details

| | | |
|------------|-------------|------------------------|
| Title | Mr | |
| First name | Edd | |
| Last name | Shervington | <i>Go to section 6</i> |

3 Applications from organisations of individuals

3a Organisation details

Organisation name

Type of organisation

If 'Other', please specify

3b Main representative's details

Title

First name

Last name

3c Second representative's details:

Title

First name

Last name

3d Other representative's details

If relevant, please provide details of all other representatives on a separate sheet and tick here to show that you have done so. *Go to section 6*

4 Applications from public bodies

4a Public body details

Public body name

Type of public body

If 'Other', please specify

4b Executive officer's details

The executive is an officer of the public body authorised to sign on your behalf.

Title

First name

Last name

Position *Go to section 6*

5 Applications from a registered company or other corporate body

5a Company details

Company name

Company registration number

Date of registration

If you are applying as a corporate organisation that is now a limited company, please provide evidence of your status and tell us the reference number you have given this document with this evidence.

Document reference *Go to section 6*

6 Your address

6a Your main (registered office) address

For companies this *must* be the address on record at Companies House.

Address

| | |
|--------------------|---|
| | <input type="text" value="Wentlooge"/> |
| | <input type="text" value="Newport"/> |
| Postcode | <input type="text" value="NP10 8SF"/> |
| Telephone - mobile | <input type="text" value="07751853612"/> |
| Telephone - office | <input type="text"/> |
| Email address | <input type="text" value="edd@shervingtonfarms.co.uk"/> |

If you are applying as an organisation of individuals, every partner needs to give us their details, including their title. If necessary, continue on a separate sheet and tell us the reference you have given the sheet.

| | |
|--------------------|----------------------|
| Document reference | <input type="text"/> |
|--------------------|----------------------|

6b UK business address *only* if different from above

| | |
|--------------------|----------------------|
| Address | <input type="text"/> |
| | <input type="text"/> |
| | <input type="text"/> |
| | <input type="text"/> |
| Postcode | <input type="text"/> |
| Telephone - mobile | <input type="text"/> |
| Telephone - office | <input type="text"/> |
| Email address | <input type="text"/> |

Go to section 7

7 Contact details

7a Who can we talk to about your application?

This can be someone acting as a consultant or 'agent' for you.

| | |
|------------|--|
| Title | <input type="text"/> |
| First name | <input type="text" value="Stephen"/> |
| Last name | <input type="text" value="Barnes"/> |
| Address | <input type="text" value="Crestwood Environmental"/> |
| | <input type="text" value="Units 1 and 2 Nightingale Place"/> |
| | <input type="text" value="Pendeford Business Park"/> |

| | |
|--------------------|---|
| | <input type="text" value="Wolverhampton"/> |
| Postcode | <input type="text" value="WV9 5HF"/> |
| Telephone - mobile | <input type="text"/> |
| Telephone - office | <input type="text" value="01902 229563"/> |
| Email address | <input type="text" value="stephen@crestwoodenvironmental.co.uk"/> |

7b Who can we talk to about your operation?

| | |
|---------------------------------------|--|
| Same as the application contact in 7a | <input type="checkbox"/> |
| Title | <input type="text"/> |
| First name | <input type="text" value="Edd"/> |
| Last name | <input type="text" value="Shervington"/> |
| Address | <input type="text" value="Ty Mawr Farm"/> |
| | <input type="text" value="St Brides"/> |
| | <input type="text" value="Wentlooge"/> |
| | <input type="text" value="Newport"/> |
| Postcode | <input type="text" value="NP10 8SF"/> |
| Telephone - mobile | <input type="text" value="07751853612"/> |
| Telephone - office | <input type="text"/> |
| Email address | <input type="text" value="ed@shervingtonfarms.co.uk"/> |

7c Who can we talk to about your billing or invoice?

| | |
|---------------------------------------|-------------------------------------|
| Same as the application contact in 7a | <input type="checkbox"/> |
| Same as the operation contact in 7b | <input checked="" type="checkbox"/> |
| Title | <input type="text"/> |
| First name | <input type="text"/> |
| Last name | <input type="text"/> |
| Address | <input type="text"/> |
| | <input type="text"/> |

Postcode

Telephone - mobile

Telephone - office

Email address

Application for an environmental permit:

Part B2 – General: new bespoke permit

| | |
|--|---|
| <p>Fill in this part of the form together with parts A and F1 or F2, if you are applying for a new bespoke permit.</p> <p>You also need to fill in part B3, B4, B5, B6, or B7 (depending on what activities you are applying for).</p> <p>Please check that this is the latest version of the form available from our website.</p> <p>Please read through this form and the guidance notes that came with it. All relevant guidance documents can be</p> | <p>found on our website.</p> <p>Contents</p> <p>1 About the permit</p> <p>2 About the site (not mobile plant)</p> <p>3 Your ability as an operator</p> <p>4 Consultation</p> <p>5 Supporting information</p> <p>6 Environmental risk assessment</p> <p>Appendix 1 – Low impact installation checklist</p> |
|--|---|

1 About the permit

1a Discussions before your application

If you have had discussions with us before your application, give us the case reference or details on a separate sheet.

Case or document reference

1b Is the permit for a site or for a mobile plant?

Note: The term 'mobile plant' does not include mobile sheep dipping unit.

Site *Go to section 2*

Mobile Plant *Go to section 1c*

1c Have we told you during pre-application discussions that we believe that a mobile permit is suitable for your activity?

No

Yes

1d Have there been any changes to your proposal since this discussion?

No *Go to section 3*

Yes Send us a description of the activity you want to carry out, highlighting the changes made since our pre-application discussions. Give us the reference, below.

Document reference

Go to section 3

2 About the site (not mobile plant)

2a What is the site name, address, postcode and national grid reference?

Site name

Address

| | |
|---|---------------|
| | |
| Postcode | NP10 8SF |
| National grid reference for the site (12 digit) | 330578 182460 |

2b How many regulated facility types are you applying for?

- One *Go to section 2c*
- Two or more *Go to section 2d*

2c What type of regulated facility are you applying for? (For one facility type only.)

- Installation *Tick the relevant box in 2c1*
- Waste operation *Tick the relevant box in 2c2*
- Mining waste operation *Tick the relevant box in 2c3*
- Water discharge activity (all) *Go to section 3d*

What is the national grid reference for the regulated facility? (See the guidance notes on part B1 and note the different requirement for water discharge activities.)

- As in 2a above
- Different from 2a Please fill in the national grid reference below

National grid reference for the facility

What is the type of activity?

2c1 Installation

- Intensive farming installation
- Local authority (Part A (2) and Part B)
- Low impact installation (see question 2e below)
- Opra charged activity
- Directly associated activity
- Paragraph-17 installation

2c2 Waste Operation

- Landfill gas facility (closed landfill)
- Opra charged activity
- Tier 2 charged bespoke activity (see charging guidance for list)
- Pet cemetery

2c3 Mining waste operation

- Non-Opra charged activity
- Opra charged activity **Go to section 2e**

2d What types of regulated facilities are you applying for? (For two or more facility types.)

Regulated Facility 1

National grid reference (12 digit)

- Installation *Tick the relevant box in 2d1*
- Waste operation *Tick the relevant box in 2d2*
- Mining waste operation *Tick the relevant box in 2d3*
- Water discharge activity (all) *Go to section 3d*

2d1 Installation

- Intensive farming installation
- Local authority (Part A (2) and Part B)
- Low impact installation (see question 2e below)
- Opra charged activity
- Directly associated activity
- Paragraph-17 installation

2d3 Mining waste operation

- Non-Opra charged activity
- Opra charged activity

Regulated Facility 2

National grid reference (12 digit)

- Installation *Tick the relevant box in 2d1*
- Waste operation *Tick the relevant box in 2d2*
- Mining waste operation *Tick the relevant box in 2d3*
- Water discharge activity (all) *Go to section 3d*

2d1 Installation

- Intensive farming installation
- Local authority (Part A (2) and Part B)
- Low impact installation (see question 2e below)
- Opra charged activity
- Directly associated activity
- Paragraph-17 installation

2d3 Mining waste operation

- Non-Opra charged activity
- Opra charged activity

Regulated Facility 3 etc.

Do you want three or more facilities?

No *Go to section 2e*

Yes Use a separate sheet and send it to us with your application form. Tell us below the reference you have given this separate sheet.

Document reference

Go to section 2e

2e Low impact installations (installations only)

Are any of the regulated facilities low impact installations?

2d2 Waste Operation

- Landfill gas facility (closed landfill)
- Opra charged activity
- Tier 2 charged bespoke activity (see charging guidance for list)
- Pet cemetery

2d2 Waste Operation

- Landfill gas facility (closed landfill)
- Opra charged activity
- Tier 2 charged bespoke activity (see charging guidance for list)
- Pet cemetery

No *Go to section 2f*

Yes

Please give us a description of your proposed activity telling us how you meet the conditions for a low impact installation and send it to us with your application form.

Document reference

Tick the box to confirm you have filled in the low impact installation checklist in Appendix 1 for each regulated facility.

2f Treating batteries

Are you planning to treat batteries? (See the guidance notes on part B2.)

No

Yes Tell us how you will do this, send us a copy of your explanation and tell us the reference you have given this explanation.

Document reference

2g Multi-operator installation

If the site is a multi-operator site (that is there is more than one operator of the installation) then fill in the table below the application reference for each of the other permits.

| Table 1 – Other permit application references |
|---|
| |

3 Your ability as an operator

If you are only applying for a water discharge activity, you only have to fill in question 3d.

3a Relevant offences - installations and waste operations only (See the guidance notes on part B2)

Have you, or any other relevant person, been convicted of any relevant offence?

No *Go to section 3b*

Yes Please give details below

| | |
|---|----------------------|
| Title | <input type="text"/> |
| First name | <input type="text"/> |
| Last name | <input type="text"/> |
| Date of birth (DD/MM/YYYY) | <input type="text"/> |
| Position held at the time of the offence | <input type="text"/> |
| Name of the court where the case was dealt with | <input type="text"/> |
| Date of conviction (DD/MM/YYYY) | <input type="text"/> |
| Offence and penalty set | <input type="text"/> |

Date any appeal against the conviction will be heard (DD/MM/YYYY)

If necessary, use a separate sheet to give us details of other relevant offences, and tell us below the reference number you have given the extra sheet.

Document reference

3b Technical ability - relevant waste operations only (See the guidance notes on part B2)

3b1 Which approved scheme are you using to show you have the suitable technical skills and knowledge to manage your facility?

- CIWM / WAMITAB
- ESA / EU

3b2 Do you already hold the relevant, formal qualifications to manage your facility?

- Yes Tick to confirm you've included all original and continuing competence evidence.
- No Tick to confirm you've included evidence you've registered with a Scheme.

3c Finances (installations, waste operations and mining waste operations only)

Do you or any relevant person have current or past bankruptcy or insolvency proceedings against you?

- No *Go to section 3d.*
- Yes Please give details below of the required set-up costs (including infrastructure), maintenance and clean up costs for the proposed facility against which a credit check may be assessed.

Please note: We may want to contact a credit reference agency for a report about your business's finances.

Landfill, Category A mining waste facilities and mining waste facilities for hazardous waste only

How do you plan to make financial provision (to operate a landfill or a mining waste facility you need to show us that you are financially capable of meeting the obligations of closure and aftercare)?

- Bonds
- Escrow account
- Trust fund
- Lump sum
- Other

Provide a plan of your estimated expenditure on each phase of the landfill or mining waste facility.

Document reference

3d Management systems (all)

You can find guidance on management systems in our 'How to Comply' document. We have also developed environmental management toolkits for some business sectors which you can use to produce your own management system. You can get this by calling 0300 065 3000 or by downloading it from our guidance webpages.

3d1 Does your management system meet the conditions set out in our guidance?

Yes

No

3d2 What management system will you provide for your regulated facility?

EC Eco-Management and Audit Scheme (EMAS)

ISO 14001

BS 8555 (Phases 1–5)

Green Dragon

Own management system

3d3 Make sure you included a summary of your environment management system with the application. Tick the box to conform you've done this and tell us the document reference, below.

Document reference

Environmental Management System

Water discharge activities: Go to section 5.

4 Consultation (fill in 4a to 4c for installations and waste operations and 4d for installations only)

Could the waste operation or installation involve releasing any substance into any of the following?

4a A sewer managed by a sewerage undertaker

No

Yes Please name the sewerage undertaker

4b A harbour managed by a harbour authority

No

Yes Please name the harbour authority

4c Direct into relevant territorial waters or coastal waters within the sea fisheries district of a local fisheries

No

Yes Please name the fisheries committee

4d Is the installation on a site for which:

4d1 a nuclear site licence is needed under section 1 of the Nuclear Installations Act 1965?

No

Yes

4d2 a policy document for preventing major accidents is needed under regulation 5 of the Control of Major Accident Hazards?

No

Yes

5 Supporting information

5a Provide a plan or plans for the site (but not mobile plant)

Mark the site boundary, discharge point, or both, in green. (See guidance notes on part B2)

Document reference

5b Provide the relevant sections of a site condition/baseline report, if this applies

Document reference

If you are applying for an installation, tick the box to confirm that you have sent in a baseline report.

5c Provide a non-technical summary of your application (see the guidance notes on part B2)

Document reference

6 Environmental risk assessment

Provide an assessment of the risks each of your proposed regulated facilities poses to the environment. The risk assessment must use H1 or an equivalent method.

Document reference

Appendix 1 – Low impact installation checklist (see guidance notes on part B2)

| Intallation reference | | | | | |
|---|--|-----------------|------------------------------|-------------------|--------------------------|
| Condition | Response | | | Do you meet this? | |
| A – Management techniques | Provide references to show how your application meets A. | | | Yes | <input type="checkbox"/> |
| | References | | | No | <input type="checkbox"/> |
| B – Aqueous waste | Effluent created | m3/day | | Yes | <input type="checkbox"/> |
| | | | | No | <input type="checkbox"/> |
| C – Abatement systems | Provide references to show how your application meets C. | | | Yes | <input type="checkbox"/> |
| | References | | | No | <input type="checkbox"/> |
| D - Groundwater | Do you plan to release any hazardous substances or non-hazardous pollutants into the ground? | | Yes <input type="checkbox"/> | Yes | <input type="checkbox"/> |
| | | | No <input type="checkbox"/> | No | <input type="checkbox"/> |
| E – Producing waste | Hazardous waste | Tonnes per year | | Yes | <input type="checkbox"/> |
| | Non-hazardous waste | Tonnes per year | | No | <input type="checkbox"/> |
| F – Using energy | Peak energy consumption | MW | | Yes | <input type="checkbox"/> |
| | | | | No | <input type="checkbox"/> |
| G – Preventing accidents | Do you have appropriate measures to prevent spills and major releases of liquids? (See 'How to comply'.) | | Yes <input type="checkbox"/> | Yes | <input type="checkbox"/> |
| | | | No <input type="checkbox"/> | No | <input type="checkbox"/> |
| | Provide references to show how your application meets G. | | | | |
| H - Noise | Provide references to show how your application meets H. | | | Yes | <input type="checkbox"/> |
| | Reference | | | No | <input type="checkbox"/> |
| I - Emissions of polluting substances | Provide references to show how your application meets I. | | | Yes | <input type="checkbox"/> |
| | Reference | | | No | <input type="checkbox"/> |
| J – Odours | Provide references to show how your application meets J. | | | Yes | <input type="checkbox"/> |
| | Reference | | | No | <input type="checkbox"/> |
| K – History of keeping to the regulations | Say here whether you have been involved in any enforcement action as described in Compliance History Appendix 1 explanatory notes. | | Yes <input type="checkbox"/> | | |
| | | | No <input type="checkbox"/> | | |

Application for an environmental permit: Part B4 – New bespoke waste operation permit

| | |
|--|---|
| <p>Fill in this part of the form, together with parts A, B2 and F1, if you are applying for a new bespoke permit for a waste operation.</p> <p>Please check that this is the latest version of the form available from our website.</p> <p>Please read through this form and the guidance notes that came with it. All relevant guidance documents can be found on our website.</p> | <p>Contents</p> <p>1 About your activities</p> <p>2 Emissions to air, water and land</p> <p>3 Operating techniques</p> <p>4 Monitoring</p> <p>Appendix 1 – Specific questions for waste facilities that accept clinical waste</p> <p>Appendix 2 – Specific questions for waste facilities that accept hazardous waste</p> <p>Appendix 3 – Specific questions for the recovery to land for agricultural benefit of compost like outputs from the treatment of mixed municipal solid wastes</p> <p>Appendix 4 – Specific questions for inert landfill</p> |
|--|---|

1 About your activities

1a Tell us about the activities you want to do

Fill in Table 1a below with details of the waste activities (operations) you are applying for.

Fill in a separate table for each waste operation you are applying for. Use a separate sheet if you have a long list and send it to us with your application form.

Tell us the document reference.

Document reference

Waste Recovery Plan

Notes to help you complete Table 1a:

1 This is the type of activity you want to do. For example, household, commercial and industrial waste transfer or in-vessel composting.

2 Use the description from the guidance. Include any extra detail that you think would help to accurately describe what you want to do.

3 The R (recovery) and D (disposal) codes are as set out in Annex I and/or Annex II of the European Waste Framework Directive (as amended).

4 By 'capacity', we mean:

- the total landfill capacity (cubic metres) for landfills
- the total treatment capacity (tonnes each day) for waste treatment
- the total storage capacity (tonnes) for waste storage operations.

5 By 'total storage capacity', we mean the maximum amount of waste, in tonnes, you are able to store on the site at any one time.

| Table 1a – Waste operations which do not form part of an installation | | | | |
|--|--|---|---|---|
| Waste operation name (See note 1) | Description of the waste operation (See note 2) | Annex I or Annex II (disposal and recovery) codes (See note 3) | Hazardous waste treatment capacity (if this applies). (See note 4) | Non-hazardous waste treatment capacity (if this applies). (See note 4) |
| Deposit of Waste for Recovery | Restoration of former landfill by spreading inert soils and subsoils to final levels required by Planning Permission | | | |
| Annex IIB - R5 Annex IIB – R10 Annex IIB – R13 | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| For all waste operations | Total storage capacity of non-hazardous waste (see note 5) | Total storage capacity of hazardous waste (see note 5) | Total annual throughput (tonnes each year) | |
| | | | 75,000 | |

1b What waste types do you want to accept?

For each line in Table 1a, fill in a separate document to list those types of waste you will accept onto site for that activity. Give the List of Wastes catalogue code and description.

If you need to exclude wastes from your activity or facility by restricting the description, quantity, physical nature, hazardous properties, composition or characteristic of the waste, include these in the document. Send it to us with your application form.

If you want to accept any waste with a code ending in 99, you must provide more information and a full description in the document.

You can use Table 1b as a template. Please provide the reference for each document.

Document references

See Waste Recovery Plan & EMS

Table 1b – Template example: types of waste accepted and restrictions

| Waste code | Description of waste |
|------------|--|
| Example | Example |
| 02 01 08* | Agrochemical waste containing dangerous substances |
| 06 01 02* | Hydrochloric acid |

1c Deposit for recovery purposes (see guidance notes on part B4)

1c1 Are you applying for a waste recovery activity involving the permanent deposit of waste in or on land, for construction, restoration or land reclamation?

No *Go to section 2*

Yes

1c2 Have we confirmed that we believe the activity is waste recovery?

No *We recommend you confirm the activity is recovery with us, before you apply.*

Yes

1c3 Have there been any changes to your proposal since the pre-application discussion?

No

Yes *We recommend you confirm the effect of changes with us, before you apply.*

1c4 Please send us a copy of your waste recovery plan that complies with Regulatory Guidance Note 13. You must highlight any changes you have made since we last assessed the plan (if relevant).

Document reference

Waste Recovery Plan

2 Emissions to air, water and land

Fill in Table 2 below with details of the emissions that result from the operating techniques at each of your waste operations (activities).

Fill in one table for each waste operation (activity). You can use Table 2 as a template. Please provide the reference for each document.

Document reference

Waste Recovery Plan

| Table 2 – Emissions (releases) | | | | |
|--|--------|---|---------------|------|
| Waste operation name | | Waste Recovery Permit for restoration of land by spreading inert soils and subsoils | | |
| Point source emissions to air | | | | |
| Emission point reference and location | Source | Parameter | Quantity Unit | Unit |
| None | | | | |
| | | | | |
| | | | | |
| | | | | |
| Point source emissions to water (other than sewers) | | | | |
| Emission point reference and location | Source | Parameter | Quantity Unit | Unit |
| None | | | | |
| | | | | |
| | | | | |
| | | | | |
| Point source emissions to sewers, effluent treatment plants or other transfers off site | | | | |
| Emission point reference and location | Source | Parameter | Quantity Unit | Unit |
| None | | | | |
| | | | | |
| | | | | |
| | | | | |
| Point source emissions to land | | | | |
| Emission point reference and location | Source | Parameter | Quantity Unit | Unit |
| None | | | | |
| | | | | |
| | | | | |
| | | | | |

3 Operating techniques

3a Technical standards

Fill in Table 3a for each operation you refer to in Table 1a above, and list the relevant technical guidance note (TGN) or notes you are planning to use. If you are planning to use the standards set out in the TGN, there is no need to justify using them.

You must justify your decisions in a separate document if:

- there is no technical standard;
- the technical guidance provides a choice of standards; or
- you plan to use another standard.

This justification could include a reference to the Environmental Risk Assessment provided in section 6 of part B2 of the application form.

The documents in Table 3a should summarise the main measures you use to control the main issues identified in the H1 assessment or technical guidance.

For each of the activities listed in Table 3a, describe the type of operation and the options you have chosen for controlling emissions from your process.

Fill in one table for each waste operation (activity). You can use Table 3a as a template. Please provide the reference for each document.

Document reference

| |
|--|
| |
|--|

| Table 3a – Technical standards | | |
|--------------------------------|---|--|
| Waste operation name | | |
| Description of waste operation | Relevant technical guidance note. You will need to refer to 'How to comply' for all permits. | Document reference (if appropriate) |
| | 'How to comply' | |
| Deposit of waste for recovery | EPR 13 Defining Waste Recovery: Permanent Deposit | Waste Recovery Plan |
| | https://www.gov.uk/guidance/waste-recovery-plans-and-permits | Waste Recovery Plan |
| | H1, Annex A - Amenity & Accident Risk | H1 Accidents & Amenity Risk Assessment |
| | | |
| | | |

If appropriate, use block diagrams to help describe the operation and process. Give the document references you use for each diagram and description.

Document reference

| |
|---------------------------------|
| See Drawing Nos CE-TM-0937-DW05 |
|---------------------------------|

3b General requirements

Fill in a separate Table 3b for each waste operation (activity). You can use Table 3b as a template. Please provide the reference for each document.

Document reference

| |
|--|
| |
|--|

| Table 3b – General requirements | |
|--|--|
| Waste operation name | |
| If the TGN or H1 assessment shows that emissions of substances not controlled by emission limits are an important issue, send us your plan for managing them | Document reference or references H1 Accidents & Amenity Risk Assessment |
| If the TGN or H1 assessment shows that odours are an important issue, send us your odour management plan | Document reference or references H1 Accidents & Amenity Risk Assessment |
| If the TGN or H1 assessment shows that noise or vibration are important issues, send us your noise or vibration management plan (or both) | Document reference or references H1 Accidents & Amenity Risk Assessment |
| If our fire prevention guidance or your H1 assessment shows that fire risk is an important issue, send us your fire management plan | Document reference or references H1 Accidents & Amenity Risk Assessment |

3c Information for specific sectors

For some of the sectors, we need more information to be able to set appropriate conditions in the permit. For those activities listed below, you must answer the questions in the related Appendix.

| |
|--|
| Table 3c – Questions for specific sectors |
|--|

| Sector | Appendix |
|--|---------------------------------|
| Clinical waste | See the questions in appendix 1 |
| Hazardous and non-hazardous waste recovery and disposal | See the questions in appendix 2 |
| Recovery to land for agricultural benefit of compost like outputs from the treatment of municipal mixed wastes | See the questions in appendix 3 |
| Inert landfill | See the questions in appendix 4 |

4 Monitoring

4a Describe the measures you use to monitor emissions by referring to each emission point in Table 2 above

You should also describe any environmental monitoring. Tell us:

- how often you use these measures;
- the methods you use; and
- the procedures you follow to assess the measures.

Document reference

Environmental Management System

4b Point source emissions to air only

Provide an assessment of the sampling locations used to measure point source emissions to air. The assessment must use Technical Guidance Note M1 (Monitoring). This is available in the Guidance section on our Website.

Document reference

N/A

Appendix 1 – Specific questions for the clinical waste sector

Note: If your procedures are fully in line with the standards set out in EPR 5.07 then you should tick the 'yes' box and provide the procedure reference. There is no need for you to supply a copy of the procedure.

1 Are pre-acceptance procedures in place that are fully in line with the appropriate measures set out in section 2.2 of EPR 5.07 and which are used to assess a waste enquiry before it is accepted at the facility?

- No Provide justification for departure from EPR 5.07 and submit a copy of the procedures
Document reference
- Yes Document reference

2 Are waste acceptance procedures in place that are fully in line with the appropriate measures set out in section 2.2 of EPR 5.07, and which are used to cover issues such as loads arriving and being inspected, sampling waste, rejecting waste, and keeping records to track waste?

- No Provide justification for departure from EPR 5.07 and submit a copy of the procedures
Document reference
- Yes Document reference

3 Are waste storage, handling and dispatch procedures, and infrastructure in place that are fully in line with the appropriate measures set out in section 3.2 of EPR 5.07?

- No Provide justification for departure from EPR 5.07 and submit a copy of the procedures
Document reference
- Yes Document reference

4 Are monitoring procedures in place that are fully in line with the appropriate measures set out in section 3.3 of EPR 5.07?

- No Provide justification for departure from EPR 5.07 and submit a copy of the procedures
Document reference
- Yes Document reference

5 Are you proposing to either

- accept an additional waste not included in Table 2.1 of section 2.1 of EPR 5.07, or
- apply a permitted activity to a waste other than that identified for that waste in Table 2.1?

- No
- Yes You must provide justification
Document reference

6 Please provide a summary description of the treatment activities undertaken on the facility. This should cover the general principles set out in section 2.1.4 of EPR 5.07

Document reference

7 Please provide layout plans detailing the location of each treatment plant and main plant items and process flow

Document reference

Appendix 2 – Specific questions for the hazardous waste recovery and disposal sector

Note: If your procedures are fully in line with the standards set out in SGN 5.06 then you should tick the 'yes' box and provide the procedure reference. There is no need for you to supply a copy of the procedure.

1 Are pre-acceptance procedures in place that are fully in line with the appropriate measures set out in section 2.1.1 of SGN 5.06, and which are used to assess a waste enquiry before it is accepted at the facility?

No Provide justification for departure from SGN 5.06 and submit a copy of the procedures
Document reference

Yes Document reference

2 Are waste acceptance procedures in place that are fully in line with the appropriate measures set out in section 2.1.2 of SGN 5.06, and which are used to cover issues such as loads arriving and being inspected, sampling waste, rejecting waste, and keeping records to track waste?

No Provide justification for departure from SGN 5.06 and submit a copy of the procedures
Document reference

Yes Document reference

3 Are waste storage procedures and infrastructure in place that are fully in line with the appropriate measures set out in section 2.1.3 of SGN 5.06?

No Provide justification for departure from SGN 5.06 and submit a copy of the procedures
Document reference

Yes Document reference

4 Provide a layout plan giving details of where the facility is based, the infrastructure in place (including areas and structures for separately storing types of waste which may be dangerous to store together) and capacity of waste storage areas and structures

Document reference

5 Provide a summary of the treatment activities carried out on the facility. This should cover the general principles set out in section 2.1.4 of SGN 5.06 and the specific principles set out in sections 2.1.5 to 2.1.15 as appropriate of SGN 5.06

Document reference

6 Provide layout plans giving details of where each treatment plant is based, the main items at each plant, and process flow diagrams for the treatment plant

Document reference or references

Appendix 3 – Specific questions for the recovery to land for agricultural benefit of compost like outputs from the treatment of mixed municipal solid wastes

1 Provide an accurate and reliable characterisation of your compost like outputs (CLO). This should be based on sampling and analysis of the CLO produced by the mechanical, biological treatment (MBT) process over a 12 month period and in accordance with section 2 of TGN 6.15

Document reference

2 Provide an agricultural benefit assessment for the use of your CLO. This should be based on section 2 of TGN 6.15 and should be signed and dated by an appropriate technical expert

Document reference

3 Provide a site specific risk assessment of risks to soil and food chain receptors. This should be based on Schedule 2 of TGN 6.15 and include a map with a green outline showing the boundary of the area being treated and include:

- locations where the waste will be stored and spread;
- any spring, well or borehole used to supply water for domestic or food production purposes that is within 250 metres of the area being treated;
- any spring, well or borehole not being used for domestic or food production purposes that is within 50 metres of the area being treated;
- any European designated sites (candidate or Special Area of Conservation, proposed or Special Protections Area in England and Wales or Ramsar Site) or Sites of Special Scientific Interest (SSSI) which are within 500 metres of the place where waste is to be stored or spread;
- the location of public rights of way;
- any Groundwater Source Protection Zones;
- surface watercourses;
- any buildings or houses within 250 metres of the area being treated;
- land drains within the boundary.

Document reference

4 Are the technical standards and measures fully in line with those set out in section 3 of TGN 6.15?

Yes

No Provide justification for departure from TGN 6.15 and a copy of the proposed technical standards, measures or procedures.

Document reference

Appendix 4 – Specific questions for inert landfills

1 Provide your Environmental Setting and Installation Design (ESID) report

Document reference

2 Have you completed a hydrogeological risk assessment (HRA) for the site?

No

Yes Document reference

Note: For inert landfills, this is only necessary in certain cases. Refer to our guidance 'Environmental Permitting Regulations: Inert Waste Guidance, Standards and Measures for the Deposit of Inert Waste on Land'. This can be downloaded from our guidance webpages.

3 Provide your stability risk assessment (SRA) for the site

Document reference

4 Have you completed a landfill gas risk assessment (LFGRA) for the site?

No

Yes Document reference

Note: For inert landfills, this is only necessary in certain cases. Refer to guidance 'Environmental Permitting Regulations: Inert Waste Guidance, Standards and Measures for the Deposit of Inert Waste on Land'. This can be downloaded from our guidance webpages.

Templates for these four reports can be found using the links on our Guidance Webpages.

5 Provide your proposed plan for closing the site and your procedures for looking after the site once it has closed

Document reference

Application for an environmental permit: Part F1 – Opra, charges and declarations

| | |
|--|--|
| <p>Fill in this part for all applications for installations, waste operations, mining waste operations and groundwater discharges onto land.</p> <p>Please check that this is the latest version of the form available from our website.</p> <p>For applications for water discharge and point source groundwater discharge activities you need to fill in part F2 instead.</p> <p>Please read through this form and the guidance notes that</p> | <p>came with it. All relevant guidance documents can be found on our website.</p> <p>Contents</p> <ol style="list-style-type: none"> 1 Working out charges 2 Opra profile (electronic) 3 Payment 4 The Data Protection Act 1998 5 Confidentiality and national security 6 Application checklist 7 Declaration |
|--|--|

1 Working out charges (you must fill in this section)

You have to submit an application fee with your application. You can find out the charge by looking at our current environmental permitting charging scheme. This can be found on our 'How we regulate you' webpages. Please remember that the charges are revised on 1 April each year and that there is an annual subsistence charge (for site based permis) to cover the costs we incur in the ongoing regulation of the permit.

Examples: We have included examples to help you complete the table. The Tier 2 charge example is for an application for a 'New standard rule' permit. The Tier 3 charge example is for an installation Opra based charge for a normal variation (multiplier) application.

Note: for Opra charged Tier 3 Facilities you also need to complete an Opra profile (see section 2).

| Table 1 – Working out charges | | | | |
|---|---|----------------------|------------------------------|-----------------|
| Type of application | Bespoke waste recovery permit application | | | |
| | Summary of charges | | | |
| Tier 2 facilities (including Part A(2) and Part B) | Charge identifier | Number of facilities | Charge for each facility (£) | Charges due (£) |
| EXAMPLE: SR2010 No12 | S060A (W) | 1 | 1,630.00 | 1,630.00 |
| | | | | |
| | | | | |
| | | | | |
| Tier 3 facilities | | | | |
| EXAMPLE: Total Opra charging score for installations | 90 | x charge multiplier | 57 | 5,130.00 |
| Total Opra charging score for installations | | x charge multiplier | | |
| Total Opra charging score for waste operations | 22 | x charge multiplier | 171 | 3,762 |
| Total Opra charging score for mining waste facilities | | | | |
| Other charges (such as one-off assessments or fixed charge applications etc.) | | | | |
| Total charges due | | | | £3,762 |

2 Opra profile (does not apply to standard facilities, or other tier 2 permit applications)

If you are submitting a bespoke application, you must include a completed electronic copy in Excel of the *current* Opra spreadsheet. You can find the current Opra spreadsheet in the 'Our charges' section on our 'How we regulate you' webpages.

For all variations, full and partial surrenders: you will need to submit a copy of your current Opra profile based on your existing profile, not a new profile following the variation or surrender.

For transfers: you will need to submit a revised Opra profile to include your own operator performance. Note: this will not change the set transfer fee.

Important: your Opra profile (score) must match our records. If you are unsure about your current Opra profile (score), you should talk to your regulatory officer before submitting your application.

Tick this box to confirm that you have included the electronic OPRA spreadsheet

3 Payment

3a How do you want to pay?

Tick an option below to show how you will pay.

- | | | |
|---|-------------------------------------|-------------------------|
| Electronic transfer (for example, BACS) | <input checked="" type="checkbox"/> | <i>Go to section 3b</i> |
| Credit or Debit card | <input type="checkbox"/> | <i>Go to section 3c</i> |
| Cheque | <input type="checkbox"/> | <i>Go to section 3d</i> |
| Postal order | <input type="checkbox"/> | <i>Go to section 3d</i> |

3b Paying by electronic transfer

If you choose to pay by electronic transfer use the following information to make your payment.

Company name: Natural Resources Wales

Company address: Income Dept., PO BOX 663, Cardiff, CF24 0TP

Bank: RBS

Address: National Westminster Bank Plc, 2 ½ Devonshire Square, London, EC2M 4BA

Sort code: 60-70-80

Account number: 10014438

Reference number

You can use any reference number but we prefer the number to be 'EPR' followed by the first nine letters of your organisation name followed by a four-digit number.

For example, for a company named Joe Bloggs Ltd, the reference number might be EPRJOEBLOGGS0001. (Remember you can use any four-digit number at the end.)

The reference number you will provide will appear on our bank statements so we can check your payment. We may need to contact your bank to make sure the reference number is quoted correctly.

You should also email your payment details and payment reference number to banking.team@naturalresourceswales.gov.uk / banking.team@cyfoethnaturiolcymru.gov.uk or fax it to 0300 065 3001 and enter it in the space provided below.

BACS reference

| |
|--|
| NRW 100000000248762061 EPR COUNTRYR0001 607080 10 |
|--|

Amount paid

| |
|--------|
| £3,762 |
|--------|

Making payments from outside the UK

These details have changed. If you are making your payment from outside the United Kingdom (which must be received in sterling), our IBAN number is GB70 NWBK6070 8010 0144 38 and our SWIFT/BIC number is NWBKGB2L.

If you do not quote your payment reference number, there may be a delay in processing your payment and application.

3c Paying by credit or debit card

If you are paying by credit or debit card, please fill in the separate form CC1.

You can download this from our website or you can ask for one of our customer service providers to send one by post. We will destroy your card details once we have processed your payment. We can accept payments by Visa, MasterCard or Maestro UK card only.

3d Paying by cheque or postal order

You should make cheques or postal orders payable to Natural Resources Wales and they should be marked 'A/c Payee'.

We will not accept post-dated cheques (cheques with a future date written on them).

| | |
|-----------------------------|----------------------|
| Cheque/ postal order number | <input type="text"/> |
| Amount paid | <input type="text"/> |

4 The Data Protection Act 1998

We, the Natural Resources Body for Wales (hereafter "Natural Resources Wales"), will process the information you provide so that we can:

- deal with your application;
- make sure you keep to the conditions of the licence, permit or registration;
- process renewals; and
- keep the public registers up to date.

We may also process or release the information to:

- offer you documents or services relating to environmental matters;
- consult the public, public organisations and other organisations (for example, the Health and Safety Executive, local authorities, the emergency services, the Department for Environment, Food and Rural Affairs) on environmental issues;
- carry out research and development work on environmental issues;
- provide information from the public register to anyone who asks;
- prevent anyone from breaking environmental law, investigate cases where environmental law may have been broken, and take any action that is needed;
- assess whether customers are satisfied with our service, and to improve our service; and
- respond to requests for information under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004 (if the Data Protection Act allows). We may pass the information on to our agents or representatives to do these things for us.

5 Confidentiality and national security

We will normally put all the information in your application on a public register of environmental information. However, we may not include certain information in the public register if this is in the interests of national security, or because the information is confidential

Confidentiality

You can ask for information to be made confidential by enclosing a letter with your application giving your reasons. If we agree with your request, we will tell you and not include the information in the public register. If we do not agree with your request, we will let you know how to appeal against our decision, or you can withdraw your application.

Only tick the box below if you wish to claim confidentiality for your application.

Please treat the information in my application as confidential

Tick the box to confirm you have provided evidence to support your confidentiality claim and give us the document reference, below.

Document reference

Financial costings in the Waste Recovery Plan

National security

You can tell the Welsh Ministers that you believe including information on a public register would not be in the interests of national security.

You must enclose a letter with your application telling us that you have told the Welsh Ministers and you must still include the information in your application. We will not include the information in the public register unless the Welsh Ministers decides that it should be included.

You can find guidance on national security in 'Core Environmental Permitting Guidance' published by Defra and available via the .Gov website.

You cannot apply for national security via this application.

6 Application checklist (you must fill in this section)

Tell us about the supporting evidence and information you have sent with this application.

Application fee - You must submit the correct application fee in line with our current charging scheme.

Tick the box to say you have included the correct fee.

List all the documents you have included in Table 2. Please see the guidance notes for examples on how to complete the checklist.

If the relevant information for a question forms part of a larger document, please specify the relevant section(s) of the document. This will speed up the process of checking your application and making decisions.

If necessary, continue on a separate sheet and tell us the reference you have given the document below.

Document reference

| Table 2 – application checklist | | |
|-----------------------------------|---|----------------------------|
| Question reference | Document title/ reference | Document section |
| Part B2, Question 3d3 | Environmental Management System | CE-TM-0937-RP04 |
| Part B2, Question 5a | Landraise Plan | Drawing No CE-TM-0937-DW05 |
| Part B2, Question 5b | Site Condition Report | CE-TM-0937-RP02 |
| Part B2, Question 3 | WAMITAB Certificate | 4MTMS4 |
| Part B2, Question 5c | Non-Technical Summary | CE-TM-0937-RP08 |
| Part B2, Question 6 | H1 Amenity and Accidents Risk Assessment, | CE-TM-0937-RP06 |
| Part B2, Question 6 | Hydrological and Hydrogeological Assessment | CE-TM-0937-RP07 |
| Part B2, Question 6 | Extended Phase 1 Habitat Survey | CE-TM-0937-RP03 |
| Part B4, Questions 1a, 1b, 1c4, 2 | Waste Recovery Plan | CE-TM-0937-RP05 |
| Part F1, Question 2 | EPR OPRA Spreadsheet | |

7 Declaration

You must read this section before making the declaration and sending your form to us.

For transfer applications - Both you and the person receiving the permit must make the declaration.

Section 7d must be completed by the current holder *and* Section 7e must be completed by the proposed new holder.

A relevant person should make the declaration. You must be a relevant person or have the authority of a relevant person to sign this application on their behalf.

Relevant people means each applicant, and in the case of a company, a director, manager, company secretary or any similar officer or employee listed on current appointments in Companies House. In the case of a Limited Liability Partnership (LLP), it includes any partner. If the permit holder is an organisation of individuals, each individual (or individual trustee) must complete the declaration.

To simplify and speed up the application process we recommend that the declaration is filled in by an officer of a company or one of the partners in a Limited Liability Partnership (LLP).

If you wish a manager, employee or consultant etc. to sign the declaration on behalf of a relevant person, we will need written confirmation from a relevant person; that is, an officer of the company, a partner in the LLP or the individual, confirming that the person has the authority to fill in the declaration.

If you are joint permit holders you should each fill in your own declaration. We have provided extra spaces for this below. Please send in a separate sheet with your application if you need more room for signatories.

Where the operator is the subject of any insolvency procedure, the declaration must be filled in by the official receiver/appointed insolvency practitioner.

7a Are you signing the form on *behalf of a relevant person*?

If you are *not* a relevant person, but want to sign the application on their behalf, you must include confirmation that you can do this.

I have included written confirmation from a relevant person to confirm I can sign on their behalf.

7b Does your application include a standard facility?

If your application includes a standard facility, you also need to confirm that you are able to meet all relevant criteria of the standard rule set/sets for which you are applying.

I confirm that my standard facility will fully meet the rules that I have applied for.

7c Does your application include ecological survey information?

If your application includes ecological survey information, please see the guidance notes on part F1 and tick the box below to confirm that you have no issue with us using information from any ecological survey you have supplied with your application.

I confirm I am happy for the ecological survey information I have supplied to be used as set out in the guidance.

7d Declaration

If you're transferring the permit, the current holder or holders should sign this section of the declaration, and the proposed new holder or holders of the permit should sign the declaration in section 7e.

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement:

- I may be prosecuted; and
- if convicted, I may have to pay a fine and/or go to prison.

By signing below, you are confirming that you understand and agree with the declaration above.

| | | |
|------------|--|---------------------------------|
| Title | <input type="text"/> | <input type="text" value="Mr"/> |
| First name | <input type="text" value="Edd"/> | |
| Last name | <input type="text" value="Shervington"/> | |

On behalf of (if relevant)

Today's date

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement:

- **I may be prosecuted; and**
- **if convicted, I may have to pay a fine and/or go to prison.**

By signing below, you are confirming that you understand and agree with the declaration above.

Title

First name

Last name

On behalf of (if relevant)

Today's date

7e Declaration for the person or persons *receiving* the permit (transfers only)

The persons 'receiving the permit' is the proposed new permit holder.

Note: If you cannot trace a person or persons holding the permit you may be able to transfer the permit without their declaration (in section 7d above). Please contact us to discuss this and supply evidence in your application to confirm you are unable to trace one or all of the permit holders.

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement:

- **I may be prosecuted; and**
- **if convicted, I may have to pay a fine and/or go to prison.**

By signing below, you are confirming that you understand and agree with the declaration above.

Title

First name

Last name

On behalf of (if relevant)

Today's date

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement:

- **I may be prosecuted; and**
- **if convicted, I may have to pay a fine and/or go to prison.**

By signing below, you are confirming that you understand and agree with the declaration above.

| | | |
|----------------------------|----------------------|----------------------|
| Title | <input type="text"/> | <input type="text"/> |
| First name | <input type="text"/> | |
| Last name | <input type="text"/> | |
| On behalf of (if relevant) | <input type="text"/> | |
| Today's date | <input type="text"/> | |



Certificate No. OCC45975

Operator Competence Certificate

Title:

**Treatment of waste to produce soil, soil substitutes and aggregate
(4MTMS4)**

This Certificate is awarded to

Edward Shervington

Awarded: 24/06/2015

Authorised

A handwritten signature in black ink, appearing to read "A. James".

WAMITAB Chief Executive Officer

A handwritten signature in black ink, appearing to read "J. Khan".

CIWM Chief Executive Officer



**The Chartered Institution
of Wastes Management**

This certificate is jointly awarded by WAMITAB and the Chartered Institution of Wastes Management (CIWM) and provides evidence to meet the Operator Competence requirements of the Environmental Permitting (EP) Regulations, which came into force on 6 April 2008.



00087295



Credit certificate

**This certificate determines credit awarded to:
Edward Shervington**

Units gained:

| | | Credit Value | Credit Level |
|----------|--|--------------|--------------|
| Y6015875 | Monitor procedures to safely control work operations | 4 | 3 |
| M6009712 | Manage the environmental impact of work activities | 5 | 4 |
| F6021671 | Manage site operations for the treatment of non hazardous waste | 14 | 4 |
| L6021429 | Manage the transfer of outputs and disposal of residues from non hazardous waste treatment and recovery operations | 13 | 4 |

Awarded: 24/06/2015

Serial No.: 27039/HSS3/1

Authorised

A handwritten signature in black ink, appearing to read "Ray Burberry".

Ray Burberry
Qualifications Manager, WAMITAB

Regulated by

Ofqual

For more information see <http://register.ofqual.gov.uk>



Llywodraeth Cymru
Welsh Government

The qualifications regulators logos on this certificate indicate that the qualification is accredited only for England, Wales and Northern Ireland.



00087296

DC and IE SHERVINGTON

**Ty Mawr Farm, St Brides, Wentlooge,
Newport, NP10 8SF.**

Restoration of Former Landfill Site

Non-Technical Summary

Report Reference: CE-TM-0937-RP08-final



Produced by Crestwood Environmental Ltd.

24 January 2017

Crestwood Report Reference: CE-TM-0937-RP08-final:

| Version & Status | Date Produced | Written / Updated by: | Checked & Authorised by: |
|-----------------------------|----------------------|--------------------------------------|--------------------------------------|
| Draft v1i | 16/12/2016 | Stephen Barnes BSc(Hons) MCIWM, CEnv | A. M. Lambert I.Eng CEnv CIWM ACIWEM |
| Final | 24/02/2017 | Stephen Barnes BSc(Hons) MCIWM, CEnv | A. M. Lambert I.Eng CEnv CIWM ACIWEM |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

This report has been prepared in good faith, with all reasonable skill, care and diligence, based on information provided or known available at the time of its preparation and within the scope of work agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

The report is provided for the sole use of the named client and is confidential to them and their professional advisors. No responsibility is accepted to others.

Crestwood Environmental Ltd.
1 & 2 Nightingale Place
Pendeford Business Park
Wolverhampton
West Midlands
WV9 5HF

Tel: 01902 229 563

Email: info@crestwoodenvironmental.co.uk
Web: www.crestwoodenvironmental.co.uk

CONTENTS

| | | |
|----------|------------------------------------|----------|
| 1 | NON-TECHNICAL SUMMARY | 3 |
|----------|------------------------------------|----------|

1 NON-TECHNICAL SUMMARY

- 1.1.1 Crestwood Environmental Ltd has been commissioned by Mr Edd Shervington of DC and IE Shervington (the Operator) to prepare a bespoke Environmental Permit application for a proposed waste recovery operation to use inert soils and subsoils to restore part of a former landfill site at Ty Mawr Farm, St Brides, Wentlooge, Newport, NP10 8SF.
- 1.1.2 Ty Mawr Farm is owned and operated by the Shervington family, who also live on the premises. They have farmed the land for many years.
- 1.1.3 The former landfill site was previously operated under a Waste Management Licence (WML) issued to Mr D Shervington on 21 March 1995. Following the death of Mr D Shervington the licence ceased to exist and restoration of part of the site known as Phase 6 (the Site) remained unfinished.
- 1.1.4 Mr D Shervington's son, Mr Edd Shervington, now runs the Site and seeks to complete the restoration of the Site so that it can be brought back into productive agricultural use for grazing.
- 1.1.5 The Planning Permission for the Site (ref 99/0621) is still valid. Phase 6 of the former landfill requires to be restored in accordance with the approved Restoration Plan (Drawing No 3231dwg102, Rev C), which forms part of the Planning Permission.
- 1.1.6 Subsequent to discussions between Natural Resources Wales and Newport City Council Planning Authority, it was advised that the best option to restore the Site is "to submit a Waste Recovery Plan and apply for a Waste Recovery Permit". A Waste Recovery Plan has been prepared as part of the permit application.
- 1.1.7 A topographic survey was undertaken in December 2016 to accurately determine ground levels across the Site. The results of the topographic survey and the final restoration contours shown on the approved Restoration Plan were used in 3D computer modelling to calculate the precise volume of inert material required to restore the Site to the approved restoration contours. Only the minimum amount of inert material necessary to achieve the approved Site levels will be used.
- 1.1.8 The proposed Environmental Permit boundary for the Site is shown on Drawing No. CE-TM-0937-DW05.
- 1.1.9 The Operator also runs a soil and aggregates processing facility at Ty Mawr Farm. The soil and aggregates processing facility operates under a separate Environmental Permit (Ref. EPR/KB3997TQ). The facility produces secondary aggregates in accordance with the WRAP Quality Protocol for the Production of Aggregates from Inert Wastes. Inert soils and subsoils from the facility will be sourced for use in the restoration works of the Site. Only clean, inert material will be used.
- 1.1.10 Waste producers delivering wastes to Ty Mawr Farm are required to undertake laboratory testing to ensure that only suitable materials are accepted.
- 1.1.11 Due to the inert nature of the waste material accepted at the Site, no leachate or contaminated water will be produced as a result of the activity and therefore it is not anticipated that there will be any short term or long term changes in water quality over time.
- 1.1.12 The operational procedures at the Site form part of the Operator's Environmental Management System, a copy of which has been submitted with the permit application. The Site will be operated in

strict compliance with the Environmental Permit and Environmental Management System.

- 1.1.13 The Site is located within the footprint of the Gwent Levels St. Brides a designated Site of Special Scientific Interest (SSSI). The Severn Estuary, which is located approximately 0.2km from the Proposed Permit Boundary, is a designated SSSI, Special Area of Conservation (SAC), Special Protection Area (SPA) and RAMSAR. An experienced and qualified Ecologist undertook an Ecological Walkover Assessment of the Site in December 2016 and provided recommendations to ensure that the works do not have any adverse impacts of the ecological value of the SSSI. It is considered that by restoring the Site to grazing land, it will mirror the surrounding agricultural fields and complement the SSSI's characteristics of wet pasture land.
- 1.1.14 No fuel storage tanks are located within the Site or the nearby soil and aggregates processing facility. Although a mobile bowser is used at Ty Mawr Farm to re-fuel machinery, it will be used in accordance with the refuelling and emergency spillage procedures included in the Operator's Environmental Management System.

DC and IE SHERVINGTON

**Ty Mawr Farm, St Brides, Wentlooge,
Newport, NP10 8SF.**

Restoration of Former Landfill Site

Site Condition Report

Report Reference: CE-TM0937-RP02-final



Produced by Crestwood Environmental Ltd.

27 January 2017

Crestwood Report Reference: CE-TM0937-RP02-final:

| Version & Status | Date Produced | Written / Updated by: | Checked & Authorised by: |
|-----------------------------|----------------------|---|--|
| Draftv1.0 | 14/12/2016 | Sally Howse BSc (Hons), MSc, AMIEnvSc Assistant Environmental Consultant | Stephen Barnes BSc (Hons), MCIWM, CEnv Director |
| Final | 24/01/2017 | Stephen Barnes BSc (Hons), MCIWM, CEnv Director | Stephen Barnes BSc (Hons), MCIWM, CEnv Director |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

This report has been prepared in good faith, with all reasonable skill, care and diligence, based on information provided or known available at the time of its preparation and within the scope of work agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

The report is provided for the sole use of the named client and is confidential to them and their professional advisors. No responsibility is accepted to others.

Crestwood Environmental Ltd.
1 & 2 Nightingale Place
Pendeford Business Park
Wolverhampton
West Midlands
WV9 5HF

Tel: 01902 229563

Email: info@crestwoodenvironmental.co.uk
Web: www.crestwoodenvironmental.co.uk

CONTENTS

| | | |
|----------|--|----------|
| 1 | INTRODUCTION | 1 |
| 1.1 | INSTRUCTION..... | 1 |
| 2 | SITE DETAILS..... | 1 |
| 2.1 | SITE LOCATION..... | 1 |
| 3 | CONDITION OF THE LAND AT PERMIT ISSUE | 1 |
| 3.1 | GEOLOGY | 1 |
| 3.2 | HYDROLOGY..... | 2 |
| 3.3 | HYDROGEOLOGY..... | 2 |
| 3.4 | ECOLOGY..... | 3 |
| 4 | POLLUTION HISTORY | 3 |
| 4.1 | POLLUTION INCIDENTS THAT MAY HAVE AFFECTED THE LAND..... | 3 |
| 4.2 | HISTORICAL LAND-USES AND ASSOCIATED CONTAMINANTS | 3 |
| 4.3 | EVIDENCE OF HISTORIC CONTAMINATION | 4 |
| 4.4 | ANY VISUAL/OLFACTORY EVIDENCE OF EXISTING CONTAMINATION..... | 4 |
| 4.5 | PERMITTED ACTIVITIES | 4 |
| 5 | APPENDICES | 7 |
| 5.1 | APPENDIX 1 – GROUNDSURE ENVIRO INSIGHT REPORT | 7 |

DRAWINGS

1 INTRODUCTION

1.1 INSTRUCTION

- 1.1.1 Crestwood Environmental Ltd. have been instructed by Mr Edd Shervington, of DC and IE Shervington (sole trader), to prepare and submit a Site Condition Report in support of an Environmental Permit Application for Waste Recovery to authorise the restoration of a former landfill site at Ty Mawr Farm, St Brides, Wentlooge, Newport, Gwent. NP10 8SF. Ty Mawr Farm is operated by Edd Shervington.
- 1.1.2 The former landfill site was previously operated under a Waste Management Licence (WML) issued to Mr D Shervington on 21 March 1995. Following the death of Mr D Shervington the licence ceased to exist and restoration of part of the site known as Phase 6 (**'the Site'**) remained unfinished.
- 1.1.3 The Operator plans to restore Phase 6 to a productive state by infilling with inert soils and subsoils to final levels shown on the approved Restoration Plan (Drawing No 3231dwg102, Rev C), which forms part of the requirements under the Site's Planning Permission (ref 99/0621). The Site will be seeded with grass species to bring the land back into agricultural use. Full details are included in the Waste Recovery Plan (ref CE-TM-0937-RP05).
- 1.1.4 The proposed Environmental Permit boundary is shown on Drawing No. CE-TM-0937-DW05.
- 1.1.5 Due to several sensitive ecological receptors being located within 2 km of Ty Mawr Farm, a bespoke permit application is required.
- 1.1.6 The Site Condition Report has been prepared using Natural Resources Wales H5 Site Condition Report Template, Version 3 (October 2014).

2 SITE DETAILS

2.1 SITE LOCATION

- 2.1.1 Ty Mawr Farm is located approximately 1.4 km east-north-east of St Brides Wentlooge Town Centre, at National Grid Reference ST 30578 82460. The Site is situated circa 200 m to the north-west of the Severn Estuary and lies south of the A48 and M4 motorway.
- 2.1.2 The nearest residential receptor is circa 230m east of the Site at the nearest point. Ty-Mawr Farm, which is owned and occupied by the Client, is circa 425 m to the north-west. There are several designated sites within 2 km of the site including the Gwent Levels – St Brides and the Severn Estuary (Wales).

3 CONDITION OF THE LAND AT PERMIT ISSUE

3.1 GEOLOGY

- 3.1.1 The British Geological Survey (BGS) maps state that the underlying superficial deposits at the Site and

the immediate vicinity comprises of clay, silt and sand alluvium formed up to 2 million years ago in the Quaternary Period.

- 3.1.2 The BGS mapping of bedrock geology present within the Site is described as Triassic Rocks including mudstone, siltstone and sandstone. The sedimentary bedrock formed approximately 200-250 million years ago in the Triassic Period, which was dominated by a hot desert environment.
- 3.1.3 Groundsure have reported records of Superficial Ground and Drift Geology present beneath the Site, in addition to records of Strata Classification in both the Bedrock and Superficial Geology within 500 m of the Site boundary.
- 3.1.4 Infilled lands are '*areas where the ground has been cut away then wholly or partially backfilled*'. There are no known areas of potentially infilled land within 500 m of the Site boundary (Appendix 1).

3.2 HYDROLOGY

- 3.2.1 The Site is circa 200 m from the Severn Estuary at the closest point.
- 3.2.2 There are no known ground, surface or potable water abstraction licences within 2000 m of the Site. There are also no known Source Protection Zones within 500 m of the Site's boundary.
- 3.2.3 The Site is located on a Natural Resources Wales Zone 2 and 3 floodplain, with a **Medium** risk of flooding from Rivers and the Sea. There are flood defences recorded within 250 m of the Site boundary (Appendix 1). The flood defences protect inland areas from flooding from the Severn Estuary.
- 3.2.4 There is a developed system of surface water drains (known as reens) around the Site and across the Gwent Levels area. Water levels in the reens are controlled by a series of pumping stations to prevent flooding and ensure satisfactory water level management. The system was previously managed by the Caldicot and Wentlooge Levels Internal Drainage Boards. However, this function was transferred to Natural Resources Wales in April 2015.
- 3.2.5 The proposed Site restoration is not considered to increase flood risk.

3.3 HYDROGEOLOGY

- 3.3.1 The bedrock beneath the Site is identified as a 'Secondary (B) Aquifer – Low Permeability Layers'. This designation is defined as 'predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers'.
- 3.3.2 The Superficial Geology beneath the Site is 'unproductive' and therefore has 'rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. Approximately 250 m to the south of the Site there is a 'Secondary Aquifer – undifferentiated layers', which has 'been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type' (Appendix 1).

3.4 ECOLOGY

- 3.4.1 The Site is located on a Site of Special Scientific Interest (SSSI). The Gwent Levels – St Brides SSSI is an extensive area of reclaimed wet pasture, with reens rich in plant species and communities which are rare or absent in other Levels systems such as the *Haliphus mucronatus* and *Hydrophilus piceus*. The area is important in the Welsh context for its snails and dragonflies and the main reen banks provide a habitat for nationally important assemblages of terrestrial invertebrates (the Site location covers only a small part of the SSSI).
- 3.4.2 Within 50 m of the Site the Severn Estuary (Wales) is designated as a SSSI, Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site. The designations are due to the unique funnel shape and tidal range, which have created a diverse geological setting for intertidal and marine habitats and fauna. The site is of international importance for wintering and passage wading birds, in particular Curlew *Numenius arquata*, Redshank *Tringa tetanus* and Dunlin *Calidris alpina*. The Severn Estuary (Wales) is also important for the run of migratory fish between the sea and rivers via the estuary, including salmon *Salmo solar*, sea trout *S. trutta*, sea lamprey *Petromyzon marinus*, river lamprey *Lampetra fluviatilis*, and the rare and endangered allis shad *A losa*.
- 3.4.3 Within 2 km of the Site there are two further designated sites, the River Usk (Lower Usk) and the Newport Wetlands. The River Usk (Lower Usk) is a SAC and SSSI due to the importance as an essential migration route and key breeding area for many nationally and internationally important species of birds and fish. The Newport Wetlands to the east of the site is a National Nature Reserve (Wales) designated as a SSSI with a diverse assemblage of aquatic invertebrates and plant species.
- 3.4.4 An Ecological Assessment Walkover of the Site has been undertaken to determine the presence and extent of habitats and the likelihood of protected species being present. It also assesses any potential impacts of the Site on the designated nature sites. A copy of the report is included in the permit application.
- 3.4.5 Nitrate Vulnerable Zones (NVZ) are 'catchments where nitrate concentrations in sources of public drinking water exceed, or are likely to exceed, the EC limit of 50 milligrams per litre'. There is no record of NVZs within 2000 m of the Proposed Permit Boundary (Appendix 1).

4 POLLUTION HISTORY

4.1 POLLUTION INCIDENTS THAT MAY HAVE AFFECTED THE LAND

- 4.1.1 There have been no reported pollution incidents occurring within 500 m of the Site boundary (Appendix 1).

4.2 HISTORICAL LAND-USES AND ASSOCIATED CONTAMINANTS

- 4.2.1 Historical maps of the Site dating back to 1887 have been reviewed and show that historical land-uses were limited to agricultural at and around the Site, with no apparent signs of activities that could cause contamination.
- 4.2.2 A Waste Management Licence for the former landfill was issued to Mr D Shervington on 21 March 1995. The Site was definitively closed for further landfill on 29 August 2006 (see section 4.3). There

is no visible evidence of any contamination or pollution from former landfill activities (see section 4.4).

- 4.2.3 The Site has undergone little change in terms of field boundaries over time with features such as the Wharf Reen, between the Severn Estuary and the Site, appearing on maps from 1887 to present day. The M4 motorway to the north appears on maps between 1970 and 1972.

4.3 EVIDENCE OF HISTORIC CONTAMINATION

- 4.3.1 The Waste Management Licence issued on 21 March 1995 for the former landfill authorised the disposal of 'Schedule A Types of Waste' consisting of:

- (a) Hardcore and similar inert materials which are free from vegetation and any hazardous or contaminated waste;
- (b) Sub-soil and top soil;
- (c) Foundry sand / slag mix.

- 4.3.2 A Closure Report for the former landfill was submitted to the Environment Agency (now Natural Resources Wales) on 31 March 2006. Following a site inspection by the Regulator on 3 July 2006, it was confirmed that the former landfill was in a suitable condition for definitive closure on 29 August 2006. The Environment Agency formally modified the licence on 31 October 2006 to remove the condition authorising waste disposal. It is known that waste disposal has not occurred at the former landfill for over 10 years.

- 4.3.3 There are no other recorded landfill sites within 500m of the Site.

- 4.3.4 Currently the site is an unused piece of scrub land that has remained unproductive for agriculture.

- 4.3.5 There are no known historical industrial sites within 250 m of the site (Appendix 1).

4.4 ANY VISUAL/OLFACTORY EVIDENCE OF EXISTING CONTAMINATION

- 4.4.1 A joint Site walkover by Natural Resources Wales, the Operator and Crestwood Environmental was undertaken on 14 December 2015. A further Site walkover survey was undertaken by Crestwood Environmental a year later on 14 December 2016.

- 4.4.2 The two Site visits revealed no immediate visual or olfactory signs of existing contamination at or around the Site.

4.5 PERMITTED ACTIVITIES

- 4.5.1 The Operator, intends to undertake a Waste Recovery activity to restore Phase 6 of the former landfill at Ty Mawr Farm. The Site will be restored in accordance with the approved Restoration Plan, as required by the Planning Permission.

- 4.5.2 A Waste Recovery Plan and Environmental Management System (EMS) have been submitted as part of the permit application (report references CE-TM-0937-RP05 and CE-TM-0937-RP04).

- 4.5.3 The Operator also runs a soil and aggregates processing facility at Ty Mawr Farm on nearby land circa 20m from the Site at the closest point. The soil and aggregates processing facility operates under a

separate Environmental Permit (Ref. EPR/KB3997TQ).

- 4.5.4 The facility produces secondary aggregates in accordance with the WRAP Quality Protocol for the Production of Aggregates from Inert Wastes. Inert soils and subsoils from the facility will be sourced for use in the restoration works of the Site.

Table 1 Permitted Activities

| Storage / Treatment Process | Annex IIA/IIB operations |
|---|---|
| Deposit and levelling of inert soils and sub-soils to form approved restoration profile required by Planning Permission | Annex II B R5 – Recycling/reclamation of other inorganic materials |
| Deposit and levelling of inert soils and sub-soils to form approved restoration profile required by Planning Permission and reseeded of restored area with grass species to return the land to agricultural use | Annex II B R10 – Land treatment resulting in benefit to agriculture or ecological improvement |
| Secure storage of wastes, prior to treatment. | Annex II R13 Storage of waste pending any of the operations numbered R1 to R12 |

- 4.5.5 Due to the sensitivity of the Site the permitted wastes to be accepted and used in the restoration works will be strictly inert.
- 4.5.6 The waste producer will be required to undertake WAC testing, as part of the basic characterisation procedures, on wastes that cannot be accepted without analysis. Such wastes will only be accepted at the Site where a copy of the analysis is submitted to the Operator for checking and the results are within the relevant limit values.
- 4.5.7 Customers delivering waste to the Site will be required to provide the Operator, in advance, with all necessary information/documentation to satisfy the requirements of the Waste (England and Wales) Regulations 2011 and the Duty of Care. Information required will include specific details of the type of process producing the waste (source), the type of waste (according to the EWC), the quantity of waste, the form the waste takes (e.g. solid) and any special handling requirements needed. An assessment will be made to ensure that the waste is suitable for deposit at the Site and use in the waste recovery operations.
- 4.5.8 A visual inspection of the contents of all waste loads will be made by Site staff.
- 4.5.9 Any discrepancies found, i.e. suspect, non-conforming and/or random loads, as a result of the checks detailed above will result in the vehicle being detained whilst some, or all, of the following supplementary management decisions are taken:
- Referral to the site foreman or company management;
 - Referral to the waste producer to confirm the nature of the waste load;
 - Referral to Natural Resources Wales;
 - Redirection of delivery vehicle off site, to a suitably authorised facility; and
 - If the waste has been discharged it will be quarantined prior to off-site removal either to the waste producer or suitably authorised facility.

- 4.5.10 Any waste materials dispatched off site to an authorised facility, will be removed in accordance with the Duty of Care. A registered waste carrier will be used. Copies of relevant Waste Transfer Notes/Season Tickets will be maintained in an office at Ty Mawr Farm.
- 4.5.11 Any instances of rejection of loads will be recorded in a Site log, which will be made available for inspection by authorised officers of Natural Resources Wales.
- 4.5.12 Due to the inert nature of the waste material accepted at the Site, no leachate or contaminated water will be produced as a result of the activity and therefore it is not anticipated that there will be any short term or long term changes in water quality over time.
- 4.5.13 Based on the nature of the waste materials accepted at the Site and the waste acceptance procedures adopted, no dangerous substances will be produced by the permitted activities.

Substances

- 4.5.14 Diesel, oil and other potentially polluting substances will not be stored on Site.
- 4.5.15 No substances that would be classified as 'dangerous' under the Control of Major Accident Hazards (COMAH) Regulations will be used at the Site.

5 APPENDICES

5.1 APPENDIX 1 – GROUNDSURE ENVIRO INSIGHT REPORT

DC and IE SHERVINGTON

**Ty Mawr Farm, St Brides, Wentlooge,
Newport, NP10 8SF.**

Restoration of Former Landfill Site Environmental Management System

Report Reference: CE-TM-0937-RP04-final



Produced by Crestwood Environmental Ltd.

24 January 2017

Crestwood Report Reference: CE-TM-0937-RP04-final:

| Version & Status | Date Produced | Written / Updated by: | Checked & Authorised by: |
|-----------------------------|----------------------|--------------------------------------|--------------------------------------|
| Draft v1i | 16/12/2016 | Stephen Barnes BSc(Hons) MCIWM, CEnv | A. M. Lambert I.Eng CEnv CIWM ACIWEM |
| Final | 24/02/2017 | Stephen Barnes BSc(Hons) MCIWM, CEnv | A. M. Lambert I.Eng CEnv CIWM ACIWEM |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

This report has been prepared in good faith, with all reasonable skill, care and diligence, based on information provided or known available at the time of its preparation and within the scope of work agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

The report is provided for the sole use of the named client and is confidential to them and their professional advisors. No responsibility is accepted to others.

Crestwood Environmental Ltd.
1 & 2 Nightingale Place
Pendeford Business Park
Wolverhampton
West Midlands
WV9 5HF

Tel: 01902 229 563

Email: info@crestwoodenvironmental.co.uk
Web: www.crestwoodenvironmental.co.uk

CONTENTS

| | | |
|----------|--|----------|
| 1 | INTRODUCTION | 3 |
| 1.1 | Background | 3 |
| 1.2 | The Site | 3 |
| 2 | SPECIFIED SITE AND WASTE MANAGEMENT OPERATING PROCEDURES..... | 5 |
| 2.1 | Waste Acceptance | 5 |
| 3 | SITE RECORDS..... | 9 |
| 3.2 | Maintenance..... | 9 |
| 3.3 | Environmental Accident and Incidents..... | 10 |
| 3.4 | Training..... | 10 |
| 3.5 | Site Diary..... | 10 |
| 3.6 | Audits..... | 10 |

LIST OF APPENDICES:

| | |
|-------------|---|
| Appendix 1 | Drawing No. CE-TM-0937-DW05 |
| Appendix 2 | Refuelling and Emergency Spillage Procedure |
| Appendix 3 | Record of non-conformance |
| Appendix 4 | General Waste Management |
| Appendix 5 | Complaints Record |
| Appendix 6 | Preventative Maintenance Checklist |
| Appendix 7 | Maintenance Record |
| Appendix 8 | Inspection Record |
| Appendix 9 | Environmental Accident and Incident Record |
| Appendix 10 | Training Record |
| Appendix 11 | Training Needs Checklist |

1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1 Crestwood Environmental Ltd has been commissioned by Mr Edd Shervington of DC and IE Shervington (**the Operator**) to prepare an Environmental Management System (EMS) for a proposed waste recovery operation to use inert soils and subsoils to restore part of a former landfill site at Ty Mawr Farm, St Brides, Wentlooge, Newport, NP10 8SF.
- 1.1.2 The former landfill site was previously operated under a Waste Management Licence (WML) issued to Mr D Shervington on 21 March 1995. Following the death of Mr D Shervington the licence ceased to exist and restoration of part of the site known as Phase 6 remained unfinished.
- 1.1.3 It is understood that following discussions between Natural Resources Wales (Mr Damien Downes) and Newport City Council Planning Authority (Mr Neil Gunther) it has been confirmed that the Planning Permission for the Site (ref 99/0621) is still valid and that the former landfill should be restored in accordance with the approved Restoration Plan (Drawing No 3231dwg102, Rev C).
- 1.1.4 Drawing No 3231dwg102, Rev C requires that Phase 6 has a final restoration contour of 11m AoD, with a centralised local area to 11.2m AoD. A topographic survey undertaken in December 2016 shows that current Phase 6 levels are in the region of 6 to 8m AoD.
- 1.1.5 Subsequent to his discussions with Newport City Council Planning Authority, Mr Damien Downes (Site Inspector) advised on 23 November 2016 that the best option to restore the former landfill is “to submit a Waste Recovery Plan and apply for a Waste Recovery Permit”.
- 1.1.6 The application for a Waste Recovery Permit therefore relates to Phase 6 (**the Site**). A Waste Recovery Plan has been submitted as part of the application (ref CE-TM-0937-RP05). The proposed Environmental Permit boundary is shown on Drawing No. CE-TM-0937-DW05, see Appendix 1.
- 1.1.7 The Operator also runs a soil and aggregates processing facility at Ty Mawr Farm on nearby land circa 20m from the Site at the closest point. The soil and aggregates processing facility operates under a separate Environmental Permit (Ref. EPR/KB3997TQ). The facility is located on adjacent land, circa 20m from the Site at the closest point.
- 1.1.8 The facility produces secondary aggregates in accordance with the WRAP Quality Protocol for the Production of Aggregates from Inert Wastes. Inert soils and subsoils from the facility will be sourced for use in the restoration works of the Site.

1.2 THE SITE

- 1.2.1 The Site lies approximately 5km south-southwest of Newport (Casnewydd) city centre and approximately 1.8km to the south southeast of Duffryn, a large housing estate southwest of Newport. The Site is within the county of Newport in South Wales. The nearest village is St Brides Wentlooge (Llansanffraid Gwynllwg) located approximately 900m west of the Site. The Site is accessed via Lighthouse Road (B4239) which connects, via the A48, to Junction 28 of the M4.
- 1.2.2 The Site is located within the footprint of the Gwent Levels St. Brides a designated Site of Special

Scientific Interest (SSSI). The Severn Estuary, which is located approximately 0.2km from the Proposed Permit Boundary, is a designated SSSI, Special Area of Conservation (SAC), Special Protection Area (SPA) and RAMSAR.

- 1.2.1 An Ecological Walkover Assessment of the Site was undertaken by a qualified Ecologist on 14 December 2016. The purpose of the work was to identify ecological constraints which may be a relevant consideration from a permit and/or a legislative perspective. A copy of the Ecological Assessment Report (ref CE-TM-0937-RP03) is included as part of the Environmental Permit Application.
- 1.2.2 Natural Resources Wales designates the underlying aquifer at the Site as a Secondary B (non-aquifer) and the Site is not underlain by a Source Protection Zone.
- 1.2.3 No fuel storage tanks are located within the Site or the nearby soil and aggregates processing facility. Although a mobile bowser is used at Ty Mawr Farm to re-fuel machinery, it will be used in accordance with the refuelling and emergency spillage procedures included in this EMS, refer to Appendix 2.

2 SPECIFIED SITE AND WASTE MANAGEMENT OPERATING PROCEDURES

2.1 WASTE ACCEPTANCE

- 2.1.1 The maximum annual tonnage to be treated will be **75,000 tonnes per annum**.
- 2.1.2 The Environmental Permit application takes full cognizance of 'Guidance on Waste Recovery Plans and Permits' which is available at <https://www.gov.uk/guidance/waste-recovery-plans-and-permits#specific-obligations>.
- 2.1.3 Permitted wastes and their use on site are shown in Table 1 below.

| Table 1: Permitted Wastes and Their Use on Site | |
|--|---|
| ECW Code | Description |
| 01 01 | Wastes from mineral excavation |
| 01 01 02 | Wastes from mineral excavation |
| 01 04 | Wastes from physical and chemical processing of non-metalliferous minerals |
| 01 04 08 | Waste gravel and crushed rock other than those containing dangerous substances |
| 01 04 09 | Waste sand and clays |
| 17 05 | Soil, stones and dredging spoil |
| 17 05 04 | Soils and stones |
| 19 12 | Wastes from waste water treatment plants not otherwise specified |
| 19 12 09 | Minerals (for example sand and stones) |
| 19 12 12 | Soil substitutes other than that containing dangerous substances |
| 20 02 | Garden and parks wastes (including cemetery wastes) |
| 20 02 02 | Soil and stones |

- 2.1.4 Of the permitted waste types that are listed in Table 1 above, under European Council Decision 2003/33/EC, certain waste codes do not require Waste Acceptance Criteria (WAC) testing, provided that they are inert and from a single source only (mixed load from more than one site cannot be accepted without testing). Wastes may be accepted at the site without testing provided they comply with the restrictions in Council Decision 2003/33/EC are shown in Table 2.

| Table 2: Inert Wastes that can be Accepted Without Testing | | |
|---|------------------|--|
| ECW Code | Description | Restrictions |
| 17 05 04 | Soils and stones | Excluding topsoil, peat; excluding soil and stones from contaminated sites |
| 20 02 02 | Soil and stones | Only from garden and parks waste; excluding topsoil, peat |

- 2.1.5 In the event that a load of soil and stones falls under 17 05 04 or 20 02 02 is inert and received from a single source only it may be accepted at the Site without inert WAC testing. However, it is more likely that loads will have been screened and crushed in the soil and aggregates processing facility

beforehand and therefore not originating from a single source. These wastes and all other permitted wastes received at the Site will be subject to WAC testing in accordance with European Council Decision (2003/33/EC), the requirements of which are incorporated into Schedule 10 of the Environmental Permitting (England and Wales) Regulations 2010.

2.1.6 The leaching limit values, calculated at a liquid to solid ratio of 10 l/kg, shown in Table 3 will be applied to those wastes received at the Site that are subject to the requirements of WAC testing.

| Table 3: Waste Acceptance Criteria Thresholds for Inert Wastes that Require Testing | | |
|--|-------------------------------|---|
| <i>Component</i> | <i>Symbol</i> | <i>L/S = 10l/kg mg/kg dry substance</i> |
| Arsenic | As | 0.5 |
| Barium | Ba | 20 |
| Cadmium | Cd | 0.04 |
| Total Chromium | Cr total | 0.5 |
| Copper | Cu | 2 |
| Mercury | Hg | 0.01 |
| Molybdenum | Mo | 0.5 |
| Nickel | Ni | 0.4 |
| Lead | Pb | 0.5 |
| Antimony | Sb | 0.06 |
| Selenium | Se | 0.1 |
| Zinc | Zn | 4 |
| Chloride | Cl- | 800 |
| Fluoride | F- | 10 |
| Sulphate(a) | SO ₄ ²⁻ | 1,000 |
| Phenol index | PI | 1 |
| Dissolved Organic Carbon(b) | DO | 500 |
| Total Dissolved Solids(c) | TDS | 4,000 |

(a) This limit value for sulphate may be increased to 6,000 mg/kg, provided that the value of C0 (the first eluate of a percolation test at L/S = 0.1 l/kg) does not exceed 1,500 mg/l. It will be necessary to use a percolation test to determine the limit value at L/S = 0.1 l/kg under initial equilibrium conditions.

(b) If the waste does not meet this value for Dissolved Organic Carbon (DOC) at its own pH value, it may alternatively be tested at L/S = 10 l/kg and a pH between 7.5 and 8.0. The waste may be considered as complying with the acceptance criteria for DOC, if the result of this determination does not exceed 500 mg/kg.

(c) The value for Total Dissolved Solids can be used alternatively to the values for Sulphate and Chloride.

- 2.1.7 In addition, the leaching limit values for organic parameters specified in Table 4 will be applied to wastes received at the Site that requires WAC testing.

| Table 4: Additional Waste Acceptance Criteria Thresholds (organic parameters) for Inert Wastes that Require Testing | |
|---|--------|
| Parameter | Value |
| | mg/kg |
| Total Organic Carbon (TOC)(a) | 30,000 |
| BTEX compounds (benzene, toluene, ethyl benzene & xylenes) | 6 |
| Polychlorinated biphenyls (PCBs) (7 congeners) | 1 |
| Mineral oil (C10 to C40) | 500 |
| PAHs (polycyclic aromatic hydrocarbons) | 100 |
| (a) In the case of soils, a higher limit value may be permitted by SEPA, provided a Dissolved Organic Carbon value of 500 mg/kg is achieved at L/S 10 l/kg at the pH of the soil or at a pH value of between 7.5 and 8.0. | |

- 2.1.8 The waste producer will be required to undertake WAC testing, as part of the basic characterisation procedures, on wastes that cannot be accepted without analysis. Such wastes will only be accepted at Ty Mawr Farm where a copy of the analysis is submitted to the Operator for checking and the results are within the relevant limit values detailed in Tables 3 and 4.
- 2.1.9 Compliance testing of the key variables established during the Basic Characterisation will be carried out on each waste stream at regular intervals.
- 2.1.10 In addition to the requirement for WAC testing to demonstrate that permitted wastes are strictly inert, additional pre-acceptance procedures will be used to ensure that only suitable waste types are accepted. Customers delivering waste will be required to provide the Operator, in advance, with all necessary information/documentation to satisfy the requirements of the Waste (England and Wales) Regulations 2011 and the Duty of Care. Information required will include specific details of the type of process producing the waste (source), the type of waste (according to the EWC), the quantity of waste, the form the waste takes (e.g. solid) and any special handling requirements needed. An assessment will be made to ensure that the waste is suitable for deposit at the Site and use in the waste recovery operations.
- 2.1.11 Only wastes which have been subject to the pre-acceptance procedures detailed above will be accepted at the Site.
- 2.1.12 A visual inspection of the contents of all waste loads will be made by Site staff on deposit of the waste load.
- 2.1.13 Any discrepancies found, i.e. suspect, non-conforming and/or random loads, as a result of the checks detailed above will result in the vehicle being detained whilst some, or all, of the following

supplementary management decisions are taken:

- Referral to the site foreman or company management;
- Referral to the waste producer to confirm the nature of the waste load;
- Referral to Natural Resources Wales;
- Redirection of delivery vehicle off site, to a suitably authorised facility; and
- If the waste has been discharged, removal of the waste to a secure quarantine area, prior to off-site removal either to the waste producer or suitably authorised facility.

- 2.1.14 Any waste materials dispatched off site to an authorised facility, will be removed in accordance with the Duty of Care. A registered waste carrier will be used. A 'Record of Non-Conformance' will be made in accordance with Appendix 3.
- 2.1.15 Copies of relevant Waste Transfer Notes/Season Tickets will be maintained at Ty Mawr Farm.
- 2.1.16 Any instances of rejection of loads will be recorded in a Site log, which will be made available for inspection by authorised officers of Natural Resources Wales at any reasonable time.
- 2.1.17 Copies of Waste Transfer Notes and all records required in accordance with the Environmental Permit will be kept in a dedicated office at Ty Mawr Farm or off-Site in a secure location. Where at all possible, records will be electronic.

3 SITE RECORDS

- 3.1.1 The Site records will be maintained and kept secure from loss, damage and deterioration in an office at Ty Mawr Farm.
- 3.1.2 Records including dates, waste types, quantities, sources/facility and waste carriers licence of all waste entering and leaving the Site will be recorded on the 'General Waste Management', Appendix 4 and Waste Returns will be produced in a timely manner.
- 3.1.3 A copy of the Environmental Permit will be easily accessible by staff members or contractors. Contractors will be briefed on the sensitivity of the Site and if not being supervised by site personnel will require a site induction.
- 3.1.4 Any complaints received at the site will be recorded on the 'Complaints Record' sheet, Appendix 5.

3.2 MAINTENANCE

- 3.2.1 All equipment and infrastructure on site will be inspected, serviced and maintained as per manufacturer guidance and 'Preventative Maintenance Checklist', refer to Appendix 6.
- 3.2.2 Natural Resources Wales will be informed without delay if there is any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution and cause any significant adverse environmental and health effects.
- 3.2.3 Any required maintenance will be carried out as soon as is practicable to ensure continued running of the Site and be recorded on the 'Maintenance Record', refer to Appendix 7.
- 3.2.4 Daily visual site inspections for litter, adequacy of security fencing and mud accumulating on site or beyond the site boundary will be undertaken. More thorough weekly inspections will be carried out and recorded, 'Inspection Record', Appendix 8. The weekly inspections include a review of:
- Site road
 - Working area
 - Surrounding drainage reens
 - Litter
 - Mud / dirt
 - Vermin and insects
 - Fire (e.g. inspection of fire fighting equipment etc.)
 - Security.
- 3.2.5 Any maintenance works required will be recorded on the 'Maintenance Record', Appendix 7.

3.3 ENVIRONMENTAL ACCIDENT AND INCIDENTS

3.3.1 In the event of an environmental accident on Site the 'Environmental Accident and Incident Record', refer to Appendix 9, will be completed.

3.4 TRAINING

3.4.1 Site staff will be trained and instructed in the procedures required to operate the Site and will be aware of the permitted waste types accepted at the site as well as the requirements of the Environmental Permit and EMS.

3.4.2 A record of all training will be kept on the 'Training Record' in accordance with the 'Training Needs Checklist', Appendix 10 and Appendix 11 retrospectively.

3.5 SITE DIARY

3.5.1 A site diary consisting of accurate and complete reporting and record keeping will be maintained at all times and will be made available for inspection by Natural Resources Wales when requested.

3.6 AUDITS

3.6.1 It is noted that this EMS is required to be:

- continually improving
- assessing prevention of pollution incidents
- in accordance with the latest regulatory guidance
- assessing environmental objectives independent of the Environmental Permit.

3.6.2 To assess the bullet points the Operator will undertake internal annual audits of the EMS, environmental performance, objective and targets and future planned improvements.

APPENDICES:

| | |
|-------------|---|
| Appendix 1 | Drawing No. CE-TM-0937-DW05 |
| Appendix 2 | Refuelling and Emergency Spillage Procedure |
| Appendix 3 | Record of non-conformance |
| Appendix 4 | General Waste Management |
| Appendix 5 | Complaints Record |
| Appendix 6 | Preventative Maintenance Checklist |
| Appendix 7 | Maintenance Record |
| Appendix 8 | Inspection Record |
| Appendix 9 | Environmental Accident and Incident Record |
| Appendix 10 | Training Record |
| Appendix 11 | Training Needs Checklist |

APPENDIX 1:

Drawing No. CE-TM-0937-DW05

APPENDIX 2:

Refuelling and Emergency Spillage Procedure

REFUELLING AND EMERGENCY SPILLAGE PROCEDURE

INTRODUCTION

Environmental Risk

Risk of environmental pollution incidents from the restoration works to the reens are considered to be suspended solids from the deposit and spreading of inert soils and subsoils, and fuel in the event of a spillage from the mobile fuel bowser or malfunctions with the processing equipment. No fuels or oils are stored within the Site.

The Planning Permission for the Site (99/0621) requires that all reens and ditches need to be protected from the physical development by a buffer zone of 7m. Within the buffer zone there shall be no storage of spoil and material and no trafficking of vehicles. , Surface water run-off potentially coming into contact with the inert waste will be directed to the onsite drainage channels and large bunds surrounding the facility will reduce the possibility of surface water run-off entering the nearby reens.

Mobile plant will be operated in accordance with manufacturers' guidelines and will be routinely inspected and maintained.

To reduce the risk of environmental pollution with regards to potential spillages of fuels the following Refuelling Procedure will be adhered to at all times. In the unlikely event that a fuel spillage does occur then the Emergency Spillage Procedure will be implemented.

REFUELLING PROCEDURE

Aim

To effectively control the risk of pollution that has the potential to arise from the delivery of fuel to mobile plant on Site.

Steps to be followed

The person carrying out re-fuelling must remain with the item of plant at all times observing the operation.

The fuel tank on the item of plant must be checked in order to determine the amount of fuel required.

The fuel nozzle is secured by lock. Before use the fuel nozzle, the hose must be checked for leaks or damage. If any are located the site supervisor must be informed and they will arrange for remedial action.

The fuel nozzle must be kept upright between the fuel tank & mobile bowser to avoid any splashes / leaks.

Although an automatic cut-off is fitted to the fuel nozzle, do not rely on it totally to prevent any splashes.

Any spillages must be cleared up using absorbent material, following the Emergency Fuel Spillage Procedure below.

EMERGENCY SPILLAGE PROCEDURE

Aim

To ensure that any fuel spillages are contained within an area and cause minimal environmental impact.

Steps to be followed

Small scale Fuel Spill

A small fuel spill is one caused by things such as a splash or spill of fuel whilst filling an item of plant or machinery. The volumes involved are small and are confined to a small area.

If a small spill does occur the spill needs to be covered with absorbent granules from a spill kit.

The absorbent material should be allowed to cover the spill for a sufficient amount of time to allow it to soak up the fuel contamination.

Once the absorbent material has soaked up the spill it should be removed to the area of non-conforming waste. From there the waste should be exported off Site to a facility permitted to accept the waste types and all relevant documentation should be held at Ty Mawr Farm.

Report to the Site Manager any materials that have been used and need replacing.

Large Fuel Spill

In the event of a major spillage of diesel, oil or lubricants, the essential action to be taken is to prevent the spillage migrating to a position / sensitive receptor where it could cause contamination.

This can be done by:

- Diverting the spillage away from such an area;
- Bunding the spill using socks / sand / soil; and
- Placing absorbent materials on the spillage.

If the spillage is major (e.g. damaged bund wall), it is essential that instant action is taken, using the emergency spill-kits.

If possible you should try to prevent any further spillage from the source e.g. by turning off the diesel pump, turning off a valve or blocking a hole in the fuel tank.

Protect any nearby drains or reens by placing socks or booms around them, using enough to totally enclose the entrances.

The spill should be reported as soon as reasonably possible to the Site Manager and Natural Resources Wales (NRW).

Use the absorbent mats and pillows to clear up the spillage and seek specialist advice from appropriate contractors.

Once the absorbent material has soaked up the spill it should be removed to the area of non-conforming waste. From there the waste should be exported off Site to a facility permitted to accept the waste types and all relevant documentation should be held on site.

Report to the Site Manager any materials that have been used and need replacing

Consequences of not following procedures:

If a spill occurs and the following procedures are not followed then the Site runs the risk of causing pollution to the surrounding land and water courses. This may result in action being taken against the Site Operator/Permit Holder.

| Trade name | State | UN number | Location | Type of containment | Relevant health and environmental properties |
|------------|--------|-----------|---------------------------------|---------------------|--|
| Diesel | Liquid | 1202 | Transported via a mobile bowser | Mobile bowser | <p>H226 - Flammable liquid and vapour.</p> <p>H304 - May be fatal if swallowed and enters airways.</p> <p>H315 - Causes skin irritation.</p> <p>H332 - Harmful if inhaled.</p> <p>H351 - Suspected of causing cancer.</p> <p>H373 - May cause damage to organs through prolonged or repeated exposure.</p> <p>H411 - Toxic to aquatic life with long lasting effects.</p> <p>R20 - Harmful by inhalation.</p> <p>R38 - Irritating to skin.</p> <p>R40 - Limited evidence of a carcinogenic effect.</p> <p>R51 - Toxic to aquatic organisms.</p> <p>R53 - May cause long-term adverse effects in the aquatic environment.</p> <p>R65 - Harmful: may cause lung damage if swallowed.</p> <p style="text-align: right;"><i>(EU, 1967)</i></p> |

APPENDIX 3:

Record of non-conformance

| Record of non-conformance | |
|--|---|
| Date and time non-conformance identified | |
| What happened, what was it about? | |
| What caused it? | |
| What have you done to make sure that it does not happen again? | |
| Was there any significant pollution – for example oil entering a reën / surface water drain? | |
| If there was then you must notify Natural Resources Wales on 03000 66 3000 (open 24hours/day) Have you done so? | Yes/No/not applicable Time: Date: NRW Incident number: |
| Please print name and sign: | |

APPENDIX 4:

General Waste Management

APPENDIX 5:

Complaints Record

| Complaints Record | |
|---|---|
| Who made the complaint? | |
| Name: | |
| Address: | |
| Phone No: | |
| Date and time they made the complaint | |
| What caused it? | |
| Was anyone else aware of this? If so who? | |
| What was the source of the problem, what went wrong? If source is unknown contact a suitably qualified person to investigate. | |
| What have you done to make sure it won't happen again? | |
| Was there any significant pollution – for example oil entering a surface water drain? | |
| If there was then you must notify Natural Resources Wales on 03000 66 3000 (open 24hours/day) Have you done so? You must also notify the local Natural Resources Wales Office via email or letter. | Yes/No/not applicable Time: Date: NRW Incident number: |
| Please print name and sign: | |

APPENDIX 6:

Preventative Maintenance Checklist

APPENDIX 7:

Maintenance Record

APPENDIX 8:

Site Inspection Record

| Site Inspection Record | | | |
|------------------------|--------------------------------|-----------------------|----------|
| Date | Item | Inspected (yes/no) | Comments |
| | Site road | | |
| | Working areas | | |
| | Drainage system | | |
| | Litter | | |
| | Mud/dirt | | |
| | Vermin and insects | | |
| | Fire (fire fighting equipment) | | |
| | Security | | |

APPENDIX 9:

Environmental Accident and Incident Record

| Environmental Accident and Incident Record | |
|--|---|
| Date and time of the incident | |
| What happened, what was it about? | |
| Was anyone else aware of this – other witnesses? If so who? | |
| What caused it? | |
| What action did you take to fix the problem? Were external agencies involved? | |
| What have you done to make sure that it does not happen again? | |
| If there was then you must notify Natural Resources Wales on 03000 66 3000 (open 24hours/day) Have you done so? | Yes/No/not applicable Time: Date: NRW Incident number: |
| Please print name and sign: | |

APPENDIX 10:

Training Record

APPENDIX 11:

Training Needs Checklist

| Training Needs Checklist | | | | | | | | | | | | | | | |
|--------------------------|--------------------------------|--------------------------------------|--------------------------------------|--|--|-----------------------------|------------------------|--|--|--|-------------------------|----------------|---------------------|----------------|----------|
| Employee | Training Required* | | | | | | | | | | | | | | Comments |
| | Environmental Awareness | | | | | Maintenance / Operations | | | | | Accidents and Emergency | | | | |
| | Permit role and responsibility | Waste Receipt including Duty of Care | Waste deposit, storage and spreading | Awareness of local sensitive receptors | Permit conditions and non-confirmances | Maintenance of mobile plant | Bunds, tanks, pipework | | | | Fire | Spill response | Failure of Services | Dust emissions | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

*Insert other training required in available spaces.

DC and IE SHERVINGTON

**Ty Mawr Farm, St Brides, Wentlooge,
Newport, NP10 8SF.**

Restoration of Former Landfill Site

Waste Recovery Plan

Report Reference: CE-TM-0937-RP05-final



Produced by Crestwood Environmental Ltd.

24 January 2017

Crestwood Report Reference: CE-TM-0937-RP05-final

| Version & Status | Date Produced | Written / Updated by: | Checked & Authorised by: |
|-----------------------------|----------------------|---|-------------------------------------|
| Draft v1 | 19/12/2016 | Charlotte Hedgecock MSc GradMCIWM Stephen Barnes BSc (Hons), MCIWM | Sid Lambert (Managing Director) |
| Final | 24/01/2017 | Charlotte Hedgecock MSc GradMCIWM Stephen Barnes BSc (Hons), MCIWM | Sid Lambert (Managing Director) |
| | | | |
| | | | |

This report has been prepared in good faith, with all reasonable skill, care and diligence, based on information provided or known available at the time of its preparation and within the scope of work agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

The report is provided for the sole use of the named client and is confidential to them and their professional advisors. No responsibility is accepted to others.

Crestwood Environmental Ltd.
1 & 2 Nightingale Place
Pendeford Business Park
Wolverhampton
West Midlands
WV9 5HF

Tel: 01902 229 563

Email: info@crestwoodenvironmental.co.uk
Web: www.crestwoodenvironmental.co.uk

CONTENTS

| | | |
|----------|---|-----------|
| 1 | INTRODUCTION | 3 |
| 1.1 | Background | 3 |
| 1.2 | Regulatory Guidance | 3 |
| 2 | FINANCIAL GAIN | 4 |
| 2.1 | Financial Gain By Using Non-Waste Materials | 4 |
| 2.2 | Financial Gain By Using Waste Materials | 7 |
| 3 | BENEFIT OF WORK | 7 |
| 3.1 | Obligation to restore land | 7 |
| 3.2 | Restore to agricultural land | 7 |
| 3.3 | In keeping with surrounding SSSI designations | 7 |
| 4 | SUITABILITY OF WASTE | 8 |
| 4.1 | Waste Acceptance Criteria | 8 |
| 5 | MINIMUM AMOUNT OF WASTE | 11 |
| 5.1 | Quantity | 11 |
| 6 | SUBSTITUTE FOR A NON-WASTE MATERIAL | 12 |
| 7 | APPROPRIATE STANDARDS OF WORK | 12 |
| 8 | CONCLUSION | 12 |

APPENDICES

| | |
|------------|--|
| Appendix 1 | Planning Permission (ref 99/0621) |
| Appendix 2 | Approved Restoration Plan - Drawing No 3231dwg102, Rev C |
| Appendix 3 | Topographic Survey (December 2016) |

LIST OF TABLES

| | |
|---------|--|
| Table 1 | Income and Costs of Using Waste and Non-Waste |
| Table 2 | Permitted Wastes and Their Use on Site |
| Table 3 | Inert Wastes that can be accepted without Testing |
| Table 4 | Waste Acceptance Criteria Thresholds for Inert Wastes that Require Testing |
| Table 5 | Additional Waste Acceptance Criteria Thresholds (organic parameters) |

LIST OF DRAWINGS

| | | |
|--------------------------------------|------------------------|------------|
| Drawing No CE-TM-0937-DW03 | Phase 1 Habitat Plan | 1:1,800@A3 |
| Drawing No CE-TM-0937-DW05 | Outline Landraise Plan | 1:2,000@A3 |
| Drawing No CE-TM-0937-DW05, Figure 2 | Cross Sections | 1:1,000@A3 |

1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1 Crestwood Environmental Ltd has been commissioned by Mr Edd Shervington of DC and IE Shervington (**the Operator**) to prepare a Waste Recovery Plan for the use of inert soils and subsoils to restore part of a former landfill site at Ty Mawr Farm, St Brides, Wentlooge, Newport, NP10 8SF.
- 1.1.2 The former landfill site was previously operated under a Waste Management Licence (WML) issued to Mr D Shervington on 21 March 1995. Following the death of Mr D Shervington the licence ceased to exist and restoration of part of the site known as Phase 6 remained unfinished.
- 1.1.3 Further to discussions between Mr Damien Downes of Natural Resources Wales and Mr Neil Gunther of Newport City Council Planning Authority it has been confirmed that the Planning Permission for the Site (ref 99/0621) (see Appendix 1) is still valid and that the former landfill is required to be restored in accordance with the approved Restoration Plan (Drawing No 3231dwg102, Rev C) (see Appendix 2).
- 1.1.4 Drawing No 3231dwg102, Rev C requires that Phase 6 has a final contour level of 11m AoD, with a centralised local area to 11.2m AoD. A topographic survey was undertaken in December 2016 by Landmark Services (Wales) Limited and shows that current Phase 6 levels are in the region of 6 to 8m AoD (see Appendix 3).
- 1.1.5 A Waste Recovery Permit application has therefore been submitted to restore Phase 6 to the approved final contour levels. This follows advice from Mr Damien Downes on 23 November 2016 that the best option to restore the former landfill is “to submit a Waste Recovery Plan and apply for a Waste Recovery Permit”.
- 1.1.6 The proposed Environmental Permit boundary is shown on Drawing No. CE-TM-0937-DW05.
- 1.1.7 The results of the topographic survey and the final restoration contours for Phase 6 have been used in 3D KTF modelling to calculate the volume of material required to restore Phase 6 to the approved restoration contours. Cross Sections are shown on Drawing No CE-TM-0937.DW05, Figure 2.
- 1.1.8 The modelling shows that in order to achieve the restoration contours required by the Planning Permission 151,793m³ of inert soils and subsoils will require spreading over the Phase 6 area, which is calculated to be 55,109m². This equates to a mean depth of 2.75m. Assuming a density of 1.25 tonnes per m³, circa 189,741 tonnes of inert soils and subsoils will be required.

1.2 REGULATORY GUIDANCE

- 1.2.1 Regulatory guidance on Waste Recovery Plans is available at <https://www.gov.uk/guidance/waste-recovery-plans-and-permits#specific-obligations>. This Guidance states that where a Regulator has imposed a planning condition that requires a site to be restored in accordance with an approved plan this can be used as evidence to demonstrate that the use of waste to comply with the legal requirement is a waste recovery activity.
- 1.2.2 The Guidance also refers to Section 1.4.5 of ‘Guidelines on the interpretation of key provisions of

Directive 2008/98/EC on waste' to understand the legal definition of waste recovery operations. Section 1.4.5 states "The principal result of a recovery operation 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."

1.2.3 This Waste Recovery Plan has been prepared in accordance with Regulatory Guidance and 'Guidelines on the interpretation of key provisions of Directive 2008/98/EC on waste'.

1.2.4 The Waste Recovery Plan demonstrates that the use of inert waste to restore the Site in accordance with the approved Restoration Plan meets the obligation criteria of the Regulatory Guidance and provides evidence that the following principle criteria have been met:

- There would be a financial gain
- There is a clear benefit from the use of waste to restore the Site;
- The recovered waste material is suitable for its intended use;
- The minimum amount of waste will be used to achieve the intended benefit;
- The waste will be used as a substitute for non-waste material; and
- The work will be completed to an appropriate standard.

2 FINANCIAL GAIN

2.1 FINANCIAL GAIN BY USING NON-WASTE MATERIALS

2.1.1 Regulatory guidance <https://www.gov.uk/guidance/waste-recovery-plans-and-permits> states that:

"Your plan [Waste Recovery Plan] must show that if you couldn't use a waste material you would do work to get the same outcome using non-waste materials. You must include evidence of this in your plan.

"You could provide evidence to show that if you carried out the work with non-waste you would benefit from a net financial gain. Your waste recovery plan needs to include:

- *your expected income and any capital gain*
- *all the costs of generating this income and any capital gain*
- *all the costs of carrying out the work with non-waste and any ongoing operating costs.*

"This should show that it would be commercially worthwhile to use non waste. For example, it would show that using non waste produces a meaningful financial gain or is affordable and otherwise worthwhile."

2.1.2 Table 1 shows the income and costs of restoring the Site using both waste and non-waste. The figures used are explained in the Table's footnotes.

TABLE 1 INCOME AND COSTS OF USING WASTE AND NON-WASTE

| RESTORING PHASE 6 WITH WASTE | | | | RESTORING PHASE 6 WITH NON-WASTE | | | |
|---|----------------|------------------------------|----------------------------------|---|----------------|---------------|----------------------------------|
| INCOME | | | | INCOME | | | |
| Item | Fee per tonne | Total tonnage ⁽¹⁾ | Total | Item | Fee per tonne | Total tonnage | Total |
| Gate fee from waste import | £4.75 | 189,741 | £901,269 | - | - | - | - |
| Value of returning land to agricultural use (including profit from livestock that graze land) | - | - | £45,614 per annum ⁽²⁾ | Value of returning land to agricultural use (including profit from livestock that graze land) | - | - | £45,614 per annum ⁽²⁾ |
| Increase in value of land | - | - | £117,300 ⁽³⁾ | Increase in value of land | - | - | £117,300 ⁽³⁾ |
| Overall Income | | | £1,064,183 | Overall Income | | | £162,914 |
| COST | | | | COST | | | |
| Item | Cost per tonne | Total tonnage | Total | Item | Cost per tonne | Total tonnage | Total |
| Cost of processing the waste (including levelling & compaction) | £2.00 | 189,741 | £379,482 | Cost of importing unprocessed, virgin subsoils and soils | £2.00 | 189,741 | £379,482 |
| Red diesel costs to level and compact the waste | - | - | £11,000 ⁽⁴⁾ | Red diesel costs to level and compact the non-waste | - | - | £11,000 |
| Staff costs to complete work | - | - | £27,500 ⁽⁵⁾ | Staff Costs to complete work | - | - | £11,000 ⁽⁸⁾ |
| Laboratory testing costs | - | - | £6,500 ⁽⁶⁾ | Laboratory testing costs | - | - | - |
| Permitting costs | - | - | £8,822 ⁽⁷⁾ | Permitting costs | - | - | - |
| Overall Cost | | | £623,045 | Overall Cost | | | £401,482 |
| OVERALL PROFIT | | | £437,956 | OVERALL PROFIT | | | See note ⁽⁹⁾ |

- (1) Quantity of material required = 151,792m³, assume a density of 1.25 tonnes per m³, equates to 189,741 tonnes
- (2) Grazing value of land and produce derived (cattle and sheep).
- (3) Area of site = 13.6 acres. Agricultural value of land = £8,625 per acre (based on Royal Institute of Chartered Surveyors, 'Rural Land Market Survey, 2016).
Value of 13.6 acres = £117,300
- (4) Red diesel costs = £0.55 per litre. Assume 20,000 litres of diesel used to complete site works = £11,000
- (5) Based on estimated cost of 5 staff completing the work (i.e. waste processing, transfer to Phase 6, levelling and compaction).
- (6) Assume WAC testing required every 7,500 tonnes of inert soil and subsoil = 26 samples for 189,741 tonnes. Lab costs are £250 per sample, equates to £6,500
- (7) Assume EA application fee of £3,762 (based on EPR OPRA Assessment) and annual subsistence fee of £2,530. Assume work complete and permit surrendered in two years. Total fees to EA = £8,822
- (8) Based on estimated cost of 2 staff completing the work (i.e. levelling and compaction of non-waste when delivered to Phase 6).
- (9) **Restoring the site with non-waste achieves payback after 5 years and returns a profit thereafter. In the first year the cost of using non waste exceeds the income derived by £238,586 (i.e. £401,482 - £162,914). However, on-going annual income thereafter of £45,614 means that site breaks even after 5 years.**

- 2.1.3 Table 1 shows that restoring the Site with non-waste achieves payback after 5 years and returns an on-going profit thereafter. In the first year the cost of using non waste exceeds the income derived by circa £238,586 (i.e. £401,482 - £162,914). However, on-going income thereafter of circa £45,614 per annum from the agricultural use of the land means that the Site breaks even after 5 years and returns an on-going profit due to the financial gain from grazing the land with sheep or cattle.

2.2 FINANCIAL GAIN BY USING WASTE MATERIALS

- 2.2.1 Table 1 shows that restoring the Site with waste generates a profit of circa £437,956. Once the Site is fully restored and the work is complete there will be an on-going financial gain of circa £45,614 per annum from the agricultural use of the land.
- 2.2.2 Ty Mawr Farm is a long established working farm owned and operated by the Shervington family for many decades. Phase 6 has been unrestored since the death of Mr D Shervington and the family seeks to return the land to its original agricultural use and continue utilising it for farming.

3 BENEFIT OF WORK

3.1 Obligation to restore land

- 3.1.1 The Planning Permission (ref 99/0621) requires the Site to be restored in accordance with the approved Restoration Plan (Drawing No 3231dwg102, Rev C). Newport City Council Planning Authority has confirmed that the Planning Permission and approved Restoration Plan are still valid. Therefore there is a legal requirement to restore the Site. The restoration of the land will result in recovery to its original agricultural use. The proposed work will enable the Site to fulfil this obligation.

3.2 Restore to agricultural land

- 3.2.1 The Site is surrounded by agricultural grazing land. By restoring the Site to agricultural land, the area used for cattle grazing on the farm will increase. Often, areas of land which have been restored for agriculture using inert wastes are of a higher grade than prior to extraction of the quarry area (Quarry Products Association, 2006).
- 3.2.2 Restoring the Site to agricultural land will both visually and practically make the area more in keeping with its surroundings.

3.3 In keeping with surrounding SSSI designations

- 3.3.1 The Site itself and the surrounding agricultural area form part of The Gwent Levels – St Brides Site of Special Scientific Interest (SSSI).
- 3.3.2 The Countryside Council for Wales SSSI Citation for The Gwent Levels - St Brides states that:

“The Gwent Levels constitute the lowlands between Cardiff and Chepstow and are drained by an ordered network of drainage ditches. They are an example of one of the most extensive areas of reclaimed wet pasture in Great Britain which includes the Somerset Levels, Romney Marsh and the

Pevensey Levels, and is the largest area of its kind in Wales. Together these Levels systems constitute a national series of sites, each with its own special features.”

- 3.3.3 The area is grazed extensively and restoration of the Site to pasture will return the land to its traditional use and habitat.

4 SUITABILITY OF WASTE

4.1 WASTE ACCEPTANCE CRITERIA

- 4.1.1 Only strictly inert waste materials will be used on the Site. Clean soils and subsoils will be processed at the Operator’s existing soil treatment facility, which is located to the immediate north east of the Site. The soil treatment facility is operated under a Standard Rules permit (SR2010 No 12), which was issued on 6th December 2013 (permit ref EPR/KB3997TQ). The permit authorises the sorting, screening, crushing and blending of specified wastes to produce soil, soil substitutes and aggregate. Only clean, uncontaminated soil and subsoils from the treatment process will be used in the restoration of the Site and such materials are subject to chemical testing in an independent laboratory to confirm suitability (see below).

- 4.1.2 Regulatory Guidance Series, No EPR 13 ‘Defining Waste Recovery: Permanent Deposit of Waste on Land’ includes a list of typical waste types that are suitable for various waste recovery to land uses. The Guidance was officially withdrawn on 1 February 2016 because some of the documents have been reclassified as internal guidance only. However, it is considered that the Guidance is still relevant to how the Site will operate. Therefore the list of wastes to be accepted at the Site is restricted to inert materials that accord with the Guidance’s recommendations for use in agricultural improvement schemes.

- 4.1.3 Permitted wastes and their use on site are shown in Table 2 below.

| Table 2: Permitted Wastes and Their Use on Site | | |
|--|---|---------------------------------|
| ECW Code | Description | Use at site, based on EPR 13 |
| 01 01 | Wastes from mineral excavation | |
| 01 01 02 | Wastes from mineral excavation | Agricultural improvement scheme |
| 01 04 | Wastes from physical and chemical processing of non-metalliferous minerals | |
| 01 04 09 | Waste sand and clays | Agricultural improvement scheme |
| 17 05 | Soil, stones and dredging spoil | |
| 17 05 04 | Soils and stones | Agricultural improvement scheme |
| 19 12 | Wastes from waste water treatment plants not otherwise specified | |
| 19 12 12 | Soil substitutes other than that containing dangerous substances | Agricultural improvement scheme |
| 20 02 | Garden and parks wastes (including cemetery wastes) | |
| 20 02 02 | Soil and stones | Agricultural improvement scheme |

- 4.1.4 Of the permitted waste types that are listed in Table 2 above, under Council Decision 2003/33/EC, certain waste codes do not require Waste Acceptance Criteria (WAC) testing, provided that they are inert and from a single source only (mixed load from more than one site cannot be accepted without testing). Wastes may be accepted at the site without testing provided they comply with the restrictions in Council Decision 2003/33/EC are shown in Table 3.

| Table 3: Inert Wastes that can be Accepted Without Testing | | |
|---|--------------------|--|
| ECW Code | Description | Restrictions |
| 17 05 04 | Soils and stones | Excluding topsoil, peat; excluding soil and stones from contaminated sites |
| 20 02 02 | Soil and stones | Only from garden and parks waste; excluding topsoil, peat |

- 4.1.5 All other permitted wastes received at the Site will be subject to WAC testing in accordance with Council Decision (2003/33/EC), the requirements of which are incorporated into Schedule 10 of the Environmental Permitting (England and Wales) Regulations 2010.

- 4.1.6 The leaching limit values, calculated at a liquid to solid ratio of 10 l/kg, shown in Table 4 will be applied to those wastes received at the site that are subject to the requirements of WAC testing.

| Table 4: Waste Acceptance Criteria Thresholds for Inert Wastes that Require Testing | | |
|--|---------------|---|
| <i>Component</i> | <i>Symbol</i> | <i>L/S = 10l/kg mg/kg dry substance</i> |
| Arsenic | As | 0.5 |
| Barium | Ba | 20 |
| Cadmium | Cd | 0.04 |
| Total Chromium | Cr total | 0.5 |
| Copper | Cu | 2 |
| Mercury | Hg | 0.01 |
| Molybdenum | Mo | 0.5 |
| Nickel | Ni | 0.4 |
| Lead | Pb | 0.5 |
| Antimony | Sb | 0.06 |
| Selenium | Se | 0.1 |
| Zinc | Zn | 4 |
| Chloride | Cl- | 800 |
| Fluoride | F- | 10 |

**Table 4:
Waste Acceptance Criteria Thresholds for Inert Wastes that Require Testing**

| | | |
|-----------------------------|-------|-------|
| Sulphate(a) | SO42- | 1,000 |
| Phenol index | PI | 1 |
| Dissolved Organic Carbon(b) | DO | 500 |
| Total Dissolved Solids(c) | TDS | 4,000 |

(a) This limit value for sulphate may be increased to 6,000 mg/kg, provided that the value of C0 (the first eluate of a percolation test at L/S = 0.1 l/kg) does not exceed 1,500 mg/l. It will be necessary to use a percolation test to determine the limit value at L/S = 0.1 l/kg under initial equilibrium conditions.

(b) If the waste does not meet this value for Dissolved Organic Carbon (DOC) at its own pH value, it may alternatively be tested at L/S = 10 l/kg and a pH between 7.5 and 8.0. The waste may be considered as complying with the acceptance criteria for DOC, if the result of this determination does not exceed 500 mg/kg.

(c) The value for Total Dissolved Solids can be used alternatively to the values for Sulphate and Chloride.

4.1.7 In addition, the leaching limit values for organic parameters specified in Table 5 will be applied to wastes received at the Site that requires WAC testing.

**Table 5:
Additional Waste Acceptance Criteria Thresholds (organic parameters) for Inert Wastes that Require Testing**

| Parameter | Value mg/kg |
|--|----------------|
| Total Organic Carbon (TOC)(a) | 30,000* |
| BTEX compounds (benzene, toluene, ethyl benzene & xylenes) | 6 |
| Polychlorinated biphenyls (PCBs) (7 congeners) | 1 |
| Mineral oil (C10 to C40) | 500 |
| PAHs (polycyclic aromatic hydrocarbons) | 100 |

(a) In the case of soils, a higher limit value may be permitted by NRW, provided a Dissolved Organic Carbon value of 500 mg/kg is achieved at L/S 10 l/kg at the pH of the soil or at a pH value of between 7.5 and 8.0.

4.1.8 The conditions regarding the waste acceptance criteria are detailed in the Environmental Management System (ref CE-TM-0937-RP04). However, to ensure thoroughness they have been repeated below.

4.1.9 The waste producer will be required to undertake WAC testing, as part of the basic characterisation procedures, on wastes that cannot be accepted without analysis. Such wastes will only be accepted at Ty Mawr Farm where a copy of the analysis is submitted to the Operator for checking and the results are within the relevant limit values detailed in Tables 4 and 5.

4.1.10 Compliance testing of the key variables established during the Basic Characterisation will be carried

out on each waste stream at regular intervals.

- 4.1.11 In addition to the requirement for WAC testing to demonstrate that permitted wastes are strictly inert, additional pre-acceptance procedures will be used to ensure that only suitable waste types are accepted. Customers delivering waste to Ty Mawr Farm will be required to provide the Operator, in advance, with all necessary information/documentation to satisfy the requirements of the Waste (England and Wales) Regulations 2011 and the Duty of Care.
- 4.1.12 Only wastes which have been subject to the pre-acceptance procedures detailed above will be accepted at Ty Mawr Farm.
- 4.1.13 All wastes will be delivered to Ty Mawr Farm by approved contractors. Checks will be made to establish whether any approved contractor is a registered waste carrier or has a valid exemption from registration. Only registered carriers or those who are lawfully exempt from registration will be permitted to use the Site.
- 4.1.14 All wastes delivered to Ty Mawr Farm will be subject to visual inspection.
- 4.1.15 Any discrepancies found, i.e. suspect non-conforming loads, as a result of the checks detailed above will result in the vehicle being detained whilst some, or all, of the following supplementary management decisions are taken:
- Referral to the site foreman or company management;
 - Referral to the waste producer to confirm the nature of the waste load;
 - Referral to Natural Resources Wales;
 - Redirection of delivery vehicle off site, to a suitably authorised facility; and
 - If the waste has been discharged, removal of the waste to a secure quarantine area, prior to off-site removal either to the waste producer or suitably authorised facility.
- 4.1.16 Only permitted wastes will be accepted at Ty Mawr Farm.
- 4.1.17 Materials that require processing before use in Site restoration works will be screened and separated etc at the adjacent soil treatment facility, in accordance with that site's Standard Rules permit (see above). Suitable inert soils and subsoils will then be transferred to the Site for use in restoration works.
- 4.1.18 Copies of all records required in accordance with the Environmental Permit will be kept in a dedicated office at Ty Mawr Farm or off-Site in a secure location. Where at all possible, records will be electronic.

5 MINIMUM AMOUNT OF WASTE

5.1 QUANTITY

- 5.1.1 The activities shall not be carried out other than in accordance with the approved Waste Recovery Plan, and in any case no more than the permit's waste quantity limit shall be stored or used.
- 5.1.2 In order to achieve the objectives of the scheme the minimum quantity of material required has been

calculated based on the topographic survey of December 2016, which shows current Site levels, and 3D KTF modelling to calculate the volume of material required to restore the Site to the approved restoration contours required by the Planning Permission. Cross Sections are shown on Drawing No CE-TM-0937.DW05,

- 5.1.3 A total fill volume of 151,793m³ is needed to achieve the approved restoration profile.

6 SUBSTITUTE FOR A NON-WASTE MATERIAL

- 6.1.1 The European court has stated that the essential characteristic of 'a waste recovery operation is that its principal objective is that the waste serve a useful purpose in replacing other materials which would have had to be used for that purpose, thereby conserving natural resources.'
- 6.1.2 To restore the Site from non-waste material would entail the use of virgin soils and subsoils excavated from a greenfield site or quarry specifically for that purpose. The use of primary materials would be less sustainable for restoring the Site than by the recovery of waste materials. Consequently, the proposed works will be carried out using suitable imported waste materials.
- 6.1.3 It is considered that the above use of waste is a recovery operation. Furthermore, In Tarmac Aggregates Limited versus the Secretary of State for Environment, Food and Rural Affairs and the Environment Agency, the Court of Appeal ruled that where there is a legal obligation, by reason of a relevant planning condition, to carry out restoration work then if waste materials are not to be used, virgin materials will be required.
- 6.1.4 Therefore, it is clear that the use of waste at the Site is replacing other materials that would otherwise have to be used.

7 APPROPRIATE STANDARDS OF WORK

- 7.1.1 The Site restoration works will be carried out in accordance with the Planning Permission and approved Restoration Plan.
- 7.1.2 Restoration works will be subject to supervision by a technically competent manager with an appropriate WAMITAB Certificate. Only suitable inert soils and subsoils will be used in the works, placed and compacted in accordance with the cross sections shown on Drawing No CE-TM-0937-DW05, Figure 2 to achieve the approved restoration profile shown on Drawing No 3231dwg102, Rev C.
- 7.1.3 The Site will be surveyed to ensure the completed works comply with the approved Restoration Plan.

8 CONCLUSION

- 8.1.1 The information provided in this Waste Recovery Plan demonstrates that the proposed activity complies with the requirements of the Waste Framework Directive and

<https://www.gov.uk/guidance/waste-recovery-plans-and-permits>, and that the activity satisfies the recovery test.

- 8.1.2 The proposed waste types are suitable for the proposed restoration works as they do not present an unacceptable risk to human health or the environment as part of the proposed deposit. Ongoing testing and field trials will provide further evidence of the suitability of the proposed waste materials.
- 8.1.3 There are numerous very clear and significant benefits from the proposed restoration scheme, including the recovery of former agricultural land to enable its historic use for farming to continue and ensure the Site mirrors the surrounding landscape and agricultural fields that form part of the Gwent Levels – St Brides SSSI.
- 8.1.4 The minimum volume of material needed to achieve the key objectives of the scheme has been calculated and justified within this Waste Recovery Plan.
- 8.1.5 The use of waste as a replacement for virgin materials will conserve natural resources as well as reusing material which would otherwise be sent to landfill sites for disposal.

APPENDICES

- Appendix 1 Planning Permission (ref 99/0621)
- Appendix 2 Approved Restoration Plan - Drawing No 3231dwg102, Rev C
- Appendix 3 Topographic Survey (December 2016)

LIST OF DRAWINGS

| | | |
|--------------------------------------|------------------------|------------|
| Drawing No CE-TM-0937-DW03 | Phase 1 Habitat Plan | 1:1,800@A3 |
| Drawing No CE-TM-0937-DW05 | Outline Landraise Plan | 1:2,000@A3 |
| Drawing No CE-TM-0937-DW05, Figure 2 | Cross Sections | 1:1,000@A3 |

DC and IE SHERVINGTON

**Ty Mawr Farm, St Brides, Wentlooge,
Newport, NP10 8SF.**

Restoration of Former Landfill Site

H1 Accident and Amenity Risk Assessment

Report Reference: CE-TM-0937-RP06-Final



Produced by Crestwood Environmental Ltd.

24 January 2017

Crestwood Report Reference: CE-TM-0937-RP06-Final

| Version & Status | Date Produced | Written / Updated by: | Checked & Authorised by: |
|-----------------------------|----------------------|---------------------------------------|---|
| Draft v1 | 21/12/2016 | Stephen Barnes BSc (Hons), CIWM, CEnv | A. M. Lambert I.Eng CEnv CIWM ACIWEM |
| Final | 24/01/2017 | Stephen Barnes BSc (Hons), CIWM, CEnv | A. M. Lambert I.Eng CEnv CIWM ACIWEM |
| | | | |

This report has been prepared in good faith, with all reasonable skill, care and diligence, based on information provided or known available at the time of its preparation and within the scope of work agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

The report is provided for the sole use of the named client and is confidential to them and their professional advisors. No responsibility is accepted to others.

Crestwood Environmental Ltd.
Unit 1 – 2 Nightingale Place
Pendeford Business Park
Wobaston Road
Wolverhampton
West Midlands
WV9 5HF

Tel: 01902 229 563

Email: info@crestwoodenvironmental.co.uk
Web: www.crestwoodenvironmental.co.uk

| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure | Consequence | What is the Overall Risk |
|--|---|--|--|-------------------------|---|--------------------------|
| Odour | | | | | | |
| Odour from waste delivery, off-loading, and deposit for waste recovery | <p>Residential receptor (Sea View) circa 230m East of the Site at the closest point.</p> <p>West Usk Lighthouse (bed and breakfast accommodation) circa 465m East North East of the Site.</p> <p>Oakfields circa 510m West of the Site and other residential properties on Beach Road circa 520m West South West of the Site.</p> <p>New Farm House circa 530m North West of the Site.</p> <p>Properties on B4239 Lighthouse Road circa 630m North West of the Site at the closest point.</p> | Air | <p>Waste types accepted at the Site are strictly inert and subject to the waste acceptance criteria requirements of the Landfill Directive.</p> <p>Although the waste types are not odorous, in the unlikely event that any malodorous loads are delivered to the Site, they will be directed to a suitably authorised facility.</p> | Unlikely | Odour annoyance to anyone living or working close to the Site. | Very low |
| Noise and Vibration | | | | | | |
| <p>Engine noise during waste deposit, loading and unloading including reversing beepers etc.</p> <p>Vehicle movements to and from the Site</p> | <p>Residential receptor (Sea View) circa 230m East of the Site at the closest point.</p> <p>West Usk Lighthouse (bed and breakfast accommodation) circa 465m East North East of the Site.</p> <p>Oakfields circa 510m West of the Site and other residential</p> | Noise via the atmosphere and vibration through the ground. | <p>To minimise noise emissions, all vehicles, plant and machinery operated at the Site are maintained in accordance with the manufacturer's specification and are fitted with effective silencers. Any breakdown or malfunction of silencing equipment is treated as an emergency and dealt with immediately. Where a repair cannot be affected immediately the equipment will be taken out of service until the repair is made.</p> <p>Routine maintenance of plant and equipment is carried out in</p> | Unlikely | Noise nuisance to anyone living or working close to the Site or sensitive fauna, such as birds. | Low |

| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure | Consequence | What is the Overall Risk |
|--|--|--|--|---|---|---|
| delivering waste. Vibration from deposit of waste. | properties on Beach Road circa 520m West South West of the Site. New Farm House circa 530m North West of the Site. Properties on B4239 Lighthouse Road circa 630m North West of the Site at the closest point. Fauna, particularly birds, associated with the Gwent Levels SSSI and European sites and other protected nature sites Associated with the Severn Estuary. | | accordance with the manufacturer's recommendations and the Company's EMS to minimise noise emissions. The Site is only operated during the hours specified in the planning permission for the site. No un-sociable or night time working will be carried out. Any complaints received at the Site about noise will be monitored and logged in accordance with the Site Diary. Mitigation measures will be implemented, as appropriate, to ensure a high level of control. Site forms part of a working farm and the soil and aggregates processing facility (which is operated under a separate Environmental Permit) is located near to the Site. Activities have not resulted in noise complaints or known noise impacts. An Ecological Walkover Assessment has been undertaken by an experienced Ecologist. No significant impacts on nature sites have been identified. | | | |
| Fugitive Emissions – Release to Air | | | | | | |
| Dust from vehicles entering and leaving the Site, offloading of waste material and plant and machinery working on the Site including waste deposit (includes mud and debris being liberated out with the Site boundary). | B4239 Lighthouse Road public highway outside of site. | Transportation of mud and debris from the Site on the under carriage and wheels of vehicles exiting the Site or escape of wastes from the vehicle body. Windblown | To minimise the generation and subsequent dispersal of dust, mud and debris around the Site, a number of control measures have been implemented including the following: All vehicles transferring inert soils and subsoils to the Site and all on-Site mobile plant are limited to speed restrictions. Failure to comply with Site instructions regarding the above will result in the driver being warned and they may risk exclusion from the Site until further notice. A water bowser is available for dust suppression on the Site access road, haul roads and operational areas, as required. | Fugitive dusts, mud and debris emissions – probable unless adequate control and mitigation measures are in place. | Fugitive dusts. Dust on window ledges, cars, etc. Mud and debris – presence on B4239 (Site entrance) could cause skidding and loss of | Fugitive dusts - not significant when managed by necessary mitigating measures and documented management systems. |

| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure | Consequence | What is the Overall Risk |
|---|--|--|--|--|--|-----------------------------|
| | | dust. | <p>As part of its daily inspection regime, the Site will be visually inspected for the presence of fugitive emissions and mud and debris.</p> <p>Any complaints received at the Site about dust, mud or debris will be monitored and logged in accordance with the Site Diary. Mitigation measures will be implemented, as appropriate, to ensure a high level of control.</p> | | control. | |
| Fugitive Emissions – to Water | | | | | | |
| Contamination of the surrounding surface waters and groundwater | <p>Surrounding surface water drains (known as reens), including Wharf Reen located to the South of the Site. The reens drain to the River Ebbw, which in turn discharges to the Severn Estuary.</p> <p>Gwent Levels SSSI and European sites and other protected nature sites Associated with the Severn Estuary.</p> | Surface water run-off and discharge to watercourse | <p>The Site will only accept strictly inert soils and sub-soils in accordance with the requirements of the Environmental Permit and European Council Decision (2003/33/EC) of 19 December 2002 'establishing criteria and procedures for the acceptance of waste at landfills'.</p> <p>The Site's Planning Permission requires that materials cannot be deposited within 7m of the reens to provide an effective barrier between inert waste deposit and surface watercourse. The surrounding reens will be inspected on a regular basis so that in the event of a visible increase in suspended solid levels this can be investigated in accordance with the EMS and mitigation action taken, as required.</p> <p>An Ecological Walkover Assessment has been undertaken by an experienced Ecologist. No significant impacts on nature sites have been identified.</p> | Unlikely due to the on-site management measures. | Contamination to surface water bodies. | Not considered significant. |
| Pests | | | | | | |
| Due to the nature of the waste materials accepted at the Site i.e. strictly inert waste, the risk from pests as a result of the operation of the proposed Site is considered insignificant and therefore this section has not been addressed further. | | | | | | |
| Litter | | | | | | |
| The risk of litter arising from the Site and polluting the surrounding environment is unlikely due to the nature of the proposed activities and the Permitted waste types being strictly inert, | | | | | | |

| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure | Consequence | What is the Overall Risk |
|---|--|--|---|--|---|--|
| however Site inspections for the presence of material will be carried out on a regular basis and in the unlikely event of litter being found, litter pickers will be employed on Site to remove the material. The presence of litter within the disposed waste will be screened as part of the acceptance criteria. | | | | | | |
| Mud | | | | | | |
| See section relating to 'emissions' above. | | | | | | |
| Leakage of potentially polluting liquids | | | | | | |
| Leak from any waste oil / diesel storage tank escaping the confinement bund. | Surrounding surface water drains (known as reens), including Wharf Reen located to the South of the Site. The reens drain to the River Ebbw, which in turn discharges to the Severn Estuary. Gwent Levels SSSI and European sites and other protected nature sites Associated with the Severn Estuary. Surrounding farmland. | Via surface water drainage and groundwater attenuation. | Diesel, oil and other potentially polluting liquids will not be stored on Site. Emergency spillage procedures at the Site form part of the EMS. | Unlikely due to the on-site management measures. | Contamination of local watercourse. | Not considered significant. |
| Fires | | | | | | |
| Fire within the on-site plant and equipment and / or delivery vehicles | Local residents and businesses. Identified surface water bodies above. Gwent Levels SSSI and European sites and other protected nature sites Associated with the Severn Estuary. Surrounding agricultural fields. | Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches. | Inert soils and subsoils are non-combustible. On Site plant and equipment will be maintained on a regular basis to ensure it is working effectively to minimise the risk of fire. In the event of a fire within the on Site plant and equipment, the Site staff will ensure the machine is switched off and if possible, without risk to personal safety, fight the fire using the firefighting equipment available. In the event the fire is too big or out of control the fire brigade will be informed and the local area evacuated. Site staff are trained in the event of a fire and made aware of | Unlikely | Smoke, local nuisance, risk of fire spreading | Not significant as long as management procedures adhered to. |

| Hazard | Receptor | Pathway | Risk Management | Probability of Exposure | Consequence | What is the Overall Risk |
|---|--|-----------|--|-------------------------|---|---|
| | | | the location of all firefighting equipment and procedures. | | | |
| Other Accidents | | | | | | |
| Waste material loss from delivery vehicle | Local residents, neighbouring businesses, adjacent land and highway (see above). | Air, land | <p>Waste delivery vehicles should be netted, sheeted or enclosed, as appropriate, to prevent any inadvertent waste escape.</p> <p>Permitted waste types are strictly inert and do not contain materials that are likely to become windborne such as litter and light plastics.</p> | Unlikely | Unightly and potential nuisance | Waste material loss from delivery vehicle |
| Inadequate waste acceptance procedures | Local residents, neighbouring businesses, adjacent land and highway (see above) | Air, land | <p>All waste is subject to strict waste acceptance procedures to ensure that only compliant waste types are accepted.</p> <p>Third parties delivering waste to TY Mawr Farm are required to provide the Operator, in advance, with all necessary information / documentation to satisfy the requirements of the Waste (England and Wales) Regulations 2011 and the Duty of Care. Information required includes the type and quantity of waste, the form the waste takes (e.g. solid) and any special handling requirements needed. Only wastes that are authorised for disposal at the site are accepted.</p> <p>Waste loads will be inspected on deposit at the Site to ensure that only authorised materials are used in the deposit of waste for recovery. Materials will be delivered from the nearby Ty Mawr Farm soil and aggregates processing facility, which operates under a separate permit and in accordance with the WRAP Quality Protocol for the Production of Aggregates from Inert Wastes. It is also operated by the Shervington family.</p> | Low | Potentially harmful if incompatible or unacceptance wastes are received | Low |
| Breach in site security | Site personnel, plant and intruders | Land | The Site is located on a working farm and is surrounded by agricultural land. The Site is surrounded by stockproof fencing and the Operator lives in Ty Mawr Farm. Security measures will be reviewed and increased in the event of unlawful entry. | Quite low | Some harm | Low |

DC and IE SHERVINGTON

Extended Phase 1 Habitat Survey for:

**The Restoration of a Former Landfill Site at
Ty Mawr Farm, St Brides, Wentlooge, Newport, NP10
8SF.**

Report Reference: CE-TM-0937-RP03 - final



Produced by Crestwood Environmental Ltd.

27 January 2017

Crestwood Report Reference: CE-TM-0937-RP03 - final:

| Version & Status | Date Produced | Written / Updated by: | Survey Licence No. (If applicable) | Checked & Authorised by: |
|-----------------------------|----------------------|--|---|-------------------------------------|
| Draftv1.0 | 05/01/2017 | Jenny Gatward (Ecologist) Jaclyn Walker (Assistant Ecologist) | | Steve Barnes (Director) |
| Final | 24/01/2017 | Jenny Gatward (Ecologist) Jaclyn Walker (Assistant Ecologist) | | Steve Barnes (Director) |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

This report has been prepared in good faith, with all reasonable skill, care and diligence, based on information provided or known available at the time of its preparation and within the scope of work agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

The report is provided for the sole use of the named client and is confidential to them and their professional advisors. No responsibility is accepted to others.

Crestwood Environmental Ltd.
1 & 2 Nightingale Place
Pendeford Business Park
Wolverhampton
West Midlands
WV9 5HF

Tel: 01902 229 563

Email: info@crestwoodenvironmental.co.uk

Web: www.crestwoodenvironmental.co.uk

CONTENTS

| | | |
|----------|--|-----------|
| 1 | INTRODUCTION | 5 |
| 1.1 | INSTRUCTION AND BRIEF..... | 5 |
| 1.2 | PURPOSE AND SCOPE | 5 |
| 1.3 | SITE LOCATION AND CONTEXT | 5 |
| 1.4 | GENERAL LIMITATIONS..... | 6 |
| 2 | METHODOLOGY AND APPROACH..... | 7 |
| 2.1 | DEFINING THE ZONE OF INFLUENCE ('ZoI') | 7 |
| 2.2 | DETERMINING THE LEVEL OF ECOLOGICAL IMPORTANCE | 7 |
| 2.3 | FIELD SURVEY..... | 8 |
| 2.4 | IMPACTS AND EFFECTS METHOD OF ASSESSMENT | 9 |
| 3 | RESULTS AND EVALUATION | 10 |
| 3.1 | PLANNING POLICY..... | 10 |
| 3.2 | HABITATS AND FLORA | 10 |
| 3.3 | FAUNA..... | 16 |
| 4 | ASSESSMENT OF EFFECTS..... | 18 |
| 4.1 | INTRODUCTION..... | 18 |
| 4.2 | ASSUMPTIONS | 18 |
| 4.3 | SCREENING OF ECOLOGICAL FEATURES | 19 |
| 4.4 | IDENTIFICATION AND ASSESSMENT OF POTENTIAL IMPACTS AND LIKELY EFFECTS | 19 |
| 5 | CONCLUSIONS AND RECOMMENDATIONS..... | 20 |
| 5.2 | ENHANCEMENTS | 20 |

LIST OF APPENDICES:

| | |
|-------------|---|
| APPENDIX E1 | Definitions, Abbreviations and Glossary |
| APPENDIX E2 | Figure E1 – Phase 1 Habitat Plan |

LIST OF TABLES:

| | | |
|---------|---|----|
| Table 1 | Survey Purpose and Scope | 5 |
| Table 2 | Criteria of Assessment for Assigning a Level of Ecological Importance | 8 |
| Table 3 | Weather Conditions during the Survey 14 th December 2016 | 8 |
| Table 4 | Potential Tree Roost Suitability | 9 |
| Table 5 | Evaluation of Importance of Habitats at the Site | 18 |
| Table 6 | Screening of Ecological Features | 19 |

LIST OF TARGET NOTES

| | |
|-----------------------|---------------|
| Target Note 1: | Compost Heaps |
| Target Note 2: | Wet Grassland |

LIST OF PHOTOGRAPHS

- Photo 1:** Bare Earth
- Photo 2:** Dense Scrub
- Photo 3:** Poor Semi-Improved Grassland
- Photo 4:** Scattered Trees
- Photo 5:** Tall Ruderal
- Photo 6:** Wet Ditches

1 INTRODUCTION

1.1 INSTRUCTION AND BRIEF

1.1.1 Crestwood Environmental Ltd. (**'Crestwood'**) has been appointed by Mr Edd Shervington of DC and IE Shervington (sole trader) (**'the Client'**) to undertake an Extended Phase 1 Habitat Survey at Ty-Mawr Farm, St Bridges, Wentlooge, Newport, Gwent - centred at National Grid Reference (NGR) ST 30622 82472 (**'the Site'**).

1.1.2 The Client is applying for an Environmental Permit for the restoration of a former landfill Site, which will involve the spreading of up to 4m thickness of inert soils and subsoils across the Site.

1.2 PURPOSE AND SCOPE

1.2.1 The purpose of the surveys is to provide ecological advice in respect of the Permitted Development, and to identify ecological constraints which may be a relevant consideration from a permit and/or a legislative perspective.

1.2.2 In addition to the Extended Phase 1 Survey, several preliminary species specific surveys were also carried out. The scope of these surveys is detailed in Table 1.

Table 1 *Survey Purpose and Scope*

| Survey | Purpose and Scope |
|---|---|
| Extended Phase 1 Habitat Survey | To record the presence and extent of habitats and the likelihood of protected species being present within the Site |
| Preliminary Roost Assessment | To determine the suitability of mature trees at the Site for roosting Bats. |
| Habitat Suitability Index Assessment | To determine the suitability of ponds at and within 500m of the Site to support Great Crested Newts |
| Initial Badger Survey | To check the Site and within 30m of the Site boundary, where accessible, for the presence of Badger setts or evidence of Badgers. |

1.2.3 The description of the Site and the results of the survey relate to the findings at the time of the field survey only, 14th December 2016.

1.3 SITE LOCATION AND CONTEXT

1.3.1 The Site is located circa 5km south-southwest of Newport (Casnewydd) city centre and the nearest village is St Brides Wentlooge (Llansanffraid Gwynllwg) located approximately 900m west of the Site (see Plate 1).

Plate 1 Site Location



- 1.3.2 The Site is dominantly comprised of grassland and bare earth and is bounded on three sides by wet ditches.
- 1.3.3 The Site is located in an agricultural area and is predominantly surrounded by farm land. The River Usk is less than 0.5km to the east of the site boundary, which is a tributary of the Severn Estuary. The Severn Estuary is approximately 0.2km south of the site boundary.
- 1.3.4 The Site is located within the footprint of the Gwent Levels St. Brides, a designated Site of Special Scientific Interest (SSSI). The Severn Estuary located approximately 0.2km from the Proposed Permit Boundary is designated a SSSI, Special Area of Conservation (SAC), Special Protection Area (SPA) and RAMSAR site.

Definitions

- 1.3.5 Definitions and abbreviations detailed within this report are provided in Appendix E1.

1.4 GENERAL LIMITATIONS

- 1.4.1 The Site's boundary is shown on Drawing No CE-TM-0937-DW05. Any subsequent amendments to the boundary may alter recommendations made in this report.
- 1.4.2 Other applications or non-implemented consents within the local area have not been considered, and therefore the assessment of impacts and effects pertains solely to those associated with the Site and not cumulative effects arising from impacts arising from other developments in the local area.
- 1.4.3 The survey was conducted outside of the optimum survey period for botanical surveys (April-

September inclusive) which may have resulted in less botanically diverse floral species being identified during the survey.

2 METHODOLOGY AND APPROACH

2.1 DEFINING THE ZONE OF INFLUENCE ('ZOI')

2.1.1 The potential impact of a development is not always limited to the boundaries of the site concerned. The development may also have the potential to impact on ecologically valuable sites, habitats or species beyond the site boundaries. The area over which a development may impact ecologically valuable receptors is known as the Zone of Influence (Zoi).

2.1.2 The Zoi is determined by the source/type of impact, a potential pathway for that impact and the location and sensitivity of the ecologically valuable receptor beyond the boundary. For the majority of (unmitigated) impacts identified as part of the Permitted Development, the Zoi is generally considered to be the application site and immediately adjacent areas.

2.1.3 In ecological terms, the Zoi can also vary considerably depending upon the species potentially affected by the Permitted Development. For example, some species may be confined to a specific location whilst others, such as Birds and Bats, are more mobile and can occupy larger territories or home ranges. The Zoi is also likely to be influenced by the presence of dispersal barriers, such as roads and hardstanding, which either stop or reduce the likelihood of animals crossing it. As a consequence this could isolate areas of potentially suitable habitat within the application site due to fragmentation.

2.1.4 The Zoi for species or species groups has been determined by research and the professional judgement of the ecologist. For example, Common Lizards (*Zootoca vivipara*) have restricted mobility and generally occupy smaller home ranges (up to 700m²) (Langton & Beckett, 1995).

2.2 DETERMINING THE LEVEL OF ECOLOGICAL IMPORTANCE

2.2.1 Certain species (flora or fauna) and habitats present at a Site are assessed for their ecological importance. It is important that ecological features of high importance; such as those that are of high biodiversity value or significantly contribute to ecosystem services should be protected and enhanced where possible.

2.2.2 Table 2 details the criteria for assessment of ecological importance used within this assessment.

2.2.3 It should be noted that ecological importance is assessed on a Site by Site basis and includes a variety of factors (i.e. species abundance); therefore the criteria for assessment may change (i.e. the presence of a rare declining species in relation to a rare stable species).

2.2.4 Furthermore, there may be some cross over between habitats and species which could alter the assessment of the level of ecological importance of a particular feature (i.e. poor quality habitat supporting protected species); therefore the criteria for assessment detailed below should be used as a general guide only.

Table 2 Criteria of Assessment for Assigning a Level of Ecological Importance

| Level of Ecological Importance | Criteria for Assessment | |
|--------------------------------|--|---|
| | Species | Habitats |
| Very High | <ul style="list-style-type: none"> • Very rare/rare species present. • Species of very high biodiversity value. | <ul style="list-style-type: none"> • Internationally designated Sites. • Supports very rare/rare species. • Habitat of very high biodiversity value. • Highly suitable for protected species. • Very high floral diversity. |
| High | <ul style="list-style-type: none"> • Rare species present. • Species of high biodiversity value. • Abundant species present of moderate biodiversity value. | <ul style="list-style-type: none"> • Nationally designated Sites. • Features rare species. • Several features of high value for biodiversity (i.e. numerous features suitable to support protected species). • High floral species diversity. |
| Moderate | <ul style="list-style-type: none"> • BAP/HPI species. • Species of moderate biodiversity value. | <ul style="list-style-type: none"> • BAP/HPI Habitat. • Features of moderate value for biodiversity. Reasonable floral species diversity. • Potential to support protected species. |
| Low | <ul style="list-style-type: none"> • Species of low biodiversity value present. | <ul style="list-style-type: none"> • Habitat of low biodiversity value. • Low floral species diversity. • Unlikely to support protected species. |
| Very Low | <ul style="list-style-type: none"> • Species of negligible biodiversity value present. | <ul style="list-style-type: none"> • Very low/no species diversity present. • Of little to no biodiversity value. |

2.2.5 Reasons for the assessment of the level ecological importance of certain features are detailed in the relevant sections of this report.

2.3 FIELD SURVEY

2.3.1 The weather conditions at the time of survey are shown in Table 3.

Table 3 Weather Conditions during the Survey 14th December 2016

| Parameter | Recorded Figure |
|-----------------------------|-----------------|
| Temperature (°C) | 11 |
| Cloud Cover (in Octas) | 2 |
| Precipitation | None |
| Wind Speed (Beaufort Scale) | 2 |

Extended Phase 1 Habitat Survey

2.3.2 The method used for the Extended Phase 1 Habitat Survey is based on guidelines provided by JNCC (JNCC, 2010) and CIEEM (CIEEM, 2013). During the survey visit, habitat types and signs of protected

or notable species were recorded and mapped using specific standard mapping colours and target notes.

Preliminary Roost Assessment (PRA) of Trees for Bats

- 2.3.3 The survey included a survey of mature trees at the Site from ground level, recording any evidence of Bat roosts, droppings, staining, scratch marks and feeding remains, or any potential roost sites within the trees themselves in accordance with the Bat Survey Good Practice Guidelines 3rd Edition (Collins, 2016).
- 2.3.4 Based on the results of the inspection, trees were categorised for their potential suitability for roosting Bats as follows in Table 4 (Collins, 2016):

Table 4 Potential Tree Roost Suitability

| Suitability | Description |
|--------------------|--|
| Negligible | Negligible roost features present. |
| Low | Tree of sufficient age/size to have PRFs but none seen from the ground, or having only limited roosting potential. Building with 1+ PRF that could be used opportunistically by Bats, but conditions not appropriate or no suitable surrounding habitat to be used on regularly or by a larger number of Bats. |
| Moderate | Contains 1+ PRFs that could be used by Bats but unlikely to support a roost of high conservation status*. |
| High | A structure or tree containing one or more PRFs that are obviously suitable for use by larger numbers of Bats on a regular basis and for longer periods of time due to features of PRF and surrounding habitat. |

* = High conservation status defined (Mitchell-Jones, 2004) as: maternity sites of rarer species; significant hibernation sites for rarer/rarest species; sites meeting SSSI guidelines; maternity sites of rarest species.

Badger Survey

- 2.3.5 A survey for Badgers was carried out following recognised guidance (Harris et al, 1989). All potential habitats within the Site, plus 30m outside of the Site boundary, where accessible, were surveyed for evidence of Badger activity, and specifically for the presence of setts. Field signs searched for included active or inactive setts, Badger pathways, latrines, hair, discolouring of and damage to fencing, signs of foraging and feeding remains.

Invasive Plant Species

- 2.3.6 The Site visit included recording the presence of invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

2.4 IMPACTS AND EFFECTS METHOD OF ASSESSMENT

- 2.4.1 To help inform the design of the Proposed/Permitted Development and to inform the planning and decision making process, an assessment of the likely impacts and effects on ecological features has been made taking into account the following impact/effect types in line with relevant guidance (CIEEM, 2013), (CIEEM, 2016):

- Positive/Negative;
- Direct/Indirect;
- Cumulative; and
- Temporary/Permanent.

3 RESULTS AND EVALUATION

3.1 PLANNING POLICY

3.1.1 The Development Plan for the Site and potentially affected area comprises:

- National Planning Policy Framework (HMO, 2012); and
- Newport City Council - Local Development Plan 2011-2026 - Adopted January 2015 (Newport City Council, 2015).

3.1.2 Local planning policies which are relevant to the Permitted Development are detailed below:

GP5: General Development Principals – Nature Conservation:

“Development will be permitted where, as applicable:

- i) The proposals are designed and managed to protect and encourage biodiversity and ecological connectivity, including through the incorporation of new features on or off site to further the UK, Welsh and/or Newport biodiversity action plans;*
- ii) The proposals demonstrate how they avoid, or mitigate and compensate negative impacts to biodiversity, ensuring that there are no significant adverse effects on areas of nature conservation interest including International, European, National, Welsh section 4232 and local protected habitats and species, and protecting features of importance for ecology;*
- iii) The proposal will not result in an unacceptable impact on water quality; iv) the proposal should not result in the loss or reduction in quality of high quality agricultural land (grades 1, 2 and 3a);*
- iv) There would be no unacceptable impact on landscape quality;*
- v) The proposal includes an appropriate landscape scheme, which enhances the site and the wider context including green infrastructure and biodiversity networks; and*
- vi) The proposal includes appropriate tree planting or retention where appropriate and does not result in the unacceptable loss of or harm to trees, woodland or hedgerows that have wildlife or amenity value”.*

3.2 HABITATS AND FLORA

General Description of Habitats within the Site

3.2.1 The habitat types identified at the Site, as listed below, relate to the guideline habitats listed within

the Handbook for Phase 1 Habitat Survey (JNCC, 2010). These habitats are recorded on Figure E1 in Appendix E2 and are described in more detail below.

Bare Earth

- 3.2.2 An area of Bare Earth (see Plate 2) is located in the western extent of the Site. The soil within this area had been recently turned over and no floral species were evident within this habitat.
- 3.2.3 Target Note 1 (TN1) as shown in Figure E1 (Appendix E2) shows the location of several spoil heaps composed of compost that are present within this habitat at the Site.

Plate 2 *Bare Earth (see Photo Point 1 for Location)*



Dense Scrub

- 3.2.4 Two areas of Dense Scrub habitat (see Plate 3) are present at the Site; these are located along a short section of the northern and southern boundaries. Species within this habitat include Bramble (*Rubus fruticosus*) and Common Nettle (*Urtica dioica*).

Plate 3 Dense Scrub (see Photo Point 2 for Location)



Poor Semi-Improved Grassland

- 3.2.5 Poor Semi-Improved Grassland is the dominant habitat present at the Site (see Plate 4) and is primarily located in the southern extent of the Site. The bulk of this habitat is maintained as a medium sward and is tussocky in places resulting in rough grassland which is dominated by Yorkshire Fog (*Holcus lanatus*).
- 3.2.6 Target Note 2 (TN2) shows the location of two smaller areas of this habitat that were dominated by Common Reed (*Phragmites australis*) grass, indicating these areas of grassland are more prone to flooding.

Plate 4 Poor Semi-Improved Grassland (see Photo Point 3 for Location)



Scattered Trees (Plantation)

- 3.2.7 A single line of equally spaced Scattered Trees is located in the western extent of the Site adjacent to Wet Ditch 1 (see Plate 5). Willow species (*Salix* sp.) and Poplar species (*Populus* sp.) were present.

Plate 5 **Scattered Trees (Plantation) (see Photo Point 4 for Location)**



Tall Ruderal

- 3.2.8 A small area of Tall Ruderal vegetation is present (see Plate 6) in the south-western extent of the Site. This habitat is dominated by Rosebay Willowherb (*Chamerion angusifolium*) and bordered by Bramble. A stand of Greater Reedmace (*Typha latifolia*) and some Common Reed grass is also present within this habitat.

Plate 6 Tall Ruderal (see Photo Point 5 for Location)



Wet Ditches

- 3.2.9 Two Wet Ditches are present at the Site, located adjacent to the western boundary. These Wet Ditches are not connected to the drain network that bounds the Site.

Ditch 1

- 3.2.10 Ditch 1 is located adjacent to the southern extent of the western boundary and is c.7-8m wide with occasional Willow species within the channel. (see Plate 7) The water within the channel was very turbid, contained a poor macrophyte assemblage and evidence of waterfowl was present. The banks of this ditch were densely vegetated with Rosebay Willowherb, Bramble and Pendulous Sedge (*Carex pendula*).

Plate 7 **Wet Ditch 1 (see Photo Point 6 for Location)**



Ditch 2

- 3.2.11 Ditch 2 is located adjacent to the northernmost section of the western boundary (see Plate 8). This Ditch is wide at its southern extent tapering off to become very narrow (c.25cm) at its northern extent. The water factors within the channel are similar to that of Ditch 1.

Plate 8 **Wet Ditch 2 (see Photo Point 7 for Location)**



Plant Species

- 3.2.12 No rare, protected or invasive plant species were present within the survey boundary.

3.3 FAUNA

GENERAL

- 3.3.1 It should be noted that unless otherwise stated within the brief, no species-specific surveys were carried out as part of the Extended Phase 1 Habitat Survey and the information provided below is based solely on incidental observations.

Amphibians and Reptiles

Great Crested Newt

- 3.3.2 Based on OS mapping and aerial photography, there are no ponds at the Site and one pond within 500m of the Site which is not separated by significant barriers to dispersal for amphibians. This pond was no longer extant at the time of the survey.
- 3.3.3 The areas of Poor Semi-Improved Grassland at the Site are considered to provide **suitable terrestrial habitat for Great Crested Newt** as rough grassland provides opportunities for both foraging and refuge.
- 3.3.4 The compost spoil heaps (as shown by TN1 on Figure E1 (Appendix E2)) could provide suitable habitat for hibernation and refuge for Great Crested Newts.

Reptiles

- 3.3.5 The areas of Poor Semi-Improved Grassland at the Site are considered to provide **suitable habitat for Reptiles** as the rough grassland provides opportunities for foraging and refuge, furthermore the edge habitats of Bare Earth provide open areas for Reptiles to bask. The network of drains that surround the Site also provide suitable foraging habitat for Grass Snakes (*Natrix natrix*).
- 3.3.6 The compost spoil heaps (as shown by TN1 on Figure E1 (Appendix E2)) could provide suitable habitat for hibernation and refuge for Reptile species, as well as suitable egg-laying habitat for Grass Snakes which use decomposing material to incubate their eggs.

Mammals

Badger

- 3.3.7 No evidence of Badger activity was found at or within 30m of the Site (where accessible) during the survey. The habitats at the Site are considered to provide **suitable foraging habitat for Badgers**, particularly the dominant habitats of Poor Semi-Improved Grassland and Bare Earth.
- 3.3.8 Due to the inundation of the soils at the Site, it is considered that the habitats present would be mostly unsuitable for sett building Badgers.

Bat Species

- 3.3.9 The Scattered Trees were all immature specimens with narrow trunks and no PRF's were found to be present. The Scattered Trees at the Site are therefore considered to be of **negligible importance to**

roosting Bats.

- 3.3.10 The habitats present at the Site are considered to be **suitable for foraging Bats** and the linear features within and directly adjacent to the boundaries of the Site are considered to provide **suitable commuting habitat for Bats**.

Other Mammals

- 3.3.11 The Wet Ditches at the Site are considered to provide habitat of **low suitability for Otter (*Lutra lutra*) and Water Vole (*Arvicola amphibius*)** due to the limited extent of the ditches and their isolation from the adjacent drain network. However, the ditches may contain fish which would provide foraging opportunities for Otter, and the adjacent terrestrial habitat is considered suitable for Otter. The banks of the ditches bounding the Site are considered to provide low suitability for Water Vole.
- 3.3.12 The habitats at the Site are considered to provide suitable habitat for a range of other mammal species such as Rabbit (*Oryctolagus cuniculus*) and Red Fox (*Vulpes vulpes*).

Birds

- 3.3.13 The Scattered Trees provide **suitable habitat for nesting Birds** and a Birds nest was observed within one of the trees during the survey. The Poor Semi-Improved Grassland is also considered **suitable for ground-nesting Birds** and the inundation of the grassland habitats may provide **suitable habitat for wintering Bird species**.

Invertebrates (Aquatic and Terrestrial)

- 3.3.14 The turbid water and poor macrophyte assemblage within the Wet Ditches at the Site provide habitat of **low suitability for aquatic invertebrates**. The poor water quality and lack of suitable substrate make the aquatic habitat **unsuitable for White-Clawed Crayfish (*Austropotamobius pallipes*)**.
- 3.3.15 The poor floral species assemblage within the terrestrial habitats at the Site is likely to be reflected in any terrestrial invertebrate assemblages at the Site. Furthermore, the habitats present are both common and widespread in the local area and the Site lacks features of particular terrestrial invertebrate interest, such as deadwood. Therefore, the habitats at the Site are considered to be of **low suitability for Terrestrial Invertebrates**.

OVERALL HABITAT EVALUATION

- 3.3.16 The habitat types detailed above are evaluated against the Local Biodiversity Action Plan and habitats of Principal Importance according to Section 42 of the NERC Act 2006 in Table 5. They are also assessed for their suitability to support protected species in order to assess their Ecological Importance, using the criteria in Table 2. The geographical level of Importance of these habitats is then related to Site, Local, Regional, National, or International scales to further inform the understanding of their ecological Importance.

Table 5 Evaluation of Importance of Habitats at the Site

| Habitat | LBAP Habitat Type | Section 42 Habitat of Principal Importance (NERC Act 2006) | Importance (incorporating floral diversity of habitat and suitable habitat for protected species) |
|------------------------------|-------------------|--|--|
| Bare Earth | N | N | Very Low – No floral species diversity and unlikely to support protected species. |
| Dense Scrub | N | N | Low – Low floral species diversity, suitable for nesting Bird species, however unlikely to support other protected species. |
| Poor Semi-Improved Grassland | N | N | Low - Low floral species diversity (present at the time of the survey), potential for more diverse species during the optimum survey period. Suitable for Great Crested Newts and Reptiles. |
| Scattered Trees (Plantation) | N | N | Low - Low floral species diversity. Suitable for nesting Birds, however too immature for roosting Bats. |
| Tall Ruderal | N | N | Very Low – Low floral species diversity, unlikely to support protected species. |
| Wet Ditch | N | N | Low – Low floral species diversity, low potential to support Water Vole and Otter. |

3.3.17 At a site-specific level, the habitats range from Very Low - Low ecological importance. Floral species diversity is low for the Site and the overall importance of the Site is increased only by its limited suitability for protected species (see Section 3.3 above for further details regarding protected species).

3.3.18 Due to the location of the Site within the Gwent Levels SSSI, the Site is considered to be of National level importance.

4 ASSESSMENT OF EFFECTS

4.1 INTRODUCTION

4.1.1 This section provides an assessment of the impacts and effects on ecological features as a result of the Permitted Development.

4.2 ASSUMPTIONS

4.2.1 It is assumed that the Permitted Development will follow good practice environmental guidelines to avoid any breach of wildlife legislation during the construction period and be aware of the potential presence of protected species.

4.2.2 It is assumed that the Permitted Development will commence within two years of the date of survey. Should the Permitted Development not commence within this timeframe then update ecological surveys may be required.

4.3 SCREENING OF ECOLOGICAL FEATURES

4.3.1 Table 6 identifies ecological features which will not be considered further in this report and provides justification for their exclusion from the assessment process.

Table 6 Screening of Ecological Features

| Ecological Feature | Justification for Exclusion from Further Assessment |
|---|---|
| Ancient Woodland and Veteran Trees | There are no veteran trees at the Site. The Site does not contain and is not within 30m of any Ancient Woodland. |
| Badger | No evidence of Badger activity at and within 30m of the Site. The loss of suitable foraging habitat at the Site is temporary and there is abundant suitable foraging habitat in the local area. |
| Bats | The loss of suitable foraging habitat is temporary and there is abundant suitable foraging habitat in the local area. |
| Great Crested Newt | Although suitable terrestrial habitat is present at the Site, the lack of ponds within 500m significantly reduces the likelihood of this species being present at the Site. |
| White Clawed Crayfish (<i>Austropotamobius pallipes</i>) | The Site supports no suitable aquatic habitat for the species. |
| Aquatic Invertebrates | The wet ditches are to be unaffected by the Permitted Development. |
| Hazel Dormouse | No habitats present at the Site considered suitable for the species. The Site is also isolated from better quality habitat. |
| Smooth Snake, Sand Lizard and Natterjack Toad | Outside the typical geographic range of the species. No sites known to support the species in the local area based on information from LRERC (LRERC, 2015). |

4.4 IDENTIFICATION AND ASSESSMENT OF POTENTIAL IMPACTS AND LIKELY EFFECTS

HABITATS AND FLORA

4.4.1 The habitats at the Site are considered to be of Very Low - Low ecological importance; however the location of the Site within a national level designation increases the ecological importance of the Site.

4.4.2 The floral diversity at the Site at the time of the survey was low, however due to the Site being located within the Gwent Levels SSSI, which is designated for its botanical interest *et. alia*; it is considered possible that more diverse floral species could be detected at the Site during the optimum season.

FAUNA

4.4.3 No protected faunal species were found at the Site during the survey, and the habitats present are considered to be of only low suitability for protected species, with the exception of the scattered trees.

4.4.4 The wet ditches were considered to provide aquatic habitat of low suitability for Otter and Water Vole. The ditches will not be infilled as part of the restoration proposals and the loss of terrestrial habitat proximal to the ditches is temporary.

4.4.5 The loss of suitable habitat for Terrestrial Invertebrates is temporary and enhancement at the Site

will improve the botanical diversity of the Site and provide more suitable habitat for Terrestrial Invertebrates.

5 CONCLUSIONS AND RECOMMENDATIONS

- 5.1.1 At the time of survey, the botanical interest at the Site was considered to be low, however it is recommended that a Site walkover is undertaken by a suitably qualified ecologist during the optimum survey period of April - September (inclusive). This will determine the presence of any notable floral species at the Site.
- 5.1.2 The Site provides limited suitability for some protected species and it is therefore recommended that a walkover of the Site is undertaken prior to commencement of works to assess the Site for the potential presence of protected faunal species.
- 5.1.3 Initial works should be conducted between March and September inclusive which is when most protected species are active. If any protected species are present at the Site at the time of commencement of works individuals can easily disperse.
- 5.1.4 It is recommended that the spoil heaps (as shown by TN1 on Figure E1 (Appendix E2)) are removed/dispersed across the Site (as required) under the supervision of a suitably qualified ecologist using light machinery with a large toothed bucket, in order to prevent any injury/killing of any potential Reptiles present within the spoil heaps.
- 5.1.5 Should any trees be removed at the Site; in order to reduce any impact upon breeding Birds, avoid any breach in wildlife legislation and maintain the local breeding populations, **any vegetation should be removed outside the bird breeding season** (March-September inclusive for most species). If this is not possible then vegetation should be checked by a suitably qualified ecologist prior to removal.
- 5.1.6 It is recommended the works are undertaken in phases, to allow easy dispersal of protected species using the Site, as well as allowing for the removal, translocation or avoidance of any protected botanical species.
- 5.1.7 If any protected species are found to be present at the Site during the works, then works should cease and an ecologist consulted for advice.

5.2 ENHANCEMENTS

- 5.2.1 In line with the NPPF, enhancements for biodiversity enhancements have been recommended below.
- 5.2.2 As the Site is part of the Gwent Levels SSSI, wildflower mixes could include species that are regionally notable, such as; Grass Vetchling (*Lathyrus nissolia*) and Common Meadow-Rue (*Thalictrum falvum*) to further increase the botanical diversity and importance of the Site.
- 5.2.3 A sensitive lighting scheme should be employed at the Site to prevent unnecessary light spill into naturally dark corridors currently used by nocturnal species (including Bats). The Institution of Lighting Professional's "*Guidance Notes for the Reduction of Obtrusive Light GN01:2011*" document should be used as a design reference.
- 5.2.4 A range of Bird and Bat boxes could be implemented at the Site to provide suitable nesting/roosting habitat for protected species. Such boxes can be erected on retained trees.

REFERENCES:

- CIEEM, 2013. *Technical Guidance Series: Guidelines for Preliminary Ecological Appraisal*, Winchester: CIEEM.
- CIEEM, 2016. *CIEEM Glossary*. [Online]
Available at: <http://www.cieem.net/glossary>
[Accessed February 2016].
- CIEEM, 2016. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.
- Collins English Dictionary, 2016. *Collins English Dictionary*. [Online]
Available at: <http://www.collinsdictionary.com/dictionary/english/protected-species>
[Accessed 19 February 2016].
- Collins, J. (., 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd ed. London: The Bat Conservation Trust.
- Collins, J., 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd ed. London: The Bat Conservation Trust.
- Encyclopaedia Britannica, 2016. *Encyclopaedia Britannica*. [Online]
Available at: <http://www.britannica.com/>
[Accessed 19 February 2016].
- English Nature, 1993. *Linear features: linear habitats and wildlife corridors*, London: English Nature.
- Harris et al, 1989. *Surveying Badgers*, s.l.: Mammal Society.
- Harris et al, 1989. *Surveying Badgers*, London: Mammal Society.
- HMO, 1992. *Protection of Badgers Act*, London: HMO.
- HMO, 2010. *The Conservation of Habitats and Species Regulations*, London: HMO.
- HMO, 2011. *UK National Ecosystem Assessment*, London: HMO.
- HMO, 2012. *National Planning Policy Framework*, s.l.: HMO.
- HMO, 2016. *European protected species: apply for a mitigation licence*. [Online]
Available at: <https://www.gov.uk/government/publications/european-protected-species-apply-for-a-mitigation-licence>
[Accessed 19 February 2016].
- JNCC, 2010. *Handbook for Phase 1 habitat survey - a technique for environmental audit*. s.l.:s.n.
- JNCC, 2016. *UK BAP Priority Habitats*. [Online]
Available at: <http://jncc.defra.gov.uk/page-5718>
[Accessed 19 February 2016].
- Langton, T. & Beckett, C., 1995. Home range size of Scottish amphibians and reptiles. *Scottish Natural Heritage Review*, Volume 53.
- LRERC, 2015. *Biological records*, s.l.: Leicestershire and Rutland Ecological Records Centre.
- Mitchell-Jones, A. J., 2004. *Bat Mitigation Guidelines*, Peterborough: English Nature.
- Natural England, 2015. *Template for Method Statement to support application for licence under Regulation 53(2)e of the Conservation of Habitats and Species Regulations 2010 (as amended) in respect of great crested newts*, s.l.: Natural England.
- Natural England, 2016. *Habitats and Species of Principal Importance*. [Online]
Available at:
<http://webarchive.nationalarchives.gov.uk/20140605090108/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx>
[Accessed 19 July 2016].
- Natural England, 2016. *Standing Advice Species Sheet: Great crested newts*. [Online]
Available at:
https://www.youtube.com/watch?v=Ce7lHJrqkEwww.biodiversityplanningtoolkit.com/stylesheet.asp?file=212_natural_e

England's standing advice

[Accessed 19 February 2016].

- Newport City Council, 2015. *Local Development Plan*. [Online]

Available at: <http://www.newport.gov.uk/documents/Planning-Documents/LDP-2011-2026/LDP-Adopted-Plan-January-2015.pdf>

[Accessed 3 January 2017].

- Oxford Dictionary, 2016. *Oxford Dictionary*. [Online]

Available at: <http://www.oxforddictionaries.com/>

[Accessed 19 February 2016].

- Staffordshire Ecological Record, 2016. *SBI Guideleines Appendix 1: SBI Criteria Definitions*. [Online]

Available at: [http://www.staffs-ecology.org.uk/html2015/index.php?title=SBI_Guidelines:_Definitions_\(App._1\)](http://www.staffs-ecology.org.uk/html2015/index.php?title=SBI_Guidelines:_Definitions_(App._1))

[Accessed 19 July 2016].

- Staffordshire Ecological Record, 2016. *SBI Guidelines: Introduction*. [Online]

Available at: http://www.staffs-ecology.org.uk/html2015/index.php?title=SBI_Guidelines:_Introduction

[Accessed 19 July 2016].

- Stone, 2013. *Bats and lighting: Overview of current evidence and mitigation guidance*, London: Bat Conservation Trust.

APPENDICES:

APPENDIX E1 Definitions, Abbreviations and Glossary

APPENDIX E2 Figure E1 – Phase 1 Habitat Plan

Appendix E1: Definitions, Abbreviations and Glossary

For the avoidance of confusion, abbreviations used within the report have the meanings detailed below:

| | | | |
|-------------------|--|---------------------|---|
| AONB | Area of Outstanding Natural Beauty | NNR | National Nature Reserve |
| AoSP | Area of Special Protection | NPPF | National Planning Policy Framework |
| BAP | Biodiversity Action Plan | NVC | National Vegetation Classification |
| BAS | Biodiversity Alert Site | PPG | Planning Policy Guidance |
| BBS | Breeding Bird Survey | PRA | Preliminary Roost Assessment |
| BRC | Biological Records Centre | PRF | Potential Roost Feature |
| DAFOR | The DAFOR Scale of Abundance: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare | PSI | Potential Site of Importance |
| DEFRA | Dept. for Environment, Food & Rural Affairs | RAMS | Reasonable Avoidance Measures |
| EcIA | Ecological Impact Assessment | RAMSAR | Wetland sites of international importance designated under the Ramsar Convention. |
| eDNA | Environmental DNA | Retained BAS | Retained Biodiversity Alert Site |
| EIA | Environmental Impact Assessment | RIGS | Regionally Important Geological and Geomorphological Sites |
| EMP | Environmental Management Plan | RSPB | Royal Society for the Protection of Birds |
| EPS | European Protected Species | SAC | Special Areas of Conservation |
| ES | Environmental Statement | SBI | Site of Biological Importance |
| Ha | Hectare | SINC | Site of Importance for Nature Conservation |
| HAP | Habitat Action Plan | SLINC | Site of Local Importance for Nature Conservatio |
| HPI | Habitat of Principal Importance | SNCI | Site of Nature Conservation Interest |
| HRA | Habitat Regulations Assessment | sp. | Species (Singular) |
| HSI | Habitat Suitability Index | SPI | Species of Principal Importance |
| IUCN | International Union for the Conservation of Nature | spp. | Species (Multiple) |
| JNCC | Joint Nature Conservation Committee | SPA | Special Protection Area |
| LBAP | Local Biodiversity Action Plan | SSSI | Site of Special Scientific Interest |
| LDF | Local Development Framework | SuDS | Sustainable Drainage Systems |
| LNR | Local Nature Reserve | TPO | Tree Protection Order |
| LWS | Local Wildlife Site | WBS | Wintering Bird Survey |
| MS | Method Statement | WCA (Act) | Wildlife and Countryside Act 1981 |
| NBN | National Biodiversity Network | WFD | Water Framework Directive |
| NCC | Nature Conservancy Council | ZoI | Zone of Influence |
| NERC (Act) | Natural Environment & Rural Communities Act | | |
| NGO | Non-Governmental Organisation | | |
| NGR | National Grid Reference | | |

Glossary:

For the avoidance of confusion, the terms used in this report follow the definitions given below:

| | |
|--|--|
| Assemblage | A group of species found in the same location (CIEEM, 2016). |
| BAP Habitat | Biodiversity Action Plan Habitat: Natural and semi-natural priority habitats identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (JNCC, 2016). |
| BAP Species | A Biodiversity Action Plan Species identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (JNCC, 2016). |
| Biodiversity | The biological diversity of the earth's living resources. The total range of variability among systems and organisms at the following levels of organisation: bioregional, landscape, ecosystem, habitat, communities, species, populations, individuals, genes and the structural and functional relationships within and between these different levels (CIEEM, 2016). |
| Biodiversity Alert Site | These sites are of lesser significance on a County basis due to lower intrinsic quality, smaller size, damage or disturbance. They collectively form a significant part of the County's nature conservation resource, and in some cases a valuable 'reserve series' for some of the Sites of Biological Importance (Staffordshire Ecological Record, 2016). |
| Buffer Zone | An area (human-made or natural) that helps to protect a habitat from damage, disturbance or pollution. It is managed to protect the 'integrity' of the valued habitat and/or the conservation status of species that it supports (CIEEM, 2016). |
| Compensation | Measures taken to make up for the loss of, or permanent damage to, biological resources through the provision of replacement areas. Any replacement area should be similar to or, with appropriate management, have the ability to reproduce the ecological functions and conditions of those biological resources that have been lost or damaged (CIEEM, 2016). |
| Commuting | The activity of flying between the roost and foraging area (Stone, 2013). |
| Connectivity | A measure of the functional availability of the habitats needed for a particular species to move through a given area. Examples include movements of migratory fish from feeding grounds to spawning grounds or linking areas of appropriate habitat needed by some slow colonising species if they are to spread (CIEEM, 2016). |
| Conservation | The protection, preservation, management or restoration of the natural environment and wildlife (Oxford Dictionary, 2016). |
| Dispersal | The dissemination, or scattering, of organisms over periods within a given area or over the Earth (Encyclopaedia Britannica, 2016). |
| Dominant (Habitat/Species) | Denoting the predominant species in a plant (or animal) community (Oxford Dictionary, 2016). |
| Ecological Impact Assessment (EclA) | Ecological Impact Assessment is the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components. If properly implemented it provides a scientifically defensible approach to ecosystem management (CIEEM, 2016). |
| Ecological Stepping Stones | Discontinuous patches of habitat and natural features that enable wildlife to disperse and migrate have sometimes been called 'stepping stones'. There is a gradation between a series of 'stepping stones' and what might be thought of as a wildlife corridor (English Nature, 1993). |
| Ecosystem | A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit. Systems in which species evolve (CIEEM, 2016). |

| | |
|---|---|
| eDNA | Genetic material obtained directly from environmental samples (soil, sediment, water, etc.) without any obvious signs of biological source material. |
| Effect | This report uses the word impact rather than effect when referring to how ecological resources might be affected by a project (CIEEM, 2016). |
| European Protected Species | Schedule 2 lists those species of animals listed in Annex IV(a) to the Habitats Directive (Habitats Regulations) which have a natural range which includes any area in Great Britain (HMO, 2010). |
| Enhancement | The genuine enhancement of the natural heritage interest of a site or area because the project includes improved management or new habitats or features, which are better than the prospective management, or the habitats or features present there now. There is, therefore, a net or new benefit to the natural heritage (CIEEM, 2016). |
| Environmental Impact Assessment (EIA) | This is an assessment carried out under the EIA Regulations (CIEEM, 2016). |
| European Protected Species (EPS) License | A license issued by Natural England that allows for the mitigation of impacts on a European Protected Species that would otherwise be illegal. Based on (HMO, 2016). |
| Fauna | The animals of a particular region, habitat, or geological period (Oxford Dictionary, 2016). |
| Flora | The plants of a particular region, habitat, or geological period (Oxford Dictionary, 2016). |
| Foraging | The activity of searching for food (Oxford Dictionary, 2016). |
| Fragmentation | The breaking up of a habitat, ecosystem or biotope into smaller parcels with a consequent impairment of functioning (CIEEM, 2016). |
| Habitat | A place in which a particular plant or animal lives. Often used in the wider sense referring to major assemblages of plants and animals found together (CIEEM, 2016). |
| Habitat of Principal Importance | Habitats identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework (Natural England, 2016). |
| Hibernation | The condition or period of an animal or plant spending the winter in a dormant state (Oxford Dictionary, 2016). |
| Impact | The way in which an ecological resource/receptor is affected by a project (see effect) (CIEEM, 2016). |
| Invasive Species | Species introduced outside its normal distribution (HMO, 2011). |
| Keystone Species | A species that has a disproportionately large effect on the communities in which it occurs. Such species help to maintain local biodiversity within a community either by controlling populations of other species that would otherwise dominate the community or by providing critical resources for a wide range of species (Encyclopaedia Britannica, 2016). |
| Latrine | Dung pit (Harris et al, 1989). |
| LBAP Habitat | Local Biodiversity Action Plan Habitat: Priority habitats identified as being the most threatened, within a local area, and require conservation action under Local Biodiversity Action Plan (JNCC, 2016). |
| LBAP Species | Local Biodiversity Action Plan Species: Priority species identified as being the most threatened, within a local area, and require conservation action under Local Biodiversity Action Plan (JNCC, 2016). |
| Mitigation | Measures taken to avoid or reduce negative impacts. Measures may include: locating the development and its working areas and access routes away from areas of high ecological interest, or timing works to avoid sensitive periods (CIEEM, 2016). |
| Native Species | An animal or plant species indigenous to a place (Oxford Dictionary, 2016). |

| | |
|---|--|
| Net Ecological Gain | The point at which the quality and quantity of habitats or species improves compared to their original condition, i.e. improvements over and above those required for mitigation/compensation (CIEEM, 2016). |
| No Net Loss | The point at which habitat or biodiversity losses equal their gains, both quantitatively and qualitatively (CIEEM, 2016). |
| Non-Statutory Sites | 'Non-statutory' sites of nature conservation value that have been designated 'locally' (i.e. excluding SSSIs, ASSIs, SPAs, SACs, and Ramsar Sites). Local Nature Reserves are included as they are a designation made by the Local Authority not statutory country conservation agencies. These are often called Wildlife Sites, Sites of Importance for Nature Conservation or other similar names (CIEEM, 2016). |
| Population | A collection of individuals (plants or animals), all of the same species and in a defined geographical area (CIEEM, 2016). |
| Protected Species | A species of animal or plant which it is forbidden by law to harm or destroy (Collins English Dictionary, 2016). See also 'European Protected Species'. |
| Reasonable Avoidance Measures | The use of a non-licensed method statement to avoid injury or killing to protected species where an activity or the careful timing of an activity is considered highly unlikely to result in an offence (Natural England, 2015). |
| Receptor | Any ecological or other defined feature (e.g. human beings) that is sensitive to or has the potential to be affected by an impact (CIEEM, 2016). |
| Restoration | The active re-establishment of a damaged or degraded system or habitat to a close approximation of its pre-degraded condition (CIEEM, 2016). |
| Retained Biodiversity Alert Site | A Site which attained the level of BAS at the time of survey, which was either more than 10 years ago or has not subsequently been surveyed under current guidelines, but is considered likely to pass (Staffordshire Ecological Record, 2016) |
| Riparian | Something related to, living on, or located at the banks of a watercourse, usually a river or stream (HMO, 2011). |
| Roost | A structure (either natural or man-made) where Bats congregate to rest during the day (Oxford Dictionary, 2016). Protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2010 'The Habitat Regulations' (HMO, 2010). |
| Sett | Any structure or place which displays signs indicating current use by a Badger (HMO, 1992). Protected under the Protection of Badgers Act 1992. |
| Significant Barrier | A natural or man-made obstacle that prevents the dispersal of species e.g. a major road or fast flowing river. Based on (Natural England, 2016). |
| Site of Biological Importance | Sites representing the best remaining examples of habitats which rate highly on the basis of; naturalness, diversity, or rarity of species or communities within a County. These sites are frequently the remnants of larger areas of semi-natural vegetation, which may not be either sufficiently extensive or undisturbed to warrant SSSI status, but are important examples of characteristic or notable vegetation types or habitat complexes, sometimes with associated dependant plant or animal species (Staffordshire Ecological Record, 2016). |
| Species | A group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding (Oxford Dictionary, 2016). |
| Species of Principal Importance | These are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework (Natural England, 2016). |
| Statutory Sites | Statutory sites of nature conservation value that have been designated nationally (i.e. SSSI's). Also included are Sites that are designated internationally (i.e. SPA's, SAC's and Ramsar Sites). Based on (CIEEM, 2016). |

| | |
|--------------------------|--|
| Wildlife Corridor | A wildlife corridor is used to refer to linear features that are used for migration and dispersal or otherwise act to link habitats in ways that reduce the isolation of populations (English Nature, 1993). |
| Zone of Influence | The areas/resources that may be affected by the biophysical changes caused by activities associated with a project (CIEEM, 2016). |

Appendix E2:

Figure E1 – Phase 1 Habitat Plan

DC and IE Shervington

**Ty Mawr Farm, St Brides, Wentlooge, Newport,
NP108SF**

Restoration of Former Landfill Site

Hydrological and Hydrogeological Assessment



Produced by Crestwood Environmental Ltd.

24 January 2017

Crestwood Report Reference: CE-TM-0937-RP07-Final

| Version & Status | Date Produced | Written / Updated by: | Checked & Authorised by: |
|-----------------------------|----------------------|---|---|
| Draft v1 | 05/01/2017 | David Lowe BSc (Hons), MSc, MCIWEM, CEnv Senior Environmental Consultant | Steve Barnes BSc (Hons, MCIWM, CEnv Director |
| Final | 24/01/2017 | David Lowe BSc (Hons), MSc, MCIWEM, CEnv Senior Environmental Consultant | Steve Barnes BSc (Hons, MCIWM, CEnv Director |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

This report has been prepared in good faith, with all reasonable skill, care and diligence, based on information provided or known available at the time of its preparation and within the scope of work agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

The report is provided for the sole use of the named client and is confidential to them and their professional advisors. No responsibility is accepted to others.

Crestwood Environmental Ltd.
Unit 1 – 2 Nightingale Place
Pendeford Business Park
Wobaston Road
Wolverhampton
West Midlands
WV9 5HF

Tel: 01902 229 563

Email: info@crestwoodenvironmental.co.uk

Web: www.crestwoodenvironmental.co.uk

CONTENTS

| | | |
|----------|--|----------|
| 1 | INTRODUCTION | 2 |
| 2 | BACKGROUND | 2 |
| 2.1 | Geology..... | 2 |
| 2.2 | Hydrology..... | 2 |
| 2.3 | Hydrogeology..... | 3 |
| 3 | SURFACE WATER AND GROUNDWATER QUALITY | 3 |
| 4 | CONCLUSIONS | 4 |

1 INTRODUCTION

- 1.1.1 Mr Edd Shervington of DC and IE Shervington (*'the Operator'*) has commissioned Crestwood Environmental to prepare a Waste Recovery Plan for import of inert soils and subsoils into Phase 6 of former landfill site at Ty Mawr Farm, St Brides, Wentlooge, Newport, NP10 8SF (*the Site*). The area is designated as Phase 6 and is shown on accompanying Drawing No. CE-TM-0937-DW05.
- 1.1.2 The Site was historically operated as a licensed landfill issued in March 1995, under former Waste Management Licence legislation. A Closure Report for the landfill was accepted by the Environment Agency (regulator at the time, prior to the formation of Natural Resources Wales) who formally modified the licence in October 2006 to remove the condition permitting deposit of waste. Accordingly the Site has not been fully reinstated in accordance with the requirements of the extant Planning Permission (ref 99/0621).
- 1.1.3 The purpose of the proposal is to restore the land in accordance with the requirements of the Planning Permission and ultimately following reseeded return the land to productive agricultural farmland.

2 BACKGROUND

2.1 GEOLOGY

- 2.1.1 The British Geological Survey (BGS) website shows that the bedrock geology at the Site comprises Triassic sediments in the Mercia Mudstone Group. These are mostly low permeability rocks and although they may be productive in some horizons are principally described as poor aquifers.
- 2.1.2 Superficial deposits at the Site predominantly comprise river terrace and coastal deposits consisting of silty sands and mudstone. All the Site's superficial deposits were formed up to 2 million years ago in the Quaternary Period.
- 2.1.3 The Natural Resources Wales' website shows that the superficial deposits are classed as a Secondary Aquifer.

2.2 HYDROLOGY

- 2.2.1 There is a system of surface water drains (known as reens) around the Site and across this coastal area. Water levels in the reens are controlled by a series of pumping stations to prevent flooding and ensure water level management. This system is managed by Natural Resources Wales (NRW).
- 2.2.2 The main watercourse in the area of the Ty Mawr is the Wharf Reen. This watercourse flows across the south, i.e. coastal, side of the site from North East to South West running along the landward side and parallel to the coastal wall.

- 2.2.3 Two slow moving subsidiary reens skirt the Phase 6 area. These are small ditches which appear to drain into the Wharf Reen at the South end of the site.
- 2.2.4 The NRW website appears not to record chemical or biological water quality data for the Wharf Reen in the vicinity of the Site. It appears to be an unclassified watercourse. There are no recorded pollution incidents from the Site.
- 2.2.5 There is no known history of the Wharf Reen flooding in the locality of the Site, nor any anecdotal evidence of site flooding.
- 2.2.6 There is no known history of flooding along the watercourses (levels managed by NRW) upstream of the Site, and the watercourses have not been known to overflow the tops of their banks.
- 2.2.7 There are no known licensed abstractions of water from the watercourses within the vicinity of the Site.

2.3 HYDROGEOLOGY

- 2.3.1 The BGS website states that the Triassic Mercia Mudstone Group beneath the Site is characterised as a secondary aquifer. The Mercia Mudstone typically is predominantly low permeability strata not normally significant in water supply terms. There are no known abstractions in the vicinity of the Site.
- 2.3.2 The superficial sands and mudstones may in places have higher permeability but are unlikely to be productive for water supply. There are no known licensed abstractions of groundwater in the vicinity of the Site.
- 2.3.3 Any groundwater migration in either superficial or bedrock strata is likely to be low flow and follow contours toward the nearby coastline. Therefore any abstractions in future up gradient from the Site and further from the coastline of the Site would not be affected by the proposal. There are no known Source Protection Zones in the vicinity of the Site.

3 SURFACE WATER AND GROUNDWATER QUALITY

- 3.1.1 The Site will operate above existing ground level and there will be no removal of water from Site by any pumping operations. All materials imported onto the Site will be clean inert soils and subsoils and meet the requirements of inert Waste Acceptance Criteria (WAC). There will be no contaminated materials imported into the Site and therefore any incident rainfall onto the Site will drain through into underground waters or into the surrounding reens without change to chemical quality.
- 3.1.2 As there is no requirement to dewater the Site there is unlikely to be any impact on groundwater levels at or in the vicinity of the Site. Similarly there will be no impact on the flow in the surrounding reen drains.
- 3.1.3 As the water environment will remain unchanged and groundwater levels and water

quality not affected, the Site is unlikely to have any significant impact on surface water and groundwater at or in the vicinity of the Site.

4 CONCLUSIONS

- 4.1.1 As the Site will not be dewatered and the restoration levels will be above water levels there will be no impact on groundwater levels. At times of rainfall the water balance for the area will essentially be the same with no impact in quantitative terms on receiving waters.
- 4.1.2 Only approved uncontaminated soils and subsoils will be used in the restoration scheme. Therefore, there is no potential for contaminated materials to be inadvertently imported and deposited at the Site. There is no significant risk of groundwater or surface water pollution from the Site.
- 4.1.3 In the long term the reinstated Site will provide additional buffering to groundwater and a return to agriculture will be a benefit locally both in a visual and an economic sense without detriment to environmental quality.

WYNTHOMASGORDONLEWIS
21, PARK PLACE
CARDIFF
S WALES
CF10 3DQ

Application number: **99/0621**

Application Type: **FULL**

Proposal: **EXTENSION TO LANDFILL SITE (REVISED SCHEME)**

Site/location: **TY MAWR FARM LIGHTHOUSE ROAD ST BRIDES WENTLOOGE NEWPORT**

In pursuance of its powers under the above Act, the Council of the City of Newport notifies you of its decision in respect of your application, registered by them on 14/06/1999. The application has been:

GRANTED WITH CONDITIONS

STANDARD CONDITIONS

The development must begin not later than the expiration of **five years** from the date of this permission.
Reason: To conform with the requirements of Section 91 of the Town and Country Planning Act 1990.

ADDITIONAL CONDITIONS

01 The development shall be carried out fully in accordance with an approved Method Statement regarding the Environmental Code of Practice relating to construction works. The Code of Practice shall be submitted to and approved by the Local Planning Authority before development commences. The development shall be carried out in accordance with the code of practice (or in accordance with any variation which may be agreed in writing by the Local Planning Authority).

Reason: To ensure the construction works are carried out without an adverse affect on the SSSI.

02 Prior to work commencing on site details of the mitigation measures and management plan compensating for any loss of habitat due to the tipping and a timescale for the implementation of such measures shall be submitted to and approved in writing by the Local Planning Authority. These mitigation measures shall then be implemented in accordance with the timescale as agreed.

Reason: To protect the special interest of the SSSI.

03 Before the development is commenced, approval of the Local Planning Authority is required for a scheme of landscaping and tree planting for the site (indicating inter alia the number, species, heights on planting and positions of all trees and shrubs). Such a scheme, as approved shall be carried out in its entirety by a date not later than the end of the full planting season immediately following the completion of the development. Thereafter, the trees and shrubs shall be adequately maintained for a period of five years from the date of planting and any which die or are damaged shall be replaced and maintained until satisfactorily established. For the purposes of this condition a full planting season shall mean the period from October to April.

Reason: To safeguard the rights of control of the Local Planning Authority in these respects and to ensure that the site is landscaped in a satisfactory manner, in the interests of visual amenity.

04 The approval hereby granted relates to the tipping of material which will not physically or chemically react or undergo biodegradation within the landfill environment and shall not include the tipping of reinforced concrete, blast furnace slag, pulverised fuel ash, china clay or marine dredge aggregates.

Reason: To protect the special interests of the SSSI.

05 No development shall take place until an archaeological programme of investigation is submitted to and approved in writing by the Local Planning Authority. The development shall be carried out in accordance with the programme as approved.

Reason: To safeguard any artifacts and historical remains which may exist on or under the site.

06 No development approved by this permission shall be commenced until a scheme for the provision and implementation of a surface water regulation system has been approved by and implemented to the satisfaction of the Local Planning Authority.

Reason: To prevent the increased risk of flooding.

07 Details of the measures for the protection of all bank side trees and vegetation within 7m of all watercourse or water features shall be submitted to and approved by the Local Planning Authority prior to development commencing.

Reason: To protect the special interests of the SSSI.

08 All reens and ditches, including the replacement reen will need to be protected from the physical development, including bunds, by a buffer zone of 7m . Within this buffer zone there shall be no storage of spoil and material and no trafficking of vehicles.

Reason: To protect the special interests of the SSSI

NOTE TO APPLICANT

The development should be carried out fully in accordance with the proposals shown in the application and in the plans and particulars accompanying such application as varied and amended by this permission.

This decision notice is in respect of **Planning Permission** and does not convey any decision which may be required under The Building Regulations.

01 This decision relates to plan nos: 3231/ 100REVC, 102REVC,

02 The applicant shall have regard to the terms of the S106 Agreement.

Signed on behalf of the Council

Newport City Council

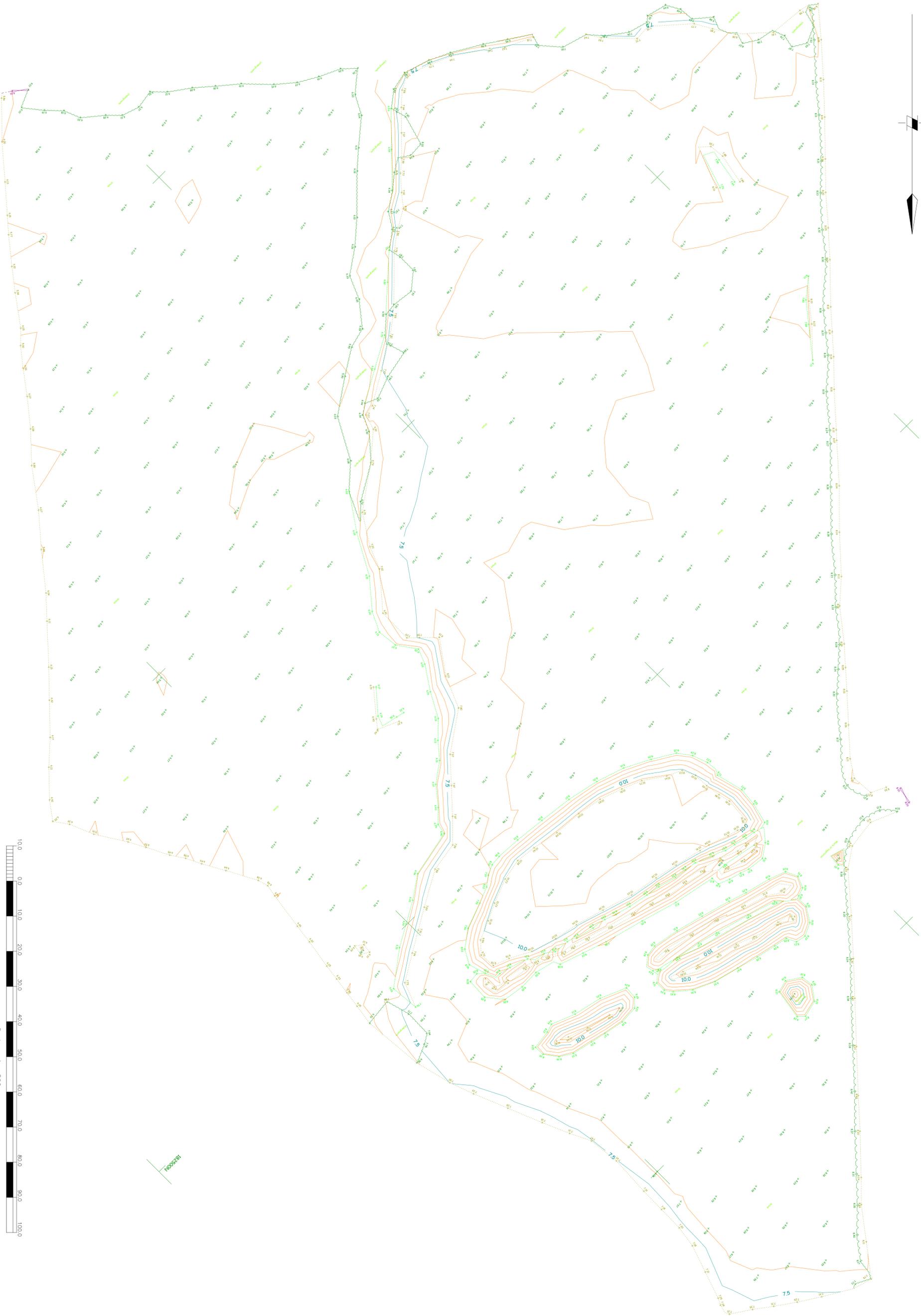
Civic Centre
Newport
South Wales
NP20 4UR

Head of Planning and Economic Regeneration

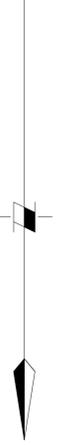
Application No: 99/0621

Decision Date: 30/06/2003

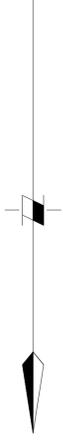
IMPORTANT! PLEASE READ THE NOTES ON THE REVERSE OF THIS FORM



180°



Scale = 1 : 500



180°



Legend:

- Photo Location
- Site Boundary
- Scattered Trees
- Target Note
- Tall Ruderal
- Poor Semi-Improved Grassland
- Wet Ditch
- Bare Ground
- Dense Scrub [3]

| Final Revision: | Date: | Description: | By: | Chk: |
|-----------------|-------|--------------|-----|------|
| - | - | - | - | - |
| - | - | - | - | - |

Consultant:
Crestwood Environmental Ltd
 Units 1 and 2
 Nightingale Place
 Pendeford Business Park
 Wolverhampton WV9 5HF
 Tel: 01902 229563
info@crestwoodenvironmental.co.uk
<http://www.crestwoodenvironmental.co.uk/>



Client:
Shervington Farms Limited

Site:
 Ty-Mawr Farm

Drawing Title:
 Phase 1 Habitat Plan

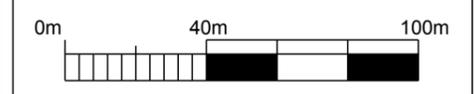
| | | |
|-------------------------------------|-------------------|-------------------------------|
| Date: 26 / 1 / 2017 | Scale: 1:1,800 | Paper Size: A3 (420x297mm) |
| Drawn By: JG | Checked By: SB | Status: FINAL |
| CAD Ref: CE-TM-0937-DW03 - FINAL | | Final Revision: - |
| Drawing No: Figure E1 | | |





Legend:

-  Environmental Permit Boundary
-  Limit of Infilling
-  Proposed Landraise Contours
-  Existing Drains (retained)



Disclaimer:
 This drawing is not for construction.
 All services to be checked on site and not scaled from this drawing.

| Final Revision: | Date: | Description: | By: | Chk: |
|-----------------|-------|--------------|-----|------|
| - | - | - | - | - |

Consultant:
Crestwood Environmental Ltd
 Units 1 & 2
 Nightingale Place
 Pendeford Business Park
 Wolverhampton
 WV9 5HF
 Tel: 01902 229563
 info@crestwoodenvironmental.co.uk
 www.crestwoodenvironmental.co.uk



Client:

Ty Mawr Farm

Site: **TY MAWR FARM**

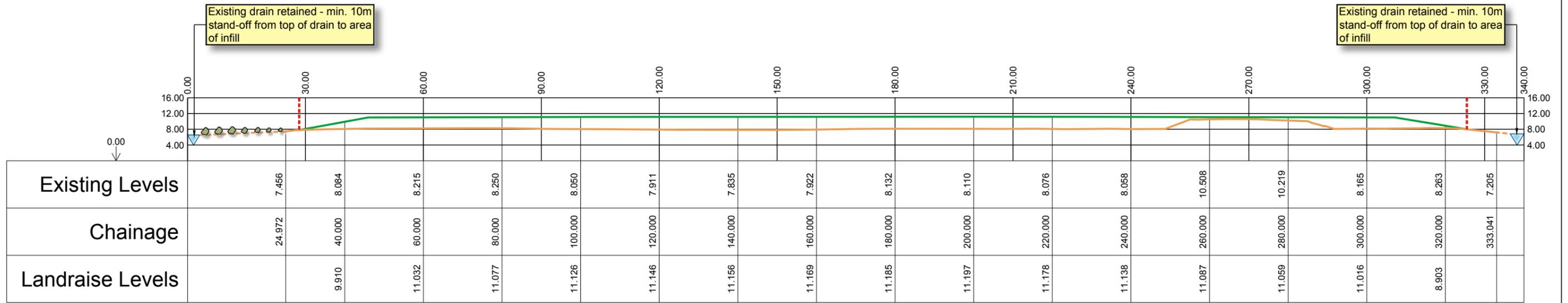
Drawing Title: **Outline Landraise Plan**

Date: 16 Jan 2017 Scale: 1:2,000 Paper Size: A3 (420x297 mm)

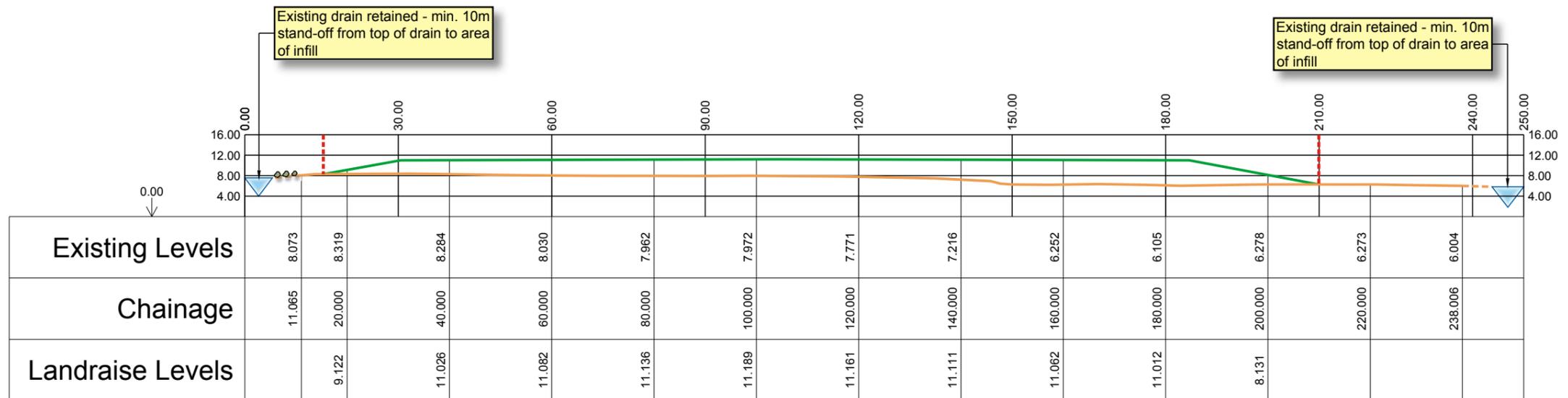
| | | | |
|--------------|----------------|---------------|-------------------|
| Drawn By: AC | Checked By: SB | Status: FINAL | Final Revision: - |
|--------------|----------------|---------------|-------------------|

| | |
|----------------------------------|----------------------------|
| CAD Ref: CE-TM-0937-DW05 - FINAL | Drawing No: CE-TM0937-DW05 |
|----------------------------------|----------------------------|

Cross Section B - B' (Scale - 1:1,000)



Cross Section A - A' (Scale - 1:1,000)



Legend:

- Existing Ground Levels
- Proposed Landraise Profile
- Limits of Infilling

Final Revision: - Date: - Description: - By: - Chk: -

Consultant:
Crestwood Environmental Ltd
 Units 1 & 2
 Nightingale Place
 Pendeford Business Park
 Wolverhampton
 WV9 5HF
 Tel: 01902 229563
 info@crestwoodenvironmental.co.uk
 www.crestwoodenvironmental.co.uk

Client:

Ty Mawr Farm

Site: **TY MAWR FARM**

Drawing Title: **Cross Sections**

Date: 16 Jan 2017 | Scale: 1:1,000 | Paper Size: A3 (420x297 mm)

Drawn By: AC | Checked By: SB | Status: FINAL | Final Revision: -

CAD Ref: CE-TM-0937-DW05 - FINAL | Drawing No: DW05 Figure 2

Disclaimer:
 This drawing is not for construction.
 All services to be checked on site and not scaled from this drawing.

