# Escrick Screening Bund

## Permit Application Report

### Escrick Environmental Services Limited

**Report No. 16-K5259-BLP-ENV-R-00011**
04 May 2022
Revision 01

BYRNELOOBY

IRELAND | UK | UAE | BAHRAIN | KSA

# Document Control

Document: Permit Application Report

Project: Escrick Screening Bund

Client: Escrick Environmental Services Limited

Report Number: 16-K5259-BLP-ENV-R-00011

Document Checking:

| Revision | Revision/ Review Date | Details of Issue | Authorised | | |
|---|---|---|---|---|---|
| | | | Prepared By | Checked By | Approved By |
| 00 | 29 April 2022 | Issued to Client | E Greenhalgh | P Roberts | P Roberts |
| 01 | 04 May 2022 | Issued to EA | E Greenhalgh | P Roberts | P Roberts |
| | | | | | |
| | | | | | |
| **Disclaimer: Please note that this report is based on specific information, instructions and information from our Client and should not be relied upon by third parties.** | | | | | |

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# Contents

# 1 Introduction

## 1.1 Report Objectives

ByrneLooby have been instructed by Escrick Environmental Services Limited (EES, the Operator) to prepare an application for a bespoke Waste Recovery Permit to construction a perimeter screening bund at the former clay quarry site near Escrick, York (the Site).

The following sections and appended documentation address the relevant questions in environmental permit application forms A, B2, B4 and F1 attached in Appendix B.

## 1.2 Non-Technical Summary

EES have an environmental permit for Escrick Soil Landfill Site referenced EPR/ZP3835JD for the disposal of inert waste. Prior to commencement of waste disposal operations in specified cells, Conditions 17 and 18 of Planning Permission referenced C8/2020/0460/CPO granted by North Yorkshire County Council (NYCC) require the phased construction of a screening bund on the western, northern, and eastern boundary. The Planning Permission also requires 2 metres (m) of soils to be placed upon material deposited for construction of the bund and that disposed of within the landfill to provide a suitable growing medium for the proposed restoration scheme. At present the site is permitted to place only 1 m of soil which NYCC has deemed insufficient.

EES have applied for a bespoke Waste Recovery Permit to construct the main perimeter screening bund structure. This would also involve the placement of a 2 m depth of suitable soil forming material to establish vegetative growth on its outer flank. A Waste Recovery Plan (WRP) (referenced: K5259-BLP-ENV-R-00001) has been approved by the Environment Agency (Agency). The WRP and RvD Advice Letter are attached as Appendix C. This application relates to the Waste Recovery Permit only.

EES are also applying for a permit variation application for the Escrick Soil Landfill Site Permit to incorporate the requirements of the Planning Permission to increase the depth of restoration soil above the cap. The permit already allows the placement of 1 m of restoration soil and will be increased to 2 m. The permit variation application is being submitted separately and will not be considered further in this application.

The Escrick Soil Landfill Site Permit also has a pre-operational measure to surrender a separate recovery permit referenced EPR/JB3934AE. This is also being addressed separately and will not be considered further in this application.

# 2 Application Form Part B2

## 2.1 Question 1a – Discussions before your application

Pre-application advice was received from the Agency (reference EPR/ZP3835JD/A001). The WRP was also submitted and approved by the Agency (Appendix C).

## 2.2 Question 3 – Your Ability as an Operator

### 2.2.1 Question 3a - Relevant Offences

EES nor any of the relevant persons or Directors associated with that company have not been convicted of any relevant environment offence.

### 2.2.2 Question 3b - Technical Ability

The Technically Competent Manager (TCM) is to be provided by Craig David Brown, who holds a WAMITAB Operator Competence Certificate. Copies of the certificates are attached in Appendix D.

### 2.2.3 Question 3c – Finances

EES nor any of the relevant persons or Directors associated with that company have had no current or past bankruptcy or insolvency proceedings against them.

### 2.2.4 Question 3D- Management Systems

The Site is operated in accordance with its own Environmental Management System (EMS). A contents summary of the EMS is provided at Appendix E of this application.

## 2.3 Question 5 – Supporting Information

### 2.3.1 Question 5a- Provide a plan or plans for the Site

A Site Plan is attached at Appendix A of this application.

### 2.3.2 Question 5b – site condition report

A Site Condition Report is not required for a deposit of waste for recovery activity.

### 2.3.3 Question 5c – Non-Technical Summary

A non-technical summary has been provided in Section 1.2.

## 2.4 Question 6 – Environmental Risk Assessment

An Environmental Risk Assessment (ERA) has been submitted with this application (referenced: 16-K5259-BLP-ENV-R-00012).

## 2.5 Question 6b – Climate Change Risk Assessment

The screening bund will be completed in less than 5 years therefore a climate change risk assessment is not required.

# 3 Application Form Part B4

## 3.1 Question 1 – What waste operations are you applying for?

The Operator is applying for a bespoke Waste Recovery Permit. A WRP was submitted and approved by the Agency. The WRP includes the quantity and types of wastes to be accepted. This information is also replicated in the accompanying Waste Acceptance Procedures document referenced 16-K5259-BLP-ENV-R-00014.

## 3.2 Question 2 – Point Source Emissions to Air, Water or Land

There are no point source emissions to air, land and sewer.

## 3.3 Question 3a – Technical Standards

An ESSD (referenced: 16-K5259-BLP-ENV-R-00013) has been submitted with this application and includes the technical standards.

## 3.4 Question 3b – General Requirements

The ERA does not require fugitive emission, odour or noise and vibration management plans.

## 3.5 Question 4 – Monitoring

No changes are proposed to environmental monitoring onsite. Monitoring is undertaken in accordance with the Escrick Soil Landfill Site Permit.

## 3.6 Appendix 2 – Specific questions deposit for recovery operations

Appendix 2 of application form Part B4 has specific questions for deposit for recovery operations. The below documents have been submitted with this application to address the questions:

- ESSD (referenced: 16-K5259-BLP-ENV-R-00013)
- Waste Acceptance Procedures (referenced: 16-K5259-BLP-ENV-R-00014)

# 4 Application Form Part F1

The application fee of £9,207.00 has been paid via BACs.

# Appendix A – Drawings

A1

Mount Farm

Mount Bridge

Trans Pennine Trail

York & Selby Path

Mount Pond

62

Pit (dis)

Works

8

7

A19

Park Farm

Glade Farm

Glade Cottages



GENERAL NOTES

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METRES ABOVE ORDNANCE DATUM.

2. DO NOT SCALE FROM THIS DRAWING.

3. ANY ANOMALIES IDENTIFIED WITH THE DETAILS SHOWN ON THIS DRAWING ARE TO BE BROUGHT TO THE ATTENTION OF BYRNE LOOBY PRIOR TO CONSTRUCTION WORKS COMMENCING.

LEGEND:

Permit Boundary

| Rev | Date | Description | By | Chk | App |
|---|---|---|---|---|---|

BYRNELOOBY

WWW.BYRNELOOBY.COM

IRELAND | UK | UAE | BAHRAIN | KSA

CLIENT: Escrick Environmental Services Limited

PROJECT: Escrick Screening Bund

DRAWING TITLE: Permit Boundary Plan

STATUS: FOR CONSTRUCTION

| Date: 28/04/22 | Scale: 1:2000 | Drawn: JM | Chk: MR | App: JB |
|---|---|---|---|---|

| Project No: | Drg. No: | Rev. |
|---|---|---|
| 5259 | 5259.2.004 | 00 |

# Appendix B – Application Forms

# Application for an environmental permit Part A – About you

**You will need to fill in this part A if you are applying for a new permit, applying to change an existing permit or surrender your permit, or want to transfer an existing permit to yourself. Please check that this is the latest version of the form available from our website.**

**You can apply online for Waste standard rules environmental permits, bespoke waste permits and bespoke Medium combustion plant permits**

**Apply online for an environmental permit.**

**Please read through this form and the guidance notes that came with it.**

**The form can be:**

1) **saved onto a computer and then filled in. Please note that the form follows a logic that means questions will open or stay closed depending on a previous answer. So you may not be able to enter text in some boxes.**
2) **printed off and filled in by hand. Please write clearly in the answer spaces.**

**Note:** if you believe including information on a public register would not be in the interests of national security you must enclose a letter telling us that you have told the Secretary of State. We will not include the information in the public register unless directed otherwise.

It will take less than one hour to fill in this part of the application form.

Where you see the term 'document reference' on the form, give the document references and send the documents with the application form when you've completed it.

Contents



## 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 | ☐ Now go to section 2 and if you are applying for a new permit or transferring a permit for an installation or waste activity please also fill in Appendix 1 |
| An organisation of individuals (for example, a partnership) | ☐ Now go to section 3 and if you are applying for a new permit or transferring a permit for an installation or waste activity please also fill in Appendix 1 |
| A public body | ☐ Now go to section 4 |
| A registered company or other corporate body | ☑ Now go to section 5 and if you are applying for a new permit or transferring a permit for an installation or waste activity please also fill in Appendix 1 |

## 2 Applications from an individual

### 2a Please give us the following details

Name

Title (Mr, Mrs, Miss and so on) _____

First name _____

Last name _____

Now go to section 6

# 3 Applications from an organisation of individuals or charity

## 3a Type of organisation

For example, a charity, a partnership, a group of individuals or a club

## 3b Details of the organisation or charity

If you are an organisation of individuals, please give the details of the main representative below. If relevant, provide details of other members (please include their title Mr, Mrs and so on) on a separate sheet and tell us the document reference you have given this sheet

Contact name

Title (Mr, Mrs, Miss and so on)

First name

Last name

Now go to question 3c or section 6

## 3c Details of charity

Full name of charity

This should be the full name of the legal entity not any trading name.

## 3d Company registration number

If you are registered with Companies House please tell us your registration number

## 3e Charity Commission number

If you are registered with the Charity Commission please tell us your registration number

Now go to section 6

# 4 Applications from public bodies

## 4a Type of public body

For example, NHS trust, local authority, English county council

## 4b Name of the public body

## 4c Please give us the following details of the executive

An officer of the public body authorised to sign on your behalf

Name

Title (Mr, Mrs, Miss and so on)

First name

Last name

Position

Now go to section 6

# 5 Applications from companies or corporate bodies

## 5a Name of the company

Escrick Environmental Services Limited

## 5b Company registration number

06019667

Date of registration (DD/MM/YYYY)

05/12/2006

If you are applying as a corporate organisation that is not a limited company, please provide evidence of your status and tell us below the reference you have given the document containing this evidence.

Document reference

# 5 Applications from companies or corporate bodies, continued

## 5c Please give details of the directors

If relevant, provide details of other directors and company secretary, if there is one, on a separate sheet and tell us the reference you have given this sheet.

Document reference

Details of company secretary (if relevant) and director/s

Title (Mr, Mrs, Miss and so on) Mr

First name David George

Last name Brown

Title (Mr, Mrs, Miss and so on) Mr

First name Christopher

Last name Peacock

Now go to section 6

# 6 Your address

## 6a Your main (registered office) address

For companies this is the address on record at Companies House.

Contact name

Title (Mr, Mrs, Miss and so on) Mr

First name Craig

Last name Brown

Address 3-4 Park Court
Riccall Road
Escrick
York

Postcode YO19 6ED

Contact numbers, including the area code

Phone 01904 720300

Fax

Mobile

Email

For an organisation of individuals every partner needs to give us their details, including their title Mr, Mrs and so on. So, if necessary, continue on a separate sheet and tell us below the reference you have given the sheet.

Document reference

## 6b Main UK business address (if different from above)

Contact name

Title (Mr, Mrs, Miss and so on)

First name NA

Last name

Address

Postcode

## 6 Your address, continued

Contact numbers, including the area code

Phone

Fax

Mobile

Email

Now go to section 7

## 7 Contact details

### 7a Who can we contact about your application?

It will help us if there is someone we can contact if we have any questions about your application. The person you name should have the authority to act on your behalf.

Please add a second contact on a separate sheet if this person is not always available.

Document reference of this separate sheet

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

Contact name

Title (Mr, Mrs, Miss and so on): Mr

First name: Phil

Last name: Roberts

Address: Suite 104
Mere Grange Business Park
St Helens

Postcode: WA9 5GG

Contact numbers, including the area code

Phone: 01925 291 111

Fax

Mobile: 07936 925 112

Email: PhilRoberts@ByrneLooby.com

### 7b Who can we contact about your operation (if different from question 7a)?

Contact name

Title (Mr, Mrs, Miss and so on): Mr

First name: Craig

Last name: Brown

Address: 3-4 Park Court
Riccall Road
Escrick
York

Postcode: YO19 6ED

Contact numbers, including the area code

Phone

Fax

Mobile: 07375620446

Email: ictwastemanagementconsultancy@gmail.com

# 7 Contact details, continued

## 7c Who can we contact about your billing or invoice?

**Note: Please provide the name and address that all invoices should be sent to for your subsistence fees.**

As in question 7a ☐

As in question 7b ☑

Please give details below if different from question 7a or 7b.

Contact name

Title (Mr, Mrs, Miss and so on)

First name

Last name

Address

Postcode

Contact numbers, including the area code

Phone

Fax

Mobile

Email

# 8 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422 549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it. More information on how to do this is available at: www.gov.uk/government/organisations/environment-agency/about/complaints-procedure.

**Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.**

# 9 Where to send your application

For how many copies to send see the guidance note on part A.

For water discharges by email to PSC-WaterQuality@environment-agency.gov.uk

For waste and installations by email to PSC@environment-agency.gov.uk

For flood risk activity permits send 1 copy only to enquiries@environment-agency.gov.uk or to the local Environment Agency office for where the work is proposed to be carried out.

Or

Permitting Support, NPS Sheffield
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

## Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐



### For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

No ☐

Yes ☐ Amount received

£

# Appendix 1 – Date of birth information for installation and waste activities (applications for a new permit or transferring a permit) only

## Date of birth information in this appendix will not be put onto our Public Register

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

| | |
|---|---|
| An individual | ☐ Now go to 2 |
| An organisation of individuals (for example, a partnership) | ☐ Now go to 3 |
| A registered company or other corporate body | ☑ Now go to 4 |

## 2 Applications from an individual

Please give us the following details

Name

Date of birth (DD/MM/YY)

## 3 Applications from an organisation of individuals or charity

**Details of the organisation or charity**

If you are an organisation of individuals, please give the date of birth details of the main representative below. If relevant, provide details of other members on a separate sheet and tell us the document reference you have given this sheet.

Name

Date of birth (DD/MM/YY)

Document reference

## 4 Applications from companies or corporate bodies

Name of the company: Escrick Environmental Services Limited

Please give the date of birth details for all directors and company secretary if there is one. If relevant, provide those details of other directors on a separate sheet and tell us the document reference you have given this sheet.

Details of company secretary (if relevant) and director/s

Name: David George Brown

Date of birth (DD/MM/YY)

Name: Christopher Peacock

Date of birth (DD/MM/YY)

Name

Date of birth (DD/MM/YY)

Document reference

# Application for an environmental permit
# Part B2 – General – new bespoke permit

Environment Agency

Fill in this part of the form together with parts A and F1 if you are applying for a new bespoke permit. You also need to fill in part B3, B4, B5, B6, or B7 (this depends on what activities you are applying for). Please check that this is the latest version of the form available from our website.

You can apply online for waste bespoke environmental permits at https://apply for environmental permit.service.gov.uk/start/start or open saved

Please read through this form and the guidance notes that came with it.

The form can be:

1) saved onto a computer and then filled in. Please note that the form follows a logic that means questions will open or stay closed depending on a previous answer. So you may not be able to enter text in some boxes.

2) printed off and filled in by hand. Please write clearly in the answer spaces

It will take less than two hours to fill in this part of the application form.

**Contents**



## 1 About the permit

### 1a Discussions before your application

If you have had discussions with us before your application, give us the permit reference or details on a separate sheet. Tell us below the reference you have given this extra sheet.

Permit or document reference: 16-K5259-BLP-ENV-R-00011 Permit Application Report

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

Site ☑ Now go to section 2

Mobile plant ☐ Now go to question 1c

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

**Mobile plant**

### 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 Now go to section 3

Yes You should send us a description of the activity you want to carry out, highlighting the changes you have made since our pre-application discussions

Document reference

Now go to section 3

# 2 About the site

**But not mobile plant**

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

Site name: Escrick Screening Bund

Address: The Old Brick And Tile Works
Riccall Road
Escrick
York, North Yorkshire

Postcode: YO19 6ED

National grid reference for the site
(for example, ST 12345 67890): SE 62092 40358

## 2b What type of regulated facility are you applying for?

**Note: if you are applying for more than one regulated facility then go to 2c.**

- Installation ☐
- Waste operation ☑
- Mining waste operation ☐
- Water discharge activity ☐
- Groundwater activity (point source) ☐
- Groundwater activity (discharge onto land) ☐

What is the national grid reference for the regulated facility (if only one)?
(See the guidance notes on part B2.)

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

National grid reference for the regulated facility

Now go to question 2d

# 2 About the site, continued

## 2c If you are applying for more than one regulated facility on your site, what are their types and their grid references?

See the guidance notes on part B2.

### Regulated facility 1

National grid reference

**What is the regulated facility type?**

- Installation ☐
- Waste operation ☐
- Mining waste operation ☐
- Water discharge activity ☐
- Groundwater activity (point source) ☐
- Groundwater activity (discharge onto land) ☐

### Regulated facility 2

National grid reference

**What is the regulated facility type?**

- Installation ☐
- Waste operation ☐
- Mining waste operation ☐
- Water discharge activity ☐
- Groundwater activity (point source) ☐
- Groundwater activity (discharge onto land) ☐

Use several copies of this page or separate sheets if you have a long list of regulated facilities. Send them to us with your application form. Tell us below the reference you have given these extra sheets.

Document reference

Now go to question 2d

# 2 About the site, continued

## 2d Low impact installations (installations only)

Are any of the regulated facilities low impact installations?

No ☑

Yes ☐ If yes, tell us how you meet the conditions for a low impact installation (see the guidance notes on part B2 – Appendix 1).

Document reference

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

## 2e 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 below the reference you have given this explanation

Document reference for the explanation

## 2f Ship recycling

Is your activity covered by the Ship Recycling Regulations 2015? (See the guidance notes on part B2.)

No ☑

Yes ☐ Tell us how you will do this. Please send us a copy of your explanation and your facility recycling plan, and tell us below the reference numbers you have given these documents

Document reference for the explanation

Document reference for the facility recycling plan

## 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 standalone water discharge or for a groundwater activity, you only have to fill in question 3d.

## 3a Relevant offences

Applies to all except standalone surface water discharges and groundwater discharges (see the guidance notes on part B2).

### 3a1 Have you, or any other relevant person, been convicted of any relevant offence?

No ☑ Now go to question 3b

Yes ☐ Please give details below

Name of the relevant person

Title (Mr, Mrs, Miss and so on)

First name

Last name

Position held at the time of the offence

Name of the court where the case was dealt with

Date of the conviction (DD/MM/YYYY)

Offence and penalty set

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.

Now go to question 3b

Please also complete the details in Appendix 2.

## 3b Technical ability

**Relevant waste operations only (see the guidance notes on part B2).**

Please indicate which of the two schemes you are using to demonstrate you are technically competent to operate your facility and the evidence you have enclosed to demonstrate this.

### ESA/EU skills

Please select one of the following:

I have enclosed a copy of the current Competence Management System certificate ☐

or

We will have a certified Competence Management System within 12 months and have enclosed evidence of the contract with an accredited certification body ☐

## 3 Your ability as an operator, continued

### CIWM/WAMITAB scheme

Your answers below must relate to the person(s) providing technically competent management when the permitted activities start.

Please select **one** of the following:

- I have enclosed a copy of:

  – the relevant qualification certificate/s ☑

  **or**

  – evidence of deemed competence ☐

  **or**

  – Environment Agency assessment ☐

  **or**

  – evidence of nominated manager status under the transitional provisions for previously exempt activities ☐

  and, if deemed competent or Agency-assessed, or nominated manager, or if the original qualification is over two years old:

  I have enclosed a copy of the relevant current continuing competence certificate/s ☑

- The technically competent manager will complete their qualification within four weeks of starting the permitted activities and I have enclosed evidence of their registration with WAMITAB or their EPOC booking as appropriate ☐
- **For medium- and high-risk tier activities other than landfill**
  The technically competent manager will complete the qualification within 12 months and I have enclosed evidence of their registration with WAMITAB and, where relevant, EPOC booking.
  I understand they must complete either four specified units of the relevant qualification or an EPOC within four weeks of the permitted activities commencing ☐

For each technically competent manager please give the following information. If necessary, use a separate sheet to give us these details and tell us below the document reference you have given the extra sheet.

| | |
|---|---|
| Title (Mr, Mrs, Miss and so on) | Mr |
| First name | Craig David |
| Last name | Brown |
| Phone | 01904720300 |
| Mobile | 07375620446 |
| Email | ictwastemanagementconsultancy@gmail.com |

Please provide the environmental permit number/s and site address for all other waste activities that the proposed technically competent manager provides technical competence for, including permits held by other operators. Continue on a separate sheet as required.

## 3 Your ability as an operator, continued

| Permit number | Site address | Postcode |
|---|---|---|
| DB3000UP | Escrick Aggregate Treatment Plant, The Old Brick & Tile Works, Riccall Rd | YO19 6ED |
| JB3934AE | Escrick Recreational Facility, The Old Brick And Tile Works, Riccall Road | YO19 6ED |
| ZP3835JD | Escrick Soil Landfill Site, The Old Brick And Tile Works, Riccal Road | YO19 6ED |
| | | |

Document reference: 16-K5259-BLP-ENV-R-00011 Permit Application Report

Now go to question 3c

Please also complete the details in Appendix 2.

### 3c Finances

Installations, waste operations and mining waste operations only.

Please note that if you knowingly or carelessly make a statement that is false or misleading to help you get an environmental permit (for yourself or anyone else), you may be committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

Do you, or any relevant person, or a company in which you (or they) (or any relevant person) were a relevant person, have current or past bankruptcy or insolvency proceedings against you?

No ☑

Yes ☐ Please give details below, including the required set-up costs (including infrastructure), maintenance and clean up costs for the proposed facility against which a credit check may be assessed

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)?

Renewable bonds ☐

Cash deposits with the Environment Agency ☐

Other – provide comprehensive details ☐

Document reference

## 3 Your ability as an operator, continued

Provide a cost profile and expenditure plan of your estimated costs throughout the aftercare period of your site.

Document plan reference

Now go to question 3d

## 3d Management systems (all)

You must have an effective, written management system in place that identifies and reduces the risk of pollution. You may show this by using a certified scheme or your own system.

Your permit requires you (as the operator) to ensure that you manage and operate your activities in accordance with a written management system.

You need to be able to explain what happens at each site and which parts of the overall management system apply. For example at some sites you may need to show you are carrying out additional measures to prevent pollution because they are nearer to sensitive locations than others.

You can find guidance on management systems on our website at https://www.gov.uk/guidance/develop a management system environmental permits

**Tick this box to confirm that you have read the guidance and that your management system will meet our requirements** ☑

What management system will you provide for your regulated facility?

ISO 14001 ☐

BS 8555 (Phases 1–5) ☐

Green dragon ☐

Own management system ☑

EMAS Global ☐

Other ☐

Please make sure you send us a summary of your management system with your application.

Document reference/s 16-K5259-BLP-ENV-R-00011 Permit Application Report

# 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 Directly into relevant territorial waters or coastal waters within the sea fisheries district of a local fisheries committee?**

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 Regulations 2015, or a safety report is needed under regulation 7 of those Regulations?

No ☑

Yes ☐

# 5 Supporting information

**5a Provide a plan or plans for the site**

**But not any mobile plant**

Clearly mark the site boundary or discharge point, or both. Also include site drainage plans, site layout plans, and plant design drawings/process flow diagrams (as required).
(See the guidance notes on part B2.)

Document reference/s of the plans: 16-K5259-BLP-ENV-R-00011 Permit Application Report

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

**See the guidance notes on part B2 for what needs to be marked on the plan.**

Document reference of the report: 16-K5259-BLP-ENV-R-00011 Permit Application Report

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 of the summary: 16-K5259-BLP-ENV-R-00011 Permit Application Report

## 5 Supporting information, continued

### 5d Are you applying for an activity that includes the storage of combustible wastes?

This applies to all activities excluding standalone water and groundwater discharges.

No ☑

Yes ☐ Provide a fire prevention plan (see the guidance notes on part B2). You need to highlight any changes you have made since your pre-application discussions.

Document reference of the plan

## 6 Environmental risk assessment

Provide an assessment of the risks each of your proposed regulated facilities poses to the environment. The risk assessment must follow the methodology set out in 'Risk assessments for your environmental permit' at www.gov.uk/government/collections/technical-guidance-for-regulated-industry-sectors-environmental-permitting or an equivalent method.

Document reference for the assessments 16-K5259-BLP-ENV-R-00012 ERA

**For Waste and Installation Permits only**

All bespoke waste and installations permit applications must carry out a climate change risk assessment if the planned duration of the operation is more than 5 years. This will normally be reviewed and discussed with you as part of our compliance activities. However, we may require you to submit your climate change risk assessment as part of your application depending on your risk screening score. We will consider the information contained within your climate change risk assessment when we grant your permit. Conditions may be applied to some permits to manage climate risks.

## 6b Climate change risk screening

See the guidance to Part B2.

Mark your score in each category in the table below. Add each individual score to give a total.

| CATEGORY | SCREENING QUESTIONS | SCORE | YOUR SCORE |
|---|---|---|---|
| **1 TIMESCALES** | How long will a permit be required for this site/activity? | | |
| | **5 years or less of operation. No need to fill in the rest of the screening. You do not need to fill in a risk assessment.** Please go straight to question 7. | 0 | 0 |
| | Less than 20 years of operation | 1 | |
| | Until between 2040 and 2060 (between 20 and 40 years from now) | 3 | |
| | Until 2060 or beyond (more than 40 years from now) | 5 | |
| **2 FLOODING** | What is your site's risk of flooding from rivers or the sea? | | |
| | Not in a flood-risk zone | 0 | |
| | Very low or Low | 1 | |
| | Medium | 2 | |
| | High | 5 | |
| **3 WATER USE** | If you use water for your site operations or fire prevention, what is the source of your water? | | |
| | Water not required | 0 | |
| | Mains water | 1 | |
| | Surface water or groundwater abstraction | 5 | |
| **TOTAL SCREENING SCORE** | | | |

If your total screening score is 5 or more, complete the climate change risk assessment and submit it with your permit application.

If you expect to operate for 5 years or less, you do not need to submit a risk assessment with your application, regardless of your screening score.

You must enter your score for every category in the table above. If you expect to operate for 5 years or less you may enter 'Not Applicable' for categories 2 and 3.

Document reference of the risk assessment (if submitted with application)

If your total screening score is less than 5 we may still request your risk assessment as part of determining this application if we believe you face unmanaged climate risks.

If we do not review your risk assessment as part of your application, it will form part of your Environmental Management System and we will discuss it with you as part of our compliance activities.

## 7 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below. General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422 549 (Monday to Friday, 8am to 6pm)
Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it.

**Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.**

**Feedback**

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐

Crystal Mark 19103 Clarity approved by Plain English Campaign

**For Environment Agency use only**

Date received (DD/MM/YYYY)

Payment received?

No ☐

Yes ☐ Amount received

Our reference number

£

**Plain English Campaign's Crystal Mark does not apply to appendix 1.**

## Appendix 1 – Low impact installation checklist

**See the guidance notes on part B2.**

| Installation reference | | | | |
|---|---|---|---|---|
| Condition | Response | | | Do you meet this? |
| A – Management techniques | Provide references to show how your application meets A | | | Yes ☐ No ☐ |
| | References | | | |
| B – Aqueous waste | Effluent created | | $m^3$/day | Yes ☐ No ☐ |
| C – Abatement systems | Provide references to show how your application meets C | | | Yes ☐ No ☐ |
| | References | | | |
| D – Groundwater | Do you plan to release any hazardous substances or non-hazardous pollutants into the ground? | | Yes ☐ No ☐ | Yes ☐ No ☐ |
| E – Producing waste | Hazardous waste | | Tonnes per year | Yes ☐ No ☐ |
| | Non-hazardous waste | | Tonnes per year | |
| F – Using energy | Peak energy consumption | | MW | Yes ☐ No ☐ |
| G – Preventing accidents | Do you have appropriate measures to prevent spills and major releases of liquids? | | Yes ☐ No ☐ | Yes ☐ No ☐ |
| | Provide references to show how your application meets G | | | |
| | References | | | |
| H – Noise | Provide references to show how your application meets H | | | Yes ☐ No ☐ |
| | References | | | |
| I – Emissions of polluting substances | Provide references to show how your application meets I | | | Yes ☐ No ☐ |
| | References | | | |
| J – Odours | Provide references to show how your application meets J | | | Yes ☐ No ☐ |
| | References | | | |
| 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 guidance notes | | Yes ☐ No ☐ | |

# Appendix 2 – Date of birth information for Relevant offences and/or Technical ability questions only

Date of birth information in this appendix will not be put onto our Public Register

Have you filled in the Relevant Offences question?

Yes ☑

No ☐

Have you filled in the Technical ability question?

Yes ☑

No ☐

**Relevant Offences - date of birth information**

Please give us the following details

Name: David Brown

Date of birth (DD/MM/YYYY):

**Technical ability - date of birth information**

Name: Craig David Brown

Date of birth (DD/MM/YYYY):

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

Environment Agency

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. Please check that this is the latest version of the form available from our website.

Please read through this form and the guidance notes that came with it.

You can apply online for waste bespoke environmental permits.

Apply online for an environmental permit.

The form can be:

1) saved onto a computer and then filled in. Please note that the form follows a logic that means questions will open or stay closed depending on a previous answer. So you may not be able to enter text in some boxes.
2) printed off and filled in by hand. Please write clearly in the answer spaces.

It will take less than three hours to fill in this part of the application form.

Contents



## 1 What waste operations are you applying for?

Fill in Table 1a with details of what 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 below the reference you have given the extra sheet.

Document reference: 16-K5259-BLP-ENV-R-000114 Application Report

### Types of waste accepted

For each line in Table 1a, fill in a separate document to list those wastes you will accept on the site for that operation, giving the List of Wastes catalogue code (search for 'Technical guidance on how to assess and classify waste' at www.gov.uk/government/organisations/environment-agency). If you need to exclude waste 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.

# 1 What waste operations are you applying for?, continued

## Table 1a – Waste operations which do not form part of an installation

| Name of the waste operation | Description of the waste operation | Annex I (D codes) and Annex II (R codes) and descriptions | Hazardous waste treatment capacity (if this applies) (See note 1) | Non-hazardous waste treatment capacity (if this applies) (See note 1) |
|---|---|---|---|---|
| Add extra rows if you need them. If you do not have enough room, go to the line below or send a separate document and give us the document reference here | Use the description from the guidance. Include any extra detail that you think would help to accurately describe what you want to do | | | |
| Escrick Screening Bund | Deposit of waste for recovery | R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced) | | |
| | | R3: Recycling / reclamation of organic substances which are not used as solvents | | |
| | | R5: Recycling/reclamation of other inorganic materials | | |
| | | | | |
| For all waste operations | Total storage capacity (see note 2) | | | |
| | Annual throughput (tonnes each year) | | | |

**Notes**

1 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

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

## 1 What waste operations are you applying to vary?, continued

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

If you want to accept any waste with a code ending in 99, you must provide more information and a full description of the waste in the document, (for example, detailing the source, nature and composition of the waste). Where you only want to receive specific wastes within a waste code you can provide further details of the waste you want to receive. Where a waste is dual coded you should use both codes for the waste.

Document reference: 16-K5259-BLP-ENV-R-00011 Application Report

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

| Waste code | Description of the waste |
|---|---|
| Example | Example |
| 02 01 08* | Agrochemical waste containing hazardous substances |
| 18 01 03* | Infectious clinical waste, not contaminated with chemicals or medicines – human healthcare (may contain sharps) for alternative treatment |
| 17 05 03*/17 06 05* | Non-hazardous soil from construction or demolition contaminated with fragments of asbestos cement sheet |

### 1c Deposit for recovery purposes (see Appendix 4 and the guidance notes on part B4)

Are you applying for a waste recovery activity involving the permanent deposit on waste on land for construction or land reclamation (including landfill restoration)?

No ☐ Go to section 2

Yes ☑

Are you applying for an inert landfill permit that includes a restoration activity using waste?

No ☑ Go to section 2

Yes ☐ Please send us a copy of your restoration plan in accordance with our guidance at https://www.gov.uk/guidance/landfill-operators-environmental-permits/restore-your-landfill-site

Have we advised you during pre-application discussions that we believe the activity is waste recovery?

No ☐ Go to section 2

Yes ☑

Have there been any changes to your proposal since the discussions?

No ☑

Yes ☐

Please send us a copy of your waste recovery plan that complies with our guidance at https://www.gov.uk/guidance/waste-recovery-plans-and-permits. You need to highlight any changes you have made since your pre-application discussions. Also give us the reference number of the document with your justification.

**Please note that there is an additional charge for the assessment of a waste recovery plan that must be submitted as part of this application. For the charge see https://www.gov.uk/topic/environmental-management/environmental-permits.**

Document reference: K5259-BLP-ENV-R-00001 WRP

## 2 Point source emissions to air, water and land

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

Fill in one table for each waste operation.

### Table 2 – Emissions

| Name of the waste operation | Escrick Screening Bund | | | |
|---|---|---|---|---|
| **Point source emissions to air** | | | | |
| Emission point reference and location | Source | Parameter | Quantity | Unit |
| N/A | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| **Point source emissions to water (other than sewers)** | | | | |
| Emission point reference and location | Source | Parameter | Quantity | Unit |
| N/A | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| **Point source emissions to sewers, effluent treatment plants or other transfers off site** | | | | |
| Emission point reference and location | Source | Parameter | Quantity | Unit |
| N/A | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| **Point source emissions to land** | | | | |
| Emission point reference and location | Source | Parameter | Quantity | Unit |
| N/A | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# Supporting information

## 3 Operating techniques

### 3a Technical standards

Fill in Table 3a for each waste operation you refer to in Table 1a above and list the 'appropriate measures' you are planning to use. If you are using the standards set out in the relevant technical guidance(s) (TGN) there is no need to justify using them within your documents in Table 3a.

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 part B2 of the application form.

Table 3a should summarise:

- the operations undertaken
- the measures you will use to control the emissions from your process, as identified in your risk assessment or the relevant technical guidance
- how you will meet other standards set out in the relevant technical guidance

### Table 3a – Technical standards

Fill in a separate table for each waste operation.

| Waste operation | Escrick Screening Bund | |
|---|---|---|
| Description of the waste operation<br>Add extra rows if you need them | Appropriate measure (TGN reference) | Document reference<br>(if appropriate) |
| Deposit of waste for recovery | Waste recovery plans and deposit for recovery | |
| | permits | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

In all cases, describe the type of facility or operation you are applying for and provide site infrastructure plans, location plans and process flow diagrams or block diagrams to help describe the operations and processes undertaken. Give the document references you use for each plan, diagram and description.

Document reference: 16-K5259-BLP-ENV-R-00011 Application Report

### 3b General requirements

Fill in a separate table for each waste operation.

### Table 3b – General requirements

| Name of the waste operation | Escrick Screening Bund |
|---|---|
| If the technical guidance or your risk 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<br>N/A |
| If the technical guidance or your risk assessment shows that odours are an important issue, send us your odour management plan.<br>**If your activity type is listed in the guidance document 'Control and monitor emissions for your environmental permit' as needing an odour management plan, or your risk assessment shows that odours are an important issue, you need to send us your odour management plan.** | Document reference or references<br>N/A |
| If the technical guidance or your risk assessment shows that noise or vibration are important issues, send us your noise or vibration management plan (or both) | Document reference or references<br>N/A |

## 3 Operating techniques, continued

We may need to ask for management plans or risk assessments in other circumstances based on our regulatory experience. If you are unsure as to whether you need to submit a management plan with your application, please discuss this with the Environment Agency prior to submission.

Search for 'Risk assessment for your environmental permit' at www.gov.uk/government/organisations/environment-agency.

### 3c Information for specific sectors

For some of the sectors, we need more information to be able to set appropriate conditions in the permit. This is as well as the information you may provide in sections 5, 6 and 7. For those activities listed in Table 3c, you must answer the questions in the related document.

**Table 3c – Questions for specific sectors**

| Sector | Appendix |
|---|---|
| Recovery to land for agricultural benefit of compost like outputs from the treatment of mixed municipal solid wastes | See the questions in appendix 1 |
| Inert landfill and deposit of waste on land for construction, land reclamation, restoration or improvement | See the questions in appendix 2 |

## General information

## 4 Monitoring

### 4a Describe the measures you use for monitoring 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
- the procedures you follow to assess the measures

Document reference: 16-K5259-BLP-ENV-R-00011 Application Report

### 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 M1 (search for 'M1 sampling requirements for stack emission monitoring' at www.gov.uk/government/organisations/environment-agency).

Document reference of the assessment: N/A

## 5 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422 549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, please tell us how we can improve it.

**Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.**

## Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐



### For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

No ☐

Yes ☐ Amount received

£

## Plain English Campaign's Crystal Mark does not apply to appendices 1 to 2.

## Appendix 1 – Specific questions for the recovery to land for agricultural benefit of compost like outputs from the treatment of mixed municipal solid wastes

### 1 Please 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 treatment (MBT) process over a 12-month period and in accordance with section 2 of TGN 6.15

Document reference

### 2 Please 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 Please 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?

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

Document reference

Yes ☐

## Appendix 2 – Specific questions for inert waste landfill and deposit for recovery operations

### 1 Please provide your Environmental Setting and Site Design (ESSD) report

Document reference 16-K5259-BLP-ENV-R-00013 ESSD

Note: You should use the Environment Agency template to help you develop an environmental setting and site design (ESSD) report.

### 2 Please provide your Waste Acceptance Procedures (including Waste Acceptance Criteria)

Document reference 16-K5259-BLP-ENV-R-00014 WAP

### 3 Have you provided a hydrogeological risk assessment (HRA) for the site?

No ☑ Please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ Document reference

### 4 Have you completed an outline engineering plan for the site?

No ☑ Please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ Document reference

### 5 Have you provided a stability risk assessment (SRA) for your site?

No ☑ Please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ Document reference

## Appendix 2 – Specific questions for inert waste landfill and deposit for recovery operations, continued

### 6 Have you completed a monitoring plan for the site?

No ☑ Please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ Document reference

### 7 Have you completed a plan for closing the site and procedures for looking after the site once it has closed?

No ☑ If no for deposit for recovery activities please refer to the section of your ESSD that explains why this is unnecessary for your site

Yes ☐ For inert waste landfill you must provide a closure plan

Document reference

### Spreading waste to support plant growth

### 8a Does the activity involve the deposit of waste to create or treat a growing medium (R10 for land treatment)?

No ☐

Yes ☑

### 8b If you answered 'yes' to question 8a, does the R10 activity include the spreading of waste to improve the quality of the growing medium (e.g. soil conditioner to improve existing soil profile)?

No ☐

Yes ☑ Go to question 8c

### 8c If you have answered 'Yes' to question 8b, have you completed a benefit statement?

No ☐ Please explain why

Document reference

Yes ☑

Note: Refer to our guidance when completing your statement (including EPR 8.01, section 6).

# Application for an environmental permit
# Part F1 – Charges and declarations

Environment Agency

**Fill in this part for all applications for installations, waste operations, mining waste operations, water discharges, point source groundwater discharges and groundwater discharges onto land. Please check that this is the latest version of the form available from our website.**

**Please read through this form and the guidance notes that came with it.**

**The form can be:**

1) **saved onto a computer and then filled in. Please note that the form follows a logic that means questions will open or stay closed depending on a previous answer. So you may not be able to enter text in some boxes.**
2) **printed off and filled in by hand. Please write clearly in the answer spaces.**

It will take less than two hours to fill in this part of the application form.

**Contents**



**Each individual who is applying for their name to appear on the permit must complete the declaration in section 5. You will have to print a separate copy of the declaration page for each additional individual to complete.**

## 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 searching for 'Environment Agency charging scheme and guidance: environmental permits' at www.gov.uk/government/organisations/environment-agency.

Please remember that the charges are revised on 1 April each year and that there is an annual subsistence charge to cover the costs we incur in the ongoing regulation of the permit.

### Table 1 – Type of application (fill number of activity being applied for in each column)

| Installation | Waste | Mining waste | Medium Combustion Plant (MCP)/Specified Generator (SG) | Water discharge/point source discharge to groundwater | Groundwater spreading onto land |
|---|---|---|---|---|---|
| | Permit Application | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

### Table 2 – Charge type (A)

| Charge activity reference | Charge activity description | What are you applying to do? E.g. new, minor variation, normal variation, substantial variation, surrender, low risk surrender, transfer | Amount |
|---|---|---|---|
| e.g. 1.17.3 | e.g. Sect 5.2 landfill for hazardous waste | e.g. transfer | e.g. £5,561 |
| 1.17.9 | Deposit of waste for recovery | New | £ 9,207.00 |
| | | | |
| | | | |
| | | | |
| | | | |
| Total A | | | £ 9,207.00 |

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

## Table 3 – Additional assessment charges (B)

| Part 1.19 Charges for plans and assessments | | | Tick appropriate |
|---|---|---|---|
| Reference | Plan or assessment | Charge | |
| 1.19.1 | Waste recovery plan | £1,231 | ☐ |
| 1.19.2 | Habitats assessment (except where the application activity is a flood risk activity) | £779 | ☐ |
| 1.19.3 | Fire prevention plan (except where the application activity is a farming installation) | £1,241 | ☐ |
| 1.19.4 | Pests management plan (except where the application activity is a farming installation) | £1,241 | ☐ |
| 1.19.5 | Emissions management plan (except where the application activity is a farming installation) | £1,241 | ☐ |
| 1.19.6 | Odour management plan (except where the application activity is a farming installation) | £1,246 | ☐ |
| 1.19.7 | Noise and vibration management plan (except where the application activity is a farming installation) | £1,246 | ☐ |
| 1.19.8 | Ammonia emissions risk assessment (intensive farming applications only) | £620 | ☐ |
| 1.19.9 | Dust and bio-aerosol management plan (intensive farming applications only) | £620 | ☐ |
| | Advertising | £500 | ☐ |
| Total B | | | |

Total charges

Total A plus total B £ 9,207.00

# 2 Payment

Tick below to show how you have paid.

Cheque ☐

Postal order ☐

Cash ☐ Tick below to confirm you are enclosing cash with the application

Credit or debit card ☐

Electronic transfer (for example, BACS) ☑

Remittance number

Date paid (DD/MM/YYYY)

## How to pay

**Paying by cheque, postal order or cash**

Cheque details

Cheque made payable to

Cheque number

Amount £

You should make cheques or postal orders payable to 'Environment Agency' and make sure they have 'A/c Payee' written across them if it is not already printed on.

Please write the name of your company and application reference number on the back of your cheque or postal order. **We will not** accept cheques with a future date on them.

We do not recommend sending cash through the post. If you cannot avoid this, please use a recorded delivery postal service and enclose your application reference details. Please tick the box below to confirm you are enclosing cash.

I have enclosed cash with my application ☐

## 2 Payment, continued

**Paying by credit or debit card**

If you are paying by credit or debit card we can call you. We will destroy your card details once we have processed your payment. We can accept payments by Visa, MasterCard or Maestro card only.

Please call me to arrange payment by debit or debit card ☐

**Paying by electronic transfer BACS reference**

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

| | |
|---|---|
| Company name | Environment Agency |
| Company address | SSCL (Environment Agency), PO Box 797, Newport Gwent, NP10 8FZ |
| Bank | RBS/NatWest |
| Address | London Corporate Service Centre, CPB Services, 2nd Floor, 280 Bishopsgate, London EC2M 4RB |
| Sort code | 60-70-80 |
| Account number | 10014411 |
| Account name | EA RECEIPTS |
| Payment reference number | PSCAPPXXXXXYYY |

You need to create your own reference number. It should begin with PSCAPP (to reflect that the application is for a permitted activity) and it should include the first five letters of the company name (replacing the X's in the above reference number) and a unique numerical identifier (replacing the Y's in the above reference number). The reference number that you supply will appear on our bank statements.

If you are making your payment from outside the United Kingdom, it must be in sterling. Our IBAN number is GB23NWK60708010014411 and our SWIFTBIC number is NWBKGB2L.

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

Provide a unique reference number for the application, i.e. do not only use the company name only: PSCAPPESCRI011

State who is paying (full name and whether this is the agent/ applicant/other): ESCRICK ENVIRONMENTAL SERVICES LIMITED

Fee paid: £ 9,207.00

Date payment sent (DD/MM/YYYY): 04/05/2022

Now read section 3 below

You should also email your payment details and reference number to ea_fsc_ar@gov.sscl.com.

## 3 Privacy notice

The Environment Agency runs the environmental permit application service.

We are the data controller for this service. A data controller determines how and why personal information is processed.

Our personal information charter explains:

- your rights
- what we do with your personal information

We're allowed to process your personal information because we have official authority as the environmental regulator. We need this information to carry out a task in the public interest that is set out in law. As the data controller, when you apply for an environmental permit, we have a legal obligation to process your personal data under the Environmental Permitting Regulations. The second lawful basis for processing your personal data is to comply with this legal obligation.

We need your personal information to process your environmental permit application. If you do not give us this information we cannot issue a permit to you. After we've issued a permit to you, we use your personal information:

- to check that you're complying with your permit
- during any potential enforcement action

### What personal information we collect

If you're the individual applicant, director or company secretary of a company applying or a technically competent manager we need your:

- name
- date of birth

## 3 Privacy notice, continued

- address
- email address

If you're the agent, consultant, employee responsible for the activity or the employee responsible for billing and invoicing we need your:

- name
- address
- email address

If you're the applicant we need details of any:

- convictions
- bankruptcy

We also collect any questions or feedback you leave, including your email address if you contact us.

### Your responsibility with other people's personal information

If you've included personal information about other people on your application, you must tell them. You must provide them with a copy of this privacy notice so that they know how their personal information will be used.

### What we do with your personal information

We use your personal information to help us decide whether to issue you with a permit.

The information (except dates of birth) is available online on our consultation website during the consultation period. This website is available to everyone so your information may be seen outside the European Economic Area.

After consultation we put all the information (except dates of birth) you give us in your application on our public register.

If you can demonstrate that any information you send us is commercially or industrially confidential, we'll consider withholding that information from our public register.

If you think that the information you'll send us may be a threat to national security you must contact the Secretary Of State before you apply. You must still send us that information with your application. We will not include this information on our public register unless the Secretary of State decides it can be included.

See the environmental permitting guidance for guidance on national security.

We may use your email address to contact you for user research to improve our service. You don't have to take part in the research.

### Where your personal information is processed and stored

We store and process your personal information on servers in the UK. We will not host your personal information outside the European Economic Area.

We do not use your personal information to make an automated decision or for automated profiling.

### How long we keep your personal information

We keep your personal information while your permit is in use and for 7 years after you surrender your permit. If the permit is for a landfill site, we keep the data for 10 years after surrender.

### Removing personal information from the public register

We will remove your personal information from the public register if:

- you withdraw your application
- we refuse your application and the time limit for appealing the decision has expired or an appeal is dismissed
- the information is no longer relevant for public participation purposes under the Environmental Permitting Regulations

### Contact

Our Data Protection Team gives independent advice. They monitor how the Environment Agency uses your personal information.

If you have questions or concerns about how we process personal information, or to make a complaint or request relating to data protection, please contact:

Address: Data Protection Team
Environment Agency
Horizon House
Deanery Road
Bristol
BS1 5AH

## 3 Privacy notice, continued

Email: dataprotection@environment-agency.gov.uk

You can also make a complaint to the Information Commissioner's Office (ICO).

The ICO is the supervisory authority for data protection legislation. The ICO website has a full list of your rights under data protection legislation.

Now read section 4 below

## 4 Confidentiality and national security

**Confidentiality**

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.

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. You can find guidance on confidentiality in 'Environmental permitting guidance: core guidance', published by Defra and available via our website at www.gov.uk/government/organisations/environment-agency.

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

Please treat the information in my application as confidential ☐

**National security**

You can tell the Secretary of State 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 Secretary of State and you must still include the information in your application. We will not include the information in the public register unless the Secretary of State decides that it should be included.

You can find guidance on national security in 'Environmental permitting guidance: core guidance', published by Defra and available via our website at www.gov.uk/government/organisations/environment-agency.

You cannot apply for national security via this application.

Now fill in section 5

## 5 Declaration

**If you knowingly or carelessly make a statement that is false or misleading to help you get an environmental permit (for yourself or anyone else), you may be committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.**

**A relevant person should make the declaration (see the guidance notes on part F1). An agent acting on behalf of an applicant is NOT a relevant person.**

Each individual (or individual trustee) who is applying for their name to appear on the permit must complete this declaration. You will have to print a separate copy of this page for each additional individual to complete.

**If you are transferring all or part of your permit, both you and the person receiving the permit must make the declaration. You must fill in the declaration directly below; the person receiving the permit must fill in the declaration under the heading 'For transfers only'.**

**Note: we will issue a letter to both current and new holders to confirm the transfer. If you are changing address we will need to send this letter to your new address; therefore please tell us your new address in a separate letter.**

**If you are unable to trace one or more of the current permit holders please see below under the transfers declaration.**

**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.**

If you deliberately make a statement that is false or misleading in order to get approval you may be prosecuted.

I confirm that my standard facility will fully meet the rules that I have applied for (this only applies if the application includes standard facilities) ☐

Tick this box to confirm that you understand and agree with the declaration above, then fill in the details below (you do not have to provide a signature as well) ☑

Tick this box if you do not want us to use information from any ecological survey that you have supplied with your application (for further information please see the guidance notes on part F1) ☐

## 5 Declaration, continued

Name

| | |
|---|---|
| Title (Mr, Mrs, Miss and so on) | Mr |
| First name | David |
| Last name | Brown |
| on behalf of (if relevant; for example, a company or organisation and so on) | ESCRICK ENVIRONMENTAL SERVICES LIMITED |
| Position (if relevant; for example, in a company or organisation and so on) | Director |
| Today's date (DD/MM/YYYY) | 28/04/2022 |

**For transfers only – declaration for person receiving the permit**

**A relevant person should make the declaration (see the guidance notes on part F1). An agent acting on behalf of an applicant is NOT a relevant person.**

**I declare that the information in this application to transfer an environmental permit to me 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.**

**Note: If you cannot trace a person or persons holding the permit you may be able to transfer the permit without their declaration as 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 deliberately make a statement that is false or misleading in order to get approval you may be prosecuted.

| | |
|---|---|
| Tick this box to confirm that you understand and agree with the declaration above, then fill in the details below (you do not have to provide a signature as well) | ☐ |

Name

| | |
|---|---|
| Title (Mr, Mrs, Miss and so on) | |
| First name | |
| Last name | |
| on behalf of (if relevant; for example, a company or organisation and so on) | |
| Position (if relevant; for example, in a company or organisation and so on) | |
| Today's date (DD/MM/YYYY) | |

Now go to section 6

## 6 Application checklist

**You must fill in this section.**

If your application is not complete we will return it to you. If you aren't sure about what you need to send, speak to us before you submit your application.

You must do the following:

| | |
|---|---|
| Complete legibly all parts of this form that are relevant to you and your activities | ☑ |
| Identify relevant supporting information in the form and send it with the application | ☑ |
| List all the documents you are sending in the table below. If necessary, continue on a separate sheet. This separate sheet also needs to have a reference number and you should include it in the table below | ☑ |
| For new permits or any changes to the site plan, provide a plan that meets the standards given in the guidance note on part F1 | ☑ |
| Provide a supporting letter for any claim that information is confidential | ☐ |
| Get the declaration completed by a relevant person (not an agent) | ☑ |
| Send the correct fee | ☑ |

## 6 Application checklist, continued

| Question reference | Document title | Document reference |
|---|---|---|
| Part B4 | Waste Recovery Plan | 16-K5259-BLP-ENV-R-00001 |
| Part B2, B4, F1 | Application Report | 16-K5259-BLP-ENV-R-00011 |
| Part B2 | Environmental Risk Assessment | 16-K5259-BLP-ENV-R-00012 |
| Part B4 | Environmental Setting and Site Design | 16-K5259-BLP-ENV-R-00013 |
| Part B4 | Waste Acceptance Procedures | 16-K5259-BLP-ENV-R-00014 |
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## 7 How to contact us

If you need help filling in this form, please contact the person who sent it to you or contact us as shown below.

General enquiries: 03708 506 506 (Monday to Friday, 8am to 6pm)

Textphone: 03702 422549 (Monday to Friday, 8am to 6pm)

Email: enquiries@environment-agency.gov.uk

Website: www.gov.uk/government/organisations/environment-agency

If you are happy with our service, please tell us. It helps us to identify good practice and encourages our staff. If you're not happy with our service, or you would like us to review a decision we have made, please let us know. More information on how to do this is available at: https://www.gov.uk/government/organisations/environment-agency/about/complaints-procedure.

**Please tell us if you need information in a different language or format (for example, in large print) so we can keep in touch with you more easily.**

## 8 Where to send your application

**For how many copies to send see the guidance note on part F1.**

Please send your filled in application form to:

For water discharges by email to PSC-WaterQuality@environment-agency.gov.uk

For waste and installations by email to PSC@environment-agency.gov.uk

Or

Permitting Support, NPS Sheffield
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

**Do you want all information to be sent to you by email?**

Please tick this box if you wish to have all communication about this application sent via email (we will use the details provided in part A) ☐

## Feedback

(You don't have to answer this part of the form, but it will help us improve our forms if you do.)

We want to make our forms easy to fill in and our guidance notes easy to understand. Please use the space below to give us any comments you may have about this form or the guidance notes that came with it.

How long did it take you to fill in this form?

We will use your feedback to improve our forms and guidance notes, and to tell the Government how regulations could be made simpler.

Would you like a reply to your feedback?

Yes please ☐

No thank you ☐



### For Environment Agency use only

Date received (DD/MM/YYYY)

Our reference number

Payment received?

No ☐

Yes ☐ Amount received

£

# Appendix C – WRP and RvD Advice Letter

# Escrick Soil Landfill Site

## Waste Recovery Plan

**Escrick Environmental Services Limited**

**Report No. K5259-BLP-ENV-R-00001**

Revision 04

BYRNELOOBY

IRELAND | UK | UAE | BAHRAIN | KSA

# Document Control

Document: Waste Recovery Plan

Project: Escrick Soil Landfill Site

Client: Escrick Environmental Services Limited

Report Number: K5259-BLP-ENV-R-00001

Document Checking:

| Revision | Revision/ Review Date | Details of Issue | Authorised | | |
|---|---|---|---|---|---|
| | | | Prepared By | Checked By | Approved By |
| 04 | 14 April 2022 | Re-issue to EA | E Greenhalgh | P Roberts | J Baxter |
| 03 | 4 April 2022 | Re-issue to EA | E Greenhalgh | P Roberts | J Baxter |
| 02 | 13 January 2022 | Issue to EA | E Greenhalgh | P Roberts | J Baxter |
| 01 | 24 December 2021 | Client Review | E Greenhalgh | P Roberts | J Baxter |
| 00 | 23 December 2021 | Issued to client | E Greenhalgh | P Roberts | J Baxter |
| **Disclaimer: Please note that this report is based on specific information, instructions and information from our Client and should not be relied upon by third parties.** | | | | | |

**www.ByrneLooby.com**

# Contents

# 1 Introduction

## 1.1 Background1

This Waste Recovery Plan (WRP) has been prepared on behalf of Escrick Environmental Services (EES) by ByrneLooby Partners (UK) Limited (BLP, formally TerraConsult). The WRP will support two permit applications both of which will be used to restore the wider Escrick former Brick and Tile Works quarry site near Escrick, York (the Site). EES currently hold a permit for the operation of an inert landfill at the site which has not yet been constructed.

Conditions 17 and 18 of Planning Permission referenced C8/2020/0460/CPO granted by North Yorkshire County Council (NYCC) require construction of a screening bund on the western, northern, and eastern boundary (see Appendix A). NYCC has specifically mandated that the construction of this bund must be completed before the landfill itself can be developed. The Planning Permission also requires two metres of soils to be placed upon material deposited for disposal to provide a suitable growing medium for the proposed restoration scheme.

The first application would be for a recovery permit to construct the perimeter screening bund. This would also involve the placement of 2 m depth of suitable soil forming materials to establish vegetative growth on its outer flank. The second application will be the variation of the inert landfill permit to increase the depth of restoration soil across the remainder of the site required by NYCC. The permit already allows the placement of 1 m of restoration soil (0.5 m of top soil and 0.5 m of sub soil), however it will now be necessary to increase the depth of sub-soil from 0.5 m to 1.5 m.

As the screening bund construction activity and the wider landfill restoration activity both require placement of the same depth and type of restoration soils and contribute to the same overall landform; it was considered prudent to demonstrate that activity would be considered recovery in both circumstances and use the same WRP to achieve that.

This WRP has been written with due regard to the following relevant guidance:

- Web based Environment Agency Guidance on Waste Recovery Plans and Deposits for Recovery Permits (Environment Agency, April 2021);
- Web based Environment Agency Guidance on Waste Acceptance Procedures for Deposit for Recovery (Environment Agency, April 2021);
- RGN 9: Showing that Land and Groundwater are protected at Waste Facilities (Environment Agency, May 2013); and
- Environmental Permitting: Core guidance: for the Environmental Permitting (England & Wales) Regulations 2016 (DEFRA, March 2020).

This WRP is being submitted to the Environment Agency (the Agency) for approval prior to the new permit applications in an effort to expediate the landfill development process and restoration of the Site.

## 1.2 Site Location and Description

Escrick Soil Landfill Site is located to the west of the A19 midway between York and Selby. The villages of Escrick and Riccall are approximately 2 km to the north and south respectively. The National Grid reference taken from the centre of site is SE 62092 40358 and access to the site is via a tarmac road from the A19 (Riccall Road).

The Site has previously been subject to clay extraction and a number of separately permitted waste activities are present on the site:

- Escrick Soil Landfill Site operated by EES (permit referenced ZP3835JD)
- Escrick Aggregate Treatment Plant operated by EES (permit referenced DB3000UP)
- Waste recovery permit for the construction of Escrick Recreational Facility operated by EES (permit referenced JB3934AE). This permit will be surrendered or partially surrendered prior to construction of the perimeter bund and the landfill.
- A waste soil washing plant operated by Acumen Waste Services Ltd (permit referenced BB3907LY) is also located on site within the current inert landfill boundary but will be outside the engineered waste disposal area.
- A closed non-hazardous landfill site operated by Biffa UK Ltd (permit referenced NP3290ZK). The permit boundary for the Biffa Landfill occupies the entire site, however the area containing the engineered waste deposits is outside of the EES landfill and other permit boundaries.

The Site is surrounded by agricultural land, with Escrick Business Park to the east and the York & Selby cycleway (part of the Trans-Pennine Trail) to the west. A few residential properties are located northwest to southeast.

The recovery activity will comprise construction of a screening bund along the western, northern and part of the eastern boundary of the Site and is shown on drawing referenced:
Drg No EES_LA_2001 (Appendix B).

Under the planning consent the Operator is required to increase the depth of restoration soil from 1m to 2m therefore the total quantity of waste to be accepted will increase to 188,000 $m^3$. This would include the outer flank of the perimeter screening bund also, which would eventually be continuous with the landfill scheme. The overall landform levels associated with the current inert landfill will not change and the actual quantity of waste accepted for disposal will decrease to accommodate the increased depth of restoration soils and perimeter screening bund. The Operator also proposes to add European Waste Catalogue (EWC) code 20 02 02 to Table S2.2.

## 1.3 Proposed Permitting Regime

The recovery permit used to construct the Escrick Recreational Facility allowed the importation of suitable non-contaminated waste soils and aggregate for two specific elements of the quarry restoration scheme:

- Construction of noise and visual screening bund between the site and adjacent business park to the east;
- Construction of a mountain bike skills centre skills course and associated wildlife conservation pond and fishing pond.

The Operator applied for a landfill permit to increase the restoration levels of the quarry to improve the experience of the eventual users of the mountain bike skills course. Refence 2 of Table S1.3: Preoperational measures for future development of the Escrick Soil Landfill permit requires the importation of material under the waste recovery activity to be completed, approved levels reached and the permit surrendered prior to acceptance of waste for the landfill.

It is proposed to submit a partial or full surrender application for the existing recovery permit at the earliest opportunity. This WRP will be used to support a new application to construct the perimeter bund as a recovery activity (a pre-development obligation required by the extant planning permission) and allow the placement of restoration materials across the outer flank of the bund and to restore the landfill surface.

# 2 Waste Recovery Plan

## 2.1 Obligation to Complete the Scheme

Current Environment Agency guidance[1] requires that Operators demonstrate the proposed operation would be undertaken using non-waste materials should the use of imported waste not be permitted by the Environment Agency. The guidance provides several options where evidence would be required to be submitted to the Environment Agency, requiring approval prior to the activity being accepted as a recovery operation. The option relevant to Escrick Soil Landfill Site is an obligation to complete the scheme.

Planning Permission (ref: C8/2020/0460/CPO) was granted on 23 September 2020 and allows the construction of the landfill to the approved restoration contours. A Section 106 agreement (S106) was reached between EES (the 1st landowner), North Yorkshire County Council (YCC), Plasmor Limited (the 2nd landowner) and Acumen Waste Services (the operator of the soil washing plant). This requires on commencement of the development (the construction of the landfill), that all signatories to that agreement are to:

1) complete the scheme within 10 years;

2) restore and maintain the site in accordance with submissions made to discharge conditions 17 and 18 of the planning permission; and,

3) maintain that restoration scheme in accordance with an approved Landscape and Ecological Management Plan (LEMP) for a period of 30 years.

The Operator submitted a LEMP report (Appendix A) to discharge Conditions 17 and 18 of the consent after it had been issued. The obligation to construct a screen bund before waste disposal is initially detailed in Paragraph 3.1.6 of the LEMP which states '*the initial phase of development will be the construction of the northern and eastern flanks of Landfill Cell 1*.' This will be subject to subsequent planting. Construction of Cell 2 in the same manner will then be completed prior to its subsequent infilling. Cell 3a and 3b will be completed thereafter. The report submitted to discharge Conditions 17 and 18 added more detail to the LEMP and provided drawings of the development of the screening bund. This included a requirement to complete the full western extent of the screening bund before Cells 2 and 3 are infilled. There is no prohibition to completing the bund before Cell 1 is completed. The report discharging Conditions 17 and 18 also requires two metres of soils to be placed upon the material deposited in the landfill to provide a suitable growing medium for the proposed restoration scheme.

Both the LEMP and the report to discharge Conditions 17 and 18 were incorporated into the S106 agreement and form part of that obligation to the Operator. The screening bund and restoration soils placed on its external flanks are described as part of the landfill cell construction and

[1] Environment Agency. Waste recovery plans and deposit for recovery permits. April 2021. Available at: https://www.gov.uk/government/publications/deposit-for-recovery-operators-environmental-permits/waste-recovery-plans-and-deposit-for-recovery-permits

therefore will not be formed as part of the waste disposal operations (the activity it is serving to screen). On commencement of the development the S106 obligates the Operator to complete the scheme in 10 years. Because of the duration it will take to vary the permit and enable the Operator to construct and import waste, it is likely they will commence construction of the screening bund with non-waste and on-site materials in advance of permit issue. This will initiate the 10 year timescale for completion but accelerate the Operators ability to generate revenue from the landfill site and it is therefore in their interests to do so.

Activation of the S106 requirements will enforce the requirement for the Operator to restore the site in accordance with the LEMP and report to discharge Conditions 17 and 18. The latter requires the Operator to place 2 m of subsoils and top soils across the entire landform up to the approved restoration contours.

The construction of the screening bund external to the waste disposal area and placement of soils above the deposited inert waste mean they would by default be a recovery activity if the appropriate depth of suitable wastes were used to substitute non-waste. The volume of potential waste materials used on issue of the permit would be reduced by any non-waste material used by the Operator to commence construction of the site. Their obligation to place restoration soils would mean non-waste soils may need to be sourced and imported. These can be substituted with appropriate soil forming materials as already approved by the permit.

In accordance with Environment Agency Guidance, the following information has been provided with this WRP:

- evidence of the obligation - Planning Permission (ref: C8/2020/0460/CPO), Report to Discharge Conditions 17 and 18 of the Planning Permission[2], the approval letter of that and the LEMP attached as Appendix A
- plans and cross sections that show the proposal matches the obligation to the Operator – See Drawings referenced 5259/2/001 and 5259/2/002 attached in Appendix B
- evidence that the waste is serving a useful purpose – see Section 2.2.

## 2.2 The Purpose of the Work

The purpose of the work is to construct a bund that will screen the landfilling activities from members of the public using the Tran-Pennine Way transit way to the west of site and the users of the commercial estate to the east. This bund must be constructed to allow prompt establishment of vegetation to incorporate the structure into the surrounding landscape. This will ultimately be the case for the wider landfill site.

BG Design Associates prepared a report in March 2021[2] to discharge conditions 17 and 18 of the Planning Permission. It outlined the screening bund construction details. The initial grading and screening works to create a screen bund would be carried out progressively extending from east to

2 BG Design Associates. Landscape report to satisfy landscape conditions related to the raising of landfill levels. Decision No: C8/2020/0460/CPO dated 23 September 2020. March 2021.

southwest in an anti-clockwise direction. Access for construction purposes would be along the toe of the screen bund along retained access tracks. The overall screen bund profile would be grass seeded with the outer flank woodland planted using a lowland mixed deciduous woodland matrix. The screening bund will obscure the waste disposal activities reducing the visual impact of the Site on surrounding amenities. The woodland planted at the outer flank will also improve the wildlife value of the Site and provide biodiversity benefits.

The new perimeter landform would comprise of an external slope with a uniform gradient of 1v:5h (20% grade) rising to a level differential of 5 metres above surrounding ground levels. The overall height of the screen bund would vary from 12 to 13 metres AOD. A 3m wide crest would be formed at the top of the bund, forming an inner slope graded down at 1v:2h (50% grade) to meet with current landform levels. The finished screen bund outer flank profile will comprise of suitable soil forming materials formulated to promote optimal growth which would be loose tipped to minimise compaction to a depth of 2 metres prior to grass seeding and subsequent woodland planting. It should be noted that the bund crest and inner profiles are temporary in nature providing, in part, a screening function that would eventually be covered by restoration soils or lining materials as the phased development of the final landform is raised over time. The outer slope would however comprise of permanent woodland and be retained.

The construction Phases are summarised below:

- An initial establishment phase: to form the outer screen bund around phase's 1-2 comprising of landraising and woodland planting
- Phase 1: comprising of landraising and restoration to lowland mixed deciduous woodland.
- Phase 2: comprising of landraising and restoration to lowland mixed deciduous woodland.
- Final screen bund development along outer margins of phases 3A-3B.
- Phase's 2, 3 and 4: phase's 1-3 would be principally restored to lowland mixed deciduous woodland. Phase 4 would be restored to semi-improved lowland neutral grassland, scattered scrub, ponds, scrapes and reedbed.

A Stability Risk Assessment (SRA) (ref: 5355-R01) of the bund construction has been undertaken and is attached as Appendix C. The original internal side slope of the edge bund was found to be potentially unstable at a slope of 1v:2h with an Overdesign Factor of less than unity. The side slopes would therefore need to be slackened to 1v:2.5h. The revised side slopes are stable under various situations, with ODF values all greater than unity. Although the slope would be stable at 1v:2.5h, this is still too steep to operate vehicles on to place a sidewall liner against. The inner face gradient of the bund therefore needs to be reduced further to 1v:3h.

In summary, the outer face of the edge bund should be constructed to the permitted slope of 1v:5h. The inner face of the edge bund should be constructed at a slope no steeper than 1v:2.5h but for landfill liner construction purposes no steeper than 1v:3h. The material of the bund and AGB should be compacted at optimum water content to optimum +2% and to an air voids ratio of at least 95%. This should be confirmed by appropriate testing during the Construction Quality Assurance (CQA) supervision as it will support the lining system of the landfill.

The waste material should be placed in layers and compacted as infilling progresses. Care should be taken to avoid differences in height of more than two metres across the infilled area.

The outer face of the waste material should slope at no steeper than 1v:5h, and should be placed no higher than the permitted level.

If the design of the proposed landfill changes, or the plant used is of a more onerous loading configuration, the analysis and conclusions of the SRA should be reviewed and amended as necessary.

The BG Design Associates Report also includes details regarding the restoration layer. A layer of soils will be placed upon tipped material to provide a suitable growing medium for the proposed restoration scheme. Soils will comprise the top two metres of the landform (for the avoidance of doubt this layer shall be within the overall tip height established on the approved drawings). The soils will be made up of:

- 1500mm Subsoil – created from soil substitutes; and
- 500mm Topsoils – created from 60% soils substitutes/40% Compost Like Output (CLO)

The two metres of soils to be placed upon the material deposited in the landfill will provide a suitable growing medium for the proposed restoration scheme which includes woodland, grassland and reedbed planting and construction of ponds and mountain bike trails. The overall aim is to achieve a high-quality restoration for biodiversity purposes. It will also allow recreational uses.

## 2.3 Quantity of Waste Required

Attached drawing 5259/1/001 Proposed Landfill Development Formation and Top of Liner Layouts and Section Location Plan shows the location of the bund and existing ground profile, restored profile and proposed bund profile. The volume of material required has been broken down as follows:

- Structural core of perimeter screening bund (east, north and west) and retaining bunds (south)
- 1.5 m of subsoil and 0.5 m of topsoil restoration material on the outer flank of the screening bund
- 1.5 m of subsoil and 0.5 m of topsoil restoration soils to be placed on the completed waste profile

The volume required for the core structure of the bund and southern retaining bunds has been calculated at 75,000 $m^3$. Using a bulk density of 1,8000 $kg/m^3$, this equates to approximately 135,000 tonnes.

The placement of 2 m total of restoration soil above the completed inert waste deposits will require 130,000 $m^3$ and the outer flanks of the perimeter bunds will require 58,000 $m^3$ of material (188,000 $m^3$ combined). The restoration soil will have a lower bulk density than the materials to be used for the bunds. The tonnage for the outer flanks of the perimeter bunds is expected to be approximately 68,675 tonnes and 154,375 tonnes across the completed waste profile. This assumes a bulk density of 1,300 kg/m3 for subsoil and 0.85 kg/m3 for topsoil. It is not the intention to compact the topsoil or excessively compact the sub soil, however the bulk densities stated are the minimum expected and could increase with consolidation or compaction when driven over by site plant.

The total volume of material required under this WRP is **263,000 $m^3$** or a minimum of 358,050 tonnes.

Due to the uncertainties and variabilities in bulk densities of the restoration and engineering material, it is considered appropriate to use volumes rather than tonnages for the quantities of material required, but the tonnages are provided for illustrative purposes. Ultimately the Operator will required to meet the final levels consented under the planning permission and any underestimate of tonnages will potentially compromise their ability to do that.

The Agency has confirmed that it is not necessary to include waste clays imported for use in construction of the engineered liner and intercell bunds in the WRP. Where required, waste clays suitable for engineering purposes will be subject to approval through the CQA process.

## 2.4 Suitability of Waste Material

It is proposed to use non-hazardous waste classified under the EWC codes permitted by Standard Rules permit referenced SR2015 No.39 for the construction of the screening bunds at Site as detailed in Table 1. This would be very similar to the non-waste material sourced from aggregate or topsoil suppliers if non-wastes were used for the screening bund.

Table 1 – Proposed Waste Types for Screening Bund

| | |
|---|---|
| 01 Waste resulting from exploration, mining, quarrying and physical and chemical treatment of minerals | |
| 01 01 02 | Wastes from mineral non metalliferous excavation |
| 01 04 08 | Waste gravel and crushed rocks other than those mentioned in 01 04 07 |
| 01 04 09 | Waste sand and clays |
| **17 Construction and demolition wastes** | |
| 17 05 04 | Soil and stones other than those mentioned in 17 05 03 |
| **19 Wastes from waste management facilities** | |
| 19 12 09 | Minerals (for example sand, stones) only |
| 19 12 12 | Soil Substitutes<br>Material accepted under 19 12 12 as a soil substitute will have a low organic content and will meet the physical and chemical characteristics as detailed in an approved Benefit Statement. |
| **20 Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions** | |
| 20 02 02 | Soil and stones |

Table S2.2 of the Escrick Soil Landfill permit lists the permitted waste types for restoration. The permit variation application proposes to add European Waste Catalogue (EWC) code 20 02 02. This code has similar properties to the codes already permitted. The proposed waste types for the recovery activity and restoration are detailed in Table 2. This would be very similar to the non-waste material sourced from aggregate or topsoil suppliers if non-wastes were used for the restoration material.

Table 2 – Proposed Waste Types for Restoration

| | |
|---|---|
| **17 Construction and demolition wastes (including excavated soil from contaminated sites)** | |
| 17 05 | Soil (including excavated soil from contaminated sites), stones and dredging spoil |
| 17 05 04 | Soil and stones other than those mentioned in 17 05 03 |
| **19 Wastes from waste management facilities, off-site wastewater treatment plants and the preparation of water intended for human consumption and water for industrial use** | |
| 19 05 | wastes from aerobic treatment of solid wastes |
| 19 05 99 | Compost like output/compost only<br>Material accepted under 19 05 99 will be sourced from an appropriately permitted facility which where applicable meets sanitisation requirements for the treatment of waste subject to Animal By-product Regulations 2005 (ABPR). The use of this material in a blended topsoil and will meet the physical and chemical characteristics as detailed in an approved Benefit Statement. |
| 19 12 | Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified |
| 19 12 12 | Soil Substitutes<br>Material accepted under 19 12 12 as a soil substitute will have a low organic content and will meet the physical and chemical characteristics as detailed in an approved Benefit Statement. |
| **20 Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions** | |
| 20 02 02 | Soil and stones |

All incoming wastes will be non-hazardous with a low pollution potential and subject to strict waste acceptance procedures as outlined in the Site's existing Environmental Management System (EMS).

Waste acceptance is a structured hierarchy with appropriate points of control for the identification and validation of wastes for disposal at the site and is summarised as follows:

- Level 1 Basic characterisation through pre-acceptance assessment of appropriate Information (EWC codes, site investigations etc);
- Level 2 Compliance testing;
- Level 3 On-site verification through retrospective analysis of samples taken from deposited materials.

Each stage in the proposed waste acceptance scheme is detailed further below.

### 2.4.1 Level 1: Waste Characterisation

Table 1 above details the list of wastes to be accepted at the Site.

The EWC code of wastes will be checked against any relevant available data provided (e.g. waste description, waste source or chemical testing) to confirm that the waste coding is correct, it can be accepted under the permit and it is suitable for the proposed activity. The waste enquiry procedure requires the following information, where available and applicable, to be gathered from any potential waste load prior to acceptance:

- Full address where the waste was produced;
- The identity of the producer;
- Information on the waste production process;
- Source and origin of waste (e.g. site investigation reports, borehole logs);
- Description of the waste treatment applied, or a statement of reasons why treatment is not considered necessary;
- Code according to the European Waste Catalogue;
- Evidence the waste is free from contamination;
- Chemical analysis data on the composition of the waste (i.e. totals mg/kg) and the leaching behaviour (i.e. WAC) where necessary; and
- The nature of the waste i.e. smell, colour, physical form.

This data will be reviewed by a suitably qualified person to ensure that all sampling is representative of the source of the waste and an appraisal of the composition, including the likelihood of hazardous properties, will be undertaken.

Landfill Directive Inert wastes can be accepted without supporting analytical test data, if the waste meets the additional restriction imposed by Council Decision 2003/33/EC e.g. the waste is uncontaminated, a single-stream waste from a single source, and excludes where appropriate top soil and peat.

### 2.4.2 Level 2: Compliance testing

Additional onsite testing may be undertaken to validate compliance testing. This will be targeted at specific wastes should any suspicion of contamination be identified either as a result of Level 1 or subsequent Level 3 checks. This material will only be accepted if the appropriate testing confirms that the material is free from contamination.

In addition, non targeted sampling of emplaced wastes will be taken on a periodic basis (quarterly) to confirm that the Level 1 and 2 waste acceptance procedures have effectively precluded unsuitable materials.

### 2.4.3 Level 3: On-site verification

Assuming the initial checks have been completed to the satisfaction of the competent person the Waste Receiver will be the second point of control prior to the deposit of wastes.

All incoming vehicles will enter via the existing site entrance and check in at the site office. The documentation accompanying the load shall be checked by the Waste Receiver and shall include, but not be limited to, the Carriers Certificate of Registration and Duty of Care Waste Transfer Note.

The information to be recorded in respect of each load will be where appropriate:

- Pre-treatment details;
- Waste type;
- Date;
- Time;
- Customer name;
- Vehicle registration number and type;
- Ticket number; and
- Carriers registration number.

It is recognised that there are difficulties achieving a visual inspection of waste loads arriving at the weighbridge in compacted or bulky type vehicles. For these types of loads emphasis is placed on checking the documentation at the weighbridge and visual inspection at disposal.

The weighbridge operator will confirm that the accompanying documentation (i.e. waste description or likely levels of contamination) demonstrates that the waste load is the same waste type described by the customer at the pre-acceptance stage. If the documentation is not correct and the correct paperwork cannot be provided, the weighbridge operator will inform the Site Manager or nominated technically competent person and the load will be rejected.

Where practicable, the weighbridge operator or other site operatives will then visually inspect the load for compliance with the documentation. If the inspection shows that the load differs from the description, the load will be rejected as above.

For wastes produced by the operator this visual verification may be made at the point of dispatch. In such cases this verification must be documented and the document be made available at the receiving site.

The operatives at the deposition area will undertake a visual inspection of each waste load arriving to site. Should any load look suspicious or unsuitable for deposition, the operatives at the operational area will contact the weighbridge operator to assess the waste load in question.

If the waste is not acceptable, the weighbridge operator will inform the Site Manager. The waste will be rejected from the site in accordance with the site's EMS.

### 2.4.4 Rejection Procedure

The Site's EMS has a procedure for Dealing with Non-Permitted Wastes. It covers the system for controlling all actions needed for rejection of a load or part load of waste determined by inspection to be unsuitable for disposal at the site. The procedure outlines what is to be done in order to deal with wastes which have been rejected either at the weighbridge reception area or at the working area.

### 2.4.5 Site Records

All records will be maintained and kept on file in accordance with the EMS. Records can be made available to the Agency for inspection if required.

## 2.5 Meeting Quality Standards

It is proposed to construct the screening bund and final restoration layer using imported reclaimed non-hazardous, non-degradable soils. The materials brought to site will have an inherently low pollution potential and will not contain substances at concentrations that may present a risk to surface water or groundwater. After its deposit and subsequent profiling, the already low permeability of this material is further reduced. This further restricting the leachability of any potential soluble components and mobilisation of solids from its compacted surface.

The restoration soils will meet the specification previously approved under the current permit albeit the sub soil will be an additional 1 m in depth to a total depth of 2 m (0.5 m topsoil and 1.5 m subsoil).

The fill specification for the screening bund is outlined in the BG Design Associates Report submitted as part of the Planning Application and the SRA attached as Appendix C.

# Appendix A – Planning Permission and related documents

Decision No. C8/2020/0460/CPO

# TOWN AND COUNTRY PLANNING ACT 1990

# NORTH YORKSHIRE COUNTY COUNCIL

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NOTICE OF DECISION OF PLANNING AUTHORITY ON APPLICATION FOR PERMISSION TO CARRY OUT DEVELOPMENT

TO:

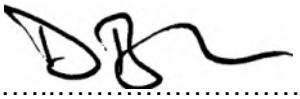
Escrick Environmental Services Ltd
The Old Brick and Tile Works
Riccall Road
Escrick
YO19 6ED

Mr Chris Jarvis
MEWP Ltd
15 Queen Square
Leeds
LS2 8AJ

The above-named Council being the Planning Authority for the purposes of your application dated 20 April 2020 in respect of the proposed development for the variation of condition No. 2 of Planning Permission Ref. C8/10/3AC/CPO which relates to raising landfill levels at The Old Brick And Tile Works, Riccall Road, Escrick, YO19 6ED have considered your said application and have **granted** permission for the proposed development subject to the following conditions:-

(please see attached sheets for conditions)

Date: 23 September 2020



……..……..…

Corporate Director, Business and Environmental Services

NOTE:-
No consent, permission or approval hereby given absolves the applicant from the necessity of obtaining the approval, under the Building Regulations, of the District Council in whose area the site of the proposed development is situated; or of obtaining approval under any other byelaws, local acts, orders, regulations and statutory provisions in force; and no part of the proposed development should be commenced until such further approval has been obtained.

FOR RIGHTS OF APPEAL SEE OVERLEAF

## RIGHTS OF APPEAL

(1) If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development, or to grant it subject to conditions, then you can appeal to the Secretary of State under Section 78 of the Town and Country Planning Act 1990.

If you want to appeal against your local planning authority's decision then you must do so within 6 months of the date of this notice.

Appeals must be made using a form which you can get from the Secretary of State at Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 6PN (Tel: 0303 444 5000) or online at https://acp.planninginspectorate.gov.uk

The Secretary of State can allow a longer period for giving notice of an appeal but will not normally be prepared to use this power unless there are special circumstances which excuse the delay in giving notice of appeal.

The Secretary of State need not consider an appeal if it seems to the Secretary of State that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.

(2) If permission to develop land is refused or granted subject to conditions, whether by the local planning authority or by the Secretary of State for Communities and Local Government, and the owner of the land claims that the land has become incapable of reasonably beneficial use in its existing state and cannot be rendered capable of reasonably beneficial use by the carrying out of any development which has been or would be permitted, he/she may serve on the Council of the county district in which the land is situated, a purchase notice requiring that Council to purchase his/her interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990.

Conditions:

**Time limit and commencement of development**

1. Within 7 days of the commencement of the development hereby approved, the operator shall notify the Council in writing of the date of commencement of the approved operations. The development hereby approved shall be completed and the site restored in accordance with conditions 17 and 18 no later than ten years from the date of commencement notified in accordance with this condition.

   *Reason: To comply with Section 91 of Town and Country Planning Act 1990 as amended by Section 51 of the Planning and Compulsory Purchase Act 2004.*

**Definition of development**

2. The development hereby permitted shall be carried out in accordance with the application details dated 17 April 2020 and those previously approved under the terms of planning permission C8/10/3AB/PA and the following approved documents and drawings:

| Ref. | Date | Title |
|---|---|---|
| | April 2020 | Written Statement & Appendices |
| OBE.001 | April 2020 | Location Plan |
| OBE.002 | April 2020 | Landscape Character Areas and Surrounding Footpaths |
| OBE.003 | April 2020 | Phase 1 Cell Development |
| OBE.004 | April 2020 | Phase 2 Cell Development/ Phase 1 Restoration |
| OBE.005 | April 2020 | Phase 3A/B Cell Development/Phase 2 Restoration |
| OBE.006 | April 2020 | Phase 4 Cell Development/ Restoration of 3A/B |
| OBE.007 | April 2020 | Cross Sections through viewpoint Nos 2 and 4 |
| OBE.008 | April 2020 | Final Restoration |
| OBE.009 | April 2020 | Cross sections AA-CC |
| OBE.010 | April 2020 | Cross sections DD-FF |
| OBE.011 | April 2020 | Phased Restoration: Cells 1-4 |
| OBE.012 | April 2020 | Final Restoration and Cross sections |
| EES/ELF/JH/001 Rev 1 | Dec 2018 | Existing Layout & Levels |

   *Reason: To ensure that the development is carried out in accordance with the application details.*

**Waste types and handling**

3. No material as defined by The Hazardous Waste (England and Wales) Regulations 2005 or any legislation that may subsequently supersede this legislation as hazardous waste shall be imported onto or deposited within the site.

*Reason: In the interests of safeguarding the amenity of nearby residential and commercial properties.*

4. Except in accordance with the application details no waste which has been deposited at the site shall be removed from the site without prior grant of planning permission.

   *Reason: In the interests of safeguarding the amenity of nearby residential and commercial properties.*

5. Except in accordance with the application details and those processes already permitted for the site no imported waste shall be sorted, stockpiled or processed at this site without the prior grant of planning permission.

   *Reason: In the interests of safeguarding the amenity of nearby residential and commercial properties.*

**Noise**

6. The Mountain Bike Skills Centre and Fitness Trail shall be used for the purposes outlined in the original application details dated 12 April 2007. The tracks shall be used for no other purpose and shall be restricted to the use by non-motorised vehicles at all times.

   *Reason: To ensure that the development is carried out in accordance with the approved documents and application details.*

7. At no residential property shall the noise levels resulting from the permitted operations during the working hours specified in condition 16 above exceed LAeq, 1h = LA90 + 10 dB or LAeq, 1h = 55 dB whichever is the higher.

   *Reason: In the interests of safeguarding the amenity of nearby residential and commercial properties.*

8. Notwithstanding the provisions of Condition 7 above, noise due to temporary operations for the construction and removal of baffle mounds shall not exceed 70dBLAeq.1h as measured at any noise sensitive location.

   *Reason: In the interests of safeguarding the amenity of nearby residential and commercial properties.*

9. Within the 7 days of receiving written notice from the County Planning Authority, such noise monitoring as may be required by the County Planning Authority to assess compliance with the limits stated in conditions 7 and 8 above shall be undertaken. If the limits stated in conditions 7 and 8 above are exceeded, operations at the site causing the excessive noise shall cease with immediate effect and will be modified to ensure compliance with the limits specified by these conditions, within 1 month.

   *Reason: In the interests of safeguarding the amenity of nearby residential and commercial properties.*

10. All machinery and vehicles shall be well maintained and fitted with effective silencers.

*Reason: In the interests of safeguarding the amenity of nearby residential and commercial properties.*

**Dust**

11. Dust control measures shall be employed to minimise the emission of dust from the site. Such measures shall include the spraying of the access roads, the spraying of dusty loads in the operational area and the discontinuance of soil movements during periods of high winds.

*Reason: In the interests of safeguarding the amenity of nearby residential and commercial properties.*

**Hours of operation**

12. No clay extraction or disposal of waste or associated activities nor any transportation of materials to or from the site shall be carried out except between the following times:-
    a. 0700 to 1700 hours Monday to Friday
    b. 0700 to 1300 hours Saturday
    c. No operations shall be carried out on Sundays, Bank Holidays or Public Holidays

*Reason: In the interests of safeguarding the amenity of nearby residential and commercial properties.*

**Highways and access**

13. There shall be no access or egress between the highway and the application site by any vehicles other than via the existing access with the public highway. The access shall be maintained in a safe manner which shall include as necessary the cutting back of the vegetation at the access to ensure the necessary visibility splays onto the A19.

*Reason: In the interests of both vehicle and pedestrian safety and the visual amenity of the area.*

14. All vehicles involved in the transport of waste to the site shall be securely sheeted in such a manner as no material may be spilled onto the public highway.

*Reason: In the interests of highway safety, amenity and convenience of highway users.*

**Drainage and pollution**

15. Within three months of the commencement of the development hereby approved, a detailed surface water drainage strategy shall be submitted to and approved in writing by the County Planning Authority. The development shall then proceed only in strict accordance with the approved strategy.

*Reason: In the interests of water management.*

16. Effective steps shall be taken to prevent the pollution of any adjoining land or watercourse by the overspilling or blowing of loose material or by the entry of leachate polluted water or any other pollutant. If pollution occurs, as defined by this condition, the effects of that pollution shall be rectified and further measures taken to ensure that pollution shall be prevented.

*Reason: In the interests of pollution control.*

**Landscaping and restoration**

17. Within three months of the date of this permission, a detailed scheme of working, restoration and aftercare (including a scheme of monitoring and management) in Phase 1 as shown on drawing OBE.011 Phased Restoration: Cells 1-4 shall be submitted to and approved in writing by the County Planning Authority.

*Reason: In the interests of amenity and in the interests of achieving a high standard of landscaping and restoration.*

18. Prior to the commencement of development in Phases 2-4 no development shall take place until a detailed scheme of mineral working, restoration and aftercare (including a scheme of monitoring and management) shall be submitted to and approved, in writing, by the County Planning Authority.

*Reason: In the interests of amenity and in the interests of achieving a high standard of landscaping and restoration.*

19. Within 12 months of the completion of clay extraction and tipping operations hereby permitted, the whole of the site shall be restored in accordance with the submitted details under condition 17. By this date all buildings, plant machinery, other installations, stockpiles, tracks and roadways shall be removed to the satisfaction of the County Planning Authority and the land restored in accordance with the revised scheme.

*Reason: In the interests of amenity and in the interests of achieving a high standard of landscaping and restoration.*

**Other**

20. No materials shall be burned on the site.

*Reason: In the interests of amenity.*

21. Clay extraction shall not take place below -2.5 metres AOD.

*Reason: To ensure that the development is carried out in accordance with the application details.*

22. No new or additional fixed lighting shall be installed without first having obtained the written approval of the County Planning Authority.

*Reason: In the interests of amenity.*

23. Every 12 months from the date of this permission or at such other times as may be agreed in writing with the County Planning Authority (but not more than 12 month intervals), a review of the previous year's landscaping, working, restoration and aftercare shall be carried out in conjunction with a representative of the County Planning Authority. The review shall take account of any departure from approved schemes and where appropriate revised schemes shall be submitted to the County Planning Authority for approval providing for the taking of such steps as may be necessary to continue the satisfactory landscaping, working, restoration and aftercare of the site including the replacement of any tree or shrub which may have died, been removed or become seriously damaged or diseased. Thereafter all such works shall be carried out in accordance with the approved schemes.

    *Reason: In the interests of amenity, monitoring site operations and in the interests of achieving a high standard of landscaping and restoration.*

24. A copy of the planning permission and any agreed variations, together with all the approved plans shall be kept available at the site office at all times.

    *Reason: To ensure that site personnel are aware of the terms of the planning permission.*

**Statement of Compliance with Article 35(2) of the Town and Country Planning (Development Management Procedure) (England) Order 2015**

In determining this planning application, the County Planning Authority has worked with the applicant adopting a positive and proactive manner. The County Council offers the opportunity for pre-application discussion on applications and the applicant, in this case, chose to take up this service. Proposals are assessed against the National Planning Policy Framework, Replacement Local Plan policies and Supplementary Planning Documents, which have been subject to proactive publicity and consultation prior to their adoption. During the course of the determination of this application, the applicant has been informed of the existence of all consultation responses and representations made in a timely manner which provided the applicant/agent with the opportunity to respond to any matters raised. The County Planning Authority has sought solutions to problems arising by liaising with consultees, considering other representations received and liaising with the applicant as necessary. Where appropriate, changes to the proposal were sought when the statutory determination timescale allowed.

BG Design Associates

# Landscape report to satisfy landscape conditions related to the raising of landfill levels. Decision No: C8/2020/0460/CPO dated 23 September 2020:

**at**

**THE OLD BRICK AND TILE WORKS**
**RICCALL ROAD**
**ESCRICK**
**YORK**
**YO19 6ED**

**On behalf of: Escrick Environmental Services**

March 2021

# CONTENTS:

## 1. INTRODUCTION

1.1 This report has been prepared on behalf of Escrick Environmental Services by BG Design Associates. The report seeks to satisfy landscape conditions as required in planning permission ref: C8/2020/0460/CPO dated 23rd September 2020 which relates to raising landfill levels at the Old Brick and Tile Works, Riccall Road, Escrick, York. The approved landfill site is situated between the York and Selby cycleway (part of the Trans-Pennine Trail) to the west and Riccall Business Park to the east. The local planning authority is Selby District Council with North Yorkshire County Council (NYCC) as the overarching authority responsible for planning applications relating to mineral extraction and landfill matters. This report has taken into account the '*Landscape And Ecological Management Plan' (LEMP) (Dated April 2020)* which formed part of the planning submission. A commitment has also been made contained within a Section 106 Agreement to manage the site for a period of 30 years to create new habitats and/ or enhance existing habitats managed for biodiversity purposes in accordance with the LEMP. It should be noted that the LEMP will be subject to a 5 year review which could trigger changes to the document over the 30 year period. The LEMP establishes the framework for restoration activities, clearly noting that the first 10 years of the development comprise a construction phase to establish the landform and landscape planting. The elements that comprise the Mountain Bike Skills Centre will be established through the second review of the LEMP after 10 years, although restoration and aftercare will be reviewed and reported on annually.

1.2 The habitat's chosen have been based on the priorities identified within the Selby Biodiversity Action Plan (BAP) (Selby Biodiversity Partnership, July 2004) which include lowland mixed deciduous woodland, wetland and lowland neutral grassland (semi-improved).

1.3 The proposed development is summarised below:

- a ten-year programme which will involve the importation of material to form the approved restoration profiles;
- a progressively phased restoration over a ten-year period;
- use of the site as a mountain bike skills centre; and
- provision for long-term management.

1.4 This report addresses landscape conditions 17 and 18 shown below:

1.5 Condition 17:'*Within three months of the date of this permission, a detailed scheme of working, restoration and aftercare (including a scheme of monitoring and management) in phase 1 as shown on drawing OBE.011Phased Restoration: Cells 1-4 shall be to and approved in writing by the County Planning Authority'.*

1.6 Condition 18:*'Prior to commencement of development in Phases 2-4 no development shall take place until a detailed scheme of mineral working, restoration and aftercare (including a scheme of monitoring and management) shall be submitted to and approved, in writing, by the County Planning Authority'.*

1.7 This report outlines the scheme of working, restoration and aftercare together with monitoring and management measures.

## 2. DETAILED SCHEME OF WORKING, RESTORATION AND AFTERCARE

**PHASE 1-To Satisfy Condition 17:**

2.1 Plans showing Initial Screen Bund Proposals Along Phase 1-2 Margins (Appendix1) and Final Restoration Phase 1 (Appendix 2) form part of this application.

2.2 The initial grading and screening works to create a screen bund would be carried out progressively extending from east to west in an anti-clockwise direction. Access for construction purposes would be along the toe of the screen bund along retained access tracks. The overall screen bund profile would be grass seeded with the outer flank woodland planted using a lowland mixed deciduous woodland matrix which is shown on Table1 below. Woodland planting would be carried out at the first available planting season. The new perimeter landform would comprise of an external slope graded to smooth flowing contours to a maximum external gradient of 1:5 (20% grade) rising to a level differential of 5 metres above surrounding ground levels. The overall height of the screen bund would therefore vary from 12 to 13 metres AOD. A 3m wide screen bund crest would be formed at this level, forming an inner slope graded down at 1:2 (50% grade) to meet with current landfill levels. The finished screen bund outer flank profile will comprise of composted materials mixed with inerts to promote optimal growth and establishment which would be loose tipped to minimise compaction prior to grass seeding and subsequent woodland planting. It should be noted that the bund crest and inner profiles are temporary in nature providing, in part, a screening function that would be over-tipped as the phased development of the final landform is raised over time. The outer slope would however comprise of permanent woodland and be retained.

**Table 1 – Deciduous Woodland Matrix**

| Species | Form | Root Condition | Height | % mix |
|---|---|---|---|---|
| Acer campestre | Feathered | Bagged | 60-90 | 5 |
| Betula pendula | Feathered | Bagged | 60-90 | 20 |
| Prunus avium | Feathered | Bagged | 60-90 | 10 |
| Quercus robur | Feathered | Bagged | 60-90 | 30 |
| Pinus sylvestris | Bushy | Container grown | 45-60 | 5 |
| Corylus avellana | Feathered | Bagged | 45-60 | 15 |
| Crataegus monogyna | Feathered | Bagged | 45-60 | 10 |
| Ilex aquifolium | Bushy | Container grown | 45-60 | 5 |

2.3 The final restoration of phase 1 is shown on Final Restoration (Appendix 2) showing a gently falling graded profile at a 1:40 gradient (2.5% grade) from north to south for drainage purposes. The final restoration profile would dressed with a growing medium comprising of composted material mixed with inerts, loose tipped to avoid compaction prior to woodland planting using the planting matrix shown in Table 1.

2.4 All transplants as specified in Table1 will be sourced from local nurseries and known local provenance. All transplants will be protected by tree shelters or spiral guards supported by short stakes or canes and planted at 2metre centres.

**PHASE 2-To Satisfy Condition 17**:

2.5 In advance of restoration works being carried out within Phase 2, site screening works will be carried out along Phase 3A-B's western and south western outer margins as shown on plan Screen Bund Proposals along Phase 3A-B Margins (Appendix 3). Implementation works will be as Phase 1-2 screen bund operations and woodland planted using the same woodland matrix as detailed in Table 1. Following on from the construction of the screen bund extension along phase 3A-B margins the site will continue to be progressively developed and restored in accordance with Phases 2-4 Final Restoration (Appendix4)

2.6 The operational works within the Site will take place in series of phases as shown on the plans (Appendices 1-4), summarised as follows:

- An initial establishment phase: to form the outer screen bund around phase's 1-2 comprising of landraising and woodland planting
- Phase 1: comprising of landraising and restoration to lowland mixed deciduous woodland.
- Phase 2: comprising of landraising and restoration to lowland mixed deciduous woodland.
- Final screen bund development along outer margins of phases 3A-3B.
- Phase's 2, 3 and 4: phase's 1-3 would be principally restored to lowland mixed deciduous woodland. Phase 4 would be restored to semi-improved lowland neutral grassland, scattered scrub, ponds, scrapes and reedbed.

2.7 The lowland mixed deciduous woodland matrix used throughout the development is shown on Figure 1 which is established in phase's 1-3.

Management of Existing Woodland and Newly Created Woodland

2.8 The aim of long-term management of all the woodland resource within the Site is to improve the wildlife value of the Site and provide biodiversity benefits. The long-term management will seek to achieve a species composition that is representative of local woodland Sites of Importance for Nature

Conservation (SINCs). This will involve a combination of active intervention (to address loss of tree stock for example) and limited intervention to allow for natural colonization.

2.9 If the annual monitoring programme shows that the canopy is becoming uniform and dense, then the active intervention will involve the following. Selective thinning to create gaps in the canopy and glades and the creation of uneven edges between planting and the ground cover will be undertaken in order to create the desired more diverse structure. Both sheltered and open areas will be created to encourage the development of a varied canopy and field layer structure. Open areas will provide colonisation opportunities for tall-herbs/scrub, which can provide valuable habitat for invertebrates. Any woodland thinning will be undertaken during the winter period (November-February) which will avoid the bird breeding season.

2.10 Selective thinning of the existing woodland will be undertaken to open up the canopies and ensure the development of a mixed stand and an understorey and field layer. Woodland thinning will be undertaken during winter (November – February). Thinning should favour well-formed trees, removing any poorly-formed or defective trees. Thinning in broadleaved stands should ideally begin when trees are about 10m in height. Generally intervals of thinning are 8-10 years in middle-aged stands such as these.

2.11 Following completion of landraising operations within phase's 1-3, wetland habitats will be created in the south east corner (phase 4) of the Site. No soils will be placed in this area which will be restored to lowland neutral grassland and scrub. A seed bed will be created and Emorsgate EM2 Standard General Purpose Meadow Mixture seed would be sown in this area. Scrub vegetation will be allowed to naturally recolonise and thereafter managed to ensure it does not form more than 20% of the grassland area. 0.66 hectares of reedbed will be created together with 0.33 hectares of open water comprising small pools and scrapes. The reedbed will be established by utilising donor material sourced locally.

Lowland neutral grassland

2.12 A mix of soils derived from clays or weathered sandstones will be used in order to provide a suitable seed-bed. The substrate will be cultivated to form a fine tilth during late winter (February – March) to produce an appropriate seed-bed, which can be sown the following spring (April). The Naturescape NV4 Value Summer Flowering Butterfly & Bee Mixture seed mix (or equivalent) (see Figure 2 below) will be sown at a rate of 4g/m2 during April. To achieve the desired contact of seeds with the ground, the ground will be lightly rolled.

Establishment Phase and Aftercare.

2.13 During the first growing season, the new grassland will be cut and cuttings removed off-site during mid-July or as soon as the yellow rattle *Rhinanthus minor* has set seed. A second cut and off-site disposal of the cuttings will be carried out during late summer. Between the cuts, grassland will be inspected for the presence of pernicious weeds including common nettle, thistles *Cirsium* spp., docks *Rumex* spp., and common ragwort Senecio jacobaea. If necessary (i.e. if significant areas of growth are considered likely

to establish) such weeds can be controlled by the application of an appropriate herbicide by use of knapsack sprayer.

Table 2: Proposed Grassland Seed Mix

| ***Herbs (represent 20% of the total weight)*** | **% of total herbs** | ***Grasses (represent 80% of the total weight)*** | **% of total grasses** |
|---|---|---|---|
| *Achillea millefolium* -Yarrow | 4% | *Agrostis capillaris* - Common bent | 5% |
| *Anthyllis vulneraria* - Kidney vetch | 3% | *Cynosurus cristatus* - Crested dog's-tail | 15% |
| *Centaurea nigra* - Knapweed | 13% | *Festuca ovina - Sheep's fescue* | 20% |
| *Centaurea scabiosa* - Greater knapweed | 4% | *Festuca rubra ssp. litoralis* - Slender creeping red fescue | 20% |
| *Daucus carota* - Wild carrot | 11% | *Festuca rubra ssp. rubra* - Strong creeping red fescue | 20% |
| *Galium verum* - Lady's bedstraw | 13% | *Poa pratensis* – Smooth-stalked meadow grass | 20% |
| *Knautia arvensis* - Field scabious | 4% | | |
| *Lathyrus pratensis* - Meadow vetchling | 2% | | |
| *Lotus corniculatus* var. *corniculatus* – Bird's-foot trefoil | 10% | | |
| *Prunella vulgaris* - Selfheal | 13% | | |
| *Rhinanthus minor* - Yellow rattle | 10% | | |
| *Scabiosa columbaria* - Small scabious | 2% | | |
| *Stachys officinalis* - Betony | 3% | | |
| *Succisa pratensis* – Devil's-bit scabious | 1% | | |
| *Trifolium pratense* - Red clover | 3% | | |
| *Verbascum nigrum* - Dark mullein | 2% | | |
| *Vicia cracca* - Tufted vetch | 2% | | |

Ponds

2.14 The ponds will each be excavated during autumn/early winter (September – December) and will be lined with clay to ensure that they are impermeable. Excavating the ponds during the autumn will reduce the risk of the clay linings drying out and cracking in hot weather or possibly as a result of frost which could compromise their impermeability. This will also allow the ponds to naturally fill with water well in advance of the growing season the following year.

2.15 The ponds will be excavated to have shallow margins with an angle no greater than 10°. The margins will then drop sharply to a deeper central area, of maximum depth of 1.5m.

2.16 Each pond will be planted during spring/early summer (April – June) with broadleaved pondweed *Potomageton natans*, using five plug plants per pond. These plants will be placed towards the centre of each pond. This will serve to supplement natural colonisation.

Aftercare

2.17 If any invasive, non-native plant species, such as Himalayan balsam *Impatiens gladulifera* encroach into the pond then these will require removal. Control of Himalayan balsam can include chemical treatment, or complete removal of all root and shoot material by hand pulling. Specialiast advice is recommended to be sought in the event of invasive species colonisation and treatment. It is also noted that the material containing Himalayan balsam is classified as controlled waste there are strict guidelines relating to its disposal. Guidance can be found in the "*Environment Agency Managing invasive non-native plants in or near fresh water*" (revised April 2010).

Reedbed Aftercare

2.18 It is proposed that the reed bed will be designed to ensure that water levels are maintained at 250 -750 mm in depth. Should water levels exceed this, water will be drained to the existing ditch on the eastern boundary of the Site. The successful establishment and longer-term management of the reedbed will be dependent upon the ability to maintain the water levels.

Soils

2.19 A layer of soils will be placed upon tipped material to provide a suitable growing medium for the proposed restoration scheme. Soils will comprise the top two metres of the landform (for the avoidance of doubt this layer shall be within the overall tip height established on the approved drawings). The soils will be made up of:

- 1500mm Subsoil – created from soil substitutes; and
- 500mm Topsoils – created from 60% soils substitutes/40% Compost Like Output (CLO)

2.20 CLO are a valuable source of crop nutrients, stable organic matter and lime and can be beneficially used in land restoration to manufacture soil and complete natural nutrient and carbon cycles. CLO is produced from MSW fines material which has been prepared to a below 20mm fraction generally less than 10mm. This is moved for composting through an IVC to meet ABPR sanitisation requirements before being stabilised.

2.21 The CLO would be managed offsite and blended with inert wastes prior to delivery to the site. The provision of blended topsoil profile is important to rebalance the nutrient and organic matter deficiencies of the subsoil.

2.22 Table 3 and 4 below provide the specification for topsoils

Table 3 Specification for Topsoil

| Description | Overall Required Topsoil Specification | |
|---|---|---|
| | Unit | Range / Limit |
| Base Layer created from excavated soil & stones and soil substitutes | OM | 3-20% |
| | pH | 5.5-8.5 |
| | P | Index 1-2 |
| | K | Index 1-2 |
| Topsoil created from excavated soil& stones and soil substitutes amended with compost like outputs | Set at <50% of SOMs Limit & PTEs - Sludge use in Agriculture (see below)<br>Zinc, Copper and Nickel (EEC 1986) | |
| | Zinc | <1000 |
| | Copper | <500 |
| | Cadmium | <1.5 |
| | Nickel | <150 |
| | Lead | <150 |
| | Chromium | <20 |

Table 4 BSI Topsoil characteristics for multi-purpose top soils

| Parameter | Multi-purpose | | |
|---|---|---|---|
| Soil texture (% m/m)<br>Clay content (%) Silt content (%) Sand content (%) | 5-35<br>0-65<br>30-85 | | |
| Soil organic matter content (% m/m)*<br>Clay 5-20%<br>Clay 20-35% | <br>3-20<br>5-20 | | |
| Maximum coarse fragment content (% m/m)**<br>>2 mm<br>>20 mm<br>>50 mm | <br>0-30<br>0-10<br>0 | | |
| pH | 5.5-8.5 | | |
| Total plant nutrient content | N ≥ 0.15 % m/m | | |
| Extractable plant nutrient content***<br>(using Olsen's P and ammonium nitrate (K & Mg) methods) | P 16-100 mg/l1<br>K 121-900 mg/l2<br>Mg 51-600 mg/l3 | | |
| Carbon:nitrogen ratio | <20:1 | | |
| Exchangeable sodium % | <15 | | |
| Phytotoxic contaminants by soil pH (mg/kg DS)<br>Soil pH range<br>Zinc<br>Copper<br>Nickel | <br><6<br><200<br><100++<br><60+++ | <br>6-7<br><200<br><135<br><75 | <br>>7<br><300<br><200<br><110 |
| Visible contaminants (% m/m)<br>> 2 mm<br>Of which plastics Of which sharps | <br><0.5<br><0.25<br>zero in 1 kg air dried soil | | |

2.23 The CLO will be added to around 230mm of soil substitute material to create the final 500mm topsoil profile. The CLO application rate is 1,200t/ha fresh weight this will provide <500t/ha of dry solids and ~300t/ha of organic matter both of which are in line with the recommended limits.

2.24 The application of 1200 tonnes of CLO material will provide around ~250 tonnes (based on the average OM content of the CLO at 50%). This would increase the organic content of the inert soil substitutes to

~6% well within the BSI Topsoil Characteristics. The CLO contains valuable amounts of nutrients. Levels of nitrogen are moderately high but only a small proportion of this (5%) will be available which would bring the level up in the soil to above the 0.15% minimum nitrogen content recommended in the BSI Topsoil characteristics. The organics also provide useful amounts of potassium and phosphorus.

## 3. OUTLINE RESTORATION MANAGEMENT AND MONITORING

To Satisfy Conditions 17 and 18:

3.1 The responsibility for ensuring that the detailed landscape proposals carried out and maintained lies with the site manager/operator which is Escrick Environmental Services Ltd. It will be responsible for ensuring all landscape and habitat creation works are carried out in accordance with LEMP submitted as part of the planning application.

3.2 It is envisaged that a reputable landscape contractor will be appointed at the outset of works who will be responsible for carrying out the planting works according to the detailed specifications and annual maintenance will be carried out to the planting works according to the detailed specifications. Annual maintenance will be carried out to ensure planting has successfully established. Any plant failures will be replaced as appropriate.

3.3 On appointment of any contractor, Escrick Environmental Services Ltd should make the contractor aware that there are ecological constraints on site and provide them with this document.

3.4 Before site set-up and the start of works, Escrick Environmental Services Ltd should appoint an Ecological Clerk of Works to deliver a toolbox talk on the ecological constraints at the site and to explain the ecological content of this document.

3.5 The Ecologist will be a professionally qualified ecologist and will be responsible for providing expertise when requested. The Ecologist will be the first point of contact for the Site Manager in the event of any ecological issues during the restoration phases.

3.6 The Ecological Clerk of Works will be a professionally qualified ecologist and will be the person responsible for providing ecological advice on-site. This role is to ensure that the relevant biodiversity protection measures are understood prior to works, through the delivery of relevant toolbox talks, and to oversee the required works as necessary thereafter.

3.7 Escrick Environmental Services Ltd will also be responsible for the subsequent management of the landscape and habitat proposals to ensure that the objectives set out in the LEMP are attained.

CDM Regulations and Quarries Regulations

3.8 Escrick Environmental Services Ltd will be the site operator and the appointed ecological contractor will work under the site operator's health and safety plan.

3.9 When the ecological contractor designs construction work, as defined in the CDM Regulations, it will comply with their statutory duties. Where design is not construction work, as defined, the ecological contractor will not have any CDM duties. The ecological contractor will not be responsible for any design undertaken by other companies whether they be a 'designer' or a contractor. The ecological contractor will attend site to review the quality of the works and resolve any issues arising out of unforeseen circumstances but will not "control the way in which any construction work is carried out by a person at work" (CDM Regulations 25(2)). The ecological /contractor will not carry out construction work (as defined).

Monitoring

3.10 Annual monitoring will be carried out to assess the success of the habitat creation and long-term management of the various habitats. The criteria for monitoring will include assessment of the type, extent and area of habitat, the species composition and identification of invasive species (species, location and extent). In relation to wetlands, monitoring surveys will include extent of surface water and wetland species establishment and success. The monitoring will inform any adjustments to the management prescriptions set out in Section 4 of the LEMP document.

3.11 The overall aim of the proposed restoration of the Site is to achieve a high quality restoration for biodiversity purposes. The proposed habitat composition will incorporate the following habitat creation measures:

Table 5

| Summary of Proposed Habitat Features and Evaluation | Selby DC (Habitat Action Plan) | Metres/ha |
|---|---|---|
| Mixed-deciduous woodland; the species composition will broadly align with the W10 NVC community with is dominant in the nearby woodland SINCs (Hollicars Wood, Moreby Wood and Moreby Far Wood). W 10 canopy species will include pedunculate oak *Quercus robur* and silver birch *Betula pendula* with and understorey of hawthorn *Crataegus monogyna* and hazel *Corylus avellana* | Yes | 7.66ha (final long-term woodland area) |
| Semi improved lowland neutral grassland with scattered scrub | Yes | 1.74ha |
| Modified grassland around the mountain bike trails | | 0.27ha |
| Bare ground for mountain bike trails | | 0.70ha |
| Reedbed to the south east of the site | Yes | 0.66ha |
| Three ponds, pools and scrapes to the south east of the site | Yes | 0.33 ha |
| Overall site area | | 11.36ha |

*3.12* Habitat enhancement will be undertaken in the retained woodland along site margins by appropriate management; this will involve thinning the nurse crop species and carrying out underplanting with locally-native scrub and tree species (e.g. hawthorn hazel, pedunculate oak and silver birch)

3.13 The south-east of the Site will be identified and managed as a nature reserve that will not be accessible for formal or informal recreation purposes. This is because the aim for the grassland and wetland

habitats habitat condition is to be moderate or good and the certainty of these target conditions may be reduced with recreational access.

3.14 Upon the completion of engineering and restoration works, it will be necessary to establish the mountain bike skills centre. This comprise of a network of paths and obstacles designed to test and improve rider skills. The network of paths would be created by removing previously planted nursery species. The removed trees will be used to create habitat piles elsewhere within the woodland.

3.15 The restoration proposals have expressly taken local BAP targets for several habitats into account and incorporated them into the scheme. The purpose of this is to provide a biodiversity restoration, the value of which is measurable. The relevant Selby BAP Habitat Action Plans used to inform the habitat creation are detailed below together with a brief commentary as to the biodiversity contribution that the Site will make:

- The Woodland Habitat Action Plan for which the objective is '*to increase the amount of new native woodland from the current 1.7% of Selby land area to the Yorkshire average of 6.7%.*'The proposed restoration includes 7.66ha of lowland mixed deciduous woodland creation which will contribute 15.32% towards the overall target of 50ha new native woodland target for Selby district.

- The Unimproved Grassland Habitat Action Plan for which there is a target to enhance 0.5ha of lowland neutral grassland but no target for creation. The proposed restoration will create1.74ha of semi-improved lowland neutral grassland which will make a significant positive windfall contribution to this habitat type in the Selby district over and above the target in area terms. The 0.27ha grassland creation around the mountain bike tracks has not been included as BAP quality habitat due to its proximity to the recreational use.

- The Reedbed Habitat Action Plan which identifies the opportunity presented by minerals restoration and has a district-wide habitat creation target of 20ha. The proposed restoration will create 1.0ha of reedbed which will contribute 5% to the Selby district target.

- The Lakes and Ponds Action Plan which identifies opportunities in relation to creating ponds within business premises and as part of development related mitigation. The overall Selby district 5-year target is to create 10 ponds. The proposed development will create 3 ponds which will contribute 30% to the Selby district target.

## 4. OUTLINE SCHEME OF AFTERCARE

To Satisfy Conditions 17 and 18 :

4.1 The tables below should be read in conjunction with previous sections. It sets out the management tasks required post implementation stage to facilitate successful establishment.

Table 6: New Woodland Planting

| Phase | Proposed Works | Timing of Proposed Works |
|---|---|---|
| Initial Phase of planting and Subsequent tree planting Phases up to and including Phase 3b of landraising activities. | Following planting all tree planting stations to be maintained in a weed free conditions utilising a Glysophate weed killer. A 500mm circumference from the tree to be sprayed in suitable weather conditions i.e. dry | To be applied in three visits in active growing season (i.e. between late April and mid- June) for a minimum of three years post planting. |
| | Check tree shelters and stakes where affected by wind etc. Ensure that shelters are in correct position and stakes fully secure. | To be checked at a minimum of once a year. |
| | Strim between trees to ensure that perennial weeds do not supress growth of saplings. | To be undertaken in July each year post planting up to year five. |
| | Carry out yearly inspection to check establishment and replace any dead trees and shrubs | To be carried out in September each year up to Year 5 |

*it is known that there is a deer population in the locality, however to date, none have been observed on the Site. Should the situation change and deer damage to trees and shrubs become apparent, it may be necessary to erect deer fencing around each woodland planting block.

Table 7: Species Rich Grassland, Pond Creation and Reedbeds

| **Habitat** | **Season** | **Frequency** |
|---|---|---|
| **Species-rich grassland creation Habitat creation and Aftercare** | | |
| Preparation of substrate | February-March | Not applicable |
| Sow grassland seed mix (4gm/m²) | April | Two cuts for two years |
| **Pond creation** | | |
| Create pond by excavating ground and lining with clay (sourced from the site) clay must form a perfect seal and be puddled | September-December | Not applicable |
| Plant aquatic plant species | April-June | Not applicable |
| **Reedbed creation** | | |
| Source donor reed materials from suitable local site. Check in advance for non-native or invasive species so as to avoid introduction/spreading of such species. | September-November | Not applicable |
| | | |
| **Long-Term Habitat Management** | **Time of year** | **Frequency** |
| **Species-rich grassland** | | |
| Cut and remove cuttings | Mid-July | Annually |
| **Ponds** | | |
| Monitor ponds and if ponds become 70% vegetated then introduce selective vegetation removal | September-October | As required, monitor |
| **Reedbed** | | |
| Start at year 6 post planting 1/3 cut /mown on rotation every 2 years i.e. each area would be cut once every 6 years. | September-February | 33% every two years |

Table 8: Existing Vegetation Structure

| Zone /Area | Proposed works | Timings of Proposed Works |
|---|---|---|
| Northern hedgerow boundary | Trim sides and maintain at a height of 3 metres | October/November once fruit is over |
| | Reinforce with new thorn transplants where gaps present themselves in order to maintain a permanent screen. To be planted in accordance with woodland planting schedule | Any new transplants to be planted between late October and late February |
| Western woodland /scrub boundary | Underplant existing woodland floor with native British bluebells (provided in the green). Initially 3,000No bulbs with a further 3000No planted annually for up to a period of five years | Bulbs to be planted during March-April |
| | Monitor on an annual basis. Native hawthorn and hazel transplants to be planted where light and / or gaps allow | New transplants to be planted between late October and late February |

## 5. CONCLUSIONS

5.1 The report includes an overall detailed scheme of working for the 4 phases of development including initial screen mounding measures, restoration and aftercare. Management and monitoring measures are also addressed as outlined in the Landscape and Ecological Management Plan (April 2020) and is therefore considered that the above report is of sufficient depth and detail to discharge Conditions 17 and 18 relating to landscape matters.

## 6. REFERENCES


- The Selby Biodiversity Action Plan; August 2004
- Landscape and Ecological Management Plan; House and Kirkham April 2020
- Escrick Environmental Services, The Old Brick & Tile Works, Riccall Road, Escrick, YO19 6ED, BENEFIT STATEMENT; ROOTS Organics Ltd 2018

## FIGURE 1

## VEGETATION MAINTENANCE AND MANAGEMENT SCHEDULE

# FIG 1: The Old Brick and Tile Works Escrick
# Vegetation Maintenance and Management Schedule

| Operation | Annual frequency of operation | Month | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
| **1. Species Rich Grassland** | | | | | | | | | | | | | |
| Mowing | 2x | | | | | | | | | | | | |
| Weed control (using approved herbicide) | as required | | | | | | | | | | | | |
| Strimming around site margins | 2x | | | | | | | | | | | | |
| Fertiliser | as required | | | | | | | | | | | | |
| Aeration | as required | | | | | | | | | | | | |
| Leaf removal | as required | | | | | | | | | | | | |
| Reinstatement as necessary | as required | | | | | | | | | | | | |
| **2. Hedge Planting** | | | | | | | | | | | | | |
| Planting of whips forestry transplants and feathered trees | | | | | | | | | | | | | |
| Weed control - application of residual herbicide and hand weeding as necessary | as required | | | | | | | | | | | | |
| Firming | as required | | | | | | | | | | | | |
| Hedge trimming outside of the bird nesting season and to retain berries/ fruit on hedges | 1x | | | | | | | | | | | | |
| Replacements where necessary | 1x | | | | | | | | | | | | |

| Operation | Annual frequency of operation | Month | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
| **5. Tree and Woodland Scrub Planting** | | | | | | | | | | | | | |
| Planting of whips, forestry transplants and feathered trees | | | | | | | | | | | | | |
| Prune (exact timing dependent on species) | 2x | | | | | | | | | | | | |
| Apply fertiliser | 1x | | | | | | | | | | | | |
| Weed control (spot treatment and/ or hand weeding) | as required | | | | | | | | | | | | |
| Watering as necessary | as required | | | | | | | | | | | | |
| Pest and disease control | as required | | | | | | | | | | | | |
| Replacements where necessary | 1x | | | | | | | | | | | | |
| Thinning as necessary | 1x | | | | | | | | | | | | |
| **6. Reed/ Marginal Aquatics Planting** | | | | | | | | | | | | | |
| Planting of rhizomes and turves (local provenance to be sourced) new planting areas to be fenced to limit browsing | | | | | | | | | | | | | |
| Reed bed cutting on a 5-10 year rotation | | | | | | | | | | | | | |
| Weed control (spot treatment and / or hand weeding) | as required | | | | | | | | | | | | |
| Sub Dividing | 1x | | | | | | | | | | | | |
| Pest and disease control (when required) | as required | | | | | | | | | | | | |
| Replacements where necessary | 1x | | | | | | | | | | | | |
| Thinning as necessary | 1x | | | | | | | | | | | | |

| Operation | Annual frequency of operation | Month | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Oct | Nov | Dec |
| **7. Miscellaneous** | | | | | | | | | | | | | |
| Check all fencing – repair /replace as necessary | 12x but daily during extraction operational phase | | | | | | | | | | | | |

## APPENDIX 1

### Initial screen bund proposals along phase 1-2 margins


KEY

- Existing contours and levels
- Temporary embankment slopes
- 9.000 / 9.500 / 10.000 — Final restoration contours to outer slopes
- Woodland screen planting on outer margins

Note:

- Phase 1 perimeter profiles as shown (Contours at 0.5m centres).
- To include initial construction of I:5 graded flanks to screen working operations from the north-east north and north west to a height of 5metres about surrounding levels. A 3 metre wide crestline will be formed with the temporary inner slope graded down at 1:2 to the inner landfill surface.
- Minimum 9m stand-off required along top of Bentley Drain embankment to the north and base of landfill in accordance with Ouse and Derwent IDB requirements
- Eastern boundary of screen mound to be formed along western edge of existing access track to maintain a 9m wide corridor route.
- See Dwg EES_LA_2004 for Lowland Mixed Deciduous Woodland planting schedule

# The Old Brick and Tile Works Riccall Road Escrick York

Initial Phase 1 Establishment Prior to Infilling Operations

Escrick Environmental Services Ltd

| | |
|---|---|
| Drawn by : BG | Checked by : AG |
| Date : 11.12.2020 | Drg No EES_LA_2001 |

1 : 2,000 @ A3

N

me wp

BG Design Associates

## APPENDIX 2

## Phase 1 final restoration


KEY

- Existing contours and levels
- Temporary embankment slopes
- Temporary haul road access
- Final plateau restoration contours (14.000 / 13.000)
- Woodland planting

Note:

- See Dwg EES_LA_2004 for Lowland Mixed Deciduous Woodland planting schedule

**The Old Brick and Tile Works Riccall Road Escrick York**

Phase 1 Final Restoration

Escrick Environmental Services Ltd

| | |
|---|---|
| Drawn by : BG | Checked by : AG |
| Date : 11.12.2020 | Drg No EES_LA_2002 |

1 : 2,000 @ A3

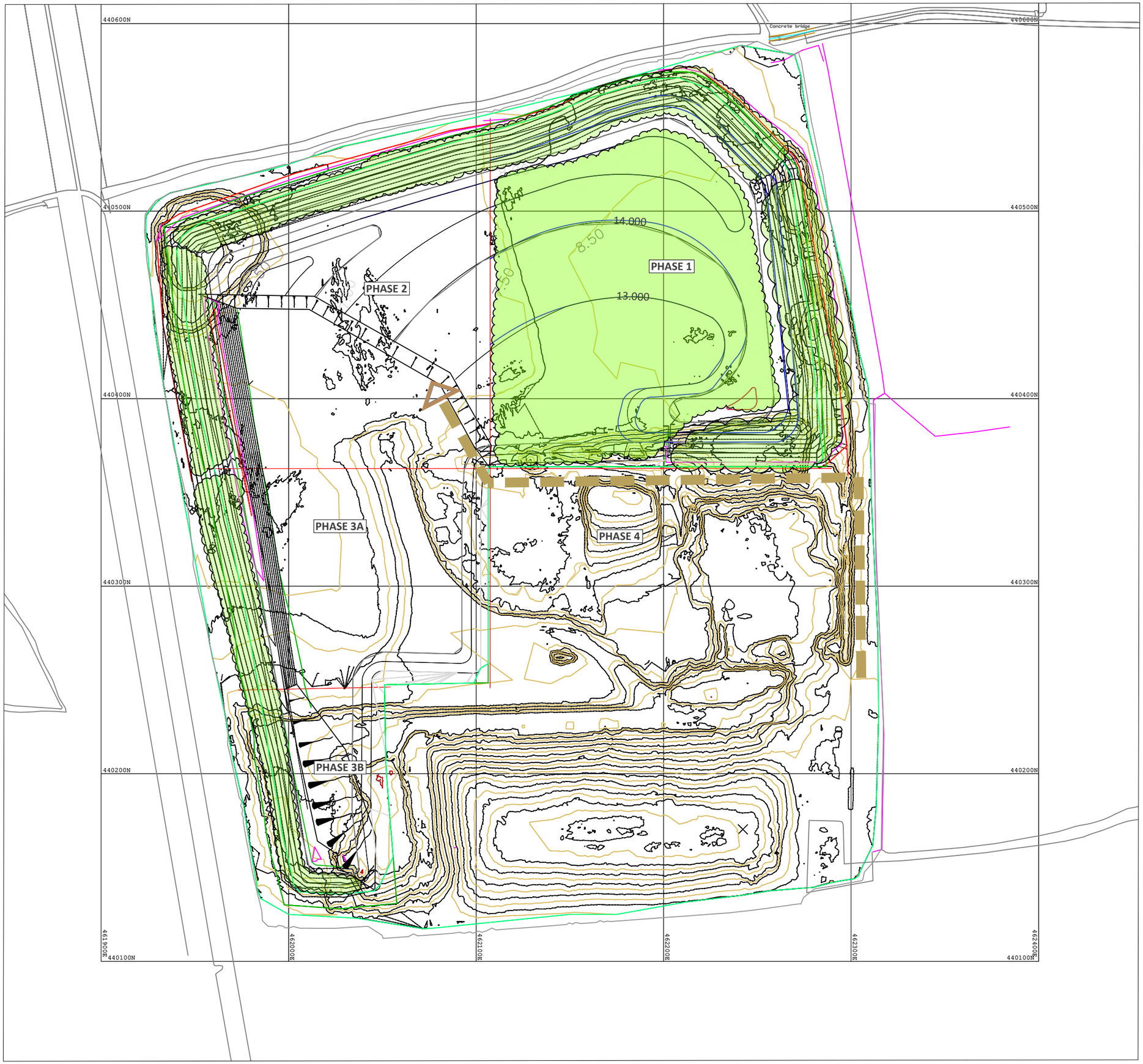
N

me wp

BG Design Associates

## APPENDIX 3

### Screen bund proposals along phase 3a-3b margins




KEY

- Existing contours and levels
- Temporary embankment slopes
- Temporary haul road access
- 14.000 / 13.000 — Final plateau restoration contours
- Woodland planting

Note:

- See Dwg EES_LA_2004 for Lowland Mixed Deciduous Woodland planting schedule

# The Old Brick and Tile Works Riccall Road Escrick York

Phase 3 Initial Establishment

Escrick Environmental Services Ltd

| | |
|---|---|
| Drawn by : BG | Checked by : AG |
| Date : 11.12.2020 | Drg No EES_LA_2003 |

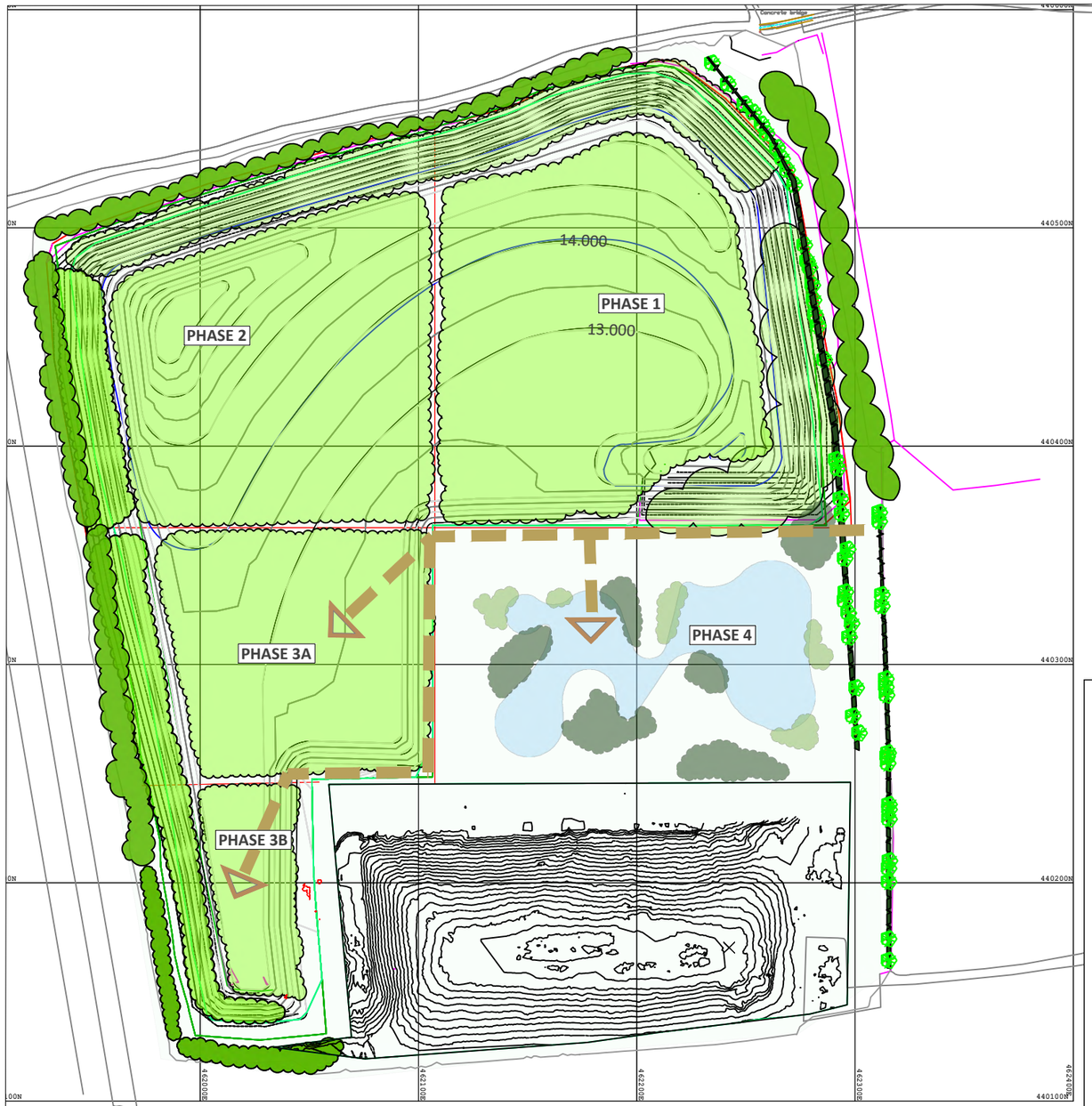
1 : 2,000 @ A3

N

BG Design Associates

## APPENDIX 4

## Phase's 2-4 final restoration




## PLANTING SCHEDULE

**PROPOSED HEDGEROW TREE PLANTING MIX**

| Code | Species | Form | Girth cm | Height cm | Root condition | |
|---|---|---|---|---|---|---|
| AC (SStd) | Acer campestre | SStd | 10-12 | 300-350 | 45Lt | |
| FS (SStd) | Quercus robur | SStd | 10-12 | 300-350 | 45Lt | |
| CM (SStd) | Crataegus monogyna | SStd | 10-12 | 300-350 | 45Lt | |

**PROPOSED HEDGEROW PLANTING MIX**

(@ 6 per linear metre in a double staggered row)

| | Species | Form | Root condition | | Height cm | Percentage mix |
|---|---|---|---|---|---|---|
| CM | Crataegus monogyna | Feathered | Bagged | | 60-80 | 60 |
| AC | Acer campestre | Feathered | Bagged | | 60-80 | 10 |
| PS | Prunus spinosa | Feathered | Bagged | | 60-80 | 10 |
| IA | Ilex aquifolium | Bushy | Root balled | | 45-60 | 10 |
| RS | Rosa Spp | Bushy | Bagged | | 30-40 | 5 |
| VO | Viburnum opulus | Bushy | Bagged | | 60-80 | 5 |

**MIXED DECIDUOUS OUTER FLANK SCREEN AND WOODLAND PLANTING MIX**

| | Species | Form | Root condition | | Height cm | |
|---|---|---|---|---|---|---|
| AC | Acer campestre | Feathered | Bagged | | 60-90 | 5 |
| BP | Betula pendula | Feathered | Bagged | | 60-90 | 20 |
| PA | Prunus avium | Feathered | Bagged | | 60-90 | 10 |
| QR | Quercus robur | Feathered | Bagged | | 60-90 | 30 |
| PS | Pinus sylvestris | Bushy | Cont Grown | | | 5 |
| CA | Corylus avellana | Feathered | Bagged | | 45-60 | 15 |
| CM | Crataegus monogyna | Feathered | Bagged | | 45-60 | 10 |
| IA | Ilex aquifolium | Bushy | Cont Grown | | 45-60 | 5 |

## KEY

- Existing contours and levels
- Temporary embankment slopes
- Temporary haul road access
- Final plateau restoration contours (14.000 / 13.000)
- Woodland planting
- Existing Perimeter Woodland Retained/Enhanced and Extended
- Proposed Hedgerow and Hedgerow Tree Planting
- Wetland Conservation Area
- Existing and Proposed Lowland Neutral Grassed Areas

# Phase 2,3,4 Final Restoration

Escrick Environmental Services Ltd

| | |
|---|---|
| Drawn by : BG | Checked by : AG |
| Date : 11.12.2020 | Drg No EES_LA_2004 |

1 : 2,500 @ A3

N

me wp Planning and Development Consultant

BG Design Associates

North Yorkshire County Council

**Planning Services**
Growth, Planning and Trading Standards
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Northallerton
North Yorkshire
DL7 8AH
Tel: 01609 780780
e-mail: planning.control@northyorks.gov.uk
www.northyorks.gov.uk
**Contact:** Amy Taylor

Mr Chris Jarvis
MEWP Ltd
15 Queen Square
Leeds
LS2 8AJ

**Our ref:** NY/2020/0223/A27

8 April 2021

Dear Mr Jarvis

APPLICATION MADE UNDER ARTICLE 27 OF THE TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) ORDER 2015

**Application for the approval of details reserved by condition no's 15, 17 and 18 of planning permission ref. no. C8/2020/0460/CPO which relates to a Surface Water Drainage Strategy and a detailed scheme of working, restoration and aftercare on land at The Old Brick And Tile Works Landfill Site, Riccall Road, Escrick. YO19 6ED on behalf of Mr D Brown**

With reference to your application dated 18 December 2020 in relation to the abovementioned development, it is noted that the proposals under the terms of conditions 15, 17 and 18 are detailed within the application form dated 18 December 2020 and following documents and drawings:

- Surface Water Drainage Strategy (SWDS) (TerraConsult Report Ref 3156/R12 dated November 2020);
- Landscape Report, dated March 2021;

The application has been the subject of consultation with the Ouse & Derwent Internal Drainage Board and the County Council's Landscape Architect, and full details of the responses received can be accessed on the County Council's Online Planning Register.

This letter confirms that the proposals as submitted for condition no. 15 are deemed to be acceptable and therefore, under delegated powers, this letter confirms that the details for condition 15 have been approved on behalf of the County Planning Authority.

With the exception of the details required for the Mountain Bike Skills Centre (part of conditions 17 and 18) which remain outstanding, following consultation with the County Council's Landscape Architect, the County Planning Authority is satisfied that the details submitted provide sufficient landscape details and explanation in relation to conditions 17 and 18. The proposed development end-use includes the creation of a mountain bike skills centre, however no details have been provided at this time for this. I therefore confirm that conditions 17 and 18 are part-discharged, requiring further details to be submitted for the Mountain Bike Skills Centre in the second review of the Landscape and Ecological Management Plan, which is required under the Section 106 Legal Agreement, dated 23 September 2020. The submitted details in respect of Condition 17 and 18 are sufficient to enable the applicant to commence works in phase 1 and phases 2-4 respectively.

Please note that this approval is given on the basis that the development is carried out in strict accordance with the aforementioned approved details. All other conditions remaining in respect of planning permission ref. no. C8/2020/0460/CPO dated 23 September 2020 should be strictly adhered to. Please also ensure that a copy of this approval letter and documents referred to above are kept with the decision notice, approved plans and documentation that you hold relating to that planning permission whilst also making a copy available to any site contractors.

Should you have any queries in relation to this please do not hesitate to contact the case officer.

Yours sincerely
AL Taylor
Amy Taylor
Senior Planner


PHASE 1:
- Phase 1 Infilling operations to revised profiles.
- To include initial construction of 1:5 graded flanks to screen working operations from the north-west to a height of 13 metres AOD within Phase 1 and constucted to a height of 10-11 metres AOD along the northern and western flanks of Phase 2. Finished profiles to be seeded and deciduous woodland planted
- On-going restoration management

PHASE2:
- Phase 2 Inert infilling operations to revised profiles.
- Restoration of phase 1 to include plateau grass seeding and planting of deciduous woodland
- On-going restoration management

PHASE 3A/B:
- Phase 3A/B Inert infilling operations to revised profiles.
- Restoration of phase 2 to include grass seeding, deciduous woodland planting on 1:5 boundary flanks and and deciduous woodland planting on plateau.
- On-going restoration management

PHASE 4:
- Phase 4 inert infilling operations to revised profiles to form wetland conservation area.
- Restoration of phase 3A/B to include grass seeding, deciduous woodland planting along site margins and on landfill plateau.
- On-going restoration management

KEY
- Proposed Haul Road Location
- Direction of Working
- Proposed Final Post-Settlement Contours @ 1metre intervals
- Existing Perimeter Woodland Retained/Enhanced and Extended
- Proposed Hedgerow and Hedgerow Tree Planting
- Proposed Deciduous Woodland
- Wetland Conservation Area
- Existing and Proposed Grassed Areas Within and Surrounding the Site

**The Old Brick and Tile Works**
**Riccall Road Escrick York**

Restoration Phasing: Cells 1-4

Escrick Environmental Services Limited

BG Design Associates

| | |
|---|---|
| Drawn by : BG | Checked by : AG |
| Date : 15.04.2020 | Drg No OBE.011 Rev A |

1 : 1,000 @ A1

# LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

**AT**

**ESCRICK BRICKWORKS**
**RICCALL ROAD ESCRICK**
**NORTH YORKSHIRE**

**Prepared for:** Escrick Environmental Services

**Written by:** Christine House, House Associates
Kirsty Kirkham, BSG Ecology

**Date:** April 2020

BSG | ecology

house associates
environmental planning

**CONTENTS**

# 1. INTRODUCTION

## 1.1. Authors and Qualifications

1.1.1. This report has been prepared by Christine House BA (Hons) BLD CMLI MRTPI, Director of House Associates and the biodiversity elements of the report have been provided by Kirsty Kirkham MSc, BSc (Joint Hons) MCIEEM (Director, BSG Ecology).

## 1.2. Aims, Objectives and Scope

1.2.1. As set out in the current planning application, a commitment has been made to prepare a 30 year Landscape and Ecology Management Plan (LEMP) for the Old Brick and Tile Works at Escrick (the Site). The site location and boundaries are shown on Drawing OBE.001 – Location Plan. The proposed restoration for the site is to create new habitats and/or enhance existing habitats which will be managed for biodiversity purposes. The habitats chosen have been based on priorities identified within the Selby Biodiversity Action Plan (BAP) (Selby Biodiversity Partnership, July 2004) i.e. lowland mixed deciduous woodland, wetland and lowland neutral grassland (semi-improved).

1.2.2. Escrick Environmental Services Ltd received planning permission on INSERT DATE for the following, subject to the discharge of conditions:

- a ten-year programme which would involve the importation, on average, of 90,000 cubic metres of material per annum;
- a phased restoration over the ten year period;
- use of the Site as a mountain bike skills centre.

1.2.3. The following planning conditions are relevant to ecology and landscape. These conditions are presented in full in Appendix 1:

- ADD BULLETED LIST IN DUE COURSE

1.2.4. The Section 106 agreement details the timescales for the long-term management activity at the Site ADD REFERENCE IN DUE COURSE.

1.2.5. The principal objectives of the LEMP are to ensure that:

- The proposed woodland planting, wetland and grassland creation is successfully established;
- That new and existing habitats are managed to provide landscape and biodiversity benefits; and
- The LEMP sets out how the delivery of the biodiversity net gains will be delivered, as identified within the planning application submission (BSG Ecology, February 2020).

1.2.6. Given that the LEMP is intended to cover a 30 year time period, it is proposed that it is reviewed, in relation to both landscape and biodiversity, on a rolling 5-yearly basis. This will ensure that the proposed management structure is delivering the objectives set out in the planning application. The 5-year review mechanism will allow for relevant revisions to the plan and to the management structure for the ensuing 5-year period, as necessary.The site will be subject to annual monitoring and review to ensure that the LEMP is meeting the landscape and ecological objectives.

## 1.3 Structure of Report

1.3.1 In order to aid the discharge the ecological elements of the above conditions and to take into account the relevant Section 106 obligations, the LEMP sets out the proposed scheme of habitat establishment, aftercare maintenance, and long-term management for the site. It also addresses, where appropriate, post-development and long-term land management and monitoring measures that will be undertaken to enhance the biodiversity value of the site.

1.3.2 The phrase 'long-term management' is used in this document to reflect the company's responsibilities by the agreement under Section 106 of the Town and Country Planning Act 1990, which requires the site to be subject to a management period of 30 years from the commencement of the development.

1.3.3 BSG Ecology's role has been to provide ecological input and to contribute to the preparation of the overall LEMP document. The LEMP also incorporates technical advice and information regarding landscape architecture (provided by House Associates) including the detailed phasing of works on site and how each phase will be delivered including planting specifications.

1.3.4 The LEMP also sets out the current ecological baseline and how the LEMP will deliver the biodiversity net gains, both during the operational works and thereafter.

1.3.5 In order to facilitate environmental management for the project the LEMP is structured in the following format:

- Section 1: Introduction, an outline description of the development, the restoration proposals, and outlines the framework for this document.
- Section 2: Summary of the existing biodiversity baseline and the proposed habitat features as a result of habitat creation, enhancement, and management to deliver biodiversity net gain requirements.
- Section 3: Landscape design strategy with reference to the development and progressive restoration phases.
- Section 4: Landscape and biodiversity management requirements for habitat creation, retention, aftercare and management requirements.
- Section 5: Management responsibilities and monitoring requirements.
- Section 6: Landscape and habitat management prescription schedules.
- Section 7: Conclusion.

- Section 8: References.
- Section 9: Figures
- Appendix 1: Planning conditions for consent reference TO BE INSERTED WHEN KNOWN.

## 2. BASELINE ECOLOGICAL INFORMATION (EXISTING AND PROPOSED)

### 2.1 Site description

2.1.1 The Old Brick and Tile Works, (hereafter referred to as the Site) is located to the west of the A19, between the villages of Escrick and Riccall, North Yorkshire (the OS Grid Reference taken from centre of site is SE 62293 40189). The Site is surrounded by agricultural land, with Escrick Business Park to the east and the York & Selby cycleway (part of the Trans-Pennine Trail) to the west.

2.1.2. The Site has previously been subject to clay extraction and is currently used as an inert recovery facility. Broadleaved plantation woodland is present within and outside the northern, western and southern Site boundaries, with current inert recovery activities currently in progress, at the time of writing, in the eastern part of the Site.

### 2.2. Summary of existing habitat features and evaluation

2.2.1 The Site has been subject to desk studies (2017 and 2019) and ecological surveys in 2017, 2018 and 2019. The most recent extended Phase 1 habitat survey was undertaken on 11 December 2019; this was carried out to update the extended Phase 1 habitat survey previously undertaken in September 2017 which was reported in the Escrick Ecology Report (BSG Ecology, June 2018).

2.2.2 The site is characterised by the presence of bare ground, the active working areas, scrub, tall ruderal and short ephemeral vegetation, broadleaved plantation woodland and standing water. The habitat types and extent from the 2019 survey results are shown on Phase 1 Habitat Plan shown at Appendix A of the Proof of Evidence of House Associates dated February 2020; the habitat types present are as follows:

- Bare ground
- Hardstanding
- Active works area
- Broadleaved plantation woodland
- Broadleaved trees
- Dense scrub
- Scattered scrub
- Introduced shrub
- Ephemeral or short perennial vegetation
- Tall ruderal
- Poor semi-improved grassland
- Semi-improved neutral grassland
- Standing water

None of the habitats conforms to the definition of a Habitat of Principal Importance / Priority Habitat type (BRIG, Ed Ant Maddock, 2015).

## 2.3 Summary of Proposed Habitat Features and Evaluation

2.3.1 The overall aim of the proposed restoration of the Site is to achieve a high quality restoration for biodiversity purposes. The proposed habitat composition will incorporate the following habitat creation measures:

- 7.66ha of mixed-deciduous woodland; the species composition will broadly align[1] with the W10 NVC community which is dominant in nearby woodland SINCs (Hollicarrs Wood, Moreby Wood and Moreby Far Wood). W10 canopy species will include pedunculate oak *Quercus robur* and silver birch *Betula pendula* with an understorey of hawthorn *Crataegus monogyna* and hazel *Corylus avellana*;
- 0.70ha of bare ground for the mountain bike trails;
- 0.27ha of modified grassland around the mountain bike trails;
- 1.74ha of semi-improved lowland neutral grassland with scattered scrub;
- 0.66ha of reedbed in the south east of the Site;
- Three ponds, pools and scrapes equating to 0.33ha in the south east of the Site.

2.3.2 Habitat enhancement will be undertaken in the retained woodland by appropriate management; this will involve thinning the nurse crop species and undertaking under-planting with locally-native scrub and tree species (e.g. hawthorn, hazel, pedunculate oak and silver birch).

2.3.3 The south-east of the Site will be identified and managed as a nature reserve that will not be accessible for formal or informal recreation purposes. This is because the aim for the grassland and wetland habitats habitat condition is to be moderate or good and the certainty of these target conditions may be reduced with recreational access.

2.3.4 The mountain bike trail creation will seek to minimise disturbance to the developing habitat. The removed trees will be used to create habitat piles elsewhere within the woodland.

2.3.5 The restoration proposals have expressly taken local BAP targets for several habitats into account and incorporated them into the scheme. The purpose of this is to provide a biodiversity restoration, the value of which is measurable. The relevant Selby BAP Habitat Action Plans used to inform the habitat creation are detailed below together with a brief commentary as to the biodiversity contribution that the Site will make:

- The Woodland Habitat Action Plan for which the objective is '*to increase the amount of new native woodland from the current 1.7% of the Selby land area to the Yorkshire average of 6.7%.*' The proposed restoration includes 7.66ha of lowland mixed deciduous woodland

[1] The proportion of cherry *Prunus avium* will be higher than that typically for W10 due to the landscape requirement for cherry to provide a nurse crop role and ash *Fraxinus excelsior* will be excluded from the canopy species due to ash dieback (i.e. biosecurity requirement to exclude ash).

creation which will contribute 15.32% towards the overall target of 50ha new native woodland target for Selby district.

- The Unimproved Grassland Habitat Action Plan for which there is a target to enhance 0.5ha of lowland neutral grassland but no target for creation. The proposed restoration will create 1.74ha of semi-improved lowland neutral grassland which will make a significant positive windfall contribution to this habitat type in the Selby district over and above the target in area terms. The 0.27ha grassland creation around the mountain bike tracks has not been included as BAP quality habitat due to its the proximity to the recreational use.
- The Reedbed Habitat Action Plan which identifies the opportunity presented by minerals restoration and has a district-wide habitat creation target of 20ha. The proposed restoration will create 1.0 ha of reedbed which will contribute 5% to the Selby district target.
- The Lakes and Ponds Action Plan which identifies opportunities in relation to creating ponds within business premises and as part of development related mitigation. The overall Selby district 5 year target is to create 10 ponds. The proposed development will create 3 ponds which will contribute 30% to the Selby district target.

# 3. LANDSCAPE DESIGN STRATEGY

## 3.1 Woodland

3.1.1 It is proposed that 10.39 hectares of new woodland and wetland/grassland habitat will be created on the Site. This will be achieved on a phased manner as set out on Plans OBE.003 – OBE.012 within the planning application. During the operational phases of the development some 8.63 hectares of mixed deciduous woodland will be created on the site. This will be slightly reduced by 0.97 hectares on the completion of the works to facilitate the creation of a network of mountain bike trails which will be cut into the woodland.

3.1.2 The final long-term woodland area will therefore be 7.66 hectares. In the long-term it is proposed that the area will support a predominantly oak woodland with an understory of hazel and hawthorn.

3.1.3 In addition to the 7.66 hectares of mixed deciduous woodland, in the final phase of development, immediately to the north of the previously restored landfill site and to the south of the infill proposals, 2.73 hectares of wetland/grassland and scrub will be created.

3.1.4 This area will comprise 1.74 hectares of lowland neutral grassland and scrub, 0.6 hectares of reedbed and 0.33 hectares of open water. In addition there will be 0.7 hectares of bare ground and 0.27 hectares of grassland adjacent to the mountain bike trails. The total new habitat will therefore amount to 11.36 hectares.

3.1.5 As set out in the planning application, the operational works on the Site will take place in a series of phases, as follows:

- An initial phase of 6 – 8 months
- Phase 1
- Phase 2
- Phase 3
- Phase 4

3.1.6 The LEMP should be read in conjunction with Plans 3 – 6 in the Proof of Evidence of House Associates dated February 2020. The initial phase of development will include the construction of the northern and eastern outer flans of Landfill Cell 1. It is envisaged that this outer flank will be completed within 6 months of the commencement of development. Once completed, this will be planted with a planting mix as set out in Table 1 below.

**Table 1 Woodland Planting Mix**

| Species | Planting Size | % Mix | Number |
|---|---|---|---|
| *Acer campestre* | 60 – 90 cm | 5 | 82 |
| *Betula pendula* | 60 - 90 cm | 20 | 328 |
| *Prunus avium* | 60 – 90 cm | 10 | 164 |
| *Quercus robur* | 60 – 90 cm | 30 | 492 |
| *Pinus sylvestris*[2] | Container grown | 5 | 82 |
| *Corylus avellana* | 45 - 60 cm | 15 | 246 |
| *Crataegus monogyna* | 45 – 60 cm | 10 | 164 |
| *Ilex aquifolium* | Container Grown | 5 | 82 |

3.1.7 Upon completion of the outer flank, prior to planting, it will be covered with inert materials, loose tipped to avoid compaction, to a depth of 1 metre. One of the major advantages of this site compared to other infill operations is the availability of composted wastes (permitted to be accepted for restoration purposes in accordance with the approved permit). The use of this material will ensure that trees/shrubs are able to establish quickly. This material will only be utilised in the woodland planting area. Within the neutral grassland and wetland areas, nutrient poor subsoils will be utilised to ensure successful native seed establishment.

3.1.8 All transplants as specified in Table 1 above, will be sourced from local nurseries and of known local provenance. All transplants will be protected by tree shelters supported by short stakes.

3.1.9 Afercare management tasks associated with this initial Phase are set out in Section 6 Management Schedule.

3.1.10 **Phase 1 –** Phase 1 will take approximately 3 years to complete. Once infilling is completed, final gradients on this part of the Site will be 1:40. Once the land has

[2] This species is included to provide quick growing cover for landscape purposes and will be thinned and reduced over the life of the 30 year management period.

been regraded it will be covered by organic/inert material to a depth of I metre and all trees will be planted in accordance with the method set out in the Preliminary Phase. The planting mix and associated numbers are set out in Table 2 below.

**Table 2. Woodland Planting Mix Phase 1**

| **Species** | **Planting Size** | **% Mix** | **Number** |
|---|---|---|---|
| *Acer campestre* | 60 – 90 cm | 5 | 349 |
| *Betula pendula* | 60 - 90 cm | 20 | 1,396 |
| *Prunus avium* | 60 – 90 cm | 10 | 698 |
| *Quercus robur* | 60 – 90 cm | 30 | 2,094 |
| *Pinus sylvestris* | Container grown | 5 | 349 |
| *Corylus avellana* | 45 - 60 cm | 15 | 1,047 |
| *Crataegus monogyna* | 45 – 60 cm | 10 | 698 |
| *Ilex aquifolium* | Container Grown | 5 | 349 |

3.1.11 **Phase 2 –** This phase will be completed between years 3 – 6 and will comprise the construction of Cell 2 and its subsequent infilling. The northern and western flanks of this Cell will be planted to any infilling taking place. Once infilling is complete, the Cell will be soiled and planted in accordance with the method set out in the Preliminary Phase. The planting mix and associated numbers are set out in Table 3 below.

**Table 3. Woodland Planting Mix Phase 2**

| **Species** | **Planting Size** | **% Mix** | **Number** |
|---|---|---|---|
| *Acer campestre* | 60 – 90 cm | 5 | 291 |
| *Betula pendula* | 60 - 90 cm | 20 | 1,164 |
| *Prunus avium* | 60 – 90 cm | 10 | 582 |
| *Quercus robur* | 60 – 90 cm | 30 | 1,746 |

| | | | |
|---|---|---|---|
| *Pinus sylvestris* | Container grown | 5 | 291 |
| *Corylus avellana* | 45 - 60 cm | 15 | 873 |
| *Crataegus monogyna* | 45 – 60 cm | 10 | 582 |
| *Ilex aquifolium* | Container Grown | 5 | 291 |

3.1.12 **Phase 3 –** The final Phase of infilling will take place in Cells 3a and 3b. Planting will be undertaken in two stages; initially on the western and southern flanks, once constructed, and proceeded by planting on the final contoured landform upon completion of landfill. The method and approach to be planted will be as with earlier phases. Planting mix and associated numbers are set out in Table 4 below.

**Table 4 Woodland Planting Mix Phase 3**

| **Species** | **Planting Size** | **% Mix** | **Number** |
|---|---|---|---|
| *Acer campestre* | 60 – 90 cm | 5 | 279 |
| *Betula pendula* | 60 - 90 cm | 20 | 1,116 |
| *Prunus avium* | 60 – 90 cm | 10 | 558 |
| *Quercus robur* | 60 – 90 cm | 30 | 1,674 |
| *Pinus sylvestris* | Container grown | 5 | 279 |
| *Corylus avellana* | 45 - 60 cm | 15 | 837 |
| *Crataegus monogyna* | 45 – 60 cm | 10 | 558 |
| *Ilex aquifolium* | Container Grown | 5 | 279 |

3.1.13 **Phase 4 -** This is the final year (Year 10). Following completion of the landraising operations, 2.73 hectares of wetland habitat will be created in the south-east corner of the Site. It is proposed that out of this total 1.74 hectares will be lowland neutral grassland and scrub. No soils will be placed in these areas. A seed bed will be created and Emorsgate EM2 Standard General. Purpose Meadow Mixture seed sown in this area. Scrub vegetation will be allowed to naturally recolonise and thereafter managed to ensure it does not form more than 20% of the grassland area. 0.66 hectares of reedbed will be created together with 0.33 hectares of open water

comprising small pools and scrapes. The reedbed will be established by utilising donor material from adjacent wetland.

## 3.2 Lowland neutral grassland

3.2.1 The new lowland neutral grassland will be in the south-eastern area of the Site. A mix of soils derived from clays or weathered sandstones will be used in order to provide a suitable seed-bed. The substrate will be cultivated to form a fine tilth during late winter (February – March) to produce an appropriate seed-bed, which can be sown the following spring (April). The Naturescape NV4 Value Summer Flowering Butterfly & Bee Mixture seed mix (or equivalent) (see Table 2 below) will be sown at a rate of 4g/m2 during April. To achieve the desired contact of seeds with the ground, the ground will be lightly rolled.

**Table 5: Proposed Grassland Seed Mix**

| ***Herbs (represent 20% of the total weight)*** | **% of total herbs** | ***Grasses (represent 80% of the total weight)*** | **% of total grasses** |
|---|---|---|---|
| *Achillea millefolium* -Yarrow | 4% | *Agrostis capillaris* - Common bent | 5% |
| *Anthyllis vulneraria* - Kidney vetch | 3% | *Cynosurus cristatus* - Crested dog's-tail | 15% |
| *Centaurea nigra* - Knapweed | 13% | *Festuca ovina - Sheep's fescue* | 20% |
| *Centaurea scabiosa* - Greater knapweed | 4% | *Festuca rubra ssp. litoralis* - Slender creeping red fescue | 20% |
| *Daucus carota* - Wild carrot | 11% | *Festuca rubra ssp. rubra* - Strong creeping red fescue | 20% |
| *Galium verum* - Lady's bedstraw | 13% | *Poa pratensis* – Smooth-stalked meadow grass | 20% |
| *Knautia arvensis* - Field scabious | 4% | | |
| *Lathyrus pratensis* - Meadow vetchling | 2% | | |
| *Lotus corniculatus* var. *corniculatus* – Bird's-foot trefoil | 10% | | |
| *Prunella vulgaris* - Selfheal | 13% | | |
| *Rhinanthus minor* - Yellow rattle | 10% | | |
| *Scabiosa columbaria* - Small scabious | 2% | | |
| *Stachys officinalis* - Betony | 3% | | |
| *Succisa pratensis* – Devil's-bit scabious | 1% | | |
| *Trifolium pratense* - Red clover | 3% | | |
| *Verbascum nigrum* - Dark mullein | 2% | | |
| *Vicia cracca* - Tufted vetch | 2% | | |

## 3.3 Ponds

3.3.1 The ponds will each be excavated during autumn/early winter (September – December) and will be lined with clay to ensure that they are impermeable. Excavating the ponds during the autumn will reduce the risk of the clay linings drying out and cracking in hot weather or possibly as a result of frost which could compromise their impermeability. This will also allow the ponds to naturally fill with water well in advance of the growing season the following year.

3.3.2 The ponds will be excavated to have shallow margins with an angle no greater than 10°. The margins will then drop sharply to a deeper central area, of maximum depth of 1.5m.

3.3.3. Each pond will be planted during spring/early summer (April – June) with broadleaved pondweed *Potomageton natans*, using five plug plants per pond. These plants will be placed towards the centre of each pond. This will serve to supplement natural colonisation.

# 4 LANDSCAPE AND HABITAT MANAGEMENT

## 4.1 Woodland

### 4.1.2 Aftercare Management of Newly Established Woodland

4.1.3 Following the initial canopy thinning within the woodlands, management is unlikely to be necessary during the first five years unless the canopies become very uniform and dense. If the monitoring programme shows that the canopies are becoming uniform and dense, then thinning should be undertaken once between years 8-10, favouring the retention of native, well-formed trees. Any woodland thinning will be undertaken during winter (November-February).

### 4.1.4 Long-Term management of existing woodland and newly created woodland

4.1.5 Selective thinning of the existing woodland will be undertaken to open up the canopies and ensure the development of a mixed stand and an understorey and field layer. Woodland thinning will be undertaken during winter (November – February). Thinning should favour well-formed trees, removing any poorly-formed or defective trees. Thinning in broadleaved stands should ideally begin when trees are about 10m in height. Generally intervals of thinning are 8-10 years in middle-aged stands such as these (Evans, 1984).

4.1.6 The aim of long term management of all the woodland resource within the Site is to improve the wildlife value of the Site and provide biodiversity benefits. The long term management will seek to achieve a species composition that is representative of local woodland Sites of Importance for Nature Conservation (SINCs). This will involve a combination of active intervention (to address loss of tree stock for example) and limited intervention to allow for natural colonisation.

4.1.7 If the annual monitoring programme shows that the canopy is becoming uniform and dense, then the active intervention will involve the following. Selective thinning to create gaps in the canopy and glades and the creation of uneven edges between planting and the ground cover will be undertaken in order to create the desired more diverse structure. Both sheltered and open areas will be created to encourage the development of a varied canopy and field layer structure. Open areas will provide colonisation opportunities for tall-herbs/scrub, which can provide valuable habitat for invertebrates. Any woodland thinning will be undertaken during the winter period (November-February) which will avoid the bird breeding season.

## 4.2 Lowland neutral grassland

### 4.2.1 Establishment phase and aftercare

During the first growing season, the new grassland will be cut and cuttings removed off-site during mid-July or as soon as the yellow rattle *Rhinanthus minor* has set seed.

A second cut and off-site disposal of the cuttings will be carried out during late summer. Between the cuts, the grassland will be inspected for the presence of pernicious weeds including common nettle, thistles *Cirsium* spp., docks *Rumex* spp., and common ragwort *Senecio jacobaea*. If necessary (i.e. if significant areas of growth are considered likely to establish) such weeds can be controlled by the application of an appropriate herbicide by use of a knapsack sprayer

### 4.2.2 Long-Term Management

The grassland seed mix contains yellow rattle, which is an annual hemi-parasite of grasses, which reduces the dominance of grass in a sward, helping to maintain more open conditions for herbaceous species. For yellow rattle to survive the first and subsequent growing season, it will be necessary to allow it to set seed before cutting. Therefore following the immediate period of aftercare during grassland establishment, subsequent cuts should take place in mid-July and the cuttings removed to avoid a build-up of nutrients and composting.

The grassland will be monitored annually to identify the requirement for additional management measures, including pernicious weed control.

## 4.3 Ponds

### 4.3.1 Aftercare

If any invasive, non-native plant species, such as Himalayan balsam *Impatiens gladulifera* encroach into the pond then these will require removal. Control of Himalayan balsam can include chemical treatment, or complete removal of all root and shoot material by hand pulling. Specialiast advice is recommended to be sought in the event of invasive species colonisation and treatment. It is also noted that the material containing Himalayan balsam is classified as controlled waste there are strict guidelines relating to its disposal. Guidance can be found in the "*Environment Agency Managing invasive non-native plants in or near fresh water*" (revised April 2010).

### 4.3.2 Long-Term Management

In the long-term, a marginal and aquatic community is expected to develop within the ponds and such communities can provide suitable habitat for a range of aquatic invertebrates as well as amphibians and nesting birds. The ponds will be monitored and if vegetative cover exceeds 70% of the pond surface (i.e. there is less than 30% open water) then some selective vegetation removal will be required. Material should be removed using hand tools during autumn (September-October). Any vegetation removal should be avoided during spring and summer as any amphibians which may be present could be using the pond for breeding.

## 4.4 Reedbed

### 4.4.1 Aftercare

It is proposed that the reed bed will be designed to ensure that water levels are maintained at 250 -750 mm in depth. Should water levels exceed this, water will be drained to the existing ditch on the eastern boundary of the Site. The successful establishment and longer-term management of the reedbed will be dependent upon the ability to maintain the water levels.

### 4.4.2 Long term management

Different reedbed management regimes benefit different species. Removal of organic material from previous years' growth will be essential so as to avoid the reedbed drying out. Typically for small scale reedbeds, cutting is considered to be the traditional management option (RSPB, 2009). The start point for introducing management for the reedbed will be informed by the progress of the reedbed establishment which will be recorded during annual ecological monitoring. If it is possible to draw down the reedbed for such management purposes, then it will be cut/mown on rotation starting at Year 6 from planting (this is considered to be reasonable giving the reedbed time to firmly establish, however, this may start earlier or later depending on the outcome of the ecological monitoring) with 1/3 cut/mown on rotation every 2 years thereafter i.e. each area would be cut once every 6 years. The purpose of the rotational management is to provide a varied structure and manage succession.

4.4.3 The cutting/mowing will be undertaken during the period September – February inclusive so as to avoid the bird breeding season.The cuttings will be stacked at the side of the reedbed for 1-3 days after cutting so that invertebrates can escape and then the cuttings removed or composted away from the restored and existing habitat. If it is not possible to manage the reedbed (water levels or by cutting) then the reedbed will naturally transition towards wet woodland over time which will also provide biodiversity benefit in the long term.

# 5 MANAGEMENT RESPONSIBILITIES DURING AND POST COMPLETION OF WORKS

## 5.1 Initial and Ongoing Landscape and Habitat Management Responsibility

5.1.1 The responsibility for ensuring that the detailed landscape proposals area carried out and are maintained lies with the site manager/operator which is Escrick Environmental Services Ltd. It will be responsible for ensuring all landscape and habitat creation works are carried out in accordance with this LEMP.

5.1.2 It is envisaged that a reputable landscape contractor will be appointed at the outset of works who will be responsible for carrying out the planting works according to the detailed specification. Annual maintenance will be carried out to the planting works according to the detailed specifications. Annual maintenance will be carried out to ensure planting has successfully established, and any plant failures will be replaced as appropriate.

5.1.3. On appointment of any contractor, Escrick Environmental Services Ltd should make the contractor aware that there are ecological constraints on site and provide them with this document.

5.1.4 Before site set-up and the start of works, Escrick Environmental Services Ltd should appoint an Ecological Clerk of Works to deliver a toolbox talk on the ecological constraints at the site and to explain the ecological content of this document

5.1.5 Escrick Environmental Services Ltd will also be responsible for the subsequent management of the landscape and habitat proposals to ensure that the objectives set out in this LEMP are attained.

5.1.6 The Ecologist will be a professionally qualified ecologist and will be responsible for providing expertise when requested. The Ecologist will be the first point of contact for the Site Manager in the event of any ecological issues during the restoration phases.

## 5.2 Ecological Clerk of Works

5.2.1 The Ecological Clerk of Works will be a professionally qualified ecologist and will be the person responsible for providing ecological advice on-site. This role is to ensure that the relevant biodiversity protection measures are understood prior to works, through the delivery of relevant toolbox talks, and to oversee the required works as necessary thereafter.

## 5.3 CDM Regulations and Quarries Regulations

5.3.1 Escrick Environmental Services Ltd will be the site operator and the appointed ecological contractor will work under the site operator's health and safety plan.

5.3.2 When the ecological contractor designs construction work, as defined in the CDM Regulations, it will comply with their statutory duties. Where design is not construction work, as defined, the ecological contractor will not have any CDM duties. The ecological contracctor will not be responsible for any design undertaken by other companies whether they be a 'designer' or a contractor. The ecological contractor will attend site to review the quality of the works and resolve any issues arising out of unforeseen circumstances but will not "control the way in which any construction work is carried out by a person at work" (CDM Regulations 25(2)). The ecoligicalcontractor will not carry out construction work (as defined).

## 5.4 Monitoring

5.4.1 Annual monitoring will be carried out to assess the success of the habitat creation and long-term management of the various habitats. The criteria for monitoring will include assessment of the type, extent and area of habitat, the species composition and identification of invasive species (species, location and extent). In relation to wetlands, monitoring surveys will include extent of surface water and wetland species establishment and success. The monitoring will inform any adjustments to the management prescriptions set out in Section 4 of this LEMP.

## 5.5 Post Infilling Operations

5.5.1 Escrick Environmental Services will continue to own the Site once infilling has been completed with the intention that it is operated as a Mountain Bike Skills Centre. They will continue to be responsible for management of this site for the lifetime of the LEMP (i.e. 30 years).

# 6 MANAGEMENT SCHEDULES

## 6.1 NEW WOODLAND PLANTING

This table should be read in conjunction with previous sections. It sets out the management tasks required post implementation stage to facilitate successful establishment.

| Phase | Proposed Works | Timing of Proposed Works |
|---|---|---|
| Initial Phase of planting and subsequent tree planting Phases up to and including Phase 3b of landraising activities. | Following planting all tree planting stations to be maintained in a weed free conditions utilising a Glysophate weed killer. A 500mm circumference from the tree to be sprayed in suitable weather conditions i.e. dry | To be applied in three visits in active growing season (i.e. between late April and mid-June) for a minimum of three years post planting. |
| | Check tree shelters and stakes where affected by wind etc. Ensure that shelters are in correct position and stakes fully secure.* | To be checked at a minimum of once a year. |
| | Strim between trees to ensure that perennial weeds do not supress growth of saplings. | To be undertaken in July each year post planting up to year five. |
| | Carry out yearly inspection to check establishment and replace any dead trees and shrubs | To be carried out in September each year up to Year 5 |

* it is known that there is a deer population in the locality, however, to date, none has been observed on the Escrick site. If the situation changes and deer damage to trees and shrubs becomes apparent, it may be necessary to erect deer fencing around each woodland planting block.

| Habitat | Season | Frequency |
|---|---|---|
| ***Species-rich grassland creation*** **Habitat Creation and Aftercare** | | |
| Preparation of substrate | February – March | Not applicable |
| Sow grassland seed mix (4g/m2) | April | Two cuts for two years |
| ***Pond creation*** | | |

| | | |
|---|---|---|
| Create pond by excavating ground and lining with clay (sourced from the site) clay must form a perfect seal and be puddled | September - December | Not applicable |
| Plant aquatic plant species | April – June | Not applicable |
| ***Reedbed creation*** | | |
| Source donor reed materials from suitable local site. Check in advance for non native or invasive species so as to avoid introduction/spreading of such species. | September - November | Not applicable |

| **Long-Term Habitat Management** | **Time of year** | **Frequency** |
|---|---|---|
| ***Species-rich grassland*** | | |
| Cut and remove cuttings | Mid-July | Annually |
| ***Ponds*** | | |
| Monitor ponds and if ponds become 70% vegetated then introduce selective vegetation removal | September – October | As required, monitor |
| ***Reedbed*** | | |
| Starting at year 6 post planting 1/3 cut/mown on rotation every 2 years i.e. each area would be cut once every 6 years. | September – February | 33% every two years |

## 6.2 EXISTING VEGETATION STRUCTURE

| **Zone/Area** | Proposed works | Timings of Proposed Works |
|---|---|---|
| Northern hedgerow boundary | Trim sides and maintain at a height of 3 metres | October/November once fruit is over |
| | Reinforce with new thorn transplants where gaps present themselves in order to maintain a permanent screen. To be planted in accordance with woodland planting schedule. | Any new transplants to be planted between late October and late February. |
| Western woodland/scrub boundary | Underplant existing woodland floor with native British bluebells (provided in the green). Initially 3,000 bulbs with another 3,000 to be planted annually up to a period of five years. | Bulbs to be planted in March/ April |

| | | |
|---|---|---|
| | Monitor on an annual basis. Native hawthorn and hazel transplants to be planted where light and/or gaps allow. | New transplants to be planted between late October and late February. |

# 7 CONCLUSIONS

7.1 When implemented, the landscape and ecological measures set out in this LEMP will ensure that the Site delivers a new high quality landscape and ecological habitats achieving a significant degree of biodiversity net gain as set with the planning application.

7.2 The development will result in the creation of approximately 7.66 hectares of new lowland mixed deciduous woodland and 2.73 hectares of wetland and grassland habitat. The woodland will be created on a phased basis, thus by year 10 the initial woodland planting undertaken in year 1 will be well established.

7.3 In addition to the woodland, 2.73 hectares of grassland and wetland will be created with the wetland comprising a mosaic of reedbeds, scrapes and open water. As set out in the Biodiversity Net Gain Assessment undertaken for this development, the woodland, grassland and wetland will all make a positive contribution to long term habitat gain and the achievement of overall biodiversity benefits.

7.4 The ongoing management and monitoring requirements detailed in this LEMP will ensure that the new habitats and landscape components are successfully established. The five year review process for the LEMP will ensure that it stays on track to achieve its long term objectives over the 30 year period.

# 8 REFERENCES


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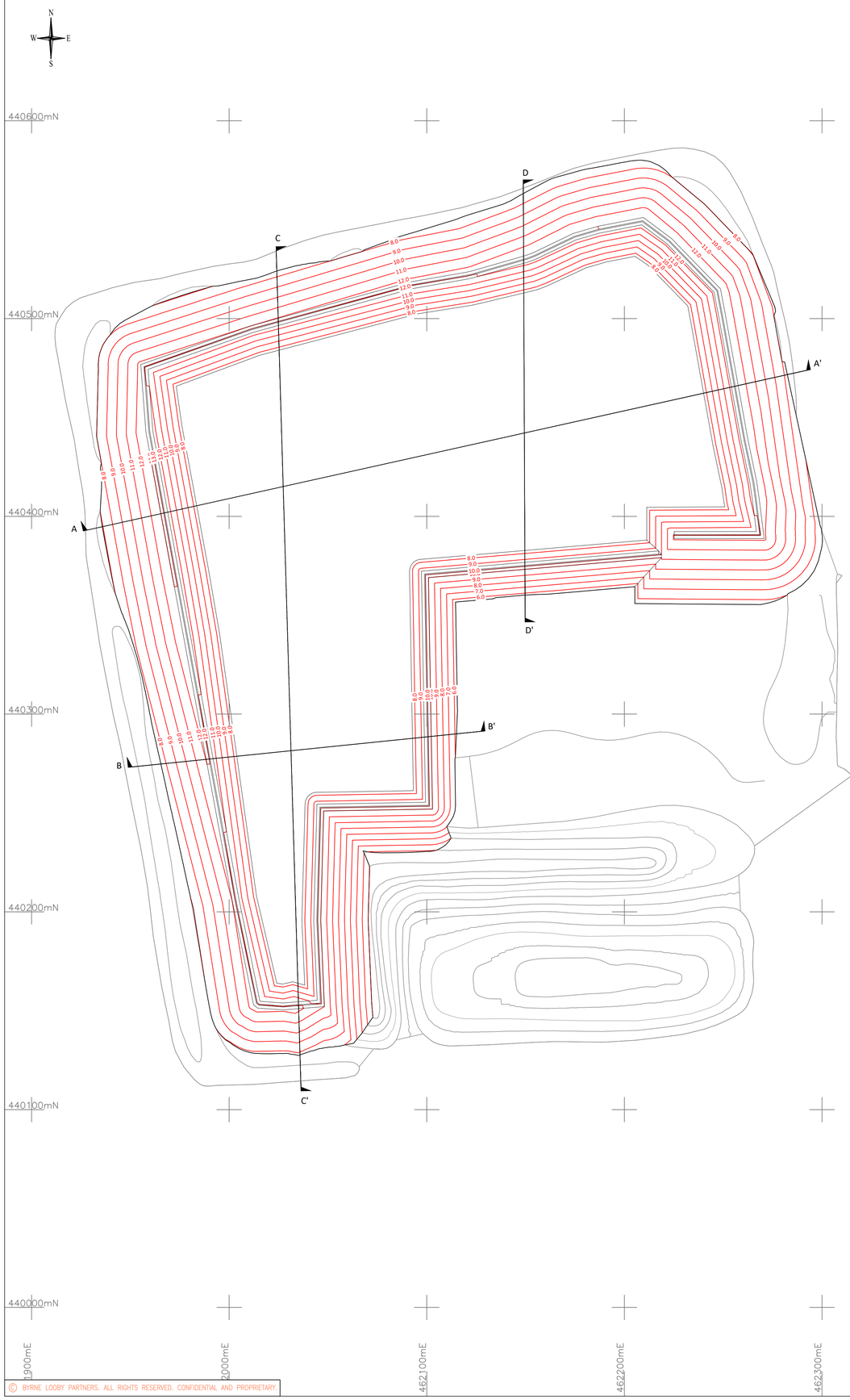
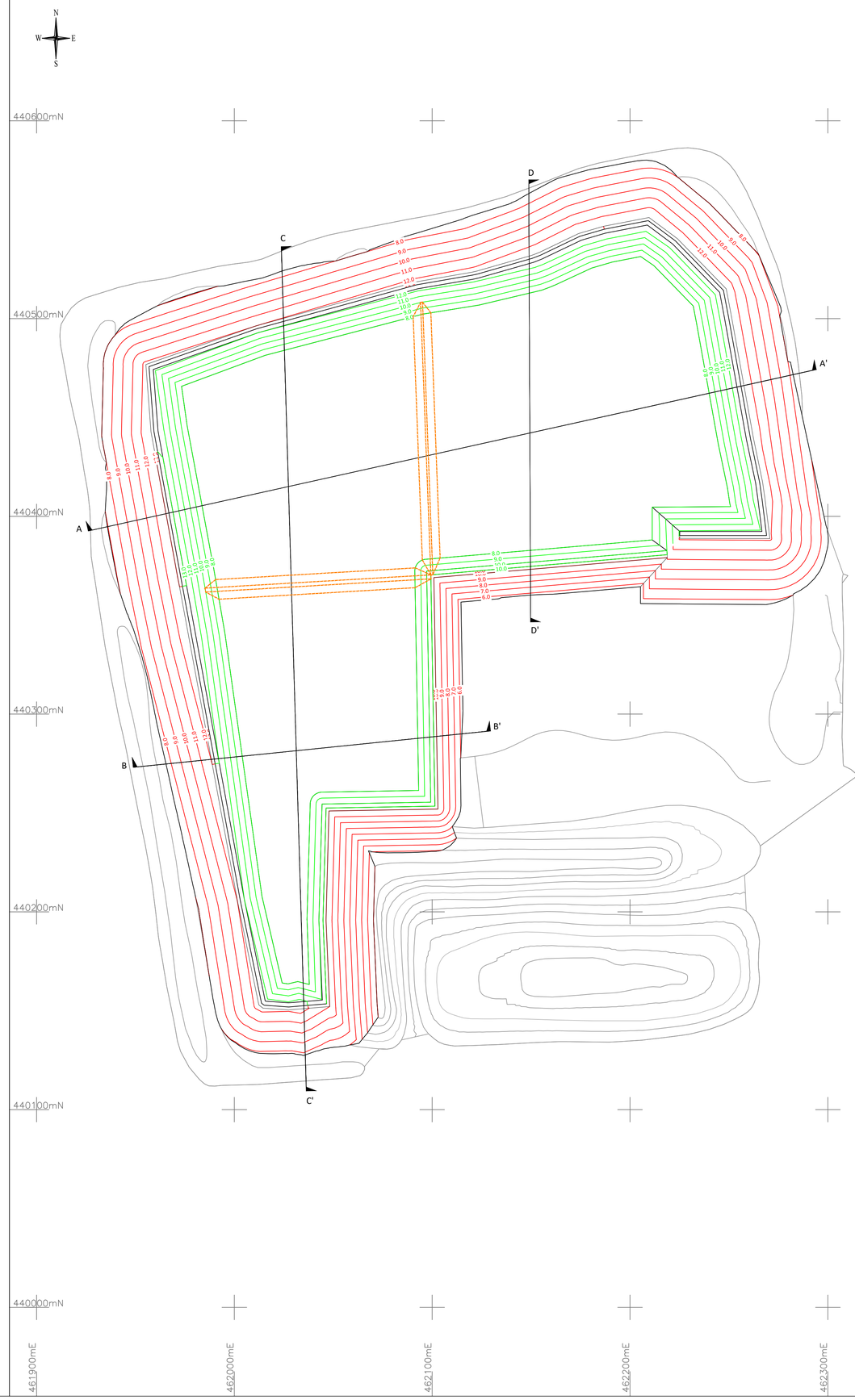
# Appendix B – Drawings

A1




GENERAL NOTES

A.01 – ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, BILLS OF QUANTITIES, ARCHITECTURAL, SERVICES AND ENGINEERING DRAWINGS.

A.02 – ANY DISCREPANCIES BETWEEN THE ABOVE DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF BYRNE LOOBY.

A.03 – ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS NOTED OTHERWISE.

A.04 – DRAWINGS ARE NOT TO BE SCALED.

A.05 – ALL LEVELS AND SETTING OUT TO ARCHITECTS DRAWINGS.

A.06 – ALL DIMENSIONS AND LEVELS ARE TO BE DETERMINED AND/OR CHECKED ON SITE. SHOULD ANY DISCREPANCY BE IDENTIFIED BETWEEN THE DIMENSIONS, AND OR DETAILS DETERMINED ON SITE, AND THOSE SHOWN THOSE SHOWN ON THE RELEVANT DRAWINGS, BYRNE LOOBY SHALL BE NOTIFIED IMMEDIATELY, AND THEIR INSTRUCTIONS OBTAINED PRIOR TO THE COMMENCEMENT OF ANY WORK.

A.07 – FOR SECTIONS SEE DRAWING 5259/2/002

KEY

15.0 / 16.0 — APPROVED RESTORATION CONTOURS

15.0 / 16.0 — PROPOSED FORMATION CONTOURS

15.0 / 16.0 — PROPOSED TOP OF LINER CONTOURS

PROPOSED Inter-cell Bund

| Rev | Date | Description | By | Chk | App |
|---|---|---|---|---|---|
| 00 | 24/12 | FOR REVIEW | GH | PR | JB |

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PROJECT
ESCRICK LANDFILL SITE

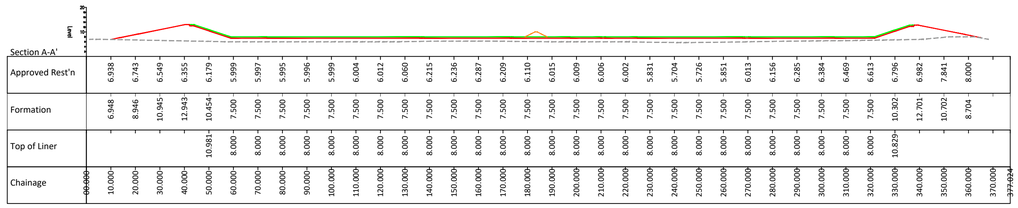
DRAWING TITLE
PROPOSED LANDFILL DEVELOPMENT FORMATION AND TOP OF LINER LAYOUTS AND SECTION LOCATION PLAN

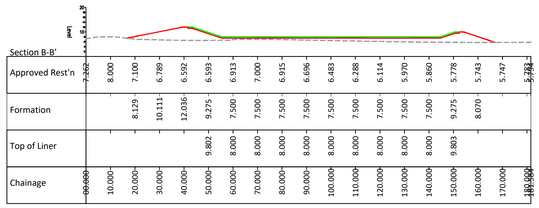
STATUS
FOR REVIEW

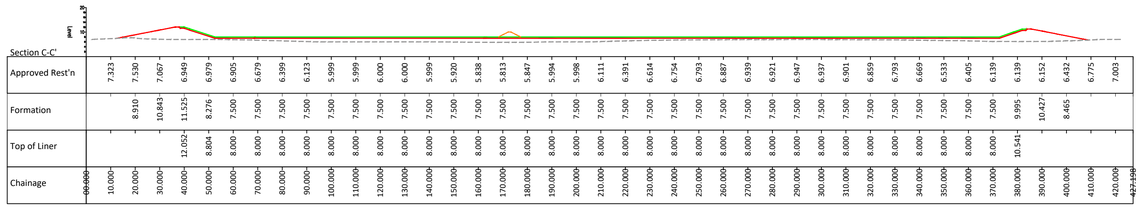
| Date: 04/04/22 | Scale: 1:1,250 | Drawn: PP | Chkr: PR | Appr: JB |
|---|---|---|---|---|

| Project No: | Drg. No: | Rev: |
|---|---|---|
| 5259 | 5259/2/001 | 00 |

A1





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A.07 – FOR SECTION LOCATIONS SEE DRAWING 5259/2/001

KEY

APPROVED RESTORATION PROFILE

PROPOSED FORMATION PROFILE

PROPOSED TOP OF LINER PROFILE

| Rev | Date | Description | By | Chk | App |
|---|---|---|---|---|---|
| 00 | 24/12 | FOR REVIEW | GH | PR | JB |

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ESCRICK LANDFILL SITE

DRAWING TITLE
PROPOSED LANDFILL DEVELOPMENT CROSS SECTIONS

STATUS
FOR REVIEW

| Date: 04/04/22 | Scale: 1:1,250 | Drawn: PP | Chk: PR | Appr: JB |
|---|---|---|---|---|

| Project No: | Drg. No: | Rev: |
|---|---|---|
| 5259 | 5259/2/002 | 00 |

# Appendix C – Stability Risk Assessment

TerraConsult

**25th May 2021**
**Report No. 5355-R01 Issue 01**

# Former Brick and Tile Works, Escrick

# Landfill Stability Risk Assessment Report

Prepared for:

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# Landfill Stability Risk Assessment Report

**25th May 2021**

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**Prepared for:**

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# DOCUMENT INFORMATION AND CONTROL SHEET

## Document Status and Approval Schedule

| Report No. | Title |
|---|---|
| **5355 R01** | **Former Brick and Tile Works, Escrick – Landfill Stability Risk Assessment Report** |

### Issue History

| Issue | Status | Date | Contributors | Signature | Date |
|---|---|---|---|---|---|
| **1** | Final | **25/05/2021** | **Prepared By:** S.J.J.Ferley | Simon Ferley | **25/05/2021** |
| | | | **Checked By:** P.Roberts | P. Roberts | **25/05/2021** |
| | | | **Approved By:** | Simon Ferley | **25/05/2021** |
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| **DISCLAIMER** This report should be read with the Service Constraints Report Limitations & Planning Requirements set out in Appendix A. | | | | | |

# Former Brick and Tile Works, Escrick

# Landfill Stability Risk Assessment Report

## TABLE OF CONTENTS

## LIST OF TABLES IN TEXT

# 1 INTRODUCTION AND BRIEF

## 1.1 INTRODUCTION

1.1.1 At the request of Escrick Environmental Services Ltd. TerraConsult Ltd. was commissioned to carry out a Stability Risk Assessment at Former Brick and Tile Works, Escrick, York. The approximate Ordnance Survey grid reference for the centre of the area of interest is 462150E, 440340N.

1.1.2 The site was a quarry used for the extraction of clay for brick and tile making: this operation ceased in 1991. A small area in the south east of the site has been landfilled and restored, and the remainder of the site has been raised to a level formation at or around +7.0 m O.D. by the import of acceptable fill.

1.1.3 It is proposed to complete the landfill area, with an engineered edge bund for containment and screening, and an artificial geological barrier. The design of the proposed landfill is shown in the following drawings supplied by the Client and included in Appendix B of this report:

- Drawing EES-LA-2001: Phase 1 Establishment Prior to Infilling Operations; dated December 2020 (1)
- Drawing EES-LA-2003: Phase 3 Initial Establishment; dated December 2020 (2)

1.1.4 This report summarises the results of the Stability Risk Assessment for the area of landfill in Phases 1 to 3. The stability of previously completed phases of the landfill is unaffected by the proposed operations.

1.1.5 This report is for the private use of the Clients for whom it has been prepared and their professional advisers, and should not be relied upon by third parties for any use whatsoever without the written authority of a director of TerraConsult Ltd.

## 1.2 SOURCES OF INFORMATION

1.2.1 A previous Stability Risk Assessment has been carried out for the site by TerraConsult Ltd. The results are contained in the following report:

- TCL Report Reference 3156-R16-01: Escrick Landfill Site Permit Application Stability Risk Assessment, dated October 2018 (3).

1.2.2 The previous SRA obtained geotechnical information from the following ground investigations art the site, and for sources of imported material:

- UK Waste Management Ltd. report reference “Esck.Rep”: A Report of Site Investigations Caried Out to Determine the Geology and Hydrogeology Underlying the Site of the Proposed Landfill Facility at Escrick, North Yorkshire, dated March 1992 (4).
- Professional Soils Laboratory Ltd. report reference PSL17/3586: Dutton Farm, Poppleton, York: Laboratory Report, dated August 2017. (5).

1.2.3 The Stability Risk Assessment is carried out generally in accordance with Environment Agency R & D Technical Report P1-385 Stability of Landfill Lining Systems, Volumes TR1: Literature Review (6), and TR2: Guidance (7).

1.2.4 Cross-sections for analysis were prepared by TerraConsult Ltd. from the drawings furnished by the Client. There were augmented by Lidar data obtained from government open access sources (8).

1.2.5 Additional resources used in the interpretation are detailed in the relevant sections of this report. A full list of references is included in Section 7.

# 2 DESIGN CONCEPTUAL MODELS

## 2.1 GEOLOGICAL GROUND MODEL

2.1.1 The online GeoIndex published by the British Geological Survey (9) indicates that the site lies on bedrock of the Sherwood Sandstone Group, described in the BGS lexicon of rock units as: "*Sandstone, red, yellow and brown, part pebbly; conglomeratic in lower part; pebbles generally extraformational*[1] *quartz and quartzite, with some intraformational*[2] *clasts; subordinate red mudstone and siltstone*". These are overlain by superficial deposits of Devensian glaciolacustrine clays and glaciofluvial sands.

2.1.2 The major Devensian soil at the site is the Thorganby Clay Member, a glaciolacustrine[3] deposit described in the BGS Lexicon of rock units as "*Greyish brown soft, locally fissured, laminated silt and clay*". The laminated structure of the upper layers has been destroyed by periglacial and soil processes, and there are occasional inclusions of gravel. The Thorganby Clay Member was exploited at the site for brick making.

2.1.3 The Skipwith Sand Member overlying the Thorganby Clay is described by the BGS Lexicon of rock units as "Dominantly yellow to pale brown slightly clayey sand. Typically composed of moderately well sorted medium quartz grains with minor bands of finer, coarser or poorly sorted material, including finely comminuted flint and lithic clasts. Thin laminae of clayey sandy peat and poorly developed fine to medium slightly gravelly clayey sand are noted towards base of the member". The deposit is interpreted as glaciofluvial[4] in origin, with subsequent aeolian[5] modification (10).

2.1.4 All the above deposits have been identified in ground investigation carried out at the site (4). The Skipwith Sand Member was removed as overburden over the area of clay extraction, and the Thorganby Clay was extracted to level of around -1.0 m O.D. coinciding with a water-bearing sand stratum up to one metre in thickness However, a significant thickness of the Thorganby Clay Member remains below the base of the former quarry.

2.1.5 The quarry has been infilled from the base up to a level of approximately +7.0 m O.D. with acceptable fill.

2.1.6 The soil types used in the analysis models are summarised in Table 2.1 below. Typical sections used in the analysis are presented in Appendix B of this report. The geotechnical properties are discussed in Section 5 below.

[1] Extraformational - derived from source rocks that lie outside the area in which the deposit occurs
[2] Intraformational – derived from within the formation (in this case sandstone, mudstone and siltstone)
[3] Glaciolacustrine – deposits laid down in glacial lakes
[4] Glaciofluvial –laid down by water flowing from ice sheets and glaciers
[5] Aeolian – produced or carried by wind

| Soil Type | Location/Use | Lower Surface | Upper Surface |
|---|---|---|---|
| Sherwood SST | At depth below superficial soils | – | -11.0 m O.D. |
| Thorganby Clay | Remaining beneath sand parting † | -11.0 m O.D. | -1.0 m O.D. |
| Thorganby Clay | Remaining around perimeter ‡ | -11.0 m O.D. | +5.2 to 7.0 m O.D. |
| Sand Parting | Base of pit | -1.0 m O.D. | -0.7 m O.D. |
| Skipwith Sand | Perimeter of former clay pit | +5.2 m O.D. | +6.2 to +7.0 O.D. |
| Quarry Infill | Existing fill to formation level | -0.7 m O.D. | +6.2 to +7.0 O.D. |
| Edge Bund | Imported general fill | +6.2 to +7.0 O.D. | +11.3 m O.D. |
| Waste | Inert non-hazardous soil | +7.0 m O.D. | +12.5 m O.D. |

† Thorganby Clay Member above the sand parting is present to ground level/underside of Skipwith Sand at edge of pit
‡: Skipwith Sand appears to be absent adjacent to the Bentley Park Drain to the north of the site.

**Table 2.1: Summary of Model Stratigraphy**

## 2.2 DESIGN CONCEPTUAL MODEL

2.2.1 The proposed general arrangement feeding into the site conceptual stability model is shown in the drawings referenced in Section 1.1.3 above and included in Appendix B.

2.2.2 The main design geometry of the proposals is as follows:

- The base of the former quarry lies between -0.5 m and -1.0 m O.D.
- The formation of the proposed base of the landfill cells in Phases 1 to 3 lies at an elevation of approximately +7.0 m O.D. with the crest of the proposed edge bund lying at an elevation of +11.3 m O.D.
- The outer face of the proposed edge bund slopes at 1 in 5 as determined by planning and permitting requirements.
- The inner face of the bund was initially proposed to slope at 1 in 2 but, as discussed below, this slope is too severe.
- The base of the landfill and the inner slopes of the edge bund are to be provided with an artificial geological barrier AGB) of one metre thickness of engineered clay. No geosynthetic components are proposed in the current design.
- The final proposed waste surface is at an elevation of +12.5 m O.D., with side slopes at 1 in 5 down to the crest of the edge bund.

2.2.3 The infill is to be inert non-hazardous soils, in accordance with the issued permit.

2.2.4 The landfill will be operated for the disposal of inert waste in accordance with the requirements of the Landfill Directive and no engineered capping layer is required or proposed.

## 2.3 CONCEPTUAL STABILITY MODELS

2.3.1 Basal Subgrade and Liner: The subgrade of the landfill is to be formed from the completed engineered soil imported to raise the cell formation to the permitted levels. The basal liner is to be a one metre thickness of AGB or equivalent.

2.3.2 Side Slope Subgrade and Liner: The subgrade of the side slopes will be formed from the engineered fill used to construct the proposed edge bund. The side slope liner is to be one metre thickness of AGB or equivalent.

2.3.3 Capping Materials: No engineered cap is required or proposed. The landfill will be restored with 2 m thickness of subsoils and restoration soils in accordance with the requirements of the Planning Permission.

2.3.4 Filling over Waste: There is no filling over previous waste, but fill over engineered formation soils placed under a separate recovery permit is proposed.

2.3.5 Groundwater Levels: Information from the previous ground investigation (4) shows a piezometric level beneath the site of approximately +0.5 m O.D. in both the sand parting within the Thorganby Clay Member and the underlying Sherwood Sandstone Group.

2.3.6 Surface Water Levels: A partially straightened drain (The Bentley Park Drain) lies immediately adjacent to the northern and western boundaries of the site, with other, unnamed, drains shown on the remaining sides of the site on the Ordnance Survey maps and Defra Lidar data (8). The invert of the drain lies at approximately +5.0 m O.D. at the north east corner of the site, falling to +3.0 m O.D. at the south west corner.

2.3.7 Leachate Control Level: As the proposed waste is inert non-hazardous soil, no leachate control measures are proposed.

# 3 STABILITY RISK ASSESSMENT

## 3.1 GENERAL

3.1.1 In accordance with the requirements of technical report P1-385/TR2 (7), the Stability Risk Assessment considers the six components of the site as follows:

- Basal Subgrade
- Basal Liner
- Side Slope Subgrade
- Side Slope Liner
- Waste Mass
- Capping System

3.1.2 The stability and integrity of each of the components is reviewed and, where required, additional analysis is carried out.

## 3.2 BASAL SUBGRADE AND LINER

3.2.1 The base of the landfill is formed from engineered acceptable fill, believed to be generally in accordance with Class 2C (Stony Cohesive Fill) in accordance with the Specification for Highway Works (11). A liner of reworked clay soil one metre in thickness is proposed.

3.2.2 The Stability Risk Assessment is summarised in Table 3.1 below:

| Failure Mode | Mechanism | Stability Risk Assessment |
|---|---|---|
| Stability | Sliding | Not applicable: formation is horizontal |
| Excessive Deformation | Compressible subgrade | Considered possible due to compression of the significant thickness of engineered fill. |
| | Basal heave | Not applicable: significant thickness of clay fill present above the water-bearing sand layer in the Thorganby Clay Member; no excavation is proposed. |
| | Cavities in subgrade | None anticipated. |

**Table 3.1: Stability Risk Assessment for Basal Subgrade and Liner**

3.2.3 The effect on the edge bund and basal lining of compression in the basal subgrade is considered as part of the calculations for this report.

## 3.3 SIDE SLOPE SUBGRADE AND LINER

3.3.1 The full height of the side slopes to the proposed landfill cells is created by the inner slopes of the proposed edge bund. The liner is contiguous with the basal liner and of the same material and dimensions.

3.3.2 The Stability Risk Assessment is summarised in Table 3.2 below:

| Failure Mode | Mechanism | Stability Risk Assessment |
|---|---|---|
| Stability | Sliding – initial | Potential for instability on sloping face of pit during construction. Short term loading analysed as undrained (total stress) conditions with surcharge loading from construction plant. |
| | Sliding – time dependant | Potential for instability on sloping face of pit prior to final filling. Analysed as drained (effective stress) conditions. |
| Excessive Deformation | Compressible subgrade | Considered possible. |
| | Basal heave of side slopes | Not applicable: side slopes formed from engineered acceptable fill. |
| | Cavities in subgrade | None anticipated as the slopes are engineered acceptable fill. |

**Table 3.2: Stability Risk Assessment for Side Slopes and Liner**

3.3.3 The stability of the side slopes is considered as part of the calculations for this report.

3.4 WASTE MASS

3.4.1 The permitted waste is to be inert non-hazardous waste soils only. This will be informally compacted as it is deposited and brought to level in a series of lifts across the area of the landfill. Consolidation is anticipated to occur as infilling progresses.

3.4.2 The stability risk assessment for the waste is summarised in Table 3.3

| Failure Mode | Mechanism | Stability Risk Assessment |
|---|---|---|
| Failure in Waste | Sliding – initial | Not applicable: stability arises from reworking and compaction during placement. |
| | Sliding – time dependent | Considered possible in outer slope of waste; will be included in analysis. |
| Liner | Stability | Not applicable: movement of waste against side slopes is not a plausible mechanism. |
| | Integrity | Not applicable: movement of waste against side slopes is not a plausible mechanism. |

**Table 3.3: Stability Risk Assessment for Waste Infill**

3.4.3 The stability of the waste mass is considered as part of the calculation for this report.

## 3.5 CAPPING SYSTEM

3.5.1 The landfill will be operated for the disposal of inert waste in accordance with the requirements of the Landfill Directive and no engineered capping layer is required or proposed.

3.5.2 Stability of any proposed capping is not considered further.

## 3.6 SUMMARY

3.6.1 The plausible risks considered as part of the current report are confined to the effects of settlement on the bund and AGB lining system, the stability of the side slopes of the bund at various stages during and post construction, and the stability of the completed landfill prior to final capping. These are investigated further by means of slope stability analysis and calculation of predicted settlement.

3.6.2 The results of the analyses carried out are discussed in Section 6.1. Summary results of the calculations are included in Appendix D.

# 4 METHOD OF ANALYSIS

## 4.1 GENERAL

4.1.1 The analysis is carried out in accordance with the principles of BSEN 1997, 2004 + Am.1, 2013: Geotechnical Design: Part 1 - General Rules (12). (Eurocode 7).

4.1.2 Design Approach 1 is used in accordance with the UK National Annex to Eurocode 7 Part 1 (13). This involves the analysis of two design situations, as follows:

- Combination 1: partial factors are applied to loading, and partial factors of unity are applied to material parameters.
- Combination 2: lower partial factors are applied to loading, and partial factors greater than unity are applied to material parameters.

4.1.3 In the current analysis, Combinations 1 and 2 are applied to undrained (short-term) conditions, as the loading from construction plant is potentially significant for stability calculations: the loading is considered “transient”.

4.1.4 Combination 2 loading is applied to drained (long-term) conditions, for the slope post construction but prior to infilling with waste. In this condition, the strength and self-weight of the materials are the governing factor in the stability calculations.

4.1.1 In the Eurocode 7 approach, as partial factors are applied to actions and resistance (soil strength), the Factor of Safety output by the analysis is an Overdesign Factor (ODF): the analysis is satisfactory if the ODF is greater than or equal to unity.

4.1.2 The various partial factors used in the analysis are given in Table 4.1. These are combined as A1-M1 (Combination 1) and A2-M2 (Combination 2): the partial factor R1 is unity in all cases.

| **Parameter** | | **Symbol** | **GEO & STR - Partial factors** | | | |
|---|---|---|---|---|---|---|
| | | | **A1** | **A2** | **M1** | **M2** |
| Permanent action (G) | Unfavourable | $\gamma_{G;dst}$ | 1.35 | 1.00 | | |
| | Favourable | $\gamma_{G;stb}$ | 1.00 | 1.00 | | |
| Variable action (Q) | Unfavourable | $\gamma_{Q;dst}$ | 1.50 | 1.30 | | |
| | Favourable | - | 0.00 | 0.00 | | |
| Accidental action (A) | Unfavourable | $\gamma_{A;dst}$ | 1.00 | 1.00 | | |
| | Favourable | - | 0.00 | 0.00 | | |
| Angle of shearing resistance (tan $\phi$') | | $\gamma_{\phi'}$ | | | 1.00 | 1.25 |
| Effective cohesion (c') | | $\gamma_{c'}$ | | | 1.00 | 1.25 |
| Undrained shear strength ($c_u$) | | $\gamma_{cu}$ | | | 1.00 | 1.40 |
| Weight density ($\gamma$) or unit weight | | $\gamma_{\gamma}$ | | | 1.00 | 1.00 |

**Table 4.1: Values of Partial Factors Used in Analysis**

## 4.2 GLOBAL SLOPE STABILITY

4.2.1 The analysis of global stability of the side walls was undertaken using the limit equilibrium computer programme SLOPE/W. The analysis method of Morgenstern and Price is used, as it satisfies both force and moment equilibrium.

4.2.2 The program has inbuilt functions to apply the relevant Eurocode 7 partial factors on loading and resistance during the analysis, and the output can be given in terms of Overdesign Factor (ODF) or degree of utilisation. For stability, the ODF should be greater than or equal to unity.

4.2.3 The critical potential failure surface is allowed to optimise, to give a minimum ODF by allowing deviation from a circular arc.

## 4.3 LINER STABILITY

4.3.1 The proposed AGB liner will be constructed from similar soil to that used to construct the structural fill forming the edge bund. Therefore, no distinction is made between the soil types in the model.

## 4.4 SETTLEMENT

4.4.1 Settlement analysis of the formation beneath the landfill cells is undertaken using the computer program SIGMA/W: a drained elastic formulation is used. Section A-A' is used, as the bund is not underlain by natural soils.

4.4.2 Settlement is a serviceability limit state, and the partial factors are set to unity (12). A sensitivity analysis is undertaken to calculate the anticipated range of settlement and liner strain.

## 4.5 APPLIED LOADING

4.5.1 In the analysis and construction of previous cells a Caterpillar D6D was used, and the same plant is assumed for the current analysis. The characteristic load is 59 kPa on a 0.508m wide track 2.36m in length.

4.5.2 The loading is applied at four different locations on the bund, in order to assess the most critical position. These are: on the crest of the bund; and at the top, middle and bottom of the slope.

# 5 MATERIAL PROPERTIES

## 5.1 GENERAL

5.1.1 The geotechnical parameters for the *in-situ* soils at the site are interpreted using previous ground investigation data (4).

5.1.2 The sources for imported soils, and for the eventual waste soils, are not known. It is assumed that the sources will be the same or similar to those used previously at the site (5).

5.1.3 As the range of testing carried out in either of the previous reports did not envisage the scope of the current reporting, some of the required geotechnical parameters have been interpreted using available published information.

5.1.4 Where appropriate, calculations of characteristic values of the geotechnical parameters are included in Appendix C of this report.

## 5.2 SHERWOOD SANDSTONE

5.2.1 The Sherwood Sandstone lies at an elevation of -11.0 m O.D., a depth of between fifteen and eighteen metres below ground level. At this depth, this will have no influence on the stability of the edge bund or waste mass.

5.2.2 The Sherwood Sandstone is considered to be relatively incompressible in comparison with the overlying superficial soils and infill material, and is considered to form the fixed boundary at the bottom edge of the settlement analysis model.

5.2.3 The geotechnical parameters of the Sherwood Sandstone are not considered further in the current report.

## 5.3 THORGANBY CLAY MEMBER

5.3.1 Material described as firm laminated sandy or silty Clay with varying amounts of gravel was encountered universally across the site. Laminations of silt are present, and a parting of sand between 0.3 m and 1.6 m in thickness was observed separating an upper and lower clay. These soils are interpreted as representing the Thorganby Clay Member, with the upper clay having been exploited at the site for brick manufacture.

5.3.2 The majority of the thickness of the Thorganby Clay Member at the site lies below the level of the Bentley Park Drain, with the lower layer also lying beneath water-bearing sand. For this reason, the soil is assumed to be saturated. Being a glaciolacustrine deposit of laminated clay and silt, the soil is also assumed to be essentially normally consolidated and somewhat sensitive.

5.3.3 Laboratory determination of natural water content and Atterberg Limits gave the values in Table 5.1 on specimens taken from the Thorganby Clay Member. The results indicate clay or silt of mainly intermediate plasticity when plotted on the Casagrande chart (Fig. C/01), although one result plotted in the high plasticity range. This is considered to be an outlier and was removed from the data set: the values in Table 5.1 are calculated excluding this value. No specimens were assessed to be non-plastic. There is no discernible trend of change in water content relationships with depth on the plot in Figure C/02, nor between the upper and lower Thorganby Clays.

5.3.4 It should be noted that as locations and levels are not recorded on some of the trial pit logs the data cannot be plotted, although it is included on the Casagrande chart in Figure C/01.

| Parameter | Range | Mean | Median | Mode | Tests |
|---|---|---|---|---|---|
| Water content (%) | 18 to 27 | 23 | 22 | 22 | 21 |
| Liquid Limit (%) | 37 to 50 | 43 | 42 | 37 | 12 |
| Plastic Limit (%) | 19 to 28 | 22 | 21 | 21 | 12 |
| Plasticity Index | 16 to 24 | 20 | 21 | 20 | 12 |
| Liquidity Index | -0.409 to +0.375 | 0.074 | 0.141 | – | 12 |

**Table 5.1: Index Test Results, Thorganby Clay Member**

5.3.5 The weight density of the Thorganby Clay Member was measured in five triaxial tests. The results ranged from 19.4 kN/m³ to 20.5 kN/m³: similar values were obtained from Proctor density tests. The full range of weight density lay between 19.4 kN/m³ and 20.5 kN/m³, with a mean of 20.0 kg/m³ and a median and modal value of 20.1 kN/m³.

5.3.6 The undrained shear strength of the Thorganby Clay Member was measured directly in five laboratory triaxial and hand shear vane tests. The results ranged between 70 kPa and 158 kPa.

5.3.7 The undrained shear strength $c_u$ may be estimated from the Liquidity Index ($I_L$). The correlation of Vardanega and Haigh (14) is used:

$$c_u = 1.7 \times 35^{(1-IL)}$$

5.3.8 Using the measured values of the Liquidity Index for the Thorganby Clay Member, excluding the outlier value, gives a range of undrained shear strength $c_u$ of between 16 kPa and 255 kPa.

5.3.9 Using the method of Bond and Harris (15) on the combined data from both direct measurement and empirical correlations above gives an inferior mean value for $c_u$ of 49 kPa.

5.3.10 No effective stress triaxial testing was carried out as part of the previous investigtions. BS8002 (16) gives the following relationships for calculating the critical state ($\phi'_{cv,k}$) and peak ($\phi'_{pk,k}$) angles of shearing resistance for a fine soil:

$\phi'_{cv,k} = 42° - 12.5\log_{10}\boldsymbol{I_p}$ {BS8007:2015, eq. (7)]

$\phi'_{pk,k} = \phi'_{cv,k} + \phi'_{Dil}$ {BS8007:2015, eq. (8)]

Where $\boldsymbol{I_p}$ is the soil Plasticity Index and $\phi'_{Dil}$ is the contribution from soil dilatancy.

5.3.11 Using the range of measured values for the Plasticity Index leads to a range of values for $\phi'_{cv,k}$ of 25° to 27°. Using the statistical method of Bond and Harris (15) the inferior characteristic value for $\phi'_{cv,k}$ is 25°. A value of 5° is assumed for the dilatancy component of the angle of shearing resistance, giving a peak angle of 30°: when factored in accordance with the National Annex to BSEN1997 (13) this gives a value equal to the Critical State value, which is the lowest theoretically possible value for the shear strength of a first-time failure.

5.3.12 A value of effective cohesion of zero is considered appropriate at this stage of the analysis with the available data.

5.3.13 No compression testing was carried out as part of the previous investigations at the site, and empirical correlations must be used to derive the necessary parameters. A range of characteristic values is calculated for the elastic modulus and Poisson's ratio in order to assess the range of likely settlements and strains.

5.3.14 Bowles (17) suggests that the elastic modulus may be estimated from the empirical relationship
$E_s$ = [200 to 500] x $c_u$
where $c_u$ is the undrained shear strength.
Using the value calculated in Section 5.3.9 and rounding to two significant figures gives a range of values between 10 and 25 MPa.

5.3.15 Table 2-7 of Bowles (17) gives a range of values for Poisson's Ratio for saturated clay of 0.4 to 0.5. Computer finite element analysis will not accept a value of 0.5, so a value of 0.49 is used for the upper limit.

The characteristic values of soil parameters for the Thorganby Clay Member are included in

† Computer finite element analysis will not usually accept a value of 0.5 for Poisson's Ratio: a value of 0.49 is used in the calculations.

5.3.16 Table 5.2 below:

| Parameter | Units | Value | Source |
|---|---|---|---|
| Weight Density $\gamma_b$ | kN/m³ | 20 | Measured value, §5.3.5 |
| Effective Cohesion c' | kPa | 0 | Presumed value, §5.3.12 |
| Peak angle of shearing resistance $\phi$' | ° | 30 | Empirical value, §5.3.11 |
| Undrained Shear Strength $c_u$ | kPa | 49 | Measured and empirical value, §5.3.9**Error! Reference source not found.** |
| Elastic Modulus | MPa | 10 – 25 | Empirical values, §5.3.14 |
| Poisson's Ratio | – | 0.4 – 0.5† | Empirical values, §5.3.15 |

† Computer finite element analysis will not usually accept a value of 0.5 for Poisson's Ratio: a value of 0.49 is used in the calculations.

**Table 5.2: Characteristic Values of Parameters, Thorganby Clay Member**

## 5.4 SAND PARTING

5.4.1 A layer of clayey or silty fine to medium Sand with laminations of silt and clay separates the upper and lower deposits of the Thorganby Clay Member. The thickness is generally between 0.3 m and 1.4 m at the site, but the layer was not recorded in BH4 in the north east corner of the site (4). From a comparison of the level of this stratum and the levels of the worked-out pit from Lidar data (8) it appears that this layer marked the limit of the clay excavation.

5.4.2 No in-situ or laboratory testing was carried out in the sand parting.

5.4.3 No particle shape description is included in the exploratory hole logs, but given the provenance of the sand the shape is assumed to be rounded or sub-rounded.

5.4.4 In the absence of any data, the angle of shearing resistance of the sand is taken to be the basic friction angle of 30° as given in BS8002:2015, with no enhancements (16).

5.4.5 A characteristic value for saturated unit weight of 19 kN/m³ is considered appropriate with reference to Figure 2 of BS8002 (16).

5.4.6 Table 2-6 in Bowles (17) suggests an elastic modulus $E_s$ for silty sand of 24 MPa, and Table 2-7 suggests a Poisson's ratio of 0.25.

5.4.7 The characteristic values of soil parameters for the Sand Parting are included in Table 5.3 below:

| Parameter | Units | Value | Source |
|---|---|---|---|
| Apparent cohesion, $c'_{pk,k}$ | kPa | 0 | Granular soil |
| Peak angle of shearing resistance $\phi'$ | ° | 30 | Assumed §5.4.4; BS8002:2015 |
| Saturated Unit Weight $\gamma_b$ | kN/m³ | 19 | Assumed §5.4.5; BS8002:2015 |
| Elastic Modulus $E_s$ | MPa | 24 | Assumed §5.4.6; Bowles T2-6 |
| Poisson's Ratio $\nu$ | – | 0.25 | Assumed §5.4.6; Bowles T2-7 |

**Table 5.3: Summary of Characteristic Soil Parameters, Sand Parting**

## 5.5 SKIPWITH SAND MEMBER

5.5.1 A layer of clayey or silty fine to medium Sand with laminations of silt and clay separates the upper and lower deposits of the Thorganby Clay Member. The thickness is generally between 0.3 m and 1.4 m at the site, but the layer was not recorded in BH4 in the north east corner of the site (4). From a comparison of the level of this stratum and the levels of the worked-out pit from Lidar data (8) it appears that this layer marked the limit of the clay excavation.

5.5.2 No in-situ or laboratory testing was carried out in the sand parting.

5.5.3 No particle shape description is included in the exploratory hole logs, but given the provenance of the sand the shape is assumed to be rounded or sub-rounded.

5.5.4 In the absence of any data, the angle of shearing resistance of the sand is taken to be the basic friction angle of 30° as given in BS8002:2015, with no enhancements (16).

5.5.5 A characteristic value for saturated unit weight of 19 kN/m³ is considered appropriate with reference to Figure 2 of BS8002 (16).

5.5.6 Table 2-6 in Bowles (17) suggests an elastic modulus $E_s$ for silty sand of 24 MPa, and Table 2-7 suggests a Poisson's ratio of 0.25.

5.5.7 The characteristic values of soil parameters for the Skipwith Sand Member are included in Table 5.4 below:

| Parameter | Units | Value | Source |
|---|---|---|---|
| Apparent cohesion, $c'_{pk,k}$ | kPa | 0 | Granular soil |
| Peak angle of shearing resistance $\phi'$ | ° | 30 | Presumed value §5.4.4 |
| Saturated Unit Weight $\gamma_b$ | kN/m³ | 19 | Presumed value §5.4.5 |
| Elastic Modulus $E_s$ | MPa | 24 | Presumed value §5.4.6 |
| Poisson's Ratio $\nu$ | – | 0.25 | Presumed value §5.4.6 |

**Table 5.4: Summary of Characteristic Soil Parameters, Sand Parting**

## 5.6 MADE GROUND

5.6.1 Made ground on site occurs, or will occur, in three distinct locations, namely the existing quarry infill, the proposed edge bund, and the imported waste soil. A very limited amount of test data is available, and the nature of the imported waste is at this stage unknown.

5.6.2 It is assumed that the AGB lining and the restoration soils will be constructed from similar materials to those used to construct the edge bund, and that the properties will be those of the engineered fill in Table 5.7 below.

5.6.3 Laboratory determination of natural water content and Atterberg Limits of existing Made Ground on the site gave the values in Table 5.5 on specimens taken from the Made Ground. The results indicate clay of intermediate plasticity when plotted on the Casagrande chart in Figure C/01. There is no evidence of any trend with depth when plotted on Figure C/02.

| Parameter | Range | Mean | Median | Mode | Tests |
|---|---|---|---|---|---|
| Water content (%) | 18 to 20 | 19 | 19 | – | 4 |
| Liquid Limit (%) | 40 to 43 | 42 | 41 | – | 4 |
| Plastic Limit (%) | 22 to 23 | 22 | 22 | 22 | 4 |
| Plasticity Index | 18 to 22 | 20 | 20 | – | 4 |
| Liquidity Index | -0.226 to -0.074 | -0.153 | -0.156 | – | 4 |

**Table 5.5: Index Test Results, Made Ground**

5.6.4 The weight density of the Made Ground was measured in four triaxial permeability tests. The results ranged from 19.8 kN/m³to 20.2 kN/m³, with a mean and median of 20 kN/m³. This value is used for the engineered fill forming the bund, but a lower value of 18 kN/m³ is adopted for the less formally engineered quarry infill and waste material, from Figures 1 and 2 of BS8002:2015 (16).

5.6.5 No laboratory measurement of undrained shear strength is available from the Made Ground soils. The undrained shear strength $c_u$ of the engineered fill is therefore estimated from the Liquidity Index of the soil ($I_L$). The correlation of Vardanega and Haigh (14) is used:

$$c_u = 1.7 \times 35^{(1-IL)}$$

5.6.6 From the measured values of the Liquidity Index for the Made Ground a range of undrained shear strength $c_u$ of between 77 kPa and 133 kPa is obtained. Using the method of Schneider (18) gives an inferior mean value for $c_u$ of 91 kPa.

5.6.7 This value is adopted for the engineered fill of the proposed bund, but for the quarry infill and the waste material a lower value of 50 kPa is assumed, as the material will be less formally engineered.

5.6.8 BS8002 (16) gives the following relationships for calculating the critical state ($\phi'_{cv,k}$) and peak ($\phi'_{pk,k}$) angles of shearing resistance for a fine soil:

$\phi'_{cv,k} = 42° - 12.5\log_{10}\boldsymbol{I_p}$ {BS8007:2015, eq. (7)]

$\phi'_{pk,k} = \phi'_{cv,k} + \phi'_{Dil}$ {BS8007:2015, eq. (8)]

Where $\boldsymbol{I_p}$ is the soil Plasticity Index and $\phi'_{Dil}$ is the contribution from soil dilatancy.

5.6.9 Using the range of measured values for the Plasticity Index leads to a range of values for $\phi'_{cv,k}$ of 25° to 26°. Using the statistical method of Schneider (18) the inferior characteristic value for $\phi'_{cv,k}$ is 25°. A value of 5° is assumed for the dilatancy component of the angle of shearing resistance, giving a peak angle of 30°. When factored in accordance with the National Annex to BSEN1997 (13) this gives a value equal to the Critical State value, which is the lowest theoretically possible value for the shear strength of a first-time failure.

5.6.10 A value of effective cohesion of zero in conjunction with the angle of shearing resistance is considered appropriate at this stage of the analysis with the available data.

5.6.11 The existing quarry infill is assumed to be saturated, as the bulk of it lies below the invert level of the Bentley Park Drain: the material is essentially normally consolidated. Bowles (17) suggests that the elastic modulus may be estimated from the empirical relationship
$E_s$ = [200 to 500] x $c_u$
where $c_u$ is the undrained shear strength.
Using the presumed value from Section 5.6.7 and rounding to two significant figures gives a range of values between 10 and 25 MPa.

5.6.12 Table 2-7 of Bowles (17) gives a range of values for Poisson's Ratio for saturated clay of 0.4 to 0.5. Computer finite element analysis will not accept a value of 0.5, so a value of 0.49 is used for the upper limit.

5.6.13 The material of the proposed bund is assumed to be unsaturated, and the equivalent of normally consolidated. Using the empirical relationship of Bowles (17), the value of undrained shear strength calculated in Section 5.6.6, and rounding to two significant figures, gives a range of values between 18 and 45 MPa.

5.6.14 Table 2-7 of Bowles (17) gives a range of values for Poisson's Ratio for unsaturated clay of 0.1 to 0.3.

5.6.15 The waste infill is assumed to be unsaturated cohesive material, and essentially normally consolidated. Using the empirical relationship of Bowles (17), the presumed value of undrained shear strength from Section 5.6.7, and rounding to two significant figures gives a range of values between 10 and 25 MPa.

5.6.16 Table 2-7 of Bowles (17) gives a range of values for Poisson's Ratio for unsaturated clay of 0.1 to 0.3.

5.6.17 The characteristic values of soil parameters for the different Made Ground types are included in

| Parameter | Units | Value | Source |
|---|---|---|---|
| Weight Density $\gamma_b$ | kN/m³ | 18 | Measured value, §5.6.4 |
| Effective Cohesion c' | kPa | 0 | Presumed value, §5.6.10 |
| Peak angle of shearing resistance $\phi$' | ° | 30 | Empirical value, §5.6.9 |
| Undrained Shear Strength $c_u$ | kPa | 50 | Presumed value, §5.6.7 |
| Elastic Modulus | MPa | 10 – 25 | Empirical values, §5.6.11 |
| Poisson's Ratio | – | 0.4 – 0.5† | Empirical values, §5.6.12 |

† Computer finite element analysis will not usually accept a value of 0.5 for Poisson's Ratio: a value of 0.49 is used in the calculations.

5.6.18 Table 5.6 to Table 5.8 below:

| Parameter | Units | Value | Source |
|---|---|---|---|
| Weight Density $\gamma_b$ | kN/m³ | 18 | Measured value, §5.6.4 |
| Effective Cohesion c' | kPa | 0 | Presumed value, §5.6.10 |
| Peak angle of shearing resistance $\phi$' | ° | 30 | Empirical value, §5.6.9 |
| Undrained Shear Strength $c_u$ | kPa | 50 | Presumed value, §5.6.7 |
| Elastic Modulus | MPa | 10 – 25 | Empirical values, §5.6.11 |
| Poisson's Ratio | – | 0.4 – 0.5† | Empirical values, §5.6.12 |

† Computer finite element analysis will not usually accept a value of 0.5 for Poisson's Ratio: a value of 0.49 is used in the calculations.

**Table 5.6: Characteristic Values of Parameters, Quarry Infill**

| Parameter | Units | Value | Source |
|---|---|---|---|
| Weight Density $\gamma_b$ | kN/m³ | 20 | Measured value, §5.6.4 |
| Effective Cohesion c' | kPa | 0 | Presumed value, §5.6.10 |
| Peak angle of shearing resistance $\phi$' | ° | 30 | Empirical value, §5.6.9 |
| Undrained Shear Strength $c_u$ | kPa | 91 | Empirical value, §5.6.6 |
| Elastic Modulus $E_s$ | MPa | | Empirical value, §5.6.13 |
| Poisson's Ratio $\nu$ | – | | Empirical value, §5.6.14 |

**Table 5.7: Characteristic Values of Parameters, Engineered Fill**

| Parameter | Units | Value | Source |
|---|---|---|---|
| Weight Density $\gamma_b$ | kN/m³ | 18 | Presumed value, §5.6.4 |
| Effective Cohesion c' | kPa | 0 | Presumed value, §5.6.10 |
| Peak angle of shearing resistance $\phi$' | ° | 30 | Empirical value, §5.6.9 |
| Undrained Shear Strength $c_u$ | kPa | 50 | Presumed value, §5.6.7 |
| Elastic Modulus $E_s$ | MPa | 10 - 25 | Empirical value, §5.6.15 |
| Poisson's Ratio $\nu$ | – | 0.1 – 0.3 | Empirical value, §5.6.16 |

**Table 5.8: Characteristic Values of Parameters, Waste Soil**

# 6 RESULTS AND RECOMMENDATIONS

## 6.1 RESULTS

6.1.1 The risk assessment carried out in Section 3 indicates no analysis is needed for the stability of the basal subgrade and liner soil, nor for the deposited waste.

6.1.2 Calculations were carried out for the stability of the internal and external side slopes of the edge bund, and for the settlements and strains caused by the imposition of the waste loading. The analysis includes for the stability of the edge bund during and after construction, and the completed landfill to the permitted level. Full calculations are included in Appendix D of this report, and are summarised below.

6.1.3 The analysis of the side slopes was carried out using undrained analysis with applied loading from construction plant, and drained loading for the long-term stability between completion of the liner and the end of waste infilling. For the situation with plant loading both Case 1 and Case 2 were analysed. For the drained condition with no plant loading only Case 2 was analysed, as the factors applied to soil parameters in Case 1 are unity.

6.1.4 The analysis does not distinguish between the AGB liner and the other soils, either infilled or engineered, as the relative thickness of the liner is small in comparison with the thickness of the other soils, and of a similar composition. The analysis therefore includes for the stability of the AGB.

6.1.5 Two sections are considered in the analysis, one for the bund constructed over quarry infill, and one for a section above natural soils of the Skipwith Sand Member and Thorganby Clay Member. The analytical models are included in Appendix B of this report.

6.1.6 The original internal side slope of the edge bund was found to be potentially unstable at a slope of 1 in 2, with an Overdesign Factor of less than unity. The side slopes were therefore slackened to 1 in 2½ and the analysis repeated.

6.1.7 The results of the slope stability analysis as summarised in Table 6.1 and Table 6.2 indicate that the revised side slopes are stable under various situations, with ODF values all greater than unity.

| Model | ODF | |
|---|---|---|
| | Comb. 1 | Comb. 2 |
| Internal side slope: plant at crest of slope, undrained conditions | 2.21 | 2.11 |
| Internal side slope: plant at top of slope, undrained conditions | 1.85 | 1.73 |
| Internal side slope: plant at mid slope, undrained conditions | 1.90 | 2.27 |
| Internal side slope: plant at toe of slope, undrained conditions | 2.11 | 2.77 |
| Internal side slope, effective stress conditions post construction | – | 1.22 |
| Completed landfill | – | 2.41 |

**Table 6.1: Summary of Results Section A-A', Slope Stability.**

| Model | ODF | |
|---|---|---|
| | Comb. 1 | Comb. 2 |
| Internal side slope: plant at crest of slope, undrained conditions | 2.29 | 2.13 |
| Internal side slope: plant at top of slope, undrained conditions | 2.45 | 2.25 |
| Internal side slope: plant at mid slope, undrained conditions | 1.73 | 1.99 |
| Internal side slope: plant at toe of slope, undrained conditions | 2.02 | 1.77 |
| Internal side slope, effective stress conditions post construction | – | 1.22 |
| Completed landfill | – | 2.41 |

**Table 6.2: Summary of Results Section B-B', Slope Stability.**

6.1.8 The results of the settlement analysis as summarised in Table 6.3 indicate that a range of settlement may be expected, depending upon the values of the elastic parameters, but that based on the limited data available the settlement of the bund and the strains in the AGB liner are tolerable.

| Result | Value | Location |
|---|---|---|
| Maximum Settlement at EGL (mm) | 95 | Approx. mid-point of inside slope |
| Maximum Settlement of Waste (mm) | 143 | Above toe of inner bund slope |
| Maximum Heave at EGL (mm) | 10 | At top of former quarry side slope |
| Maximum Tensile Strain in AGB | 0.0005 | Base of landfill |
| Minimum Settlement at EGL (mm) | 15 | Beneath crest of completed landfill |
| Minimum Settlement of Waste (mm) | 30 | 2 – 3 m from toe of inner bund slope |
| Minimum Heave at EGL (mm) | 9 | At top of former quarry side slope |
| Minimum Tensile Strain in AGB | 0.0003 | Base of landfill |

**Table 6.3: Summary of Results, Settlement**

## 6.2 RECOMMENDATIONS

6.2.1 The outer face of the edge bund should be constructed to the permitted slope of 1 in 5. The inner face of the edge bund should be constructed at a slope no steeper than 1 in 2½. The material of the bund and AGB should be compacted at optimum water content to optimum +2% and to an air voids ratio of least 95%. This should be confirmed by appropriate testing during the CQA supervision.

6.2.2 The waste material should be placed in layers and compacted as infilling progresses. Care should be taken to avoid differences in height of more than two metres across the infilled area.

6.2.3 The outer face of the waste material should slope at no steeper than 1 in 5, and should be placed no higher than the permitted level.

6.2.4 If the design of the proposed landfill changes, or the plant used is of a more onerous loading configuration, the analysis and conclusions of this report should be reviewed and amended as necessary.

# 7 REFERENCES

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# Appendix A

## Service Constraints & Report Limitations

## Service Constraints & Report Limitations

This consultancy contract report and supporting work/services (together comprise the "Services") were carried out by TerraConsult Limited (TCL) for Escrick Environmental Services Ltd. (the "client") on the basis of a defined programme and scope of works and the terms of a contract between TCL and the "client." The Services were performed by TCL with all reasonable skill and care ordinarily exercised by a reasonable environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by TCL taking into account the limits of the scope of works required by the client, the works information, the prevailing site conditions, the time scale involved and the resources, including financial and manpower resources, agreed between TCL and the client. TerraConsult Ltd cannot accept responsibility to any parties whatsoever, following the issue of this report, for any matters arising which may be considered outwith the agreed scope of works.

Other than that expressly contained in the above paragraph, TCL provides no other representation or warranty whether express or implied, is made in relation to the Services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of TCL. If a third party relies on this report, it does so wholly at its own and sole risk and TCL disclaims any liability to such parties.

It is TCL's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without TCL 's review and advice shall be at the client's sole and own risk.

The information contained in this report is protected by disclosure under Part 3 of the Environmental Information Regulations 2004 pursuant to the provisions of Regulation 12(5) without the consent in writing of a Director of TerraConsult Limited.

The report was prepared in May 2021 and should be read in light of any subsequent changes in legislation, statutory requirements and industry practices. Ground conditions can also change over time and further investigations or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of TCL. In the absence of such written advice of TCL, reliance on the report in the future shall be at the client's own and sole risk. Should TCL be requested to review the report in the future, TCL shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between TCL and the client.

The observations and conclusions described in this report are based solely upon the Services that were provided pursuant to the agreement between the client and TCL. TCL has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report. TCL is not liable for the existence of any condition, the discovery

of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, TCL did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The Services are based upon TCL's observations of existing physical conditions at the site gained from a walkover survey of the site together with TCL's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst TerraConsult Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified. No responsibility can be accepted for errors within third party items presented in this report. Further TCL was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. TCL is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to TCL and including the doing of any independent investigation of the information provided to TCL save as otherwise provided in the terms of the contract between the client and TCL.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and TCL] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site.

# Appendix B

## Drawings


KEY

Existing contours and levels

Temporary embankment slopes

9.000
9.500
10.000

Final restoration contours to outer slopes

Woodland screen planting on outer margins

Note:

- Phase 1 perimeter profiles as shown (Contours at 0.5m centres).
- To include initial construction of I:5 graded flanks to screen working operations from the north-east north and north west to a height of 5metres about surrounding levels. A 3 metre wide crestline will be formed with the temporary inner slope graded down at 1:2 to the inner landfill surface.
- Minimum 9m stand-off required along top of Bentley Drain embankment to the north and base of landfill in accordance with Ouse and Derwent IDB requirements
- Eastern boundary of screen mound to be formed along western edge of existing access track to maintain a 9m wide corridor route.
- See Dwg EES_LA_2004 for Lowland Mixed Deciduous Woodland planting schedule

## The Old Brick and Tile Works Riccall Road Escrick York

Initial Phase 1 Establishment Prior to Infilling Operations

.\EES Logo Main.jpg

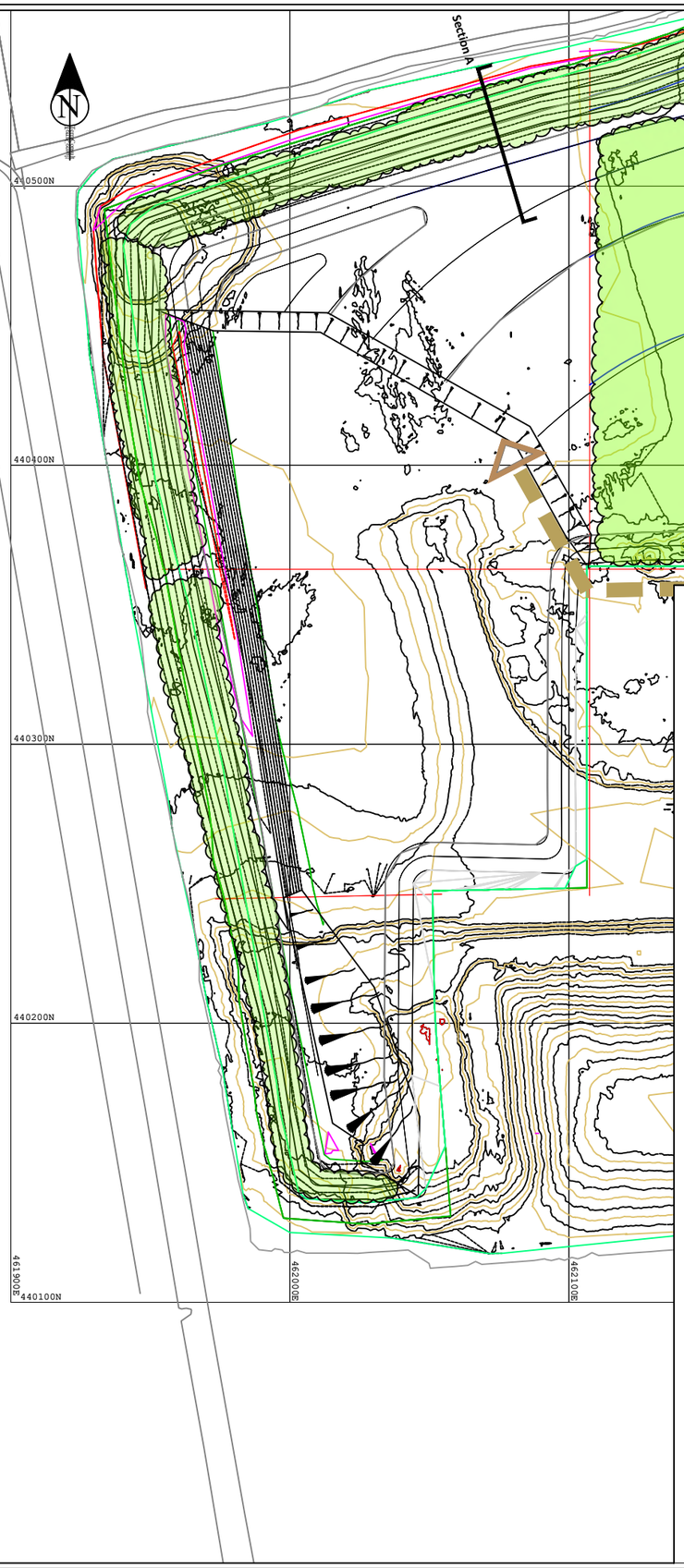
| | |
|---|---|
| Drawn by : BG | Checked by : AG |
| Date : 11.12.2020 | Drg No EES_LA_2001 |

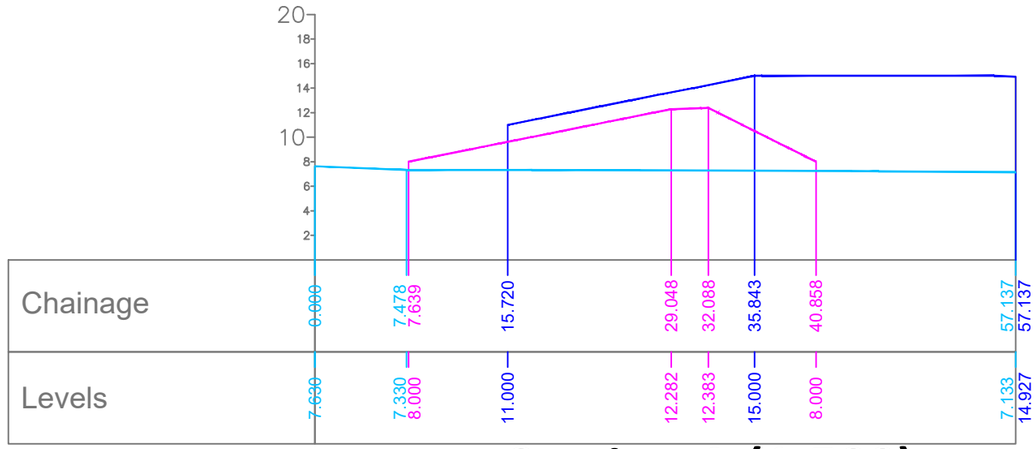
1 : 2,000 @ A3

.\MEWP Logo.jpg

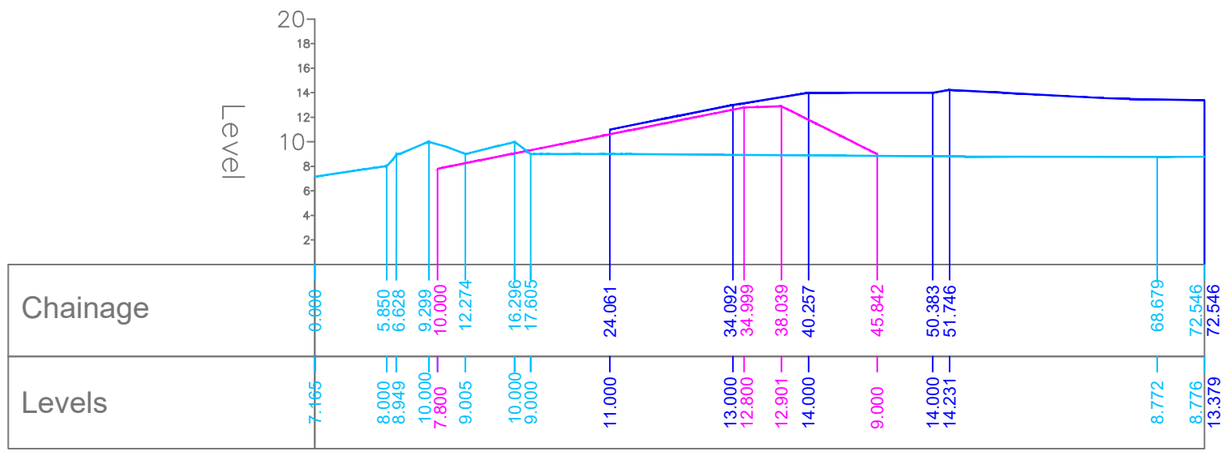
N

.\BGD Associates Red_grey logo DRAFT .jpg




## Section A (1:500)




## Section B (1:500)

Key

- Existing Ground Profile
- Restoration Profile
- Proposed Bund Profile

**TerraConsult**

Bold Business Centre, Bold Lane, Sutton, St Helens WA9 4TX

Client

Site

**Escrick Landfill Site**

Title

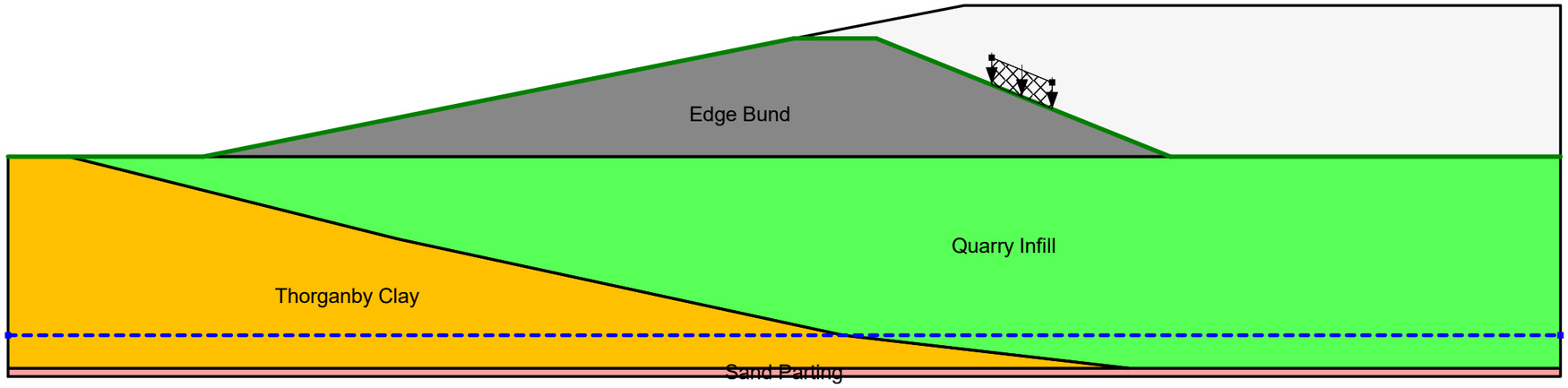
**Cross Sections**

| | |
|---|---|
| Scale | @ A3 |
| Drawing No. | 0000/1/000 |

| Rev | Date | Description |
|---|---|---|
| | | |
| | | |
| | | |

| | | | |
|---|---|---|---|
| File | Escrick Proposed Bund Sections | | |
| Date | 0/15 | Engineer | GH |
| Drawn | PP GH | Checked | DRAFT |

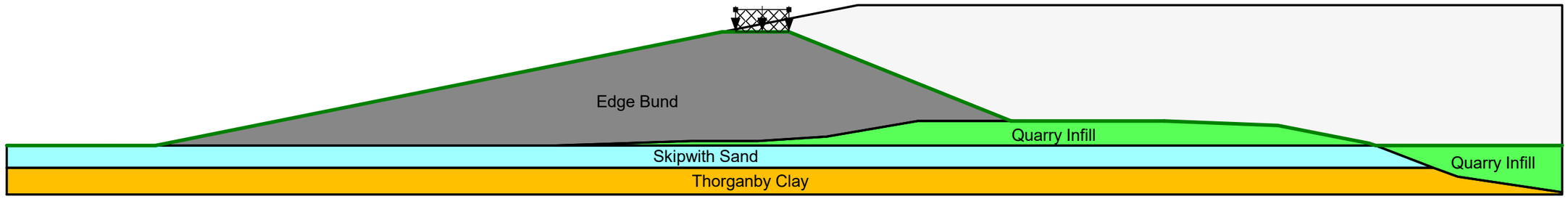
| Color | Name | Material Model | Unit Weight (kN/m³) | Effective Cohesion (kPa) | Effective Friction Angle (°) | Phi-B (°) | Cohesion (kPa) | Piezometric Line |
|---|---|---|---|---|---|---|---|---|
| | Edge Bund | Undrained (Phi=0) | 20 | | | | 90 | 1 |
| | Quarry Infill | Undrained (Phi=0) | 18 | | | | 50 | 1 |
| | Sand Parting | Mohr-Coulomb | 19 | 0 | 30 | 0 | | 1 |
| | Thorganby Clay | Undrained (Phi=0) | 20 | | | | 48 | 1 |




Scale: 1:200

| | | | | | |
|---|---|---|---|---|---|
| Client: | Escrick Environmental Services | TerraConsult Ltd. | Suite 104, Mere Grange Business Park St. Helens, WA9 5GG | | |
| Project: | Former Escrick Brick and Tile Works | Prepared By: | Simon Ferley | Date: | 17/05/2021 |
| Sheet Title: | Section A-A' During Construction, Undrained (M1) using Eurocode 7 - DA1, C1 | Project No: | 5355 | Sheet No: | Fig. B/02 |

| Color | Name | Material Model | Unit Weight (kN/m³) | Effective Cohesion (kPa) | Effective Friction Angle (°) | Phi-B (°) | Cohesion (kPa) |
|---|---|---|---|---|---|---|---|
| | Edge Bund | Undrained (Phi=0) | 20 | | | | 90 |
| | Quarry Infill | Undrained (Phi=0) | 18 | | | | 50 |
| | Skipwith Sand | Mohr-Coulomb | 19 | 0 | 30 | 0 | |
| | Thorganby Clay | Undrained (Phi=0) | 20 | | | | 48 |

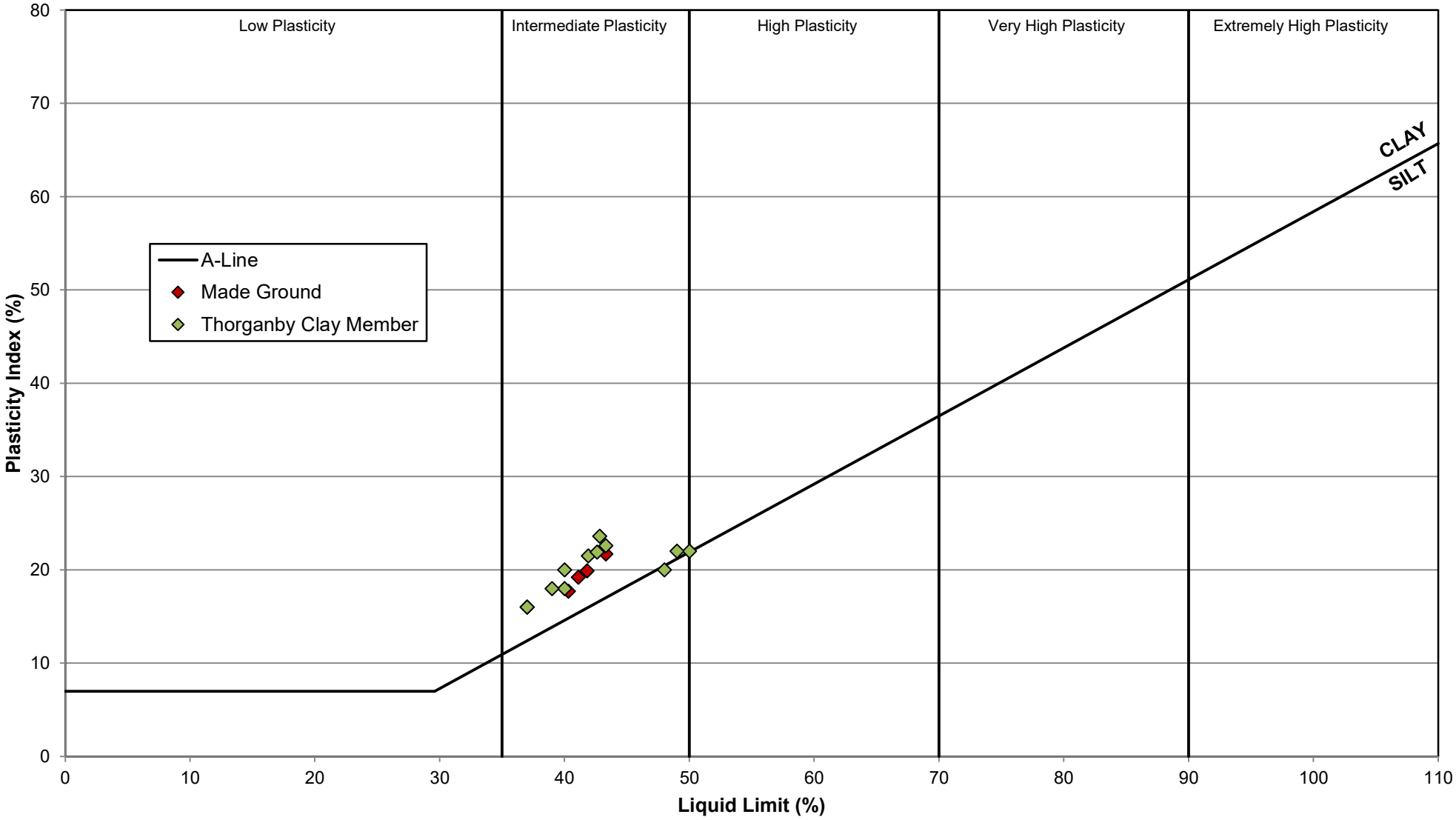



**Scale: 1:200**

| | | | | | |
|---|---|---|---|---|---|
| **Client:** | **Escrick Environmental Services** | *TerraConsult Ltd.* | *Suite 104, Mere Grange Business Park St. Helens, WA9 5GG* | | |
| **Project:** | **Former Escrick Brick and Tile Works** | **Prepared By:** | *Simon Ferley* | **Date:** | **17/05/2021** |
| **Sheet Title:** | **Section B-B' During Construction, Undrained (C1) using Eurocode 7 - DA1, C1** | **Project No:** | **5355** | **Sheet No:** | **Fig. B/02** |

# Appendix C

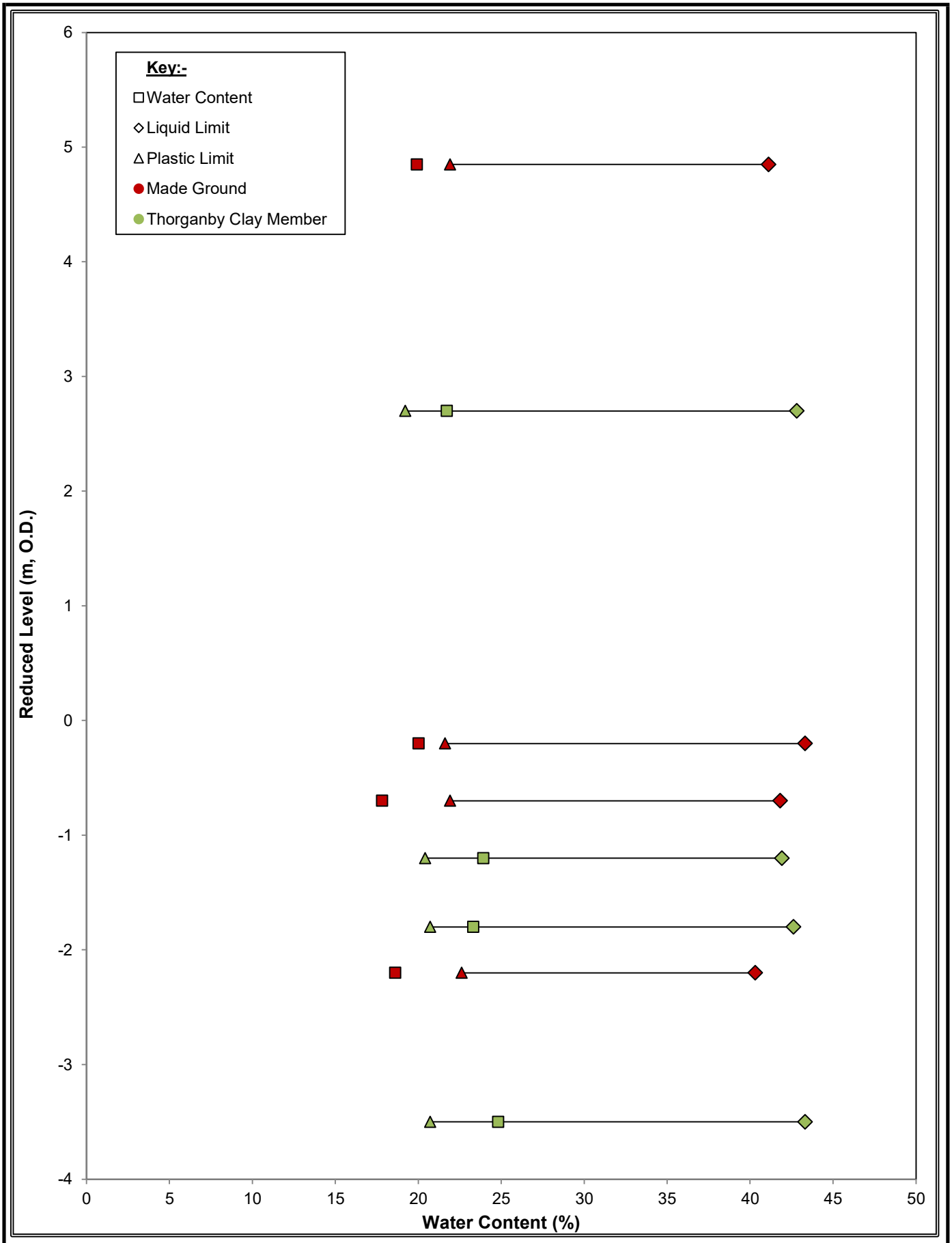
# Parameter Calculations




| | |
|---|---|
| Client: | Escrick Environmental Services Ltd. |
| Project: | **Former Brick and Tile Works, Escrick** |
| Sheet Title: | **Casagrande Chart** |

TerraConsult

| | | | |
|---|---|---|---|
| Drawn: | SJJF | Date: | 26/04/2021 |
| Checked: | | Date: | |
| Project No: | **5355** | Sheet No: | **C/01** |




| | | | |
|---|---|---|---|
| Client: | Escrick Environmental Services Ltd. | TerraConsult | |
| Project: | Former Brick and Tile Works, Escrick | | |
| Sheet Title: | Depth Plot | Drawn: SJJF | Date: 19/02/2020 |
| | | Checked: | Date: |
| | | Project No: 5355 | Sheet No: C/02 |

| | |
|---|---|
| **Client:** | **Escrick Environmental Services Ltd.** |
| **Project No:** | **5355** |
| **Project Name:** | **Escrick Landfill** |

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**Calculation of Characteristic Values of Soil Parameters**

Published References: BSEN 1997-1: 2004 (+A1, 2013) Eurocode 7, Geotechnical Design, Part 1 - General Rules.
*Bond, A and Harris, A* .: Decoding Eurocode 7. Taylor and Francis, 2008

**Soil Type:** **Glaciolacustrine CLAY**

**Input Data:**

| Parameter: Undrained Shear Strength cu | Parameter: Critical Sate Angle of Shearing Resistance |
|---|---|
| Units: kPa | Units: Degrees |

| Data Sources | | | | | Data Sources | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Tx & HSV | V & H | | | | BS8002: 2015 | | | | |
| 88 | 85 | | | | 26 | | | | |
| 92 | 157 | | | | 25 | | | | |
| 101 | 255 | | | | 25 | | | | |
| 158 | 24 | | | | 27 | | | | |
| 70 | 29 | | | | 26 | | | | |
| | 27 | | | | 26 | | | | |
| | 49 | | | | 26 | | | | |
| | 16 | | | | 27 | | | | |
| | 33 | | | | 25 | | | | |
| | 39 | | | | 25 | | | | |
| | 31 | | | | 25 | | | | |
| | 41 | | | | 25 | | | | |

| | | | |
|---|---|---|---|
| Mean: | 76.2 | Mean: | 25.7 |
| Standard Deviation | 63.53074 | Standard Deviation | 0.778499 |
| Sample Size: | 17 | Sample Size: | 12 |

| | | | |
|---|---|---|---|
| **Prepared:** | S.J.J.Ferley | **Checked:** | |
| **Date:** | 28/04/2021 | **Date:** | |

| | |
|---|---|
| **Client:** | **Escrick Environmental Services Ltd.** |
| **Project No:** | **5355** |
| **Project Name:** | **Escrick Landfill** |

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**Calculation of Characteristic Values of Soil Parameters**

**Results for:** **Glaciolacustrine CLAY, Undrained Shear Strength cu**

| **Statistics** | 95% confidence mean | | 5% fractile | |
|---|---|---|---|---|
| Number of tests: | 17 | *n* | 17 | *n* |
| Degrees of Freedom: | 16 | *n-1* | 16 | *n-1* |
| Student T Value: | 1.746 | | 1.746 | |
| $k_n$ | 0.423 | $k_n = t_{n-1}^{95}\sqrt{\frac{1}{n}}$ | 0.5 | $k_n = t_{n-1}^{95}\sqrt{\frac{1}{n}+1}$ |
| **Test Results** | | | | |
| Minimum value: | 16.0 | | 16.0 | |
| Maximum value: | 255.0 | | 255.0 | |
| Mean value: | 76.18 | $m_x$ | 76.18 | $m_x$ |
| Standard Deviation: | 63.53 | $s_x$ | 63.53 | $s_x$ |
| Coefficient of Variation: | 0.83 | $d_x$ (=$s_x/m_x$) | 0.83 | $d_x$ (=$s_x/m_x$) |

**Characteristic Values** $X_k = m_x \mp k_n(1 - d_x)$

| | | | | |
|---|---|---|---|---|
| Inferior: | 49.3 | kPa | 44.4 | kPa |
| Superior: | 103 | kPa | 107.9 | kPa |

**Results for:** **Glaciolacustrine CLAY, Critical Sate Angle of Shearing Resistance**

| **Statistics** | 95% confidence mean | | 5% fractile | |
|---|---|---|---|---|
| Number of tests: | 12 | *n* | 12 | *n* |
| Degrees of Freedom: | 11 | *n-1* | 11 | *n-1* |
| Student T Value: | 1.796 | | 1.796 | |
| $k_n$ | 0.5 | $k_n = t_{n-1}^{95}\sqrt{\frac{1}{n}}$ | 0.5 | $k_n = t_{n-1}^{95}\sqrt{\frac{1}{n}+1}$ |
| **Test Results** | | | | |
| Minimum value: | 25.0 | | 25.0 | |
| Maximum value: | 27.0 | | 27.0 | |
| Mean value: | 25.67 | $m_x$ | 25.67 | $m_x$ |
| Standard Deviation: | 0.78 | $s_x$ | 0.78 | $s_x$ |
| Coefficient of Variation | 0.03 | $d_x$ (=$s_x/m_x$) | 0.03 | $d_x$ (=$s_x/m_x$) |

**Characteristic Values** $X_k = m_x \mp k_n(1 - d_x)$

| | | | | |
|---|---|---|---|---|
| Inferior: | 25.3 | Degrees | 25.3 | Degrees |
| Superior: | 26.1 | Degrees | 26.1 | Degrees |

| | | | |
|---|---|---|---|
| **Prepared:** | S.J.J.Ferley | **Checked:** | |
| **Date:** | 28/04/2021 | **Date:** | |

| | |
|---|---|
| **Client:** | **Escrick Environmental Services Ltd.** |
| **Project No:** | **5355** |
| **Project Name:** | **Escrick Landfill Site** |

**TerraConsult**

**Calculation of Characteristic Values of Soil Parameters**

Published References: BSEN 1997-1: 2004 (+A1, 2013) Eurocode 7, Geotechnical Design, Part 1 - General Rules.
*Schneider, H.R.*: Definition and Determination of Characteristic Soil Properties. Proc. XIVth Int. Conf. on Soil Mechanics and Geotechnical Engineering, Hamburg, 1997 pp 2271-2274

## Input Data:

| | Material 1 | | Material 2 | |
|---|---|---|---|---|
| Material 1 | Made Ground | | | |
| Data Type | Test data | Test data | | |
| Property | cu | f' | | |
| Units | kPa | Degrees | | |
| Mean | 105.0 | 25.8 | | |
| St. Dev. | 27.63 | 0.50 | | |
| Sample | 4 | 4 | | |
| Test Results | 86.0 | 26.0 | | |
| | 77.0 | 25.0 | | |
| | 124.0 | 26.0 | | |
| | 133.0 | 26.0 | | |

**Numerical procedure**

- Estimated a priori values: $x_{m1}$, $V_{x1}$ and $S_{x1} = x_{m1} \cdot V_{x1}$
  As described in 4.2.a)
- Test values: $x_{m2}$, $S_{x2}$ and $V_{x2}$

$$x_{m2} = \frac{\sum x_i}{n} \qquad S_{x2} = \sqrt{\frac{\sum (x_i - x_{m2})^2}{n-1}} \qquad V_{x2} = \frac{S_{x2}}{x_{m2}}$$

- Combined a posteriori information: $x_{m3}$, $S_{x3}$ and $V_{x3}$

$$x_{m3} = \frac{x_{m2} + \frac{x_{m1}}{n} \cdot \left(\frac{S_{x2}}{S_{x1}}\right)^2}{1 + \frac{1}{n} \cdot \left(\frac{S_{x2}}{S_{x1}}\right)^2} \qquad S_{x3} = S_{x2} \cdot \sqrt{\frac{1}{n + \left(\frac{S_{x2}}{S_{x1}}\right)^2}}$$

$$V_{x3} = \frac{S_{x3}}{x_{m3}}$$

Best estimate of the true mean:

$$\longrightarrow \quad x_{ki} \equiv x_{mi} \cdot \left(1 - \frac{V_{xi}}{2}\right)$$

i = 1: judgment/experience
i = 2: test values
i = 3: combined knowledge

[Schneider, 1997: Figure 3]

| *a priori* data | | | | | | |
|---|---|---|---|---|---|---|
| a | | | estimated minimum | | | a |
| b | | | estimated most likely value | | | b |
| c | | | estimated maximum | | | c |

| | | | |
|---|---|---|---|
| **Prepared:** | S.J.J.Ferley | **Checked:** | |
| **Date:** | 28/04/2021 | **Date:** | |

| | |
|---|---|
| **Client:** | **Escrick Environmental Services Ltd.** |
| **Project No:** | **5355** |
| **Project Name:** | **Escrick Landfill Site** |

TerraConsult

**Calculation of Characteristic Values of Soil Parameters**

Results for: **cu and f' for Made Ground**

| | | cu | f' | |
|---|---|---|---|---|
| **Statistics** | from: | Test data | Test data | |
| Number of tests: | | 4 | 4 | |
| Degrees of Freedom: | | 3 | 3 | |
| Student T Value: | | 2.353 | 2.353 | |
| $k_n$ | | 0.5 | 0.5 | [$k_n = f/\sqrt{n} = 0.5$ for data sets <10, (Schneider, 1997)] |
| **Test Results** | | | | |
| Minimum value: | | 77.0 | 25.0 | |
| Maximum value: | | 133.0 | 26.0 | |
| Mean value: | $m_x$ | 105.00 | 25.75 | |
| Standard Deviation: | $s_x$ | 27.63 | 0.50 | |
| Coefficient of Variation | $d_x$ (=$s_x/m_x$) | 0.26 | 0.02 | |

**Characteristic Values** **Made Ground**

| | | | | |
|---|---|---|---|---|
| Inferior: | 91.2 | kPa | 25.5 | Degrees |
| Superior: | 118.8 | kPa | 26 | Degrees |

Results for: **No data**

| | | | | |
|---|---|---|---|---|
| **Statistics** | from: | | | |
| Number of tests: | | | | |
| Degrees of Freedom: | | | | |
| Student T Value: | | #N/A | #N/A | |
| $k_n$ | | FALSE | FALSE | [$k_n = f/\sqrt{n} = 0.5$ for data sets <10, (Schneider, 1997)] |
| **Test Results** | | | | |
| Minimum value: | | FALSE | FALSE | |
| Maximum value: | | FALSE | FALSE | |
| Mean value: | $m_x$ | | | |
| Standard Deviation: | $s_x$ | | | |
| Coefficient of Variation | $d_x$ (=$s_x/m_x$) | #VALUE! | #VALUE! | |

**Characteristic Values** **0**

| | | | | |
|---|---|---|---|---|
| Inferior: | #VALUE! | 0 | #VALUE! | 0 |
| Superior: | #VALUE! | 0 | #VALUE! | 0 |

| | | | |
|---|---|---|---|
| **Prepared:** | S.J.J.Ferley | **Checked:** | |
| **Date:** | 28/04/2021 | **Date:** | |

**Appendix D**

**Geotechnical Calculations**

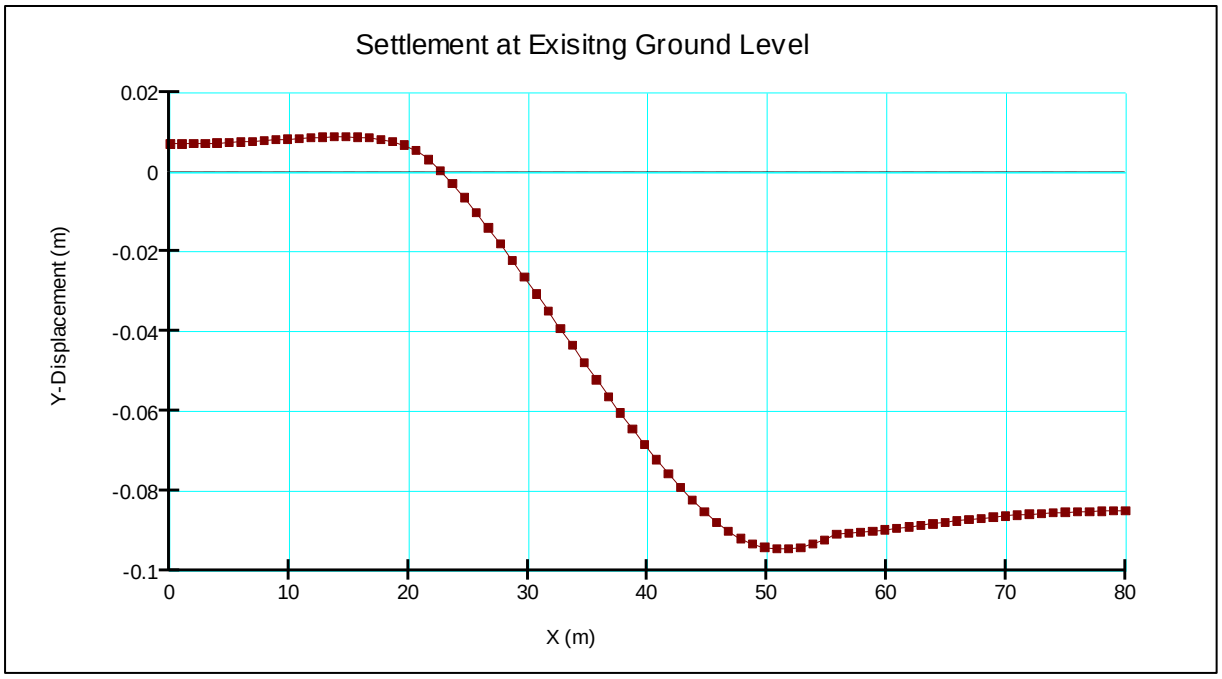


**Fig. D/21 – Maximum Settlement at Ground Level**

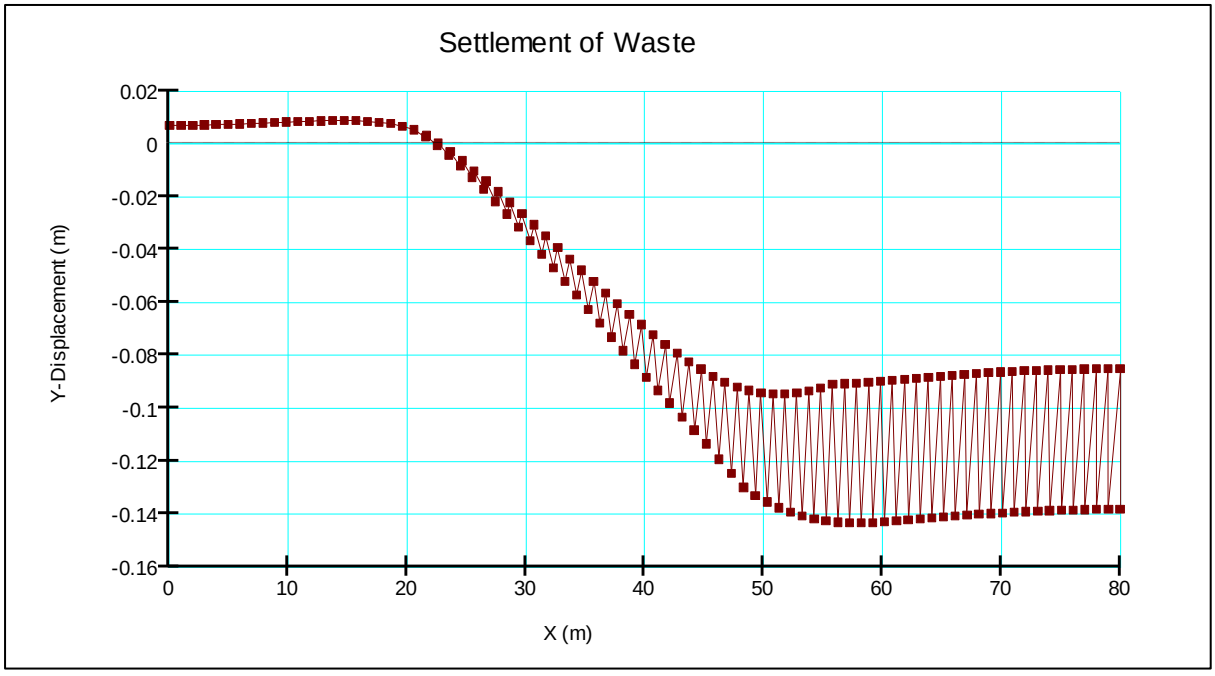


**Fig. D/22 – Combined Settlement at Ground Level and Top of Waste, Maximum**


**Fig. D/23 – Maximum Strain at Top of AGB**

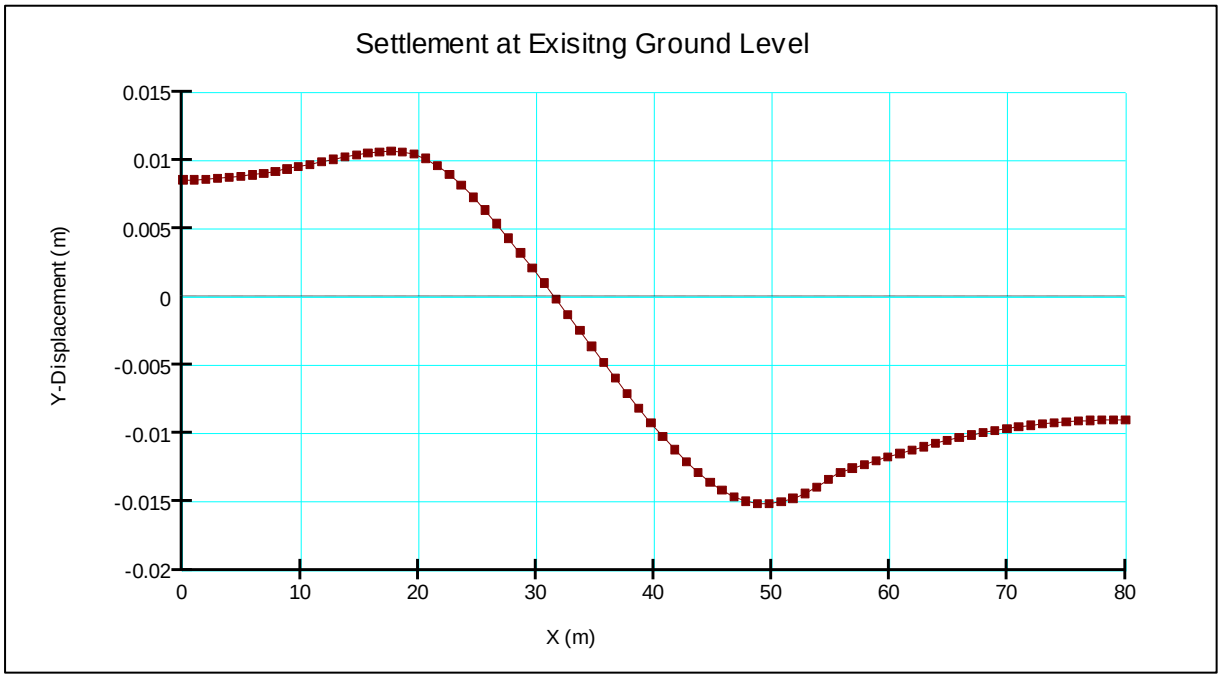


**Fig. D/24 – Minimum Settlement at Ground Level**

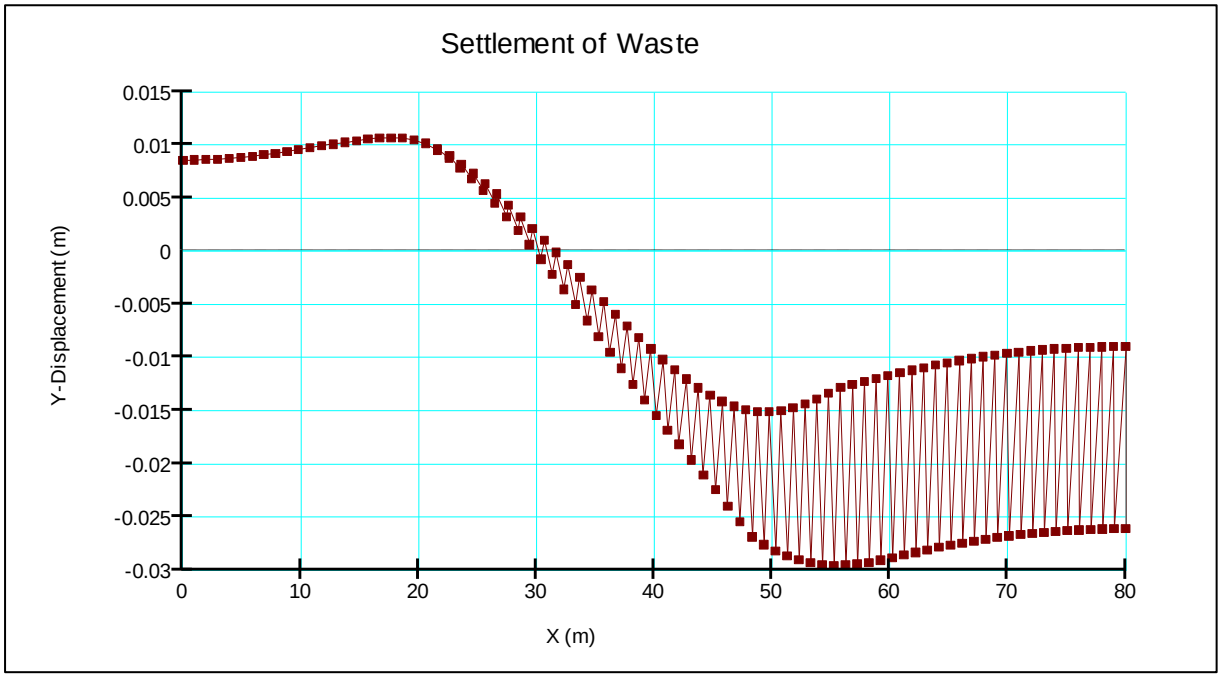


**Fig. D/25 – Combined Settlement at Ground Level and Top of Waste, Minimum**

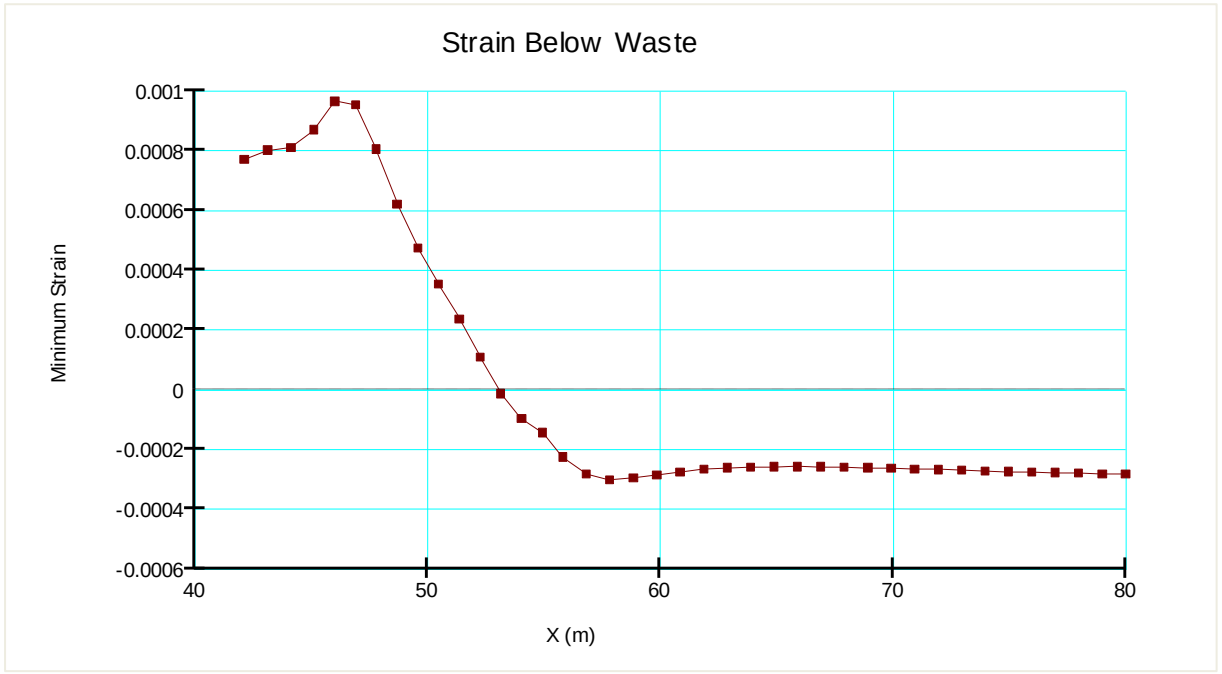


**Fig. D/26 – Minimum Strain at Top of AGB**







# TerraConsult

## Leaders in waste management environmental & ground engineering consultancy


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Escrick Soil Landfill Site
Old Brick and Tile Works
Riccall Road
Escrick
York
YO19 6ED

**Our ref: EPR/LB3005TW/A001**

**Date: 20/04/2022**

Dear Phil Roberts,

**Environmental Permitting – Recovery or Disposal Operation**
**Pre-application Reference: EPR/LB3005TW/A001**
**Proposed Operator: Escrick Environmental Services**
**Regulated facility: Escrick Soil Landfill Site**
**Site Address: Old Brick and Tile Works, Riccall Road, Escrick, York, YO19 6ED**

As part of our pre-application discussions, you have submitted information to us that includes your assessment that the activity you wish to undertake at your site amounts to a recovery operation.

We have now fully considered your submission and we would like to advise you that:

We agree with your assessment that your activity is a recovery operation. This advice is based on the information you have provided in relation to waste types, amounts and nature of proposal including any proposed landform. If you change any of these between now and when you submit an application form, this advice may no longer apply. **Please also note that following submission of an application, additional assessment will take place (for example, further assessment of the proposed waste types based on the sensitivity of the site location) and therefore agreement that an operation is a recovery activity does not guarantee that a permit will be granted or a variation issued.**

For the sake of clarity, the following documents are considered to form the approved waste recovery plan;

- K5259-BLP-ENV-R-00001 – Escrick Soil Landfill Site Waste Recovery Plan. Version 4, dated 14th April 2022
- Drawing 5259/2/001 - Proposed Landfill Development Formation and Top of Liner Layouts and Section Location Plan
- 3156/R/28/03 – Escrick Inert Landfill Site Restoration Scheme, dated July 2019.
- Letter from the Council, to Mr Jarvis, dated 8 April 2021 (ref NY/2020/0223/A27)
- Landscape report to satisfy landscape conditions related to the raising of landfill levels, dated March 2021
- Planning permission (C8/2020/0460/CPO), appended to WRP
- LEMP (BGDesign Associates, December 2020) , appended to WRP
- Stability Risk Assessment (TerraConsult, May 2021), appended to WRP

The following information is **not** considered to form part of the approved waste recovery plan;

- The existing Benefit Statement.

Prior to submitting an application, we would recommend that you consider the following;

- There is the understanding that the existing Benefit Statement is to be revised. Waste codes included in this WRP are limited to characteristics specified in an approved benefit statement. This benefit statement will need to be reviewed and approved as part of the determination of the future application.

If you have any questions please phone me or email Matthew.Tanner@environment-agency.gov.uk

Yours sincerely

Matt Tanner

**Senior Permitting Officer**

# Appendix D - WAMITAB Certificate and Continued Competence

# Continuing Competence Certificate

## This certificate confirms that

Craig Brown

**Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 13/07/2021**

| | |
|---|---|
| LH | Landfill - Hazardous Waste |
| TSH | Transfer - Hazardous Waste |
| TMH | Treatment - Hazardous Waste |

**Expiry Date: 13/07/2023**

Verification date: 09/07/2021

Authorised:

Director of Qualifications and Standards

Learner ID: 19542

Certificate No.: 5181662

Date of Issue: 13/07/2021

CIWM Chief Executive Officer

The Chartered Institution of Wastes Management

00166397

# Appendix E – Environmental Management System

# Escrick Environmental Services Ltd

# Environmental Management System

Escrick Environmental Services Limited
The Old Brick and Tile Works
Riccall Road
Escrick Environmental Waste Services Ltd York
YO19 6ED

**Record of Revisions**

| Issue Date | Description | Sections Affected |
|---|---|---|
| 0:15.08.2011 | Original prepared by L Warburton:<br>A D L Environmental Limited | None |
| 1.21.10.2011 | Revised Original for Handover to:<br>Escrick Environmental Services Ltd | Policy & Manual |
| | | |
| | | |
| | | |

# ESCRICK ENVIRONMENTAL SERVICES LIMITED

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