

APPLICATION FOR AN ENVIRONMENTAL PERMIT – RICCALL WOOD TREATMENT FACILITY

H Barker and Son Limited

Site Condition Report & Baseline Report –
Environmental Permit Application Reference EPR/PP3801LB/A001

JER8763

SCR

3

2

23 August 2023

Quality Management

Version	Revision	Authored by	Reviewed by	Approved by	Date
1	0	Tim Colebrook	n/a	n/a	30 July 2021
1	1	Tim Colebrook	Jennifer Stringer	n/a	27 August 2021
1	2	Tim Colebrook	Edward Barker	n/a	2 September 2021
2	0	Tim Colebrook	Jennifer Stringer	n/a	10 September 2021
2	1	Tim Colebrook	Jennifer Stringer	Jennifer Stringer	16 September 2021
3	0	Tim Colebrook	Edward Barker	n/a	21 September 2021
3	1	Tim Colebrook	Jennifer Stringer	Jennifer Stringer	22 September 2021
3	2	Rayhela Ahmed	Jennifer Stringer	Jennifer Stringer	23 August 2023

Approval for issue

Jennifer Stringer

Technical Director



23 August 2023

File Name

230823_R_JER8763_Riccall Site Condition Report_V3R2.docx

© Copyright RPS Group Limited. All rights reserved.

The report has been prepared for the exclusive use of our client and unless otherwise agreed in writing by RPS Group Limited no other party may use, make use of or rely on the contents of this report.

The report has been compiled using the resources agreed with the client and in accordance with the scope of work agreed with the client. No liability is accepted by RPS Group Limited for any use of this report, other than the purpose for which it was prepared.

RPS Group Limited accepts no responsibility for any documents or information supplied to RPS Group Limited by others and no legal liability arising from the use by others of opinions or data contained in this report. It is expressly stated that no independent verification of any documents or information supplied by others has been made.

RPS Group Limited has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy.

No part of this report may be copied or reproduced, by any means, without the written permission of RPS Group Limited.

Prepared by:

RPS

Rayhela Ahmed

Principal Consultant

20 Farringdon Street
London, EC4A 4AB

T +44 20 3691 0500

E rayhela.ahmed@rpsgroup.com

Prepared for:

H Barker and Son Limited

Contents

1	INTRODUCTION	1
1.1	Background.....	1
1.2	Key Objectives.....	1
1.3	Description of Permitted Activities.....	2
2	APPLICATION SITE CONDITION REPORT	3
2.1	Application Phase	3
2.2	Site Condition Report Summary	3
3	STAGE 1 – IDENTIFY WHICH HAZARDOUS SUBSTANCES ARE USED, PRODUCED OR RELEASED AT THE INSTALLATION AND PRODUCE A LIST OF THESE SUBSTANCES	5
4	STAGE 2 – IDENTIFYING THE RELEVANT HAZARDOUS SUBSTANCES.....	7
4.2	Incoming Waste	7
4.3	Diesel and Lubricating Oil.....	7
4.4	Ethylene Glycol.....	7
5	STAGE 3 – ASSESSMENT OF THE SITE-SPECIFIC POLLUTION POSSIBILITY	8
5.2	Hazardous Wastes.....	8
5.3	Diesel.....	9
5.4	Site Specific Pollution Possibility	9
6	STAGE 4 – PROVIDE A SITE HISTORY	10
6.2	General Site History	10
6.3	Previous Ground Investigation.....	10
6.4	Potential Historic Contaminants.....	10
6.5	Operational History	10
7	STAGE 5 – IDENTIFY THE SITE’S ENVIRONMENTAL SETTING	11
7.1	Site Setting and Sources of Desk Study Information	11
7.2	Topography.....	11
7.3	Geology and Hydrogeology	11
	Source Protection Zone.....	12
7.4	Hydrology.....	12
	Flood Risk.....	12
7.5	Man-made Pathways.....	12
7.6	Environmental Consents, Licences, Authorisations, Permits and Designations for the Site and Surrounding Areas.....	12
	Water Discharges and Abstraction Licences.....	12
	Landfill Sites.....	13
	Waste / Permitted Sites.....	14
	Statutory Designated / Sensitive Sites within 1 km.....	14
	Miningõ õ	14
	COMAH	15
	Radonõ õ	15
	Registered Radioactive Substances	15
8	STAGE 6 – SITE CHARACTERISATION.....	16
	Field Evidence of Contamination	16
	Sensitivity of Water Environment.....	16
8.2	Conceptual Site Model	16
9	STAGE 7 – SITE INVESTIGATION.....	18
10	STAGE 8 – PRODUCE A BASELINE REPORT.....	19

11	OPERATION SITE CONDITION REPORT	20
	11.1 Operational Phase	20
	11.2 Site Condition Report Summary	20
12	SURRENDER SITE CONDITION REPORT	21
13	CONCLUSIONS	22
	REFERENCES	23

Tables

Table 3-1: Chemical Inventory	5
Table 3-2 Waste Codes Accepted.....	5
Table 7-1: Summary of Discharge Consents	12
Table 7-2: Summary of Installation Sites	14
Table 7.3: Statutory Designated Sites	14
Table 8-1: Conceptual Site Model	16

Appendices

- Appendix A Site Plan
- Appendix B Drainage Report
- Appendix C SiteCheck Report

1 INTRODUCTION

1.1 Background

- 1.1.1 H Barker and Son Limited intends to submit an application to the Environment Agency (EA) for an environmental permit to operate a waste wood treatment facility.
- 1.1.2 The proposed activities fall under the Environmental Permitting (England and Wales) Regulations 2016¹ (EPR) as follows:
- Section 5.3 Part A (1) (a) (ii) . Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment
 - Section 5.4 Part A (1) (a) (ii) . Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment
- 1.1.3 In addition to the main activity, the following directly associated activities (DAAs) are carried out at the site:
- storage and handling of raw materials and wastes
 - diesel generators for shredding / chipping machines
- 1.1.4 To support the application for the permit, there is a requirement to provide a Site Condition Report and an Industrial Emissions Directive (IED) Baseline Report.
- 1.1.5 RPS has been commissioned by H Barker and Son Limited to prepare the Site Condition and Baseline Report (SCBR) to support the proposed application to vary the current environmental permit. As such, this report has been prepared in accordance with the European Commission Guidance (Ref. 1) concerning baseline reports required under the IED and also the Environment Agency's H5 Horizontal Guidance.
- 1.1.6 The Industrial Emissions Directive (IED), Article 22, paragraphs 2 to 4, contains provisions for the definitive cessation of activities involving the use, production or release of Relevant Hazardous Substances (RHS) in order to prevent and tackle potential soil and groundwater contamination from such substances. A key tool in this respect is the establishment of a baseline report where an activity involves the use, production or release of RHS and having regard to the possibility of soil and groundwater contamination. The report will form the basis for a comparison with the state of contamination upon definitive cessation of activities. Where information produced pursuant to other national or union law reflects the state at the time the report is drawn up, that information may be included in, or attached to, the baseline report.
- 1.1.7 RPS has prepared this report based on information and data available at the time of preparation of the report.

1.2 Key Objectives

- 1.2.1 The key objectives of this report are to:
- Establish the environmental setting of the site and determine its environmental sensitivity;
 - Identify activities that are currently undertaken at the site, including the identification of relevant hazardous substances and preventative measures implemented to protect land and groundwater;
 - Establish the extent of historical contamination in the soil and groundwater in areas where current and/or future processes may include similar potentially contaminating substances;

¹ <https://www.legislation.gov.uk/uksi/2016/1154/contents/made>

-
- To identify the site conditions at the site at the point of varying the permit for the facility (baseline condition) such that they may be used as a point of reference to determine whether the site has been contaminated during the site's permitted operation in line with IED and Environmental Permitting Regulations requirements; and
 - To provide conclusions on whether land quality has been impacted from historical activities.

1.2.2 The IED Baseline report follows an 8 stage process. A summary of each stage is outlined below along with where it is addressed within this report:

- Stage 1 - Identify hazardous substances used, produced or released at the installation. This is addressed within Section 3 of this report;
- Stage 2 - Identify relevant hazardous substances used, produced or released at the installation from the list of hazardous substances identified in Stage 1. This is addressed within Section 4 of this report;
- Stage 3 . Undertake an assessment of site-specific pollution possibility for relevant hazardous substances. This is addressed within Section 5 of this report;
- Stage 4 . Evaluation of Site History and potential for relevant hazardous substances to be present in soils and groundwater. This is addressed within Section 6 of this report;
- Stage 5 . Evaluation of Environmental Setting to determine the fate of potential emissions of relevant hazardous substances This is addressed within Section 7 of this report;
- Stage 6 . Site Characterisation that synthesises findings of Stage 5 and 6 on the basis of a Conceptual Site Model. This is addressed within Section 8 of this report;
- Stage 7 . Site Investigation (including sampling strategy). This is addressed within Section 9 of this report; and
- Stage 8 . Production of Baseline Report. This is addressed within Section 10 of this report.

1.3 Description of Permitted Activities

- 1.3.1 The site accepts mixed all grades of waste wood from waste management facilities within the local area but will predominantly receive only Grade C and D wood. Wood is delivered to the site and sorted into non-hazardous (Grades A, B and C) and hazardous (Grade D) wood. Once sorted, wood is stored until it is then processed by shredding and grinding to give a chipped wood material for use as a fuel in biomass boilers or small waste co-incineration plant (SWCP).
- 1.3.2 All storage and treatment of waste will take place outside on impermeable surface with sealed drainage. Processed wood waste will be stored within a building on an impermeable surface with sealed drainage. The annual throughput will be no more than 37,500 tonnes. There will be limited liquids stored on site (fuel oil and maintenance oils) and fuel/oil tanks and drums will be provided within adequate bunding in line with industry best practice standards (i.e. sized to contain 110% of the tank contents and include blind drains).
- 1.3.3 There will be no direct process discharges to ground or surface water or routine point source emissions to air from the Riccall waste wood facility. Clean water from the building roof will discharge to the process areas and also a soakaway behind the facility. Run-off from the storage and process areas is drained to a harvesting tank for collection and use. Further details can be found in the drainage strategy and flood risk assessment.
- 1.3.4 There will be exhaust from the diesel generators for the chipper and shredder, these are regulated by the requirements of Non-Road Mobile Machinery (NRMM) Regulations.

2 APPLICATION SITE CONDITION REPORT

2.1 Application Phase

- 2.1.1 This SCBR, is prepared in accordance with the Environment Agency Horizontal Guidance Note H5, provides references to the various chapters of this report, where available information on the known current condition of the operational area is provided.

2.2 Site Condition Report Summary

1.0 Site Details	
Name of the applicant	H Barker and Son Limited
Activity address	Riccal Wood Treatment Facility King Rudding Lane Riccall York YO19 6QL
National grid reference	SE 63681 37227
Site area (ha)	~0.4
Document reference and dates for Site Condition Report at permit application and surrender	Riccall Wood Treatment Facility Site Condition & Baseline Report
Document references for site plans (including location and boundaries):	1133-006-01

2.0 Condition of the land at permit issue	
Environmental setting including: <ul style="list-style-type: none">• Topography• Geology• Hydrogeology• Hydrology• Environmental Consents, Licences, Authorisations, Permits and Designations	Details of the environmental setting are provided in <i>Section 7</i> of this SCBR.
Pollution history including: <ul style="list-style-type: none">• Location, nature of incidents or direct discharges that may have affected soil or groundwater• Historical land uses and associated contaminants	Pollution history details are provided in <i>Section 6 & 8</i> of this SCBR.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	Details of any historical contamination at the site are provided in <i>Section 6 & 8</i> of this SCBR.
Baseline soil and groundwater reference data	Details regarding baseline soil and groundwater reference data at the site are provided in <i>Sections 6 & 9</i> of this SCBR.
Supporting information	Permit Application Supporting Information

3.0 Permitted activities

Permitted activities	Details regarding permitted activities on the proposed site are provided in <i>Section 1</i> of this SCBR.
Non-permitted activities undertaken	N/A
Document references for: <ul style="list-style-type: none">• plan showing activity layout; and• environmental risk assessment.	1133-006-01

3 STAGE 1 – IDENTIFY WHICH HAZARDOUS SUBSTANCES ARE USED, PRODUCED OR RELEASED AT THE INSTALLATION AND PRODUCE A LIST OF THESE SUBSTANCES

3.1.1 The IED relates to contamination risk associated with hazardous substances used, produced and/or released by the facility. Hazardous substances are defined as substances or mixtures defined in Article 3 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on Classification, Labelling and Packaging of substances and mixtures (the CLP Regulations). The determination of whether a substance is a hazardous substance is largely determined using the substance CAS Number and European Chemicals Agency (ECHA) database (Ref. 2).

3.1.2 Hazardous substances have been identified in the following materials on site:

- Diesel;
- Lubricating oil; and
- Ethylene glycol (anti-freeze)

3.1.3 **Table 3-1** provides details of materials, expected usage or volumes produced and storage at the facility.

Table 3-1: Chemical Inventory

Raw Material	Nature	CAS Number	Expected usage (approximate)	Storage
Diesel	Liquid fuel oil, complex combination of hydrocarbons produced by the distillation of crude oil	68334-30-5	TBC	1 x 20,000 litre bunded tank. 1 x 1,000 litre double skinned mobile bowser
Lubricating oil	Refined hydrocarbon with additives	Various	Low usage, limited to top up.	1,220 litres stored in a dedicated bunded store on impermeable surface with sealed drainage etc.
Ethylene glycol	Liquid coolant mono-constituent substance	107-21-1	Low usage, limited to top-up.	200 litres stored in a dedicated bunded store on impermeable surface with sealed drainage etc.

3.1.4 Table 3-2 below summarises the waste codes that are to be accepted at the site; these include a number of hazardous wastes.

Table 3-2 Waste Codes Accepted

EWC Code	Description
02 01 03	Plant-tissue waste
02 01 07	Wastes from forestry
03 01 01	Waste bark and cork
03-01-04*	Sawdust, shavings, cuttings, wood, particle board and veneer containing hazardous substances
03 01 05	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03 01	Waste bark and wood
15 01 03	Wooden packaging
15 02 02*	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances

17 02 01	Wood
17 02 04*	Wood containing or contaminated with hazardous substances
19 02 09*	Solid combustible wastes containing hazardous substances
19 02 10	Combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 05 03	Off-specification compost
19 12 07	Wood other than that mentioned in 19 12 06
20 01 37*	Wood containing hazardous substances
20 01 38	wood other than that mentioned in 20 01 37

4 STAGE 2 – IDENTIFYING THE RELEVANT HAZARDOUS SUBSTANCES

4.1.1 Stage 1 identified a number of hazardous substances that are stored and used on site as part of site operations. Stage 2 requires a review of the listed substances to determine which are relevant hazardous substances (RHS). Each of the substances identified within Stage 1 are reviewed in below, considering their chemical and physical properties and how they are stored and used on site, to determine the potential pollution risk of each hazardous substance.

4.1.2 RHS in relation to IED are defined as:

those substances or mixtures defined within Article 3 of Regulations (EC) No1272/2008, which, as a result of their hazardousness, mobility, persistence and biodegradability (as well as other characteristics), are capable of contaminating soil or groundwater and are used, produced and/or released by the installation.

4.2 Incoming Waste

4.2.1 The site will accept Grade D waste wood. This is waste that is classified as hazardous waste consisting of wood which has had copper, chrome, arsenic (CCA) treatment or creosote applied. It can only be disposed of by incineration or hazardous waste landfill.

4.2.2 The potential for run-off or leaching from the Grade D wood to enter soil or groundwater is extremely limited due to the Grade D wood being stored externally generally in its largest form (railway sleepers / telegraph poles), being stored on impermeable surfacing with sealed drainage and the storage times being kept to minimum. Processed wood will be stored undercover within a building on impermeable surfacing with sealed drainage.

4.3 Diesel and Lubricating Oil

4.3.1 Diesel and lubricating oil are stored and used in the plant and machinery as part of the site operations. Both are capable of contaminating soil and groundwater should they be released into the environment. These oil-based substances are toxic to the water environment and although they are biodegradable in particular conditions, larger volumes of these substances are likely to be relatively persistent in the environment.

4.3.2 Diesel is stored in sufficiently large quantities to be considered a RHS for the purposes of this assessment.

4.3.3 Lubricating oil will be stored on the site in small quantities and used for maintenance purposes. On this basis lubricating oil has been discounted as a RHS for the purposes of this baseline assessment of soils and groundwater due to the small quantities.

4.4 Ethylene Glycol

4.4.1 Ethylene glycol is used as an additive for cooling in the plant and machinery engines. This may need topping up infrequently and is stored in small volumes on site. The potential for the substance to enter soil and groundwater is extremely limited. On this basis, ethylene glycol has been discounted as a RHS for the purpose of this baseline assessment of soil and groundwater.

5 STAGE 3 – ASSESSMENT OF THE SITE-SPECIFIC POLLUTION POSSIBILITY

- 5.1.1 The RHS identified in Stage 2 is to be considered in Stage 3 in the context of the site itself to determine whether circumstances exist which may result in the release of the substance in sufficient quantities to represent a pollution risk, either as a result of a singular emission or as a result of accumulation from multiple emissions.
- 5.1.2 Circumstances under which emissions may occur include:
- Planned emissions;
 - Accidents and / or incidents; and
 - Routine operations.
- 5.1.3 The only planned emissions at the site are:
- exhaust emissions from plant and machinery, these were discounted at Stage 1 as they are not considered hazardous to soils and groundwater;
- 5.1.4 The site will have an Environmental Management System (EMS) which outlines the sites procedures in place to minimise the frequency of accidents or incidents occurring and outlines procedures in place to minimise the risk in the event of an accident or incident occurring. These are summarised below:
- All aspects of the site operations have been assessed for significance and an appropriate environmental risk assessment has been carried out;
 - Regular inspections of impermeable surfaces, tanks, bunds and pipe work will be carried out and repairs and maintenance undertaken as necessary;
 - All plant and equipment will be inspected and maintained in accordance with legal requirements and the manufactures recommendations and maintenance records will be kept by site management;
 - Any complaints received about site activities will be recorded and investigated in accordance with complaints log and investigation procedure;
 - A mechanism will be in place to fully investigate any environmental incidents and non-conformances in both normal and abnormal conditions and to record any remedial actions that might be taken and how to prevent re-occurrence;
 - A site-specific emergency contingency and accident management plan will be in place; and
 - All relevant staff will receive environmental training relating to environmental best practice on induction and are required to follow safe working procedure.
- 5.1.5 Emissions as a result of the RHS used during routine operations are outlined in the sections below.

5.2 Hazardous Wastes

- 5.2.1 As stated in Section 4, the potential for run-off or leaching from the Grade D wood to enter soil or groundwater is extremely limited due to the Grade D wood being stored externally generally in its largest form (railway sleepers / telegraph poles), being stored on impermeable surfacing with sealed drainage and the storage times being kept to minimum. Processed wood will be stored undercover within a building on impermeable surfacing with sealed drainage.
- 5.2.2 Surfacing will be regularly inspected as part of the EMS and will be repaired where necessary to maintain the impermeable nature of the site surface.
- 5.2.3 The potential for contamination from the storage of hazardous wastes would be limited to soluble compounds present in the hazardous waste wood whilst stored externally entrained in rainwater

run-off. Given the run-off is fully contained and removed off site there is no direct pathway for contamination and therefore hazardous waste is not considered a RHS.

5.3 Diesel

- 5.3.1 Diesel for the chipper/shredder and other mobile plant is stored within a 20,000-litre tank which is located next to the poultry sheds. This is a located within a bund which can contain 110% of the volume of the tank. The fill points have auto shut-off system and a code is required to be entered to fill from the tank. There are no high-level alarms or leak detection. Drip trays will be used during filling of the tank.
- 5.3.2 The tank will be subject to daily visual checks for integrity and leaks. The tank is located on an impermeable surface with sealed drainage to form a barrier and cut off the pathway to soil and groundwater. The surface will be regularly inspected as part of the EMS and will be repaired where necessary to maintain the impermeable nature of the site surface.
- 5.3.3 The mobile bowser is double skinned. When not in use, it will be stored on an impermeable surface with sealed drainage to form a barrier and cut off the pathway to soil and groundwater. Drip trays will be used during filling of the bowser.

5.4 Site Specific Pollution Possibility

- 5.4.1 Given the management procedures in place at the site and the sealed drainage system, the RHS as a result of routine operations and RHS release as a result of accident and/or incident are considered to represent a low risk for the facility in terms of contaminating land or groundwater.

6 STAGE 4 – PROVIDE A SITE HISTORY

- 6.1.1 The purpose of Stage 4 is to determine which of the RHS identified in Stage 3 have the potential to be present on site in the soil and groundwater already as a result of activities undertaken at the site to date and to determine whether they are coincident with potential future emission points.
- 6.1.2 This section should consider both the history of the site prior to development of the current facility and the operational history of the current facility.

6.2 General Site History

- 6.2.1 Historical mapping has been reviewed from 2002 and indicates that the poultry facility sheds were in place at this time adjacent to the proposed wood treatment facility. The proposed permitted area is shown to be a green field site in historic maps up until 2012 with just the access track to the poultry facility running through the site. The 2013 map shows the building which is to be used for the hazardous wood treatment and storage. There is also the exempt wood treatment facility in operation at this time.

6.3 Previous Ground Investigation

- 6.3.1 There are no known ground investigations carried out at the site. No ground investigation has been carried out to inform the permit application and this SCBR.

6.4 Potential Historic Contaminants

- 6.4.1 The site was greenfield until the start of the exempt wood treatment operation in June 2012. The only potential historic contaminants would be from the wood treatment operation and likely from spillages of oil or diesel from plant and machinery.
- 6.4.2 There have been no identified pollution incidents on the site or within 500 m of the site.

6.5 Operational History

- 6.5.1 The facility has been operational as an exempt wood treatment facility since 2013 under a T6 exemption. (Previously a paragraph 21 exemption). The exempt facility only accepted non-hazardous waste and did not accept the hazardous waste which is proposed to be accepted in the permitted facility.

7 STAGE 5 – IDENTIFY THE SITE’S ENVIRONMENTAL SETTING

7.1 Site Setting and Sources of Desk Study Information

7.1.1 The following sections detail the environmental setting of the proposed installation. The sources of desk study information utilised in order to describe the condition of the installation, and in particular, to determine the potential for substances to be present in, on or under the land associated with present and past uses of the site and its surrounding areas are listed below:

- Publicly available data sets from the EA², DEFRA³, Coal Authority⁴ and Public Health England; and
- Information held by the British Geological Survey relating to geology and hydrogeology⁵.

7.1.2 In addition to the publicly available information, a sitecheck assessment provided by the operator has been reviewed and is included as **Appendix A**.

7.2 Topography

7.2.1 OS mapping indicates that the site is relatively level with an elevation of approximately 10 m above Ordnance datum (mAOD).

7.3 Geology and Hydrogeology

7.3.1 A review of the British Geological Survey Geology of Britain viewer details the geology at the site as follows:

- **Bedrock geology description:** Sherwood Sandstone Group - Sandstone. Sedimentary Bedrock formed approximately 237 to 272 million years ago in the Triassic and Permian Periods. Local environment previously dominated by rivers.
 - Setting: rivers. These sedimentary rocks are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting).
- **Superficial deposits description:** Skipwith Sand Member - Sand, Clayey, Gravelly. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions.
 - Setting: ice age conditions. These sedimentary deposits are glacial in origin. They are detrital, created by the action of ice and meltwater, they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods during the Quaternary.

7.3.2 A review of the DEFRA Magic Map identifies the Groundwater Vulnerability classification as Medium . High. Aquifer classification as follows:

- Superficial Drift - Secondary (undifferentiated);
- Bedrock . Principal

² <https://environment.data.gov.uk/public-register/view/index>

³ <https://magic.defra.gov.uk/magicmap.aspx>

⁴ <https://mapapps2.bgs.ac.uk/coalauthority/home.html>

⁵ <https://mapapps.bgs.ac.uk/geologyofbritain/home.html>

Source Protection Zone

7.3.3 The site is not located within a source protection zone (SPZ).

7.4 Hydrology

7.4.1 The nearest surface water features to the site are the Dam Dike (~800m north) and the River Ouse (~1200m southwest).

Flood Risk

7.4.2 The EA's Flood Map for Planning⁶ indicates that the site is located within Flood Zone 1, whereby the annual probability of flooding from fluvial or tidal sources is classified as less than 1 in 1,000. The site is considered to be of very low risk from surface water, tidal and fluvial flooding.

7.5 Man-made Pathways

7.5.1 It is proposed that the site drainage system drains to an impermeable concrete surface which drains to a below ground storage tank.

7.5.2 Water will drain from the concrete surface to a 1,200mm diameter circular sump which will comprise a silt trap, thence to a 2,000-litre capacity Class 1 interceptor before discharging to the tank, in order to minimise the potential for the entry of hydrocarbons and suspended solids to the tank.

7.5.3 Clean water from the building roof will partially discharge to the process areas and to a soakaway behind the facility.

7.6 Environmental Consents, Licences, Authorisations, Permits and Designations for the Site and Surrounding Areas

Water Discharges and Abstraction Licences

7.6.1 Information from the EA website at the time of writing indicates that there is only one permitted discharge consent within 500 m of the site. The details are provided in Table 7-1 below:

Table 7-1: Summary of Discharge Consents

Operator	Permit Number	Site Name	Address	Distance from postcode (km)	Discharge type
Trustees of the Skipwith Estate	NE/S/P/1899/001 (Start date . 28/05/1963)	Riccall Grange Farmhouse	Riccall Grange, Riccall	~0.5	Domestic property (single) (incl farm house)

7.6.2 The Environment Agency have confirmed there is only one abstraction licence within 500m of the site as follows:

- Licence No 2/27/24/148 . H Barker & Son Limited (for the adjacent poultry facility)

⁶ <https://flood-map-for-planning.service.gov.uk/>

Landfill Sites

- 7.6.3 Information from the EA public register indicates that there are no active or recent landfill sites within 500 m of the site.
- 7.6.4 The DEFRA data services platform⁷ has been reviewed for historic landfills and it has been confirmed that the nearest historic area of landfill is approximately 2km to the north west. This historic landfill is identified as the Old Brick and Tile Works. East March and Lydney Trust Municipal Landfill having accepted inert, industrial, commercial and household wastes. The site was operated on a dilute and attenuate principle i.e. no containment.

⁷ <https://environment.data.gov.uk/DefraDataDownload/?mapService=EA/HistoricLandfill&Mode=spatial>

Waste / Permitted Sites

7.6.5 Information from the EA public register at the time of writing showed one permitted installation within 1 km of the site, details of which are provided in Table 7-2.

Table 7-2: Summary of Installation Sites

Permit Holder	Permit Number	Address	Process	Approx. Distance (km) from the site
H Barker and Son Limited	AP3331MM / RP3231MR	No 3 Bungalow, King Ridding Lane, Riccall Site, North Yorkshire, YO19 6QL	Intensive Farming; >40,000 poultry associated process	0.1 (adjacent to the site)

Statutory Designated / Sensitive Sites within 1 km

7.6.6 A Habitats Screening Assessment from the EA has identified the following relevant statutory and local ecological sites in Table 7.3 below:

Table 7.3: Statutory Designated Sites

Site Name	Screening Distance (km)	Distance / Direction from the Proposed Site
Special Areas of Conservation (SAC)		
River Derwent	10	6.5 km / East
Lower Derwent Valley		6.5 km / East
Skipwith Common		0.6 km / East
Special Protection Areas (SPA)		
Lower Derwent Valley	10	6.5 km / East
Ramsar		
Lower Derwent Valley	10	6.5 km / East
Sites of Special Scientific Interest (SSSI)		
Skipwith Common	2	0.6 km / East
National Nature Reserve (NNR)		
Skipwith Common	2	0.6 km / East
Local Wildlife Sites (LWS)		
York and Selby Cycle Track	2	2.10 km / North West
Ancient Woodland		
Holly Cars / Hart Nooking	2	2.1 km / North

Mining

7.6.7 A search using the Coal Authority website⁸, the site is identified as in an area which may have been affected by coal mining. The search confirmed that the site boundary is:

- located on the coalfield

⁸ <https://www.groundstability.com/public/web/log-order?execution=e1s2>

-
- not within the Cheshire Brine Compensation District

COMAH

- 7.6.8 The HSE COMAH Public Information site⁹ has been checked and this has confirmed that there are no COMAH establishments within 3 miles of the site.

Radon

- 7.6.9 The UK radon map¹⁰ has confirmed that the site is within the lower probability radon area with less than 1% of homes estimated to be at or above the action level.

Registered Radioactive Substances

- 7.6.10 Information on the EA website at the time of writing indicates that there are no radioactive substance users within 1 km of the site.

⁹ <https://notifications.hse.gov.uk/COMAH2015/Search.aspx>

¹⁰ <https://www.ukradon.org/information/ukmaps/>

8 STAGE 6 – SITE CHARACTERISATION

- 8.1.1 As detailed in Section 6, the site is located on an area currently used as an exempt waste wood treatment facility. The site has been used as an exempt facility since June 2012. Prior to this, it was a green field site and therefore unlikely to have any historic contamination associated with previous used.
- 8.1.2 The site is adjacent to a permitted intensive farming (poultry) installation which is operated by the same operator as the wood treatment facility.
- 8.1.3 The site is located to the east of Riccall village and approximately 5 km to the North East of Selby.
- 8.1.4 The main land use surrounding the area in which the facility is sited is identified as rural. The current surrounding land uses are:
- North . Agricultural Land;
 - East . Agricultural Land / Woodland;
 - South . Woodland / Business Park with Selby approximately 5km away;
 - West . Riccall Village is approximately 1.5 km away
- 8.1.5 The nearest residential receptor is a staff bungalow located between the poultry facility and the wood treatment facility.
- 8.1.6 Section 7 confirms that the geology of the site comprises the Sherwood Sandstone Group bedrock and Skipwith Sand Member - Sand, Clayey, Gravelly superficial deposits. Aquifer records show that the bedrock is classed as a principal aquifer with the superficial deposits designated a Secondary (undifferentiated) aquifer. The site does not lie in a groundwater Source Protection Zone. The site is located within a nitrate vulnerable zone (NVZ).
- 8.1.7 The nearest surface water features to the site are the Dam Dike (~800m north) and the River Ouse (~1200m southwest).
- 8.1.8 There are no previous pollution incidents identified at the site or within 500m.

Field Evidence of Contamination

- 8.1.9 The operator has confirmed that there is no visual or olfactory evidence of contamination within the permit boundary area.

Sensitivity of Water Environment

- 8.1.10 The sensitivity of the water environment is considered medium - high; the site is not within a SPZ, however, there is an on-site groundwater abstraction for supplying the adjacent poultry facility and the site is underlain by a principal bedrock aquifer. The nearest surface watercourse is approximately 800m to the north.

8.2 Conceptual Site Model

- 8.2.1 The potential source-pathway-receptor linkages and associated risks upon operation of the proposed facility, are summarised in the Conceptual Site Model (CSM) in Table 8-1 below.

Table 8-1: Conceptual Site Model

Source	Pathways	Receptors	Risk
On site (current) Exempt wood treatment operation . made ground	Dermal contact & ingestion Particulate / fibre / vapour inhalation Soil leaching / aqueous migration	Human health (site users) Groundwater (principal aquifer)	Low

On site (historical) Green field site	None	None	Very Low
Off site (current) Adjacent permitted installation	Vapour inhalation Soil leaching / aqueous migration	Human health (site users) Groundwater (principal aquifer)	Low
Off site (historical) Agricultural land	None	None	Very Low

9 STAGE 7 – SITE INVESTIGATION

- 9.1.1 No ground investigations have been undertaken (recent or historic) to inform the SCBR. The site was previously a green field site and therefore unlikely to have any historic contamination prior to the operation of the exempt wood treatment facility.

10 STAGE 8 – PRODUCE A BASELINE REPORT

- 10.1.1 No ground investigations have been undertaken (recent or historic) to inform the site condition report / baseline.
- 10.1.2 The site has been used as an exempt wood treatment facility for the past 10 years. The risks of pollution from this activity would be similar to the proposed permitted facility. The main risks of pollution would come from the operation of plant and machinery at the site (diesel / oil leaks and spillages).
- 10.1.3 Prior to the operation of the exempt facility, the site was green field, and no contamination would be expected apart from any naturally occurring contamination or that attributed to off-site activities.
- 10.1.4 Based on the above, any hydrocarbon contamination found at the site in the future will be deemed to have been caused by the proposed permitted operations or the exempt facility. Any other contamination found will be assumed to be from off-site and not caused by the permitted operations unless proven otherwise.

11 OPERATION SITE CONDITION REPORT

11.1 Operational Phase

11.1.1 This SCBR, prepared in accordance with the EA 2015 Site Condition Report+guidance (Ref. 3), contains information on the condition of the site during the operational phase of the facility.

11.2 Site Condition Report Summary

4.0 Changes to the activity	
Have there been any changes to the activity boundary? If yes, provide a plan showing the changes to the activity boundary.	If yes, provide a plan showing the changes to the activity boundary.
Have there been any changes to the permitted activities? If yes, provide a description of the changes to the permitted activities	If yes, provide a description of the changes to the permitted activities
Have any dangerous substances not identified in the Application Site Condition Report been used or produced as a result of the permitted activities? If yes, list them	If yes, list them
Checklist of supporting information	<ol style="list-style-type: none">1. Plan showing any changes to the boundary (where relevant)2. Description of the changes to the permitted activities (where relevant)3. List of dangerous substances used/produced by the permitted activities that were not identified in the Application Site Condition Report (where relevant)

5.0 Measures taken to protect land	
Use records that you collected during the life of the permit to summarise whether pollution prevention measures worked. If you can't, you need to collect land and/or groundwater data to assess whether the land has deteriorated.	
Checklist of supporting information	<ol style="list-style-type: none">4. Inspection records and summary of findings of inspections for all pollution prevention measures5. Records of maintenance, repair and replacement of pollution prevention measures

6.0 Pollution incidents that may have had an impact on land, and their remediation	
Summarise any pollution incidents that may have damaged the land. Describe how you investigated and remedied each one. If you can't, you need to collect land and /or groundwater reference data to assess whether the land has deteriorated while you've been there.	
Checklist of supporting information	<ol style="list-style-type: none">6. Records of pollution incidents that may have impacted on land7. Records of their investigation and remediation

7.0 Soil gas and water quality monitoring (where undertaken)	
Provide details of any soil gas and/or water monitoring you did. Include a summary of the findings. Say whether it shows that the land deteriorated as a result of the permitted activities. If it did, outline how you investigated and remedied this.	
Checklist of supporting information	<ol style="list-style-type: none">8. Description of soil gas and/or water monitoring undertaken9. Monitoring results (including graphs)

12 SURRENDER SITE CONDITION REPORT

12.1.1 At permit surrender, the following sections of the SCBR template (EPR H5) will be completed and submitted to the EA as part of the permit surrender application. Information that has been gathered over the lifetime of the Permit will be used to identify whether the land is in a satisfactory condition. If necessary, surrender reference data will be collected and remediation will be undertaken if required.

8.0 Decommissioning and removal of pollution risk

Describe how the site was decommissioned. Demonstrate that all sources of pollution risk have been removed. Describe whether the decommissioning had any impact on the land. Outline how you investigated and remedied this.

Checklist of supporting information	10. Site closure plan 11. List of potential sources of pollution risk 12. Investigation and remediation reports (where relevant)
--	--

9.0 Reference data and remediation (where relevant)

Say whether you had to collect land and/or groundwater data. Or say that you didn't need to because the information from sections 3, 4, 5 and 6 of the Surrender Site Condition Report shows that the land has not deteriorated. If you did collect land and/or groundwater reference data, summarise what this entailed, and what your data found. Say whether the data shows that the condition of the land has deteriorated, or whether the land at the site is in a satisfactory state. If it isn't, summarise what you did to remedy this. Confirm that the land is now in a satisfactory state at surrender.

Checklist of supporting information	13. Land and/or groundwater data collected at application (if collected) 14. Land and/or groundwater data collected at surrender (where needed) 15. Assessment of satisfactory state 16. Remediation and verification reports (where undertaken)
--	---

10.0 Statement of site condition

Using the information from sections 3 to 7, give a statement about the condition of the land at the site. This should confirm that:

- 17. the permitted activities have stopped
 - 18. decommissioning is complete, and the pollution risk has been removed
 - 19. the land is in a satisfactory condition
-

13 CONCLUSIONS

- 13.1.1 RPS has undertaken an assessment of the site condition at the proposed site for a wood treatment facility in Riccall, York in support of an application for an environmental permit. The primary purpose of this report is to provide information to the Environment Agency in relation to the operations and to provide them with a framework against which potential future contamination issues will be assessed.
- 13.1.2 The published geology of the site indicates the bedrock geology under the site to be sandstone of the Sherwood Sandstone Group. The superficial deposits comprise the Skipwith Sand Member.
- 13.1.3 The Skipwith Sand Member is classified as a Secondary (undifferentiated) aquifer. The underlying Sherwood Sandstone Group is identified as a principal aquifer.
- 13.1.4 Diesel is the only RHS identified at the site.
- 13.1.5 The main diesel storage tank is located within a concrete bund with a capacity of 110% that of the tank. The tank will be subject to daily visual checks for integrity and leaks. The tank is located on an impermeable surface with sealed drainage to form a barrier and cut off the pathway to soil and groundwater. The surface will be regularly inspected as part of the EMS and will be repaired where necessary to maintain the impermeable nature of the site surface.
- 13.1.6 The mobile diesel bowser is double skinned. When not in use, it will be stored on an impermeable surface with sealed drainage to form a barrier and cut off the pathway to soil and groundwater.
- 13.1.7 No ground investigations have been undertaken (recent or historic) to inform the site condition report / baseline due to the site being greenfield prior to the operation of the exempt facility. The exempt facility did not accept hazardous waste and the only potential contaminants of concern would be from oils and fuels used in the plant and machinery at the facility.
- 13.1.8 Any hydrocarbon contamination found at the site in the future will be deemed to have been caused by the proposed permitted operations or the exempt facility. Any other contamination found will be assumed to be from off-site and not caused by the permitted operations unless proven otherwise.

REFERENCES

- 1 - <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32010L0075&from=EN>
- 2 - <https://echa.europa.eu/>
- 3 - Environment Agency, H5 Guidance for Applicants, Environmental Permitting Regulations, Site Condition Report . Guidance and Templates, May 2013.



Appendices

Appendix A

Site Plan

Appendix B

Drainage Report

Appendix C

SiteCheck Report