

WHINNEY HILL LANDFILL

Environmental Permit Variation Application

Baseline Site Condition Report

Prepared for: SUEZ Recycling and Recovery

Lancashire Limited

Environmental Permit Ref: EPR/BL9500IJ

SLR Ref: 416.00079.10026
Version No: 1
April 2022



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CONTENTS

1.0 INTRODUCTION	1
2.0 SITE CONDITION REPORT H5 TEMPLATE	3
2.1 Site Details	3
2.2 Condition of the Land at Permit Issue.....	4
2.3 Permitted Activities.....	9
3.0 CHANGES TO THE ACTIVITY	11

DOCUMENT REFERENCES

APPENDICES

Appendix 01	Envirocheck Report, dated November 2004
Appendix 02	Site Investigation Reports and Borehole Logs

DRAWINGS

Drawing 001	Leachate Treatment Plant Layout
Drawing 003	Environmental Site Setting
Drawing 004	Cultural and Natural Heritage

1.0 Introduction

SUEZ Recycling and Recovery Lancashire Limited (SUEZ) has instructed SLR Consulting Limited (SLR) to prepare an Environmental Permit (EP) variation application for the addition of a Leachate Treatment Plant (LTP) at Whinney Hill Landfill under the Environmental Permitting (England and Wales) Regulations 2016 (as amended). Herein the facility will be referred to as ‘the site’.

As a requirement of Question 5f of the Environment Agency’s (EA) application form Part C2, a Baseline Site Condition Report (SCR) is required if an installation is being added to an EP.

This variation application seeks to make the following changes and additions;

- A LTP which will require the **addition** of Section 5.4, Part A (1) (a) (i) for the biological treatment of non-hazardous waste; and
- A Grey Water Treatment System with a Methane Stripping Plant (MSP) which will be operated under the existing listed activity detailed in Table S1.1 of the EP, under Section 5.4, Part A (1) (a) (ii) for the physico-chemical treatment of non-hazardous waste.

This Baseline SCR only applies to the LTP and associated infrastructure and not the wider landfill site which does not require a SCR as the site incorporates landfill cells for the permanent deposit of waste.

This SCR has been prepared in accordance with the EA’s H5 Guidance Note on SCR¹. The SCR aims to record and describe the condition of the land at the site prior to the commencement of any operations relating to the addition of a listed activity included in Schedule 1 of the EP Regulations. The SCR will capture the conditions of the site at the point of this variation application with particular attention paid to contamination levels in the underlying and surrounding soil and groundwater.

This will provide a point of reference and baseline environmental data so that when the EP is surrendered it can be demonstrated that there has been no deterioration in the condition of the land as a result of the proposed LTP and ensure that the condition of the land is in a ‘satisfactory state’ on surrender of the EP.

The location of the site and environmental site setting is illustrated on Drawings 003 and 004 and the site layout on Drawing 001.

Sections 1 to 3 of the EA’s SCR template have been completed within this document and comprise the following aspects:

- Site details;
- Condition of the land at permit issue;
 - Geology;
 - Hydrology;
 - Hydrogeology;
 - Pollution history; and
 - Evidence of historic contamination.
- Permitted activities.

Sections 1 to 3 of the SCR template have been updated as part of this variation application to incorporate information relating to the land within the existing boundary.

¹ Environment Agency – H5 Site Condition Report – guidance and templates, Version 3.0, April 2013

Sections 4 to 7 of the SCR template will be maintained during the lifetime of the facility.

Sections 8 to 10 will be completed and submitted in support of the application to surrender the EP.

2.0 Site Condition Report H5 Template

2.1 Site Details

Name of the applicant	SUEZ Recycling and Recovery Lancashire Limited
Activity address	Whinney Hill Landfill Site, Whinney Hill Road, Lancashire, BB5 5EN
National grid reference	SD 76096 30256

Document reference and dates for Site Condition Report at permit application and surrender	416.00079.10026/SCR – for a variation application, April 2022
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Document references for site plans (including location and boundaries)	<ul style="list-style-type: none">• Drawing 003 – Environmental Site Setting• Drawing 004 – Cultural and Natural Heritage
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Note:

In Part A of the application form you must give us details of the site's location and provide us with a site plan. We need a detailed site plan (or plans) showing:

- Site location, the area covered by the site condition report, and the location and nature of the activities and/or waste facilities on the site.
- Locations of receptors, sources of emissions/releases, and monitoring points.
- Site drainage.
- Site surfacing.

If this information is not shown on the site plan required by Part B2 of the application form, then you should submit the additional plan or plans with this site condition report.

2.2 Condition of the Land at Permit Issue

Environmental setting including:

- geology
- hydrogeology
- surface waters

Geology

A review of the British Geological Survey (BGS) map² reveals that the site is underlain by a bedrock of Pennine Lower Coal Measures Formation and South Wales Lower Coal Measures Formation – Mudstone, Siltstone and Sandstone. This is indicative of a local environment previously dominated by swamps, estuaries and deltas.

There are no superficial deposits recorded for the area.

Hydrogeology

The bedrock underlying the site is classified as a Secondary A Aquifer which is described by the EA as “permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers”.

The site does not lie within a Source Protection Zone (SPZ).

Hydrology

On site ponds/lagoons associated with the landfill are located within the EP boundary.

Several surface water features can be found within 500m of the site’s boundary. The closest is a small pond situated approximately 20m from the site’s eastern boundary. A second pond is located in this direction, approximately 100m from the site boundary. A small pond also lies approximately 30m from the site’s southern boundary and the Leeds and Liverpool Canal runs to the north and west of the site, approximately 420m to the west at it’s closest.

The Groundwater Vulnerability layer detailed on the MAGIC map reveals that the site lies within an area of low groundwater vulnerability.

Flooding

The site lies within a Flood Zone 1 and therefore has a low probability of flooding³.

² British Geological Survey, Available at www.bgs.co.uk, accessed February 2022.

³ Flood Map for Planning <https://flood-map-for-planning.service.gov.uk>, accessed February 2022.

Pollution history including:

- pollution incidents that may have affected land
- historical land-uses and associated contaminants
- any visual/olfactory evidence of existing contamination
- evidence of damage to pollution prevention measures

Pollution History

The Envirocheck⁴ Report included as Appendix 01 shows that there are three recorded entries on the Substantiated Pollution Incident Register for the area within the site boundary as described below:

- Incident Ref: 48799 – in December 2001, an inert pollutant caused a category 3 minor incident to water. There was no impact to air or land;
- Incident Ref: 116305 – in October 2002, the release of an atmospheric pollutant (smoke) caused a category 3 minor incident to air. There was no impact to water or land; and
- Incident Ref: 185448 – in August 2003 the release of an atmospheric pollutant (landfill odour) caused a category 3 minor incident to air. There was no impact to water or land.

There are eleven further recorded entries, within 500m of the site boundary, on the Substantiated Pollution Incident Register. The closest to the site is described below:

- Incident Ref: 164497 – in June 2003, an inert pollutant (construction/demolition material) caused a category 3 minor incident to land. There was no impact to water or air. The incident occurred approximately 8m south east of the site.

Seven pollution incidents to controlled waters have occurred within the site boundary as described below:

- Incident Ref: 92330018 – in January 1992 a category 3 minor incident occurred involving unknown sewage;
- Incident Ref: CE980021 – in February 1998 a category 3 minor incident occurred involving spillage of oils into a freshwater stream/river;
- Incident Ref: CE980028 – in February 1998 a category 2 significant incident occurred involving a spillage of inert suspended solids into a freshwater stream/river;
- Incident Ref: 29271 – in May 1999 a category 3 minor incident occurred involving spillage of organic chemicals due to drainage failures;

⁴ Envirocheck Report, September 2020

- Incident Ref: 95330033 – in February 1995 a category 3 minor incident occurred involving tip leachate;
- Incident Ref: 97330021 – in January 1997 a category 3 minor incident occurred involving inert suspended solids polluting a freshwater stream/river; and
- Incident Ref: 97330228 – in October 1997 a category 2 significant incident occurred involving inert suspended solids polluting a freshwater stream/river.

37 further pollution incidents to controlled waters have occurred within 500m of the site.

Waste Management Activities

Three Licenced Waste Management Facilities are located on site:

- Whinney Hill Landfill (the site), licence number 54104. The licence was issued in May 1993 and the site accepts over 75,000 tonnes per year of waste. The licence status is currently active;
- Whinney Hill Landfill (the site), licence number 54292. The licence was issued in December 1998 and the site accepts over 75,000 tonnes per year of waste. The licence status is currently active; and
- A waste transfer station, licence number 54099, which had its licence issued in May 1993. The licence was most recently modified in February 2003.

Seven further Licenced Waste Management Facilities lie within 500m of the site. The closest of which is a metal recycling site, licence number 54133, which lies approximately 51m north of the site. The licence was issued in June 1993.

Historic Mapping

The historical map section included within the Envirocheck Report was used to identify the historical uses of the site and its surroundings.

On Site

In 1848 the site was mostly undeveloped and consisted of open ground. Multiple sandstone quarries were present in the northern area.

Between 1894 and 1896 Accrington Brick Works were present in the southern area of the site and the sandstone quarries in the northern area were described as old quarries.

	<p>From 1912 to 1913 the southern area was described as Accrington Brick and Tile Works. Whinney Hill Plastic Brick Works was also present on site.</p> <p>Between 1931 and 1932 Accrington Brick and Tile Works were present in southern area of the site whilst the northern area was described as Whinney Hill Quarry. A clay pit and Whinney Hill Plastic Brick Works were also present on site. A small road running from east to west separated the Brick and Tile Works from the Quarry.</p> <p>From 1955 to 1956 the northern area of the site consisted of Whinney Hill Quarry, a clay pit and Whinney Hill Plastic Brick Works whilst the southern area was occupied by Accrington Brick and Tile Works. A refuse or slag heap was also present in the southern area. The road which separated Whinney Hill Quarry from the Brick and Tile Works remained.</p> <p>In 1965 the southern area of the site was described as 'works' whilst Whinney Hill Quarry was still present in the northern area. The clay pit and Whinney Hill Plastic Brick Works were no longer present, and the refuse or slag heap in the south was extended. The road separating the quarry from the works area was identified as Whinney Hill Road.</p> <p>Between 1973 and 1981 Whinney Hill Quarry was described as a shale quarry. A refuse or slag heap was located within the quarry area and two reservoirs were present on site.</p> <p>In 1988 the majority of the shale quarry was a refuse or slag heap and the area to the south of Whinney Hill Road was described as unused workings. The two reservoirs remained on site.</p> <p>Between 1988 and 1992 the majority of the quarry remained a refuse or slag heap.</p> <p>In 2001 the refuse or slag heap was present to the north of Whinney Hill Road and Whinney Hill Quarry (shale) extended beyond this. A Household Waste Disposal Centre was also identified on site.</p> <p>Off Site</p> <p>The historical maps reveal that in 1848 the site was predominantly surrounded by open/agricultural land and sandstone quarries. A few residential properties were located in the area and the Leeds and Liverpool Canal was situated to the north. East Lancashire Railway ran to the south east.</p> <p>Between 1894 and 1896 the surrounding area to the north west became increasingly developed and the</p>
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	<p>Clifton, Accrington and Colne Railway Line ran to the south east.</p> <p>From 1912 to 1913 the area of Enfield to the west of the site consisted of multiple quarries and works. A Mineral railway ran from east to west to the south of the site and Moorfield Chemical Works was present to the north. The Clifton, Accrington and Colne railway line ran to the south east.</p> <p>Between 1931 and 1932 the Enfield area to the west of the site remained mostly industrial whilst the areas to the south and south east of the site became increasingly residential. The mineral railway was located to the south along with Hambledon Mill whilst Moorfield Chemical Works was located to the north. The London, Midland and Scottish Railway ran to the south east.</p> <p>From 1955 to 1956 Enfield to the west of the site, consisted of mostly industrial premises. Residential areas were located to the south and south east and Moorfield Chemical Works was situated to the north. Hambledon Mill and the mineral railway were also situated to the south.</p> <p>In 1965 Enfield was located to the west with residential properties situated to the south and south east. A works site was located to the north and the mineral railway lay to the south.</p> <p>Between 1973 and 1981 the mineral railway to the south was described as dismantled. The residential area of Laneside was located to the south and south east and industrial premises were situated to the west in Enfield. A travelling crane associated with a works area was located to the east.</p> <p>In 1988 the industrial area of Enfield was located to the west and Moorfield Industrial Estate lay to the north of the site. A travelling crane associated with a works area was located to the east.</p> <p>Between 1988 and 1992 an industrial estate was located to the east with residential properties beyond this. Moorfield Industrial Estate was situated to the north and the industrial area of Enfield lay to the west. Playing fields and a football ground were located to the south along with the residential area of Laneside.</p> <p>In 2001 a residential area was located to the south west and playing fields and a football ground were situated to the south. Moorfield Industrial Estate lay</p>
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	to the north with another industrial estate and works located to the east. Commercial/industrial premises and residential properties were situated to the west in Enfield.
Evidence of historic contamination, for example, historical site investigation, assessment, remediation and verification reports (where available)	Site investigations were undertaken in December 1998, October 2000 and November 2004. The October 2000 Ground Investigations encountered made ground across the site at depths of between 4m and 32m. No contamination was encountered on site. The site investigation reports and borehole logs between 1988 and 1996 are included as Appendix 02.
Baseline soil and groundwater reference data	Groundwater quality reference data is detailed within the Hydrogeological Risk Assessments that have been prepared for the site and submitted previously. The site investigation reports and borehole logs are included as Appendix 02.
Supporting information	<ul style="list-style-type: none"> • Appendix 01 – Envirocheck Report • Appendix 02 – Site Investigation Reports and Borehole Logs

2.3 Permitted Activities

Permitted activities	<p>Whinney Hill Landfill;</p> <p>The currently permitted activities on site are detailed in Schedule 1 of the EP, Table S1.1:</p> <ul style="list-style-type: none"> • A1: Landfill for non-hazardous waste and landfill restoration; and • A2: Treatment of leachate in a facility with a capacity of >50 tonnes/day. <p>The EP also allows for the following Directly Associated Activities to be undertaken, as detailed in Table S1.1:</p> <ul style="list-style-type: none"> • A3: Pre-treatment and utilisation of landfill gas for energy recovery in an appliance with a rated thermal input < 50MW; • A4: Flaring of landfill gas for disposal in an appliance; • A5: Landfill gas collection and monitoring; • A6: Leachate collection and extraction; • A7: Leachate discharge to sewer;
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	<ul style="list-style-type: none"> • A8: Temporary storage of waste (leachate); • A9: Discharges of site drainage from the landfill; • A10: Storage of fuel for operation of plant and equipment; and • A11: Storage of utility materials (oil, antifreeze, oil filters, waste oil and filters, caustic soda (Sodium Hydroxide)). <p>As a result of the EP variation the following changes will be included:</p> <ul style="list-style-type: none"> • The addition of Section 5.4, Part A (1) (a) (i) for the biological treatment of non-hazardous waste to allow the operation of a LTP; and • The variation of the existing Section 5.4, Part A (1) (a) (ii) for the physico-chemical treatment of non-hazardous waste to allow a Grey Water Treatment System with a MSP.
<p>Non-permitted activities undertaken</p>	<p>There are no non-permitted activities undertaken on site.</p>
<p>Document references for:</p> <ul style="list-style-type: none"> • Plan showing activity layout; and • Environmental risk assessment. 	<ul style="list-style-type: none"> • Drawing 001- Leachate Treatment Plant Layout • Drawing 003 – Environmental Site Setting • Drawing 004 – Cultural and Natural Heritage <p>Environmental Risk Assessment, SLR Consulting Limited (ref: 416.00079.10026/ERA), February 2022 for a bespoke Environmental Permit Variation Application.</p>

Note:

In Part B of the application form you must tell us about the activities that you will undertake at the site. You must also give us an environmental risk assessment. This risk assessment must be based on our guidance (*Environmental Risk Assessment*) or use an equivalent approach.

It is essential that you identify in your environmental risk assessment all the substances used and produced that could pollute the soil or groundwater if there were an accident, or if measures to protect land fail.

These include substances that would be classified as ‘dangerous’ under the Control of Major Accident Hazards (COMAH) regulations and also raw materials, fuels, intermediates, products, wastes and effluents.

If your submitted environmental risk assessment does not adequately address the risks to soil and groundwater we may need to request further information from you or even refuse your permit application.

3.0 Changes to the Activity

Have there been any changes to the activity boundary?	No change to the EP boundary.
Have there been any changes to the permitted activities?	<p>The site currently operates under a bespoke EP (Ref: EPR/BL9500IJ), which since permit issue in November 2005 has seen a number of variations, as detailed in the status log of the permit.</p> <p>For this Variation Application, 2022, the following change and addition are proposed:</p> <ul style="list-style-type: none"> • Inclusion of a leachate Treatment Plant which requires the addition of Section 5.4, Part A (1) (a) (i) for the biological treatment of non-hazardous waste; and • Inclusion of a Grey Water Treatment System with a MSP – which will be operated under the existing Section 5.4, Part A (1) (a) (ii) for the physico-chemical treatment of non-hazardous waste.
Have any ‘dangerous substances’ not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	<p>No application site condition report was prepared for Whinney Hill landfill, as the site was for the permanent deposit of waste.</p> <p>No ‘dangerous substances’⁵ have been used or produced as a result of the permitted activities.</p> <p>No raw materials relating to the LTP are stored at the facility.</p>
Checklist of supporting information	N/A

⁵ Substances that would be classified as ‘dangerous’ under the Control of Major Accident Hazards (COMAH) regulations and also raw materials, fuels, intermediates, products, wastes and effluents.

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