Non-Technical Summary

Berwick Farm Landfill

SUEZ Recycling and Recovery UK Limited

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1.0 INTRODUCTION

SLR Consulting Ltd (SLR) has been instructed by SUEZ Recycling and Recovery UK Limited (SUEZ) to prepare an Environmental Permit (EP) variation application for Berwick Farm Landfill at Berwick Lane, Hallen, Bristol BS10 7RS, under the Environmental Permitting (England and Wales) Regulations 2016 (as amended).

The Site is operated by, and the EP is in the name of Cliffeville Limited (a subsidiary of SUEZ Recycling and Recovery Holdings UK Ltd, referred to from herein as SUEZ).

This variation application seeks to add a physico-chemical leachate treatment system within the footprint of Berwick Farm Landfill, to remove dissolved methane from leachate generated by the closed Berwick Farm Landfill, hereafter referred to as 'the Site'.

This document provides a Non-Technical Summary (NTS) of the variation application including:

- An explanation of what is being applied for;
- A summary of the regulated facilities; and
- A summary of the key technical standards and control measures relating to the proposed changes.

To support this EP variation application, the following documentation is submitted in addition to this NTS:

- EA Variation Application Forms (Parts A, C2, C3, and F1) and associated appendices, including a summary of the Operator's Information;
- Environmental Risk Assessment;
- Odour Management Plan;
- Best Available Techniques Assessment and Operating Techniques (BATOT); and
- Associated Drawings.

1.1 Site Location

The Site is located off Berwick Lane, in the village of Hallen in South Gloucestershire, approximately 8km northwest of Bristol's city centre. The M5 road network runs in a north-east to south-west direction, within 420m of the southern site boundary. The site is centred on National Grid Reference (NGR) ST 55400 80600.

Beyond the M49 motorway to the north is the industrial TGE Site Bristol. Land to the north east and east is predominantly open grassland for agricultural use. A livestock farm is located to the southwest which includes residential dwellings. Open land and woodland are located to the south, as well as the nearest residential dwelling on Berwick Lane. To the southwest is a historic landfill and to the west is Boscombe Business Park featuring commercial warehouses.

The site location plan is shown on Drawing 001 and the proposed site layout on Drawing 002. The surrounding land uses and local receptors within 500m are illustrated on Drawing 003 and cultural and natural heritage receptors within 2km are identified on Drawing 004.

A summary of the site's immediate surrounding land uses is identified in Table 1-1 below.

Table 1-1 Surrounding Land Uses

Direction	Description
North	M49 Motorway, Woodland and Agricultural Land.

Direction	Description
East	Livestock Farm, Agricultural Land and Residential Properties.
South	Berwick Lane, Agricultural Land, Residential Properties and Woodland.
West	Boscombe Business Park and Historic Landfill.

1.2 Current Environmental Permits

The Site is a non-hazardous landfill and is permitted under a bespoke EP (EA Ref: EPR/LP3199FS). The Site is operated by Cliffeville Limited (a subsidiary of SUEZ Recycling and Recovery Holdings UK Ltd, referred to from herein as SUEZ). The Site was originally authorised under a Waste Disposal License (Ref: L/NA/T/134M) issued to A.B Collard Esq. on 14th December 1982. The licence was subsequently transferred to Cliffeville Limited on 7th September 1994. Cliffeville Limited became a registered subsidiary of SUEZ Recycling and Recovery Holdings UK Ltd in 2008. This license was most recently varied in April 2012 (EA Ref: EPR/LP3199FS).

The site is closed, capped, and restored, however is not in definitive closure as the closure report has not yet been approved by the EA.

1.3 Pre-Application Discussions

SUEZ received basic pre-application advice from the Environment Agency (EA) in March 2024 (EPR/DP3526SS/P001). The following supplementary basic advice documents were provided:

- Disposal or recovery of non-hazardous and inert waste;
- Deposit for Recovery; and
- Biological Treatment.

These were not applicable to the project, and this was flagged to the pre-application team.

The nature and heritage conservation screening report received is included as Appendix A.

2.0 OVERVIEW OF THE PROPOSED VARIATION

2.1 Overview of Variation

This EP variation does not seek to amend any activities related to the operation of the closed landfill. This variation seeks only to add a physico chemical leachate treatment activity via a Methane Stripping Plant (MSP) to treat leachate arising from the landfill prior to discharge to sewer.

The site will have capacity to process up to approximately 650m^3 of leachate per day. However, the discharge rate will be variable, and therefore the figure cannot be multiplied up to determine the annual discharge volume.

No changes to the EP boundary are proposed as part of this variation, with the MSP to be located within the existing EP boundary near the site entrance and existing landfill gas utilisation compound, as shown on Drawing 002. Furthermore, there is no change proposed to the existing permitted point source emissions to sewer other than the methane concentration.

2.2 Physico Chemical Leachate Treatment System

Leachate generated at the site is currently collected via drainage pipework within the waste mass and directed under gravity through pipework towards one of three concrete collection sumps (MH1, MH6, and MH7) from where it is discharged untreated to sewer via gravity under existing permitted point source emissions to sewer.

Each of these three collection sumps has an individual connection to the Frome Valley foul sewer, operated by Wessex Water, facilitated by existing Trade Effluent Discharge Consents.

New surface laid leachate pipework is to be constructed at the site in order to facilitate transfer of leachate from existing collection sumps to the MSP. It is anticipated that the location of the MSP will be sited close to the site entrance, adjacent to the former weighbridge. The new surface laid leachate pipework will deliver leachate from the three existing collection sumps to this location. There is currently no storage facility present at the site.

The MSP process involves the aeration of leachate in a series of aeration tanks to remove dissolved methane from the liquid, followed by transfer into a pumping chamber. The MSP will consist of 14 tanks, which comprises 3 lanes of 4 reaction vessels, and 2 pumping tanks, as illustrated by Drawing VSL.BF.001.4.1.GA. Leachate will be discharged from the MSP to sewer under an existing Trade Effluent Discharge Consent from Wessex Water. There is no change proposed to the existing permitted point source emission to sewer other than the methane concentration.

There are currently three sewer discharge connections at COL (MH6), COLA (MH7) and Monks Well (MH1). Quantitative leachate monitoring at the sewer discharge connection points is undertaken in accordance with the approved Leachate Management Plan, and the site's EP. It is anticipated that under normal operating conditions when the MSP is operational the treated effluent from the MSP will discharge at a single location within the Monks Well sump, shown in Drawing 002. Under abnormal conditions such as a power cut, it would not be possible to pump leachate from the collection sumps (COL, and COLA) to the MSP. The system will be safely shut down, and the relevant maintenance team will be deployed. Whilst the leachate treatment system is non-operational, leachate will discharge to sewer at the existing three locations (COL, COLA, and Monks Well) under gravity. There is therefore an operational requirement for SUEZ to retain all existing sewer discharge connection points. Leachate at all discharge points will continue to be monitored in accordance with the Leachate Management Plan and EP.

Power will be provided to the MSP by the Site's landfill gas utilisation compound. The MSP will be fully automated and controlled by a SCADA system for 24-hour operation 365 days per year.

The tank layout is shown on Figure 1 below.

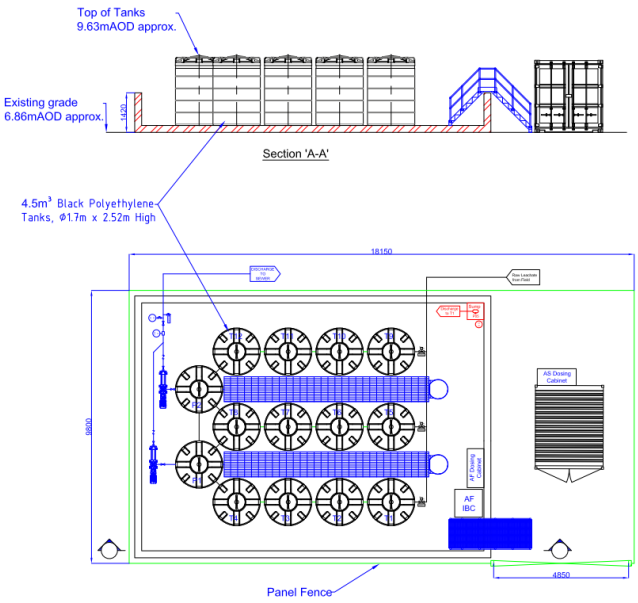

Figure 1 Leachate Treatment Plant Tank Layout

2.3 Permitting Approach- Listed Activity

As advised in basic pre-application advice from the EA, the plant will fall under Schedule 1 of the EP Regulations:

- Section 5.4 A1(a)(ii) – Disposal of non-hazardous waste in a facility with a capacity exceeding 50 tonnes per day by physico-chemical treatment.

2.4 Type of Variation and EA Fees

In accordance with the EA (Environmental Permitting and Abstraction Licensing) (England) Charging Scheme 2022[1], the fee for the application will be as follows:

- New application fee to include a leachate treatment plant: charging scheme ref: 1.17.4 – Section 5.4 – leachate treatment plant with a capacity of 50 or more tonnes a day - **£16,001;**
- Additional charge for assessment of odour management plan; 1.19.6 - Odour Management Plan - **£1,246**;
- Additional charge for habitats assessment; 1.19.2 – Habitats Assessment - **£779**.

Therefore, the total application fee will be **£18,026**.

[1] The EA (Environmental Permitting and Abstraction Licensing) (England) Charging Scheme 2022, amendments up to 1 June 2024 - Environmental Permitting and Abstraction Licensing Charging Scheme 2022 - amendments up to 1 June 2024 (publishing.service.gov.uk)

3.0 APPLICATION CONTENTS

3.1 Application Forms

Parts A, C2, C3, and F1 of the EA's EP variation application forms have been completed in support of this application and are enclosed in Section 2. The variation application forms also require the following additional information, which has been included:

- Operator Information; and
- Letter to EA re Approval.

3.2 Environmental Risk Assessment

An Environmental Risk Assessment (ERA) has been produced to assess the environmental risk posed by the proposed installation of a new leachate treatment plant, as set out in this EP variation application.

Strict operational procedures will continue to be implemented at the Site to monitor and manage amenity risks from the activities and include provision for the monitoring of scavenging birds, vermin, insects and litter, mud on road, odour, air and noise. The impact of the proposed additional activities is assessed in the ERA. Potential receptors are illustrated on Drawing 003 and Drawing 004.

Subject to the implementation of the stated management measures, the conclusion has been reached that the proposed activities are unlikely to result in a significant accident risk or risk to the amenity of the local environment.

The ERA is enclosed in Section 3 of this EP variation application.

3.3 Odour Management Plan

The Odour Management Plan (OMP) has been prepared in support of this EP variation application and is included within Section 4.

The OMP aims to ensure that;

- The EP is complied with;
- All potential odour sources, pathways and receptors are identified;
- Odour impact is considered as part of routine inspections;
- Odour is primarily controlled at source by good operational practices, the correct use and maintenance of plant and operator training;
- All appropriate measures are taken to prevent or, where that is not reasonably practicable, to minimise odorous emissions to air from the facility that may be considered offensive at locations outside the Site boundary;
- People outside of the Site are not exposed to levels of odour that would result in annoyance;
- The risk of unplanned odour releasing incidents or accidents that would result in annoyance is minimised; and
- Site developments take into account odour potential and potential impacts from work carried out.

3.4 Best Available Techniques Assessment and Operating Techniques

The Best Available Techniques Assessment and Operating Techniques (BATOT) aims to identify a selection of techniques to protect the environment in such a way to achieve an appropriate balance between the environmental benefits they bring and the costs to implement them. In addition, the Best Available Techniques Assessment aims to demonstrate that no significant pollution is caused by presenting an assessment of the environmental impact of emissions from the activity as a whole.

The facility will be managed in accordance with SUEZ's Integrated Management System (IMS) accredited to ISO14001. In addition to this IMS, the Operating Techniques within the BATOT details the management measures that will be implemented on Site to minimise the risk of accidents or emissions that could impact workers and local receptors.

The document includes the detailed process description and relevant roles and responsibilities to ensure the safe and effective management of the Site to keep it in compliance with the EP.

The document includes the following information;

- Management;
- Site Operations;
- Process Controls;
- Emissions; and
- Information

Operational management procedures will ensure that:

- The risks that the activities pose to the environment are identified;
- The measures that are required to minimise the risks are identified;
- The activities are managed in accordance with the management system and the Operating Techniques;
- Performance against the management system is audited at regular intervals; and
- The EP is complied with.

The BATOT is enclosed in Section 5 of this EP variation application.

3.5 Drawings

The following drawings have been included in to support this EP variation application and are enclosed in Section 6;

- **Drawing 001** Site Location Plan
- **Drawing 002** Proposed Site Layout
- **Drawing 003** Environmental Site Setting
- **Drawing 004** Cultural and Natural Heritage
- **Drawing VSL.BF.001.4.1.GA** Berwick Farm MSP GA

3.6 Other Risk Assessments

3.6.1 H1 Surface Water Risk Assessment

A H1 Surface Water Risk Assessment is not considered to be necessary for this EP variation application as the existing site has a permitted point source emission to sewer, and there will be no change as a result of the discharge of effluent from the MSP other than the methane concentration.

4.0 TECHNICAL STANDARDS AND KEY CONTROL MEASURES

4.1 Technical Standards

Key technical standards laid out in the following documents govern the design and operation of the plant:

- The Environmental Permitting (England and Wales) Regulations 2016 (as amended);
- Developing a Management System: environmental permits;
- Control and monitor your emissions for an environmental permit;
- Environment Agency - Sector Guidance Note S5.06: Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste (May 2013);
- Environment Agency - Sector Guidance Note S5.03: Guidance for the Treatment of Landfill Leachate (February 2007);
- Environment Agency – A1 Installations: environmental permits (June 2020); and
- European Commission Joint Research Centre – Best Available Techniques Reference document on Waste Treatment (August 2018).

The control measures relevant to the proposed EP variation activities are described in the BATOT submitted with this EP variation application.

The proposals have been assessed against these standards and are all considered to meet the relevant technical standards.

The overall conclusion is that there is unlikely to be a significant environmental impact as a result of the proposed activities on site.

SUEZ are fully committed to ensuring the highest standards are met and will undertake its activities in a manner consistent with best industrial practices and in accordance with the Company's accredited IMS.

Appendix A Nature and Heritage Conservation Screening Report