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1.0 Introduction

SLR Consulting Limited has been appointed on Veolia ES Landfill Limited to produce a Flood Risk Assessment (FRA) as part of an Environmental Statement in support of a planning application for a time extension for operations at Ling Hall Landfill, Coalpit Lane, Wolston, Rugby, CV23 9HH (“the Site”). This report forms a technical appendix to Chapter 10 (Water Environment) of the Environmental Statement (ES).

This FRA has been prepared under the direction of a Technical Director of SLR who specialises in flood risk and associated planning matters. This FRA report has been completed in accordance with guidance presented within the National Planning Policy Framework\(^1\) (NPPF) and its associated Planning Practice Guidance\(^2\) (PPG), taking due account of current best practice documents relating to assessment of flood risk published by the British Standards Institution BS8533\(^3\).

1.1 Site Location

The Site is located to the southwest of Rugby, Warwickshire and is centred on National Grid Reference (NGR) SP (42) 44822, 73403. A Site Location Plan is located is provided as Figure 1-1 (which shows the location of the landfill as opposed to the extent of the planning permission; refer to Drawings LH 2/1 and LH 2/2 in the ES for precise boundaries).

---

1 Revised National Planning Policy Framework: Communities and Local Government (February 2019)
2 Planning Practice Guidance: Communities and Local Government (November 2016)
Access to the Site is from Coalpit Lane, with all vehicles reaching this access from the junction with Lawford Heath Lane. From this junction relatively direct access can be obtained to the A45 London Road.

1.2 Site Overview

Ling Hall Landfill is based in the former Ling Hall Quarry, an established sand and gravel quarry that is now exhausted of mineral reserves. The worked out areas are progressively being landfilled with non-hazardous waste by Veolia. The Site is a former airfield, with much of the main Site infrastructure located on the remnants of the main runway running roughly north-south through the Site. Sand and gravel extraction have taken place at the Site for around 17 years.
2.0 Baseline Site Appraisal

2.1 Topography

Topographical survey information for the Site is presented in Appendix 01. Further topographic data, gathered using Light Detection and Ranging (LiDAR) aerial photogrammetric techniques, has been downloaded from the EA open data website (Figure 2-1) and provides information on the topography of the Site and locale.

The area around the Site has low relief with only a small change in elevation between the local topographic highs and lows. Slopes are typically shallow. The Site is located on a local topographic high with four “valleys” of lower elevation surrounding the site. The most significant is located to the east of the Site and is centred around a tributary of the River Avon. The others are to the north of the Site orientated towards the west, to the west of the Site orientated towards the west and to the south west of the Site orientated towards the south west.

The topography of the Site has been created as a result of the historical quarrying and now landfilling activities at the Site. The LiDAR data predates some of this work and therefore reference should be made to the topographical survey (Appendix 01) alone for on-site levels. At the southern end of the site the worked out areas contain two separate areas of restored landfill. In the ‘valley’ between the two landfill areas lie the quarry and landfill offices, together with the concrete plant and roadstone coating plant. The concrete and coating plants are located at a level of around 110m AOD. The landfilled area to the east of the plants has a maximum height

---

of around 125m AOD, whilst the landfilled area to the east has a maximum height of 120m AOD. There are also areas of higher elevation in the north of the Site which has a maximum elevation of 128m AOD.

2.2 Hydrology and Drainage

There are 3 minor watercourses in the vicinity of the Site to the north, east and west. Wolston Brook (which is also referred to as Sowe Brook in some documents) is located to the west of the Site and flows towards the northwest through Wolston before flowing into the River Avon circa 3.5km northwest of the Site. The other two water courses are unnamed and are, for the purposes of this report, referred to as Limestone Stream (north), and Lawford Stream (east). The OS mapped Surface Water Features are shown in Figure 2-2. All these watercourses have multiple branches which originate near the Site. Most of them start at ponds or issues and are therefore likely to be groundwater fed. This is supported by the superficial geology locally consisting of sand and gravel.

![Figure 2-2: Local Hydrology](image)

There are several surface water features located within the Site itself. These are associated with surface water management of the site over time. These have varied through time and the OS layer does not include the pond located in the northeast corner of the Site.

The Surface Water Management Plan (SWMP)\(^5\) produced in 2017 outlines the surface water management of the restored site. This is what the surface water features will be developed towards throughout the operational period of the landfill. The proposed SWMP consists of a perimeter swale with 5 ponds where surface water is

---

\(^5\) SLR Consulting, Ling Hall: Surface Water Management Plan, Ref: 428.00156.00192, April 2017
attenuated to ground. The location of the surface water management infrastructure is shown on the SWMP Drawing included as Appendix 02.

There are many small ponds indicated by the OS mapping in the vicinity of the site. These are located along the superficial geological boundary between the Dunsmore Gravel and the Bosworth Clay Member (i.e. are issues associated with groundwater trying to move from high permeability layers (Dunsmore Gravel) to low permeability layers (Bosworth Clay)).

2.3 Geological and Hydrogeological Features

2.3.1 Geology

The National Soils Resources Institute, Soilscapes website\(^6\) describes the soils across the Site as “Loamy soils with naturally high groundwater”. Adjacent to Wolston Brook (aka Sowe Brook) on the west of the Site are soils described as “Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils”.

British Geological Survey (BGS) mapping\(^7\), presented in Figure 2-3 (bedrock) indicates that the southeast two thirds of the Site are underlain by bedrock geology of the Rugby Limestone Member. In the northwest third of the Site, the underlying bedrock geology is of the Salford Shale Member.

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\(^{6}\) Soilscapes online soil map, Cranfield Soil and Agrifood Institute, http://www.landis.org.uk/soilscapes/

\(^{7}\) BGS Geology of Britain Viewer, available at http://mapapps.bgs.ac.uk/geologyofbritain/home.html.
The superficial deposits beneath the Site are indicated by Figure 2-4. The indicates that across most of the Site the bedrock geology is overlain by Dunsmore Gravel deposits overlying glacial silts and clays of the Bosworth Clay Member. However, the Site was formerly a sand and gravel quarry and therefore much of the Dunsmore Gravel has been removed. This has been replaced with landfill material and engineering cap. Above this is at least 1m of soil which is progressively seeded and vegetated.

**Figure 2-4**

*Extract of BGS 1:50,000 Superficial Deposit Mapping*

BGS borehole records for borehole SP47SW164 located within the Site, encountered approximately 6m of brown sand and gravel underlain by clay with gravels and cobbles in the upper sections.

### 2.3.2 Hydrogeology

The Rugby Limestone Member is designated by the EA\(^8\) as a “Secondary A Aquifer”, which is defined as “permeable strata capable of supporting water supplies at a local rather than strategic level and in some cases form an important source of base flow to rivers”. The Saltford Shale Member is a lower permeability geological unit assigned as a “Secondary B Aquifer” which is defined as “predominantly lower permeability strata which may in part have the ability to store and yield limited amounts of groundwater by virtue of localised features such as fissures, thin permeable horizons and weathering”.

Where still in place, the superficial Dunsmore Gravel is indicated to be a “Secondary A Aquifer” whilst the Bosworth Clay Member is defined as “Unproductive strata” which are defined as “rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow”.

EA mapping shows that the Site is not located within a groundwater source protection zone (SPZ).

---

\(^8\) Magic Map Application, [http://magic.defra.gov.uk/MagicMap.aspx](http://magic.defra.gov.uk/MagicMap.aspx), Managed by Natural England, Delivered by Landmark
Groundwater levels measured at the Site provided from the client range between 107 and 111maOD.
3.0 Planning Policy

3.1 Proposal Summary

Ling Hall landfill has permission to operate until 2021. Veolia are seeking a 10 year time extension with a revised closure date of 14 May 2031 due to a reduction in inputs from economic conditions. The landfill is currently operational. All quarrying activity finished in 2009.

It is also proposed that there will be an extension of the operation of the street sweeping facility; incinerator bottom ash (IBA) processing facility and composting slab which are already operational at the Site.

3.2 Planning Context

3.2.1 National Planning Policy

This FRA report has been completed in accordance with the guidance presented in the National Planning Policy Framework (NPPF) and with reference to Planning Practice Guidance (PPG).

3.2.2 Local Planning Policy

The Site is situated in an area under the planning jurisdiction of Rugby Borough Council. Development in this area is guided by “Local Plan 2011-2031”.

There is one policy which is relevant to this FRA:

Policy SDC5: Flood Risk Management

“A sequential approach to the location of suitable development will be undertaken by the Council based on the Environment Agency’s flood zones as shown on the latest Flood Map for Planning and Strategic Flood Risk Assessment (SFRA). This will steer new development to areas with the lowest probability of flooding, in order to minimise the flood risk to people and property and manage any residual risk.

If, following application of the sequential test, it is not possible or consistent with wider sustainability objectives for the development to be located in zones with a lower probability of flooding, then the Exception Test can be applied as set out in the NPPF.

Following the Sequential Test, and if required the Exception Test, development will only be permitted where the following criteria are met:

• That the development does not increase flood risk elsewhere;

• Within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location; and

• Development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems.

Land that is required for current and future flood management will be safeguarded from development. Opportunities to reduce the causes and impacts of flooding should be taken where possible. Applicants will be required to demonstrate how they comply with this Policy by way of a site-specific Flood Risk Assessment (FRA) which is appropriate to the scale and nature of the development proposed, where the development is:

9 Rugby Borough Council, Local Plan 2011-2031, June 2019
- In Flood Zone 2 or 3 as defined by the Environment Agency’s Flood Map or Rugby Borough SFRA;
- Minor development and change of use more than 1ha and in Flood Zone 1;
- Within 20m of a watercourse;
- Adjacent to, or including, any flood bank or other flood control structure; or
- Within an area with critical drainage problems.

The FRA must assess the flood risk from all sources and identify options to mitigate the flood risk to the development, site users and surrounding area.”

### 3.3 Flood Zone Classification

In assessing the boundary between Flood Zones 1, 2 and 3, the protection afforded by a flood defence structures, and other local circumstances, is not considered by the EA. EA Flood Mapping\(^\text{10}\), reproduced as Figure 3-1, indicates that the site is located within Flood Zone 1.

**Figure 3-1**

Extract of EA Flood Map for Planning

The definition of EA flood zones is provided in PPG Table 1: Flood Zones:

- **Zone 1 - Low Probability** (Flood Zone 1) is defined as land which could be at risk of flooding from fluvial or tidal flood events with less than 0.1% annual probability of occurrence (1:1,000 year) i.e. considered to be at ‘low probability’ of flooding.

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\(^{10}\) Flood Map for Planning Service: Website: https://flood-map-for-planning.service.gov.uk/
• **Zone 2 - Medium Probability** (Flood Zone 2) is defined as land which could be at risk of flooding with an annual probability of occurrence between 1% (1:100 year) and 0.1% (1:1,000 year) from fluvial sources and between 0.5% (1:200 year) and 0.1% (1:1,000 year) from tidal sources i.e. considered to be at ‘medium probability’ of flooding.

• **Zone 3a - High Probability** (Flood Zone 3a) is defined as land which could be at risk of flooding with an annual probability of occurrence greater than 1% (1:100 year) from fluvial sources and greater than 0.5% (1:200 year) from tidal sources i.e. considered to be at ‘high probability’ of flooding.

• **Zone 3b - the Functional Floodplain** (Flood Zone 3b) is defined as land where water has to flow or be stored in times of flood. Local Planning Authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain in agreement with the EA. In the absence of definitive information, it is often defined as land that would flood with an annual probability of occurrence of 5% (1:20 ye) or greater.

### 3.4 Flood Risk Vulnerability

With reference to PPG Table 2: Flood Risk Vulnerability Classification ‘non-residential uses for... educational establishments’ are considered as a ‘more vulnerable’ land use in terms of flood risk vulnerability classification.

### 3.5 Flood Risk Compatibility

As discussed in Section 3.3, the Site lies in Flood Zone 1. PPG Table 3: Flood risk vulnerability and flood zone ‘compatibility’ (reproduced as Table 3-1) confirms that, with respect to flood risk, the proposed development use is appropriate, and the Exception Test need not be applied.

<table>
<thead>
<tr>
<th>Flood Risk Vulnerability Classification (PPG Table 2)</th>
<th>Essential Infrastructure</th>
<th>Highly Vulnerable</th>
<th>More Vulnerable</th>
<th>Less Vulnerable</th>
<th>Water Compatible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Zone 2</td>
<td>✓</td>
<td>Exception Test Required</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Zone 3a</td>
<td>Exception Test Required</td>
<td>x</td>
<td>Exception Test Required</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Zone 3b (functional floodplain)</td>
<td>Exception Test Required</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
</tbody>
</table>

Key: ✓ Development is appropriate x Development should not be permitted

### 3.6 Sequential Test and Sequential Approach

With reference to the NPPF, the Sequential Test gives preference to locating new development in areas at lowest risk of flooding (i.e. Flood Zone 1). The EA Flood Map for Planning (Figure 3-1) and SFRAs are geared to providing the basis for applying this test and indicate that the site is in Flood Zone 1.
Based upon flood zone categorisation, the Site passes the Sequential Test. In any case, the nature of the development being the extension of the operational period of an existing landfill means there are no other reasonably alternative sites.

There is also a requirement to apply the Sequential Test within a given Site to ensure that, as far as is reasonably possible, higher sensitivity elements of the proposed development are sited in areas of the Site where flood risks are lowest. All proposed development is located within Flood Zone 1 and therefore in the lowest flood zone category.

### 3.7 Exception Test

With reference to PPG Table 3: *Flood risk vulnerability and flood zone ‘compatibility’* the flood risk vulnerability of the proposed development is deemed appropriate and compatible for the flood zone in which it sits in accordance with NPPF, and the Exception Test need not be applied.

In any case, this FRA considers flood risks from all sources and concludes that the proposed development and Site is appropriate, sustainable, and safe in flood risk terms.

Based on the above information the proposed development meets the ‘flood risk’ criteria of the Exception Test as set out in NPPF, were it to apply.
4.0 Climate Change

4.1 Anticipated Lifetime of Development

By the nature of a landfill, the lifetime of the development is essentially indefinite. For the purposes of this report, based on the increased period of the operational phase assessment, the lifetime of the landfill will be until 2031. Taking the conservative approach, a lifetime of 50 years has been applied.

4.2 Climate Change Overview

In February 2016 the EA issued updated guidance on the impacts of climate change on flood risk in the UK to support NPPF11. This advice sets out that peak rainfall intensity, sea level, peak river flow; offshore wind speed and extreme wave heights are all expected to increase in the future as a result of climate change.

PPG recommends that considerations for future climate change are included in FRA’s for proposed developments. Section 5.2 of this assessment has however already concluded that tidal and fluvial flood risk is of no concern at this Site. As such the consideration of climate change in this assessment only considers possible changes in peak river flow and peak rainfall intensity.

The guidance acknowledges that there is considerable uncertainty with respect to the absolute level of change that is likely to occur. As such the document provides estimates of possible changes that reflect a range of different emission scenarios. The recommended allowances for rainfall depths (the factors of relevance to this assessment) are set out in Table 4-1 respectively.

4.2.1 Peak Rainfall Climate Change Allowance

For peak rainfall intensity the guidance states that flood risk assessments should assess both the ‘central’ and ‘upper end’ allowances to understand the range of impact. As detailed in Table 4-1, these equate to uplifts of 20% and 40% respectively.

<table>
<thead>
<tr>
<th>River Basin District</th>
<th>Allowance Category</th>
<th>Total potential change anticipated for 2015 to 2039</th>
<th>Total potential change anticipated for 2040 to 2059</th>
<th>Total potential change anticipated for 2060 to 2115</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applies across all of England</td>
<td>Upper End</td>
<td>10%</td>
<td>20%</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>Central</td>
<td>5%</td>
<td>10%</td>
<td>20%</td>
</tr>
</tbody>
</table>

11 Environment Agency, Flood Risk Assessments: Climate change allowances. February 2016, Updated 2019
5.0 Potential Sources of Flooding

5.1 Methodology & Best Practice

This report has been prepared in accordance with the advice and requirements prescribed in current best practice documents relating to management of flood risk in development published by the Construction Industry Research and Information Association (CIRIA)\(^{12}\), and BS8533\(^{3}\).

A screening study has been completed to identify whether there are any potential sources of flooding at the Site which may warrant further consideration. If required, any potential significant flooding issues identified in the screening study would then be considered in subsequent sections of the assessment.

5.2 Screening Study

There are several potential sources of flooding and these include the following which are assessed and discussed in turn below:

- Flooding from the sea or tidal flooding;
- Flooding from rivers or fluvial flooding;
- Flooding from surface water and overland flow;
- Flooding from groundwater;
- Flooding from sewers;
- Flooding from reservoirs, canals, and other artificial sources; and
- Flood from infrastructure failure.

5.2.1 Flooding from the Sea or Tidal Flooding

Due to its elevation (over 120m aOD) and inland location, the Site is not deemed to be at risk of tidal flooding. Flooding from this source has therefore, not been considered further.

5.2.2 Flooding from Rivers or Fluvial Flooding

Based on EA mapping (Figure 3-1), the Site is located within Flood Zone 1, which is defined as land with a less than 0.1% AEP of fluvial flooding. The nearest area of a higher Flood Zone is located over 1km east of the site. The watercourses closest to the Site do not have any associated Flood Zones due to being a remote from the nearest EA Main River (where the EA are responsible for maintenance, improvement or construction work to manage flood risk).

The northern 0.8km of Wolston Brook (aka Sowe Brook) through Wolston is a designated Main River and flooding is indicated along this. The mapped Flood Zones extend approximately 2km upstream towards the Site (ending circa 4km west of the Site). Whilst some flooding could occur on the Ordinary Watercourses adjacent to the Site, the extent of flooding would be extremely limited due to very small catchment at this point. Flooding would not be anticipated to extend onto the Site from this source.

For these reasons the risk of flooding from fluvial sources is low and therefore is not considered further.

\(^{12}\) CIRIA Report C624, Development and flood risk: guidance for the construction industry
5.2.3 Flooding from Surface Water

The EA have produced mapping, which indicates surface water flood risk across the country. However, the LiDAR files that provide the input for the topography do not accurately reflect the existing topography of the Site. The topography at the Site is regularly altered as a result of the ongoing works and the LiDAR files are out of date. The surface water mapping is therefore of limited use at the Site. Surface water is managed at the Site in line with the SWMP and therefore the potential risk of isolated areas of surface water flooding are managed. Surface water is routed to 5 surface water ponds located across the Site. The water attenuates here and discharges to ground. These ponds have been designed to contain all surface water produced from runoff at the Site for up to and including the design event of 1% AEP with an uplift in peak rainfall of 40% as a result of climate change. No surface water is discharged from the Site.

![Figure 4-1: Extract of EA Surface Water Flooding](image)

The risk of surface water flooding at the Site is low and therefore is not considered further.

5.2.4 Flooding from Groundwater

As discussed in Section 2.3, the Site is underlain by bedrock of the Rugby Limestone Member and Saltford Shale Member, which have moderate permeability. Prior to quarrying this was overtopped across much of the Site by Dunsmore Gravel, although much of this has been extracted during the quarrying at the Site. Areas of gravel potentially have moderate to high permeability. There are some areas of Bosworth Clay Member superficial deposits on the Site, which would have low permeability.

The geology at the Site therefore does not prevent groundwater flood risk. However, the Site has been operational first as a quarry and then as a landfill since 1991. There has been no history of groundwater flooding at the Site and groundwater level monitoring indicates that water levels have no been observed within 10m of ground level including during the seasonal groundwater highs.
For these reasons the risk of groundwater flooding is low and not considered further.

5.2.5 Flooding from Sewers and Water Mains

Due to the nature of the Site as a landfill and historically as a quarry, it is assumed there will be no public sewers and water mains located beneath the Site. Based on this and due to the location of the Site on a topographic high in a rural location, the Site is at very low risk of flooding from sewer and water mains.

5.2.6 Flooding from Reservoirs, Canals and other Artificial Sources

EA mapping shows that the Site lies outside of the potential flood extent of a significant breach from a raised reservoir embankment in the area.

There are also no canals within 5km of the Site.

No other artificial sources of flooding have been identified in the vicinity of the Site and therefore flooding from reservoirs, canals and other artificial sources is considered negligible. Flooding from this source is not considered further.

5.2.7 Flooding from Infrastructure Failure

EA mapping\(^{10}\) shows that the Site and locale are not protected by, nor reliant upon, formal ‘raised’ flood defences. As a result, there is a negligible risk of flooding as a result of a significant flood defence breach (failure).

5.3 Summary

A summary of the potential sources of flooding and the flood risk arising from them is presented in Table 4-2.

<table>
<thead>
<tr>
<th>Potential Source</th>
<th>Potential Flood Risk at Site?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea or Tidal Flooding</td>
<td>Negligible</td>
</tr>
<tr>
<td>Rivers or Fluvial Flooding</td>
<td>Low</td>
</tr>
<tr>
<td>Surface Water and Overland Flow</td>
<td>Low</td>
</tr>
<tr>
<td>Groundwater</td>
<td>Low</td>
</tr>
<tr>
<td>Sewers and Water Mains</td>
<td>Very Low</td>
</tr>
<tr>
<td>Reservoirs, Canals and other Artificial Sources</td>
<td>Negligible</td>
</tr>
<tr>
<td>Infrastructure Failure</td>
<td>Negligible</td>
</tr>
</tbody>
</table>
6.0 Conclusions

SLR Consulting Limited has been appointed on Veolia to produce a Flood Risk Assessment (FRA) in support of a time extension for operations at Ling Hall Landfill, Coalpit Lane, Wolston, Rugby, CV23 9HH (“the Site”). This report will form a technical appendix to the Environmental Impact Assessment (EIA).

Flood risk has been assessed in line with BS8533 and national policy and guidance whereby all potential sources of flooding to the site have been considered.

This assessment has concluded that;

1. The site has no recorded history of fluvial or tidal flooding. No history of flooding from other sources has been established based upon research of published documents.

2. Based upon the best available information provided by the EA, and a site-specific review by SLR, areas of the Site lies within Flood Zone 1 indicating a low risk of flooding from fluvial sources.

3. No surface water pathways have been identified through the site. Surface water is managed within the confines of the Site for all events up to and including the 1% AEP + 40% uplift for climate change. No surface water is discharged from the Site.

4. Due to the nature of the Site, its rural location and position on a topographic high, the risk of flooding from sewers and water mains has been considered very low.

5. Flood risk from groundwater emergence from the existing ground surface was considered low at the site based on groundwater level monitoring.

6. Flood risk to the site from other potential sources of flooding, such as reservoir breach and infrastructure failure, is negligible.

7. Future potential climate changes effects have been considered and will not materially alter the assessed levels of flood risk over the anticipated lifetime of the development.

8. Current national planning policy confirms that ‘more vulnerable’ development land uses are compatible with the flood zone categorisation of the site. The Site lies within Flood Zone 1 and, therefore, satisfies the Sequential Test based upon being sited within the lowest flood category.

The technical assessment of flood risk presented within this FRA demonstrates that the operation of the Ling Hall landfill is ‘safe’ in flood risk terms throughout its lifetime without increasing flood risk elsewhere.
APPENDIX 01

Topographical Survey
APPENDIX 02

Surface Water Management Plan Drawing
GRASS WITHIN SWALE TO BE SEEDED UNLESS EARLY EROSION CONTROL IS REQUIRED. IN WHICH CASE TURF SHOULD BE USED.

RUNOFF MIN 1000mm

TOPSOIL IN-SITU SAND AND GRAVEL

EDGE OF CONTAINMENT LANDFILL

RUNOFF DEFLECTION BUND 500mm

GROUNDWATER TABLE IN SAND AND GRAVEL

DETAIL AA - TYPICAL SWALE A CROSS SECTION

SCALE 1:50

LING HALL LANDFILL SURFACE WATER MANAGEMENT PLAN APPROVED RESTORATION - PROPOSED LAYOUT DRAWING 1
EUROPEAN OFFICES

United Kingdom

AYLESBURY
T: +44 (0)1844 337380

BELFAST
belfast@slrconsulting.com

BRADFORD-ON-AVON
T: +44 (0)1225 309400

BRISTOL
T: +44 (0)117 906 4280

CARDIFF
T: +44 (0)29 2049 1010

CHELMSFORD
T: +44 (0)1245 392170

EDINBURGH
T: +44 (0)131 335 6830

EXETER
T: +44 (0)1392 490152

GLASGOW
T: +44 (0)141 353 5037

GUILDFORD
T: +44 (0)1483 889800

LONDON
T: +44 (0)203 805 6418

MAIDSTONE
T: +44 (0)1622 609242

MANCHESTER
T: +44 (0)161 872 7564

NEWCASTLE UPON TYNE
T: +44 (0)191 261 1966

NOTTINGHAM
T: +44 (0)115 964 7280

SHEFFIELD
T: +44 (0)114 245 5153

SHREWSBURY
T: +44 (0)1743 23 9250

STIRLING
T: +44 (0)1786 23 9900

WORCESTER
T: +44 (0)1905 751310

Ireland

DUBLIN
T: + 353 (0)1 296 4667

France

GRENOBLE
T: +33 (0)6 23 37 14 14