



SITE CONDITION REPORT

Environmental and sustainability solutions provided to
BIRCH AIRFIELD COMPOSTING LTD

WRM-LTD.CO.UK



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REVISION LOG

Revision	Details	Date
0.1	First draft	28/02/2024
0.2	Internal review	13/03/2024
1.0	First Issue	17/04/2024

CONTENTS

1.0	SITE DETAILS	1
2.0	CONDITION OF THE LAND AT PERMIT ISSUE	1
3.0	PERMITTED ACTIVITIES	5
4.0	CHANGES TO THE ACTIVITY	6
5.0	MEASURES TAKEN TO PROTECT LAND	7
6.0	POLLUTION INCIDENTS AND REMEDIATION	7
7.0	SOIL, GAS AND WATER QUALITY MONITORING	7
8.0	DECOMMISSIONING AND REMOVAL OF POLLUTION RISK	7
9.0	REFERENCE DATA AND REMEDIATION.....	7
10.0	STATEMENT OF SITE CONDITION	8

1.0 SITE DETAILS

Name of the applicant	Birch Airfield Composting Services Ltd
Activity address	Birch Airfield Composting Services Ltd (BACS) Birch Airfield, Birch, Blind Lane, Colchester, Essex, CO5 9XE
National grid reference	Easting 591122, Northing 219697

Document reference and dates for Site Condition Report at permit application and surrender	<ul style="list-style-type: none"> • Document reference: Site Condition Report • Date at application: TBC
Document references for site plans (including location and boundaries)	<ul style="list-style-type: none"> • Site Location Plan • Site Layout Plan

2.0 CONDITION OF THE LAND AT PERMIT ISSUE

Environmental setting	<p>The site is located on an old RAF airfield situated approximately 3km northeast of Tiptree and 10km southwest of Colchester. The site comprises of three areas:</p> <ul style="list-style-type: none"> • The reception area where waste is tipped and inspected. • The operational area where the waste is shredded, windrows formed and aerated, and inert soil waste is blended with compost. • The storage area where the composted material is stored, awaiting final use off-site. <p>There is a port-a-cabin site office on site providing a mess room, toilet and wash facilities and hot and cold water. There are no sensitive receptors within 250m.</p> <p>A large area of concrete covers the majority of the site activity where processing currently takes place. The impermeable concrete pad is in adequate condition across the site with no areas of cracking or heavy wear visible. The areas to be</p>
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extended shall be located to the southwest of the southwestern site boundary and shall be covered with impermeable concrete with a sealed drainage system.

Geology

The site is underlain by the solid geology of the Thames Group consisting of mainly silty clays and clays, some sandy or gravelly, with some silts, sands, gravels and calcareous mudstones. Superficial deposits have been identified on geological mapping, indicating one type of superficial deposit within the site boundary at or near surface.

The underlying geology of permitted site boundary is as follows:

- The bedrock (i.e., rock types far below the surface) beneath the site is classified as London Clay Formation, which is a marine geological formation of Ypresian (early Eocene Epoch, c. 56–49 million years ago) age. The bedrock consists of mainly composed of clay, with some sand and localised layers of gravel.
- The superficial deposit on site is identified on geological mapping as Lowestoft Formation which covers all the site. To the south the site there is a small amount of Head which is a Gravel, Sand, Silt and Clay rock type.

Hydrogeology

The hydrogeological features of the subsurface features of the site are presented below:

- The Bedrock Aquifer under the site is designated as Unproductive Strata. Unproductive Strata unlikely to represent a risk to groundwater due to the low permeability of the deposits and the protection which they provide to any aquifers that may be present beneath. They are largely unable to provide useable water supplies and are unlikely to have surface water and wetland ecosystems dependent on them.
- The Superficial Aquifer under the majority of the site is designated as Secondary Aquifer - Undifferentiated. These are aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These only have minor value.

Groundwater

The groundwater characteristics for the site location are presented below:

- The site is situated within groundwater source protection Zone 3.

	<ul style="list-style-type: none"> • The groundwater vulnerability of the land on which the site is located is classified as Secondary Superficial Aquifer - Medium Vulnerability on the site. • There is no designated potential for groundwater flooding to occur on site. • There are 8 groundwater abstraction licences recorded within 2km of the site. 3 of these groundwater abstraction licences are recorded within 1km of the site. The closest is operated by D & S Sherwood (licence number: 8/37/31/*S/0134) which is 772m to the north of the site this is used for general agriculture uses. <p><u>Flooding</u></p> <ul style="list-style-type: none"> • The site is in Flood Zone 1 according to the EA Flood map for planning tool. This indicates that it has a low probability of flooding from rivers and the sea. <p><u>Hydrology</u></p> <ul style="list-style-type: none"> • The nearest surface water feature runs south of the site and is identified as an inland river approximately 210m south of the site boundary. This surface water feature connects to the Domsey Brook over 1km away from the site to the west.
<p>Pollution history</p>	<p><u>Historical Land Use</u></p> <ul style="list-style-type: none"> • The historical land use within the site boundary is indicated from historical mapping, dating back to 1876. • 1876: The site is identified as an intersection between 4 empty fields. • 1881: The land in the immediate vicinity of the site is of agricultural use with numerous farms nearby like Glebe farm and Cantfield’s Farm to the north and Birch Holt to the southeast. There also is Fan wood to the northwest. • 1897-98: No change in land use on or around the site. • 1923: No change in land use on or around the site. • 1924-25: No change in land use on or around the site. • 1945: No change in land use on or around the site. • 1955-58: A disused airfield is located on the site with the end of what seems to be a runway being where the site is now located with the rest of the runway and airfield spreading to the northeast and southeast of the site. • 1971: No change in land use on or around the site. • 1968: No change in land use on or around the site. • 1970: No change in land use on or around the site.

	<ul style="list-style-type: none"> • 1973-75: The site appears to have been returned to agricultural use with a small track running northwest to southeast across the central portion of the site. • 1993: No change in land use on or around the site. • 1999: A disused sewage works is now located to the southwest of the site. The central part of the site now appears to be an area of woodland. • 1999: Satellite imagery shows one building appear on eastern extremity of the site. The site seems to be used for agricultural purposes with the central portion still being a woodland. • 2006: No change in land use on or around the site. • 2023: Birch Airfield Composting site appears within the site boundary with a lagoon in the northern corner of the site. To the east of the site a solar farm has been built, known as Birch Airfield Solar Farm.. <p><u>Pollution Incidents</u></p> <ul style="list-style-type: none"> • There has not been any substantiated pollution incident within 2km of the site boundary. <p><u>Waste Register</u></p> <ul style="list-style-type: none"> • There are no BGS recorded Landfill Sites within 1km of the site. • There are no historical landfill sites within 1km of the site boundary. • There are no Local Authority recorded landfill sites within 1km of the site boundary. • There are no Environment Agency regulated landfill sites within 1km of the site. • There are no active Licensed Waste Management Facilities within 1km of the site, other than that operated by BACS on the site. • There was a registered landfill site located approximately 952m to the southeast of the site. The licence holder of this site was Cadman Plant & Equipment Ltd with a licence reference of 185/90. This licence was surrendered on 1st October 1990. Authorized wastes include "Soil & Excavated Materials in Natural State, Solid, Inert, Non-Haz. Building/Demolition Rubble". <p><u>Industrial Activity</u></p> <ul style="list-style-type: none"> • There are a number of points of interest in terms of manufacturing and production within 1km of the site including; Birch Airfield Solar Photovoltaics, a solar farm located 123m northeast of the site; N E C Sherwood a livestock farmer located 613m northeast of the site; and Tank which has a class code of Tanks located 785m W. • There are also a number of disused public infrastructure points of interest including, Birch Airfield, which had an RAF Airport and Landing Strips located directly to the east of the site, and Sewage Works which has a class code of Waste Storage, Processing and Disposal located 569m to the SW.
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	<ul style="list-style-type: none"> There is one contemporary trade directory entry located 613m to the northeast of site called Essex Shooting Supplies Ltd which is an active Gunsmiths. 												
Baseline soil and groundwater reference data	<p>No baseline soil and groundwater reference data were collected for the site on submission of the application. As the site had been in agricultural use before the current applicant's development of a composting facility, there are considered to be no significant levels of contamination on site relating to historical activities. The same applies to this variation as it is considered that are no significant levels of contamination of the land on which the site is to be expanded.</p> <p>The following estimated soil chemistry data of the land beneath the site has been provided:</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Concentration (mg/kg)</th> </tr> </thead> <tbody> <tr> <td>Arsenic</td> <td><15</td> </tr> <tr> <td>Cadmium</td> <td><1.8</td> </tr> <tr> <td>Chromium</td> <td>60-90</td> </tr> <tr> <td>Lead</td> <td><100</td> </tr> <tr> <td>Nickel</td> <td>15-30</td> </tr> </tbody> </table>	Parameter	Concentration (mg/kg)	Arsenic	<15	Cadmium	<1.8	Chromium	60-90	Lead	<100	Nickel	15-30
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Supporting information	<ul style="list-style-type: none"> Appendix A: Historical Site Maps Appendix B: Environmental Setting Maps Appendix C: Datasheet 												

3.0 PERMITTED ACTIVITIES

Permitted activities	<p>Current</p> <p>The site has previously varied their SR2021 No1 (previously SR2012 No 8) Standard Rules permit (EPR/HP3294NJ) to a bespoke installation permit with a total throughput of 75,000 tonnes and to allow for the physical treatment of inert soils. The inert soils are blended with 10mm compost, to produce a topsoil certified to BS 3882. The amount of inert soil processed at Birch Airfield would be a maximum of 10,000 tonnes per annum.</p> <p>Proposed</p> <p>BACS are seeking consent to vary their bespoke environmental permit to increase the throughput of material at the site from 75,000 tonnes up to 100,000 tonnes. In order to achieve this, the site boundary shall be extended to the southwest of the existing site, on</p>
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	which additional windrows and a lagoon will be located. There are no proposed activity changes as part of this application.
Non-permitted activities undertaken	There are no non-permitted activities undertaken.
Document references for: <ul style="list-style-type: none"> • Plan showing activity layout • Historical land use maps • Site sensitivity maps 	<ul style="list-style-type: none"> • Site Layout Plan • Appendix A: Historical Site Maps • Appendix B: Environmental Setting Maps • Appendix C: Datasheet

4.0 CHANGES TO THE ACTIVITY

Have there been any changes to the activity boundary?	It is proposed to expand the site boundary by approximately 65m to the southwest of the site. The expansion of the site boundary will allow for additional space for open windrow composting and an additional lagoon to capture and store leachate generated in this area of the site.
Have there been any changes to the permitted activities?	Since the original permit was issued, an additional activity of physical treatment of inert soils through conditioning and screening has been added to the permit. No infrastructural changes were required for the site. As part of this permit variation application it is proposed that the permitted throughput will increase from 75,000 tonnes to 100,000 tonnes per year.
Have any 'dangerous substances' not identified in the Application Site Condition Report been used or produced as a result of the permitted activities?	Dangerous substances have not been used or produced as a result of the permitted activities.
Checklist of supporting information	

5.0 MEASURES TAKEN TO PROTECT LAND

The original areas of the site have always been covered with an impermeable concrete surface with a sealed drainage system leading to a lagoon. The proposed expanded area of the site will be covered with an impermeable concrete surface and will contain a sealed drainage system with an additional lagoon. This will meet the requirements of CIRIA C736 guidance.

Checklist of supporting information	
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6.0 POLLUTION INCIDENTS AND REMEDIATION

No pollution incidents that may have damaged the land have occurred on the site.

Checklist of supporting information	
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7.0 SOIL, GAS AND WATER QUALITY MONITORING

Soil, gas and water quality monitoring has not taken place.

Checklist of supporting information	
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8.0 DECOMMISSIONING AND REMOVAL OF POLLUTION RISK

N/A

Checklist of supporting information	
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9.0 REFERENCE DATA AND REMEDIATION

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Checklist supporting information	of
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10.0 STATEMENT OF SITE CONDITION

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