



# Green Environmental Consultants

Protected Species • Wildlife Surveys • Biodiversity • Ecological Impact Assessments

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Reference: 499/2  
23 July 2015

## **RIVENHALL AIRFIELD – ECOLOGICAL MITIGATION Section 73 Application**

### **Description of Development:**

- (i) To carry out the development in accordance with updated and revised plans as listed in the attached Schedule, to replace and supersede the plans referred to in Condition 2 of planning permission reference number ESS/55/14/BTE, and
- (ii) To undertake the development in accordance with the details now submitted in respect of various conditions within planning permission reference number ESS/55/14/BTE as listed in the attached Schedule.

**Location:** Rivenhall Airfield, Coggeshall Road (A120), Braintree

Dear Steven,

Gent Fairhead & Co Limited (GFC) originally received planning permission (ESS/37/08/BTE) for the development of a fully integrated waste recovery and recycling facility (IWMF) at Rivenhall Airfield on 2 March 2010 from the Secretary of State following a Public Inquiry (APP/Z1585/V/2104804), which was extended (by one year) by ECC under ESS/14/14/BTE, and subsequently modified by ECC to remove conditions 28 and 30 restricting the geographical sourcing of Solid Recovered Fuel (SRF) and waste paper under ESS/55/14/BTE.

The Environmental Impact Assessment which accompanied the original planning application was prepared by Golder Associates (UK) Ltd, the adequacy and robustness of which was tested through public consultation (by statutory and non-statutory consultees) throughout the planning application process and at Public Inquiry. The continued reliance which could be placed on the original Environmental Impact Assessment was affirmed in assessing the extension of time to the commencement of development (ESS/41/14/BTE).

To support a series of modifications which principally relate to the overall footprint and location of the IWMF (that are intended to reflect its final layout) as shown on drawings

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listed under Condition 2 of the current planning permission (ESS/55/14/BTE), the original Ecological Assessment has been reviewed and the impact of the proposed changes have been assessed. The details of this review are summarised in the attached Table Ecology 1 "Explanation of Ecological Changes to the original Environmental Assessment".

Based on the original ecological assessment completed by Golder Associates (UK) Ltd, and the various ecological surveys and assessments completed across the IWMF site to support the ongoing quarrying operations, the updated ecological assessment confirms that the minor modifications presented within the section 73 application offer improvements to the overall ecological mitigation proposals currently permitted in and around the Site.

As previously highlighted, the IWMF site benefits from a range of ecological baseline surveys, impact assessments and the delivery of mitigation strategies including Natural England mitigation licences that have been implemented within the IWMF planning footprint and wider study area. The following reports were either submitted in accordance with the consented IWMF, Site A2 and Sites A3 and A4 planning application(s) and environmental impact assessment(s) or they are associated with the delivery of protected species mitigation administered through the planning condition process for the consented schemes.

Copies of all relevant documentation are attached in digital format and referenced accordingly below:

- Additional Information, Appendix 1: Golder (2008) *Rivenhall Airfield eRCF. Appendix 7-1 Baseline Ecology Report - ESS/37/08/BTE*;
- Additional Information, Appendix 2: Golder (2009) *Addendum to the Environmental Statement, Proposed Evolution of the Recycling & Composting Facility at Rivenhall Airfield - ESS/37/08/BTE*;
- Additional Information, Appendix 3: Golder (2010) *Evolution of the Recycling and Composting Facility, Rivenhall. Condition 53 Ecology Report - ESS/37/08/BTE*;
- Additional Information, Appendix 4: Golder (2011a) *Blackwater Aggregates Site A2. Appendix 7-A Ecology Baseline Report - ESS/32/11/BTE* ;
- Additional Information, Appendix 5: Golder (2011b) *Blackwater Aggregates Site A2. Chapter 7 Ecology Impact Assessment - ESS/32/11/BTE* ;
- Additional Information, Appendix 6: Golder (2011c) *Evolution of Recycling and Composting Habitat Management Plan – ESS/37/08/BTE Condition 54*;
- Additional Information, Appendix 7: Golder (2011d) *Site A2 Extension Habitat Management Plan – ESS/37/08/BTE Condition 54*;
- Additional Information, Appendix 8: Golder Associates (UK) Ltd. (2011e) *Rivenhall Airfield eRCF Great Crested Newt Mitigation Licence Application – ESS/37/08/BTE*. Unpublished;
- Additional Information, Appendix 9: Golder Associates (UK) Ltd. (2013) *Blackwater Aggregates, Site A2, Annual Ecological Monitoring Report 2012 – ESS/32/11/BTE Condition 36*;
- Additional Information, Appendix 10: Golder (2014a) *Blackwater Aggregates Sites A3 & A4. Appendix 7-A Ecology Baseline Report – ESS/24/14/BTE*;
- Additional Information, Appendix 11: Golder (2014b) *Blackwater Aggregates Sites A3 & A4. Chapter 7 Ecology – ESS/24/14/BTE*;

- Submission of Detail against Condition 53: Green Environmental Consultants 2014 - Update of the Golder (2010) Evolution of the Recycling and Composting Facility, Rivenhall. Condition 53 Ecology Report - ESS/37/08/BTE; and
- Submission of Detail against Condition 54: Green Environmental Consultants 2015 - Update of the Golder (2011c) Evolution of Recycling and Composting Habitat Management Plan – ESS/37/08/BTE Condition 54

The most recent suite of baseline (Golder, 2014a) and habitat survey (updated by Green Environmental Consultants 2014) has revealed ecological features that mirror the baseline attributes noted during surveys for the consented IWMF (Golder, 2008). Ecological mitigation continues to be delivered within the Site and regular checks of the Great Crested Newt fence (Golder, 2011e) are undertaken. Furthermore, Habitat Management Proposals (Golder, 2011d) such as Great Crested Newt monitoring, scrub clearance and wetland vegetation monitoring are being delivered.

Based on the comprehensive understanding of the baseline ecological condition and on-going ecological management through the previously approved Habitat Management Plan, it is considered that the updated ecological assessment confirms that the minor modifications presented within the section 73 application offer improvements to the overall ecological mitigation proposals currently permitted in and around the Site.

If you have any further questions or queries please do not hesitate to get in touch.

Yours sincerely,

Jacqui Green

Principal Ecologist and Director

Attachments: Section 73 Update to the IWMF Ecological Assessment; Appendices 1 to 11\* and Submission of Details\* (\*As digital attachments); Table: Ecology 1 "Explanation of Ecological Changes to the Original Environmental Assessment".

**TABLE ECOLOGY 1: EXPLANATION OF ECOLOGICAL CHANGES TO THE ORIGINAL ENVIRONMENTAL ASSESSMENT**

Planning Drawing and/or Assessment Chapter Section	What the original assessment and plans show	What modifications are now proposed	Explanation of proposed modifications and update to the Environmental Assessment
7.2.4 Habitats and Flora	Mixed habitats dominated by arable farmland, airfield habitat (hard standing), with some generally poor quality scrub/woodland and grassland.	Modifications already made to the local landform and ecological environment by quarrying activities within Site A2, the footprint of which sits largely within the IWMF site area (Ecological survey update 2014).	<p>The majority of the land has already been removed by continuing quarrying activities within an area of the site known as Site A2, which sits within the footprint of the IWMF site, leaving predominantly bare ground.</p> <p>Peripheral trees, woodland/scrub identified to be retained under the original assessment have been protected and/or will be retained as originally proposed. [Refer to ecology drawing 3C].</p>
7.2.5.5 Breeding Birds	The 2008 breeding bird survey found that a wide range of bird species utilise and breed within the Site including some protected and listed species (not breeding).	Modifications have occurred naturally by displacement due to quarrying activities within Site A2 with many species moving to alternative locations.	Breeding bird diversity has reduced within IWMF area, unconnected with these proposals.
7.2.5.6 Great Crested Newts	A small-sized population in ponds close to the IWMF site and presumed also using adjacent terrestrial habitat.	<p>A translocation out of the IWMF site to protect newts from injury or death during quarrying activities within Site A2.</p> <p>Provision of compensation terrestrial habitat.</p>	<p>The GCN translocation has been completed in advance of the Site A2 quarrying operations. Newts have already been removed from the IWMF site under licence from Natural England. A permanent newt fence has been erected to prevent animals returning to the construction and (later) operational areas of the IWMF.</p> <p>Compensation habitat east of Woodhouse Farm has been created [Refer to ecology drawing 3C].</p>
7.3.6 Feature 5 - Bats	Airfield buildings and Woodhouse Farm area show potential for bat roosts.	Some of the former airfield buildings of potential interest were removed as part of the Site A2 quarrying operations following a survey and internal inspection by a licensed bat ecologist. Bat boxes were installed to compensate for the loss of the buildings in and around the existing woodland adjacent to Woodhouse Farm, and will be unaffected by the IWMF development works.	<p>Bats are highly mobile creatures and can inhabit or abandon roosts regularly. As no potential bat roosts lie within the footprint of the IWMF site, bats will be unaffected by the IWMF's development.</p> <p>Bat boxes were installed to compensate for the loss of the former airfield buildings in and around the existing woodland adjacent to Woodhouse Farm.</p> <p>The bat boxes will fall under the routine monitoring works that will be carried out by an Ecological Clerk of Works in accordance with the IWMF's Habitat</p>

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		Woodhouse Farm Cottages (located to the north of Woodhouse Farm) will be maintained and/or redeveloped to offer a suitable site for bat roost within the roof space or chimney of the existing buildings.	Management Plan. The use of Woodhouse Farm Cottages (located to the north of Woodhouse Farm) as a potential bat roost site will supplement the existing mitigation proposals proposed across the site. The Cottages will be maintained and/or redeveloped to offer a suitable site for a bats within the roof space or chimney of the existing buildings.
7.4.2 Design Mitigation	Vertical concrete retaining wall to rear (south-east) of IWMF and partial sides.	Redesign of the IWMF with a reduced overall footprint, has "freed up" some land to the rear and perimeter of the facility which enables a sloped "soil nailed wall" to be provided instead of a vertical concrete retaining wall.	<p>The original design of the IWMF proposed vertical concrete retaining walls to deliver the required building and waste processing footprint, below ground level within the confines of a quarry.</p> <p>With the advance in waste treatment technologies and civil engineering construction techniques, the overall processing footprint has reduced which has allowed specialist ground engineering companies to consider a change in the proposed earth retention technique from vertical retaining walls to sloped soil nailed walls and natural side slopes.</p> <p>The soil nailed solution that is now proposed to deliver the revised IWMF's building and waste processing footprint below ground level offers the following: an increased area for landscape mitigation; a biodiverse crushed concrete slope face; an increase in natural slopes around the IWMF; and overall improvements and gains in landscape mitigation (existing woodland management and the mitigation of dewatering impacts) over and above that originally proposed with the vertical concrete retaining wall solution.</p> <p>This new design provides for retention of an additional 5m strip of woodland to the rear of the facility for wildlife and landscape purposes.</p>

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			<p>The newly designed batter will enable some planting and landscaping of the slopes, forming a greener periphery to the site, and providing the potential for colonisation by wildlife; this was lacking in a vertical concrete wall.</p> <p>This sloped boundary extends along both sides (north-east and south-west), tapering down towards the access road (north-west). This also provides additional land for landscaping and green edges to the development. [Refer to HDA Drawings SL 1-5].</p> <p>The soil nailed solution reduces the risk of dewatering the retained trees. During and after construction of the IWMF the condition of the existing and retained trees will be monitored, and if necessary, they will be watered on an intermittent basis to maintain the tree belt for ecological and landscape mitigation purposes. [Refer to HDA Drawings SL 1-5].</p>
7.4.3.2 Feature 2 – Woodland, Hedgerow and Scrub Network.	Loss of all but 1.2 ha of woodland; disruption to connectivity especially to Woodhouse Farm.	Retaining wall redesign (see above).	<p>This new design provides for retention of an additional 5m strip of woodland to the rear of the facility and a larger area for planting (1.44 ha retained; 2.98 ha new planting within the red line, plus 1.3 ha outside the red line on adjacent land). This increases the woodland area to about 3 ha from 2.2 ha and improves connectivity with Woodhouse Farm.</p> <p>The translocation of seeded topsoil from IWMF area to Wayfarers Field will extend and deliver additional compensatory planting proposed at Public Inquiry. [Refer to HDA Drawing SL 5].</p>

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7.4.3.6 Feature 6 – Barn Owls	The report suggests the loss of Barn Owl roosts and foraging habitat although it also says that by 2008 no evidence of Barn Owls using the site was found.	Ecological surveys and monitoring of the Site A2 area and IWMF footprint (in advance and throughout the quarrying operations) indicated that Barn Owls are no longer present within the immediate area of the site.	Continuing ecological work on site has failed to identify Barn Owl roosts. This potential impact could now be removed from the ES.  Given the setting of Woodhouse Farm, it is proposed that in advance of any improvement and redevelopment works of the former farmhouse and the bakehouse (which is currently covered by a protective cladding) an Ecological Clerk of Works should carry out a survey of the existing building(s) to assess if Barn Owls have returned, and the original mitigation measures implemented if found to be present.
Upper Lagoon	Upper Lagoon will provide an additional area of aquatic habitat, although this is likely to be of lower quality because of varying water levels, water temperature, and/or small quantities of oil which may be washed off the access road following rainfall.	The changes to the overall design of the IWMF have reduced the overall footprint and size of Upper Lagoon.	Maximum size 1 ha including marginal vegetation. Shallower. There will be positive and negative ecological impacts in that some emergent plants may dominate. But shallower water may attract a greater variety of wildlife if sufficient open water is available. [Refer to HDA Drawing SL 2].
7.4.4 Operational impacts			
7.4.4.2 Feature 2 – Woodland, Hedgerow and Scrub Network	The noise, lighting and visual impacts are likely to be greatest immediately adjacent to the (eRCF). These impacts are likely to reduce the value of these areas for birds, and lighting may also have a negative effect upon nocturnal invertebrates. However, the value will not be great because these areas are of relatively low species diversity and structural complexity. Also the fact that the eRCF will be constructed at least 15 m below existing ground level, it will be at a lower elevation than the surrounding woodland habitats and will considerably reduce the magnitude of the impacts.	The changes to the overall design of the IWMF enables a larger area of woodland to be retained.	A larger area of woodland to some extent ameliorates edge effects, as there is a larger “internal” area protected from impacts such as lighting, i.e. an additional 5m strip of woodland will be retained to the south of the IWMF.

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7.4.4.8 Feature 8 – Great Crested Newts	Operational impacts on newts which might shelter in materials stored on site.	Permanent newt fence has been installed under licence from Natural England and newts have been removed from the footprint of the IW MF site.	Translocation (removal of newts from the operational area) has been completed under licence from Natural England and a permanent newt fence installed. Remove operational impacts on newts from the ES.
7.5 Mitigation, Compensation and Enhancement.			
7.5.3 Feature 3 – Open Habitats	<p>Provision of areas (c. 1.2 ha) of species-rich grassland.</p> <p>In order to offset the 19.1 ha of open habitats which will be lost, a c.1.2 ha area of species-rich neutral grassland will be created through planting in the north of the Site (to the north west of Woodhouse Farm).</p>	<p>In addition to grassland the roof of the IW MF will incorporate a Sedum roof to create a bare ground habitats (green/brown roof).</p> <p>Along the northern side of the Upper Lagoon the south-facing bank will be interspersed with areas of crushed concrete to provide a mosaic of bare ground and grassland habitats.</p>	<p>Provision of a Sedum roof will deliver elements of a bare ground habitat. This should be particularly attractive to a variety of invertebrates as well as birds.</p> <p>To provide even greater habitat diversity and some bare ground habitat usable by species such as invertebrates, crushed concrete will be used to provide areas of open bare ground around the perimeter of the IW MF as a facing to the soil nailed retaining wall. Such habitats, especially where south facing, are particularly attractive to a variety of invertebrates. [Refer to HDA Drawings SL 1-5].</p>
7.5.4 Ponds and Great Crested Newts	<p>'In order to provide compensatory habitat for the area of suitable terrestrial GCN habitat which will be lost from (from) the eRCF (IW MF) footprint, an area of 0.5 to 1.0 ha of species-rich grassland with scattered scrub will be planted in the area of species-poor grassland to the north of Woodhouse Farm. Several artificial GCN hibernation sites would also be constructed in this area.</p>	This has already been provided.	Compensation habitat east of Woodhouse Farm has been created [Refer to HDA Drawing SL 4].

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7.5.5 Feature 5 - Bats	See 7.3.6 above. Reference made to buildings and specific bat roosts.	<p>Some of the former airfield buildings of potential interest were removed as part of the Site A2 quarrying operations following a survey and internal inspection by a licensed bat ecologist. Bat boxes were installed to compensate for the loss of the buildings in and around the existing woodland adjacent to Woodhouse Farm, and will be unaffected by the IWMF development works.</p> <p>Removal of reference to specific roost locations.</p>	<p>Bats are highly mobile creatures and can inhabit or abandon roosts regularly. As no potential bat roosts lie within the footprint of the IWMF site, bats will be unaffected by the IWMF's development.</p> <p>Bat boxes were installed to compensate for the loss of the former airfield buildings in and around the existing woodland adjacent to Woodhouse Farm.</p> <p>The bat boxes will fall under the routine monitoring works that will be carried out by an Ecological Clerk of Works in accordance with the IWMF's Habitat Management Plan.</p>