

RIVENHALL AIRFIELD IWMF

S1 – Statement in Support of Section 73 Variation Application

Gent Fairhead & Co Limited

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1 INTRODUCTION

- 1.1 This report is submitted by Gent Fairhead & Co Limited (“GFC”) in support of a series of modifications proposed to certain planning permission drawings as part of an application made under s73 of the 1990 Act¹ to amend the planning permission for the Rivenhall Airfield Integrated Waste Management Facility (“IWMF”). An Application Form is submitted with this s73 application and the set of proposed new drawings are submitted alongside. Essex County Council (ECC) Waste Planning Authority (WPA) approved the extant planning permission Reference ESS/55/14/BTE on 26th March 2015 (S12). The planning agent, Messrs Holmes & Hills Limited of Braintree, Essex, gives a full explanation of the structure of the application and submissions in the covering letter to the Application.
- 1.2 A series of Submissions of Details for the Conditions that relate to or are affected by the proposed modifications in this section 73 application are also submitted with this application. These are listed in Table 1 in Section 3 of this report.
- 1.3 Gent Fairhead believes that its proposed changes to the approved design of the IWMF, as shown in the amended drawings contained herein, could actually be considered as “Minor Material Amendments” (MMAs as defined in ECC’s “Supplementary Guidance for the Requirements of a Valid Planning Application” dated September 2013) because the scale and/or nature of the proposed amendments result in a development which is not substantially different from the one which has been permitted. Nevertheless, in pre-application discussions regarding the development of the IWMF detailed design, Essex County Council (“ECC”) has advised that its preferred approach is for GFC to submit these revised drawings in respect of the proposed built development by way of a Section 73 application.
- 1.4 This Section 73 application essentially seeks to modify a number of drawings listed in Condition 2 of the current planning permission by varying that Condition to list the new drawings submitted with this application. The changes all relate to a slightly reduced building size, a modified retaining wall design, and a realignment of the access road at the entrance to the IWMF building area. This section 73 application does not seek to change the planning conditions that relate to total waste and paper inputs into the site (condition 29), the maximum traffic movements (condition 3), or the height of the CHP stack (condition 56).
- 1.5 This report summarises the evolution of the various processes for which the principle and envelope of development along with the siting, external appearance, landscaping and means of access was permitted by the Secretary of State for DCLG, following a public inquiry, on 2 March 2010, subsequently 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 . References in this report to either planning conditions or s.106 obligations are to conditions or obligations forming a part of or linked to the extant ESS/55/14/BTE permission.
- 1.6 As has been demonstrated across the UK in the planning approval of major waste management facilities, detailed design of the various processes to be installed and used within the permitted structures must be conversant with the composition of

¹ Town and Country Planning Act 1990 (as amended)

the wastes to be treated and current in relation to the latest technologies most appropriate to treat such wastes. To ensure that Best Available Techniques (“BAT”) are employed, the principle of “flexibility” within the IWMF detailed design was accepted at the public inquiry as endorsed by Government policy. The principle was carried through to the way in which the planning permission was constructed and therefore also how it should be interpreted. In particular, Condition 19 provides for “details of the IWMF process layout and configuration” to be submitted to and approved by the Waste Planning Authority (“WPA”) prior to installation.

- 1.7 Holmes & Hills LLP (H&H) has been provided with all drawings submitted with this s73 application and technical information identifying the detailed process and plant layouts for the permitted development. In a separate report by H&H, and submitted within this s73 application package (S10) conclusions on points of law and professional legal opinions are given by H&H as applied to the facts provided by GFC (such as the technical descriptions of the proposed changes and the differences between the original drawings and what is now proposed).

2 DESCRIPTION OF THE EXISTING PERMITTED PROPOSALS

- 2.1 References in this report to either planning conditions and/or s.106 obligations relate to planning permission ESS/55/14/BTE of March 2015, which permits the following development:

“An Integrated Waste Management Facility comprising: Anaerobic Digestion Plant treating mixed organic waste, producing biogas converted to electricity through biogas generators; Materials Recovery Facility for mixed dry recyclable waste to recover materials e.g. paper, plastic, metals; Mechanical Biological Treatment facility for the treatment of residual municipal and residual commercial and industrial wastes to produce a solid recovered fuel; De-Inking and Pulping Paper Recycling Facility to reclaim paper; Combined Heat and Power Plant (CHP) utilising solid recovered fuel to produce electricity, heat and steam; extraction of minerals to enable buildings to be partially sunken below ground level within the resulting void; visitor/education centre; extension to existing access road; provision of offices and vehicle parking; and associated engineering works and storage tanks, at Rivenhall Airfield, Coggeshall Road (A120) Braintree”

- 2.2 GFC is not seeking to amend the description of development as per the existing planning permission. GFC is seeking minor material amendments to the permitted plans only.
- 2.3 In the following sections of this report, references are made to paragraphs in the Inspector’s Report (IR) dated 22 December 2009 to the Secretary of State in respect of the Public Inquiry held between 29 September and 14 October 2009 into GFC’s planning application for the IWMF at Rivenhall Airfield (S13).

3 SUBMISSION OF DETAILS WITH SECTION 73 APPLICATION

- 3.1 There are a series of planning conditions for which details must be approved by the WPA prior to commencement of development. At present, the planning conditions relate to the permitted scheme. Several conditions relate to the designs, layouts and proposals as shown on the drawings listed in Condition 2. This Condition is sought to be modified by this section 73 application, to incorporate the new list of drawing numbers included in this application. These modified drawings relate directly or indirectly to issues affected by inter alia the slightly reduced building size, the modified retaining wall design, the realigned access road at the entrance to the IWWMF building area and the size of the Upper Lagoon. These proposed changes are explained in detail in this report.
- 3.2 If these details were submitted before the section 73 is approved, the drawings and details would be incorrect in respect of what GFC is now proposing to build. On the other hand, if the submission of details were delayed until after the section 73 is determined, then the WPA would not gain the benefit of the detail of specific issues that would help it determine the section 73.
- 3.3 On this basis, the series of relevant conditions that relate to the modified scheme are submitted now in conjunction with this section 73 application. Therefore, the WPA will be able to approve these conditions at the same time as determining the section 73, or at least be in the process of exchanging views with GFC at that time in order to finalise and approve the conditions in due course, soon after the section 73 determination.
- 3.4 The series of planning conditions for which details are submitted for approval in conjunction with this section 73, and which could be interpreted as being dependent on the modified design that will require the s73 approval, are highlighted in red in Table 1 below. The planning condition number relates to the extant planning permission Ref ESS/55/14/BTE. The main basis of the condition is given as a brief note in the table, rather than the full condition itself.
- 3.5 In addition to those that are directly related to the modified design, there are other more general conditions that require approval, and these could be decided on the basis of the current permission or any future one. In fact, GFC is now able to submit all of these details at this time. These 'independent' or non-dependent conditions, being un-shaded in the following Table 1, will be submitted separately from this Section 73 application in the normal way.

Table 1: Proposed Submission of Details with s73 Application

No	Main subject matter of Planning Condition for which details must be approved prior to commencement of development	Submitted with this s73 Application	To be submitted in normal way
6	Access Road, cross-over points	<input type="checkbox"/>	
10	Archaeological Investigation		<input type="checkbox"/>
11	Level 3 Survey – Airfield Buildings		<input type="checkbox"/>
13	Signage, Telecommunications and Lighting at Woodhouse Farm complex	<input type="checkbox"/>	
14	Stack design and finishes	<input type="checkbox"/>	
15	Cladding design and finishes	<input type="checkbox"/>	

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No	Main subject matter of Planning Condition for which details must be approved prior to commencement of development	Submitted with this s73 Application	To be submitted in normal way
17	Management Plan for the CHP Plant	<input type="checkbox"/>	
18	Green roofs	<input type="checkbox"/>	
20	Construction compounds, parking of vehicles	<input type="checkbox"/>	
22	Foul water management	<input type="checkbox"/>	
23	Surface water drainage and ground water management	<input type="checkbox"/>	
24	Groundwater Monitoring	<input type="checkbox"/>	
25	Contaminated Land Investigation		<input type="checkbox"/>
37	Signs on access road at footpath crossings	<input type="checkbox"/>	
43	Lighting scheme during construction	<input type="checkbox"/>	
45	Phasing scheme for access road, retaining wall and mineral extraction	<input type="checkbox"/>	
46	Soil handling		<input type="checkbox"/>
50	Fencing – temporary and permanent	<input type="checkbox"/>	
51(a)	Dust Management Plan during construction		<input type="checkbox"/>
52(a)	Odour Management Plan during construction		<input type="checkbox"/>
53	Ecological survey update	<input type="checkbox"/>	
54	Habitat Management Plan update	<input type="checkbox"/>	
57	Landscaping – bunding, planting	<input type="checkbox"/>	
59	Trees, shrubs and hedgerows retention and protection	<input type="checkbox"/>	
60	Tree management and watering adjacent to retaining wall	<input type="checkbox"/>	
61	Woodhouse Farm parking and landscaping	<input type="checkbox"/>	
62	Traffic calming measures at River Blackwater for otters and voles	<input type="checkbox"/>	
63	Access Road crossing points – lining and signing	<input type="checkbox"/>	
64	Historic Building recording		<input type="checkbox"/>

4 THE ENVIRONMENTAL PERMITTING PROCESS IN PARALLEL

- 4.1 The main purposes of a planning permission for a major development where an Environmental Impact Assessment (EIA) supports the application are to agree the principles and “planning envelope” associated with the use of the land, and for the prevention or minimisation of environmental impact. The major principles of design are associated with location and land use, traffic and access implications, building sizes and settings, landscaping and visual impact, archaeological and ecological impacts, prevention of nuisance and control of air emissions, noise and odour. The design that is submitted and approved by the Waste Planning Authority is therefore more ‘conceptual’ in terms of the principles, nature and form of the development rather than ‘detailed’ in terms of the precise layout of process equipment within the permitted envelope of buildings and development.
- 4.2 In the case of the IWMF, the original EIA submitted with the planning application (ESS/37/08/BTE 26 August 2008) explained how a whole range of alternative technologies were considered for the various treatment processes in order to establish the most reasonable worst case potential emissions, flows and environmental impacts. In this way, a realistic and robust assessment was undertaken of the IWMF allowing GFC the opportunity to select the most practicable technology to treat wastes in the future. The Inspector acknowledged this flexibility as explained more fully in Section 3 above.
- 4.3 Before a major waste management development such as the IWMF is allowed to commence operations, the planning and environmental permitting processes provide for significant development and approval of details through two mechanisms, namely (i) the Submission of Details to the Waste Planning Authority before construction and (ii) the obtaining of an Environmental Permit (EP) from the Environment Agency (EA) before operations. These processes require far more detailed design and specification than during the initial planning procedure, and are coordinated between the WPA and the EA to ensure full compliance with both. The EP takes greater precedence regarding pollution control aspects.
- 4.4 It is confirmed that, in parallel with this s73 application, GFC is submitting (at or around the same time) its EP application to the EA. The EA has classified the project as High Public Interest (HPI) and will be undertaking the appropriate public drop-in consultation process to give members of the public technical assistance in understanding the proposals.
- 4.5 All waste management processes on the site require a full Environmental Permit, and because of the inter-relation and inter-dependency of various parts of each of the processes, it has been agreed with the EA that GFC will hold an umbrella EP over all operations on the site. The finalisation of each process design and layout will be an iterative procedure involving the WPA and the EA. The EA will hold a public consultation procedure and will ensure that Gent Fairhead’s proposals meet all operational control procedures for the minimisation of emissions to below statutory limits. The EA may advise GFC and/or the WPA, where necessary, on aspects such as plume abatement, noise, release of odours and any other environmental controls. If necessary, process layout details may then be modified and agreed with the WPA under Condition 19 “prior to installation”.
- 4.6 The EA and WPA may consult each other with regard to their respective processes. GFC will be central to their individual comments and instructions and will work to ensure that each party’s final and detailed conditions for planning purposes (WPA) and for operating purposes (EA) are complimentary. GFC will co-ordinate the

results from the processes to ensure that environmental control issues are dealt with compatibly in the planning permission (Submission of Details) and the EP.

5 FLEXIBILITY OF DESIGN AS AGREED BY THE SECRETARY OF STATE

5.1 The flexibility of the design of the IWMF was a subject on which considerable evidence was presented to and discussed at the Public Inquiry in September/October 2009. Indeed, having been directed by the Secretary of State, the Inspector listed at the commencement of the Inquiry a number of key issues that he wished to address (IR² Para 1.11 – sub-para iv), as follows:-

“iv. whether there is a need for the scheme to provide flexibility to accommodate future changes in waste arisings; changes in the way waste is dealt with; and changes that may occur in the pulp paper industry. If so, whether the scheme takes account of such need;”

5.2 Several other parties to the Inquiry also raised issues of flexibility, including Braintree District Council (BDC), the Local Councils Group (LCG) and the Saffron Walden Friends of the Earth (SWFOE). Their evidence was considered by the Inspector and taken into account in his conclusions.

5.3 The IWMF application had been named the “eRCF” because it was an “evolution” of the design of a previous submission and planning approval by ECC for a Recycling and Composting Facility (the “RCF”)³. As the acronym ‘IWMF’ was used by the County Council in its various Committee Reports, and as it is defined within Condition 3 of the original and extant planning permission (and throughout the remaining conditions), it has become the adopted term by the WPA and GFC for on-going planning purposes such as this section 73 application and the submission of details.

5.4 The consultation response into the RCF by the Commission on Architecture and the Built Environment (CABE) anticipated the evolution of the proposals ultimately encompassed within the IWMF (IR Para 6.9 page 17). The CABE response stated “We would encourage the applicant and the local authority to bear in mind the likelihood of changing techniques and requirement for dealing with waste in the years ahead, and to envisage how the facility might need to be adapted and/or extended to meet future needs”.

5.5 The Inspector dedicated a complete Section of his conclusions to “The flexibility of the development” (IR Section 13 viii). In para 13.61 he states “It seems to me that if a proposal is to be sustainable and economically viable in the long term, one of its attributes must be a degree of flexibility to accommodate future changes in waste arisings and in waste management techniques and practices.” In paragraph 13.62 he quotes from the Waste Strategy for England 2007, stating “building facilities with an appropriate amount of flexibility is one of the keys to ensure that high rates of recycling and EfW can co-exist”.

² Inspector’s Report to the Secretary of State ref Rivenhall Airfield Planning Application December 2009 (S13)

³ Planning Permission Ref ESS/38/06/BTE for Recycling & Composting Facility at Rivenhall Airfield

- 5.6 Having explored the IWMF's detailed design, the Inspector concludes (para 13.65) "On balance, I consider that the design of the proposal and its multiple autonomous process lines would provide a reasonable and sufficient degree of flexibility to enable future changes in the composition of waste and the ways in which waste is managed to be accommodated. In this respect, the scheme would not be detrimental to the achievement of increased rates of recycling".
- 5.7 Since the Public Inquiry in October 2009, there have been widespread and significant changes to the composition of municipal and commercial waste in Essex and in the way it is treated and managed, as anticipated by the Inspector. The following section explores these changes, and explains how they are accommodated in the continuing evolution of the detailed design of the IWMF.

6 CHANGES IN WASTE MANAGEMENT SINCE 2009

- 6.1 The updated case for need for the IWMF has been made in two recent planning applications made by GFC to the WPA. Firstly, GFC applied for an extension of time to implement the planning permission; the application being made on 5th August 2014 resulting in an approval by the WPA and a new permission ESS/41/14/BTE dated 2nd December 2014. A report by Ralph Keeble of GFC entitled "Changes in the case for need since September 2009" was submitted with that application.
- 6.2 GFC also applied for removal of two planning conditions that partially restricted the geographical sourcing of waste; the application being made on 12 December 2014 and subsequently approved on 26 March 2015 by permission number ESS/55/14/BTE, which is the extant permission. Accompanying GFC's application was a report by SLR Consulting entitled "Rivenhall Airfield IWM Facility – Justification for removal of fuel sourcing conditions; Rev 4; December 2014", and that report provided the more recent independent view of the waste market need, including details of appropriate fuel types and specifications. The granting by Essex WPA of both applications has inherently acknowledged the contents of the submitted reports on the need update.
- 6.3 There have been significant changes in municipal and commercial waste management practices in Essex in the 7 to 8 years since the IWMF design was developed and the original planning application made in August 2008. These have occurred separately in the collection and management of (i) municipal solid waste (MSW) and (ii) commercial and industrial waste (C&I).
- 6.4 Since 2009, the Essex County Council has developed its MBT facility at Courtauld Road Basildon, and supporting infrastructure. It is understood that the facility is currently undergoing a 12 month commissioning process. As it will receive all of Essex's municipal residual waste, five new municipal waste transfer stations incorporating mixed recyclate MRFs have been constructed and are now in operation at Harlow, Dunmow, Braintree, Tendring and Chelmsford.
- 6.5 ECC recently let (January 2015) long-term 20-year contracts for the treatment of its municipal 'bio-waste' to Material Change Ltd, by Anaerobic Digestion and In-Vessel Composting at Basildon and Halstead. The contract is for 20 years (with option to extend) and will treat approximately 30,000 tonnes per annum of food waste and 55,000 tonnes per annum of mixed green and food waste. The IWMF's 30,000 tpa AD plant complements the new infrastructure being established by the ECC, and to provide for the treatment of separately collected organic C&I waste.

- 6.6 As a result of the new ECC waste management infrastructure, the original identified need for some of the municipal waste treatment aspects of the Rivenhall IWMF have now been replaced by other technological needs for other waste types. For example, the Rivenhall MBT plant will not receive municipal residual waste but will concentrate on commercial waste. On the other hand, there is a definite need within Essex for the residual output from ECC's MBT Plant at Basildon that could amount to 205,000 tonnes per annum of SRF/RDF. The IWMF's CHP facility will be the only technology in Essex that could recover energy from this fuel.
- 6.7 In the commercial and industrial waste (C&I) markets there have been comparable changes to facilities and practices brought about by the considerable rises in landfill tax. Commercial operators of all sizes who 20 years ago developed a business transferring residual waste to landfills, nowadays all undertake some form of segregation, sorting and pre-treatment, and all try to avoid landfill for the following reasons.
- 6.8 Landfill Tax has risen from £8/tonne in 2007 to £82.50/tonne in 2015, leading to all sizes of waste management companies collecting commercial waste, where practically possible, to maximise their recycling and make an RDF for recovery of energy at other appropriate facilities (including overseas to where currently the UK sends over 3.0 M tonnes per annum). As a result, Essex's C&I commercial waste operators have modified old transfer stations and/or built new MRFs to establish various forms of sorting and recovery which limit their volumes of residual waste that would otherwise go to landfill. Indeed, following installation of several new MRF's since 2007 across Essex, there are now a large number of C&I operators who are producing RDF for recovery at EfW plants, either in the UK or abroad.
- 6.9 Old C&I transfer stations have been modified to become MRFs because these operators must limit the final residual waste to be landfilled, and this necessity has led them into the manufacture of RDF. As a result, the need for Rivenhall as an integral part of the Essex C&I waste management market, is far greater for its ability to recover energy from Essex C&I RDF than it is for the manufacture of RDF which would be in direct competition with these many Essex firms. It was never Gent Fairhead's intention to set up in competition with local C&I companies, as was stated at the Public Inquiry.
- 6.10 GFC is in touch with waste management companies and MRF operators throughout Essex. There are significant operations in Tendring, Colchester, Dunmow, Maldon, Chelmsford, Harlow, Basildon and Rochford. Many of these operators are already sending residues for energy recovery outside the County and/or overseas. All would value a comparable facility in Essex rather than the expensive alternative to export or landfill.
- 6.11 In the words of the County Council's Capacity Gap Report 2014, the delivery of the Rivenhall IWMF would play a "vital role in ensuring the Plan Area's waste management infrastructure meets the required capacity" for MSW and C&I wastes. This "key issue" was encompassed within the ECC's recent Replacement Waste Local Plan – Preferred Approach (June 2015) in which the Rivenhall site is safeguarded as an "Opportunity Site: to provide additional waste management capacity further up the waste hierarchy".
- 6.12 By way of confirmation of the IWMF's unique position, as the Basildon MBT plant is expected to become fully operational during 2015, Essex County Council has awarded a 2 year short-term interim disposal contract to waste management company SITA (recently rebranded as Suez Environnement) to receive 180,000

tonnes per annum of the SRF/RDF at its Tilbury Docks facility from where it will be exported to energy-from-waste plants elsewhere in Europe.

- 6.13 The IWMF will incorporate the only WID-compliant energy recovery plant in Essex that could treat the MBT residues from Basildon, which would otherwise be consigned to local landfill if the overseas option was unavailable. Secondly, the detailed design of the MRF and the MBT will provide for a mixture and capacity of processes to deal with the residual commercial waste from Essex's collection companies. The MBT plant will be capable of processing up to 170,000 tonnes per annum of organic-rich commercial waste residues, and the two MRF lines will each be capable of processing 150,000 tonnes per annum, one line for the bio-dried output from the MBT, and the other line for dryer and less processed C&I wastes (direct delivery).
- 6.14 To conclude, on the treatment of C&I waste from Essex, the developed IWMF will become an integral part of the commercial waste management industry within Essex, whereby its integrated operation alongside the other operators' facilities will enhance greater recovery and recycling of materials from the waste stream. This is particularly relevant to the treatment of RDF within the CHP plant, and the provision of a closed loop solution to waste management practices within Essex, thereby mitigating the need for overseas export of residues.

7 OPERATIONAL PROCESSING CAPACITIES

- 7.1 The Rivenhall IWMF has a number of different individual and integrated processes. In several instances, the input into one process is dependent upon the output of others. In terms of operational capacity, the planning conditions refer to those related aspects that are typical and enforceable in planning law; namely the maximum input of materials and the maximum numbers of vehicle movements to the facility as a whole (i.e the IWMF). As stated previously, nothing in this section 73 application seeks to change these conditions or these limits.
- 7.2 Planning condition No 29 that states "no more than 853,000 tpa of Municipal and Commercial and Industrial Waste shall be imported to the site". The development will be an integrated waste management facility incorporating the processes originally permitted. The development will be marginally but not noticeably smaller and there will be no increased environmental impacts; nor an increase in traffic or vehicle movements. It will process the same type and quantities of municipal and commercial waste, and in the same manner, as the permitted development; in fact, the modified design will be far better equipped to service the current needs of municipal and commercial waste recycling and recovery in Essex which have changed since the original application. In summary, the modified design deals with waste management in exactly the way that was intended. The development is substantially the same.
- 7.3 The significant changes in municipal and commercial waste management practices in Essex, during the 7 to 8 years since the IWMF was conceived, are detailed in section 4 above. In that period, several new facilities for the treatment and recycling of municipal and commercial waste have been permitted and constructed. All produce up to 50% residue that must be landfilled or sent to an energy recovery facility. The process requirements for an integrated waste management facility, that incorporates the only energy-recovery facility in Essex, has changed accordingly.

- 7.4 This section 73 application demonstrates Gent Fairhead's intentions to construct the proposed IWMF incorporating the waste treatment processes as originally proposed but with some modifications. In themselves, these modifications are not seen to be appropriate to the section 73 process (as explained above) for the following reasons:
- The proposed total waste treatment capacity of the IWMF as a whole is less than that which was approved in the original and extant planning permission (as explained below);
 - There will be no negative effect on the "planning permission envelope" or environmental impact as demonstrated by the supplementary reports that accompany the EIA update statement with this application;
 - As part of the "planning envelope" changes in individual processes will not result in an increase in traffic movements, and in any case Condition 3 that restricts the numbers of HGV movements per day will be met (see Vehicle Movement Assessment by Intermodal);
 - Internal layout does not in planning law require planning permission; this is the detail that will be submitted under condition 19; individual process changes are part of the internal layout and will be considered under condition 19;
 - The IWMF, as now proposed, is far better equipped to deal with the real current needs of Essex's municipal and commercial waste recycling, recovery and disposal than would have been the case if the original process plant capacities had been replicated exactly as the original outline design; implementation of these current proposals will result in more efficient waste management for Essex and its surrounds.
- 7.5 As discussed in Section 5 above, in parallel with this s73 application, GFC is making its application to the EA for the Environmental Permit (EP). In terms of operational 'capacity' for the EP, based on throughput of fuel and waste materials, the EA will review all details of the technology and will set a "maximum" capacity of fuel input depending upon the range of potential factors such as fuel type, net calorific value (NCV) and potential maximum operating hours.
- 7.6 Whilst it is a matter for the EP to set and control the maximum capacity of all operating processes on site, according to their technological capabilities, the overriding planning control over waste inputs into the site lies in the two main operating control conditions, namely Condition 29 that restricts total inputs of waste to 853,000 tpa and Condition 3 that restricts the number of daily HGV movements (404 – 202 in and 202 out). This section 73 seeks no variation to Conditions 29 and 3.
- 7.7 The capacity of the CHP facility in the IWMF has been reduced from 204 MWth to 184 MWth in two boiler lines each of 92MWth rather than 3 lines of 68 MWth originally proposed (as discussed in more detail in Section 8 below).
- 7.8 On the basis of the combustion diagram of the more energy efficient plant that has now been selected, in the EP application (which requires the absolute maximum to be considered), GFC's declared operational or maximum waste throughput 'capacity' of the CHP plant will be 595,000 tonnes per annum compared to a maximum of 489,000 tonnes per annum in the original design at an NCV of 12 MJ/kg. This capacity includes for on-site receipt of outputs from other processes on

site, such as the waste sludges from the WWTP and the outputs from the MRF and MBT.

- 7.9 In line with the changes in the municipal and commercial waste treatment infrastructure in Essex (discussed above Section 5), the MRF and MBT systems have been designed to be more appropriate to the latest needs of the commercial waste market.. The MBT plant, no longer intending to receive large quantities of municipal waste residues, will concentrate on biologically drying certain commercial waste arisings that are more putrescible in nature. The MBT output can pass through the MRF to recover more recyclates. In parallel, a second MRF line receives output from some of the simpler commercial waste operations in order to recover more recyclates from the commercial wastestream. In accordance with planning condition 27, where commercial or municipal waste that has not been presorted is received at the MRF or MBT, this will have arisen only in Essex or Southen-on-Sea. The Rivenhall IWMF will be able to recover increased recyclates that have not been recovered within the previous collection and possibly simple sorting systems.
- 7.10 It was always recognised that the proposed AD plant at Rivenhall was predominantly sized and intended for green and food waste from the municipal market, but this has now been contracted out by the County Council to Material Change Ltd to build and operate new AD and In-Vessel composting plants at the ECC's Basildon Courtauld Road site, as well as utilising some capacity at the existing Halstead site (built since the Rivenhall IWMF permission). (Reference: ECC Report to Cabinet 27 January 2015, Agenda Item 9, FP/841/05/12). The planning application has not yet been made for the new AD/IVC facility at Courtauld Rd, but GFC expects it to go ahead. The use of these two other sites will greatly reduce the amount of appropriate waste in Essex that could be treated by AD at Rivenhall and so the current proposal is for a plant that could treat up to 30,000 tonnes per annum of mostly commercial food waste.
- 7.11 In terms of the Pulp plant (or referred to as MDIP – Market De-Inked Pulp) the Rivenhall IWMF remains the only project in the UK that focuses on making pulp for the production of Printing & Writing papers (P&W) and packaging papers, and this offers a large-scale stimulus to high-grade paper recovery. When constructed, it will reduce the exports of valuable raw material to the Far East and create the infrastructure in the paper industry for closed loop manufacturing in the UK. GFC has established relationships with mills and distribution companies that are keen to buy 'new' high-quality recycled pulp that will directly replace their virgin pulp inputs and produce new products that can be badged as '100% recycled" or other percentage to meet consumer demands.
- 7.12 It will be seen that the current proposal for the MDIP capacity is approximately half that which was originally proposed; this is to take account of the current market which has changed since the application due to the recession and the move to use less white paper. However, the flexibility of the design would allow a second line to be installed alongside in the future, as and when the market demands may increase again. If this became the case, GFC would ensure that the overall total waste inputs into the IWMF would not exceed the 853,500 tpa in planning condition 29, by appropriate adjustment to the other wastestreams.
- 7.13 Comparison of the original IWMF capacities versus the modified proposals is demonstrated by Table 2 below. It can be seen that the sum of the actual process capacities totals far more than the 853,000 maximum inputs by road because there is significant double accounting at the IWMF. Processed material from the MBT goes into the MRF and the CHP. Some paper material is recovered from the MRF

and sent to the Pulp Plant. Various outputs and residues from certain processes are fed into others.

Table 2: Comparison of Original Capacities versus Current Capacities

	Comparison of Environmental Permit application requirements	
	Original Application	Proposed s73 Application
	Max ^m capacities in original application following adjustment in CHP for actual maximum required by Env Permit application	Max ^m capacities in current application on like for like basis – i.e. as Env Permit application
MRF	287,500	300,000
AD	85,000	30,000
Pulp	360,000	170,000
MBT	250,000	170,000
CHP	*489,000	595,000
	1,471,500	1,265,000

**Note: In the original application, the average throughput was 360,000 tonnes per annum at NCV 16 Megajoules/kilogramme for an assumed 8,000 hrs. To adjust the throughput by comparing the energy content of the fuel to give a like for like comparison with the proposed s73 application (ie the permitted furnace combustion diagram indicated a maximum of 12 MJ/kgm, which should now be assumed over 8,150 hrs), the original furnace would have been capable of processing the following maximum waste throughput:- $360,000 \times 16/12 \times 8,150/8,000 = 489,000$ tonnes per annum*

- 7.14 As shown on the bottom line of Table 2, the actual total processing capacity of the IWMF as permitted is adjusted to 1,471,500 tonnes per annum to compare with the modified proposal of 1,265,000 tonnes per annum, a reduction in overall processing capacity of 14%.
- 7.15 As a result of the changes proposed to internal capacities, there will be no requirement to vary planning condition 3 that essentially limits HGV movements into and from the site to 202 HGVs in and 202 HGVs out during Monday to Friday operations. In the original application the potential vehicle capacities and movements for each process were assessed and confirmed by Intermodal Transportation Limited (ITL). ITL has renewed its assessment and confirmed that no increase will occur as a result of the capacity changes in this Section 73. ITL's report, "Traffic Flow Review for s73 Application" (S6), is included as an annex to the EIA update by Honace Ltd (S2).
- 7.16 In summary, the proposed modifications result in decreased total waste processing capacity than the original application, while remaining within the original environmental and planning envelopes.

8 THERMAL CAPACITY

- 8.1 GFC's IWMF proposals incorporate one of just a few energy-from-waste CHP schemes in the UK. Only a handful are currently operating. Although many have claimed to be "CHP ready" at the planning stage, stating that a user of the steam would be sought in due course, most have simply never installed any user system.
- 8.2 In GFC's case, the basis of the CHP was the incorporation of the waste paper de-inking and pulping plant. The current modified proposals enhance the CHP credentials for the scheme. GFC will build the pulp plant coincidentally with the CHP so that they come on stream at the same time.
- 8.3 The absolute defining factor of the size of any CHP plant is the thermal throughput of the boilers. This is the fixed point to which every variation of RDF NCV and power versus steam trade-off relates.
- 8.4 In the original planning application (see Regulation 19 Section 19.5.1) the thermal capacity of the permitted plant was 204 MWth delivered through 3 x 68 MWth boilers. In the revised design, the thermal capacity is 184 MWth delivered through 2 x 92 MWth boilers. In other words, the thermal capacity of the CHP has decreased by 10%.
- 8.5 The reason that this reduction has been possible, is because GFC's technology providers have optimised the plant efficiency and the energy balance between electricity and steam.
- 8.6 However, the evolution of the technology and the development of the market in RDF/SRF has resulted in the standardisation of the NCV (Net Calorific Value) specification of RDF/SRF in the range 9-12 MJ/kg rather than the range of 12-20 MJ/kg which was the basis of the original CHP plant design. For example, the specification issued by Essex County Council for the RDF from its Basildon facility is for an NCV of 10MJ/kg compared to the average of 16 MJ/kg, which was the expectation at the time of the original IWMF design.
- 8.7 The effect of such a reduction in the specified NCV necessitates different types of furnaces and the re-balancing of the treatment process so that a greater proportion of the recovery takes place in the CHP plant because a lesser proportion has happened at the MBT plants. This change makes it technically possible for the IWMF to accept the RDF from Basildon, and other similar treatment plants. Therefore, in optimising the environmental performance and capacities of the treatment processes in the IWMF to best suit the current needs of the waste market, a higher proportion of the 853,000 tonnes per annum overall input will be recovered by the CHP plant.
- 8.8 To illustrate the changes to the power generating capacity and steam consumption, section 19.0 of the Regulation 19 Statement has been updated and is presented as an Appendix in the EIA Update Report (S2). The combined electrical output of the CHP facility and the AD facility will normally be less than 50 MW, most of this (c.49MW) being produced at the CHP plant. The power will be used to supply all of the processes at the IWMF, including the internal or parasitic load (5.5 MW) of the CHP plant. Any surplus power will be exported to the electrical distribution network (the 'Grid'). Export will vary according to a number of variables particularly the changing requirements of the various processes on site, but it is normally expected to be around 28 MW, compared with 21 MW in the original application. This represents an increase of electricity to be supplied to the local network of around

30% above the original design, due to changes in internal consumption and the energy efficiency of the modern plant.

- 8.9 Maximising efficiencies of such plant conforms with Government policy, and the principles of sustainable development. In addition, it is important to generate power on the local grid if the facility is considered to be higher up the waste hierarchy than simple incineration without energy that would otherwise be classified as disposal. The improved efficiency of the CHP plant will mean that it will exceed the R1 criteria and, therefore, be classified as a 'recovery' operation under the Waste Framework Directive. The plant's exported electricity will be more than sufficient for around 20,000 homes, roughly the size of Braintree town.
- 8.10 In addition to supplying power, the CHP plant will export steam to other site users for process and heating purposes. The largest consumer of steam will be the Pulp plant which will take, on average, 21 tonnes per hour. A further 9 tph of steam will be used at the wastewater treatment plant and for plume abatement at the CHP plant. Most of the steam supplied will be returned as condensate to the CHP plant for re-use in the boiler.
- 8.11 In summary, the furnace specification has been changed to take account of the revised fuel specification given to GFC by RDF manufacturers, including Essex CC at Basildon. It would not have suited the Council's Waste Disposal Authority, for example, if GFC had kept with the original fuel specification of 12 to 20 MJ/kg (optimum 16 MJ/kg), because the most recent specification issued states that the Basildon RDF is only guaranteed an energy content of 10 MJ/kg. This is in line with other municipal and commercial waste treatment operators, and as a result GFC has procured an air-cooled grate with a NCV range of 7.0 to 13.0 MJ/kg rather than the original grate with an NCV range of 12 to 20 MJ/kg.
- 8.12 The revised higher range of RDF input volumes is achievable, therefore, based on the smaller CHP plant.

9 THE DETAILED DESIGN PROCESS

- 9.1 This s73 application is part of the process to satisfy all conditions of the planning permission; in this case, to ensure that some of the drawings listed in condition 2 are consistent with the detailed design process. It is accompanied by submissions of details for the conditions that cover the wide range of details that the WPA requires to be satisfied prior to construction. The fact that these conditions require details to be submitted for the entire detailed design of the facility is evidence that the planning permission drawings do not demonstrate such an acceptable level of detail to the WPA and further aspects need to be designed in full and agreed.
- 9.2 A critical part of the detailed design process is for the developer, in this case GFC, to select an 'EPC' Contractor for the Engineering, Procurement and Construction of the facility. This is a common form of arrangement within the construction industry whereby the EPC Contractor completes the detailed design of the facility, to procure all materials and equipment, and to build and install all aspects of the development. Individual specialist technology providers are then contracted to install their equipment within the buildings and infrastructure.
- 9.3 For major EfW developments such as within the IWMF, the EPC Contractor is expected to provide a service that will enable completion of the whole development

by “wrapping” all aspects of civil engineering and plant and equipment installation. In other words, the developer may have only one contract and the EPC Contractor must manage other subcontractors or partners to deliver the working facility.

- 9.4 No named provider of the IWMF technologies was given in the planning application or permission, nor discussed at the Inquiry. Its performance criteria, inherent in the application and permission, is that it should be capable of converting municipal and commercial SRF or RDF to energy, whilst satisfying the emission limit criteria of the Waste Incineration Directive (WID).
- 9.5 Through a tendering process with major international waste technology suppliers, GFC has selected an EPC Contractor, and a number of specialist technology providers, who will jointly complete the construction and installation of the IWMF. Following completion of both hangar buildings and all other infrastructure works by the main civil engineering contractor (such as retaining walls, roads, buildings, structures, power, services etc), other specialists will supply and install the other integrated waste management processes on the site, namely the CHP Plant, the Pulping Plant and associated Wastewater Treatment Works (WWTW), the MRF, MBT and AD plants.
- 9.6 In common with most developments of this kind, the planning ‘design’ to establish the nature, form and planning envelope of the IWMF development was undertaken by environmental, planning and engineering consultants, specialists in their field of expertise. The design and its established planning and environmental envelope was subsequently developed by the EPC Contractor and technology specialists using Best Available Technologies to deliver the integrated waste management and civil engineering construction processes.
- 9.7 As the detailed design evolved, the overall constructability and delivery of the IWMF was considered using all the information available at the planning stage and supplemented by further detailed investigations (i.e. supplementary ground investigation information, technology assessments, pilot trials etc). This included detailed geotechnical modelling to assess the Best Available Technologies to construct the retaining walls and bunkers (which will be developed within the base of an existing quarry, below surrounding ground level) in such a way as to minimise the risks to and potential long-term effects on surrounding trees in line with the planning permission.
- 9.8 Once ‘out of the ground’, the detailed design looked at the hangar structures, their cladding and supports systems, and the feasibility and constructability of the ‘green roof’ with its knock-on effects of increased load on the structures. Similarly, the siting and cladding of the CHP stack was a major consideration, and the siting, housing and layout of the integrated process plant and equipment. All of these aspects are covered by the planning conditions and therefore their final detailed design will be submitted in accordance with the relevant condition as part of the submission of details process. Some of the details must be agreed prior to construction; others, such as the “process layout and configuration” for example, need only be agreed prior to installation, as required by condition 19.
- 9.9 It is precisely because of this latter point that GFC is submitting a set of the more generic drawings to be modified, once only, within this s73 application. The modifications proposed to some of the main principles of the facility design are explained within this submission. Where detailed process equipment layouts were shown on multiple planning drawings intended for other purposes (eg planning application area, site plan layout, general arrangement etc), and which are not

required to be resubmitted as details under specific conditions (eg access road details, landscape mitigation measures etc), these are now shown appropriately modified in accordance with the detailed explanation for each drawing in Section 9.

- 9.10 The detailed process design will ultimately be confirmed, and additional drawings submitted, to the WPA to satisfy the submission of details that are conditioned within the planning permission, particularly under condition 19, as required “prior to installation”. The principal planning drawings that show process layout were Dwg Nos 3-8C and 3-12C now revised to 3-8D and 3-12D. These are submitted with this application in order to assist the planning authority in its determination of the section 73 application. In the future, if there is a need for further process equipment amendments, these two drawings could be further modified under condition 19. This is discussed in section 10 below.
- 9.11 Final details of the landscape mitigation proposals are submitted for approval in conjunction with this section 73 application, in accordance with Condition 57. Also in conjunction with this section 73 application, the access road details will be submitted under condition(s) 6, 62 and 63 and Woodhouse Farm Car Park under condition 61. A full list of the planning conditions for which submission of details are being made in conjunction with this section 73 application, are provided in Table 1 in Section 3 above.

10 INTERNAL LAYOUT UNDER CONDITION 19

- 10.1 It is Gent Fairhead’s intention to build the IWWMF in accordance with the final approved plans as submitted and agreed under the planning conditions.
- 10.2 Planning Condition 19 states “No works to install process equipment or plant within the IWWMF shall commence until details of the IWWMF process layout and configuration have been submitted to and approved in writing by the Waste Planning Authority. The development shall be implemented in accordance with the approved details”. A whole series of plans, cross-sections, technical brochures, 3D visualisations and process descriptions will be submitted separately under Planning Condition 19 to ensure that the WPA has sufficient detail to understand and approve the detailed process design and layout.
- 10.3 Internal layout does not in planning law require planning permission. This is the detail that will be submitted under condition 19. Hence, it is proposed to remove the process detail from the generic plans that were submitted in order to demonstrate other principal matters of principle, so that these drawings will need no further amendment in the future when the process layout is agreed with the Planning Authority. By presenting the drawings in this manner they follow the principles of flexibility expressed by the Inspector and assessed within the original application.
- 10.4 There are no impacts resulting that were not already considered at permission stage. The physical envelopes of the proposed buildings are similar to those as the permitted drawings, as are the wall and roof finishes already agreed in principle but also requiring formal approval under Condition 15. Modifications to external process equipment allied to the CHP facility are within the agreed planning envelope for the IWWMF. There will be no increased environmental impacts resulting from the detailed design outside the ‘planning and EIA envelopes’, which evaluated the ‘most reasonable worst case’ for visual impact, traffic and emissions.

- 10.5 Notwithstanding the above, a separate report by Honace Ltd, supported by qualified environmental specialists, is enclosed within this Section 73 package as confirmation that reliance may still be placed upon the original EIA. The reports also confirm that there are no additional impacts resulting from any of the modifications. The same level of environmental control will be installed as described in the planning application and there will be no increase in environmental impact.
- 10.6 The modifications proposed to the submitted drawings are described in the Table in Section 7 below. There is no reasonable basis to suggest that the current approved layout is fixed at the fine grain level - for a start, the layout is a mix of shapes with no technical/scientific meaning. e.g. there was no detail shown for waste water treatment equipment. The detail, as explained above, was always something that was to be drawn up later for submission and approval by the WPA under condition 19. Otherwise, why would all parties have agreed to the imposition of condition 19?
- 10.7 The level of detail that was shown at application stage was agreed with the Planning Authority as sufficient to properly assess the potential environmental impacts of the development and this was accepted at the public inquiry. It was also discussed at the inquiry and accepted by the Inspector that there needed to be some allowance for future in the design, particularly to ensure practicality of construction and future maintenance (Inspector's Report Section 13 viii and Inquiry documents GF/38 'Operational Process Flexibility' and GF/42 'Maintenance'.)
- 10.8 Specific evidence given to the Inquiry by Golder's Steven Smith (Inquiry Document GF/38 "eRCF Operational Process Flexibility") explained that the layout on the planning application drawings was "preliminary"; the following is a direct quote from his introduction after which details of the flexibility of each process were discussed:
- "Flexibility is inherent in the preliminary design of the recovery, recycling and treatment processes through their modular construction and in-built individual process flexibility (in terms of the building envelopes shown on the planning application drawings and the proposed conditions limiting the amounts of waste that can be imported to the site). Such flexibility would be developed at the time of detailed design as follows:....."*
- 10.9 In conclusion, it is clear from the principles discussed at the inquiry, and how those discussions transpired into the requirements of condition 19, that to the extent that internal processes and layouts are shown on the approved plans the detail of process and layout is clearly indicative and does not represent the final detailed layouts anticipated under condition 19. For this reason, a new note (see Paragraph 12.2 below) has been added to the drawings submitted with this Section 73 Application.

11 CHANGES IN TECHNICAL CONSULTANTS – NEW DRAWING TITLE BLOCKS

- 11.1 There are nineteen (19) drawings listed in the original and current planning permission (ESS/55/14/BTE). Seventeen (17) of these were prepared by Golder Associates (UK) Limited (Golder), and the two detailed drawings related to the site improvements to the site access road junctions were prepared by Intermodal Transportation Limited (ITL) of Saffron Walden. Golder is an international environmental organisation which, at the time that GFC was preparing its designs

and planning applications between 2005 and 2008, had a local office in Chelmsford specialising in waste management planning and environmental assessments.

- 11.2 For the purposes of moving from planning to detailed engineering design and procurement of specialist contractors, it is not uncommon for developers to switch to consultants with this appropriate expertise and in 2012 GFC appointed the international group Fichtner Consulting Engineers Limited (FCE) as its “Owner’s Engineer” (OE), a role that FCE has taken on the majority (more than 20) of major energy-from-waste plants that have been constructed in the past 20 years in the UK. The OE role involves advising on all aspects of detailed design and technical negotiation with various specialist technology providers. For the purposes of the design for the Rivenhall IWMF, Fichtner appointed a sub-consultant Melia Smith & Jones Limited (MSJ), consulting civil and structural engineers of Leeds, for the detailed civil engineering and building elements of the design.
- 11.3 As a result of the change to the engineering specialists, and in parallel a change within Golder UK’s modus operandi that involved closing the Chelmsford office and reducing its specialisms in planning and environmental assessment, GFC no longer retains Golder on the Rivenhall IWMF project. It is therefore no longer possible to request that Golder changes drawings on GFC’s behalf. Most of the new drawings that are proposed in this s73 application will have MSJ’s title block on them; although they have been replicated from Golder’s original base.
- 11.4 Notwithstanding the change of lead technical consultant, GFC has directly retained many of the specialist consultant companies or individuals that have been involved in the design and planning of the IWMF over the past 10 or more years:
- Honace Limited of Colchester has been appointed by GFC to provide environmental, planning and engineering services; Honace’s Director Steven Smith was formerly the IWMF Project Director for Golder during the design, planning and public inquiry;
 - Intermodal Transportation Limited (ITL) of Saffron Walden – for all highway design (access road) and road traffic assessment related to the environmental assessment; Intermodal was the consultant previously employed as highways and traffic specialists on the original IWMF planning application;
 - Christine Marsh, formerly with Golder, now with Hankinson Duckett Associates (HDA) of Wallingford, for all landscape design and visual impact assessment; Christine has been GFC’s long-term landscape adviser and expert witness at the IWMF public inquiry in 2009;
 - Lee Dursely, now of Acoustical Control Engineers Limited (ACEL) of Cambridge, who has been GFC’s noise consultant for approximately 20 years and has undertaken all designs, assessments and on-site monitoring;
 - Jacqui Green, of Green Environmental Consultants Limited (GECL) of Cambridge, who has been retained by GFC for approximately 20 years on ecological surveys and assessments on the site;
 - SLR Consulting Limited has been appointed to provide GFC flood risk and drainage support; and

- Fichtner Consulting Engineering Limited (FCE) is GFC's Owner's Engineer for detailed design and construction management and has also been appointed to provide the detailed scientific Air Quality and Human Health modelling required to support the IWMF proposals and preparation of Environmental Permit.

11.5 As a result of the change in lead technical consultant, GFC has changed all drawing title-blocks from Golder to MSJ. Where there has been no change to the content of the Drawing, the original Drawing Number has been retained. New amendment suffixes have been given where significant changes have been made to the planning proposal content of the drawings. In several cases, there are factual updates such as in the surrounding landscape topography as a result of the considerable changes due to mineral extraction under planning permissions granted to Blackwater Aggregates. In a few cases, the opportunity has been taken to make some improvements in the title to assist the WPA and GFC to acknowledge the principal purpose of the drawing and therefore assist in the continuing consultation process that lies ahead.

11.6 In the next Section 12, a Table of the drawing numbers is given, with existing and proposed numbers and titles, followed by a second Table giving an explanation of the changes that have been made to the drawings and/or the title-blocks.

12 AMENDMENTS SOUGHT

12.1 The amendments sought are all outline design amendments that are indicated on modified versions of several (but not all) of the existing planning permission drawings. The drawings are listed below in Table 3 and the proposed modifications described and analysed in more detail in Table 4 that follows. For completeness, all original planning drawing numbers and titles are shown, including those where no changes are proposed under this application:-

Table 3: Proposed Drawing Number Amendments under s73 Application

ESS/55/14/BTE Condition 2		Proposed Drawing under s73 Application	
Dwg No.	Title	Dwg No.	Title
1-1	Land Ownership and Proposed Site Plan	1-1	Land Ownership and Proposed Site Plan
1-2	Proposed Planning Application Area	1-2A	Proposed Planning Application Area and Site Plan
1-4	Access Road Details	<i>Updated and submitted as Submission of Details under Planning Condition Nos 6, 61, 62, and 63 as part of a detailed package of drawings by Intermodal with this s73 Application</i>	
1-5A	Typical Arrangement and Architectural Features of the eRCF	1-5B	Typical Arrangement and Architectural Features
1-8	Schematic Arrangement	1-8	Schematic Arrangement of

ESS/55/14/BTE Condition 2		Proposed Drawing under s73 Application	
Dwg No.	Title	Dwg No.	Title
	of Woodhouse Farm		Woodhouse Farm
1-9	eRCF Simplified Process Flow	1-9A	Simplified Process Flow
1-10	eRCF Integrated Process Flow	1-10A	Integrated Process Flow
3-3	Site Plan Layout	3-3A	Site Plan Layout
3-8C	eRCF General Arrangement	3-8D	Building and Process Cross-sections
3-12C	eRCF Detailed Cross-Sections	3-12D	Building and Process Layout and Cross-sections
3-14A	eRCF Upper Lagoon & Wetland Shelf	3-14B	Upper Lagoon & Wetland Shelf
3-16	Services Plan	3-16	Services Plan
3-19B	eRCF General Arrangement	3-19C	General Arrangement and Front Elevation
8-6	Landscape Mitigation Measures	8-6A	Landscape Mitigation Measures
IT569/SK/06	Proposed Improvements to Site Access Road Junction with Church Road	<i>Updated and submitted as Submission of Details under Planning Condition Nos 6, 61, 62, and 63 as part of a detailed package of drawings by Intermodal with this s73 Application</i>	
IT569/SK/07	Proposed Improvements to Site Access Road Junction with Church Road	<i>Updated and submitted as Submission of Details under Planning Condition Nos 6, 61, 62, and 63 as part of a detailed package of drawings by Intermodal with this s73 Application</i>	
19-2B	Tree Survey	19-2C	Tree Survey
19-3B	Tree Constraints & Protection Plan	19-3C	Tree Constraints & Protection Plan
19-5	eRCF Base Plan Woodhouse Farm	19-5A	Base Plan Woodhouse Farm

12.2 There are new “Notes” on each of the amended drawings in Table 2 explaining that where the IWMF’s internal process layout and configuration are shown on these particular plans, they are considered to be “indicative only”, with full process details to be submitted and approved under existing Condition 19. Similarly, where indicative landscaping or other proposals are shown on any of these drawings, these will ultimately be approved under condition 57 for landscaping, or other relevant condition numbers as appropriate. The new Note reads as follows:

“This drawing shows proposed IWMF process and landscape areas as indicative only. Under the Submission of Details process, final details of all process plant layout and configuration will be as approved under Condition 19, final details of all landscape details will be as approved under Condition 57, final details of all access road details will be as approved under Condition(s) 6, 62 and 63, and final details of Woodhouse Farm Car Park will be as approved under Condition 61”

- 12.3 It may be noted that, in preparing the new drawings, the opportunity has been taken to remove the acronym “eRCF” that had been used throughout the original application and EIA. It has become clear that the WPA prefers the use of IWMF, and, therefore, GFC has also continued with this terminology. Where appropriate in the drawings, GFC has appropriately modified any earlier references to eRCF.
- 12.4 Finally, all of the “drawings” listed above are referred to as “planning drawings” in the planning permission. Hence, the opportunity has been taken to remove in some of the Title Blocks the nomenclature “Fig” which had previously been used for “Figure”. All numbers now refer properly to drawing numbers as described in the planning permission.

Table 4: Detail and Explanation of Amendments Sought

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
All Drawings "Contents"		<p>As a result of detailed design, the principal modifications sought by this s73 Application are summarised as follows:-</p> <ol style="list-style-type: none"> 1. Retaining Wall construction and configuration from vertical concrete to excavated and earth reinforced slopes; 2. Main hangar buildings footprint reduction as a result of 1 above; 3. Modified ground levels at IWMF building frontage, following mineral extraction; 4. Improved entrance road alignment and levels adjacent to modified Upper Lagoon footprint due to 1 and 2 above; 5. Improved internal and perimeter service roads around IWMF due to 1, 2, 3 and 4 above; 	<p>These principal modifications to the building footprint, the resulting relocation of key equipment, and the practical reasons behind these, are explained in this Table below under Dwg Nos 3-8D and 3-12D, because these are the two main "process layout" drawings and are presented at a larger scale for ease of review.</p> <p><i>This section 73 application does not seek to change the total waste and paper inputs into the site, the maximum traffic movements, or the height of the CHP stack.</i></p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
All Drawings "Contents" (continued)		6. Process Plant relocation of Bottom Ash Hall, Stack, ACCs and WWTP conforming with new reduced IWMF design.	
Dwg. No 1-1 to be replaced by Dwg. No 1-1 with new Title Block	<p>The proposed "planning application site boundary" in red-line and all adjacent "land in landowners control" in blue-line, in relation to the surrounding land</p> <p>Proposed Planning Application Area and "Site Plan" indicating full extent including access road, embankments and extent of proposed buildings plus repeat of some internal layout details, and landscaping proposals as shown in more detail on other appropriate plans</p>	<p>None</p> <p>1. Details of land contours and landscaping immediately surrounding the planning application area are modified to show the final restoration details approved under the Bradwell quarry permissions. There is no change to the planning application area that includes the access road corridor to A120.</p> <p>2. Building envelope in plan view slightly reduced to effect the practical changes to retaining wall and building construction.</p>	<p>As only the Title Block originator has changed, there is no change to the Planning Drawing Number.</p> <p>There is no change to the planning substance of the drawing, as both planning and land ownership boundaries remain exactly the same. There is no intention to change the planning application boundary.</p> <p>1. The principal planning purpose of this drawing is to indicate the precise development in relation to the proposed planning application boundaries and in relation to the surrounding land and the wider landscape of the restored quarry of which the IWMF area forms part. No modifications have been made to the planning application area; however the surrounding land has been updated to reflect the latest permitted landscape restoration proposals across the adjacent quarry, as explained below. Hence, details shown outside and beyond the IWMF planning boundary are presented for information only and are not to be read as proposals for these areas under the IWMF planning permission. The inclusion of the wider landscape restoration proposals offers an insight of the long-term interconnection of the landscape and ecological mitigation proposals within the wider landscape. The approval of further details for the IWMF, as submitted to satisfy the various planning conditions, should not require further modification of this drawing.</p> <p>2. The modifications to the building footprint, and resulting changes in position of key equipment, and the practical reasons behind these, are explained below under Dwg Nos 3-8D and 3-12D, because these are two main "process layout" drawings and are presented at a larger scale for ease of review.</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg. No 1-1 to be replaced by Dwg. No 1-1 with new Title Block (continued)</p>		<p>3. Lines indicating internal process layouts and configuration removed and replaced by block diagram showing principal process areas and juxtaposition.</p> <p>4. Some landscaping details are removed or generalised and will be submitted in detail to be approved under condition 57.</p> <p>5. Restoration contours and landscape and New Field Lagoon features on adjacent restored quarry (outside the IWMF planning permission area) are modified to reflect latest mineral planning permissions for Sites R A2, A3 and A4.</p>	<p>3. Within the drawing, the principles of the layout of the various processes are shown in a more simplistic block diagram. The juxtaposition of these processes is similar to that in the permitted drawings; some sizing modifications have been made through detailed design and this is explained more fully under Dwgs 3-8D and 3-12D below.</p> <p>This grey shaded block diagram has now been replicated on many of the following planning drawings in order to denote the principles rather than the detail of the layout – in other words “indicative” as noted on all of these drawings. In future, if the process layout is amended under condition 19, and assuming there are no significant changes to the shape and size of key buildings, these planning drawings will require no further modification, because the approved process layout will be as shown in the series of drawings to be approved under condition 19.</p> <p>4. Drawing No 8-6 “Landscape Mitigation Measures” has been updated to reflect the revisions made to the overall site layout and to present a detailed updated landscape restoration strategy that delivers biodiversity and habitat creation. These updated landscaping proposals are being submitted in conjunction with this Section 73 application and in accordance with condition 57 under the submission of details process. The changes on Drawing 8-6A are explained in the relevant section below.</p> <p>5. The principal restoration details for the IWMF have been integrated within the permitted restoration contours for the adjacent quarrying operations ESS/24/14/BTE, but that permission must be referred to for confirmation of details for these areas. The integration of the IWMF into the wider permitted site restoration scheme reflects the requirements of the Minerals Local Plan (MLP) and demonstrates that the IWMF will be delivered without compromising the wider landscape restoration scheme(s).</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
Dwg. No 1-1 to be replaced by Dwg. No 1-1 with new Title Block (continued)		<p>6. Upper lagoon size has been reduced in area and the adjacent access road alignment within the IWMF area modified slightly to reflect the retaining walls detailed design</p> <p>7. Additional areas for “Open Habitat Area” and “Proposed Area of Additional Planting” added as reflected in planning permission, but outside the planning application area.</p>	<p>6. The detailed design of the Upper Lagoon has been modified during detailed design to be capable of dealing with the surface water flows from the roofs, roads and hard-standings of the IWMF as well as the control of intake water to the Pulp Plant. It has the capacity to accommodate storm water run-off resulting from the IWMF’s development and maintain its interconnection with New Field Lagoon. Its normal operating volume is based on the detailed design of the Pulp Plant and the WWTP, which are all interconnected. Further details are given below under 3-14B.</p> <p>7. These additional areas were agreed by Gent Fairhead during the Public Inquiry debate and became enshrined in the final planning permission, although never shown on the original application drawings. Hence, as part of the new “Site Plan”, these have now been appropriately incorporated. The “species-rich neutral grassland priority habitat area” is for the protection of great crested newts and lies to the east of the Woodhouse Farm complex, immediately outside the planning application area. The 45 metre band of proposed native woodland in the Wayfarers field lies immediately outside the south-east planning application boundary.</p>
Dwg No 1-5A to be replaced by Dwg No 1-5B	<p>“Typical Arrangement and Architectural Features” including central block diagram showing the locations of the principal integrated waste processes, and elevations from all sides indicating the context of the buildings within the immediate surroundings and the extent of natural screening provided by existing vegetation</p>	<p>1. Renewed artistic impressions utilising modern computer software.</p> <p>2. Removal of tall AD tanks previously visible above the western hangar roof as seen on elevation from NW and “rear elevation” from SE.</p>	<p>1. The four “elevations” are produced, on this revision at more appropriate and common scales, in order to show how there will be limited views from afar of the roofs of the hangar buildings because, as agreed during the original planning process and public inquiry, the existing tree tops are generally at levels higher than the proposed top of the hangar buildings. This was the main planning purpose of this drawing.</p> <p><i>Note that the stack height is exactly the same as the original planning application and permission i.e. at a level of 85 metres Above Ordnance Datum (AOD) as condition 56. This section 73 application does not seek to change this condition. The accompanying EIA update, including the Air Quality Modelling and the Human Health Risk Assessment, are based upon this same stack height, as is the Environmental Permit application.</i></p> <p>2. Following detailed design, the capacity of the AD tanks is less and, therefore, a design can be implemented so that these do not need to be as high as originally proposed. Hence, they will not be visible above the top of the hangar when viewed from afar. Changes to AD design and layout are explained below under Dwg Nos 3-8D and 3-12D.</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
Dwg No 1-5A to be replaced by Dwg No 1-5B (continued)		3. Central area in indicative grey shaded block format as for all drawings. 4. Landscape areas “indicative only” 5. Modifications to door locations. 6. Modifications to access road alignment at ‘entrance’ to IWWMF area, and Woodhouse Farm Car Park – “indicative only” 7. Upper Lagoon size – “indicative only”	3. As explained above under Dwg No 1-2A (Note 3). 4. Additional details and description as under Dwg No 8-6A below. The final details will be as approved under condition 57. 5. As described below under Dwg Nos 3-8D and 3-12D (item 12). 6. As described below under Dwg Nos 3-8D and 3-12D (item 4). The final details will be as approved under conditions 6 and 61. 7. As described below under Dwg No 3-14A
Dwg No 1-8 to be replaced by Dwg No 1-8 with new Title Block	“Schematic Arrangement of Woodhouse Farm” showing artistic impressions of the refurbished Woodhouse Farm offices and education centre and the adjacent Cart Lodge possible conversion to offices	1. Only replacement of Title Block originator from Golder Associates to Melia Smith & Jones (MSJ) 2. No changes to substance of drawing	1. As only the Title Block originator has changed, there is no change in the Planning Drawing Number.

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
Dwg No 1-9 to be replaced by Dwg No 1-9A	IWMF "Simplified Process Flow"	<p>All process diagrams and integration remain as per the planning drawing. The only change to this drawing is the central plan of the site that now shows the more generic 'block diagram' layout to be consistent with Dwg Nos 1-2A, 1-5B above and others.</p>	<p>Dwg 1-9A shows the various waste management processes on the site. Hence Dwg 1-9A is substantially the same as the planning drawing but with the "indicative only" layout changes made to the plan in the centre of the drawing to be consistent with the other drawings submitted in this Section 73 application and all as described above.</p> <p>A full explanation the proposed operational process capacities within the IWMF is given in section 7 "Operational Process Capacities" above. This concluded that the developed IWMF could provide the energy-recovery capacity needed for the 180,000 tpa of municipal residues (RDF) from the County's MBT facility at Basildon. In addition, the IWMF will become an integral part of the commercial waste management industry within Essex; alongside the other operators' facilities, it will enhance greater recovery and recycling of materials from the waste stream. This is particularly relevant to the treatment of RDF within the CHP plant, and the provision of a closed loop solution to waste management practices within Essex, thereby mitigating the need for overseas export of residues.</p> <p>A major part of the IWMF will be the Market Deinked Pulp facility (MDIP). As explained more fully in GFC's report entitled "Update on Need", annexed to its Extension of Time planning application (ESS/11/14/BTE), the unique and site-specific CHP integration will provide the MDIP facility with renewable heat and power. The scale and focus for high-grade waste paper will remove constraints that have historically restricted the feasibility of earlier plants elsewhere. The paper recycling process means that the plant will provide a highly suitable and appropriate off-take of the CHP's waste heat and power. The marketing of the Rivenhall pulp, providing paper makers with the opportunity to switch from virgin pulp to make truly recycled white paper, focuses on the 100% recycling process based on 'green power'. The need for the MDIP plant in the UK to produce this high-grade pulp has continued since the granting of planning permission. As explained under Dwg Nos 3-8D and 3-12D (item 9) below, the installed maximum capacity of the MDIP facility will be 170,000 tonnes per annum.</p> <p>As will be more fully explained within the submission of details for the process plant layout and configuration (condition 19), the reduction in need for the large municipal MBT plant incorporating giant bio-drying halls for several weeks' retention, has allowed the eastern hangar to be utilised more completely as an efficient MDIP facility with the flexibility to handle a wide range of inputs. The commencement of operations of the MDIP facility is targeted to be simultaneous with the commercial operational commencement of the CHP.</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
Dwg No 1-10 to be replaced by Dwg No 1-10A	IWMF Integrated Process Flows	<p>All process diagrams and integration remain as per the planning drawing. The only change to this drawing is the removal of the numbers followed by “tpa” indicating ‘tonnes per annum’ next to seven boxes on the diagram.</p> <p>The correct total input of no more than 853,000 tonnes per annum has been inserted and the full text of Condition 29 stated on the drawing.</p>	<p>The retention of this planning drawing, without amendment, following the end of the Public Inquiry evidence was clearly a mistake that was not realised by any party, due to the urgency at the time to agree the Planning Conditions in draft with the Inspector and complete the closure of the Inquiry. The background is that this “drawing” dated back to the original application for the IWMF (ESS/37/08/BTE) in August 2008 and the request by the County Council at that time for a process flow chart to explain the various levels of integration. The numbers given on the drawing indicated a mix of the anticipated average flows and capacities; not necessarily the maximum process capacities. These averages were subsequently placed into a condition (No 26 at that time) by the County Council’s Development & Regulation Committee when it resolved to grant planning permission on 24 April 2009. Following the Call-in by the Secretary of State and the Public Inquiry, it can be seen from the Inspector’s Report detailing the new conditions (pages 135 and 136), that the suggested form of limiting individual process capacities was debated with the Inspector, but that ultimately he resolved to “merge” these requirements within a new Condition 29 stating “No waste other than those waste materials defined in the application shall enter the site for processing or treatment in the IWMF plant. No more than 853,000 tpa of Municipal Solid Waste and/or Commercial and Industrial Waste shall be imported to the site”. The previously proposed condition 26 that had stated individual capacities was deleted and the Inspector’s comment was “No Condition required – merged with previous condition”. The Inspector recommended that there should be a wider degree of flexibility within and between the various processes so that the plant could in future deal more effectively with the requirements of the markets as waste management progressed.</p> <p>The revised drawing simply reflects the changes to the conditions made by the Inspector but continue to illustrate how the IWMF provides an integrated facility with the flexibility to meet and treat the volumes and types of waste resulting from changes in waste arisings and previous treatment.</p> <p>A full explanation of the proposed operational process capacities within the IWMF is given in section 7 “Operational Process Capacities” above.</p>
Dwg No 3-3 to be replaced by Dwg No 3-3A	Site Plan Layout – essentially a direct replica of the lower (southern) half of Dwg No 1-2A	Layout modifications are as described under Dwg No 1-2A above.	The modifications are explained under Dwg No 1-2A above and a more detailed explanation under Dwgs 3-8D and 3-12D below.

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 3-8C to be replaced by Dwg No 3-8D and</p> <p>Dwg No 3-12C to be replaced by Dwg No 3-12D</p>	<p>Dwg No 3-8D "Building and Process Cross-Sections:</p> <p>Dwg No 3-12D "Building and Process Layout and Cross-Sections"</p> <p>These two drawings are presented to scale and provide the largest and most detailed drawings of the retaining walls design, the main buildings sizes, and all internal process layouts, including detailed cross-sections.</p> <p>The drawing titles have been changed to reflect more accurately the main purpose of the drawing</p>	<p>1. Retaining Wall alignment modified for constructability; sloped soil-nailed walls will be formed resulting in the rear SE wall baseline being repositioned 28 metres "inward" in the NW direction, and the north-easterly wall being repositioned 14 metres in the SW direction.</p>	<p>1. The Retaining Walls are a major feature of the IWMF because they allowed for the construction of the CHP and associated waste treatment processes to be sited predominantly below the surrounding ground level, a design unprecedented on this scale in the UK, and one which gained praise from the Commission for Architecture and the Built Environment (CABE) during the consultation process. Following extensive ground investigation works across the site, detailed geotechnical modelling has indicated that a range of retaining structures could be employed across the site, which embrace recent advances in civil engineering construction techniques.</p> <p>In assessing the most reasonable worst case operational footprint required for the IWMF's integrated operations, during the development of the original design, it was noted that based on published information the IWMF would have required a process footprint of 18.3 ha. However, through the integration of the various processes within the footprint of the IWMF's buildings the waste recovery, recycling and treatment operations were sited on a 6.63 ha area.</p> <p>At the Public Inquiry, it was noted that this had been achieved within a limited footprint by 'thinking in three dimensions' and as a result, instead of spreading out to occupy a larger area, the IWMF had been developed on several levels, and set low into the ground.</p> <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 former 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:</p> <ul style="list-style-type: none"> • Soil-nailing is an efficient "top-down" construction technique that increases the overall shear strength of unsupported soils in situ, through the installation of closely spaced reinforcement bars or tendons ("nails") into the soil; it can be used on either natural or excavated slopes; • The soil nailed slope will be faced using stone filled mesh gabions or cages attached to the protruding nail heads, with 50 to 75 mm granular stone placed therein; where possible, reuse of some of the former airfield perimeter tracks as crushed concrete in appropriate

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 3-8C to be replaced by Dwg No 3-8D</p> <p>and</p> <p>Dwg No 3-12C to be replaced by Dwg No 3-12D (continued)</p>		<p>2. Two main hangars reduced in footprint, as result of the redesign of the</p>	<p>parts of the gabion wall facing may help to ensure that its ecological benefits are retained;</p> <ul style="list-style-type: none"> • The soil-nailed wall is safer and easier to construct because it is carried out in 5 metre benches gradually reducing to the full depth; after each 5 metres is formed, the soil below the bench is removed for another 5 metres and the process repeated; • Whilst soil nailing requires a greater land take in plan view because of the retained face slope angle, GFC and the specialist contractors have been able to modify the IWMF footprint design to suit, and this is what is now shown on the new Dwg No 1-5B. • The baseline of the deepest section of the retaining wall along the back or south-east wall (20 metres deep) is now 28 metres 'inward' or in the NW direction. The important existing tree and vegetation belt to the SE of the IWMF has been safeguarded by this approach. Furthermore, the combined use of soil-nailed and excavated slopes (rather than vertical concrete retaining walls) reduces the risk of dewatering the retained trees; • The potentially more vulnerable oak trees on the north-eastern side in the eastern corner of the IWMF adjacent to the CHP have been further protected by moving the base of the slope 14 metres in a SW direction; • As a result of these moves, the rear SE area behind the hangars and the CHP, where considerable activity will take place with regard to CHP maintenance workshops, stores, consumables deliveries for flue gas treatment and collection of fly ash, plus 24/7 access to the Electricity Substation, will enjoy far more light for safer daytime operations, and for operators and visitors will generally be more visually attractive than the stark walled 'canyon' effect that would have been delivered with the vertical concrete retaining wall solution. • The soil-nailing solution is the most preferred solution to allow GFC to meet its planning obligations relating to phasing of construction (condition 45), tree retention and protection measures (condition 59), and the management and watering of trees during construction and future operations (condition 60). These points are explained in more detail in the submission of details for all of these conditions, which accompany this section 73 application. <p>2. As a result of market changes discussed in detail below (see Dwg Nos 1-9 and 1-10) some of the process areas, for example for the municipal MBT and AD contracts, do not need to be as large as previously designed. In addition, improvements in technologies and efficiencies for the CHP, MDIP and MRF have allowed a detailed design that can accommodate the proposed reduction in</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 3-8C to be replaced by Dwg No 3-8D and</p> <p>Dwg No 3-12C to be replaced by Dwg No 3-12D (continued)</p>		<p>retaining walls; hence 28 metres shorter in length (11%) and 14 metres narrower in width (6%)</p> <p>3. Floor level modification at front of the building</p> <p>4. Improved Access Road alignment at IWMF “entrance” around weighbridges and reduced footprint.</p>	<p>building footprint that was necessary for the improved retaining wall design. Full details of technology providers, process layouts and configuration will be given and explained under the submissions of details with respect to condition 19. The approximate block areas for each process are shown on the submitted drawing 1-5B.</p> <p>3. The original design of the permitted IWMF was explained by the applicant as the “eRCF” which was an ‘evolution’ of a previous planning permission (2007) for a MBT and MRF that had been described as the ‘RCF’ (“Recycling and Composting Facility”). The base levels of the IWMF were therefore designed to follow-on from the RCF design, and these had been determined under planning requirements at that time that sought to minimise the extraction of mineral. The mineral that remained in the IWMF design can be seen on the original Dwg Nos 3-8C and 3-12C as part of the MRF area measuring 40 m by 143 m, which had been designed into the facility at a level of 40 metres AOD, or retaining approximately 5 metres of sand and gravel. Since that time, however, apart from the change in ECC’s Mineral Development Plan policies that now deter sterilisation of valuable minerals, the whole of this area of sand and gravel has now been quarried and processed by Blackwater Aggregates under planning permission ESS/32/11/BTE, down to the London Clay at or around 35 metres AOD.</p> <p>As a result of the new existing levels across the site, and as there is no longer a design need for the front (MRF) part of the IWMF floor and perimeter road to be at a higher level to the remainder, the whole of the proposed floor level will now be at 35 metres AOD, including the perimeter road around the front of the building. At the rear, in order to continue to accommodate all CHP buildings and bunkers below the agreed planning heights, the perimeter access road will drop down by a further 5 metres to 30 metres AOD, which is exactly as had been proposed previously, but with only road access from one side (the SE side) of the hangars. This change, therefore, affects less than 10% of the floor area, and does not sterilise mineral as this has now been extracted. As explained further below, the new design also allows improved perimeter access capabilities.</p> <p>4. As a result of the significant improvements in the retaining wall design at the NW corner of the IWMF, in the reinstated ground following mineral excavation of Site A2, the opportunity has been taken to improve the sweep of the access road either side of the weighbridges; this was also a recommendation of the traffic routing safety audit. Firstly, the alignment on the planning application drawings approached the NW corner of the IWMF hangar buildings at an obtuse angle that compounded the design of the three-way junction at that corner. The reduced width of the</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 3-8C to be replaced by Dwg No 3-8D and</p> <p>Dwg No 3-12C to be replaced by Dwg No 3-12D (continued)</p>		<p>5. CHP Buildings</p>	<p>building, optimisation of the size of Upper Lagoon and alternative retaining wall design allows for a new location for the access road, which mitigates the need for vertical concrete retaining structures. For the purposes of this Dwg No 1-5B, the access road has a slightly new alignment next to the Upper Lagoon negating the need for retaining walls to its western flanks. This provides a better design for the entrance to the facility, utilising vegetated slopes rather than the original stark retaining walls, and provides an easier side access road connection to the old airfield perimeter track leading to the Sheepecotes' Industrial buildings.</p> <p>Access Road – it should be noted that the proposed changes to the “entrance” to the IWMF area are only within this area close to the IWMF. There are no significant changes to the alignment of the main “Access Road” from the A120 and the quarry processing area. Full details of the main Access Road are submitted under the Submission of Details process in conjunction with this s73 application and final details will be as approved under planning condition numbers 6, 62 and 63.</p> <p>5. The CHP buildings and processes are in the same position in the eastern corner of the IWMF footprint, and are about the same size as on the permitted drawings, albeit slightly smaller. The original footprint of the CHP building, including the eastern hangar area for the SRF bunker but excluding access roads, taken off planning drawing No 3-12C was approximately 100 m wide by 122 m deep (average) or 12,200 m². Allowing for the provision of the new two-lane perimeter access road, the comparable area of the new CHP and SRF bunker is also about 100 m wide by 112 m deep or 11,200 m². This area includes for only two process lines rather than the four in the planning drawings, because of the significant advances in technology since 2008, in addition to the turbine house and electrical substation. As in the planning permission drawings, the deepest parts of the facility are sunk into the London Clay although the base of the SRF bunker will be at 18 m AOD (higher than the 9 m AOD in planning) because the same capacity has been designed in the width of the bunker). Similarly, the main boiler houses and turbine house are founded at 30 m AOD in both the planning and the proposed detailed design and the top of the buildings will not be higher than permitted. These have been designed to be ‘hidden’ behind the hangar buildings from long distant views.</p> <p>In conclusion, the proposed CHP process buildings and plant fit within the original planning envelope, the proposed plant is smaller than the permitted scheme.</p> <p>The reduced capacity of the CHP plant compared with the original application is explained above in Sections 7 (“Operational process Capacities”) and 8 (“Thermal Capacity”).</p> <p>The overriding planning control over waste inputs into the site lies in the two main operating control conditions, namely Condition 29 that restricts total inputs of waste to 853,000 tpa and</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 3-8C to be replaced by Dwg No 3-8D</p> <p>and</p> <p>Dwg No 3-12C to be replaced by Dwg No 3-12D (continued)</p>		<p>6. Bottom Ash Hall</p> <p>7. Stack Location</p> <p>8. Air Cooled Condensers</p>	<p>Condition 3 that restricts the number of daily HGV movements. Nothing in this Section 73 application, nor in the EP application submission, seeks to vary these operational capacity conditions.</p> <p>6. For improved operational and environmental control reasons, the detailed design process has enabled a new indoor 'Ash Hall' to be developed for the storage and collection of the incinerator bottom ash (IBA). In the original outline design, the IBA would have been collected at the lower basement level in hoppers and conveyed to an external storage area behind the CHP Plant for onward loading and transportation. This relocation has been made possible by the provision of a 17 m height conveyor lifting the ash from the lower level to the internal tipping hall level. The IBA storage (maximum 3 or 4 days), loading and collection will be carried out within the environmentally controlled building, rather than externally where emission control would have been more difficult.</p> <p>7. As a result of the redesign of the retaining wall alignments and the reduction in the hangar building sizes, the precise location of the stack in terms of grid coordinates has moved from the position assessed in the original EIA by some 17 metres to the NE. In the context of the wider air dispersion modelling, the air quality specialists deem this movement to be insignificant as discussed in the specialists report on air quality that accompanies this s73 application (Tab S8). It is also pointed out that one of the points of greatest local concern during the PI (although expert evidence determined that there was no risk) was on footpath No 8 where it turns from the top of Woodhouse Lane down the private track to Woodhouse Farm, and that the stack movement has been away from this point rather than nearer to it.</p> <p>8. The Air Cooled Condensers ('ACCs') are an important piece of process equipment that have been redesigned in detail since the planning application and now need to take a prominent footprint within the confines of the lower area between the hangars and the rear soil nailed retaining wall but in close proximity to both the CHP and the WWTP. Their importance and size increased during detailed design because of the specification that GFC imposed on its designers to minimise the potential for visible plumes from the stack and to minimise the requirement for fresh water feed into the CHP and other processes within the IWMP, particularly the MDIP facility. The submission of details for condition 17, under which the proposed CHP management plan will be provided, may refer to the use and sizing of the ACC and other equipment. The original ACCs were shown but not notated on Dwg No 3-12C but were inherent within the wider "plant" as also shown in a number of 3D visualisations in evidence. Their size and positioning closer to the top of the CHP processing plant was found to be inadequate during detailed design, and during the development</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 3-8C to be replaced by Dwg No 3-8D</p> <p>and</p> <p>Dwg No 3-12C to be replaced by Dwg No 3-12D (continued)</p>		<p>9. MDIP Facility in dedicated eastern hangar</p>	<p>of the CHP management plan to meet condition 17.</p> <p>ACCs essentially condense the exhaust steam from the turbine, via bundles of fan-cooled tubes and return the condensed water to the boilers, thereby limiting the requirement for additional fresh feed-water into the system. Certain atmospheric conditions can lead to visible water vapour plumes. Although the steam is not dangerous (and is fully compliant with all regulatory guidance and control), there was discussion at the PI that its regular or continuous visibility might concern some local people. As part of the brief for the CHP management plan, therefore, GFC specified the maximum reduction in potential visible plumes and the best husbandry of fresh water use. As a result, larger ACCs were designed by the CHP technology provider and are now shown on the submitted Dwgs No 1-5B, 3-8D, 3-12D and others within this s73 application.</p> <p>Because the air cooling equipment includes large horizontal fans with tube bundles supported on steel frames, the ideal position for these ACCs is at the rear of the hangar buildings, protected visually from all directions. Their siting and potential environmental impact (e.g the potential for noise) are considered in the environmental impact assessment reports contained within this s73 package. The Acoustic Assessment by Belair Research Limited (Tab S5) shows that the ACCs were fully taken into account in the Acoustic Model.</p> <p>The proposed type of ACCs are common on most UK EfWs and there is an accepted methodology for plume assessment that has been developed by the EA and SEPA, so that this aspect will be reviewed and checked by the EA as part of the Environmental Permitting procedure. GFC's Owner's Engineer is particularly experienced in preparing these assessments and its report will be included in GFC's EP application, and referenced in the CHP Management Plan under condition 17.</p> <p>9. Following on from the hangar building size reduction, and the general reduction in the footprint of the MBT and AD plants, it became possible to fully segregate the MDIP facility into one hangar. Based on its MDIP business planning and proposed EP application, GFC will install the MDIP facility with a maximum capacity of 170,000 tonnes per annum of recovered paper.</p> <p>In the original design, the MBT and MRF areas 'crossed through' the centreline of the two hangar buildings. Detailed structural and ventilation design was therefore made more difficult and there was a definite requirement to isolate the MDIP facility from the adjacent waste management operations. In detailed design, it was possible to separate the two hangar buildings along the centre-line and therefore dedicate the eastern hangar to the MDIP, i.e. up to the central vehicle circulation area and SRF bunker. The western hangar can now house the MRF, MBT and AD facilities in a similar way as the planning design. This is clearly shown on the block diagram form</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 3-8C to be replaced by Dwg No 3-8D</p> <p>and</p> <p>Dwg No 3-12C to be replaced by Dwg No 3-12D (continued)</p>		<p>10. MRF, MBT, AD and WWTP in dedicated western hangar</p>	<p>of Dwg No 1-5B. Detailed process layouts will be submitted under condition 19.</p> <p>As part of this 're-siting' of some processes inside the hangar buildings, and discussions with industry experts on product handling and safety aspects, it became clear that there was no longer a need for the recovered paper (RCP) bunkers or autoclaves. Nowadays, all RCP is baled and stacked on flat-bed articulated trucks and there will be few (if any) loose loads. These vehicles will be driven into the segregated and protected RCP reception area of the MDIP facility and the pallets unloaded by fork-lift trucks. This is the typical mode of operation in facilities of this kind. Unlike the planning design, there will be no crossing of RCP vehicles with waste vehicles, and no need for heavy overhead cranes and conveyors to feed the RCP into the MDIP. Hence, operational safety is vastly improved and the risk of cross-contamination (wastes/paper) is minimised.</p> <p>10. As a result of significant changes in the waste management practices within Essex, which are explained in Section 6 of this report, there has been a subsequent change in the designs of the MRF, MBT and AD plants. This was anticipated by the Inspector at the PI and explained in his report. As they will receive wastes in accordance with planning condition 27, these plants have therefore been redesigned to best suit the needs of Essex and Southend. The areas shown on the revised Dwg No 1-5B have been designed in detail to suit the following.</p> <p>As set out in the EP application, and the submission of details under condition 19, the MRF and the MBT will provide for a mixture and capacity of processes to deal with the residual commercial waste from Essex's collection companies. The MBT plant will be capable of processing up to 170,000 tonnes per annum of organic-rich commercial waste residues, and the two MRF lines will each be capable of processing 150,000 tonnes per annum, one line for the bio-dried output from the MBT, and the other line for dryer and less processed C&I wastes. Both the MRF and the MBT process equipment will be modular and provide flexibility for future modifications and improvements as integrated waste practices continue to evolve</p> <p>The need for the AD plant has diminished since the award of the ECC bio-waste contracts but GFC's EP application will assume a smaller plant, up to 30,000 tonnes per annum in capacity, which could provide treatment for separately collected organic C&I waste.</p> <p>It will be seen that the MRF, MBT and AD facilities are placed in the same juxtaposition as in the planning permission drawings. Their detailed design has enabled less room to be employed, particularly because there can be no justification for the 250,000 tpa MBT plant and the original MRF, now that ECC has built its Basildon MBT facility for all of Essex's municipal waste and constructed its series of MRFs and transfer stations to feed the Basildon plant.</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 3-8C to be replaced by Dwg No 3-8D</p> <p>and</p> <p>Dwg No 3-12C to be replaced by Dwg No 3-12D (continued)</p>			<p>The smaller footprint now needed for these three pre-treatment processes, has allowed the southern end of the western hangar to be utilised for the WWTP (as described below) that was originally located in a similar position but outside the main hangar. There is also no need for the large mixed organic waste bunker because a smaller bunker for the feed into the AD plant is designed within that area. It is important to keep this AD area segregated from all others, and hence it is all within the western hangar; the height of the tanks contained within that building. This is why these AD tanks are no longer visible above the rear of the hangar as in the planning permission drawings, an obvious improvement in visual impact. (See the elevations on revised Dwg No 1-5B above and others).</p> <p>On the planning permission drawings, the WWTP was shown simply as an allocated area with no level of detail within. The relocation of the WWTP within the western hangar, thereby allowing better operational space for and around the proposed ACCs, has a number of advantages. The WWTP will be nearer to the points of effluent from the MDIP facility and the other treatment processes (MBT, MRF, AD). It will also be on the same level and accessible from within the main hangar buildings. It will fit more neatly into the main hangar building envelope, leaving the lower area behind the buildings for the better siting of the ACCs.</p> <p>A WWTP has been developed by a specialist wastewater treatment company. The process comprises multiple membrane filtration, dissolved air flotation and evaporation processes that will clean and treat wastewater from the Pulp Plant, together with water from other IWMF processes, to an exceptionally high standard. Whilst full details of the WWTP process will be submitted and approved under condition 19, the design allows for Course and Fine Screens; Roughing and Polishing Dissolved Air Flootation; Lime Soda Softening; Sand Filtration; Membrane Treatment - Reverse Osmosis; DAF and Precipitator Sludge Collection; and Dewatering.</p> <p>The WWTP process offers a Zero Liquid Discharge or Closed Loop water treatment system whereby the treated water will be recirculated and reused within the Pulp Plant, or discharged and recirculated through the lagoon system or returned to the river. Water discharged from the WWTP will be of an equal or higher standard than that abstracted from the adjacent lagoons and river.</p> <p>Allowances have been made within the WWTP to store incoming and treated water within buffer tanks to allow for laboratory testing and analysis. Sealed and self-contained buffer tanks will be located adjacent to the WWTP and located outside the WWTP building. The use of buffer tanks is an operational consideration that has been designed into the WWTP that was not originally considered within the design and general arrangement of the IWMF, hence the slightly larger operational footprint than that originally proposed.</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 3-8C to be replaced by Dwg No 3-8D</p> <p>and</p> <p>Dwg No 3-12C to be replaced by Dwg No 3-12D (continued)</p>		<p>13. MDIP Chemical Delivery Bay</p>	<p>proposals.</p> <p>The perimeter road system has been extended to all parts of the IWMF such that all buildings and processes will now have direct external access, enabling more efficient operations and maintenance. This was particularly important around the eastern corner and rear of the CHP Plant. Secondly, the access road alongside the north-eastern face of the Pulp Plant has been made two-way so that those perimeter roads where the majority of the traffic will be routed are now all two-way or two-lane depending upon the control method in place at the time.</p> <p>In the centre of the building, the principle of the wide vehicle circulation corridor has been retained but, because of the extended perimeter road system, this is no longer two-way. The RDF delivery vehicles and bottom ash collection vehicles, and the fewer vehicles collecting the paper sludge, will enter from the south-west side and travel through the buildings in an anti-clockwise manner before exiting on the north-east side. The vehicles delivering recovered waste paper and collecting the pulp will enter from the south-west side and travel through the buildings in an anti-clockwise manner, turning left from the central area into the Pulp Plant for delivery and collection before exiting via the front doors of the building. Similarly, the vehicles delivering wastes to the AD, MBT and MRF plants will enter from the south-west side turning left from the central area and travel through the AD/MBT/MRF hangar in an anti-clockwise manner before exiting via the front doors of the building.</p> <p>As a result of the changes in the traffic routing plans, the two front doors have been brought closer together to be side-by-side in the centre of the two hangar buildings. This provides a more symmetrical view of the front of the building for visitors arriving on the access road, although of course, at the level of 35 m AOD, would have no visual impact changes to views from outside the site. The detailed design and operation of the doors will be provided under condition 15 as part of the normal Submission of Details process.</p> <p>13. During the detailed design of the Pulp Plant, and as made possible by the reduction in size of the buildings, a new external chemical delivery bay was designed in accordance with the safety, insurance and environmental permitting requirements associated with similar plants. There will be only 2 or 3 vehicles per day containing various chemicals in enclosed vacuum tankers and a special delivery bay has been designed on the north-east face of the building to accommodate these. The bay will be annexed to the building but will have no external walls; only a canopy roof to shed rainwater into the surface water systems. The road surface within the bay will be appropriately graded to prevent any external spillage and interceptors will be installed to prevent pollution of the clean rainwater systems. Final details will be submitted and agreed under condition 19 and as part of the Environmental Permit.</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
Dwg No 3-14A to be replaced by Dwg No 3-14B	"Upper Lagoon and Wetland Shelf"	The general layout and arrangement of the IWMF and Upper Lagoon has been modified and the cross sections amended to reflect the construction of the lagoon at the lower level.	<p>The drawing has been updated to reflect the revised layout of the IWMF and the reduced footprint and size of Upper Lagoon, as explained above. Quarrying operations across the footprint of most of the IWMF building, under the Site A2 planning permission, has resulted in the removal of all sand and gravel above the London Clay at approximately 35 metres AOF. The sections presented on 3-14B have been modified to reflect the construction of the lagoon at the lower level within the London Clay. The drainage details are indicative.</p> <p>The Upper Lagoon has been modified during detailed design to be capable of dealing with the surface water flows from the roofs, roads and hard-standings of the IWMF as well as the control of intake water to the Pulp Plant. It has the capacity to accommodate storm water run-off resulting from the IWMF's development and maintain its interconnection with New Field Lagoon. Its normal operating volume is based on the detailed design of the Pulp Plant and the WWTP, which are all interconnected.</p> <p>The capacity of the Upper Lagoon has been reduced from a previous maximum of 90,000m³ to 25,000m³, with the maximum surface area reducing from approximately 1.6ha to 1ha, increasing the area of soft landscaping and marginal wetland habitat accordingly.</p> <p>Final details of surface water drainage and groundwater management will be as approved under planning condition 23, the submission of details for which are made in conjunction with this section 73 application.</p>
Dwg No 3-16 to be replaced by Dwg No 3-16 with new Title Block	Services Plan	<p>Only replacement of Title Block originator from Golder Associates to Melia Smith & Jones (MSJ)</p> <p>No changes to substance of drawing</p>	<p>As only the Title Block originator has changed, there is no change in the Planning Drawing Number.</p> <p>There is no change to the planning substance of the drawing, as there have been no substantial changes to "existing services" layout since the application</p>
Dwg No 3-19B to be replaced by Dwg No 3-19C	"eRCF General Arrangement"	<p>Layout modifications are as described under Dwg No 1-2A above.</p> <p>Removal of AD tanks</p>	<p>The modifications are explained under Dwg No 1-2A above and a more detailed explanation under Dwg No 3-8D and 3-12D above. This drawing is useful for the reviewer to gain a better appreciation of the front elevation of the proposed buildings, indicating proposed levels and building dimensions, as well as the positive effects of the removal of the tall AD tanks behind the hangars.</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 8-6 to be replaced by Dwg No 8-6A</p>	<p>Landscape Mitigation Measures</p>	<p>Additional and enhanced landscape mitigation measures are possible in the increased available areas and structures created by the building layout reduction and retaining wall construction as explained under Dwgs 3-8D and 3-12D above.</p> <p>Adjustments have also been made to the plan to reflect the minimal tree removal, and the removal of the second world war hangar, that has taken place by Blackwater Aggregates under its planning approvals for quarrying (Site A2).</p> <p>1. Landscape mitigation measures associated with building footprint reduction, retaining wall redesign, access road realignment, Upper Lagoon reduction and Woodhouse Farm Car Parking.</p>	<p>As part of this Section 73 application, a review of the original EIA has been undertaken and is enclosed under Tab 4. One attachment within the EIA Review is a report by Hankinson Duckett Associates (HDA) entitled “Addendum to LVIA” (Landscape Visual Impact Assessment) (Tab S3), produced by the same author as the original LVIA prepared as Chapter 8 of the ES for the IWMF (Aug 2008). This report should be referred to with regard to the potential changes in visual impact as a result of the changes in IWMF design proposed in this s73 application.</p> <p>Drawing 8-6A has been produced to reflect the detailed proposals that have now been developed by HDA to meet the requirements of Conditions 57, 58 and 59. These Submission of Details, that also include a covering report and associated drawings showing the soft landscaping proposals, are submitted in conjunction with this section 73 application. That submission will provide the more detailed understanding of the landscaping proposed.</p> <p>1. As explained in detail under Dwgs 3-8D and 3-12D above, the overall footprint of the proposed IWMF has been reduced [by approximately 28 metres in length (11%) and 14 metres in width (6%)], which in turn has reduced the area of its ‘green’ roof. Since this green roof is an integral part of the finally implemented landscaping scheme, Dwg 8-6A now shows this as a single shaded area (ie in the as-built mode), rather than the internal process layout shown on the application drawing. The new drawing also shows the proposed restored contours to the north of the IWMF, including the New Field Lagoon, all in accordance with the approved schemes under the adjacent quarry planning permissions.</p> <p>The reduction in the overall footprint of the IWMF, and use of soil-nailed retaining walls, has resulted in gains in the areas of soft landscape treatment around the side slopes adjacent to the building, leading to increases in the areas of bio-diverse habitats;</p> <p>In addition to the increased width of soft landscaping above the soil nailed retaining wall, the proposed width of retained existing tree belt around the perimeter of the IWMF has been</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 8-6 to be replaced by Dwg No 8-6A (continued)</p>		<p>2. Retaining Wall detailed design offering increased tree protection and habitat bio-diversity</p>	<p>increased from 25 metres to about 30 metres as a result of the building length reduction and retaining wall redesign. An additional width of at least 5 metres will be retained in the existing tree belt along the south-eastern side towards the Wayfarer’s Field, thereby improving the screening in this area.</p> <p>The proposed new strip (approx. 45 metres in width and total area 1.3 ha) of mixed woodland in Wayfarers Field, just outside the south-eastern edge of the site planning boundary, continues to be an integral part of the landscaping scheme as shown on Dwg 8-6A. This area has already been demarcated on site by the successful translocation of a young hedge from the airfield perimeter track during the A2 quarrying works.</p> <p>The capacity of the Upper Lagoon has been reduced from a maximum of 90,000m³ to 25,000m³, with the maximum surface area reducing from 1.6ha to 1ha, increasing the area of soft landscaping and marginal wetland habitat accordingly.</p> <p>The modification to the alignment of the access road as it enters the IWMF area alongside the Upper Lagoon has enabled wider sloping landscaping to the south-west rather than the previously vertical retaining wall.</p> <p>The detailed design of the proposed Car Park next to the Woodhouse Farm offices and Education Centre is submitted in conjunction with this section 73 application, under planning condition 61, and includes the details of proposed hard and soft landscaping. Again, additional landscaping areas and hedgerows have been provided in the detailed proposals.</p> <p>As a result of the above modifications, the LVIA concludes that, excluding the 1.3 ha strip in Wayfarers Field outside the red line boundary, the new proposals provide for almost 3 ha of new landscaping compared with 2.2 ha in the original application, and the 530 metres of new hedgerow compared with 350 metres in the original application. Since the modified scheme is, in fact, similar in size to the permitted scheme, and relatively small in the wider landscape of the existing quarry and its surrounds, the LVIA also concludes that the overall effects on the landscape character continue to be classified as “minor adverse”.</p> <p>2. In addition to the increase in plan area made available for tree planting around the perimeter of the IWMF building (brought about by the change from a vertical wall to one with a sloping batter), the proposed modifications to the retaining wall design offers several other improvements in the landscaping scheme, notably associated with the provision of a buffer strip of new planting, providing improved protection of the existing trees alongside, their long-term security in terms of moisture retention and need for watering, and the bio-diverse habitat potential of soil-nailing. The</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
<p>Dwg No 8-6 to be replaced by Dwg No 8-6A (continued)</p>		<p>3. Green Roof</p>	<p>construction of the soil-nail wall will be in gradual 5 metre steps, carefully excavating the slope to each ledge, rather than the vertical piling which would have required an extra 5 to 10 metres in width into the existing tree belt. In the original planning application, it was reported that reducing the ground levels adjacent to the retained trees could lead to changes in the availability of ground water; however, with the revised scheme now proposed, a larger body of unaltered earth profile would be retained adjacent to these trees with a new woodland edge planted on the resultant side slope.</p> <p>The four mature oak trees on the north-east edge of the site (more accurately shown as T4 to T7 on Drawing 19-2C) are retained within the revised scheme, but as a result of the soil-nailing design and the 7 metre width reduction in the IWMF building, there will be enhanced protection of the roots of these trees and reduced risk of drying out during and following construction. Tree retention and protection measures, and schemes for their management and watering, are provided as part of the landscaping package that is submitted with this section 73 application in order to meet the details required under planning conditions 59 (retention and protection) and 60 (management and watering).</p> <p>As will be more fully explained in the submission of details for condition 45, which is being submitted with this section 73 application, the soil-nailing retaining wall construction will utilise wherever possible some of the crushed concrete from the existing perimeter runway tracks, thereby enhancing the potential for re-colonisation of existing mosses and lichens, either in the stone-filled gabion face or within other cracks and ledges created by this construction technique.</p> <p>3. As part of the package submitted with this section 73 application, details are provided for the proposed green roof in accordance with the requirement to submit details under planning condition 18. The specification has been developed by GFC with its civil engineering contractor in order to meet the reasons for the planning condition, namely “in the interests of visual and landscape amenity and enhancement of ecological biodiversity”. Such a roof is sometimes referred to as a ‘brown’ roof or a ‘living’ roof because it is provided for environmental benefits rather than for public access. The submission of details under condition 18 explains how the proposed specialist roof will meet the visual impact and ecological objectives discussed in the planning application and the public inquiry, whilst being of necessity both practical and constructible. The design will ensure that the living roof will evolve naturally, providing bio-diverse habitats in sympathy with the surrounding landscape.</p> <p>Having obtained proposals from a number of specialist providers, the original concept of utilising former runway crushed concrete on the roof was rejected by all specialists who were unable to</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
			<p>guarantee the placement and retention of the material on the inclined roof (up to 25 degrees), and the prevention of puncturing of waterproof membranes. Most notably, all specialists pointed out that use of this crushed concrete would encourage only limited and sporadic vegetation growth, contrary to the stated planning objectives of a green roof sustaining growth, minimising visual impact and providing new bio-diverse habitats. Hence, a proprietary and well-proven roof specification is proposed; providing a mix of appropriate hardy sedum species with some integral grasses and mosses as will be agreed with the WPA under condition 18.</p> <p>As explained in 1 above, as the green roof is an integral part of the finally implemented landscaping scheme, Dwg 8-6A now shows this as a single shaded area (ie in the as-built mode). Whilst the former runway crushed concrete material may not be utilised in the roof, the proposed modification to the retaining wall design will allow it to be used as appropriate, as well as in other hard landscaping areas around the IWMF and the Woodhouse Farm complex as described above.</p>
19-2B to be replaced by Dwg No 19-2C	"Tree Survey" – the location of "existing" trees and Tree Preservation Orders as at December 2008, prior to the planning application	Adjustments have been made to the plan to reflect the minimal tree removal, and the removal of the second world war hangar, that has taken place by Blackwater Aggregates under its planning approvals for quarrying.	<p>No "existing" trees have been removed to date under the IWMF planning permission.</p> <p>The plan now shows the former aircraft hangar and other ancillary buildings that have already been removed as part of the approved Site A2 quarrying operations (ESS/32/11/BTE). In addition, an area of TPO woodland G1 and TPO trees T1, T2 and T8 were removed as part of the quarrying operations (0.18ha).</p>

Planning Drawing No	What the approved plans show	What modifications are now proposed	Explanation of proposed modifications
Dwg No 19-3B to be replaced by Dwg No 19-3C with new Title Block	"Tree Constraints and Protection Plan" Survey" – proposals for the removal or retention of trees as at December 2008, prior to the planning application	Adjustments have been made to the plan to reflect the minimal tree removal, and the removal of the second world war hangar, that has taken place by Blackwater Aggregates under its planning approvals for quarrying	<p>No "existing" trees have been removed under the IWMF planning permission.</p> <p>The plan now shows the former aircraft hangar and other ancillary buildings that have already been removed as part of the approved Site A2 quarrying operations (ESS/32/11/BTE). In addition, an area of TPO woodland G1 and TPO trees T1, T2 and T8 were removed as part of the quarrying operations (0.18ha).</p> <p>It is noted that the four mature oak trees on the north-east edge of the site (see T4 to T7) continue to be retained within the revised scheme, with enhanced protection due to the building movement and soil-nailing wall as explained above.</p> <p>The location of barrier fencing erected to adequately protect the retained trees from damage during the construction phase of the works is shown. By comparison with the original planning Dwg No 19-3B, it can be clearly seen how there are greater width protection areas to the trees, particularly the four oaks T4 to T7.</p>
Dwg No 19-5 to be replaced by Dwg No 19-5A	"eRCF Base Plan Woodhouse Farm"	Larger scale (at A1) of IWMF layout – includes Woodhouse Farm layout and car park (as approved in the Submission of Details condition 61.	The purpose of drawing 19-5 was to delineate and clarify the extent of existing and/or retained woodland and highlight the extent of the proposed landscape and ecological mitigation proposals. The updated base plan presents the revised footprint of the IWMF and clarifies the existing and proposed landscape and ecological mitigation. The landscaping proposals are indicative; final details of the proposed landscape mitigation proposals will be approved under the submission of details for condition 57 which are being submitted with this section 73 application.

END OF REPORT