

RPS

**Proposed Energy from Waste Facility, Great Blakenham, Suffolk
Non Technical Summary**

January 2011

On behalf of SITA UK Limited

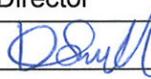
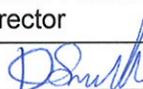


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Contents

1	Introduction.....	1
2	The Site and Proposed Development.....	5
3	Environmental Effects.....	12

References

1 Introduction

Overview

- 1.1 This Non-Technical Summary (NTS) forms part of the Environmental Statement (ES) which has been prepared by RPS to accompany the planning application for the construction and operation, by SITA UK Limited (SITA), of an Energy from Waste (EfW) facility, at the former Suffolk County Council highways depot site at Great Blakenham, Suffolk.
- 1.2 The Energy from Waste Facility would have an expected throughput of approximately 269,000 tonnes comprising residual non-hazardous municipal solid waste (MSW) from Suffolk together with non-hazardous residual commercial and industrial wastes. The scale of the facility has been defined by the waste arisings estimated by Suffolk County Council and is designed to ensure that efforts to reduce waste arisings and promote recycling and composting within the county are not compromised.
- 1.3 The facility would produce approximately 20MW of electricity for export to the National Grid and would be capable of producing additional energy in the form of heat for export.
- 1.4 This document provides a summary of the potential significant environmental impacts which may be caused through the construction and operation of the EfW facility. It describes the main findings of the Environmental Statement and the measures proposed to prevent, protect and where possible offset any significant adverse effects on the environment and local residents.

The Applicant

- 1.5 SITA UK is part of SUEZ Environment - a multinational water and waste management specialist. The group, under its SITA brand, operates over 1,000 waste management facilities across the world including 49 energy-from-waste facilities, which are similar to the one proposed at Great Blakenham.
- 1.6 SITA UK employs more than 5,500 people, has a turnover of £750 million and has a proven track record in developing and operating energy-from-waste facilities.
- 1.7 The company currently operates three energy-from-waste facilities in the UK, which are in Teesside, Kirklees (Huddersfield) and the Isle of Man.

Stakeholder Engagement

Consultation

- 1.8 Since May 2010 SITA UK have undertaken a programme of stakeholder engagement to ensure that stakeholders and members of the public were provided information about the proposals, to give them the opportunity to provide feedback on key issues of concern to them. This enabled any additional issues to be identified and addressed through the Environmental Impact Assessment process. The method of engagement included the distribution of newsletters in July and September 2010 and public exhibitions, where members of the SITA project team and specialists from RPS (SITA UK's technical consultants) were present to provide information and respond to issues. The first public exhibition was held at Great Blakenham Village Hall on 22nd and 23rd July with the second held at the same location on 26th and 27th September 2010. A further series of public exhibitions were held at towns around Suffolk in September and October (including Newmarket, Bury St Edmunds, Ipswich, Sudbury, Felixstowe and Lowestoft).
- 1.9 Ongoing consultation has been supported by a webpage attached to the SITA website www.suffolkefw.co.uk which provides additional detail and further opportunity to provide feedback.
- 1.10 Although the webpage will remain open throughout the consideration of the planning application and SITA will of course continue to respond to any queries, the planning authority will formally consult on the application and comments on the planning application should be directed to the planning authority.

Scope of the Environment Statement

- 1.11 A Scoping Report, which provided an initial description of the likely effects associated with the proposed development and the approach to be taken to assessing those effects, was issued to Suffolk County Council in May 2010.
- 1.12 The scoping report was submitted to Suffolk County Council, who in turn consulted with the relevant bodies including the Environment Agency, Ministry of Defence and Suffolk County Council Archaeologist. The response from the consultees along with a formal response from Suffolk County Council (known as the Scoping Opinion), was received in writing on 16th August 2010.
- 1.13 As a result of the scoping exercise, the following topics were identified as requiring consideration within the ES:

- the need for the facility and alternatives (alternative technologies);
 - traffic and transportation;
 - landscape and visual impact;
 - air quality;
 - archaeology and cultural heritage assets;
 - noise and vibration
 - ecology and nature conservation;
 - hydrology; and
 - hydrogeology and ground conditions.
- 1.14 The Environmental Statement and relevant Environmental Impact Assessments have been carried out in accordance with the response to the scoping exercise. Summaries of each of the above topics are provided in Section 3 of this Non-Technical Summary.
- 1.15 The assessment of each environmental topic forms a separate chapter of the ES. For each topic, the methodology adopted has been set out, together with a description of existing (baseline) environmental conditions. The likely effects of the project have then been identified and their significance assessed.
- 1.16 The significance of an effect has been assessed taking into account factors such as extent and magnitude of effect, duration and sensitivity of the receiving environment. The following levels of significance have been used for assessment:
- Substantial;
 - Major;
 - Moderate;
 - Minor;
 - Neutral
- 1.17 Where an effect is described as 'neutral' this means that there is either no effect or that the effect is considered to be negligible. All other levels of significance apply to both adverse and beneficial effects.

- 1.18 This document summarises the proposed development and sets out the likely significant environmental effects identified in relation to the construction and operation of the proposed development.

2 The Site and Proposed Development

The Site and Setting

- 2.1 The site is located on the southerly outskirts of Great Blakenham, close to Junction 52 of the A14. The site comprises an area of approximately 3.8 hectares and is bounded to the north by Lodge Lane, to the east by the London to Norwich railway line, with the River Gipping, the A14 and the village of Claydon beyond. To the south, the site is bounded by the B1113 Bramford Road with open fields, Suffolk Water Park and the village of Bramford beyond and to the west by the B1113 Bramford Road and further commercial and industrial development including warehousing and the business park, which is shown in Figure 2.1. Projects for which cumulative effects have been considered include the SnOasis development and residential development at the former Masons Cement works, both of which are located to the North of the site, with SnOasis located to the west of Bramford Road and the residential development to the east.
- 2.2 The site would be accessed from the A14 via the B1113 Bramford Road. Routing to the site will be designed to ensure that only local refuse collection vehicles would travel to the site from the north along the B1113 Bramford Road.
- 2.3 Until July 2010, the site was operated as a highways depot by Suffolk County Council (SCC) Highways Department. The site has been progressively vacated by SCC with remaining offices, portakabins, areas of hardstanding and car parking associated with the highways depot due to be cleared during 2011/2012. It is proposed that a number of the buildings located at the northern end of the site would be retained and used as site offices during the construction period. The southerly section of the site is not occupied by any buildings but has been in use for the stockpiling of materials servicing the highways depot, including road salt and road stone.

Proposed Site Layout

- 2.4 SITA commissioned Grimshaw Architectural Practice to develop the design of the Energy from Waste facility for the proposed site at Great Blakenham, as set out in the Design and Access Statement, which accompanies the planning application. The design for the site considered the operational requirements of the EfW and the incorporation of sustainable design principles, in the context of the surrounding landscape and environment.

- 2.5 The Grimshaw design incorporates a substantial landscaping scheme at the entrance to the site, water features, an education and visitor centre, car parking, segregated one way circulation for HGVs, architectural design of all the main building components and an ash recovery facility. This plan forms the basis of the project design for the purposes of the EIA.
- 2.6 The ash recovery facility is an independent structure located to the south of the main plant infrastructure.

Description of the Development

- 2.7 The proposal consists of:
- The EfW facility
 - A recycling facility for the incinerator bottom ash (a residue from the EfW process)
 - Landscaping of around one-third of the site to improve biodiversity in the locality.
- 2.8 The proposed Energy from Waste Facility would treat approximately 269,000 tonnes per annum of residual municipal solid waste and commercial and industrial waste following recycling and composting. The plant will operate continuously, 24 hours a day, 7 days a week, except for maintenance shutdowns, when the facility will continue to accept and store waste. Under normal operation, the plant would operate for 8,000 hours per year.
- 2.9 The EfW process would be fully enclosed within buildings (including the tipping and any storage of waste). The main components of the EfW facility will be:
- Facility control room
 - Waste reception;
 - Combustion;
 - Energy recovery including the ability to provide combined heat and power;
 - Flue gas treatment;
 - Residue handling, and
 - Environmental controls Waste Reception and Handling

- 2.10 A gatehouse and weighbridge will be located near the main entrance to the site to weigh and direct incoming and outgoing waste vehicles. On entering the site, waste vehicles would stop on the inbound weighbridge and be weighed, and then following the dedicated access roads within the site, would go to the enclosed tipping hall to unload waste into the bunker. After leaving the tipping hall, the waste vehicles would travel between the EfW facility building and the Bottom Ash (BA) facility, before exiting the site via the outbound weighbridge. The site layout has been designed to operate as a one-way system for all HGV traffic, which is segregated from staff and visitor vehicular access off Lodge Lane.
- 2.11 Each waste vehicle would have a card or tag number that automatically registers the vehicle on each weighbridge and allows the control system to calculate the waste delivered. The details of the weight of incoming waste would be printed, to provide a record for the waste carrier.
- 2.12 The location of the tipping hall on the site allows space to accommodate waste vehicles queuing on site. An HGV lay-by zone would be located between the site entrance and the weighbridges for vehicles entering the site, to prevent any traffic queuing on external roads. There is the capacity to accommodate 5 HGVs delivering waste to the site before progressing beyond the weighbridge.

Combustion Process

- 2.13 The waste from the bunker would be fed into a feed hopper by one of the cranes, operated manually from a control room overlooking the waste bunker, and transferred to the furnace by a waste feed chute. At the bottom of the waste feed chute, a feeding ram would ensure that the waste is fed equally across the surface of the grate.
- 2.14 The grate consists of a series of alternated fixed and mobile inclined moving bars, which result in a slow stirring or mixing of the waste. The reverse motion of the grate bars and the downward slope facilitate the flow of the fuel during the combustion process. The waste will then pass slowly through the furnace where it will burn under carefully controlled conditions to ensure efficient combustion.
- 2.15 Auxiliary burners fuelled by diesel oil would be located above the grate. The burners would be used to obtain the necessary operating temperature during start up from a cold state, to ensure that a minimum operating temperature of 850°C is reached prior to the introduction of waste, and subsequently maintained as required by the Waste Incineration Directive. In normal operation this temperature can be maintained without the need for the auxiliary burners or supplementary fuel, although these are automatically triggered if required to maintain the temperature.

- 2.16 Primary combustion air, extracted from the reception hall would be injected beneath the grate, passing through the grate bars to promote good combustion. Secondary air would be injected above the grate to ensure complete combustion of any volatilised gases. The volume of both primary and secondary air would be regulated by an automatic combustion control system to ensure optimum combustion in the furnace.
- 2.17 When the waste reaches the end of the combustion grate, only the incombustible material remains, which is known as 'bottom ash'. At the end of the grate, the bottom ash would be deposited into an ash quench bath to reduce its temperature. The quenched bottom ash would be transferred from the quench bath along an enclosed inclined conveyor system to the bottom ash recovery facility. During the transfer, the excess quench water would drain directly back into the quench bath for reuse. Prior to being conveyed to the bottom ash recovery facility, a vibrating grid (located within the EfW building) would remove bulky items from the bottom ash. These bulky items would be collected separately and transferred to the bottom ash (BA) recovery facility prior to removal from the site. The BA recovery facility would process the bottom ash for secondary use as aggregate.
- 2.18 Hot gases from the furnace will pass into the boiler in which steam will be raised, which would then be passed to a single turbine to generate electricity.

Energy Recovery

- 2.19 The proposed EfW facility would have the capacity to export approximately 20MWe to the grid. In addition to this, 3.75MWe would be guaranteed to power the electrical equipment within the facility (known as parasitic load).
- 2.20 Electrical power exported from the facility would be fed to the grid at 132kV via a step-up transformer located in the north west corner of the site.
- 2.21 It is noted that whilst the application for a grid connection for the Energy from Waste Facility forms a separate consenting process, the connection is considered to form part of the project. Discussions with the energy provider have indicated that the grid connection would be along the B1113 via underground cables connecting to the existing Stowmarket substation. For the purpose of the ES, an indicative grid connection route has been assessed.
- 2.22 There may also be the supply of steam or hot water to local users, depending on demand, location and supply conditions. SITA is in discussions with developers in the local area. Whilst there would be a reduction in the amount of electricity generated in a combined heat and power (CHP) scheme, the overall efficiency of the facility could be significantly increased assuming an appropriate customer or customers are identified.

By-Product Handling

2.23 Three types of by-products would be produced from the operation of the EfW Facility. These are:

- Bottom ash;
- Ferrous metals; and
- Air Pollution Controls residues.

Bottom Ash

2.24 Bottom ash is the inert or incombustible material from the combustion process. Approximately, 27% by weight of the waste burnt is expected to be converted to bottom ash, which equates to 72,000 tonnes per annum of bottom ash.

2.25 Currently there are no existing bottom ash recovery facilities in Suffolk. A bottom ash recovery facility is included in the proposed scheme for the processing and stabilisation of bottom ash for reuse as aggregate. This would avoid the need for transporting bottom ash long distances to an existing recycling facility. Bottom ash from the ash discharger in the main EfW building will be conveyed to the bottom ash recovery facility.

2.26 In addition, approximately 7,200 tonnes per annum of ferrous metal would be recovered from the bottom ash using magnetic separation and take off site for recycling.

Air Pollution Control Residues

2.27 It is anticipated that approximately 9,150 tonnes of APC residues would be produced per annum. These residues would be handled within a fully enclosed system. The residues would be stored in sealed silos within the EfW building and discharged via sealed connections into fully contained disposal vehicles. These measures will avoid the release of dust from handling and transfer of this material. All transfers would be under the Environmental Permit, duty of care and the receiving facility's Environmental Permit or other licensing requirements.

Site Operation

2.28 The EfW facility would produce power 24 hours a day, 7 days a week, operating continuously throughout the year except during shutdown periods for maintenance and repair.

- 2.29 Planning permission is being sought for the facility to receive waste and reagents (for the facility process) and to remove recovered materials, between 06:00 to 22:00 daily except for Christmas Day. However, it is anticipated that the majority of deliveries will be between 09:00 – 16:00, based on the timing of local waste collections and deliveries from Waste Transfer Stations in Suffolk and SITA's operational experience, which shows that over 80% of deliveries are typically received between 09:00 to 16:00.
- 2.30 The visitor/community centre is designed to provide a facility that can be used by the community and would be open between 10:00 to 20:00 Monday to Friday.
- 2.31 The EfW facility would employ up to 250 temporary construction jobs, 43 full time equivalent employees comprising operation and maintenance staff, clerical and administrative staff and plant management. This figure does not include delivery drivers or any other support services. Operator and maintenance staff would be employed within five shift teams. In addition, approximately 100 additional contractors will be temporarily employed during planned shutdowns.
- 2.32 All staff will be suitably trained, qualified and experienced and a structured training and development programme will be provided.

Cumulative Effects

- 2.33 Cumulative impacts can be described as the effects from a number of developments, which individually may be insignificant but when considered together could generate a significant cumulative effect. The scoping opinion confirmed that cumulative effects from the following projects should be considered:
- SnOasis development: a winter sports centre including an indoor ski slope, holiday resort and leisure centre at Column Field Quarry located north west of the application site, which includes for a railway station with car parking for a minimum of 490 cars at the former Masons Cement Works and disused railway sidings in Great Blakenham.
 - Residential development as part of the SnOasis development, providing 350 new homes, which will include a local centre incorporating retail and community uses and infrastructure with provision for a primary school at the former Masons Cement works.

Construction

- 2.34 Assuming that planning permission is granted for the facility in 2011 the following development timescales are anticipated:
- Notice to Proceed to Contractor: December 2011

- Clearance and Demolition: Early 2012 (although some work may be undertaken in 2011)
- Commencement of Construction: Spring 2012
- Commissioning: June 2014 – December 2014
- Commercial Operation: December 2014.

2.35 Construction operations would generally take place between the following hours:

- Monday – Friday 07:00 – 19:00 hours;
- Saturday 07:00 – 13:00 hours; and
- Sunday and Bank Holidays – No working.

2.36 Agreement to any deviation from the above will be sought from Suffolk County Council (SCC) before taking place.

2.37 It is envisaged that non-intrusive activities and internal works (such as electrical installations, pipework installation and similar activities) would be undertaken outside of these hours in order to minimise overall construction time. HGV movements associated with such activities would be insignificant.

2.38 Any intrusive work outside of these hours would be by prior agreement of the Planning Authority, except in the case of any emergency. The Authority would be notified at the earliest opportunity in the event of an emergency.

3 Environmental Effects

Introduction

- 3.1 The project includes a range of measures that have been designed to reduce or prevent significant adverse environmental effects arising. In some cases these result in enhancement of existing environmental conditions. The assessment of effects has taken into account all measures that form part of the development proposals, which are discussed in each topic heading.
- 3.2 The following sections provide a non-technical summary of each of the topics assessed within the Environmental Impact Assessment and reported within the Environmental Statement.

Socio-Economics Effects

- 3.3 The potential social and economic effects of the proposed development have been examined. The main likely effects are the opportunities for employment in the construction and operational stages.
- 3.4 Baseline conditions were established using a number of sources of information, notably the 2001 Census and the National Online Manpower Information System (NOMIS) Labour Market Profiles. These cover topics such as car ownership, occupation, economic activity rates, unemployment and travel to work. The assessment of baseline conditions concluded that in many respects, the study area, which consisted of the districts of Mid Suffolk, Babergh, Ipswich and Suffolk Coastal, have characteristics similar to England and Wales as a whole. There are no serious issues of unemployment or deprivation. However, it is worth noting that residents of Mid Suffolk District depend quite heavily on other areas, particularly Ipswich, for employment. People tend to travel long distances to work and use the car to do so. Earnings for both residents of and workers in Mid Suffolk District are somewhat lower than the regional and national averages.
- 3.5 It was concluded that the proposed development would provide moderate benefits in terms of employment in the construction stage and minor direct benefits in the operational stage based on direct employment at the facility (excluding any additional beneficial multiplier effects or ancillary employment such as maintenance staff and drivers). 43 jobs would be provided at the facility and these would be a mix of skilled and semi-skilled jobs, long term, secure, with the opportunity for training and staff development. No adverse effects requiring mitigation were identified.

Archaeology and Cultural Heritage

- 3.6 An assessment of the potential effects of the proposed development on cultural heritage resources, including buried and visible archaeological sites, historic buildings, parks, gardens and battlefields and historic landscapes has been undertaken, having regard to the scoping exercise and comments received during consultation. The basis of the methodology has been to collate all information from within 1km, 5km and 10km-radius study areas, in order to identify known and potential heritage assets. The importance or value of each asset has been assessed and the likely magnitude of impact upon them considered using recognised methodologies and best practice.
- 3.7 Following consultation with the relevant officers of the four District Councils and the County Council, 1 km and 5 km study areas have been used for archaeology and cultural heritage features respectively. For selected receptors beyond 5 km, where a combination of elevation, sensitivity and importance might lead to significant effects, a 10 km study area has been used.
- 3.8 Until its recent demolition, the Great Blakenham industrial area (and most of the surrounding landscape) was dominated by the structures and 120-metre chimney of the former Mason's cement works (latterly Blue Circle), which lay some 200 metres north of the Site. Part of the Site lies on the first river terrace; part is built up over what was formerly valley-bottom meadowland. The Site lies at approximately 10-15 m above ordnance datum (AOD), sloping from the northwest down to the southeast. The Gipping valley is characterised by village settlement, woodland blocks, meadows, flooded gravel workings and the London to Norwich main line railway.
- 3.9 To the east, beyond the base of the River Gipping valley, the landscape rises from c.15 m AOD to a gently undulating clay plateau at approximately 55 m AOD. On the eastern valley flank is the A14 dual-carriageway and the settlement of Claydon. Beyond these, the plateau landscape is predominantly agricultural, with dispersed settlement and a network of minor roads.
- 3.10 The landscape to the west comprises the east-facing slope of the Gipping valley, rising to another clay plateau with a dispersed settlement pattern, at approximately 60m AOD. Cut into the eastern valley flank opposite the Site is the Orion Business Park, incorporating the large Magnus warehouse.

- 3.11 Whilst the Site lies less than 1 km south-east of the substantial Column Field Quarry (Blakenham Pit), noted for its highly significant sequence through Early and Middle Pleistocene sediments and soils, there is no evidence for in-situ Palaeolithic or other prehistoric activity or remains within the Site. The earliest archaeological / palaeoenvironmental deposits recovered on Site are valley-bottom peats, dating from the late Roman / early Saxon period.
- 3.12 The local focus for Roman activity would appear to have been the Roman fort and associated civilian settlement at Baylham (Combretovium), 2.5 km north of the Site. This marked the crossing point (and probable head of seaborne navigation) of the Gipping and lay at the junction of at least five (and possibly seven) Roman roads, one of which (from London and Colchester to Caistor St Edmund (Venta Icenorum) is now the B1113 and forms the western boundary of the Site. No evidence of Roman activity has been found on the Site however.
- 3.13 Immediately north of the Site is the site of Blakenham Lodge, a substantial house of 13th- and 15th-century origin, demolished in 1972 in advance of the construction of the A14. Minor evidence of medieval occupation has been found within the north-western corner of the Proposals Site.
- 3.14 Analysis of palaeoenvironmental samples recovered during the preparation of this study has revealed poor preservation and low potential. With regard to the archaeological evaluation, a total of 13 trenches were opened, only one of which contained any archaeological evidence, in the form of four shallow cut features (pits or ditches) dating to the medieval period. This trench was located close to the site's north west perimeter where, in contrast to much of the site, the ground level did not appear to be truncated. At the southern edge of the site, modern disturbance was identified extending deeper than the deepest trench (>2.5m).
- 3.15 Because of the potential for substantial preservation in-situ of the remaining archaeological and palaeoenvironmental features and deposits that survive in the north-west and south-east corners of the Site (assessed as being of no more than Low (local) importance), the assessment has not identified any significant direct physical impacts within the Site itself.

- 3.16 To take into account the height of the roof of the proposed development and its chimney stacks, the search area for assessing effects on the setting of cultural heritage was extended to 10 kilometres. In the event, few significant effects have been found. This is in part due to natural screening effects of woodland, windbreaks and hedges within the Gipping valley floor and on the plateau to either site. It is also because of the existing industrialised nature of the site and its immediate surrounding; because the local landscape is dominated by a number of high-tension power lines and associated pylons and because the surrounding landscape has evolved over the last century or so with an exceptionally large cement works (now demolished) at its heart. The landscape has thus organically developed in a way that mitigates in many ways the worst effects of a large industrial development with a 120-metre chimney, located only 200 metres to the north of the current Proposals Site.
- 3.17 This assessment has identified four moderate effects on the setting of off-site cultural heritage receptors. The closest of these will be the effect on the setting of Broomvale Farmhouse and barns (4 Grade II Listed buildings), located 200 metres south of the Proposals Site. The immediate setting of these buildings is compromised by the modern embankment of the realigned B1113, which curves round the northern side of the farm on its approach to the Gipping bridge and the intersection with the modern A14. Slightly further away to the east is the electrified London – Norwich railway, whilst north of the B1113 is the Great Blakenham industrial area. Whilst the setting of this group of buildings is not pristine, the proposed development will be very close and of a markedly different vertical scale to the existing industrial development.
- 3.18 A moderate effect is also predicted for the southern part of the Grade I Shrubland Park Registered Park (1.5 km north of the Site) and the associated Grade II* house and Grade II coach house block that lie within the southern part of the park. For much of the 19th Century and virtually all of the 20th Century the park will have been significantly affected by industrial development in the Gipping valley, most notably by the vast Column Field Quarry (Blakenham Pit) and Mason's cement works at Great Blakenham. Because of these intrusive elements, the Italian garden that is the *raison-d'être* for the park's high listing is relatively well screened. The current hall nevertheless has a five-storey belvedere which, whilst not publicly accessible, will enjoy commanding views through 360 degrees. The cement works has gone and the quarry may eventually be restored, but these secondary views are currently marred by distant pylons, by the Magnus building and Orion Business Park at Great Blakenham and by the modern commercial and retail development and derelict sugar refinery on the northern edge of Ipswich. The park is also significantly affected by the noise of traffic on the A14 dual-carriageway. Both the building and stacks of the proposed development will nevertheless be visible from the current hall and from elevated positions between it and the stable block, introducing a vertical element into an otherwise generally horizontal landscape.

- 3.19 There will also be a moderate effect on the setting of the Grade I Church of St Mary, Barham, 2km north-east of the Proposals Site. The churchyard is partially enclosed on its northern edge and there will be only glimpsed views of the proposed building and stacks from the western edge of the churchyard, but there are very open views towards the Proposals Site from the lane that accesses the church.
- 3.20 Lastly, the top of the roof and the stacks of the proposed development will be visible from the Grade II-Listed Claydon Hall, 1.75km east of the Proposals Site. This 14th-century and later hall (with partial moat in its grounds) lies on gently sloping ground towards the top of the Gipping valley scarp. Its immediate setting is a large garden, with relatively strong enclosure, except on its western side. Its wider setting has been compromised on all four sides by the loss of field boundaries and by ranges of large, modern agricultural buildings to the north-east. The roof and stacks will appear above the horizon looking west from the house and garden, rising above an immature tree belt located some 300 metres downslope. An effect of moderate significance on its setting is predicted, but this will reduce to no effect over time, as the tree belt develops.
- 3.21 Three further effects are also worthy of note. The first is that the proposed stacks and the Grade I Church of St Mary, Great Blakenham, 1.25km N.N.W. of the Proposals Site, will be visible in the same view from the meadows immediately north of the village. Nearby mature trees mean that the church tower is not the dominant feature of the landscape. Great Blakenham retains much of its industrial / post industrial character, resulting from its former close association with the now demolished Mason's cement works, so the stacks will not be a highly dischordant feature. As a result, the significance of the effect on the setting of the church will be minor.
- 3.22 The Baylham Roman Site Scheduled Monument lies on gently sloping ground on the east side of the river Gipping, 2.7km to 4km north of the Site, within a predominantly arable local landscape. Due to intervening woodland and tree cover, only the upper parts of the stack of the Proposed Development will be distantly visible from more elevated positions within and overlooking the Scheduled Monument. Neither the proposed stack nor the building will be visible from the main focus of the Monument – the sites of the two Roman forts at Baylham House and the adjacent car park at the Baylham House Rare Breeds Centre. Whilst the Scheduled site is clearly of high archaeological importance, there are no visible earthworks or surface remains to indicate the site's former status or use and most of the site is in modern arable use. The significance of effect will be minor because of the limited impact and because the site's setting is already affected by the noisy A14 dual carriageway, active gravel workings and the electrified London – Norwich railway.

- 3.23 An effect of minor significance is also predicted for the Chantry Park Conservation Area, which lies 5.5km south of the Proposals Site, on the western edge of Ipswich. The conservation area (a park presented to Ipswich in 1927) is a Grade II Registered Park and Garden containing two Grade II Listed buildings, the mansion itself (The Chantry) and a lodge house to the north. Views northward from the park towards the Proposals Site (and indeed in all directions) are limited by mixed screen planting around the park's perimeter. Where there are gaps, views up the Gipping valley are marred, in particular by the silos of a large and derelict sugar beet refinery, the bulky late 20th / early 21st-century commercial and retail units that cluster round the modern A14 / A1156 intersection west of Whitton. The significance of effect is predicted as minor because of distance, nearby 20th-century suburban development, existing impacts and limited visibility.
- 3.24 Whilst this assessment has identified a number of minor to moderate effects, these may be seen in the context of Great Blakenham's industrial history and the recently demolished Mason's cement works formerly located immediately north of the Proposals Site, whose buildings and silos were larger, bulkier and more extensive than the building proposed for the EfW plant. Its 120-metre chimney was 50% taller than that proposed and of considerable additional bulk, owing to its materials and diameter. The proposals also need to be seen in the context of the consented SnOasis development, which will dominate the local landscape by several orders of magnitude greater than the proposed development.
- 3.25 There is only one group of receptors where the impact of the proposed development will not seem insignificant when viewed in the context of the consented SnOasis development. This is the Grade II Broomvale Farm and associated barns, 200 metres south of the Proposals Site.
- 3.26 As is made clear in Policies HE1.3 and HE9.4 of Planning Policy Statement (PPS) 5, the impacts of the proposals on the setting of this group and other receptors will need to be weighed against the wider public and climate change benefits of the EfW proposal.
- 3.27 Landscape and Visual Impact
- 3.28 The study area for the assessment of landscape, townscape and visual effects extends to a 15 km radius from the site and complements the assessment of possible effects on the cultural heritage assets as summarised above. The extent of potential visibility has been established for stack and building heights by production of Zones of Theoretical Visibility. Key viewpoints looking towards the proposals have been agreed with Suffolk County Council as part of the baseline assessment.

- 3.29 There are no designated landscapes which lie within the site area, however, the River Gipping Special Landscape Area (SLA) extends along the base of the river valley landscape immediately to the east. The overall context of the site is that of an industrial/commercial townscape on the southern edge of Great Blakenham, beside the rural River Gipping valley. The townscape is influenced by a variety of land uses including industrial, commercial, farmland, disused land, transport corridors and river corridor.
- 3.30 Landscape mitigation proposals have been included as an integral part of the proposed EfW scheme. The range of treatments including tree and shrub planting, surface water retention feature, hedges and an extensive meadow would be implemented as part of the proposals. The assessment of landscape/townscape and visual effects has been undertaken based on the scheme at year one after completion, when the planting proposals are newly established.
- 3.31 The introduction of industrial development at the Highways Depot site would not be uncharacteristic or at odds with the adjoining townscape, although the increased scale of development would have influence over the adjoining rural landscape. The EfW would appear as an intensification of the industrial edge. The views from visual receptors tend to fall into two categories: those that have a view which includes existing development at Great Blakenham providing a predominantly urban context for the proposals and those that have no view of development at Great Blakenham and have a predominantly rural view. Effects on views are greatest where the visual context is rural and the EfW would form the dominant or most prominent development within the view, often breaking the skyline. This is typical of views from sensitive receptors including the Gipping Valley River Path to the south of the site and views from settlement edges and public rights of way on the plateaus surrounding the site. Close range views from low sensitivity receptors at commercial premises adjacent to the site at Lodge Lane would benefit from the redevelopment of the site and enhancement of poor site conditions. The scale of the EfW building is considerably larger, however the architectural treatment is of a higher quality and the extensive landscape proposals provide an attractive setting to the development. Distant views of the proposals from the wider rural landscape would usually only include the tops of the stacks as barely perceptible new elements on the horizon. The air quality assessment predicts that the plume emitted from the stack would occur approximately 18% of the time. When visible it would intensify the industrial character of the townscape of Great Blakenham and could be more visible than the EfW building or stacks in distant views.

- 3.32 Direct effects on townscape character occur within the Rolling Valley Farmlands character area. Redevelopment would result in the removal of the majority of existing features at the site including buildings and structures, however most existing trees would be retained around the site boundaries. Although the scale of the project is large, even within the context of this industrial area of Great Blakenham, the EfW could be accommodated within this character area without significant effects on key townscape features or characteristics. The project would offer the opportunity to improve the quality of the settlement through the introduction of a high quality development that incorporates extensive landscape proposals and high quality architectural treatments. The direct effect of the large scale development would create a medium magnitude of change in an area of locally poor condition, no townscape designations and local value within a wider landscape character area of good condition. The change in character in the long term would result, on balance, in a minor / moderate effect.
- 3.33 The redevelopment of the proposal site would result in new lighting for roadways and external areas. This would require a combination of building mounted floodlights and column mounted luminaires within the site. These proposals would be close to the well-lit character of the industrial edge of Great Blakenham and the B1113 road junction. Given the measures adopted to ensure lighting is directional and that spillage is therefore controlled as far as practicable the significance of night-time effects on the Rolling Valley Farmlands character area would be negligible/minor.
- 3.34 The adjoining character areas of Valley Meadowlands and Rolling Estate Farmlands form the immediate landscape context to the proposals site and are not directly affected by the development. The large scale of the EfW buildings and tall stacks would result in indirect adverse effects on the rural elements of these character areas. The significance of effect would be moderate/minor during the day and minor at night.
- 3.35 Redevelopment of the project site would be on a large scale; however, opportunities also exist for enhancement of existing site conditions. The overall townscape/landscape effect during operation can be summarised as moderate/minor.
- 3.36 The Rolling Valley Farmlands character area contains a concentration of development at Great Blakenham, which the SnOasis leisure complex and Mason's Yard residential development would add to as an intensification of use. The SnOasis scheme in particular is large in scale and would be visually prominent in the landscape/townscape in its own right. During construction and operation, visual receptors would gain views of the EfW facility in the context of a slightly more developed urban location.

- 3.37 The overall context of the site is that of an industrial/commercial townscape on the southern edge of Great Blakenham, beside the rural River Gipping valley. The proposed industrial redevelopment of the site would introduce larger scale buildings to the location and landscape proposals, which are of a higher quality than adjoining development at Lodge Lane and the Orion Business Park. This would help to improve the local townscape character.
- 3.38 The new development is of a larger scale and includes taller buildings and stacks which in certain views would break the skyline, where existing development tends to sit below the skyline. The redevelopment of the proposal site would place tall development into views gained by sensitive receptors within the River Gipping valley to the south, which previously had no views of the industrial development at Great Blakenham. In near views this can result in the development becoming the most prominent element or the new focus within the view, however in more distant views the stacks are the only visible element of the scheme, creating a minor intensification of the industrial/commercial fringes of Great Blakenham. Beyond the immediate vicinity of Great Blakenham the buildings and stacks, and the plume when visible, would be at odds with the character of the agricultural landscape. However, all of these distant rural views currently include extensive overhead power lines on the horizon, which characterise the landscape and would remain the dominant urban elements within the more distant views.
- 3.39 The changes that will occur in the Rolling Valley Farmlands character area as a result of the development of the EfW can be accommodated. The poor condition of the townscape of the site and the lack of significant features or designations, provide the opportunity for introducing the new elements of the proposals without unacceptably significant adverse effects. The proposals will not result in the loss of any key townscape elements and existing perimeter vegetation will be retained. The landscape proposals are part of the development and would improve the existing poor quality of the area's urban character.

Traffic and Transport

- 3.40 An assessment of the environmental effects of the transport associated with the proposed development has been undertaken having regard to local concerns expressed regarding traffic conditions on the highway network. The assessment has been undertaken in accordance with relevant national guidelines. Existing transport conditions have been established through site visits, relevant traffic survey data and other data sources. The transport baseline conditions in the opening year (2015) have been established by taking into account background traffic growth and traffic associated with other consented developments in the area.

- 3.41 Detailed assessments of the changes in traffic on the surrounding highway network have been undertaken for the operational phase of development. Due to the net development flows resulting in a reduction in traffic flows on many of the links a sensitivity test has been carried out. The existing development flows generated by the Highways Depot have been removed from the 2015 baseline flows and the development traffic has been assessed against this, in order to give a worst-case development impact. Total traffic (light and heavy vehicle movements) associated with the proposed development represents a maximum increase (excluding Lodge Lane) on the Bramford Road South of Lodge Lane link of 1.9% in peak hours and 2.1% over a 24 hour period. This level of increase does not warrant further detailed transport environmental assessment. The development traffic on Lodge Lane link would increase daily traffic flows by 44.1%; however, this is due to the sensitivity test removing existing Highways Depot trips from the baseline and this results in low flows on Lodge Lane.
- 3.42 The total proposed EfW trips are lower than that of the trips previously generated by the Highways Depot. Therefore, the net development trips will result in a reduction of traffic on the network. Importantly, there is a predicted reduction in HGV movements north of the site through Great Blakenham and on Paper Mill Lane. The Site Access will see a reduction in daily outbound and incoming (two way) trips of 368 trips (from 680 Highways depot two way trips to 312 EfW two way trips). However the two way daily HGV trips increase on of the links between the site and on the A14; as a result of the increase from 178 two way Highways Depot trips at the Site Access to 216, an increase of 38 two way HGV trips a day. The largest increase in HGV trips is on the B1113 East of Bramford Road link which experiences an increase in daily HGV two way trips of 86. However in terms of total vehicle two way trips over a 24 hour period the link experiences a 144 reduction. It is noted that these changes represent a worst case as no account has been taken for those trips routeing to Masons Landfill which would re-route to the Site.
- 3.43 The facility will generate 216 two-way HGV movements a day, which the local road network is able to accommodate. HGVs will be required to follow agreed designated routes to and from the site, which are shown on the map below. Specific arrangements will be implemented during any disruption on the highway network e.g. if an accident occurs on the A14 north or south of the junction with the B1113.
- 3.44 Assessments of visual effects, severance, driver delay, pedestrian delay, pedestrian amenity, accidents and safety, hazardous loads and dust and dirt have been undertaken. These indicate that in all cases transport environmental effects are not significant.

Ecology and Nature Conservation

- 3.45 The assessment of potential effects on ecological interests (designated sites, flora and fauna) has been carried out in line with guidance published by the Institute of Ecology and Environmental Management, and takes into account responses provided by Mid Suffolk District Council, Natural England, Suffolk Wildlife Trust, the Environment Agency and the Suffolk County Ecologist.
- 3.46 The Application Site is 8.46 km from the Stour and Orwell Estuaries Ramsar, Special Protected Areas (SPA) and Sites of Special Scientific Interest (SSSI), and 1.28 km from Little Blakenham Pit SSSI. There are 15 additional SSSIs and ten Local Nature Reserves within 10 km and there are 15 County Wildlife Sites and Roadside Nature Reserves within 2 km.
- 3.47 The Application Site is 3.8ha in size, and mainly comprises hard standing with buildings, bare ground and a narrow wooded strip on the eastern, southern and western boundaries. There are no UK Biodiversity Action Plans (UKBAP) habitats on site. The UKBAP priority habitats 'Rivers' and 'Floodplain grazing marsh' are located immediately adjacent to the site and impacts on these habitats are assessed.
- 3.48 The Application incorporates a range of mitigation measures that have already been 'designed in' and the assessment takes this as well as additional ecological mitigation and enhancements into account.
- 3.49 Baseline data have been collated through desk study and specific surveys. A Phase 1 habitat and protected species scoping survey was undertaken in 2009 and 2010 of the Application Site for the Energy from Waste plant and its immediate environs, to inform the ecological appraisal and impact assessment. Additional surveys for Great Crested Newts, Badgers and Bats were undertaken in 2010. A Phase 1 habitat and protected species scoping survey was also carried out in 2010 of the proposed cable route for the grid connection and its immediate vicinity.
- 3.50 There are two ditches within the development boundary that were dry or otherwise unsuitable for Great Crested Newts. The scrub habitat along the railway embankment and in woodland bordering the site could provide limited foraging for newts on site. Within 500m of the Application Site are two waterbodies containing small populations of Great Crested Newts.

- 3.51 No evidence of use by Badgers was found on site, and no bat roosts were identified. However, there is considerable foraging activity across the site from Noctule and Pipistrelle bats. The eastern woodland boundary along the railway line does not appear to constitute important foraging habitat, and no flight lines were identified during surveys. During the activity surveys, above average levels of Noctule activity were recorded. Given the good foraging habitat in the vicinity (marshy grassland / river) they appear to be drawn to the Application Site by the existing lighting.
- 3.52 The majority of the Pipistrelle foraging activity was located in the north-western corner around the trees. These trees are to be retained and unlit, and therefore there should be no significant impact on foraging habitats for this species. There will be a very small permanent loss of 0.01 ha of scattered scrub. Six small trees are to be felled from adjacent to buildings in the north-eastern corner. However, all the mature trees and woodland boundary are to be retained and therefore habitat loss is not considered to be significant. Whilst the lighting scheme for the operational phase will be bat friendly there will still be lighting on site which would provide equivalent foraging opportunities for species such as the Noctule to utilise. Therefore the effect of habitat loss on bats is considered not significant.
- 3.53 No impacts were predicted on any of the features for which the SPA/SSSIs/Local Nature Reserves (LNR) are designated as a result of the development, during either the construction or operational phase. No significant adverse impacts were identified for air quality for any of the pollutants assessed nitrogen oxide (NO_x), sulphur dioxide (SO₂), ammonia (NH₃), acid and nitrogen deposition for any of the designated sites.
- 3.54 There are considered to be minor potential adverse effects on Great Crested Newts on site due to construction traffic and a minor potential adverse impact from vegetation clearance and noise on the bird assemblage within close proximity of the site during the construction phase.
- 3.55 During the operational phase there is considered to be a minor potential adverse impact to Great Crested Newts and breeding birds due to habitat loss and a minor potential adverse impact to Great Crested Newts from the site access road.
- 3.56 To mitigate the above, clearance of vegetation and demolition of the buildings on site will be undertaken outside of March to August to avoid disturbance to breeding birds. If clearance works cannot be undertaken at this time, then works will be carried out under the supervision of an ecologist to ensure no active nests are affected.
- 3.57 Any rubble/spoil piles on the site left for more than a week during mid-February to October would be checked by an Ecological Clerk of Works for reptiles and Great Crested Newts before the piles are disturbed.

- 3.58 High visibility fencing would be erected around the working area (between the working area and the woodland strip) to prevent accidental access to this habitat by workers or plant during the construction phase.
- 3.59 Site enhancements include:
- planting of native trees and shrubs to provide nesting/foraging habitat for a wide range of animal species;
 - creation of an area of meadow to the north of the site including the creation of log piles for Stag Beetles;
 - the attenuation pond will be planted and managed to encourage Great Crested Newts on site;
 - erection of bird and bat boxes.
- 3.60 The overall residual impact of the Energy from Waste development on ecology would be neutral / minor positive, following mitigation and enhancement measures as outlined above.
- 3.61 The overall residual impacts from the proposed cable route following mitigation would be neutral.
- 3.62 This conclusion was made based on the inclusion of the 'designed in' mitigation measures and actions taken to ensure compliance with protected species legislation.

Hydrology and Flood Risk

- 3.63 This assessment has included a review of baseline hydrological conditions at the site, and an assessment of the potential impacts of the proposed development (both during construction and operation of the plant) on flood risk and surface water quality aspects.
- 3.64 The baseline assessment indicates that watercourses in the area are of a good quality. The flood risk to the site is considered to be low; the site is not located within an indicative floodplain, and no other significant potential sources of flooding have been identified, although the current surface water drainage system is considered to be overloaded during heavy rainfall events.
- 3.65 Potential impacts to water quality could occur through inappropriate storage of materials during construction work or during the site's operation; through contaminants within surface water runoff or effluents from the plant entering the receiving watercourse; or by allowing contaminants already present within the ground to migrate into groundwater and subsequently into surface watercourses.

- 3.66 The assessment demonstrates how the potential impacts can be mitigated by ensuring appropriate storage / management of potentially hazardous materials, and by treatment of surface water runoff from the site prior to discharge. The mobilisation of any historical contamination within the ground will be avoided by ensuring soakaways are not used for disposal of surface water runoff, and by ensuring that the drainage system (including any ponds / tanks) is appropriately sealed to prevent infiltration of runoff.
- 3.67 Given the site's location outside the Environment Agency floodplain, the key potential impact on flood risk would result from generation of surface water runoff from hardstanding areas. The Environment Agency requires that the peak runoff is not increased as a result of development, and this is discussed in detail in the Flood Risk Assessment. The volume of runoff from the site will be reduced due to the proposed reduction in hardstanding area. A pond is proposed to enable surface water to be held on-site so that peak runoff rates from the site can be controlled. The use of permeable hard surfacing (Grasscrete and gravels) will provide additional storage of water prior to discharge to the pond, and the volume of runoff discharged from the site will be further reduced by the harvesting and reuse of rainwater for process water.
- 3.68 Appropriate site management practices will be implemented throughout the construction and operation of the plant to ensure that site activities do not increase flood risk to the surrounding area, for example through preventing siltation of drains and blocking of overland flow paths. Appropriate construction techniques will be implemented to prevent ingress of groundwater into basement areas.
- 3.69 Mitigation measures proposed as part of the development are considered to reduce potential risks associated with hydrology and flood risk to appropriate levels. Therefore, no further mitigation measures are proposed as a result of this assessment.

Hydrogeology and Ground Conditions

- 3.70 The assessment has included a detailed review of baseline ground and hydrogeological conditions associated with the site and surrounding area. This provided the basis for the assessment of the potential impacts of the proposed development (both during construction and during operation of the plant) on soil and hydrogeology.
- 3.71 As a result of historical land filling of highway construction waste materials on site, a considerable thickness of Made Ground (an area of land that has been man-made) is understood to be present on site. This material is underlain by natural superficial deposits, generally comprising Alluvium with horizons of peat, underlain by sand and gravel deposits.

- 3.72 A Principal Aquifer, associated with the Newhaven Chalk Formation underlies the superficial deposits. Principal Aquifers are classified by the Environment Agency and are of regional hydrological importance in supporting groundwater abstraction and supply. Indeed, the site is situated within a Groundwater Source Protection Zone (a Groundwater Source Protection Zone relates to the zone of influence around an abstraction borehole, within this Zone the groundwater is noted to be highly sensitive).
- 3.73 Groundwater within the superficial deposits was encountered at depths of between three and five metres below ground level. It is considered likely that any shallow groundwater is in hydraulic continuity (i.e. acting as a single water body) with groundwater in the deeper Chalk.
- 3.74 The baseline assessment identified limited soil and groundwater contamination. This is likely to be the result of both historic and current activities, which have included landfilling, as well as the storage of fuels and chemicals, particularly bitumen products associated with road construction.
- 3.75 The development of the site will be managed through the planning process. The relevant legislation with regard to ground contamination and water resources is the national planning policy Planning policy Statement 23 (PPS23). This requires an assessment of any potential contamination, combined with measures to prevent harm to human health and the wider environment. In particular, PPS23 requires a site to be suitable for its intended use.
- 3.76 The redevelopment of the site will therefore provide a significant opportunity to assess and remediate any contaminated soil and groundwater, effectively mitigating any detrimental impacts, which may have occurred. As a result, the development has the potential to be beneficial to soil and groundwater resources. In addition, the adoption of modern management practices via the Environmental Permit will minimise the potential for future contamination of soil and groundwater.
- 3.77 Mitigation measures will be required to prevent the accidental release of chemicals stored on site during the construction process, as well as potential fugitive emissions from the remediation of any contaminated soils and groundwater.
- 3.78 Since any other developments within the area will be managed through the same legislation, the cumulative impacts of the development of surrounding sites will be beneficial.

Air Quality

- 3.79 An assessment of the air quality effects associated with the operation and construction of the proposed Energy from Waste (EfW) Facility has been undertaken. Air quality at the Application Site is generally good. The nearest air quality management area (AQMA) is approximately 6 km south east.

- 3.80 An initial air quality assessment was carried out by Fichtner Consulting Engineers Limited in September 2009. The results from this assessment were used to inform the design of the development. This included establishing a stack height at which local building wake effects (where the buildings influence the dispersion and cause the a downstream turbine) were no longer significant, ensuring the adequate dispersion of pollutants. Since it was an initial assessment, the assessment only focussed on the pollutants which are the most important for the stack height determination. The results of the initial air quality assessment concluded that a stack height of 81 m is the optimum height required for the dispersion of pollutants. As part of the Environmental Impact Assessment process, detailed atmospheric dispersion modelling has been undertaken for an 81 m stack to predict the effects associated with emissions from the proposed development, during the operational phase.
- 3.81 Emissions from the Facility have been assessed through detailed dispersion modelling using best practice approaches. The assessment has been undertaken based on a number of worst-case assumptions. This is likely to result in an over-estimate of the contributions that will arise in practice from the EfW Facility.
- 3.82 The results of dispersion modelling indicate that predicted contributions and resultant environmental concentrations of all pollutants considered are of 'neutral' to 'minor adverse' significance. No significant adverse impacts were identified for air quality for any of the pollutants assessed nitrogen oxide (NO_x), sulphur dioxide (SO₂), ammonia (NH₃), acid and nitrogen deposition for any designated sites.
- 3.83 The air quality effects associated with changes in traffic flow characteristics on the local road network during operation have been assessed using the computer model; ADMS-Roads. The air quality effects associated with operational traffic are considered to be 'neutral' or not significant in the context of the relevant AQ standards and objectives.
- 3.84 Modern energy from waste facilities are designed to minimise the creation of substances which could be harmful to human health. This is achieved through a series of controlled processes which remove such substances. Modern energy from waste facilities will not gain planning permission or a permit to operate if they cannot demonstrate to the Environment Agency that they do not constitute a risk to local community health. To this end, a Human Health Risk Assessment (HHRA) has been prepared as part of the application and has modelled the worst case risk to the local community. The HHRA concludes that no significant adverse effects on health are predicted as a consequence of the operation of the facility. This is consistent with other studies undertaken for this type of application and the advice provided by the Health Protection Agency, in its Position Statement of September 2009, in which it reviewed research undertaken to examine the suggested links between emissions from municipal waste incinerators and effects on health. It reported that the Committee on

Carcinogenicity of Chemicals in Food, Consumer Products and the Environment has reviewed recent data and has concluded that there is no need to change its previous advice, namely that any potential risk of cancer due to residency near to municipal waste incinerators is exceedingly low and probably not measurable by the most modern techniques.

- 3.85 During the construction phase, dust nuisance effects and emissions from plant associated with on-site construction and the potential effects associated with emissions from construction vehicles on the local road network have been considered. The London Best Practice Guide has been used to establish the risk of causing potential air quality impacts during the construction phase and mitigation measures consistent with the level of risk have been identified. Effective implementation of the mitigation measures would ensure that the risk of nuisance dust is low. Mitigation of dust and dirt will be implemented through wheel washing during the construction phase and through vehicle sheeting and cleaning during the operational phase.

Noise and Vibration

- 3.86 The noise and vibration effects on residential and recreational receptors due to the construction and operation of the proposed Energy from Waste Facility at Lodge Lane, Great Blakenham, have been predicted and assessed in accordance with international, national and local standards and guidance. Long-term surveys have been undertaken to determine the baseline noise levels at locations representative of the potentially most affected noise sensitive receptors. Survey locations comprised five long-term noise surveys at separate locations in the area:

- No. 54 Chapel Lane;
- No. 35 Chapel Lane;
- Pantilles, The Common
- No. 80 The Meadows, Paper Mill Lane
- Northern Site Boundary (Lodge Lane)

- 3.87 Noise emissions during the construction and operation of the facility have been predicted using a detailed computer noise model. The model included noise emissions from both continuous and impulsive noise sources, such as vehicle reversing signals.

- 3.88 The results of the noise and vibration assessment indicate that the project can be designed to meet noise criteria set by Suffolk County Council. The greatest noise effect would occur during the night-time and be “of marginal significance”, in accordance with the assessment methodology contained within British Standard (BS) 4142 ‘Method for Rating industrial noise affecting mixed residential and industrial areas’.

Amenity

- 3.89 The operation of the proposed EfW Facility will be subject to the requirements of the Environmental Permit issued by the Environment Agency. All waste handling activities will be undertaken within enclosed buildings, minimising the scope for generating litter or attracting scavenging birds or any other pests and vermin. Good housekeeping techniques will also be implemented at the facility as part of the Environmental Management System to be implemented under ISO14001 which will include pest control.
- 3.90 Consequently, the potential for any adverse effects on local amenity is considered adequately mitigated through the use of good practice procedures associated with good waste management practices.

RPS