**HERTFORDSHIRE COUNTY COUNCIL**
**DEVELOPMENT CONTROL COMMITTEE**
**WEDNESDAY 20 DECEMBER 2017 AT 10.00 AM**

Agenda Item No.

**1**

BROXBOURNE BOROUGH

# APPLICATION FOR PROPOSED DEMOLITION OF BUILDINGS AND STRUCTURES ASSOCIATED WITH EXISTING RAIL AGGREGATES USE AND CONSTRUCTION AND OPERATION OF AN ENERGY RECOVERY FACILITY FOR THE TREATMENT OF MUNICIPAL, COMMERCIAL AND INDUSTRIAL WASTES; IMPORTATION, STORAGE AND TRANSFER OF LOCAL AUTHORITY COLLECTED HEALTHCARE WASTE TOGETHER WITH ANCILLARY INFRASTRUCTURE INCLUDING ADMINISTRATION/VISITOR CENTRE; INCINERATOR BOTTOM ASH STORAGE SHED; GRID CONNECTION COMPOUND; CAR, HGV, BUS AND VISITOR PARKING AREAS; RAIL SIDINGS IMPROVEMENTS; WEIGHBRIDGES AND WEIGHBRIDGE OFFICE; 2 PORTACABIN OFFICES; SPRINKLER TANK AND PUMP ROOM; DRAINAGE CONNECTION TO RIVER LEE; SECURITY FENCING; LANDSCAPING AND HIGHWAY IMPROVEMENTS TO RATTYS LANE AT LAND AT 2, RATTY'S LANE, HODDESDON, EN11 0RF.

*Report of the Chief Executive and Director of Environment*

Contact: Rob Egan Tel: 01992 556224

Local Member: Tim Hutchings
Adjoining Members: Paul Mason and Eric Buckmaster

## 1. Purpose of Report

1.1 To consider planning application reference 7/0067-17 for the proposed demolition of buildings and structures associated with existing rail aggregates use and construction and operation of an energy recovery facility for the treatment of municipal, commercial and industrial wastes; importation, storage and transfer of local authority collected healthcare waste together with ancillary infrastructure including administration/visitor centre; incinerator bottom ash storage shed; grid connection compound; car, HGV, bus and visitor parking areas; rail sidings improvements; weighbridges and weighbridge office; 2 portacabin offices; sprinkler tank and pump room; drainage connection to River Lee; security fencing; landscaping and highway improvements to Ratty's Lane at land at 2, Ratty's Lane, Hoddesdon, EN11 0RF.

Procedural matters

1.2 The planning application is accompanied by an Environmental Statement (ES) as part of the Environmental Impact Assessment Regulations 2011.

1.2 A Scoping Report was submitted to the Waste Planning Authority (WPA) of Hertfordshire County Council in April 2016. Following consultation, the WPA issued a Scoping Opinion in June 2016.

1.3 Further to the submission of the application, the applicant submitted addendums to the ES for the consideration of the local planning authority. These addendums primarily relate to the submission of a revised Flood Risk Assessment, together with changes to the highway access arrangements. In addition, the addendums also included further technical information that the WPA had requested under Regulation 22 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011. The submission of the addendums necessitated a re-consultation exercise, with all original consultees being consulted on the details of the addendums.

## 2 Summary

2.1 The establishment of an Energy Recovery Facility (ERF) at Ratty's Lane will allow the County Council, in its role as Waste Disposal Authority, to deal with all residual Local Authority Collected Waste (LACW) arisings within the county. Residual waste is the element of LACW that is left after all re-usable and recyclable elements have been removed. At present, this waste is either sent to landfill sites for disposal, or is exported from the county for incineration at alternative facilities. The proposed ERF will allow the residual waste to be moved up the waste hierarchy when compared to landfill as it would facilitate the production of partly renewable energy. The creation of such a facility within Hertfordshire would also allow residual LACW to be treated much closer to its origins, cutting down on transportation costs and disposal fees.

2.2 Although the Ratty's Lane site is not within any of the preferred areas designated by the County Council within its Waste Core Strategy, the site offers a sustainable location on Previously Developed Land that also consists of a designated employment site. Consequently, the location of the proposed development accords with the Waste Core Strategy.

2.3 The environmental impacts of the proposed ERF have been assessed at length. In terms of noise and vibration, it is likely that one nearby residential property as well as houseboats in the vicinity of the site will be adversely affected, but only during the period of construction of the facility. Once the ERF is operational, noise and vibration will not affect these.

2.4 Other environmental impacts, including the likely impact upon air quality, hydrology and hydrogeology, and health, have all been analysed and assessed, with the conclusions being that the development will not result in significant adverse impacts upon these.

2.5 The primary significant impact of the development will be in terms of its visibility within the landscape and upon identified receptors within the vicinity of the site. Appropriate mitigation, primarily through landscaping, will assist in softening these impacts, but it is also proposed to seek further mitigation through the provision of financial contributions, by way of a Section 106 Agreement, to provide further mitigation through environmental enhancements of the adjacent water corridor and within the Lee Valley.

2.6 In addition, the likely impact of the development upon ecology has been thoroughly assessed, concluding that any such impacts will be adequately mitigated through habitat creation, with species being protected through the imposition of appropriate conditions.

2.7 The site abuts the boundary of the Metropolitan Green Belt. The relationship of the development with the Green Belt has been assessed and it is concluded that there will be no significantly adverse impact upon this. Likewise, the development will not have a significant detrimental impact on the historic environment within the vicinity of the site.

2.8 The proposed development will result in the loss of the existing rail aggregates depot that occupies the site. However, the Incinerator Bottom Ash (IBA) produced as a by-product of the incineration of the waste will be exported from the site by rail, being converted into a secondary aggregate, thus off-setting some of the loss of the depot. In addition, it has been demonstrated that other rail aggregates depots in the county and in Essex meet existing and future demand for such facilities, with the Ratty's Lane site being considered economically unviable as a result.

2.9 The benefits of the proposed ERF, providing a sustainable means of treating residual LACW generated within Hertfordshire, are considered to vastly outweigh any impacts of the development. It is considered that the development accords with the NPPF, the Waste Core Strategy and Broxbourne Borough Council's local plan. This report therefore recommends that planning permission be granted, subject to a number of conditions and subject to the completion of a Section 106 Agreement.

## 3. Description of the site and proposed development

The site and surroundings

3.1 This planning application has been submitted by Veolia ES (UK) Plc, a company set up with the specific intention of delivering Hertfordshire County Council's waste disposal contract. In April 2011, Veolia was appointed by the County Council – in its capacity as Waste Disposal Authority (WDA) – as the contractor to manage the municipal residual waste arisings within the county. The contract was for a period of 30 years. This culminated in a planning application being submitted in November 2011 for a Recycling and Energy Recovery Facility (RERF) at New Barnfield in Hatfield. The County Council resolved to grant planning permission for that facility in October 2012 but, following the application being 'called in' by the Secretary of State, planning permission was ultimately refused in July 2015.

3.2 Subsequent to this decision, a Revised Project Plan (RPP) was formulated by Veolia, which re-examined the alternative sites assessment that had been carried out with reference to the New Barnfield proposal. The outcome of this was the identification and adoption of the proposed development of an Energy from Waste facility (EfW) at Ratty's Lane.

3.3 The Ratty's Lane site is owned by Tarmac. It is currently industrial in nature, consisting of an aggregates railhead, with aggregates imported via the rail siding located within the site, together with an asphalt coating plant and a ready mixed concrete plant.

3.4 The application site is situated on the eastern edge of the town of Hoddesdon within the borough of Broxbourne. It is located approximately one kilometre to the east of Hoddesdon town centre. The community of Stanstead Abbotts is approximately 2.5 kilometres to the north of the site, with the village of Roydon being some 1.5 to 2 kilometres to the east. The application site stands within the Rye Park Industrial Estate.

3.5 Immediately to the east of the application site is the River Lee and its towpath. The river in this location is also the county boundary between Hertfordshire and Essex. The River Stort also joins with the River Lee in this location. The area alongside the river is managed by the Lee Valley Regional Park Authority. To the north of the site is a wooded margin separating the site from the river and, within this, is a large electricity pylon. Overhead power lines run south from this, crossing the south eastern portion of the application site.

3.6 Access to the site is gained via Ratty's Lane; a private no-through road that travels in a north-easterly direction from a roundabout off Essex Road. The main part of the application site is at the very end of Ratty's Lane, with access gained from the northern side of the road. The

application site also includes a lengthy rail siding that runs parallel to Ratty's Lane, together with Ratty's Lane itself, thus forming a crudely U-shaped application site. From the Essex Road roundabout, Ratty's Lane runs for approximately 625 metres before reaching the site entrance. Essex Road itself leads to the A1170 Dinant Link Road some 850 metres to the north-west of its roundabout with Ratty's Lane, with the A10 being located approximately 1.7 kilometres further on to the west. From its roundabout with Ratty's Lane, Essex Road also travels in a southerly direction, ultimately leading to villages within Essex on the opposite side of the Lee Valley such as Lower Nazeing, Nazeing, Roydon Hamlet and Roydon.

3.7 The London Liverpool Street to Bishop's Stortford (and beyond) railway line runs alongside the western boundary of the site, from which the rail sidings is served. Beyond this, to the north of the site and on the opposite side of the River Lee, are the Rye House Kart Circuit and the Rye House Stadium, which hosts speedway events. Beyond this again to the north is a large Thames Water sewage treatment works, Rye Meads.

3.8 Industrial premises within the Rye Park Industrial Estate are located to the north-west, west and south-west of the application site. Adjacent to the application site to the south-west, with access off Ratty's Lane, is the Rye House Power Station, operated by Scottish Power. On the opposite side of Ratty's Lane is a sustainable energy centre, consisting of an Anaerobic Digestion (AD) plant and an Advanced Thermal Treatment (ATT) facility, which was granted planning permission by the County Council in March 2012. This facility is presently under construction.

3.9 To the east of the application site on the opposite side of the River Lee, the land is generally rural in character comprising a mixture of lakes within the valley bottom of the Lee and, beyond these, woodland and agricultural fields as the land rises out of the flood plain. This side of the Lee valley is also characterised by the presence of substantial greenhouses associated with market gardening.

3.10 A Local Wildlife Site is located approximately 20 metres south of the application site within the Rye House Power Station site. Approximately 230 metres to the north, beyond the Rye House Stadium, are wildlife reserves consisting of the Rye Meads Site of Special Scientific Interest (SSSI), a Special Protection Area (SPA), and a Ramsar site. These consist of a mixture of marsh land and lagoons, which are designated for their range of birds and wetland mammals.

3.11 The nearest residential property is located at Lock Keeper's Cottage, some 20 metres to the east of the eastern boundary of the planning application site; this occupies an island between the River Lee navigation and the River Lee. A further residential property is Glen Faba, located approximately 50 metres beyond Lock Keeper's Cottage

at the confluence of the Lee and Stort rivers. A number of long-term leased moorings are present on the River Lee above the lock, directly to the east of the application site. The nearest accumulation of residential properties is to the north west of the site where a relatively small residential estate is situated adjacent to the River Lee off Normandy Way in Hoddesdon. The closest of these properties are approximately 370 metres from the proposed development. Further residential properties are located on the Rye Park estate in Hoddesdon, again to the north west of the site, with the closest of these being 450 metres from the site. Residential properties at Dobb's Weir to the south of the application site are located approximately one kilometre away.

3.12 The application site is predominantly flat, although the railway line running along the north western boundary is raised in comparison to the site. The site is also predominantly located within Flood Zone 3, as defined by the Environment Agency.

3.13 Existing operations consist of the importation of aggregates to the site via rail, and these are then stockpiled within the site by means of conveyors before being exported from the site by road. The conveyors run from the rail head along the length of the sidings before feeding the storage bays located along the south-western boundary of the site. An aggregates processing plant and asphalt coating plant are also located within the site, together with a site office and weighbridge. An above-ground oil tank is located adjacent to the main plant, and an electricity sub-station is located in the north-eastern part of the site.

<u>The proposed development</u>

3.14 The proposed ERF will have a nominal annual capacity of 320,000 tonnes of residual municipal waste, with a maximum capacity of 350,000 tonnes per annum. Residual municipal waste is the waste that has been collected by the local authorities within Hertfordshire and which is left after re-use, recycling and composting initiatives have taken place. If the capacity of the facility is not reached, the shortfall will be made up of commercial and industrial waste of a similar nature, being waste that has been collected from commercial and industrial premises.

3.15 The proposed ERF will predominantly consist of a new freestanding building, which will consist of the following elements:

- A Tipping Hall for the reception of the waste, including an array of Air Cooled Condenser (ACC) units positioned above;
- A Reception/Tipping Hall approach ramp;
- Waste Bunker, where waste is stored, mixed and fed into the combustion plant;
- Boiler Hall, housing the combustion plant and boiler system that generates superheated steam;

- Turbine Hall, which houses a turbine to generate electricity from the steam;
- Workshops/stores/electrical areas;
- Flue Gas Treatment area and associated silos, which provide the clean-up of the gases produced by the combustion process;
- Twin exhaust stacks;
- Fuel storage bunds;
- Administration/visitor block.

3.16 Other ancillary structures within the site will include:

- Four weighbridges;
- A weighbridge office and driver welfare facilities;
- Electrical grid connection compound;
- Incinerator Bottom Ash (IBA) storage shed;
- Car, HGV, visitor and bus parking areas;
- Cycle racks and motorcycle spaces;
- Healthcare waste transfer area;
- Two portacabin offices for use by contractors;
- Site access and internal roads and landscaping.

3.17 The ERF building will have a roughly rectangular footprint, with a maximum length of 149.6 metres and a maximum width of 54.5 metres. The building will have an overall height of 48 metres above ground level. In addition, twin stacks will rise to 86.75 metres above ground level.

3.18 An administration and visitor centre building extends out of the north-eastern side of the ERF, increasing its overall footprint and width in this location, with this element having an approximate length of 27.8 metres and width of 9.5 metres. The admin/visitor centre is seven storeys in height, having a total height of 33.3 metres above ground level. On level 4 of this facility, a viewing gallery will protrude from the admin/visitor centre along the north-eastern elevation of the main building, which will have an approximate length of 19 metres and width of 4 metres.

3.19 A tipping hall ramp will skirt from the entrance of the site off Ratty's Lane around the north-eastern perimeter, allowing waste vehicles to tip directly into the tipping hall within the ERF building at third storey level, being some 10.91 metres above ground level. The entrance to the tipping hall is within the north-eastern elevation of the building.

3.19 A conveyor will lead from the ERF building to the IBA shed, located alongside the railway sidings. This shed will be long and thin, rectangular in footprint, with a length of 120.37 metres and a width of 10 metres. It will have a ridged roof, with a maximum height of 10.23 metres.

3.20 Close to the site access will be a weighbridge office building. There will be a total of four weighbridges associated with the facility; two for the importation of waste, and two for weighing vehicles leaving the site. The weighbridge office building will be rectangular and will measure 10.43 metres by 4.5 metres. It will have a flat roof with a height of 4.12 metres.

3.21 All waste imported to the site will arrive by road. The existing rail sidings will be used for the exportation of IBA from the site. Should these be temporarily unavailable, it may be necessary to remove IBA by road. Other vehicles, either removing Flue Gas Treatment (FGT) residues or delivering consumable to the site, will use the internal circulation roads to access doors on the ground level of the ERF building.

3.22 It is anticipated that there will be a total of 268 HGV movements (134 in, 134 out) once the site is operational.

Planning history

3.23 From information provided by the applicant, it is suggested that the land was undeveloped and open until the late 1940s, when ground workings became evident on the site but no buildings were present. Aerial photography from 1960 shows sidings traversing the site.

3.24 Planning permission was subsequently granted on 9 December 1983 for a rail-served aggregates depot with processing plants for manufacture of coated roadstone and ready mixed concrete, reference 7/464/1983. However, the ready mixed concrete plant has never been built. This is the extant permission that the site currently operates under. This permission is subject to 28 conditions, with a number of these being highlighted by the applicant as being relevant to the present proposals:

- Condition 9 of the permission restricts the operational hours to most of the activities at the site to 6am to 6pm on Mondays to Fridays, and 6am to 12.30pm on Saturdays. The unloading and storage of material from rail deliveries and the use of office buildings are excluded from this restriction, although no operations are permitted at the site on Sundays or public holidays.
- Condition 12 of the permission states that all bulk deliveries, with the exception of sand, gravel, filler, bitumen and cement, shall be brought to the site by railway, only in wagons that are partially enclosed and are capable of being close-coupled.
- Condition 21 of the permission restricts lorry movements out of the site to 100 per day (200 overall movements per day), with no more than 10 per day turning left at the junction of Ratty's Lane and Essex Road.
- Condition 19 requires that all vehicles use the prescribed access.

- Condition 10 states that noise from operations shall not exceed 65dB(A) when measured at a height of 1.2 metres and at least 3.6 metres away from any walls or other reflective surfaces of an inhabited building.

3.25 In 2012, Veolia submitted a Development Consent Order (DCO) application for the construction of a Power Station at the application site, to be powered by Solid Recovered Fuel (SRF) and natural gas. This application was in connection with the company's bid for the North London Waste contract. Veolia withdrew both its bid and the application before the DCO application could be determined.

## 4. Consultations

4.1 Borough of Broxbourne

*Original consultation response*

Initial objection in principle on the basis that the application is contrary to the key determining policies of the Development Plan and that it is therefore contrary to the Development Plan as a whole. Also extremely concerned by the process that has been followed by Veolia and the County Council as waste disposal authority to promote the largest waste facility in the history of Hertfordshire on a site that is contrary to the provisions of the Development Plan, raising serious questions about the respective roles of the County Council as waste disposal authority and waste planning authority and the apparent lack of empathy between those roles.

The Borough Council further invites Hertfordshire County Council to jointly recommend to the Secretary of State that the application be called-in prior to determination by the County Council.

The Borough Council also raises concerns with the methodology undertaken in respect of transport and traffic modelling.

*Further consultation response*

Expands on the initial objection on the following grounds:

1. That the facility does not contribute positively to the character and quality of the area and is not in accordance with the planning strategy in the Local Plan, contrary to the terms of the National Planning Policy for Waste 2014;

2. It is a departure from the Hertfordshire Waste Development Framework Waste Core Strategy and Development Management Policies DPD 2012 in that it is contrary to the terms of Policy 1: Strategy for Waste Management Facilities;

3. It is a departure from the Hertfordshire Minerals Plan Review 2007 in that it is contrary to Minerals Policy 10 – Railheads and Wharves;

4. The proposed development represents an unsustainable solution for the management of local authority collected waste, contrary to the principles and policies of the National Planning Policy for Waste and the Development Plan, consisting of the Hertfordshire Waste Development Framework Waste Core Strategy and Development Management Policies DPD, 2012, the Hertfordshire Minerals Plan Review 2007 and the Broxbourne Local Plan 2005;

5. The proposed development constitutes an inefficient and unsustainable form of energy recovery in that it fails to provide for a Combined Heat and Power Network;

6. The constrained site results in a facility that by reason of its bulk and height would lead to the delivery of an unacceptable design solution that fails to contribute positively to the character and quality of the area, contrary to the terms of the NPPF, the National Planning Policy for Waste 2014 and the Development Plan;

7. The proposed development would exacerbate unacceptable and unsustainable levels of severe congestion on Essex Road, contrary to the terms of the National Planning Policy Framework and the Development Plan;

8. The applicant has failed to put in place an acceptable framework for the management of traffic to the facility in relation to the constraints of Ratty's Lane and the residential impacts on the local highways network, contrary to the terms of the National Planning Policy Framework and the Development Plan;

9. The proposed development would have a significant unacceptable visual impact on the wider character of Hoddesdon and the surrounding area;

10. The proposed development would have a significant unacceptable impact on the Green Belt contrary to the NPPF and the Development Plan;

11. The proposed development would have an unacceptable economic impact on local businesses in terms of traffic congestion and business perceptions, contrary to the NPPF; and

12. Insufficient/misleading information has been submitted by the Applicant in respect of:

    1. Views of the development;
    2. The assessment of traffic impacts;
    3. The assessment of refuse vehicle emissions;

4. De-commissioning;
5. The ability to meet the required operating temperatures;
6. The polluting impacts of the development; and
7. The storage of ammonia.

Further raise concern that the County Council has failed to conclude an assessment of options for a suitable network of facilities to deliver sustainable waste management and to recommend to the County Council that it instigates immediate work to commence a Waste Local Plan that provides a suitable network of facilities to deliver sustainable waste management, as recommended by national policy.

In the event that planning permission is granted, this Council seeks the inclusion of the following conditions:

1. Facility not to come into use until the Essex Road Bridge improvement scheme is in operation;
2. Combined Heat and Power requirement;
3. Chimney height limitation;
4. De-commissioning strategy;
5. Delivery vehicles management plan;
6. Construction Management Plan;
7. Lighting control strategy.

In the event that planning permission is granted, this Council seeks mitigation of the effects of the development through the following Heads of Terms for a Section 106 Agreement:

1. financial contribution towards Hoddesdon Town Centre;
2. financial contribution towards the mitigation of congestion on Essex Road;
3. financial contribution to environmental enhancement of Hoddesdon Business Park;
4. financial contribution towards the regeneration of the Rye Park area.

Both responses from Broxbourne Borough Council, together with their respective committee reports, are attached at Appendix A.

4.2 Broxbourne Borough Council – Environmental Health

Objects to the planning application due to the outstanding matters related to Air Quality, Noise, Odour and Land Contamination. We believe the operation of the Energy Recovery Facility will have a negative impact upon residential receptors in proximity to the facility, in addition to the wider area along the traffic routes, where transport related pollutants such as nitrogen dioxide and Particulate Matter ($PM_{10}$'s) will inevitably increase. In addition raises concerns relating to the Dispersion Modelling that has been carried out.

A full copy of the response is attached at Appendix A.

4.3 East Herts District Council

*Original consultation response*

Does not object, but makes comments on the application.

In respect of landscape character and visual impact, requests that the full impact of the development, including views from within East Herts, is assessed, with appropriate mitigation being controlled by condition.

Seeks assurances that the implications of traffic generation, highway capacity and highway safety have been fully assessed including an disaster scenarios such as the A10 being closed due to high wind at the viaduct. Would also wish to see an assessment of traffic on the character and amenities of residential areas.

In respect of air quality, seeks assurances that appropriate processes and mitigation measures will be incorporated so that there is no adverse impact in this regard.

The full response is attached at Appendix A.

4.4 Stanstead Abbotts Parish Council

*Original consultation response*

Objects to the proposed development.

Stanstead Abbotts borders the employment area in Broxbourne Borough where the proposed incinerator would be constructed. It will have an enormous visual impact on the more rural parts of this Parish and the chimneys emitting noxious waste will rise to about the same height as some areas. Residents and visitors enjoy the vistas around the River Lea and the Lea Valley Park as anyone who follows our Community Facebook page can see: many striking photographs are regularly posted there and we have great pride in our environment. The site is very close to the Travelling Showpeople site - a site which our Parish is proud of and we want to see protected from the effects of yet more industry.

The development is alarming in its scale but also because of its siting adjacent to a gas-fired power station. We heard the explosion from Buncefield, Hemel Hempstead here and we want no risk of any similar conflagration from this dangerous mismatch of neighbouring facilities.

We believe that the 4R approach to rubbish is by far the best solution for the environment and not technology which will be out of date by the time the incinerator would be completed. As well as this we are aware

that DEFRA made it known to Hertfordshire County Council in 2012 that national targets for incineration of waste were already being met.

The necessary continuity in terms of processing, its vehicular access, and its assumptions made in terms of flood prevention, ash recovery, and river discharge, amongst other issues mean that we OBJECT to the scheme.

Objections have been made on 34 individual grounds.

The full response to the application is at Appendix A.

4.5 Roydon Parish Council

*Original consultation response*

Objects to the proposal.

The size of the development and its lighting will result in visual impact and light pollution on sensitive areas in the vicinity and wider landscape.

Potential for HGV traffic to run through Roydon and Nazeing, which would be unacceptable. More train movements would also result in the level crossing at Roydon being closed more often.

The submitted information on air quality is considered vague. The threat of the emission of ultra-fine particles is of concern and it is imperative that waste that should not be incinerated is identified when it arrives at the facility. Also, the surrounding topography means that the valley location of the application site will result in emissions landing on higher ground such as in Roydon village.

Requests that pollution monitoring equipment be provided within Roydon, at the applicant's cost.

The full response is attached at Appendix A.

4.6 Nazeing Parish Council

*Original consultation response*

Nazeing Parish Council strongly objects to the proposal for the following reasons:-

1. The likely detrimental traffic impact upon Nazeing's road network.
2. The unsuitability of the proposed location for the facility.
3. The health risks associated with the functioning of waste disposal incinerators.

The full response to the application is at Appendix A.

4.7 Hunsdon Parish Council

*Original consultation response*

Hunsdon Parish Council would like to endorse the response made by our neighbouring Parish Council, Stanstead Abbotts and it surely shares its concern regarding atmospheric pollution and sympathises with the problems created by HGVs servicing the facility.

4.8 Eastwick and Gilston Parish Council

*Original consultation response*

Eastwick and Gilston Parish Council would like to support Stanstead Abbotts Parish Council's response to this application and object and support their views.

4.9 Hertford Heath Parish Council

*Original consultation response*

Objects to the application on the following grounds:

1. The anticipated daily HGV movements would be in the region of 268 journeys, receiving waste between 5am and 9pm, 7 days a week. Whilst the council assumes that these movements would be restricted to the nearby motorways, it should be noted that if the A10, M25 or A1 were closed or heavily congested, the B1197 London Road would be an attractive alternative route to the site. The council feels strongly that this would constitute a totally unacceptable outcome even for a few hours based on the traffic numbers provided above. It is also worth noting that there is a 7.5 tonne limit on London Road, but this restriction is not policed regularly, if at all, therefore not providing a proper deterrent for drivers unfamiliar with the roads.
2. The planning application made no reference to the level of emissions that the incinerator would generate. This is of great concern to the council as Hertford Heath is on high ground (300 meters above sea level) and is likely to suffer any negative effects from potentially harmful emissions before any of our neighbouring towns or villages. It was noted that as the aroma emanating from the pitta bread factory, situated immediately to the south of the proposed site, can be regularly experienced in Hertford Heath, so would any fumes from the incinerator constituting a severe decline in air quality. This would be a concern for any resident, especially those with existing health concerns, plus the wildlife and livestock that inhabit the village surrounds.

4.10 Epping Forest District Council

*Original consultation response*

Objects to this application. It is not considered that this is a suitable location for the Energy Recovery Facility, being right on the edge of our district, the Green Belt and a SSSI. There is pollution concerns, control on HGV movement that needs strictly enforcing and the building is far too excessive in size such that it causes visual harm to this part of Epping Forest District from where it will be too conspicuous.

It is disappointing that where we are all generally being encouraged to show duty to cooperate between Councils, that there has been no pre-planning application discussion with our authority over this proposal, until now, when the planning application is fully detailed out.

The full response to the application is at Appendix A.

4.11 Harlow Council

*Original consultation response*

Harlow Council has no objection to the proposal as, on the basis of the information submitted, and with specific regard to impacts on the Harlow district only, any visual, landscape, traffic, pollution and other environmental impacts would be of low significance. However, comments from the other consultees suggest that the impacts of the development on areas outside the district will be significant. The submission of additional information to address the issues is therefore recommended.

4.12 Essex County Council

*Original consultation response*

The proposed development would allow Hertfordshire to manage its own municipal waste arisings within the county and therefore help meet the ambitions of the memorandum of understanding for waste planning authorities to become net self-sufficient for their own waste management needs, something that is supported by ECC.

ECC as adjoining Highway Authority has assessed the submitted information and has concluded that, amenity impacts aside, there will be no detriment to highway safety, efficiency or capacity within Essex as a result of the development. Routing of HGVs to and from the A10 should, however, be controlled by way of the Section 106 Agreement.

You will be particularly aware that the planning application has provoked considerable local opposition from Essex residents, especially those living in close proximity to the site.

In this respect ECC seeks assurances that HCC will fully consider the application in detail and assess all the potential environmental impacts before making a decision. Such impacts include the design, large scale and mass of the facility, including the stack height, and the impact the development would have on the locally sensitive landscape in Essex and Lee Valley Regional Park. Furthermore, the impact of emissions from the facility should be fully considered and assurances provided that there would be no detrimental health impact upon Essex residents. This is especially pertinent given the prevailing winds are likely to disperse emissions towards Essex. ECC is also aware that there are significant local concerns about the impacts of heavy traffic in the surrounding area and the potential adverse impacts on amenity this could have.

The full response is attached at Appendix A.

4.13 Welwyn Hatfield Borough Council

*Original consultation response*

Whilst this proposal is of general interest given the background to the County's search for an energy from waste plant site in Hertfordshire, and the New Barnfield case at Hatfield, we have no observations on this particular proposal.

4.14 Lee Valley Regional Park Authority

*Original consultation response*

Members expressed strong objections regarding the size of the building, the effects on nocturnal wildlife due to light spillage from the translucent panels at night, noise and pollution caused by HGVs using an access ramp at the front of the building and the fact that the site is not in Hertfordshire County Council's waste allocation area.

(1) the Authority objects to the proposed development given its likely adverse impacts on the visitor amenity, ecology and landscapes of the Regional Park and in particular the adjoining waterway corridor at Fieldes Weir and Glen Faba. However, if planning permission is granted then it requires planning obligations to:

(a) secure the production and implementation of a detailed landscaping scheme together with a Landscape Management and Maintenance Plan, and

(b) secure a contribution of £268,000 towards visitor infrastructure improvements within the Nature Improvement Area at Glen Faba to compensate for the significant adverse effects on the visual amenity of Park users;

(2) the Authority also seeks the imposition of conditions requiring that:

(a) further detailed work is carried out and submitted in advance of any development to clarify the impact of construction and operational lighting, building design and operation of the Energy Recovery Facility on the ecology of the adjacent Park areas;
(b) detail is provided on how pedestrian and cycle access between the site and adjacent towpath are to be secured and managed;
(c) the Traffic Management and lorry routing system agreement covers both construction and operational traffic; and

(3) the Authority would wish to be consulted on the above matters in due course.

4.15 Canal & Rivers Trust

*Original consultation response*

The main issues relevant to the Trust as statutory consultee on this application are:
a) Impact on the character and appearance of the waterway corridor.
b) Impact on the water quality of the waterways due to the drainage proposals
c) Impact on the biodiversity of the waterway corridor.

On the basis of the information available our advice is that permission should not be granted due to the impact of the proposed development on the character and appearance of the waterway corridor. However, should the County Council be minded to grant planning permission, suitably worded conditions and a legal agreement are necessary to help mitigate against these matters.

The full response to the application is attached at Appendix A.

4.16 The Hoddesdon Society

*Original consultation response*

Strongly objects to the application.

Preliminary objections are as follows: unacceptable impact on the viability and resilience of our town centre; the undermining of the commercial viability of the Hoddesdon Business Park and its future economic potential; unsuitable road access, the Essex Road Pindar Road junction being of particular concern; diminished air quality; visual impact and its effect on well-being; damage to the adjacent green belt and the Lee Valley Regional Park and the effect on biodiversity assets. The Park Authority, has lodged an objection so we will not rehearse the concerns they have expressed and we support. Inadequate monitoring of adverse environmental impacts, noise, smell and the cumulative impact of 3 facilities on neighbouring sites.

Also, the unsuitability of the site, which has been recognized by the planning inspectorate, the SOS, Veolia and Herts CC., this includes physical constraints and its inappropriate location in both terms of waste arisings, its situation in a valley bottom in a Grade 3 flood risk zone. We conclude with evidence to show that this site does not meet any of your waste site assessment criteria.

*Further consultation response*

The Hoddesdon Society believes the proposal to be deeply flawed. The additional information submitted by the applicant does not lessen existing concerns but raises more objections and requests for further information.

We draw attention to fundamental information missing from the application. There is no recent Socio-economic Impact Assessment, no Environmental Impact Assessment[ EIA] for the Lee Valley Nature Improvement Area [NIA ] and no impact assessment of Hoddesdon's cultural heritage.

Issues regarding the protection of water quality, flood risk management, landscape and visual impacts, nature conservation, conserving the historic environment, traffic and access, air emissions are set in the context of the Locational Criteria given in NPPW [ *Appendix B of National planning policy for waste].* No mitigation is suggested to compensate for the clear unsuitability of the site. Finally we question the need for this facility because in house treatment at any price is not advised by DCLG especially if there will be overcapacity in the region.

The full responses are attached at Appendix A.

4.17 Hertfordshire County Council – Highways Authority

The Highway Authority has considered the impact of this development on the local highway network based on a detailed review of the applicant's Transport Assessment and subsequent analysis. In doing so the Highway Authority has taken account of the National Planning Policy Framework (March 2012) which places significant weight on the need to support economic growth through the planning system, and the statement within the policy that "development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe".

The Highway Authority is satisfied that the analysis of the traffic impact of the development is robust and will not have a severe adverse effect on the local highway or primary route network subject to the imposition of a number of conditions and Section 106 requirements.

The full response is attached at Appendix A.

4.18 Hertfordshire County Council – Public Health Service

*Original consultation response*

Accepts the Health Impact Assessment's conclusions that the risks to health from the proposed facility are minimal, which is supported by Public Health England advice. Therefore, does not object, but advises that conditions be imposed seeking:

1. Air quality monitoring be required during both the construction and operation of the facility, which should include monitoring for $PM_{2.5}$.
2. That community engagement be continued through the establishment of a Community Liaison Group and establishment of a community complaints procedure.

4.19 Broxbourne Borough Council – Environmental Health

*Original consultation response*

Objects to the proposed development.

In respect of air quality, there is serious concern with the additional 300 vehicle movements per day, with no data on the emissions standards of the vehicles or any proposals on mitigation measures to reduce nitrogen dioxide, $PM_{10}$ or $PM_{2.5}$ emissions. Considers that the additional vehicle movements associated with the ERF will inevitably compound the poor air quality along these routes and affect members of the public and residential receptors.

In respect of odour, there has been no examination of how odour will be handled or where it is proposed to be stored. Therefore, it is not clear if the odour impact potential of this material has been sufficiently considered.

Noise monitoring carried out in 2011 and 2012 is no longer representative of local conditions due to the time elapsed. Some residential receptors have not been included in noise monitoring.

In respect of land contamination, investigations were carried out in 2011, whereas the legislation has changed since that time. Also, the scope of the ground investigations was not conclusive.

The full response is attached at Appendix A.

4.20 Hertfordshire County Council – Local Lead Flood Authority

*Original consultation response*

The submission does not satisfactorily address how to drain the whole site and mitigate any potential existing surface water flood risk. The

LLFA's main concern is the location of the site in a protected floodplain, and the consequential risk of combined flooding from the river and from surface water.

In order for the LLFA to advise the relevant Local Planning Authority that the development will not increase flood risk to the site and elsewhere and can provide appropriate sustainable drainage techniques, the applicant should include the following in the drainage strategy:

- Detailed exceedance routes need to be assessed and identified for rainfall events that exceed the 1 in 100 year + climate change event and combined with any fluvial flooding. In addition any exceedance routes proposed for flood management on the site should be shown on a plan.
- Surface water calculations should take account of the whole site area not just impermeable areas. The runoff rates that are generated by the whole site should be provided, this should include all rainfall events up to and including the 1 in 100 year + climate change event. Permeable areas will generate runoff at greenfield rates, and it will need to be conveyed by the proposed drainage scheme therefore the required attenuation volumes and run-off rates should reflect this.
- As part of a detailed planning application we would expect to review detailed design and engineering drawings for the system and each component of the proposed SuDS scheme.

*Further consultation response*

Following the submission of the revised Flood Risk Assessment, the LLFA has no objection on surface water flood risk grounds. The LLFA can advise the Local Planning Authority that the proposed development site can be adequately drained and mitigate any potential existing surface water flood risk if carried out in accordance with the overall drainage strategy. This is subject to the imposition of two conditions as follows:

1. Submission of a detailed drainage strategy.
2. Submission of a detailed drainage layout.

The full responses are attached at Appendix A.

4.21 Environment Agency

*Original consultation response*

Having reviewed the information submitted, we have some serious concerns over the fluvial flood risk aspects of the development. We are currently in talks with the applicant and are in the process of reviewing additional information to see if these problems can be resolved.

*Further consultation response*

Has reviewed all the additional information and has no objection to the proposed development, subject to the imposition of 11 conditions. Without these conditions the development would pose an unacceptable risk to the environment and the EA would wish to object. The conditions relate to:

- Ensuring that finished floor levels of the development provide a minimum 300mm freeboard above flood waters.
- Submission of a remediation strategy to deal with contamination.
- Submission of a verification report demonstrating that the remediation strategy has been followed.
- Submission of a monitoring and maintenance plan with respect to groundwater contamination.
- Should contamination be found, all works to cease pending remediation.
- A scheme to be submitted for managing any borehole that has been installed for the investigation of soils, groundwater or geotechnical purposes.
- Piling using penetrative methods should not be carried out unless agreed in writing.
- No drainage systems for the infiltration of surface water into the ground shall be carried out without express consent.
- A plan to be submitted dealing with the protection and/or mitigation of Great Crested Newts.
- Submission of a method statement for dealing with invasive species.
- Submission of a method statement/construction environmental management plan.

The full response is attached at Appendix A.

4.22 Thames Water

*Original consultation response*

Requires submission, by way of condition, of a drainage strategy detailing any and/or off site drainage works, with no discharge of foul or surface water from the site until the approved drainage works have been completed.

Requires that a further condition be imposed detailing water supply infrastructure needs for the development, and that development shall not commence until details have been submitted to and approved by the Local Planning Authority in consultation with Thames Water, of how the developer intends to ensure the water abstraction source is not detrimentally affected by the proposed development both during and after its construction.

The full response is attached at Appendix A.

4.23 Historic England

*Original consultation response*

On the basis of the information available to date, we do not wish to offer any comments. We suggest that you seek the views of your specialist conservation and archaeological advisers, as relevant.

4.24 Hertfordshire County Council – Historic Environment

*Original consultation response*

The development is likely to have an impact on heritage assets of archaeological interest. Consequently, it is recommended that conditions covering the following should be imposed:

- Submission of an Archaeological Scheme of Investigation.
- The development shall be carried out in accordance with the Scheme of Investigation.
- The development shall not be occupied/used until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation.

*Further consultation response*

Advice remains the same as previous.

The full response is attached at Appendix A.

4.25 Hertfordshire County Council – Waste Management Unit

*Original consultation response*

The Waste Disposal Authority would welcome the development of this facility.

4.26 Hertfordshire County Council – Landscape

*Original consultation response*

In conclusion the proposed development results in significant residual adverse landscape and visual effects, largely due to its large height, scale and mass within a sensitive urban-rural edge location on the boundary of the LVRP.

Landscape mitigation has been provided along the north eastern site boundary and provides an effective screen to the lower portion of the building, as well as reinforces the character of the river Lee corridor.

However there remains concern for the significant landscape and visual effects as a result of the upper portion of the main building and stacks due to their excessive height, scale and mass, and the use of transparent glazing materials. It is suggested that the opportunity to reduce the buildings vertical emphasis and avoid transparent glazing, would help provide additional mitigation. However, residual landscape and visual effects would remain unavoidable, and under this circumstance industry good practice guidance promotes the consideration of opportunities to provide compensation.

The full response to the application is attached at Appendix A.

4.27 Natural England

*Original consultation response*

Based on the plans submitted, Natural England considers that the proposed development will not have significant adverse impacts on designated sites and has no objection.

The full response to the application is attached at Appendix A.

4.28 Herts and Middlesex Wildlife Trust

*Original consultation response*

The proposals indicate that 1.5 ha of great crested newt, bird, reptile and amphibian habitat for foraging and shelter will be destroyed. No direct, quantified compensation has been proposed for this loss. It is suggested that this will be compensated through the EPSML, but insufficient details have been provided to enable these impacts to be quantified. In 10.2.17 of the ES the applicant uses policy from the emerging Broxbourne Local Plan to justify the context of mitigation and compensation. It does not mention that the emerging Broxbourne Local Plan has a specific clause to quantify ecological impacts and thus translate NPPF into a local situation. In para 27.7 of the draft local plan it states: 'The DEFRA and NE endorsed Biodiversity Impact Assessment Calculator (BIAC, Warwickshire County Council BIAC 2014 v18 or as amended) has been designed to quantify the value of biodiversity (in terms of habitats) in a consistent and objective way. This mechanism is considered to be the most appropriate method to determine ecological value and deliver net ecological gain. When required, development proposals must demonstrate a positive ecological unit score as determined by the calculator.' In order for this development to be compliant with the aims of NPPF and the draft local plan regarding quantification of net impact, it must employ the

calculator to demonstrate that a net positive ecological unit score can be achieved. If it cannot achieve a positive score onsite, offsite solutions should be proposed.

In 10.6.42 the impacts of lighting are assessed to be minimal. This may be so but the impact of lighting can be further minimised by careful design. A lighting plan should be requested which demonstrates how all lighting will be directed away from the river, minimises spill through directional cowling and utilises warm white LED to minimise impacts on bats and other nocturnal wildlife.

In 10.7.3 it is stipulated that a EPSML will be required. In order for the LPA to discharge their duty under the Conservation of Habitats and Species Regulations 2010, the applicant needs to provide answers to the 3 tests of this licence. The LPA must then make a judgement as to whether the development is consistent with these tests. More information is required on exactly what and how much habitat creation will be undertaken on the Canal and Rivers Trust Land. It must also be demonstrated how this will be managed in perpetuity to conserve and enhance the gcn population.

4.29 Hertfordshire County Council – Ecology

*Original consultation response*

Does not consider that there are any significant ecological constraints on the proposals, on the basis that comments provided to the Local Planning Authority are considered and addressed when determining the application.

*Further consultation response*

There is no reason to consider that there will be any significant ecological implications from the revised details that have been submitted. However, the need for underplanting the existing woodland with trees and shrubs is queried.

The full responses to the application are attached at Appendix A.

4.30 Network Rail

*Original consultation response*

The developer/applicant must ensure that their proposal, both during construction and after completion of works on site, does not:

- encroach onto Network Rail land
- affect the safety, operation or integrity of the company's railway and its infrastructure
- undermine its support zone

- damage the company's infrastructure
- place additional load on cuttings
- adversely affect any railway land or structure
- over-sail or encroach upon the air-space of any Network Rail land
- cause to obstruct or interfere with any works or proposed works or Network Rail development both now and in the future

The full response is attached at Appendix A.

4.31 Hertfordshire Fire & Rescue Service

*Original consultation response*

We have examined the application and make the following comments:

**Access and Facilities**

1. Access for fire fighting vehicles should be in accordance with The Building Regulations 2010 Approved Document B (ADB), section B5, sub-section 16.
2. Access routes for Hertfordshire Fire and Rescue Service vehicles should achieve a minimum carrying capacity of 18 tonnes.
3. Turning facilities should be provided in any dead-end route that is more than 20m long. This can be achieved by a hammer head or a turning circle designed on the basis of Table 20 in B5.

**Water Supplies**

4. Water supplies should be provided in accordance with BS 9999.
5. This authority would consider the following hydrant provision adequate:
   - Not more than 60m from an entry to any building on the site.
   - Not more than 120m apart for residential developments or 90m apart for commercial developments.
   - Preferably immediately adjacent to roadways or hard-standing facilities provided for fire service appliances.
   - Not less than 6m from the building or risk so that they remain usable during a fire.
   - Hydrants should be provided in accordance with BS 750 and be capable of providing an appropriate flow in accordance with National Guidance documents.
   - Where no piped water is available, or there is insufficient pressure and flow in the water main, or an alternative arrangement is proposed, the alternative source of supply should be provided in accordance with ADB Vol 2, Section B5, Sub section 15.8.
6. In addition, buildings fitted with fire mains must have a suitable hydrant sited within 18m of the hard standing facility provided for the fire service pumping appliance.

The comments made by this Fire Authority do not prejudice any further requirements that may be necessary to comply with the Building Regulations.

4.32 Health & Safety Executive

*Original consultation response*

HSE does not advise, on safety grounds, against the granting of planning permission in this case.

4.33 BPA Pipelines

*Original consultation response*

We are not aware that any of BPA Pipelines apparatus falls within the vicinity of the above noted location.

4.34 NATS Safeguarding

*Original consultation response*

The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company ("NERL") has no safeguarding objection to the proposal.

However, please be aware that this response applies specifically to the above consultation and only reflects the position of NATS (that is responsible for the management of en route air traffic) based on the information supplied at the time of this application. This letter does not provide any indication of the position of any other party, whether they be an airport, airspace user or otherwise. It remains your responsibility to ensure that all the appropriate consultees are properly consulted.

4.35 Aerodrome Safeguarding Authority for Stansted Airport

*Original consultation response*

The proposed development has been examined from an aerodrome safeguarding aspect and does not conflict with any safeguarding criteria. Accordingly, the Aerodrome Safeguarding Authority for Stansted Airport has no safeguarding objections to the proposal.

4.36 London Luton Airport Operations Ltd

*Re-consultation response*

The proposed development site is outside all Safeguarding zones associated to London Luton Airport therefore London Luton Airport Operations Ltd has no safeguarding objection to the proposal.

4.37 Heathrow Airport Limited

*Original consultation response*

The site is outside all Safeguarding zones associated to Heathrow Airport therefore we have no safeguarding objections to this proposal.

*Re-consultation response*
We have now assessed the application against safeguarding criteria and can confirm that we have no safeguarding objections to the proposed development.

4.38 Third Party Comments

The application was advertised in the press and a total of 15,348 letters were sent to residents and other premises in the surrounding area. Site notices were erected on 18 January 2017.

Further to the submission of the addendums, the application was again advertised in the press and further letters were sent to the 15,348 residents and other premises. Further site notices were erected on 17 August 2017.

*Original consultation responses*

A total of 3927 responses were received objecting to the planning application when it was first submitted.

A total of 158 responses were received objecting to the planning application after the re-consultation was carried out in August 2017.

The main considerations and concerns arising from these responses can be summarised as follows:

- The site is entirely unsuitable for a development of this nature.
- The suitability of the site was previously considered by Veolia in relation to a planning application at New Barnfield, when it was discounted as being inappropriate.
- The size and bulk of the building is inappropriate for the area, particularly the stacks, and will have an adverse impact upon the visual setting and landscape of the area.
- The height of the main building will be taller than the Tower Centre, with chimney stacks rising as high again above the roof.

- As the building will be lit and have flood lighting on site, it will produce significant light pollution.
- The proposal would impact the setting of historic and listed buildings within the area.
- The application has failed to acknowledge the expansion of Hoddesdon with the new housing areas.
- Traffic noise and pollution from 268 additional HGV movements is totally unacceptable.
- The proposal will add significantly to the existing traffic situation, particularly on Essex Road, the Dinant Roundabout and Dobbs Weir Road in terms of congestion.
- The access road to Ratty's Lane is inappropriate as two HGVs cannot pass each other on the road.
- The HGVs associated with the site will pose a safety risk to other road users and pedestrians.
- The proposal will result in significant air/general pollution from the incineration of waste, with air quality being adversely affected. This poses a health risk, particularly with the release of dioxins.
- The proposal will result in pollution and an adverse impact on air quality as a result of the movement of HGVs into and out of the site, particularly diesel vehicles, together with an adverse impact on health as a result of this.
- There will be a significant noise impact from the energy recovery process.
- There will be a significant noise impact from the movement of vehicles into and out of the site, as well as within the wider vicinity of the site.
- There will be a significant odour impact from the energy recovery process.
- There will be a significant odour impact from vehicles accessing the site.
- The proposal is within an area of high flood risk.
- The proposed development poses a risk of polluting the river and groundwater if there were to be a flood / escape from the site.
- The proposal will have a significant impact upon the setting of the Green Belt.
- The proposal will have a significant detrimental impact upon the setting of the Lee Valley Regional Park.
- There will be a significant adverse impact upon the SSSI, SPA, SAC and RAMSAR sites.
- The proposed development will adversely affect protected species.
- Incineration is the wrong technology to be used and other alternatives should be looked at.

- There are too many other industrial and waste related facilities in the area such as the gas-fired power station, AD Plant and ATT, which results in a significant cumulative impact.
- The proposal is not economically viable as it will still require waste to be transported long distances as it is located on the edge of the county and would require the importation of waste from further away.
- The proposal would reduce overall levels of recycling within Hertfordshire and is not pushing waste up the waste hierarchy.
- The proposal would impact businesses such as the fruit and vegetable growing greenhouses in the vicinity, costing significant amounts of lost income.
- Properties in the surrounding area will see a significant loss in value.

Four (4) representations have been made in support of the planning application. The main points arising from these responses can be summarised as follows:

- It is important to the have a variety of ways to deal with waste.
- Energy recovery from waste is a very good waste solution for waste which cannot be recycled at present.
- There are significant benefits from generating energy at a local level.

## 5. Planning Policy

5.1 Section 70(2) of the Town and Country Planning Act 1990 (as amended) and Section 38(6) of the Planning and Compulsory Purchase Act 2004 (as amended) require that planning applications be determined in accordance with the development plan unless material considerations indicate otherwise.

5.2 In the national context, the National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied.

***National Planning Policy Framework 2012 (NPPF)***

5.3 The NPPF was released in March 2012. The NPPF contains the presumption in favour of sustainable development. The document also promotes the development plan as the starting point for decision making and that decisions should be made in accordance with an up to date Local Plan unless material considerations indicate otherwise.

5.4 The NPPF refers to three dimensions of sustainable development; economic, social and environmental and the purpose of the planning system being to contribute to the achievement of sustainable development. In order to achieve sustainable development economic, social and environmental gains should be sought jointly and simultaneously through the planning system. Pursuing sustainable

development involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in people's quality of life and improving the conditions in which people live, work, travel and take leisure.

***The Development Plan***

5.5 The development plan comprises the Hertfordshire Waste Development Framework Waste Core Strategy and Development Management Policies Development Plan Document 2011-2026 (the Waste Core Strategy), and the Broxbourne Local Plan Second Review 2001-2011. In addition, due to the current use of the site as a railhead for aggregates, the Hertfordshire Minerals Local Plan Review 2002-2016 is considered relevant to this application.

5.8 The most relevant planning policies to consider for this application are:

**Hertfordshire Waste Development Framework**
**Waste Core Strategy and Development Management Policies Development Plan Document 2011-2026**

Policy 1 – Strategy for the Provision for Waste Management Facilities
Policy 1A – Presumption in Favour of Sustainable Development
Policy 2 – Waste Prevention and Reduction
Policy 3 – Energy & Heat Recovery
Policy 5 – Safeguarding of Sites
Policy 7 – General Criteria for Assessing Planning Applications Outside of Identified Locations
Policy 8 – Waste Parks/Combined Facilities
Policy 9 – Sustainable Transport
Policy 10 – Climate Change
Policy 11 – General Criteria for Assessing Waste Planning Applications
Policy 12 – Sustainable Design, Construction and Demolition
Policy 13 – Road Transport & Traffic
Policy 14 – Buffer Zones
Policy 15 – Rights of Way
Policy 16 – Soil, Air and Water
Policy 17 – Protection of Sites of International and National Importance
Policy 18 – Protection of Regional and Local designated sites and areas
Policy 19 – Protection and Mitigation

**Broxbourne Local Plan Second Review 2001-2011**

Policy SUS1 – Sustainable Development Principles
Policy SUS2 – Energy
Policy SUS5 – Pollution
Policy SUS6 – Air Quality
Policy SUS8 – Noisy Development
Policy SUS11 – Light Pollution and Floodlighting

Policy SUS13 – Hazardous Substances
Policy SUS14 – Water Supply Waste Water Treatment and Water Conservation
Policy SUS15 – Ground and Surface Water Protection
Policy SUS16 – Flood Risk Assessments
Policy SUS17 – Flood Prevention
Policy SUS18 – Surface Water Drainage
Policy GBC17 – Protection and Enhancement of Public Rights of Way
Policy GBC18 – Protection of Internationally Important Wildlife Sites
Policy GBC19 – Protection for Sites of Wildlife and Nature Interest
Policy GBC20 – Protected Species
Policy EMP1 – Employment Areas
Policy EMP3 – North East Hoddesdon Key Site
Policy EMP4 – Essex Road Improvement Scheme
Policy HD6 – Other Development Affecting a Listed Building and its Curtilage
Policy HD13 – Design Principles
Policy T1 – Local Transport Plan
Policy T3 – Transport and New Development
Policy T4 – Green Travel Plans
Policy T5 – Development Standards
Policy T9 – Pedestrian Needs
Policy T10 – Cycling Provision
Policy T11 – Car Parking

**Hertfordshire Minerals Local Plan Review 2002-2016**

Minerals Policy 10 – Railheads and Wharves

## 6. Planning Issues

*National and local planning policies – the overarching position*

6.1 The National Planning Policy for Waste (NPPW), published in October 2014, refers back to the WMPE and says, inter alia, that:

> "positive planning plays a pivotal role in delivering this country's waste ambitions through delivery of sustainable development and resource efficiency, including provision of modern infrastructure, local employment opportunities and wider climate change benefits, by driving waste management up the waste hierarchy."

6.2 Amongst other things, the NPPW places an emphasis on waste planning authorities, in preparing their Local Plans, to identify the tonnages and percentages of different types of waste produced within their areas, and to consider the need for additional waste management capacity as a result of this data. Waste planning authorities should also identify the broad types of waste management facilities that are required and where these would be appropriately located. To this extent, the NPPW specifies that authorities should take account of the

proximity principle, recognising that new facilities will need to serve catchment areas large enough to secure the economic viability of the plant.

6.3 When determining planning applications, the NPPW states that waste planning authorities should "only expect applicants to demonstrate the qualitative or market need for new or enhanced waste management facilities where proposals are not consistent with an up-to-date Local Plan. In such cases, waste planning authorities should consider the extent to which the capacity of existing operational facilities would satisfy any identified need."

6.4 In addition, the NPPW refers specifically to the provision of incinerators, stating that where such proposals cut across up-to-date Local Plans, this can give rise to justifiable frustration on the part of local communities. Consequently, applicants in such cases must demonstrate that such proposals will not prejudice the movement of waste up the waste hierarchy.

6.5 The NPPW states that waste planning authorities should:

> "consider a broad range of locations including industrial sites, looking for opportunities to co-locate waste management facilities together and with complementary activities. Where a low carbon energy recovery facility is considered as an appropriate type of development, waste planning authorities should consider the suitable siting of such facilities to enable the utilisation of the heat produced as an energy source in close proximity to suitable potential heat customers."

6.6 It continues by saying that priority should be given to "the re-use of previously developed land, sites identified for employment uses, and redundant agricultural and forestry buildings and their curtilages."

6.7 The NPPW also specifies that waste planning authorities should assess the suitability of sites for new or enhanced waste management facilities based on the following range of criteria:

- the extent to which the site or area will support the other policies set out in the NPPW;
- physical and environmental constraints on development, including existing and proposed neighbouring land uses;
- the capacity of existing and potential transport infrastructure to support the sustainable movement of waste, and products arising from resource recovery, seeking when practicable and beneficial to use, modes other than road transport; and,
- the cumulative impact of existing and proposed waste disposal facilities on the well-being of the local community, including any significant adverse impacts on environmental quality, social cohesion and inclusion, or economic potential.

6.8 Locational criteria is set out within Appendix B to the NPPW and, when considering planning applications for waste management facilities, waste planning authorities should have regard to:

- protection of waste quality and resources and flood risk management;
- land instability;
- landscape and visual impacts;
- nature conservation;
- conserving the historic environment;
- traffic and access;
- air emissions, including dust;
- odours;
- vermin and birds;
- noise, light and vibration;
- litter; and,
- potential land use conflict.

6.9 The principal issues to take into account in determining this planning application, which will be dealt with in turn, are as follows:

- Need;
- Strategic Location;
- Transport and Movement;
- Air Quality;
- Noise and Vibration;
- Landscape and Visual Effects;
- Ecology and Nature Conservation;
- Land Stability and Contamination;
- Groundwater and Hydrogeology;
- Hydrology and Flood Risk;
- Health;
- Historic Environment;
- Green Belt;
- Loss of Rail Aggregates Depot; and
- Sustainable Development.

## 7. Need

*Policy background*

7.1 In terms of national policy and legislation, the waste hierarchy is overriding and takes precedence. The Waste Management Plan for England (2013) sets this out as policy, with it being a legal requirement under the Waste (England and Wales) Regulations 2011 for household waste to be managed in accordance with the waste hierarchy.

7.2 The waste hierarchy places 'prevention' at the very top, with an emphasis on the use of less materials in design and manufacture, using less hazardous materials and keeping products for longer to prevent their disposal. Next within the hierarchy is 'preparing for re-use', thus ensuring that whole items or spare parts are checked, cleaned, repaired and refurbished. 'Recycling' comes next within the hierarchy, consisting of the turning of waste into a new substance or product. This includes composting if it meets quality controls. The fourth stage in the hierarchy is 'other recovery', which includes anaerobic digestion, incineration with energy recovery, and gasification and pyrolysis which produce energy – in the form of fuel, heat and power – and materials from waste. The final stage in the waste hierarchy is 'disposal', consisting of landfilling and the incineration of waste without energy recovery.

7.3 Alongside the planning application, an application has been submitted to the Environment Agency for an environmental permit. As part of this process, the EA examines and evaluates the information submitted with regards to the energy efficiency of the proposed ERF. This is assessed by a standard formula known as the R1 calculation, under the European Waste Framework Directive (Directive 2008/98/EC). If plant energy efficiency is determined to be 0.65 or more, then it is considered to constitute an energy recovery facility rather than a waste disposal facility. It has been concluded that the proposed Energy Recovery Facility at Ratty's Lane will qualify for recovery status (R1). As such, it will be a recovery process rather than disposal, being a low carbon, partly renewable, recovery facility. With reference to the waste hierarchy, this places it at stage 4, above disposal, which is where the residual LACW currently falls within.

7.4 The aim of the ERF is to contribute to national targets, allowing recovery of residual waste to take place instead of being landfilled. The facility will only deal with the elements of LACW that are left after recycling, composting and other waste minimisation measures have been undertaken.

7.5 The National Planning Policy Framework (NPPF), published in 2012, has the golden thread of sustainable development running through it, with reference to there being three dimensions to sustainable development: economic, social and environmental. Where this applies to decision taking, the NPPF says that development proposals that accord with the development plan should be approved without delay. Where this is not the case, development proposals should still be approved unless the adverse effects of doing so would significantly and demonstrably outweigh the benefits of the development.

7.6 Although the NPPF does not set out specific waste planning policies – instead referring to the National Waste Management Plan for England – one of the contributions to the economic role of sustainable development that planning can make is to "minimise waste and

pollution, and mitigate and adapt to climate change including moving to a low carbon economy."

7.7 The Waste Management Plan for England (WMPE) was published in December 2013 and also places emphasis on the waste hierarchy as a guide to sustainable waste management, with the ultimate aim of working towards a "zero waste economy as part of the transition to a sustainable economy".

7.8 The WMPE promotes the move away from disposing of waste through landfill, and states that:

> "The Government supports efficient energy recovery from residual waste – of materials which cannot be reused or recycled – to deliver environmental benefits, reduce carbon impact and provide economic opportunities. Our aim is to get the most energy out of waste, not to get the most waste into energy recovery."

7.9 Hertfordshire's Joint Municipal Waste Management Strategy 2007 (JMWMS) again places an emphasis on accordance with the Waste Hierarchy, stressing the need to push waste up the hierarchy. The JMWMS set a target of 50% for the recycling of household waste by 2012, which has largely been met. There is a further aspiration for a figure of 60% by the year 2020. One of the main objectives of the Strategy is to divert waste from landfill. This is on the basis that landfilling is an unsustainable approach to the management of waste due to its contribution to global warming, the scarce local availability of landfill and due to the severe financial penalties of burying waste in the land. The JMWMS also promotes the local handling of locally generated waste. An ERF will achieve this by allowing the WDA to handle all residual LACW within the county rather than exporting it outside of Hertfordshire for landfill. The Strategy also looks to waste management solutions that do not prohibit future plans for waste reduction initiatives or increases in the levels of re-use, recycling and composting. Again, the proposed ERF should not have an impact on such initiatives.

7.10 Augmenting this is the Hertfordshire County Council Local Authority Collected Waste Spatial Strategy (LACWSS), which was published in draft form in October 2016. This states that:

> "A long term ambition for the Waste Disposal Authority (WDA) is to be able to treat/dispose of residual LACW within Hertfordshire. Currently Hertfordshire County Council is in contract with Veolia Environmental Services to deliver an ERF. A single, in-county ERF affords the WDA surety of proximate, long term treatment for waste that is not separated for re-use, recycling and/or composting."

7.11 In addition, the draft LACWSS identifies the need for the provision of a network of Waste Transfer Stations within the county, which would

allow residual LACW to be segregated. Recyclable materials can then be taken out of the residual waste and sent on, in bulk, to recycling facilities elsewhere, whilst allowing the remaining residual waste to be bulked and sent on to the proposed ERF. Therefore, with reference to the JMWMS, the provision of these transfer stations alongside the proposed ERF would allow increased recycling to take place within Hertfordshire. The draft Strategy also looks to improve the existing network of 17 Household Waste Recycling Sites within the county, allowing them to be more strategically located, more fit-for-purpose, and designed to serve wider catchment areas.

7.12 The Waste Core Strategy provides a commentary on the management of Hertfordshire's waste arisings, stating that the approach within the county should be to achieve net self-sufficiency by planning to deal with the equivalent of the county's own waste arisings. An overriding aim is to seek to maximise the recycling, recovery and processing of waste in order to minimise the amount of residual waste that is sent to landfill.

7.12 Policy 1 of the Waste Core Strategy follows from this, setting out a strategy for the provision of waste management facilities within the county and states, inter alia, that:

> "Provision will be made for a network of waste management facilities that drive waste management practices up the waste hierarchy and are sufficient to provide adequate capacity for existing and future waste arisings within the county and for any agreed apportionment of waste arisings from outside the county."

7.13 Policy 1 also makes allowances for the future flexibility of the waste management industry and for the use of newer technologies, with new and emerging waste management and processing techniques being encouraged.

7.14 With specific reference to energy and heat recovery, the Waste Core Strategy refers to the continued need for the treatment and disposal of residual waste, despite the successes of measures to drive waste up the hierarchy. The Strategy acknowledges that a large proportion of residual LACW within Hertfordshire is presently sent to landfill sites and, as such, "there is a need to promote residual waste facilities that complement the waste hierarchy". The Waste Core Strategy continues by saying that there is a need to move away from the present heavy reliance on landfill as a means of disposal, saying that:

> "Although an end product for someone, waste could still be viewed as a resource for others. Hertfordshire County Council takes the view that there is the need to extract as much value from waste as possible including energy within the waste. Waste that cannot be reused or recycled may be used to generate electricity, heat or fuels for subsequent heat and power generation."

7.15 Policy 3 of the Waste Core Strategy flows from this general thrust, dealing specifically with energy and heat recovery and stating:

> "Proposals for the treatment of waste which maximise recovery and where appropriate generate and recover heat and/or power will be acceptable in principle, provided that the proposal is for the recovery of energy from waste that cannot reasonably be dealt with at a higher level in the waste hierarchy.
>
> Proposals for the recovery of energy from waste that help to deliver identified energy opportunities in Hertfordshire will be encouraged.
>
> In considering such proposals the Waste Planning Authority will have regard to the benefits of maximising energy recovery and the protection of the environment and human health."

*Evaluation*

7.16 The Hertfordshire Waste Partnership is made up of the County Council and the ten district and borough authorities within the county. The Partnership manages how household waste is collected within the county and ultimately disposed of.

7.17 Within the Waste Core Strategy, LACW arisings for the year 2010/11 are set out, indicating that a total of 537,468 tonnes were collected by the Hertfordshire Waste Partnership. The breakdown of how this was treated is set out in Table 7.1 below.

**Table 7.1 – LACW collected in Hertfordshire 2010/11**

| **Treatment** | **tonnes** | **%** |
|---|---:|---:|
| Recycled | 131,083 | 24.3 |
| Composted | 123,220 | 23.0 |
| Energy recovery | 41,318 | 7.7 |
| Landfilled | 241,847 | 45.0 |
| **Total** | **537,468** | **100.0** |

7.18 The 7.7% of LACW sent to an energy from waste facility was sent to just one facility located at Edmonton in North London.

7.19 Table 7.2 shows the relevant breakdown of how LACW was treated the following year. This data was presented to the Development Control Committee of Hertfordshire County Council in October 2012, when it considered the planning application for the recycling and energy recovery facility (RERF) at New Barnfield in Hatfield.

**Table 7.2 – LACW collected in Hertfordshire 2011/12**

| **Treatment** | **tonnes** | **%** |
|---|---:|---:|
| Recycled | 131,542 | 24.5 |
| Composted | 132,555 | 24.6 |
| Energy recovery | 73,365 | 13.6 |

| | | |
|---|---|---|
| Landfilled | 200,725 | 37.3 |
| **Total** | **538,187** | **100.0** |

7.20 The biggest change between 2010/11 and 2011/12 is the move towards sending LACW to energy from waste facilities, with the subsequent drop in landfilling. Even so, a significant percentage of LACW was still being sent to landfill.

7.21 The most up to date figures for Hertfordshire are contained within the LACWSS, consisting of LACW amounts for the year 2015/16. This is shown in Table 7.3 below.

**Table 7.3 – LACW collected in Hertfordshire 2015/16**

| Treatment | tonnes | % |
|---|---|---|
| Reused, recycled or composted | 262,627 | 49.7 |
| Energy recovery | 167,589 | 31.7 |
| Landfilled | 98,076 | 18.6 |
| **Total** | **528,692** | **100.0** |

7.22 As this shows, a total of 528,692 tonnes of LACW was collected within the county in the year 2015/16. Of this amount, 262,627 tonnes were reused, recycled or composted, amounting to 49.7% of the total. A total of 265,665 tonnes of waste were disposed of (amounting to 50.3% of the overall total). A total of 37% of the residual LACW was disposed of by means of landfill (or 18.6% of the total LACW), of which just 41,029 tonnes were disposed of within Hertfordshire. This comprises just 15.4% of the total residual LACW produced within the county, and this was taken to the landfill at Westmill Quarry. Westmill is due to close in December 2017, although a present planning application seeks to extend this so that there will be the cessation of all landfill operations by December 2023, with final capping by December 2025. The remainder (21.6% of the overall residual LACW) was sent to landfill sites in Buckinghamshire and Cambridgeshire. The rest of the residual LACW – amounting to 63% of the total residual LACW – was again sent outside the county, to energy from waste facilities in North London, Buckinghamshire and Oxfordshire. Overall, although the figures show a large reduction in the amount of waste sent to landfill when compared to five years ago, almost 19% of LACW generated within Hertfordshire was still sent to landfill in 2015/16.

7.23 When planning permission was sought for the construction and operation of the Recycling and Energy Recovery Facility (RERF) at New Barnfield in Hatfield, the Inspector that dealt with the subsequent called-in appeal concluded that such a facility would allow the County Council to achieve 100% diversion of residual LACW from landfill. It was also concluded that the RERF would provide capacity for a significant element of the substantial quantities of residual commercial and industrial waste that is produced within the county. The Inspector further concluded that there appeared to be little realistic alternative in the short term other than to continue to dispose of high levels of waste

to landfill and to export waste outside the confines of Hertfordshire. Whilst in the medium to long term alternative facilities may come on stream, it was considered that the refusal of the RERF at New Barnfield would be likely to give rise to a very significant delay in such alternative facilities coming on stream. Other than the development of the advanced thermal treatment plant at Ratty's Lane, operated by Trent Developments, alternatives are no nearer being developed.

7.24 In his subsequent decision of 16 July 2015, the Secretary of State agreed with the Inspector's conclusions in respect of the overall need of the development, acknowledging that it was the County Council's case that the need for such a facility had increased since the date that the planning application had been received.

7.25 Not only is there a scarcity of available facilities within the county to deal with residual LACW, sending it to landfill sites is financially onerous. Landfill tax is presently set at £84.40 per tonne. Based on current figures, just over 100,000 tonnes of such waste was landfilled during 2015/16, costing over £8.4 million in landfill tax alone.

7.26 As previously indicated, there is a county aspiration for 60% of waste to be reused, recycled or composted. Even if such a level can be achieved, it is forecast that there will still be a large volume of residual waste that will need to be effectively managed. The draft LACWSS estimates that, based on the current recycling rate of 50%, residual waste will increase in Hertfordshire between 2015/16 and 2030/31 by some 11%, which amounts to 31,916 tonnes. This forecast therefore predicts a total of 294,156 tonnes of residual LACW per annum. Increasing the recycling rate to 60% and 65% would still leave 239,457 tonnes and 209,525 tonnes of residual LACW to be dealt with per annum respectively.

7.27 Waste flows within the county were also projected up until 2050/51 as part of a report to the Hertfordshire County Council Community Safety and Waste Management Cabinet Panel on 4 March 2016. This predicted that there would be a total of 340,000 tonnes of residual LACW that needed to be managed at that time.

7.28 There are presently no facilities for the treatment of residual LACW within Hertfordshire. At present, except for a small proportion that is landfilled at Westmill Quarry, it is all exported to facilities outside the county. New facilities are being developed, but again these are all outside of Hertfordshire. Consequently, as there may be pressures on these facilities from other WDAs, and as it is considered that the overseas shipment of waste to facilities on mainland Europe cannot be guaranteed post-Brexit, there is an identified need for the development of a treatment facility within the county to deal with the entirety of Hertfordshire's residual LACW. In addition, this will assist in minimising transfer and haulage costs.

7.29 The proposed ERF at Ratty's Lane will have a nominal capacity of 320,000 tonnes of waste per annum, with a maximum capacity of 350,000 tonnes. Although this far exceeds current residual LACW rates, the development is 'future-proofed', taking into account the forecast up until 2050/51. Upon it first becoming established, the shortfall will be made up of the acceptance of residual commercial and industrial waste, thus diverting non-LACW away from landfill. Throughout its life, however, there will be less reliance on these other sources as the forecast is for residual LACW to meet this capacity.

7.30 In respect of non-LACW, the Waste Core Strategy identifies that over 1 million tonnes of commercial and industrial waste is generated within the county each year, with this trend continuing throughout the plan period. Even with the commencement of operations at the advanced thermal treatment plant at Ratty's Lane, operated by Trent Developments, which will treat 100,000 tonnes of commercial and industrial waste per annum, Hertfordshire's Minerals and Waste Development Framework Authority's Monitoring Report for the period 1 April 2014 to 31 March 2015 identifies a shortfall in the treatment of commercial and industrial residual waste of 287,000 tonnes for the year 2016. This is forecast to remain static for the year 2021, before decreasing slightly to 270,000 tonnes for the year 2026.

*Conclusion*

7.31 There is overwhelming policy support, both locally and nationally, for the movement of waste up the waste hierarchy. The only viable solution for the treatment of residual LACW is through recovery, which ultimately diverts the waste from landfill and up the hierarchy in compliance with these overriding objectives. In addition, national and local planning policies support the establishment of energy recovery facilities as a means of treating residual waste.

7.32 Based on the data relating to LACW generated within the county, there is an identified need for an energy recovery facility to deal with this volume of waste, moving the waste up the hierarchy. Although there will be a shortfall in the early years, this will be made up with the delivery of non-LACW residual waste at the outset, of which there is also an identified need to deal with this waste type. Future forecasting has been taken into account to demonstrate that the facility will ultimately accept the totality of the county's LACW in the future.

7.33 At present, large volumes of the county's residual LACW is transported outside the county, in conflict with the objective of providing treatment facilities in proximity to the origins of the waste. The establishment of an energy recovery facility within Hertfordshire would therefore allow the County Council to ensure that it is able to deal with its own waste arisings within the county, but also to ensure that the treatment facility is located closer to the origins of the waste than presently exists. The provision of an energy recovery facility would consequently ensure that

waste is no longer landfilled, offering wider benefits in terms of minimising haulage costs, as well as the costs of landfill tax.

7.34 Consequently, it can be concluded that there is an overwhelming need for the establishment of an energy recovery facility within Hertfordshire.

## 8. Strategic Location of the proposed ERF

*Policy background and evaluation*

8.1 Policy WSA2 of the Waste Site Allocations document states, in respect of LACW, that developers should locate LACW management facilities on Allocated Sites and Employment Land Areas of Search within the broad areas of search A, B, C, D and E "unless there are overriding reasons to locate the development on sites outside these areas of search".

8.2 In setting out a county-wide strategy for the provision of waste management facilities, Policy 1 of the County Council's Waste Core Strategy also seeks to direct such developments to preferred areas. The policy looks to promote the establishment of "new appropriate and adequate Local Authority Collected Waste management facilities" within the five broad areas set out within the Waste Core Strategy. However, it is important to note that Policy 1 does not prevent the establishment of LACW treatment facilities outside the broad areas of search, subject to compliance with other policies within the Waste Development Framework; in particular Policy 7 of the Waste Core Strategy and Policy WSA2 of the Waste Site Allocations Document.

8.3 The Waste Core Strategy defines the extent of the areas of search A, B, C, D and E. These are the optimal locations for the treatment and transfer of LACW taking into consideration such factors as the proximity to areas of population and major roads within the county, as well as the sustainability benefits of limiting the overall distance that waste vehicles have to travel to take their load to the facility in question. Other factors that have played a part in determining the areas of search are the location of the district and borough councils' refuse collection depots, and the overall aim to try to provide facilities which would be used by these councils for all their residual waste, rather than this being split between more than one facility. The ethos of this is that by providing waste transfer and treatment facilities in strategic locations that are no more than 20 minutes' drive time from the county's main population centres, the strategy will mean that waste collection vehicles will not have to spend more than an hour when delivering their load, based on 20 minutes at the facility and 20 minutes to drive back. This would enable waste collection vehicles to spend the majority of their working day on their rounds instead of travelling to and from treatment and transfer facilities.

8.4 Areas A and B are areas of search for organic waste recovery, so are not applicable to the proposed development. Areas C, D and E are the areas of search for LAC waste treatment and transfer, so these are the areas where the Waste Core Strategy is directing such treatment facilities as that which is proposed. These are each relatively small in area.

8.5 The planning application site falls outside of any of these preferred areas and, as such, is considered by Broxbourne Borough Council to be contrary to Policy 1 of the Waste Core Strategy. The closest area of search to the Ratty's Lane site is Area E, which is centred close to the town of Ware. Area E is circular in area, looping south to the village of Great Amwell to the south of Ware. This is approximately 3.5 kilometres from the Ratty's Lane site as the crow flies, which is not considered to be significant in terms of its distance. Nevertheless, it falls outside of the preferred area for LACW, so there must be overriding reasons to locate the development outside the areas of search, in accordance with Policy WSA2 of the Waste Site Allocations document.

8.6 In this respect, an Alternative Sites Assessment (ASA) was carried out and submitted in support of this planning application. The ASA takes account of how a range of alternative sites perform against a range of planning, environmental and operational factors. The availability of sites was also taken into consideration as part of this exercise, with particular reference to the timescale for the provision of the proposed energy recovery facility. A desktop assessment of a long list of sites was subsequently carried out based on this range of criteria, thus allowing a short list to be reached. A further desktop assessment was then undertaken following visits to each of these sites.

8.7 The long list comprised a total of 19 sites within Hertfordshire, plus four in Bedfordshire. In arriving at the inclusion of these sites, they needed to be located within 10 kilometres of a major transport corridor such as the M1, A1 or A10. This allowed the sites to deal with waste as close to its origin as possible, minimising transport distances. Also taken into consideration was the designation of sites for waste management purposes and/or those on industrial/employment land. Sites also had to have a minimum area of two hectares in a regular shape, thus allowing the proposed development to have adequate space in which to operate, with priority going to vacant, under-developed or under-utilised sites. The desktop study then looked at a broad range of environmental factors affecting each site, and referenced national planning policy guidance and objectives.

8.8 From this exercise, a shortlist of six sites was compiled. These are outlined in Table 8.1, together with a brief evaluation of each site by the applicant. After careful consideration, Ratty's Lane emerged as the best candidate on the list, meeting the environmental criteria and being available for development. It was concluded that none of the

shortlisted alternative sites was more suitable than the Ratty's Lane site and that the development of the shortlisted sites would not result in a significantly lower degree of adverse environmental effects than the development of the application site.

**Table 8.1: shortlisted sites arising from the ASA**

| Name | Summary |
|---|---|
| Burrowfields / Chequersfield Industrial Estate, Welwyn Garden City | The site is located close to the strategic road network and part of an established industrial area, however it is constrained as a result of its limited screening and the potential for significant amenity and noise impacts which may be difficult to mitigate owing to the close proximity and number of residential receptors and other sensitive uses.<br>The site is owned by HCC, however it has been confirmed that the site is earmarked for residential development and is therefore unavailable for the type of development proposed. |
| Buncefield Oil Storage Depot, Hemel Hempstead | The site has very few environmental constraints and currently has few amenity constraints, although this could change given the potential to develop housing to the north west of the site. In terms of planning and operational factors the site's boundary appears to be within 10m of the storage tank bunds at the Buncefield oil depot and it is therefore likely that the Health and Safety Executive would advise against an ERF development at the site on the grounds of its proximity and introducing risk to people working or visiting the ERF. Further, the access route to the site appears to be constrained, however there is potential for the site to be served by a suitable access route from the west.<br>Given its enclosure within the oil depot's boundary the owners of the depot were contacted by Veolia's land agent. At the time of writing a response has not been received despite further enquiries being made. |
| Gunnelswood Road, Stevenage | The site is considered suitable for the type of development proposed given its few environmental and amenity impacts. With regard to operational factors, there is likely to be highway capacity issues in the area, which may constrain a large scale waste development. Further, the emerging local planning policy context suggests that only B1 uses will be supported at this site. In terms of availability, the site visit confirmed that the site |

| | |
|---|---|
| | is privately owned and currently in use but not developed. Veolia's land agent subsequently confirmed that the site is unavailable as it is currently under offer. |
| Maylands (East), Hemel Hempstead | Given its location within an established employment area and its approach route, the site has few environmental and amenity constraints. However, with regards to amenity this could change in the future with the proposals to develop the site to the north for mixed use development including residential properties opposite the site.<br>The site access appears to be suitable for HGVs however the Herts ELASPD suggests there may be traffic constraints on the local road network. The site appears to currently be in active use and the size of the site, at only 2.61 hectares, means it is unlikely to be available for the type of development proposed. |
| Hatfield Aerodrome | The site has few environmental and operational constraints, however it is located adjacent to, and in close proximity of a large number of sensitive receptors.<br>Significant adverse amenity and noise and vibration impacts are therefore likely and may be difficult to mitigate as a result of the openness of the site and the proximity of receptors.<br>The planning policy context and recent planning history also suggests this site is unlikely to be available for the type of development proposed. |
| Land off Ratty's Lane, Hoddesdon | Generally, the site has few operational, planning and environmental constraints, although it is noted that the presence of power lines across part of the site constrain the developable area and the site is at risk of flooding, which will need to be mitigated through design.<br>The site's existing use is also known to have reduced recently and the site is known to be available to Veolia. |

8.9 Officers consider the ASA to be an accurate and thorough analysis of potential alternative sites within the county. Consequently, it is considered that the ASA provides the evidence base to confirm that there are overriding reasons to locate the development outside the areas of search, in accordance with Policy WSA2 of the Waste Site Allocations document.

8.10 In addition, Policy WSA2 states that planning permission will be granted for waste management uses located on sites outside of identified locations where they accord with Policy 7 of the Waste Core Strategy. Policy 7 is the policy that considers the general criteria for assessing planning applications outside of identified locations.

8.11 Policy 7 states that waste management proposals for LACW outside the five identified areas of search will need to demonstrate how the proposal contributes to the Joint Municipal Waste Management Strategy (JMWMS) for Hertfordshire.

8.12 The JMWMS acknowledges that "a very large proportion of the residual waste in Hertfordshire is sent to landfill for disposal" and that there will need to be a move away from this heavy reliance to a more mixed approach to look at the use of a variety of disposal and treatment technologies. The Strategy further acknowledges that "there is a widening appreciation that simply landfilling untreated waste is neither prudent nor sustainable", with it identifying the uncertainty of the availability of suitable landfill sites into the future. The Strategy does state, however, that there will still be the need for landfill capacity due to the fact that all residual waste treatment facilities will generate their own residues.

8.13 Core Policy 12 of the JMWMS states that the Hertfordshire Waste Partnership will reduce the amount of waste sent to landfill to a level no greater than required in order to, amongst other things, retain flexibility to perform better at activities higher in the waste hierarchy; and to treat wastes that cannot be treated at other county waste facilities.

8.14 Core Policy 13 of the JMWMS states that:

> "the Hertfordshire Waste Partnership will ensure residual waste treatment facilities compliment the waste hierarchy and help secure self-sufficiency in landfill allowance."

8.15 With this in mind, the JMWMS states that no single technology can be ruled out when considering options for waste treatment, but that the solution should contribute to broader sustainability objectives such as those for energy and climate change. It further considers that the following issues should be taken into account when planning new facilities for waste:

- minimising transportation to the facility;
- cost effectiveness and affordability;
- environmental impact, such as noise and emissions; and,
- turning waste into energy, such as local heating or electricity.

8.16 Consequently, Core Policy 14 states that:

"The Hertfordshire Waste Partnership will seek residual waste treatment solutions, which contribute to sustainability targets and bring benefits such as energy generation."

8.17 It can be seen that the proposed energy recovery facility will assist in respect of this core policy, as it will bring a significant benefit in terms of energy generation whilst seeking to minimise the distances that waste is presently transported. Consequently, although located outside of the preferred areas, the proposed ERF would contribute to the overall aims of the JMWMS, in compliance with Policy 7 of the Waste Core Strategy (where that policy relates specifically to LACW treatment facilities).

8.18 At its start-up, however, the proposed ERF seeks to make up the shortfall of residual LACW through the importation of residual commercial and industrial waste. Policy 1 of the Waste Core Strategy states that waste management facilities for waste that is not LAC waste will be brought forward on existing strategic sites, Employment Land Areas of Search, and Allocated Sites. The Waste Site Allocations document sets out a sequential approach for sites being brought forward for waste management facilities, with strategic sites and Allocated Sites being developed in the first instance. The document states that if these cannot deliver the required facilities, then Employment Land Areas of Search would need to be assessed for suitability. If none of these locations are suitable or deliverable, it is only then that the county council as planning authority would consider such facilities outside of the identified locations.

8.19 In this instance, the application site is not a strategic site, nor is it an Allocated Site or Employment Land Area of Search. Consequently, as in the case of LACW, the application site is not an identified preferred area for the treatment of non-LACW residual waste. In such cases, Policy 7 of the Waste Core Strategy states that there needs to be a demonstration of how the proposed development contributes to the overall spatial strategy for waste management within Hertfordshire. The county council's spatial vision is formulated within the Waste Core Strategy and states, inter alia, that waste management facilities will be well designed, appropriately sized and sensitively located so that they reduce the environmental and social impacts, meet the needs of communities and businesses, and seek enhancement of the locality. Furthermore, the spatial vision states that sufficient waste management facilities will be located as close as practicable to the origin of waste.

8.20 Seven strategic objectives flow from the spatial vision (SO1 to SO7). The objective of SO1 is to "promote the provision of well designed and efficient facilities, that drive waste management practices up the waste hierarchy and are located to ensure no harm to human health and the environment and which reduce waste volumes to be disposed in landfill". Insofar as the proposed ERF will drive residual LACW and non-LACW up the waste hierarchy, thus reducing the volumes to be disposed of in landfill, the development is compliant with SO1.

However, the design, efficiency and environmental impacts of the facility will be considered in later chapters of this report.

8.21 The emphasis of SO2 is to locate waste recycling, handling and reduction facilities as close as practicable to the origin of waste. This will be achieved through providing a facility for the acceptance of all residual LACW produced in Hertfordshire – as well as a significant proportion of non-LACW waste at the outset – within the geographical confines of the county whereas, at present, the majority of this waste is exported outside the county.

8.22 SO3 relates to the facilitation of the increased and efficient use of recycled waste materials in Hertfordshire, for example, as aggregate. Although this has limited relevance to the proposed ERF, the incinerator bottom ash that will be produced as a residue of the waste treatment process will be able to be used as a road base material, thereby constituting a secondary aggregate. Likewise, SO4 seeks to facilitate a shift away from road transport to water and rail as the principal means of transporting waste. Whilst the main method of transporting waste will be by road in this case, the movement of incinerator bottom ash away from the site by rail will go some way to making a shift away from road transport.

8.23 SO5 seeks to prevent and minimise waste, but where waste cannot be avoided, to ensure that the recovery value of waste is maximised through, for example, energy and heat production. The proposed development accords with this objective.

8.24 Objective SO6 seeks to enable all partners to work together in the county to encourage integrated spatial planning, aligning with other local waste strategies and local authority objectives. This objective also recognises that waste management generates employment and is part of the infrastructure that supports businesses and communities. Finally, SO7 seeks to ensure that all neighbouring waste authorities work together to ensure that the management of the county's own waste arisings is carried out. Ultimately, objectives SO6 and SO7 replicate the broad thrusts of the JMWMS, which the development in question accords with.

8.25 Irrespective of whether the proposed development contributes to the JMWMS or the spatial strategy for waste management within the county, Policy 7 also states that proposals should have regard to all other policies within the Waste Core Strategy and should also take into account a range of criteria. This is regardless of whether the waste that will be treated is LACW or non-LACW. Criterion i) of Policy 7 states that account should be made of whether the development would meet a specific waste management capacity shortfall. As previously set out within this report, there is an identified waste capacity shortfall in relation to the management of both residual LACW and residual commercial and industrial waste. The proposed development would

therefore assist in meeting these shortfalls, in compliance with this criterion.

8.26 Criterion ii) says that account should be made of the scale and timeliness of providing facilities contributing to short-term capacity gap in waste management. The applicant has demonstrated that there is a short-term capacity gap, although this will ultimately lead into a longer term capacity gap, unless suitable residual waste treatment facilities are provided.

8.27 Criterion iii) of Policy 7 replicates the thrust of SO2 of the county council's strategic vision, stating that account should be taken of the proximity to and service provision for major urban areas and other localised sources of waste. In addition, criterion v) of Policy 7 states that account should be made of the minimisation of transport distances to the existing network of waste management facilities and the strategic road network. Policy 13 of the Waste Core Strategy considers road transport and traffic and states, amongst other things, that applicants must demonstrate that the least environmentally damaging methods of transporting waste are both practically achievable and will be used to minimise road miles.

8.28 Following on from this, Policy 9A of the Waste Core Strategy looks at sustainable transport, stating that waste management facilities should be well located in relation to the strategic road network, unless it can be demonstrated that it can meet an identified local need.

8.29 Despite being located outside preferred areas of search – being those considered optimal in terms of location for transportation of waste – the distance is relatively small, being only 3.5 kilometres as the crow flies. Although the distance by road to the southern edge of Area E is approximately six kilometres, it would only take in the region of eight to nine minutes to reach Area E travelling along the A10.

8.30 In respect of the strategic road network, the A10 is very close to the Ratty's Lane site, being approximately 3.3 kilometres by road from the application site. This can be reached in approximately six to seven minutes. The applicant envisages that residual LACW collected within the east of the county can be delivered quickly and easily by refuse vehicles, thus meaning that there is no need for a waste transfer station to be established in the eastern part of the county. An existing waste transfer station operates at Waterdale in Garston, which will accept waste from the west of the county before this is delivered to Ratty's Lane in bulk. The travel distance from Waterdale is in the region of 40 kilometres, with a travel time of approximately 32 minutes, making use of the strategic road network consisting of the M25 and A10. It is envisaged that an additional waste transfer station will need to be established in the north of the county, accepting LACW from that geographical area before delivering it in bulk to the application site.

The north of Hertfordshire is well-served from Ratty's Lane via the A10 and A505 corridors.

8.31 Consequently, the application site can, in transportation terms, be considered as a sustainable location for the acceptance of LACW from within the county, being in proximity to the origins of the waste. In addition, although the importation of rail has been discounted due to the logistics of carrying such an operation out, the exportation of incinerator bottom ash by rail also assist in moving the transportation of waste away from the reliance on road transport.

8.32 Account should also be made of the application site's location within or adjacent to established or proposed Employment Land, Previously Developed Land, Industrial Land or a compatible land use, as set out in criterion iv) of Policy 7. The Ratty's Lane site is a designated Employment Area, as defined within the Broxbourne Local Plan Second Review 2001-2011. In so doing, it also falls within the confines of the Rye Park industrial estate. In respect of Previously Developed Land, this is defined within the Waste Core Strategy as "land which is or was occupied by a permanent structure, including the curtilage of the developed land (although it should not be assumed that the whole of the curtilage should be developed) and any associated fixed surface infrastructure". The Ratty's Lane site has extensive hard surfacing across it, together with a number of permanent fixed structures in the form of buildings, aggregates bays, plant for segregating aggregates, and the railway sidings. Accordingly, it can be defined as being Previously Developed Land. Consequently, the application site meets all of the requirements of criterion iv) of Policy 7.

*Conclusions*

8.33 Although the application site does not fall within one of the defined preferred areas for the establishment of new waste treatment facilities, there are overriding reasons for locating it at Ratty's Lane, as identified through the ASA provided by the applicant. In addition, the proposed development accords with the JMWMS as well as the County Council's spatial vision, offering a sustainable location on existing employment land that can also be considered to be Previously Developed Land.

## 9. Transport and movement

*Policy background*

9.1 The NPPF, at paragraph 30, refers to the promotion of sustainable transport and states that "encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion".

9.2 Paragraph 32 of the NPPF states that planning decisions should take account of whether safe and suitable access to the site can be

achieved for all people and whether improvements can be undertaken within the highway network that would limit the significant impacts of the development. Paragraph 32 continues by stating that "development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe".

9.3 Policy 9 of the Waste Core Strategy relates to sustainable transport. This aims to ensure that waste management facilities are well located in relation to the strategic road network, which is defined within the Local Transport Plan. Where this cannot be achieved, the policy states that it must be demonstrated that there is an identified local need for the development. In addition, the policy gives support to proposals that utilise alternatives to road transport, including water and rail.

9.4 Policy 13 of the Waste Core Strategy refers specifically to road transport and traffic. This states that new waste related development will be permitted where it is clearly demonstrated that the provision for vehicle movement within the site, the site's access, or the conditions of the local highways network are such that the traffic impacts likely to be generated would not have a significant adverse impact on a range of criteria. Amongst other considerations, these include highway safety (criterion i)) and the effective operation of the highway network (criterion ii)).

9.5 Policy 13 continues by stating that when considering the likely impacts of traffic movements relating to a development proposal, account should be taken of:

i) any highway improvements;
ii) traffic management; or,
iii) other mitigating measures that may be provided in association with the development and included within a design and access statement.

9.6 Additionally, Policy 13 states that applicants must demonstrate, through the provision of a detailed transport appraisal, that "the safest and least environmentally damaging methods of transporting waste are both practically achievable and will be used to minimise road miles and where appropriate, utilise more sustainable modes of transport such as by rail and water".

9.7 Policy T3 of the Broxbourne Local Plan states that:

> "All development proposals….will be considered against the amount, type and timing of transport movements likely to be generated and the effect on the local highway, public transport systems, footpaths, bridleways, cycle routes and the environment."

9.8 Policy T3 continues by stating that development will not be permitted where a range of criteria is met. These are as follows:

- there would be a significant adverse impact on road congestion and movement, especially during peak hours;
- the safety of all road users is compromised;
- traffic and/or parking would severely adversely affect the surrounding environment;
- there would be insufficient provision for access by service and emergency vehicles.

*Evaluation*

9.9 A detailed Transport Assessment (TA) has been submitted alongside the planning application, the scope of which was agreed with the Highways Authority at Hertfordshire County Council before its submission. The information from the TA has been used to assess the potential environmental impact of the development on the following:

- Road safety;
- Delay;
- Severance;
- Pedestrian amenity;
- Hazardous and dangerous loads; and
- Fear and intimidation.

9.10 The impact of the proposals on each of these elements has been assessed according to the sensitivity of a number of identified receptors located within a defined study area, as well as the magnitude of change and overall significance. The scope of the study area was agreed with the Highways Authority. The receptors with low sensitivity are those located within the Essex Road industrial estate, with those considered to have medium sensitivity being those with residential properties in the proximity of the receptor, but having a degree of separation by virtue of the presence of vegetation. High sensitivity receptors are those with residential properties located adjacent to the highway (and, in one instance, a supermarket) and are located at:

- A1170 Amwell Street
- B1197 Hertford Road
- A1170 Ware Road
- Duke Street
- Amwell Street (adjacent to Morrisons supermarket)

9.11 Within the confines of the study area are the junctions set out in Table 9.1, which connect the site with the Dinant Link Road. Each of these are roundabouts apart from J2, which is a signalised junction.

Table 9.1 Road traffic junctions within the TA's study area

| | |
|---|---|
| J1 | Ratty's Lane/Stephenson Close/Essex Road/Essex Close |
| J2 | Pindar Road/Essex Road/Maple Park/Bingley Road |

| | |
|---|---|
| J3 | Essex Road/Charlton Way/Dinant Link Road |
| J4 | Dinant Link Road/Amwell Street/A10 Spur |
| J5 | Ware Road/Duke Street/Amwell Street/Hertford Road |

9.12 Surveys were carried out in June and July 2016 to assess current traffic flows. This information was augmented by seasonal traffic volume data obtained from the County Council, as well as Personal Injury Accident (PIA) data for the last available three years. From this, a 2016 Baseline was identified to allow junction capacity assessments to be undertaken at the five identified study junctions.

9.13 The New River Bridge on Essex Road was identified as being a potential constraint on the capacity of the highway network in this area, and this falls within the geographical limits of the TA's study area as the bridge amounts to a long-standing capacity and resilience issue. Consideration of an alternative crossing of the New River in this location is at a fairly advanced stage, although this does not form part of the TA for the purposes of this planning application.

9.14 The planning permission that controls the existing rail aggregates depot use of the application site restricts HGV movements associated with that use. The limit is set at 100 HGV two-way movements per day (100 movements in, and 100 movements out). This has been taken into consideration when assessing the likely impacts of the proposed development during both the construction and the operational phases.

***Effects during construction***

9.15 Likely numbers of HGV and other vehicle movements have been assessed as part of the TA. A subsequent analysis has been carried out with two separate scenarios: a '2019 Do Minimum' scenario, which amounts to the existing background traffic levels; and a '2019 Do Something' scenario, adding construction traffic to the existing background levels, although this also subtracts the existing vehicular movements associated with the extant rail aggregates depot use of the application site. From this, the greatest percentage change in traffic is along Ratty's Lane itself where, at the site entrance, there will be a predicted 14.8% increase in traffic (26 extra daily movements) and, on Ratty's Lane north of the Essex Road roundabout, there will be a 14.1% net increase 202 extra movements). Other receptors will either see no net increase in vehicular movements, or will experience relatively minor percentage increases up to a 1.6% increase at the railway bridge on Essex Road; amounting to an extra 203 movements in addition to the existing 12521 daily vehicle movements.

9.16 Consequently, in terms of the magnitude of change, there is predicted to be a very low impact at all receptors, having a negligible effect at the majority of receptors. It is further concluded that minor effects will be noticeable at the receptors with high sensitivity.

9.17 In respect of the potential for delays and congestion within the highway network, it is anticipated that the majority of construction traffic will occur prior to 08.00 hours and after 18.00 hours, thus avoiding the morning and afternoon peak hours for traffic. The TA therefore surmises that there will be a negligible impact in terms of delays on the highway network during the construction of the plant.

9.18 However, it is acknowledged that there may be some short term temporary effects from the construction works, due to the potential need for temporary traffic management measures to take place. These impacts will, by their very nature, be short-term and as a result, it is considered that any such effects will not have a significant effect.

9.19 The Highways Authority advises that a condition be imposed to require the submission of a Construction Traffic Management Plan, thus ensuring that the construction of the development proceeds in a manner that will not adversely affect the free and safe flow of traffic within the vicinity of the site. A condition requiring the wheel washing of vehicles is also suggested and is considered reasonable by the WPA.

***Effects during operation***

9.20 During its first year of operation, it is expected that 115 HGVs will transport waste to the ERF each weekday. This will consist of 48 direct deliveries by LACW collection vehicles located within Broxbourne, East Hertfordshire, and Welwyn Hatfield, 8 deliveries from household waste recycling centres, 34 deliveries of bulked up waste from waste transfer stations, and 25 deliveries from Veolia's commercial and industrial waste sites elsewhere, some of which will be out of county. In addition, it is anticipated that an extra 6 HGVs per weekday would deliver consumables and the transfer of healthcare waste to the site. A further 13 HGVs would export materials from the site, in the form of the transfer of healthcare waste, IBA, and Flue Gas Treatment residues. In all, 10 HGVs are expected to remove IBA, although it is also anticipated that IBA will be removed by rail in the long term. Consequently, adding the 115 HGVs importing materials to the 19 that are exporting materials gives a total of 134 HGVs travelling to the site, resulting in a total of 268 daily HGV movements.

9.21 In addition, it is expected that there will be 45 light vehicles arriving at the site each weekday (i.e. 90 total movements), comprising 40 staff arrivals by car and 5 deliveries by van.

9.22 As with the construction phase, the TA for the operational phase of the development has been carried out based on two scenarios. The first of these is a '2021 Do Minimum' scenario, based on expected traffic in that year without the inclusion of any ERF traffic; the second is a '2021 Do Something' scenario. This is based on the ERF being operational but, as with the '2019 Do Something' scenario for the construction phase, the traffic associated with the rail aggregates depot has been

subtracted. Both scenarios take account of background traffic growth over the course of the next four years, together with traffic associated with committed development within the area. The '2021 Do Something' scenario also amounts to a worst case scenario as it includes the export of incinerator bottom ash from the site by road, despite it being envisaged that this will be removed by rail.

9.23 Each of the scenarios for the operational phase has been considered with reference to three assessment hours:

- AM peak hour (between 08.00 and 09.00), representing the busiest network hour in the morning;
- Busiest Operational Hour (BOH) peak hour (between 12.00 and 13.00), representing the busiest development traffic hour;
- PM peak hour (between 17.00 and 18.00), representing the busiest network hour in the afternoon.

9.24 Assessments have been carried out in respect of the five junctions identified within the study area, as set out in Table 9.1. Based on the '2021 Do Minimum' scenario, all five junctions are predicted to operate within ideal capacity during the BOH. In addition, J2 is predicted to operate within ideal capacity during all three assessment hours. During the AM peak hour, J1, J3 and J5 are estimated to be approaching capacity, whilst J4 will be operating over capacity. In respect of the PM peak hour, J1 will still be within the ideal capacity, J3 will be approaching capacity, but J4 and J5 will be operating over capacity.

9.25 Resulting from the '2021 Do Something' scenario, all five junctions are again predicted to operate within ideal capacity during the BOH. As before, J2 is predicted to operate within ideal capacity during all three assessment hours. In respect of the AM peak hour, J1, J3 and J5 are again expected to operate to be approaching capacity, whilst J4 will be operating over capacity. In respect of the PM peak hour, J1 will, as before, be within the ideal capacity, whereas J3 is now expected to join J4 and J5 in operating over capacity.

9.26 Following on from this, when considered overall each junction performs as set out in Table 9.2, where 0.85 is the threshold for ideal capacity and 1.00 is the overall capacity threshold (in the case of J2, the thresholds are 85% and 100% respectively).

Table 9.2: Junction capacity assessment

| Junction | 2016 Baseline | 2021 Do Minimum | 2021 Do Something |
|---|---|---|---|
| J1 | 0.84 | 0.85 | 0.87 |
| J2 | 74.7% | 77.4% | 77.5% |
| J3 | 0.94 | 0.98 | 1.00 |
| J4 | 1.07 | 1.19 | 1.20 |
| J5 | 1.06 | 1.30 | 1.30 |

9.27 Consequently, it can be seen that J2 will be the only junction operating within its ideal capacity during the '2021 Do Something' scenario. J1 will go from operating just under ideal capacity based on its 2016 baseline to operating just above ideal capacity, although this is still some way off the overall capacity threshold. J3 will be expected to go from operating below its overall capacity to operating at its overall capacity, based on the '2021 Do Something" scenario. J4 and J5 will both continue to operate above capacity, but with the situation at each being significantly worse compared to the 2016 baseline.

9.28 However, when compared to the '2021 Do Minimum' scenario, the assessments at each of the five junctions barely changes when one looks at the '2021 Do Something' scenario. In other words, the impact on the operation of each of the five junctions as a result of the operation of the ERF is predicted to be marginal and relatively insignificant. As such, when compared to the situation without the presence of the ERF, it is considered that any change to the junctions is likely to be imperceptible, whether the ERF is there or not.

9.29 The Highways Authority has assessed this data and identifies that the maximum increase in queueing is likely to consist of 5 vehicles in the peak hours on some approach arms at Junctions 3 and 4. The Highways Authority considers that this represents a modest increase and could not be considered as having a severe impact to the free flow of traffic, as stated in Paragraph 32 of the NPPF. Bearing in mind the fact that the increases in queuing range from negligible to a modest amount of 5 at the modelled junctions, the applicant is not proposing any mitigation measures at these points, which the Highways Authority considers to be acceptable.

9.30 In respect of the impact on the identified receptors within the study area, the predicted traffic flows indicate that in the AM peak hour the greatest impact will be felt at the site entrance on Ratty's Lane, where two-way traffic flows for all vehicles will increase from 14 movements to 43 movements, representing a 207.1% increase. The other significant increase will be at Ratty's Lane north of the Essex Road roundabout, where vehicle numbers will increase from 123 to 151 during this AM peak hour, representing a 22.8% increase. All other receptors will see either no change, or a marginal increase in vehicle numbers. The greatest increase at these other receptors will be at the railway bridge on Essex Road, where numbers will increase from 1021 to 1047 during this hour, equating to a 2.5% increase. Of the five receptors with high sensitivity – being those with adjacent residential properties – the increase in vehicle numbers ranges from between 0.0% and 0.4%.

9.31 Within the BOH, the greatest increase is again predicted to occur at the site entrance, with vehicle numbers jumping from 27 to 38 (a 41.8% increase). At Ratty's Lane, north of the Essex Road, roundabout there will be an estimated 11.7% increase (94 to 105 vehicle movements). Significantly smaller increases are estimated at some of the other

receptors, as well as no change in the numbers at some. The greatest increase at these other receptors is again predicted at the railway bridge on Essex Road, with an estimated 1.4% increase (833 to 845 vehicle movements). However, at the five receptors with high sensitivity, it is predicted that there will be no change in vehicle numbers at two of these and marginal decreases of one or two vehicle movements during the BOH at the other three.

9.32 Finally, in respect of the PM peak hour, it is predicted that the site entrance will experience a rise in numbers of 85.7% (14 to 26 movements); whilst at Ratty's Lane north of the Essex Road roundabout there will be a 7.7% increase (142 to 153 movements). As with the AM peak hour and the BOH, there will be much smaller changes experienced at the other receptors.

9.33 As a result of this, it is concluded that there will be a negligible effect on 17 out of the 18 receptors, with just one, being the one located at the site entrance on Ratty's Lane, having a moderate effect as a result in the increase in vehicle movements. As Ratty's Lane is a private road which does not comprise a public right of way, adopted public highway or through-traffic route, the TA concludes that existing traffic volumes are relatively low and that the actual traffic effects at the site entrance are not considered to be significant.

9.34 The Highways Authority concludes that it is satisfied with the robustness of the traffic impact analysis of the development and that this will not have a severe adverse effect on the local highway or primary route network. Consequently, the Highways Authority is content that the proposed development accords with the NPPF, which states that "development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe". Even so, the Highways Authority states that it is important that the level of traffic indicated by the modelling is not exceeded, unless further modelling is undertaken to show that any additional traffic can be accommodated on the network and mitigation measures are proposed if necessary. Therefore, the Highways Authority wishes to see the imposition of a condition limiting HGV numbers to the predicted and modelled 268 movements per day.

9.35 In objecting to the planning application on transportation grounds, Broxbourne Borough Council has requested the use of more strategic modelling of future traffic conditions on Essex Road and the wider network as a means of accurately representing the situation. In particular, the Borough Council wished to see the use of the Paramics traffic model. The Highways Authority has advised, however, that whilst Paramics is considered to be a powerful tool at assessing the likely routing of vehicles to and from proposed developments, where there will be a fairly complex origin and destination of movements, the proposed development is not as well suited to this model. This is on

the basis that the proposed ERF is a single-use development, where the routing of HGVs will be known and determined.

9.36 The Hoddesdon Society objects to the development on the basis that congestion in the vicinity of the site will undermine the economic viability of the employment area and the 5,000 jobs that it supports. However, the evidence does not identify that the development will significantly increase congestion in the area.

***Road Safety***

9.37 As part of the TA, a road safety analysis was carried out, looking at all recorded accidents over the most recent three year period, running from 1 March 2013 to 29 February 2016. This showed that 19 accidents were reported during this time period, with three being recorded as serious in severity and the remaining 16 being slight.

9.38 The analysis of road safety carried out within the TA concluded that there was no common link in causality between the 19 accidents, and no issue with the highway network or infrastructure was identified. The TA subsequently concludes that as similar types of vehicle will be attending the ERF as currently attend the rail aggregates depot and as net changes in vehicle numbers are not considered to be significant overall, then it is anticipated that there would be a negligible effect on road safety as a result of the ERF.

9.39 The response from the Highways Authority also concluded that collisions were as a result of driver error and that there was no deficiency in highway design in the locality. As such, the Highways Authority is of the opinion that the statistics do not demonstrate a level or severity of collision that are disproportionate to the amount and type of vehicles using the highway in this general location.

***Severance***

9.40 Severance is defined as being the perceived division that can occur within a community when it becomes separated by a major traffic artery. It can also arise as a result of the difficulty in terms of crossing a very busy road, or the physical barrier caused by the road.

9.41 In this particular instance, no new roads are proposed. Furthermore, as previously explained, changes in vehicle numbers will not be significantly changed when compared to the present situation. Consequently, it can be concluded that the development will not result in severance. This will also be the case during the construction of the proposed development as only slight increases in traffic are predicted.

***Pedestrian amenity***

9.42 The IEA guidelines define pedestrian amenity as the relative pleasantness of a journey. This can be affected by traffic flow, traffic composition and the width of the pavement and physical separation between the pedestrian and traffic environments.

9.43 The application site is located within an existing industrial estate, where the nature of the existing traffic can be heavy; it is acknowledged that this will have an impact on pedestrian amenity. Consequently, as the proposed development will only result in relatively minor net changes in vehicle movements within the local transport network, it is considered that any effect on pedestrian amenity as a result of the development will be insignificant. Likewise, during the construction of the facility, the slight increase in vehicle numbers is likely to have a negligible effect on the pedestrian environment.

***Hazardous and dangerous loads***

9.44 During construction, it is anticipated that there will be no hazardous or dangerous loads associated with the development. The residual LACW that will be delivered to the proposed facility will not be hazardous in nature. The only hazardous materials that will be imported/exported from the site will be Flue Gas Treatment (FGT) residues and chemical agents such as lime. These will all be transported in appropriate vehicles, thus ensuring that they will have a negligible effect.

***Fear and intimidation***

9.45 The IEA guidelines acknowledge that there are no thresholds for the measurement of fear and intimidation from traffic. However, due to the existing nature of traffic accessing the rail aggregates depot, as well as the general nature of the traffic within the industrial estate and on its approaches, it is concluded that the proposed development will have a negligible impact upon fear and intimidation.

***General access arrangements***

9.46 As part of this application, Veolia proposes to carry out a number of works to improve the existing access arrangements along Ratty's Lane itself. The first of these is to introduce traffic signals along the eastern section of Ratty's Lane to allow the accommodation of larger vehicles along this narrower section of road. As matters stand, this is too narrow to allow larger vehicles to pass one another. Following liaison with the Highways Authority, the signalisation scheme also includes side accesses to adjacent sites from Ratty's Lane. Modelling of this scheme demonstrates that this works with minimal queuing from any of the approaches, to the satisfaction of the Highways Authority, which advises that a condition be imposed requiring that the signalisation be put in place before the commencement of the development.

9.47 At present, the first 60 metres of Ratty's Lane from its roundabout with Essex Road has double yellow lines, but it is intended to extend this along the entirety of the road, thus allowing vehicles to pass one another without restriction (where they are physically able to do so). This will be supported by signage and will be enforced by the applicant in perpetuity thereafter. This proposal is supported by the Highways Authority, which wishes to see this controlled by way of the imposition of a suitable condition.

9.48 The applicant also proposes to upgrade the surface of Ratty's Lane itself, being brought up to a better standard and widened to the fence line on both sides of the road. The Highways Authority is again supportive of this, indicating that this would also improve pedestrian access along Ratty's Lane and, as such, they advise that a suitable condition be imposed requiring these works to be carried out before the ERF becomes operational.

9.49 The applicant also proposes to introduce dropped kerbs and tactile paving at key junction points along Essex Road, thus enabling the entire route towards the site from Hoddesdon town centre to be accessible for less able pedestrians. This would meet one of the objectives of paragraph 32 of the NPPF, which seeks to ensure that safe and suitable access to the site can be achieved for all people. As before, the Highways Authority is agreeable to this, advising that this can be covered through the imposition of a condition. However, as these provisions are not within the site, these should be covered by way of a provision within the Section 106 Agreement.

9.50 As previously advised, the Highways Authority is committed to a package of access improvements to the Essex Road Employment Area; one of which is a general remedy to the problems caused by the existing bridge over the New River. A new bridge is therefore proposed offering an improvement to the alignment of the carriageway, as well as overall improvements in terms of the rights of way and cycle access, both over the river and in the wider area. Consequently, the Highways Authority is of the opinion that as the proposed development will result in an increase in the number of vehicles going along Essex Road, it is reasonable to seek a pooled contribution to these general improvements in addition to those already collected from other sources. As such, the Highways Authority is seeking a significant financial contribution by way of a Section 106 Agreement.

9.51 One of Broxbourne Borough Council's objections is the perceived need for the new bridge before the development is operational. The Highways Authority advises that existing and proposed congestion within the vicinity of the site has been assessed in detail and whilst the development will undoubtedly result in an increase in congestion, this is not significant so as to justify the construction of a new bridge. The Highways Authority advises that the approach it has taken in this

respect is consistent when compared to other developments that have come on-line within the wider Essex Road Employment Area, whether considered by the County Council in its capacity as Waste Planning Authority or by Broxbourne Borough Council.

9.52 A further consideration that has been raised is that of emergency access to the site. This is two-fold in so far as there are concerns relating to both the emergency access to the site itself, plus emergency access should there be an incident on the Dinant Link Road/Essex Road. The Highways Authority has not identified this latter scenario as being a particular issue, nor does it recommend that additional measures be put in place. Should the Dinant Link Road/Essex Road area become closed, alternative access is available via Dobb's Weir Road, should an emergency situation arise. In respect of access into the site itself off Ratty's Lane, the Fire and Rescue Service states that access arrangements within the site should be in accordance with Building Regulations. Accordingly, this consideration will be dealt with by the Building Control Department at Broxbourne Borough Council in relation to those regulations.

9.53 The Canal & Rivers Trust has commented that the car park at the eastern end of Ratty's Lane, which sits outside the site entrance, is an important facility and focal point for people accessing the water corridor. The Trust considers that the car park is in a poor condition and is uninviting; whilst this planning application could provide improvements, such provisions are a requirement of the planning permission for the ATT/AD facility on the opposite side of Ratty's Lane.

***General layout on site***

9.54 In respect of parking, the proposal seeks to provide 42 car parking spaces for employees along with three motorcycle spaces. There are spaces for six refuse collection vehicles and one space for a coach. The Highways Authority is content that this level of parking is sufficient. It is also content that the site is able to cater for the number of HGVs accessing the site and that internal roads are suitable for such purposes.

9.55 The Highways Authority states, however, that it has concerns with the separation of traffic and pedestrians within the site. Although this is not considered a highways issue, the Highways Authority suggests that this is something that the local planning authority may wish to seek further information on. This is considered reasonable and a condition can be imposed seeking this further information.

***Accessibility/Sustainable Travel***

9.56 The Highways Authority acknowledges that the nature of the proposed development means that it will primarily be vehicle-based and that opportunities to maximise sustainable travel for its daily operations

would be limited. However, the Highways Authority stresses the importance of the site providing a degree of accessibility for employees.

9.57 There are no bus services serving Essex Road. The nearest bus stops have been identified at Old Highway off Rye Road; buses stop here every 30 minutes, with the buses serving Hoddesdon, Harlow, Broxbourne and Waltham Cross. This stop is a two kilometre walk along Ratty's Lane, Pindar Road and Farm Lane and this route is hard surfaced and lit. Alternatively, the towpath of the river Lee runs adjacent to the application site and this can also be used to access the bus stop, although this is an unlit route of variable surfacing. This is a shorter route to and from the bus stop, being 1.2 kilometres in distance. Further bus stops are close to Sainsbury's supermarket in Hoddesdon town centre, which is a walk of just over two kilometres away. Bus services are regular from here, serving Waltham Cross, Broxbourne, Hertford, Hatfield and Harlow.

9.58 In respect of trains, the nearest railway station is at Rye House with regular trains to Hertford East and London Liverpool Street. Pedestrian access to this is similar to the bus stop at Old Highway.

9.59 Although the majority of Ratty's Lane itself is not a public highway, with there being no segregated footway to accommodate pedestrians, the Highways Authority points out that it is long and straight with good forward visibility. Its constricted width and traffic controls will also naturally slow vehicles down along its length. The Highways Authority therefore considers that it is not a fundamentally unsafe environment for employees of the ERF to walk along. An alternative pedestrian route is also available via the River Lee towpath that runs adjacent to the site. There is no dedicated cycling facility at present within the Essex Road area, although the River Lee towpath adjacent to the site forms part of National Cycle Route 61, which links up with National Cycle Route 1 just south of the application site.

9.60 A Travel Plan has been submitted alongside the application, which the Highways Authority is generally content with, although some parts of the plan require amendments to be made. Nevertheless, the Highways Authority advises that this can form part of any subsequent Section 106 Agreement, together with an evaluation and support contribution.

*Conclusions*

9.61 The proposed development will not result in a significant adverse impact upon traffic conditions within the general vicinity of the site, with increases in congestion being negligible in the vast majority of cases. The only significant increase will be at the site entrance on Ratty's Lane.

9.62 In addition, the proposed development will not give rise to any issues relating to highway safety, or to the safety of cyclists and pedestrians.

9.63 Improvements to access to the Essex Road employment area have long been identified, although the acceptability of the proposed development, in highway terms, is not dependent on these works. Nevertheless, the Highways Authority's request to receive a significant financial contribution to achieve these improvements is considered proportionate and reasonable.

9.64 Consequently, it is considered that the travel and access arrangements comply with the provisions of the NPPF as well as policies contained within the Waste Core Strategy and the Broxbourne Local Plan.

## 10. Air Quality

*Policy background*

10.1 A thorough assessment into the likely impact of the proposed development on air quality has been undertaken as part of this planning application. The cumulative impact of the development alongside emissions from the existing power station to the south west of the site, together with the anaerobic digester/advanced thermal treatment facility to the south east of the site, has also been assessed. However, the cumulative impact of the proposed development alongside other industrial uses in the general area has not been carried out, as the emissions from these facilities makes up the baseline upon which emissions have been forecast. It is considered that the ERF will result in the presence of a visible plume from the stacks. This aspect will be considered with reference to the Landscape and Visual Effects of the proposed development. Finally, the effect of the likely emissions on nature conservation sites is also considered elsewhere within this report.

10.2 The primary legislation for the proposed ERF in terms of air quality is the Industrial Emissions Directive (IED) 2010/75/EU. This contains measures relating to the control of emissions, setting limits on a range of air pollutants. These are as follows:

- Oxides of nitrogen ($NO_x$), expressed as nitrogen dioxide ($NO_2$);
- Particulate matter (as $PM_{10}$ size fraction);
- Carbon Dioxide (CO);
- Sulphur dioxide ($SO_2$);
- Hydrogen chloride (HCI);
- Hydrogen fluoride (HF);
- Twelve metals (cadmium (Cd), thallium (TI), mercury (Hg), antimony (Sb), arsenic (As), lead (Pb), chromium (Cr), cobalt (Co), copper (Cu), manganese (Mn), nickel (Ni), and vanadium (V));
- Polychlorinated dibenzo-para-dioxins and polychlorinated dibenzo furans (referred to as dioxins and furans); and

- Volatile organic compounds (VOCs), as a measure of total organic compounds.

10.3 Emissions of the following pollutants that are not included within the IED are also considered:

- The Polycyclic Aromatic Hydrocarbons (PAH), benzo[a]pyrene;
- Ammonia ($NH_3$); and
- Particulate matter (as $PM_{2.5}$ size fraction).

10.4 In respect of road transport emissions, the primary pollutants are considered to be nitrogen dioxide ($NO_2$), and particulate matter (at $PM_{10}$ and $PM_{2.5}$ concentrations).

10.5 The operation of the proposed ERF will require the issue of an Environmental Permit by the Environment Agency, under the Environmental Permitting (England and Wales) Regulations 2010. The ERF will need demonstrate that Best Available Techniques (BAT) are being used to minimise the emissions from the facility.

10.6 The Clean Air for Europe (CAFÉ) programme deals with the management of air quality within the European Union, working to the requirements of the Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC. This directive is transcribed into United Kingdom legislation by the Air Quality Standards Regulations 2010 SI No. 1001. The limits set out within this are binding on the United Kingdom and have been set with the aim of avoiding, preventing or reducing harmful effects on human health and the environment as a whole. Substances not included within this legislation are captured by the Environment Agency's air emissions risk assessment guidance, which was published in 2016.

10.7 In respect of habitats and biodiversity, the United Kingdom is bound by the European Birds and Habitats Directives and the Ramsar Convention. European Sites created under these – such as Special Areas of Control (SACs) and Special Protection Areas (SPAs) – are protected by the Conservation of Habitats and Species Regulations 2010. The legislation concerning the protection and management of designated sites and protected species within England is set out within these regulations, the Wildlife and Countryside Act 1981 (as amended), and the Countryside and Rights of Way Act 2000 (as amended).

10.8 With reference to national planning policy guidance, the NPPF states, at paragraph 109, that the planning system should contribute to and enhance the natural and local environment by, amongst other things, "preventing both new and existing developments from contributing to or being put at risk from, or being adversely affected by unacceptable levels of soil, air, water, or noise pollution or land instability".

10.9 Paragraph 120 of the NPPF further states that:

"To prevent unacceptable risks from pollution and land instability, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account."

10.10 Paragraph 122 of the NPPF makes reference to the separate role of the pollution control authority, which is complementary to that of the local planning authority. The NPPF seeks to ensure that these separate roles are not duplicated as part of the planning process.

10.11 Planning Practice Guidance in relation to air quality was published in March 2014 and advises that air quality issues may be a material consideration when determining planning applications in certain circumstances, such as where incineration processes are proposed. The guidance also advises that air quality may also be an issue where road traffic will be significantly affected in the vicinity of the proposal, or where construction activities will give rise to dust emissions. There are also identified issues where pollutant deposition or the concentration of pollutants will affect biodiversity, with special regard to designated sites.

10.12 The guidance also addresses the mitigation of air quality issues, the use of methods of control through the imposition of conditions and obligations to ensure that air quality is not significantly affected by a development.

10.13 On a local level, Policy 16 of the Waste Core Strategy advises that waste management proposals will be permitted where they meet certain criteria seeking to protect soil, air and water. Criterion iii) of the policy seeks to ensure that development proposals do not "significantly degrade the quality of air (particularly from dust and emissions)".

10.14 With reference to road transport and traffic, Policy 13 of the Waste Core Strategy advises that new waste related development will be permitted where, as well as other criteria, the traffic impacts generated by the proposal would not have a significant impact upon amenity and human health.

10.15 Policy EQ1 of the emerging Broxbourne Local Plan 2016-2031 refers to air quality, advising that planning applicants should consider how air quality is affected by development proposals, with mitigation being provided where air quality is likely to reduce. The emerging policy further states that, where development proposals result in EU limits or national policy objectives for pollutants being exceeded, planning applicants will be refused.

10.16 In addition, the UK National Air Quality Strategy was initially published in 2000, with an updated version produced in 2003, under the requirements of the Environment Act 1995. This strategy sets objective values for key pollutants as a tool to enable local authorities to manage local air improvements in accordance with the EU Air Quality Framework Directive. The air quality objective values have been laid down in legislation for the purposes of local air quality management. Under local air quality management, Broxbourne Borough Council has a duty to carry out regular assessments of air quality against the air quality objective values. If it is unlikely that the objective values will be met within a given timescale, the local authority must designate an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP), with the overall aim of ensuring that the objective values are met. Within the borough of Broxbourne, the seven AQMAs are distant from the application site, being located in the south of the borough and congregated around the centre of Waltham Cross and/or along the M25 corridor. Outside of Broxbourne, there is a closer AQMA located within the centre of Hertford to the north west of the site, there is also a further AQMA at Sawbridgeworth to the north east of the application site; both of these are within the area of East Herts District Council. A final AQMA is located some distance from the site to the south east at the town of Epping.

*Evaluation*

10.17 In considering the likely impacts upon air quality, the assessment has been made with specific reference to different stages in the development process. The impact of construction activities on air quality has been assessed, based on a construction period of between 2017 and 2021. Operational activities have also been assessed based on the post-2021 scenario of when the plant is up and running. Finally, the decommissioning of the plant has been assessed, with this stage predicted to take place after a lifespan of 40 years for the ERF (i.e. subsequent to 2061).

***Construction and decommissioning – dust and traffic***

10.18 It is predicted that the majority of particulate matter generated during both the construction of the ERF and its decommissioning will be composed of dust materials at the larger end of the size spectrum. Therefore, due to the particulate sizes, it is predicted that increased levels of dust arising from these activities will not necessarily result in an increase in the levels of $PM_{2.5}$ or $PM_{10}$. The ES considers that dust emissions associated with construction and decommissioning activities "rarely represent an adverse risk to human health and are more typically associated with causing annoyance to the public through the visible deposits soiling property and perceptible changes in the rate at which property becomes soiled".

10.19 Receptors for such works are defined as being the nearest potentially sensitive receptor to the perimeter of the application site from each direction. As stated in the ES, "these receptors have the potential to experience impacts of greater magnitude due to dusts generated by the works, when compared with other more distant receptors, or less sensitive receptors, and as such are examples of representative exposure".

10.20 The applicant has set out the likely activities and conditions during the construction and decommissioning of the plant that will give rise to emissions of coarse dust and $PM_{10}$ size particles. These are as follows:

- Site clearance;
- On site earth moving operations, site levelling, cut and fill etc.;
- Vehicle movements over haul roads;
- Vehicle movements on the application site during dry periods;
- Wind blowing across the application site during dry periods;
- Stockpiling of excavated materials;
- Cutting and grinding;
- Accidental spillage and loss of load from vehicles carrying loose materials;
- Deep excavations;
- Demolition; and
- Road construction.

10.21 Dust mitigation measures will, however, be employed throughout the duration of these activities. Nevertheless, it is acknowledged and accepted that there will still be a risk of infrequent impacts arising. One residential receptor is located within 50 metres of the site (Lock Keeper's Cottage, 20 metres to the east), with commercial receptors within 100 metres of the site to the north, west and south. The air Health Impact Assessment that accompanies the planning application concludes that Lock Keeper's Cottage may experience an occasional increase in local soiling rates when activities are carried out in dry and windy conditions. However, this concludes that these instances will be short-lived, likely to take the form of increased soiling of property surfaces and not normally associated with a general risk to health. The same would be true of the house boats in the vicinity of the site, where a similar impact would be experienced. Consequently, the Health Impact Assessment and the ES conclude that the impact upon these receptors would be assessed as being of minor adverse significance.

10.22 When looked at in tandem with the ongoing construction of the AD/ATT plant by Trent Developments on the opposite side of Ratty's Lane, the Health Impact Assessment recognises the potential for increased construction dust within the area due to the cumulative impact of the two construction schemes. However, the HIA predicts these likely impacts to be minor, with mitigation at that site helping to reduce the

likely emission of dust from the site. Consequently, when looked at cumulatively, the likely impact remains as being of minor adverse significance.

10.23 Mitigation will be required by way of condition, as will a Construction Environmental Management Plan, thus ensuring that dust emissions from the site during construction and decommissioning are minimised, protecting local amenity and human health.

10.24 The construction and subsequent decommissioning of the facility would obviously result in an increase in road traffic into and around the Ratty's Lane site; this could impact upon local air quality.

10.25 HA 207/07, the Advice Note on air quality from the Design Manual for Roads and Bridges, states that in respect of local air quality, impacts are likely to be significant where the number of additional HGVs per day on a particular road is greater than 200 per day. In this instance, it is anticipated that considerably less than 200 HGV movements will relate to the construction, or the decommissioning, of the ERF. Consequently, construction traffic impacts are considered to be low and of negligible significance.

***Operational – plant and traffic emissions***

10.26 The potential impacts of all forms of likely emission from the operation of the energy recovery facility on human receptors, comprising dust, odour, and the comprehensive list of pollutants set out within paragraphs 10.2 and 10.3 of this report, have been assessed against the relevant air quality standards and guidelines set out in the relevant legislation. Similarly, emissions from road traffic movements into and out of the facility and around the local highway network have also been assessed.

10.27 In respect of the baseline situation for air quality, the Health Impact Assessment describes the existing air quality in this part of east Hertfordshire and west Essex as being mostly good by comparison with air quality standards, but there are locations close to heavily trafficked roads where there is some evidence for non-compliance. For example, long term average concentrations of nitrogen dioxide measured at the roadside on the Dinant Link Road and Essex Road in Hoddesdon are above 50 $\mu g/m^3$, compared with the relevant air quality standard of 40 $\mu g/m^3$. The HIA states that properties at these locations will experience lower concentrations, however, as they are set back from the roadside. Therefore, for almost all the residents in Hoddesdon, annual average concentrations of $NO_2$ are likely to be around 30 $\mu g/m^3$.

10.28 In the rural parts of Essex to the east of the development site, concentrations of $NO_2$ are more typically 20 $\mu g/m^3$. Concentrations of particulate matter and $SO_2$ are also below the relevant short term and long term air quality standards, excluding $PM_{10}$. However,

concentrations of $PM_{10}$ are affected by current aggregate works at the site and are anticipated to be compliant with air quality standards once these works cease.

10.29 A range of human receptors have been taken into account when undertaking this assessment; these include residential locations and schools. In fact, these are considered to be the most sensitive receptors for the purposes of this study, being classified as being of 'medium sensitivity'. Lower sensitivity locations include those such as farms and heavy industry premises, which typically have a higher baseline when it comes to dust deposition. For clarity, higher sensitivity locations would generally include hospitals and hi-tech industries, which are particularly susceptible to dust. However, none of these have been identified within the study area for this planning application. Stanstead Abbotts Parish Council has objected on the basis that the travelling showpeople site adjacent to the sewage treatment works has not been identified as a receptor for the purposes of this study. However, receptors located at Normandy Way are included within the study, and these are located just 175 metres to the west of the showpeople site.

10.30 The methodology of the study varies for particular identified receptors. For instance, where local traffic flows are unaffected by the proposed development, the assessment has just focussed on emissions from the ERF itself. Where receptors are located close to access routes to the site, road traffic emissions have been included within the study. Also, receptors have been used at existing distant AQMAs to assess the likely impact of emissions on these areas.

10.31 In assessing the likely emissions from the ERF, it was identified that these would principally arise from the two main stacks, as well as two diesel generator flues. Modelling was carried out to assess the likely dispersion of emissions from each of these, thus allowing the optimal heights of these to be calculated. This modelling concluded that the optimal height for the main stacks was 86.75 metres above ground level, as any increase in height would give a diminishing benefit in terms of dispersion whilst increasing the visual impact of the development. The design and height of the stacks is therefore based on this modelling. The modelling further concluded that the optimal height for the diesel flues was 49 metres above ground level, hence the design of the ERF incorporating this height.

10.32 From the modelling, when focussing purely on nitrogen dioxide and PM10 emissions, the largest impacts on long term pollutant concentrations due solely to stack emissions would occur less than 1 kilometre to the north east of the ERF. This is an area where the air quality standard for public exposure is not currently at risk of being exceeded and the increase in these pollutants from the facility will not result in this being exceeded.

10.33 In the case of sensitive receptors, the magnitude of impacts has been predicted to be lower than this. The maximum change in annual mean concentration of nitrogen dioxide at any of the identified receptors is predicted to occur at the Roydon Marina Village, approximately 1.5 kilometres north-east of the application site. Even then, this will consist of a relatively small increase in nitrogen dioxide concentrations, raising the level by 0.9 $\mu g/m^3$ to 24.4 $\mu g/m^3$, at this particular receptor. This is considered to result in a negligible effect on air quality in this location; especially as, overall, this is significantly lower than the air quality objective of 40 $\mu g/m^3$.

10.34 In assessing the ES on behalf of the local planning authority, the County Council's consultants, Arup, requested that further information be submitted in respect of the impact on air quality at Lee Valley Caravan Park, located approximately one kilometre south-west of the application site. The applicant's responded to advise that a receptor is located very close to the caravan park and the impact on air quality at this location is found to be not significant. Based on the information, this is a reasonable conclusion in respect of this receptor.

10.35 In respect of $PM_{10}$ and $PM_{2.5}$ concentrations, the maximum predicted change in the annual mean of these is, in both cases, 0.1 $\mu g/m^3$. This would raise the baseline concentrations for each of these to 27.0 $\mu g/m^3$ for $PM_{10}$ and 13.0 $\mu g/m^3$ for $PM_{2.5}$ respectively. As these changes are minimal and as the target objectives for these is 40 $\mu g/m^3$ and 25 $\mu g/m^3$ respectively, this is considered to represent a negligible effect on air quality at this location.

10.36 In respect of short term nitrogen dioxide emissions, the assessment of dispersion from the stacks shows that the greatest concentrations would occur in close proximity to the site, over a small area approximately 300 metres east of the ERF. The ES concludes that this would also have a negligible effect on air quality at this location, amounting to only 44% of the short term $NO_2$ Air Quality Objective value.

10.37 Modelling of emissions of nitrogen dioxide and $PM_{10}$ at the AQMAs also predicts that these areas will experience very low changes, having an overall negligible effect on air quality in these locations.

10.38 Finally in respect of nitrogen dioxide and $PM_{10}$, the cumulative impact was assessed, taking into account the AD/ATT plant being developed by Trent Developments. The conclusion from this is that the overall cumulative impact on air quality, based solely on these emissions, will be insignificant.

10.39 With reference to other pollutants, the ES concludes that the modelling of emissions demonstrates that very low magnitude changes to baseline pollutant levels would arise as a result of the operation of the

ERF. The annual mean concentrations of industrial metals as a result of emissions from the plant would also be negligible. Likewise, when looked at cumulatively, there would again be negligible effects.

10.40 In its response to the planning application, Broxbourne's Environmental Health department have raised concerns with the dispersion modelling that has been carried out as part of the ES. In particular, their concerns are:

- The proposed ERF has the potential to significantly contribute to existing elevated background levels of several key pollutants, including nitrogen dioxide;
- When taking the impact of road traffic and other proposed developments into consideration, the predicted concentrations of nitrogen dioxide at some residential receptors will be close to the air quality standard for this pollutant;
- There has been no assessment of how the model selection may have affected the assessment outcomes, or assessed the sensitivity of the results with respect to the assumed modelling parameters, such as the local topography and surface roughness, which are vital as there is limited scope to comply with air quality standards;
- There is concern with the reliability of the modelling as such assessments are subject to a variety of uncertainties, which have not been addressed within the modelling report.

10.41 In respect of the Borough Council's concerns about the potential of the ERF to significantly contribute to background levels of key pollutants, the applicants have pointed out that Broxbourne publishes regular reports on the state of air quality within the borough. These show that the 5 year trend for $NO_2$ is consistent over time and, in respect of the two background monitoring locations within Hoddesdon (at Molesworth and Colthurst Gardens), these do not represent "elevated" background concentrations, being concentrations that are typical of many urban areas with good air quality. The applicants also point out that no pollutants other than $NO_2$ are being measured by the Borough Council, so is unable to understand where the reference to "other key pollutants" comes from. The County Council has employed consultants (Arup) to advise on this issue, with Arup being of the view that the point raised by Broxbourne is not substantiated by an Borough Council monitoring or project-specific monitoring, which both show that background levels of $NO_2$ are not elevated.

10.42 In terms of the Borough Council's concerns about the impact of road traffic and other proposed developments, Arup advises that project-specific monitoring of air quality has been carried out over 4 months and, when annualised, this shows exceedances of the annual mean air quality objective (AQO) for $NO_2$ at four roadside sites. Arup concludes, however, that should 1 year's monitoring measure concentrations over 40 $\mu g/m^3$, as the impact of traffic from the proposed development is

less than 1% of the AQO the impact would be slight adverse, which is not considered to be significant.

10.43 In respect of the Borough Council's concerns about the selection of the model and modelling parameters for dispersion, Arup advises that the model and modelling parameters are appropriate for the air quality assessment submitted with the planning application. Again, in respect of Broxbourne's concerns about the reliability of the Dispersion Modelling, Arup advises that the modelling is a predictive tool that has been and is routinely validated against available datasets. They further point out that it is considered by the Environment Agency to be suitable for use in assessing the impacts from the ERF and is accepted by other regulators, such as Highways England and the Airports Commission, for assessing road traffic impacts.

10.44 In the case of receptors located along the route of HGVs accessing the site, modelling that has taken into consideration road traffic emissions and emissions from the ERF has concluded that annual mean concentrations of particulate matter at all receptors are imperceptible, with a very good standard of air quality with or without the development taking place.

10.45 In respect of the assessment itself, one receptor, consisting of residential properties at Burford Mews to the west of the site, baseline annual mean concentrations of nitrogen dioxide are higher than elsewhere in the study area at 37 $\mu g/m^3$. This receptor backs directly onto the A1170 Dinant Link Road. It is predicted that the level of $NO_2$, as a result of the operation of the facility, will increase this by 0.2 $\mu g/m^3$ and that the road traffic will increase it by a further 0.5 $\mu g/m^3$. Although the resultant 37.7 $\mu g/m^3$ equates to 94.5% of the objective value for air quality, the relatively small increase in $NO_2$ represents a minor adverse impact on local air quality at these properties.

10.46 It is further concluded that impacts of both the operation of the plant and the increase in road traffic in the area will have a minor or negligible effect in terms of the annual mean concentrations of nitrogen dioxide. Consequently, the effect on local air quality of the combination of ERF emissions and road traffic emissions is not considered to be significant.

10.47 However, Broxbourne Borough Council's Environmental Health department has raised serious concerns that, when it is considered that there will be an additional 300 traffic movements per day, the ES "does not provide any data on the emissions standards of the vehicles or any proposals on mitigation measures to reduce nitrogen dioxide, $PM_{10}$'s, and $PM_{2.5}$'s for example hybrid vehicles, anti-idling policy and retrofitting older vehicles with Selective Catalytic Reduction technology". The Environmental Health department further asserts that "the additional vehicle movements associated with the ERF will

inevitably compound the poor Air Quality along (local) routes and affect members of the public and residential receptors".

10.48 In response, the applicants highlight that the ES clearly describes the source of emission factors applied in the calculation of road vehicle emissions as being based on the currently projected fleet mix for the year of assessment. The applicants further state that whilst all vehicles delivering waste to the site will not be under Veolia's control, under its contract with the Waste Disposal Authority it is required to manage the vehicle fleet to ensure that when new vehicles are bought or leased, they include the latest EURO 5 specification engines (and EURO 6 and further upgrades when introduced) so as to ensure optimum fuel efficiencies. Arup has assessed this on behalf of the Waste Planning Authority and agrees with the applicant's stance, but suggests the imposition of a condition ensuring that all vehicles under the control of Veolia that are associated with the day to day operations of the ERF are EURO 5 or EURO 6 (or cleaner). This is considered reasonable. In respect of the likely impact upon air quality from road traffic emissions, Arup refers back to its previous statement that the likely impact would be slight adverse, which is not significant.

10.49 In respect of general effects on amenity through the potential for dust and odour to be emitted throughout the operation of the plant, it is considered that the external site environment will be hard surfaced with minimal potential for the generation of dust. Vehicles importing waste will be sealed or covered, with all waste processing operations taking place within the confines of the building. Fast acting doors to the tipping hall will be employed to minimise the release of dust into the atmosphere and retain any potential odour. Flue Gas Treatment (FGT) residues would be handled in a sealed environment and Incinerator Bottom Ash (IBA) would be stored on site in suitable containers before being removed by rail. Irrespective of these measures, conditions can be imposed to ensure that dust emissions from the site do not cause harm to local amenity.

10.50 With respect to odour, the ES identifies that some processes may give rise to odour, which may have an impact on amenity. The potential for odour will, however, be minimised through the measures that seek to control dust emissions from the site, together with good housekeeping practices. It is concluded, therefore, that any instances where there is a release of odour from the site would be low in impact, producing effects of negligible significance.

10.51 Nevertheless, the Environmental Health department at Broxbourne Borough Council refers to the parallel application for an environmental permit. In responding to the EA, Environmental Health raised concerns that ammonia was to be stored on the site as part of the incineration process and that this can be problematic to handle and store, with a high odour impact of released. The potential for this, in the view of Environmental Health, has not been examined in detail.

10.52 The applicants point out, in response, that the ammonia solution tank is located at the northern end of the site beneath the tipping hall and that the equipment and procedures for handling and storing ammonia solution are well developed in accordance with the British Standard EN 12952-15 and safety legislation. Arup advises the Waste Planning Authority that, irrespective of Veolia's response, the handling of materials such as ammonia will be specified by the EA permit and/or the Health and Safety Executive. On this basis, this would be a regulatory issue rather than a planning issue.

10.53 The Hoddesdon Society has objected to the development on the basis that the incineration of waste is incompatible with food production and distribution businesses within the Hoddesdon employment area. However, this is not borne out with regards to the air quality assessment that has been carried out. Likewise, no such concerns have been raised by Public Health responses to the planning application.

*Conclusions*

10.54 The thorough assessment of the likely impacts arising from the proposed development in terms of air quality has identified that there will be no significant harm arising as a result of the construction and operation of the ERF.

10.55 Although air quality will be predominantly monitored and controlled by way of the environmental permit that is required, it is considered that, in planning terms, the development accords with national and local policies that seek to ensure that development does not give rise to a diminution of air quality.

## 11. Noise and vibration

*Policy background*

11.1 The NPPF states that when granting planning permission, development proposals must ensure that noise does not give rise to significant adverse impacts on health and quality of life. It further states that decisions should mitigate and reduce to a minimum other adverse impacts and quality of life arising from noise from new developments, including through the use of conditions. However, the NPPF recognises that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established. The framework states that planning policies and decisions should also aim to identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason. Effects of noise are categorised as being either 'adverse

effects' or 'significant adverse effects'. With this in mind, the NPPF refers to the Noise Policy Statement for England Explanatory Note (NPSE).

11.2 The NPSE sets out the government's long term vision for noise policy, which is to "promote good health and a good quality of life through the effective management of noise within the context of policy on sustainable development". This is supported and reinforced by the three main aims:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and,
- where possible, contribute to the improvements of health and quality of life.

11.3 In considering noise levels arising from the operation of the bypass, the Planning Practice Guidance for Noise sets out the following criteria:

- Unacceptable Adverse Effect Level (UAEL) – this is the level of noise that results in extensive and regular changes in behaviour and/or an inability to mitigate the effect of noise, leading to psychological stress or physiological effects such as regular sleep deprivation/awakening, the loss of appetite, and significant, medically definable harm.
- Significant observed adverse effect level (SOAEL) – this is the level of noise exposure above which significant adverse effects on health and quality of life occur. The noise causes a material change in behaviour and/or attitude, such as avoiding certain activities during periods of intrusion, and having to keep windows closed most of the time because of the noise. There is potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life is diminished due to the change in the acoustic character of the area.
- Lowest observed adverse effect level (LOAEL) – this is the level of noise exposure above which adverse effects on health and quality of life can be detected. The noise is considered to cause a material change in behaviour, for example, speaking more loudly, turning the volume of the television up, or closing windows for times. There is potential for sleep disturbance at this level.
- No observed adverse effect level (NOAEL) – in this situation, noise is heard but does not cause any change in behaviour or attitude. There may be a slight change in the acoustic character of the area but not such that there is a perceived change in the quality of life.
- No observed effect level (NOEL) – this is the level of noise exposure below which no effect at all on health or quality of life can be detected.

11.4 The Planning Practice Guidance for Noise provides a further explanation of this:

"As the noise exposure increases, it will cross the no observed effect level (NOEL) as it becomes noticeable. However, the noise has no adverse effect so long as the exposure is such that it does not cause any change in behaviour or attitude. The noise can slightly affect the acoustic character of an area but not to the extent there is a perceived change in quality of life. If the noise exposure is at this level no specific measures are required to manage the acoustic environment.

As the exposure increases further, it crosses the lowest observed adverse effect level (LOAEL) boundary above which the noise starts to cause small changes in behaviour and attitude, for example, having to turn up the volume on the television or needing to speak more loudly to be heard. The noise therefore starts to have an adverse effect and consideration needs to be given to mitigating and minimising those effects (taking account of the economic and social benefits being derived from the activity causing the noise).

Increasing noise exposure will at some point cause the significant observed adverse effect level (SOAEL) boundary to be crossed. Above this level the noise causes a material change in behaviour such as keeping windows closed for most of the time or avoiding certain activities during periods when the noise is present. If the exposure is above this level the planning process should be used to avoid this effect occurring, by use of appropriate mitigation such as by altering the design and layout. Such decisions must be made taking account of the economic and social benefit of the activity causing the noise, but it is undesirable for such exposure to be caused.

At the highest extreme, noise exposure would cause extensive and sustained changes in behaviour without an ability to mitigate the effect of noise. The impacts on health and quality of life are such that regardless of the benefits of the activity causing the noise, this situation should be prevented from occurring."

11.5 The three aims within the NPSE can therefore be interpreted as being:

- the first aim is to avoid noise levels above the SOAEL;
- the second aim considers situations where noise levels are between the LOAEL and SOAEL. In such circumstances, all reasonable steps should be taken to mitigate and minimise the effects. However this does not mean that such adverse effects cannot occur; and,
- the third aim considers situations where noise levels are between the LOAEL and NOEL. In these circumstances, where possible, reductions in noise levels should be sought through the pro-active management of noise, reflecting an improvement in the situation.

11.6 The NPSE recognises that it is not possible to have single objective noise-based measures that define the SOAEL, LOAEL and NOEL that is applicable to all sources of noise in all situations. The levels are likely to be different for different noise sources, receptors and at different times of the day.

11.7 In relation to night time noise levels, the World Health Organisation's 'Guidelines for Community Noise' 1999 recommend that, for a good night's sleep, the equivalent sound level should not exceed 30 dB $L_{Aeq}$ for continuous background noise. This is the internal sound level based on a level of 45 dB $L_{Aeq}$ measured at the external façade of a building, and assuming an overall reduction of 15 dB $L_{Aeq}$.

11.8 In 2009 the World Health Organisation published 'Night Noise Guidelines for Europe', to run alongside the 1999 guidelines. These assess the effect of noise during the night time using the $L_{night,outside}$ parameter. The guidelines consider the external noise level averaged over a complete year for the 8 hour time period, stating:

> "There is no sufficient evidence that the biological effects observed at the level below 40 dB $L_{night,outside}$ are harmful to health. However, adverse health effects are observed at the level above 40 dB $L_{night,outside}$ such as self-reported sleep disturbance, environmental insomnia, and increased use of somnifacient drugs and sedatives. Therefore, 40 dB $L_{night,outside}$ is equivalent to the lowest observed adverse effect level (LOAEL) for outside noise."

11.9 The 2009 guidelines therefore suggest that external night time levels should not exceed 40 dB $L_{night,outside}$, with an interim target of 55 dB $L_{night,outside}$ outside where the lower target is not feasible in the short term. This level of 40 dB $L_{night,outside}$ is widely exceeded across the UK and Europe and is regarded as being an ultimate, aspirational objective. The interim target of 55 dB $L_{night,outside}$ is considered to be a more pragmatic level to be aimed for in the shorter term. The guidelines state:

> "The LOAEL of night noise, 40 dB $L_{night,outside}$ can be considered a health-based limit value of the night noise guidelines necessary to protect the public, including most of the vulnerable groups such as children, the chronically ill and the elderly, from the adverse health effects of night noise."

11.10 In respect of day time noise levels, the 1999 guidelines recommend that sound levels remain at exceed 55 dB $L_{Aeq}$ or less over the 16 hour day time and evening period (07.00 to 23.00 hours) to avoid "minimal serious annoyance", with a level of 50 dB $L_{Aeq}$ to avoid "minimal moderate annoyance".

11.11 In respect of local planning policies, Policy 11 of the Waste Core Strategy considers the general criteria for assessing waste planning

applications. Criterion iii) states that planning applications will be granted provided that:

> "the proposed operation of the site would not adversely impact upon amenity and human health."

11.12 Specifically in respect of sustainable design, construction and demolition, Policy 12 of the Waste Core Strategy requires that proposals will need to address the principles of sustainability by demonstrating that:

> "no significant noise or light intrusion will arise from the development, (including) measures to minimise adverse impact on human health, amenity and wildlife habitats; and the natural and built environment."

11.13 Policy 12 also places an emphasis on the enclosure of waste management facilities within a building wherever possible, which should be in keeping with the surrounding setting and the landscape/townscape.

11.14 Policy 13 of the Waste Core Strategy considers road traffic and transport, dealing with issues such as highway safety and the effective operation of the highway network. These issues are considered elsewhere within this report. However, the policy also requires that the traffic impacts likely to be generated by new waste related development should not have a significant adverse impact on amenity, human health and the historic and natural environment.

11.15 Policy SUS8 of the Broxbourne Local Plan states that:

> "New development involving noisy activities should, wherever possible, be sited away from noise sensitive land uses. In cases where location close to a noise sensitive land use is unavoidable the council will have regard to the following factors in its assessment of the acceptability of the proposal:
>
> (a) the time span over which the noise will be generated;
> (b) the nature of the noise generated;
> (c) the cumulative impact of any existing noisy development with the proposed development; and
> (d) the character of the adjoining area.
>
> Where planning permission is granted, conditions may be imposed to control the level of noise emitted and the time span within which noise is generated."

11.16 Policy SUS9 of the Local Plan states that:

"Proposals which are inherently noisy will also be required to show that consideration has been given to their likely impact on the wider environment by submission of a noise impact study."

*Evaluation*

11.17 In order to determine a noise baseline, noise monitoring was undertaken at a number of locations in 2011 and 2012 in support of the Development Control Order application submitted by Veolia in 2012. These locations had been agreed at that time with Environmental Health representatives from Broxbourne Borough Council, East Herts District Council and Epping Forest District Council. Due to the ongoing construction works at the anaerobic digester/advanced thermal treatment plant on the opposite side of Ratty's Lane to the application site, further noise monitoring has not been undertaken with regards to this application; this approach was acknowledged in the Scoping Opinion. Consequently, the baseline that was determined as a result of the 2011/12 noise monitoring represents the worst case scenario as it does not take into account other industrial developments in the vicinity, which would raise the baseline level.

11.18 Broxbourne's Environmental Health department has stated, however, that the surveys carried out in 2011 and 2012 are no longer representative due to the time that has elapsed. It is asserted that the applicant replies on "outdated monitoring results which do not provide a representative analysis of conditions around the vicinity of the proposed site, thus making it difficult to determine the correct level of mitigation at the site".

11.19 Arup has advised the Waste Planning Authority that if there are no other factors that would result in substantial changes to the local noise climate, the 2011/12 data may be most representative of the baseline. However, the applicants have been monitoring construction works at this site over recent months and, whilst the ATT is still not operational, construction activities are now minimal. Veolia therefore undertook some short term baseline noise surveys during October and November 2017, which concluded that the noise levels are comparable to those recorded in 2011/12. Arup has assessed this and advised that this is reasonable.

11.20 It is clear that the proposed development would result in a number of impacts. These would take place during both the construction phase of the development as well as when the ERF is operational. These impacts can be looked at individually as follows.

***Construction – noise***

11.21 Likely construction noise has been assessed with reference to the methodology contained within BS 5228, which predicts noise as an equivalent continuous noise level averaged over a period of time. BS

5258 contains a database of equipment, activities and routines so that it is able to inform the likely noise levels that will result from construction works. There are no national limits for construction noise, but guidance on what is considered acceptable is also set out in BS 5228.

11.22 For the purposes of this study, the following locations have been chosen as representative receptors for noise:

- Lock Keeper's Cottage
- Dobb's Weir Road
- Glen Faba Road
- Stortford Road
- New residential properties at Oaklands Yard, Essex Road
- Colthurst Gardens/Village Close

11.23 The Environmental Health department has concerns that during the Scoping consultation in 2016 that noise monitoring should take into account the proposed residential development at Oaklands Yard, together with new residential developments at Colthurst Gardens, Fishermans Way and Village Close. The applicants advise that Oaklands Yard and Colthurst Gardens/Fishermans Way/Village Close were included as receptors within the ES and that calculated noise levels at these once the ERF is operational were below the measured prevailing background noise levels. Arup points out that one of the receptors is actually on Normandy Way, which is close to Fishermans Way and Colthurst Gardens, but is not the same assessment location as advised by Environmental Health. However, the Normandy Way receptor is actually closer to the proposed development, so offers a worst-case scenario on this residential receptor.

11.24 In addition, the following construction activities have been identified as being required and pertinent to the noise assessment:

- site clearance;
- earthworks;
- continuous flight auger (CFA) piling;
- excavation and foundations;
- retaining wall construction;
- slab construction;
- steelwork construction;
- finishing and fitting;
- access road construction; and
- hardstanding construction.

11.25 Threshold noise levels have been determined as being 65 dB $L_{Aeq, 1h}$ for the six noise receptors. From the Environmental Statement that accompanies the planning application, the conclusion is that, in the main, construction noise levels will be significantly below the threshold

levels for five of the six receptors. However, for Lock Keeper's Cottage, it is concluded that site clearance works and the construction of access roads will breach the threshold level by 8dB, with earthworks exceeding the threshold by 6dB. Construction of hardstandings will also exceed the threshold, but only by 1dB, which is considered negligible. All other construction activities will be below the threshold level. It is considered that house boats in the vicinity of Lock Keeper's Cottage will be exposed to similar noise levels.

11.26 Arup originally advised the Waste Planning Authority that the potential impact of the development on Lee Valley Caravan Park was not included in the applicant's noise assessment. In response, the applicant has indicated that the noise levels across the caravan park will be comparable to those at the receptor at Dobbs Weir Road. This is a reasonable assumption. Accordingly, the ES shows that the estimated construction noise across the caravan park will be well below the adopted construction noise of 65 dB and the significance of effect on this receptor is None.

11.27 As set out in the Environmental Statement, these values represent the worst case scenario, based on measurements taken at the nearest part of the site to the receptor, with the majority of construction activities taking place elsewhere on the site at a further distance from the receptors. Therefore, the Environmental Statement concludes that the effect of construction noise on Lock Keeper's Cottage and the house boats along the River Lee will be a "Minor Adverse" effect. Similar noise impacts will be experienced along the river towpath adjacent to the site. It is also important to note that the construction period is, by its very nature, temporary.

***Operational - noise***

11.28 Comprehensive modelling for noise based on the operation of the ERF has been undertaken as part of this planning application, which takes into account the following:

- Ordnance Survey base mapping for the site and its surroundings, including residential buildings;
- ground elevation data for the site and its surroundings;
- ERF building plans and elevations;
- sound power level data for plant items;
- internal reverberant sound pressure levels to spaces within the ERF;
- proposed building constructions, taking into account acoustic data for all walls, roofs and ventilation openings; and
- HGV traffic entering and leaving the site.

11.29 The noise modelling and subsequent assessment has been carried out with reference to BS 4142, which deals with methods for rating and assessing industrial and commercial sound. This provides a

comparison between the background noise level in the vicinity of residential properties and the rating level of the noise source under consideration. In respect of the Ratty's Lane site, in terms of assessing when the LOAEL is encountered, this is where noise levels are 5dB above existing background levels. The SOAEL is breached where background noise levels are exceeded by at least 10dB.

11.30 The same six receptors that were used for the construction noise assessment were used for operational noise. The noise model looks at predicted noise levels during three specific time periods as follows:

- Daytime (07.00 to 23.00)
- Night time (23.00 to 05.00)
- Night time (05.00 to 07.00)

11.31 The daytime scenario assumes that there are HGV movements into and around the site, that the doors to the tipping hall are open and that the IBA conveyor is operational. The night time period from 23.00 to 05.00 hours assumes that there are no HGV movements, that the doors to the tipping hall are closed and that there is reduced activity within the tipping hall. The IBA conveyor is assumed to be operational, however. In respect of the early morning period of 05.00 to 07.00 hours, there is an assumption that there are HGV movements but on a reduced scale, that the doors to the tipping hall are open and that the IBA conveyor is again operational.

11.32 The conclusions from the modelling and analysis of predicted noise levels is that during the daytime and the night time (23.00 to 05.00) periods, none of the receptors will experience noise levels above the derived daytime and night time noise limits respectively. For the early morning period, only one receptor (Lock Keeper's Cottage) will experience an increase in noise levels above the derived early morning noise limit. However, this will be just 1.1dB above this limit, which is considered to be negligible. This is also significantly below the LOAEL for the site. It is further concluded that the house boats in the vicinity of the site will experience a similar negligible increase in noise, as will the towpath running adjacent to the site. In addition, it is envisaged that there will be in the region of two trains removing IBA from the site per week. When looked at in the context and background of existing freight and passenger trains using the rail network, this again should have a negligible impact in terms of noise. As with the case with the construction phase, it is considered that the receptor at Dobbs Weir Road is representative of the Lee Valley Caravan Park.

11.33 Consequently, in terms of operational noise, the overall conclusion is that the operation of the ERF will have a negligible impact on the surroundings of the site.

***Construction – road traffic noise***

11.34 An assessment of the noise resulting from construction traffic travelling to and from the application site was carried out with reference to 25 locations in the vicinity of the site. From this, a Basic Noise Level (BNL) was calculated, being the noise level at 10 metres from the side of the road taking into account flow of traffic, speed, composition, road surface and gradient. This was further based on 2019 traffic flows with and without construction traffic.

11.35 From this, it is clear that the BNL is not altered in the majority of cases or, where it is, the increase is minimal or insignificant. The largest increase by far is at the access to the site at the bottom of Ratty's Lane, where construction traffic is predicted to raise noise levels by 0.9dB when observed at Lock Keeper's Cottage and any nearby house boats.

***Operational – road traffic noise***

11.36 As with construction traffic, the BNL was calculated for operational traffic accessing the ERF. Two scenarios were taken into account: traffic flows in 2021 (when the plant is operational) based on a 'Do-Minimum' traffic flow (based on the absence of the proposed facility); and based on a 'Do-Something' traffic flow (based on the presence and operation of the ERF).

11.37 Again, as with construction traffic, the conclusion from this is that noise levels from HGVs are not significantly increased as a result of the presence and operation of the ERF. No change or minimal change in noise levels (between 0.1 and 0.2dB) are identified at all but the Ratty's Lane receptor, where noise levels are predicted to increase by 1.4 dB. Again, such an increase is considered to be insignificant overall.

***Construction - vibration***

11.38 Guidance on the nuisance effects of vibration is provided within BS 5228-2 Annex B, which is shown in Table 11.1 below.

Table 11.1: Guidance on effects of vibration levels

| **Vibration level (PPV)** | **Effect** | **Classification** |
|---|---|---|
| 0.14 mm/s | Vibration might just be perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies people are less sensitive to vibration. | Negligible |
| 0.3 mm/s | Vibration might be just perceptible in residential environments. | Minor |
| 1 mm/s | It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents. | Moderate |

| | | |
|---|---|---|
| 10 mm/s | Vibration is likely to be intolerable for any more than a very brief exposure to this level. | Major |

11.39 Receptors have again been identified in respect of vibration, with an assessment carried out of the likely impact of vibration at these locations. In respect of the Ratty's Lane proposals, vibration effects classed as moderate or major with reference to the above table are deemed to be "significant", with those classed as being negligible or minor are deemed to be "not significant".

11.40 CFA piling will be carried out on the development site, which is considered to be less intrusive in terms of noise and vibration when compared to alternative methods of piling. Using the data within BS 5228-2, it is estimated that five of the six receptors will encounter vibration levels of between 0.01 and 0.02 mm/s in terms of Peak Particle Velocity (PPV), with the receptor at the site boundary with the adjacent power station having a PPV of 0.22 mm/s. As such, these are all classed as being negligible with reference to Table 11.1, having a "Negligible Adverse Impact". However, a PPV of 0.30 mm/s is predicted at Lock Keeper's Cottage. Even so, such an impact is still only minor with reference to Table 11.1, being deemed to be a "Negligible Adverse Impact". A similar effect will be encountered at the house boats in the vicinity of the application site.

11.41 In respect of the likely damage to buildings as a result of vibration, it is considered that this is a rare occurrence due to the structural integrity of buildings. Nevertheless, BS 7385-2 provides guidance on the vibration levels likely to result in cosmetic damage to buildings. Similarly, BS 5228 recommends the limits for vibration to ensure that there is no damage to underground services such as sewers and pipelines. In both cases, it is predicted that vibration levels during the construction of the ERF will fall significantly below levels whereby there would be potential damage to buildings and/or underground services.

***Operational – vibration***

11.42 Vibration during the course of the operation of the ERF was scoped out of the Environmental Statement as no significant source of vibration during everyday operations was identified.

11.43 It is further concluded that HGVs accessing the site will not generate significant levels of ground borne vibration, especially as there are no speed bumps on the approaches to the site. This will depend as well on ensuring that the access and internal roads are maintained in a suitable condition. This can be required by way of the imposition of a suitable condition.

*Conclusions*

11.44 It is concluded that the predicted noise and vibration arising from the development, both during its construction and operation taking into account the road traffic accessing the site, will not adversely affect sensitive receptors in the vicinity of the site or on its approaches.

11.45 Although construction noise will have an adverse impact on the residential property at Lock Keeper's Cottage and upon house boats within the vicinity of the site, this is very much based on a worst case scenario. In any event, such construction noise will ultimately be temporary in nature.

11.46 Consequently, it is considered that the ERF does not conflict with national and local planning policies relating to noise and vibration. This situation can be further protected through the imposition of a condition that seeks to maintain a noise threshold at sensitive properties in the vicinity of the application site.

## 12. Landscape and Visual Effects

*Policy background*

12.1 Section 7 of the NPPF requires good design, stating that this is "a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making places better for people" (paragraph 56). Paragraph 61 of the NPPF states that the securing of high quality and inclusive design should not be based purely on aesthetic considerations, and decisions "should address the connections between people and places and the integration of new development into the natural, built and historic environment".

12.2 Paragraph 63 of the NPPF places an emphasis on giving weight to developments that incorporate outstanding or innovative designs that help to raise the general standard of development within the area that it is located. Following on from this, paragraph 64 states that poor design should not be granted planning permission.

12.3 Paragraph 65 states that planning permission should not be refused for buildings or infrastructure that promote high levels of sustainability because of concerns about their integration with the existing townscape, if such concerns have been mitigated by good design.

12.4 Policy 11 of the Waste Core Strategy sets out the general criteria for assessing waste planning applications. Criterion i) specifies that the siting, scale and design of the development should be appropriate to the location and character of the surrounding built and natural environment. Criterion ii) states that the impact of the development should be effectively mitigated through landscaping and screening of the site.

12.5 Policy 18 of the Waste Core Strategy seeks the protection of regional and locally designated sites and areas. Amongst other considerations, the policy states that waste management proposals will not be granted planning permission where there would be an irreversible adverse impact on the character, appearance and amenity value of a number of identified sites, including the Lee Valley Regional Park. The policy continues by stating that such assets should be conserved and, where possible, enhanced and that "where there are unavoidable negative impacts, adequate mitigation measures should be proposed to address such impacts and/or compensation provided for their replacement".

12.6 Policy 19 of the Waste Core Strategy places an emphasis on the protection of the county's diversity of natural and historic environmental assets. The policy states that development proposals should protect and enhance existing woodland, trees and hedges through improved management and new planting, but where the quantity and quality of such existing features are lost, there should be redress through equivalent planting, at the very least. The policy further states that development proposals should include measures to minimise visual intrusion and any adverse impact on the local landscape and countryside.

12.7 In respect of the Broxbourne Local Plan, Policy HD14 states that development should as a minimum maintain and, where possible, enhance the existing character of the area. Policy HD17 states that planning permission may be refused where development would result in the loss of important landscape features, and that proposals should respect existing features that provide a positive contribution to the character or appearance of the general area. Policy SUS11 of the Local Plan considers lighting, ensuring that development does not give rise to an unacceptable impact on amenity or the wider landscape through light spillage out of a site.

12.8 In respect of the emerging Broxbourne Local Plan, Draft Policy DSC1 requires development to enhance local character and distinctiveness, taking into account such considerations as existing patterns of development, significant views, height of the development, materials used, and landscaping. Draft Policy NEB3 requires that landscaping associated with new development is well planned.

12.9 As the application site is located on the very edge of Broxbourne, neighbouring local authorities' planning policies are germane to the consideration of this planning application. In the first instance, Epping Forest District Council's geographical area goes up to the eastern boundary of the site. Policy DBE9 of the Epping Forest Local Plan and Alterations states that new development should not result in an excessive loss of amenity for neighbouring properties, with visual impact, overlooking, and loss of daylight/sunlight being factors needing to be considered. Furthermore, Policy RST24 requires that all development proposals within or adjacent to the Lee Valley Regional

Park should conserve and, where possible, enhance the landscape of the Park or its setting.

12.10 To the north and north-east of the application site is the boundary with East Hertfordshire District Council. Policy GBC14 of the East Herts Local Plan states that Landscape Character Assessments will be used to assess development proposals, with such proposals being required to improve and conserve local landscape character.

12.11 Immediately to the east of the application site is the Lee Valley Regional Park and the Lee Valley Authority (LVRPA) is required to prepare a Park Plan. Part of the application site also sits within the Regional Park's area, being the area needed to accommodate the construction of a surface water drainage outfall pipe in the bank of the River Lee.

12.12 Policy L1.1 of the Park Plan requires the protection and enhancement of the openness of the Regional Park through ensuring that no development in or adjacent to the Park adversely affects its open character; and through protecting the Park's boundaries by distinguishing the built up area from the open space of the valley itself. Policy LS1.2 states that development on the Park's boundary should not act to the detriment of the landscape, be sensitive to its setting within the landscape, and respect and contribute to landscape character, retaining existing features where appropriate. In addition, Policy LS1.5 seeks to ensure that views throughout the Regional Park are protected and enhanced.

12.13 Policy LS1.6 of the Park Plan relates to visually attractive edges, stating that these should be protected and that those of less value should be improved with particular attention, amongst other things, to the boundary of the Regional Park and the valley of the River Lee, and main access and through routes.

12.14 Policy L4.4 requires that any proposed lighting should be designed so as to avoid any adverse effect on the local environment.

12.15 The application site is also located adjacent to a 'Landscape Investment' area, as defined within the Park Plan. These are defined as being "areas with negative, visually or physically fragmented and degraded character" that are looking to be redressed through "higher standards of development outside the Regional Park boundary". To the south-east of the application site is an area designated for 'Landscape Conservation'. These are defined as being "areas of high quality landscape with strong, positive and valued landscape character", to be protected and improved through the "protection from developments that are detrimental to the quality of the landscape".

12.16 Immediately to the east of the site is an area identified as a Waterway Corridor. Proposal WC2 of the Park Plan states that the Essex Road

industrial area and any potentially intrusive land use should be integrated with the Waterway Corridor by a landscaped buffer and well-designed buildings.

*Evaluation*

12.17 The different elements of the proposed development and their respective dimensions have been described within Chapter 3 of this report. Fundamentally, however, from a visual impact perspective, the primary impact will undoubtedly result from the main ERF building. This will have a maximum length of 149.6 metres and a maximum width of 54.5 metres, with an overall height of 48 metres above ground level. In addition, twin stacks will rise to 86.75 metres above ground level. This, in itself, is a significant and substantial building and together with its associated development in the form such items as weighbridges, weighbridge office and welfare facilities, the IBA storage shed, the ramp leading to the tipping hall and all other buildings, structures and infrastructure necessary for the operation of the ERF, will result in a large-scale development within the application site.

12.18 A Design and Access Statement accompanies this planning application, which describes the design evolution of the proposed development, taking into consideration the site's constraints as well as the relationship between the heavily industrialised nature of the site and its surroundings to the north, west and south, as well as the natural environment of the Lee Valley Regional Park to the east. The design ethos has been centred on maximising the quality of design for the benefit of the surrounding community, as well as the employees that will work within the ERF. The design further acknowledges that surrounding developments, particularly the adjacent power station and the Trent Developments ATT/AD facility, were designed based on historic industrial design principles, which the proposed ERF seeks to break with in order to provide a facility that maximises industrial design quality, whilst providing the necessary operational efficiency.

12.19 The starting point for the design of the facility was the DCO application in 2012. The site's constraints mean that the development needs to be provided in the proposed format, with a ramped access being necessary to allow access to the elevated tipping hall located above the ground waste bunker, together with the location of air cooling condensers (ACCs) above the tipping hall to move them away from the overhead power lines and to make way for parking and other infrastructure within the site.

12.20 Having identified the necessity for such a large building within the constrained site, the key consideration of the design has been to minimise its visual impact. The developer has sought to do this through the use of "a simple and attractive pallet of materials, in line with the scale of the building and surrounding buildings", using different colours of cladding to break up its overall mass. Horizontal banding of

materials in different colours and shades is proposed to represent fauna at lower levels working up to colours that represent the sky. Polycarbonate cladding will be used to allow natural light to enter the building and to screen the ACCs from view.

12.21 The lighting strategy for the scheme seeks to minimise light spill and sky glow resulting from both the internal and external lighting of the proposed facility.

12.22 A landscaping scheme has also been devised that seeks to protect views from the Regional Park by retaining as much natural vegetation along the eastern boundary of the site as possible, thus softening the visual impact of the proposed development.

***The Landscape and Visual Impact Assessment***

12.23 Within the ES, the existing baseline landscape character has been assessed, as well as the impact of the development during construction, upon completion and after 15 years of operation of the ERF, to the landscape.

12.24 For the purposes of the Landscape and Visual Impact Assessment (LVIA) within the ES, a study area has been identified with a radius of five kilometres from the centre of the application site; landscape character and views have been assessed within this study area.

12.25 A number of Landscape Character Areas (LCAs), consisting of areas of relatively homogenous landscape character, have been identified within the study area. Of these, direct effects would be felt at areas where development would take place, while indirect effects would be experienced at areas between the application site and surrounding landscape. Lastly, there are areas where no change would be perceptible. Each LCA has been assigned a sensitivity, based on the character and quality of the existing landscape and its ability to accommodate change. The magnitude of impact on the LCAs is then determined through a combination of the scale of the development, the type of development and the level of integration of new features with existing elements. The magnitude of impact ranges between High to Very Low or Neutral.

12.26 A Zone of Theoretical Visibility (ZTV) has also been identified based on the screening effect of a height of 10 metres for buildings and 15 metres for woodland. The resulting ZTVs for both the main building and the twin stacks have subsequently been reviewed through a desk study and through field work in order to determine the selection of representative views to inform the visual assessment. Visual receptors have been identified and assigned a category of sensitivity, based on a range of criteria and the expectations of the receptor type.

12.27 The magnitude of visual impact is subsequently determined through assessing the degree of change to the view as a result of the development, the period of exposure to the view and reversibility. Visually verified montages (VVMs) have been produced to allow for representative views to be assessed.

12.28 From this, the significance of effects has been determined, as shown in Table 12.1. This concludes that Minor, Negligible and Neutral effects are not considered to be significant, whereas Major effects are significant and in need of mitigation. Moderate effects have been considered to be borderline cases that would be determined based on professional judgement, taking into account such factors such as whether the effect is temporary or permanent, whether it is a direct or indirect effect, the duration and/or frequency of the effect and whether any secondary effects are caused.

Table 12.1: Classification of Landscape and Visual Effects

| **Sensitivity of Receptor** | Magnitude of Impact **High** | Magnitude of Impact **Medium** | Magnitude of Impact **Low** | Magnitude of Impact **Very Low** |
|---|---|---|---|---|
| **High** | Major | Major | Moderate | Minor |
| **Medium** | Major | Moderate | Minor | Negligible |
| **Low** | Moderate | Minor | Negligible | Negligible |
| **Very Low** | Minor | Negligible | Negligible | Negligible |

12.29 In addition to the LCAs in the vicinity of the site, the landscape character has been assessed based on National Character Areas (NCAs) as described by Natural England. Two of these are crossed by the study area; namely the Northern Thames Basin (NCA 111) and the South Suffolk and North Essex Clayland (NCA 86). Additionally, from a regional perspective, seven Landscape Character Types (LCTs) are located within the study area, being types of relatively homogenous landscape character, which may occur in a number of discrete areas. The application site is within the Urban LCT, although it borders the Valley Meadowlands LCT found along the River Lee. This is defined as consisting of a “flat, low-lying, tranquil, pastoral landscape associated with watercourses”.

*Proposed mitigation*

12.30 During construction, it is proposed to mitigate the effects of construction works through the retention and protection of existing trees within the site. Hoardings would also be erected around the perimeter of the site, helping to minimise any visual impacts of works and control measures would be put in place to minimise the impact of construction lighting on receptors outside the site.

12.31 Once the site is operational, a hard and soft landscaping scheme has been proposed by the applicant, which seeks to retain much of the natural screening around the site, both within and outside the boundaries of the site, as well as augmenting this with further planting

and habitat creation. Green roofs are proposed on two parts of the main building. A lighting strategy would also be devised to minimise light pollution.

*Landscape effects of construction*

12.32 The LVIA concludes that the only LCA likely to be directly affected by construction works is LCA 26 (Hoddesdon and Cheshunt Major Urban Area), which the application site sits within. The direct effect will be upon just that part of the LCA where the development is situated and would be from construction within the site itself, which will be exacerbated by the loss of vegetation within the site during construction and the effect of construction vehicles accessing the site. However, it is concluded that there will be a Minor adverse temporary landscape effect on LCA 26, which is not considered to be significant.

12.33 The indirect effects of construction works have also been considered within the LVIA, ultimately concluding that none of the indirect effects on landscape will be significant upon those LCAs located to the east and south of the site. This is on the basis that the construction works are, by their very nature, temporary. Also, some of the LCAs are distant from the application site and the presence of intervening structures and vegetation minimises the visual impact of construction works on the LCAs to the east and south.

*Landscape effects of operation*

12.34 As with the construction phase, the LVIA concludes that LCA 26 will be directly affected by the ERF once it is operational. Although the LVIA acknowledges that the scale of the development will have a substantial impact on the immediate landscape character of the site, when looked at in the context of the whole of LCA 26 which in effect covers the whole urban area of the borough of Broxbourne, the level of impact of the whole scheme would be Low. The LVIA further concludes that the proposed development is in character with LCA 26 in terms of its scale, siting and location and that the resulting effect is negligible. By year 15, the LVIA concludes that mitigation planting would have established sufficiently to provide further enclosure of the site, thus further mitigating the effects on landscape.

12.35 However, it is considered that the proposed development is not necessarily of a scale that is in keeping with the overall character of LCA 26. As stated by the County Council's Landscape Officer, whilst the principle of industrial development is accepted at the site, the height, scale and mass of the proposed development is greater than the existing industrial use and other industrial premises in the wider employment area. It helps that the development is located adjacent to the large Rye House Power Station, which assists in integrating the proposed development into the LCA, but it is considered that the resulting effect must be greater than negligible.

12.36 In respect of indirect effects upon landscape, the LVIA concludes that LCAs to the east and south would experience Low to Medium impacts on their landscape character, resulting in Minor or Negligible effects that are not considered to be significant. Views would be screened and softened as soft landscaping matures by year 15, further allowing the incorporation of the development into the landscape.

12.37 The County Council's Landscape Officer is of the view, however, that the three LCAs to the east and south, covering the Lee Valley, will experience significant effects upon their landscape due to their location within the highly sensitive Lee Valley Regional Park. The Park Plan produced by the LVRPA seeks to ensure that development on the boundary of the Regional Park is not detrimental to amenity, contributing positively to landscape character. As such, the Landscape Officer states:

> "There is concern for the negative impact of the proposed large scale industrial building, within this sensitive urban-rural edge location on the boundary of the LVRP, and upon the quality of the visitor experience and the sense of getting away from the urban environment and connecting with nature."

12.38 The LVRPA also objects to the proposed development, with the reason for this being due to:

> "its likely adverse impacts on the visitor amenity, ecology and landscapes of the Regional Park and in particular the adjoining waterway corridor at Fieldes Weir and Glen Faba."

12.39 This is an objection mirrored by the Canals and Rivers Trust, which highlights that the scale and position of the main building will have a significant visual impact upon the water corridor outside the site. Similarly, the lorry access adjacent to the river and the weighbridge office are also considered by the Trust to result in an adverse effect on the water corridor.

12.40 It is clear that the introduction of such a large building and its associated development on the site in question will have a significant impact upon the landscape of the adjacent water corridor. This development is of a size and scale that is not replicated elsewhere within the general area, despite the very large Rye House Power Station being located adjacent to the site to its immediate south-west. However, it must be borne in mind that the development will take place within the confines of an existing industrial area; as such, it is not considered to be an inappropriate use. Indeed, as one travels along the River Lee in the vicinity of the application site, one encounters a number of commercial and industrial uses, both within the Essex Road employment area and on the opposite bank of the river. In that context, the establishment of an ERF does not appear out of place. Although it

is very large in scale, bulk and siting, it is of a modern design that not only seeks, as far as it is possible, to blend in to its surroundings through the use of graduated coloured panels, but is also of such a design that it will provide an architectural enhancement to the employment area, rejecting utilitarian design concepts seen elsewhere, particularly at the adjacent power station.

12.41 Consequently, the size and scale of the development may have a significant effect on landscape character when viewed in the context of LCAs located to the east and south, as well as on the Lee Valley Regional Park, contrary to Policies 11, 18 and 19 of the Waste Core Strategy as well as policies within the Broxbourne Local Plan and the LVRPA's Park Plan. However, paragraph 65 of the NPPF places great emphasis on approving buildings that promote high levels of sustainability, if the effect on the townscape has been mitigated by good design. Landscaping and screening of the site will not be entirely effective in mitigating the visual impact of the proposed ERF but will go some way towards this, in compliance with criterion ii) of Policy 11 of the Waste Core Strategy. It can also be considered that the modern design of the building will provide general enhancements to the wider employment area, in compliance with Policy HD14 of the Local Plan.

12.42 Although Policy L1.1 of the Park Plan requires that development does not affect the open character of the Park, and that Policy LS1.2 states that development on the boundary of the Park should not detrimentally affect the landscape, it can be argued that the development will provide enhancements to the boundary of the Park through the removal of the present industrial use, which is relatively ad hoc and relatively incongruous with other uses within the employment area along the Park's boundary. The introduction of this modern facility will meet the objective of Proposal WC2 of the Park Plan, which states that development along the waterway corridor should be well-designed with the presence of a landscaped buffer.

*Visual effects of construction*

12.43 The LVIA concludes that 13 visual receptors would experience Major or Moderate effects from construction works, with these effects being considered significantly adverse. Six of these receptors are residential in nature, being those at Glen Faba/Fieldes Lock immediately to the east of the site; residents of house boats on the River Stort at Fielde's Lock; residents of Fisherman's Way to the north west of the site; Rye Road/Bosanquet Road, again to the north west of the site; Hailes Farm and surrounding properties, to the south-east of the site; and The Towers in Hoddesdon, to the west of the site. Users of public rights way are affected at receptors located at Fieldes Weir; the River Lee to the east of the site; users of the Stort Valley Way south of Low Hill Road; users of the Stort Valley Way, to the north of Low Hill Road; and users of the footpath along the west bank of Glen Faba lake. One of the other receptors affected relates to boat users on the River Lee and

the final receptor is in respect of people staying at the Lee Valley Caravan Park to the east of the site.

12.44 All of these receptors are within 1500 metres of the application site. Despite vegetation and/or buildings and structures being present between the receptors and the site, it is concluded that the height of construction works would introduce a further obvious visual element into the environment. Consideration must be given, however, to the fact that the construction works will be temporary in nature, envisaged to last for three years.

*Visual effects of operation*

12.45 The LVIA has identified that there will be direct visual impacts within the study area, making reference to the VVMs carried out as part of this assessment. A VVM of the proposed ERF has also been produced showing its night time impact.

12.46 Five receptor groups with close views of the site (up to 0.5 kilometres away) have been judged likely to experience a Major or Moderate adverse visual impact during year 1 of the operation of the ERF. The visual effect is considered to be significant in these cases, with two of these being residential in nature. These are:

- Residents of Glen Faba and Fieldes Lock, east of the site;
- Residents of house boats on the River Stort at Fielde's Lock;
- Users of the footpaths around Fieldes Weir, east of the site;
- Users of the towpath along the River Lee to the north;
- Users of boats travelling along the River Lee to the north.

12.47 The County Council's Landscape Officer is of the opinion that there would also be a significant impact on the receptor group consisting of users of the access bridge over the River Stort at Fieldes Lock, due to the sensitivity of this right of way; this is considered to be a reasonable conclusion. In addition, the Landscape Officer states that residents of Fisherman's Way in Hoddesdon would also experience a significant visual effect. With reference to the viewpoints provided by the applicant, it is considered that this will be less so, as the site is well-screened by a large commercial building from this viewpoint.

12.48 The LVIA also identifies that other receptor groups within 500 metres of the site would experience Moderate, Minor or Negligible effects, not judged to be significant. In respect of middle-distance views, the LVIA concludes that none of the effects on the visual amenity of these are considered to be significant at year 1. Views of the ERF from receptors would either be obscured or screened through existing buildings and vegetation, or would be seen in the context of a backdrop of industrial buildings and electricity pylons.

12.49 From long-distance views (2 kilometres to 5 kilometres) it is again considered that visual amenity will not be significantly affected by the development. The building will be visible from distance, but its impact will be obviously diminished by the distance involved and its setting adjacent to existing commercial and industrial buildings.

12.50 By year 15, the LVIA identifies that the establishment of mitigation planting would assist in further enclosing the site, softening views into it and providing a degree of further integration with the landscape. As such, the residual effects on the residents of Glen Faba and Fieldes Lock, the residents of house boats at Fielde's Lock, and the users of the footpaths at Fieldes Weir, would experience Moderate adverse effects after 15 years of operation, resulting in significant adverse residual effects.

12.51 The receptor group at Glen Faba consists of the residents of a pair of semi-detached single-storey cottages, located at a lower level than the towpaths along the River Stort and the River Stort Flood Relief Channel. Only the cottage closest to the Fieldes Lock Weir would have views towards the ERF. The LVIA identifies that the due to the presence of a 1.8 metre high fence and the fact that the cottage is at a lower level than the towpaths, views towards the ERF would be limited, with views being further interrupted by the machinery building associated with the weir along with trees and shrubs located around the perimeter of the application site. The level of interruption from vegetation will obviously be greatest during the summer months. Lock Keepers Cottage, however, is located closer to the application site and has an open aspect across the lock. Although the ERF will be visible from this property, the LVIA concludes that views towards it will be oblique and will be broken up by tall trees and shrubs growing within 20 metres of the property on the eastern boundary of the application site.

12.52 The LVIA further concludes that the establishment and maturation of landscaping would also result in the residual effects on all other receptor groups being in a range from Moderate to Negligible, which would not be significant in all cases. The County Council's Landscape Officer disagrees with this, however, stating that significant effects will still be experienced at seven receptor groups that have medium-distance views of the site and two receptor groups with long-distance views; these are all from public footpaths within the study area. The Landscape Officer expresses concern regarding the negative effect on views where the development is viewed in isolation of its urban context. Nevertheless, the officer further acknowledges that "the significance of visual effects diminishes with distance, the proposed main building is generally well assimilated in views where its roofline sits below the distant horizon, and due to the foreshortening effect of features in the foreground, such as vegetation".

*Lighting*

12.53 The LVIA acknowledges that the development will result in increased levels of illumination compared to the existing situation, primarily due to the height of the new building and stacks being at a much higher level; consequently, luminaires will be at higher levels. Lighting will be designed to minimise light spill, but the LVIA states that there is an existing evening light glow from other commercial premises within the industrial estate, as well as the kart track and speedway stadium on the opposite bank of the River Lee. As such, the internal and external lighting associated with the ERF will be seen in the context of this glow.

12.54 The LVIA continues by stating that middle to long-distance views will show an illuminated industrial site seen within the wider built-up area of Hoddesdon. It further states that this is the present situation with the rail aggregates depot. However, it has already been accepted within the LVIA that lighting will be at a higher level to existing, so middle to long-distance views will notice this change in the evening landscape. Furthermore, the use of translucent cladding at the higher levels of the ERF building, as well as the 24 hour operation of the facility, will result in a tall building being a prominent feature in the night time environment. This is an issue picked up on by the County Council's Landscape Officer, who describes the building (as set out in the night time photomontage that accompanies the application) as a "glowing box".

12.55 Consequently, it is imperative that the internal lighting, together with external lighting within the site, is designed to minimise light spill. It is therefore considered necessary and appropriate to impose a condition requiring full details of the lighting strategy, together with the details of the cladding to be used on the external fabric of the building, to be submitted to the County Council for its approval.

*Daylight, Sunlight and Shadow*

12.56 A Daylight, Sunlight and Shadow Assessment has been carried out on behalf of the applicant and submitted with the planning application. This identifies that the only residential property that is within a significant distance in respect of these elements is Lock Keeper's Cottage, with all other properties in the vicinity being non-residential or a sufficient distance from the proposed development.

12.57 A total of six windows within Lock Keeper's Cottage face towards the application site; four at ground level and two at first floor level. As these have a west-by-north-west orientation, none of these windows face within 90 degrees of due south. On this basis, they have not been assessed in terms of sunlight. They have, however, been considered in terms of the impact of the development upon their daylight.

12.58 Daylight has been assessed with reference to the Vertical Sky Component (VSC), which represents the amount of vertical sky falling

on a vertical window. The BRE guidelines state that if the VSC is less than 27% and less than 0.8 times its former value once the development has been built, then the loss of light is likely to be noticeable. In this case, the VSC of all windows has been calculated to range between 27.14% and 33.50% after the ERF is in place, with these ranging between 0.84 and 0.87 times the former value of the windows. The proposed development is therefore compliant with BRE guidelines in respect of daylight relating to all six windows.

12.59 In terms of overshadowing, the existing area of woodland to the east of the site, the canal towpath, Lock Keeper's Cottage and the canal basin, have all been assessed. The BRE guidelines recommend that:

> "for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable."

12.60 The overshadowing assessment concludes that the proposed development will have no impact upon any of the areas identified, with 100% of the existing lit area continuing to receive more than two hours of sunlight on 21 March. The proposed development therefore complies with the BRE guidelines in this respect.

*Conclusions*

12.61 It is clear that the proposed development will have a significant adverse impact on a number of receptors in terms of landscape and visual impact. Mitigation is proposed through the design of the facility, which makes a break from the relatively generic design of surrounding facilities. Furthermore, a natural buffer zone consisting of landscaping is proposed along the site's boundary with the adjacent water corridor, which will assist in screening the lower levels of the building, thus providing a break from the natural environment.

12.62 Nevertheless, the proposed development will appear visible and obvious within the landscape, especially when viewed from the Lee Valley Regional Park and the water corridor of the River Lee. The emphasis of planning policies relating to landscape appears to be on the conservation and enhancement of landscape character, yet it is apparent that the development will fail to do this, especially when considered in relation to the sensitivity of the adjacent Lee Valley Regional Park. Consequently, it can be concluded that the development will conflict with the purposes of planning policies seeking to protect the landscape of the area. Although it is accepted that the proposed development will result in a significant impact upon the Lee Valley, Policy L1.1 of the Regional Park's local plan states that

development should protect the Park's boundaries by distinguishing the built up area from the open space of the valley itself. It is clear that the proposed ERF will fulfil this broad aim.

12.63 Policy 18 of the Waste Core Strategy states that adequate mitigation measures should be proposed to address such impacts and/or compensation should be provided.

12.64 As referred to in Chapter 23 of this report, the Lee Valley Regional Park Authority and the Canal and Rivers Trust both seek financial contributions to assist in providing further mitigation outside the site but within its immediate vicinity to assist in lessening the impact of its size and bulk. It is considered that these contributions would secure significant mitigation to the areas outside the site, assisting in minimising the overall visual impact of the development and its impact on the wider landscape. This is a material consideration in favour of the scheme to which significant weight can be attached.

12.65 Internal lighting of the building, which will be visible from outside, remains a concern, however. It is therefore imperative that the use of materials and lighting is controlled through the imposition of conditions in order to minimise the impact of the development on the night time environment.

## 13. Ecology and nature conservation

*Policy background*

13.1 From a national and international perspective, the United Kingdom is bound by the terms of the European Birds and Habitats Directive (1992) and the Ramsar Convention (1971). The Conservation of Habitats and Species Regulations 2010 (the '2010 Regulations') provide for the protection of European sites created under this legislation, and also apply specific provisions of the European Directives to SACs and SPAs. This includes the requirement for an appropriate assessment to be conducted during the planning process if a project is considered by the competent authority to be likely to result in significant effects on any Natura 2000 site. Should there be an adverse effect on the integrity of a European site, planning permission can only be granted under very restricted circumstances.

13.2 Regulation 9(5) of the Habitats Regulations requires that, when exercising any of its functions, the local planning authority must have regard to the requirements of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora ("the Habitats Directive"), so far as they may be affected by the exercise of those functions.

13.3 The Habitats Directive is aimed at the preservation, protection and improvement of the quality of the environment in the European

Community. This particularly includes the conservation of both the natural habitats of wild flora and fauna and the flora and fauna themselves. Such conservation is to be achieved by taking measures to maintain the population of protected species at a 'favourable conservation status'. The European Commission, in its guidance document to the Habitats Directive, has summarized 'favourable conservation status' as "in simple terms….a situation where a habitat type or species is doing sufficiently well in terms of quality and quantity and has good prospects of doing so in the future".

13.4 The requirements of the Habitats Directive include a strict system of protection for European protected species, which prohibits the deliberate killing, catching or disturbing of species, the taking of eggs and damage to or destruction of their breeding sites or resting places. Derogations from this strict protection are allowed only in certain limited circumstances and subject to certain tests being met. In England, these derogations take the form of licences that may be granted by Natural England.

13.5 It is for the local planning authority to establish whether the proposed development is likely to offend against Article 12(1) of the Habitats Directive. If this is the case, then the planning authority should consider whether the proposal would be likely to be granted a licence. Natural England is unable to provide advice on individual cases until licence applications are received since these applications generally involve a much greater level of detail than is provided in planning applications. This issue is further explained later within this chapter, together with an appraisal of whether the proposed development is likely to offend against Article 12(1) of the Directive.

13.6 In terms of national policy, paragraph 109 of the NPPF states that the planning system should contribute to and enhance the natural and local environment by "minimising impacts on biodiversity and providing net gains in biodiversity where possible".

13.7 Paragraph 118 of the NPPF states that planning permission should be refused where "significant harm from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for". The paragraph continues by stating that proposed development that is likely to adversely affect a SSSI, either individually or cumulatively, should be refused. It further states that "opportunities to incorporate biodiversity in or around developments should be encouraged".

13.8 Although the NPPF sets out the golden thread of sustainable development, paragraph 119 of the NPPF states that:

> "The presumption in favour of sustainable development….does not apply where development requiring appropriate assessment under the Birds or Habitats Directive is being considered, planned or determined."

13.9 Paragraph 125 of the NPPF places an emphasis on good design, ensuring that planning "decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation".

13.10 Locally, Policy 11 of the Waste Core Strategy sets out general criteria for assessing waste planning applications. Criterion i) states that planning permission will be granted where "the siting, scale and design of the development is appropriate to the location and the character of the surrounding natural and built environment". Criterion iv) places an emphasis on developments not to adversely impact upon wildlife habitats and the natural, built or historic environments.

13.11 Policy 12 of the Waste Core Strategy states that as a minimum, proposals will be required to address the principles of sustainability by demonstrating that no significant noise or light pollution will arise from the development, incorporating measures to minimise any adverse impacts on wildlife habitats and the natural environment.

13.12 In respect of road transport and traffic, Policy 13 of the Waste Core Strategy requires that traffic impacts likely to be generated should not have a significant adverse impact on, amongst other things, the natural environment.

13.13 Policy 14 of the Waste Core Strategy outlines the matters to be taken into account when delineating an appropriate buffer zone for waste management proposals. The policy states that "proposals should also include appropriate buffer zones to watercourses to ensure the ecology and integrity of the watercourse and river corridor is protected".

13.14 Within Policy 17 of the Waste Core Strategy, the onus is on ensuring that waste management proposals will not have an irreversible adverse impact on a number of designated sites, including SACs, SPAs, Ramsar sites, and SSSIs. The policy states that these areas should be conserved and, where possible, enhanced.

13.15 Similarly, Policy 18 of the Waste Core Strategy places an emphasis on the protection of regional and locally designated sites and areas, such as the Lee Valley Regional Park, Wildlife Sites, species of fauna and flora protected by law or identified in the UK Biodiversity Action Plan as in need of particular conservation action, and areas of recreational value.

13.16 Policy SUS5 of the Broxbourne Local Plan states that proposals for potentially hazardous or polluting development will be assessed against the possible impact of the development on land use, including the effects on the natural environment, resulting from release to water, land or air, or of noise, dust, vibration, light or heat. With reference to lighting, Policy SUS11 states that applications for floodlighting will be

assessed with regards to whether the development proposal will result in an unacceptable impact upon, amongst other matters, wildlife.

13.17 Policy DSC1 of the emerging Broxbourne Local Plan seeks the retention on site of significant natural features, where possible, such as trees, waterbodies and habitats.

13.18 Policy NEB1 of the emerging plan refers specifically to wildlife, wildlife sites and biodiversity. This states that development will not be permitted where it has not been demonstrated that it will not have a negative impact on protected species or their habitats. With reference to the nature conservation interest of an internationally or nationally important wildlife site, where there is harm arising from development, it must be demonstrated that there are imperative reasons of overriding public interest for so doing, and that there are no alternatives to the development. The policy further states that any negative impact on a Local Wildlife Site will not be permitted unless the need for the development significantly outweighs the nature conservation value of the site, and that there are appropriate measures in terms of mitigation to offset any detriment to the designated site.

13.19 Policy NEB3 of the emerging document requires new developments to make connections to biodiversity features and habitat networks outside of the development site, and to incorporate suitable features for wildlife within all suitable buildings bordering open space.

13.20 Policy EQ2 of the emerging plan reiterates the general thrust of Policy SUS11 of the existing plan in stating that proposals for lighting will be considered against whether there would be an unacceptable adverse impact upon biodiversity as a result of the proposals.

*Evaluation*

13.21 A desk study was also carried out to place the site in the context of the ecological value of the area, identifying nature conservation designations and non-statutorily designated wildlife sites within two kilometres of the application site, as well as European designated sites within ten kilometres. Records of legally protected and other notable species were also sought in relation to this.

13.22 Surveys carried out on behalf of the applicant during the spring of 2015 and the spring to summer period of 2016 form the baseline data for ecology in relation to this planning application. This consisted of a Phase 1 habitat survey as a means of identifying and categorising all habitats within and immediately adjacent to the site. Further surveys carried out in 2011 and the spring of 2012, which were carried out in support of the previous DCO application, have also been used as a means of informing the baseline. Reference has also been made to the European Protected Species Mitigation Licence (EPMSL) mitigation

strategy for great crested newts within the adjacent ATT/AD facility to be operated by Trent Developments.

13.23 The following surveys for protected species were undertaken:

- Sampling for the presence of great crested newts from three water bodies (one within the site, and two on adjacent Network Rail land);
- Assessment of trees and structures for their potential to support roosting bats;
- Updated survey for reptiles;
- Update survey for breeding birds;
- Updated survey of terrestrial invertebrates.

13.24 In addition, the River Lee was surveyed adjacent to the application site to identify signs of otters and water voles.

13.25 The importance of ecological features has been assessed based on a range of criteria, with those of an international designation (such as SPAs, SACs, Ramsar sites, sites with a large regularly occurring population of a an internationally important species) and nationally designated sites (such as SSSIs or those where there is a large regularly occurring population of a nationally important species) being considered to have a High importance.

13.26 The magnitude of potential impacts has also been considered by the applicant, ranging from High to Very Low based on a range of criteria. From this, the significance of potential impacts has been formulated with reference back to the importance of the ecological feature in question. This is set out in Table 13.1.

Table 13.1: Classification of effects

| **Geographical level at which ecological feature is important** | Magnitude of Impact **High** | Magnitude of Impact **Medium** | Magnitude of Impact **Low** | Magnitude of Impact **Very Low** |
|---|---|---|---|---|
| International and National (High) | Major | Major | Moderate | Minor |
| County (Medium) | Major | Moderate | Minor | Negligible |
| Borough (Low) | Moderate | Minor | Negligible | Negligible |
| Local (Very Low) | Minor | Negligible | Negligible | Negligible |

***Statutory Designated Sites***

13.27 The application site is located within ten kilometres of three internationally designated wildlife sites. These are the Lee Valley Special Protection Area (SPA)/Ramsar site, the Wormley-Hoddesdonpark Woods Special Area of Conservation (SAC), and the Epping Forest SAC. Consequently, a report to inform a Habitat Regulations Assessment has been produced alongside the ES to ensure compliance with the 2010 Regulations.

13.28 The Lee Valley site is located approximately 200 metres to the north east of the boundary of the application site and approximately 350 metres from the centre of the application site. It is designated for its internationally significant populations of overwintering birds; namely bittern, gadwall and shoveler. The Wormley-Hoddesdonpark Woods are located approximately three kilometres south west of the Ratty's Lane site and is designated due to its large stands of hornbeam and sessile oak trees. Epping Forest SAC is located approximately nine kilometres south east of the application site and is designated on account of its beech forest, wet and dry heaths and records of stag beetle.

13.29 The only SSSI within two kilometres of the application site is that of Rye Meads, located approximately 200 metres to the north east of the boundary of the site and 350 metres from the centre of the site. This has been designated as it contains the last substantial remnants of ancient flood-meadows on the rich alluvial soils of the Lee Valley, containing a variety of bird and other animal species.

13.30 With reference to Table 13.1, the value of each of these ecological features has been determined. The Lee Valley SPA and Ramsar site and the adjacent Rye Meads SSSI, the Wormley-Hoddesdonpark Woods SAC and the Epping Forest SAC are all of international importance, so have been classified as having a High ecological value.

13.31 Beyond two kilometres, Hunsdon Mead SSSI is located approximately 2.7 kilometres north east of Ratty's Lane, consisting of an area of unimproved species-rich grassland. This is considered to be important on a national level, so is again classified as having a High ecological value.

***Non-Statutory Designated Sites***

13.32 The closest non-statutory designated site to the application site is the Rye House Power Station Local Wildlife Site (LWS) 72/009 located adjacent to it to its south eastern boundary. This is on the opposite side of Ratty's Lane including habitat bordering the River Lee. This contains a mosaic of habitats that support diverse wildlife interest and there is also known to be great crested newts and orchids within the LWS. The ATT/AD development granted planning permission to Trent Developments is located partially within the LWS, reducing its size.

13.33 A further LWS is the Lee Valley LWS Ep14, which is located to the east of the application site. This is a designated LWS on account of its network of lakes, which provide breeding and/or overwintering grounds for a range of birds.

13.34 Both LWSs are considered to be of a County (Medium) ecological value, with reference to Table 13.1. Although not part of these, the River Lee adjacent to the application site is also classified as being of a

County (Medium) value due to its proximity and links to LWSs in the vicinity of the site.

13.35 Fourteen further non-statutorily designated sites are located within two kilometres of the application site.

***Species***

13.36 Records of protected species within two kilometres of the site have been assessed (within five kilometres for bats). As already indicated, these records have shown that LWS 72/009 supports a breeding population of great crested newts. In addition, the Rye Meads SSSI shows records of both otters and water voles. Between 2006 and 2016, nine species of bat were recorded within five kilometres of the site.

13.37 Surveys of the site and adjacent area have detected the presence of great crested newts within a small balancing pond just within the planning application site, as well as within one of the ponds on Network Rail land to the north of the site. It is believed that this forms part of a medium-sized population associated with that found in LWS 72/009, especially as there is a lack of barriers to dispersal between the two sites. Irrespective of their legal protection, the population of great crested newts associated with the site and the nearby LWS results in this species being classified as having a County (Medium) ecological value, with reference to Table 13.1.

13.38 In respect of bats, the survey work concluded that there was negligible potential for any of the structures within the site to support roosting bats. In terms of trees, a single white willow was assessed as having moderate potential and a goat willow tree was identified as having low potential, for roosting bats. All other trees were considered to have negligible potential to support roosting bats. However, further survey work was carried out and no bats were identified as utilising any of the trees for roosting. In respect of bat activity, survey work identified very low levels of this across the site. The lack of roots and the minimal foraging habitat within the site results in bats being of Borough (Low) ecological value.

13.39 With reference to reptiles, a ‘good’ population of common lizard and a ‘low’ population of grass snake, were identified within the site during the 2016 survey. Nevertheless, the ES classifies reptiles within the site as being of Borough (Low) value.

13.40 The 2011 and 2012 surveys recorded 26 species of bird within the site, of which 16 were confirmed or thought to be breeding. The updated survey in 2016 recorded 19 bird species in total, of which 13 were either confirmed to be breeding or were considered to probably be breeding within or immediately adjacent to the site. During both periods, no birds on the EU Wild Birds Directive Annex 1 or the Wildlife

and Countryside Act Schedule 1 were recorded. The overall diversity of breeding birds is considered to be of less than local significance, so breeding birds are classified as being of Local (Very Low) value.

13.41 The surveys undertaken in 2011 recorded four nationally scarce invertebrate species within the application site. The small balancing pond and the railway sidings were considered the most important habitats for these within the site. Further survey work carried out in 2016 showed that scrub encroachment had taken place at the railway sidings over the intervening years, reducing the overall value of the habitat in this location for invertebrates. Nevertheless, three nationally scarce species were recorded, as well as three locally important species. In addition, an invertebrate species previously unrecorded in Hertfordshire was identified within the site. Despite this, as the suitable habitat was limited to the pond and railway sidings and as the new species for the County was found on a non-native tree species (and is therefore not considered to enhance the overall ecological value of the site), the ES concludes that invertebrates within the site are of Borough (Low) value.

13.42 In respect of other fauna, it is considered that badgers are absent from the site. Although the Rye Meads SSSI is known to support otters, there is no evidence of this species within the application site or along the River Lee adjacent to the site. Furthermore, there is no suitable habitat within or adjacent to the application site to support water voles.

***Potential Impacts of the Development***

13.43 The ES identifies the following potential impacts throughout the construction and operation of the proposed ERF; each of these will be dealt with in turn within this report:

- Habitat loss/modification;
- Dust deposition;
- Pollution;
- Disturbance (due to noise/vibration and lighting);
- Killing and injury of protected species;
- Loss of habitat of protected species;
- Overshadowing; and,
- Landscaping.

**Temporary impacts during construction**

Habitat loss/modification

13.44 It is not envisaged that there will be any temporary habitat loss to designated sites as a result of the construction works.

Dust deposition

13.45 Although the deposition of dust can occur up to 200 metres from dust generating activities, control measures can be put in place as a requirement of the Construction Environmental Management Plan to ensure that this does not happen. Consequently, such measures should ensure that there is no significant effect on designated sites in the vicinity of the application site.

Pollution

13.46 Although the ES acknowledges that there is potential for fuel spillages, run-off and other pollution incidents to take place, adversely affecting designated sites, it is stated that the construction contractor will ensure that all appropriate equipment is available to site operatives to react to such incidents, with training given as a means of ensuring that pollution incidents are contained within the site. Consequently, these are considered to represent a Very Low adverse impact on an ecological feature of County (Medium) value (with reference to Table 13.1), which will have a negligible effect.

Disturbance

13.47 The ES identifies that the only statutory designated sites that have the potential to be affected by noise, vibration or visual stimuli are the nearby Lee Valley SPA/Ramsar site and the Rye Meads SSSI. However, given that the existing use of the site is industrial in nature, consisting of a noise generating use and as other noise generating uses, such as the railway line and karting track, are located between the application site and the designated sites, it is concluded that, bearing in mind the application site is approximately 200 metres from the designated sites, it is unlikely that construction works will result in perceptible additional noise above the existing levels.

13.48 In respect of the Lee Valley North LWS, the ES concludes that this is vulnerable to noise pollution, particularly around the Glen Faba area of the site. However, noise assessments carried out in connection with the ES concluded that the noise environment during construction would not be materially different from existing background ambient noise levels. Therefore, the impact on birdlife in this LWS would be negligible, with no need for specific mitigation measures.

13.49 Outside of designated sites, the ES considers the impact of noise disturbance upon the adjacent River Lee environment. This concludes that, with reference to the noise monitoring undertaken in relation to the ES, the overall significance of construction noise along the towpath is likely to be Minor. However, some water birds may displace temporarily from the River Lee directly adjacent to the site to other water environments in the locality as a result of construction works. This is considered to represent a Low adverse impact on an ecological feature of County (Medium) value, representing a minor adverse effect that is not significant.

13.50 In respect of the impact of lighting during the construction phase of the development, the existing use is illuminated. Buildings adjacent to the application site are also illuminated within the Essex Road Employment Area. Construction lighting will be targeted within the site, minimising light spillages and any change in the lighting environment is considered to have a very low impact on the Lee Valley SPA/Ramsar site. This is an ecological feature of International (High) value, with the change in lighting being assessed as having a Very Low adverse impact. Consequently, it is concluded that this will overall have a Minor effect, with no mitigation being necessary.

13.51 In terms of the impact of lighting on bats, it is considered that as a result of the low level of bat activity detected within the application site, any change in lighting is assessed as being a Low adverse impact on an ecological feature of Borough (Low) value, resulting in a negligible effect, not considered to be significant.

**Permanent impacts during construction**

Killing and injury

13.52 With reference to great crested newts, the proposed construction works would result in the removal of the balancing pond within the site, which is an identified great crested newt habitat. Site clearance works would also affect newt habitat on adjacent Network Rail land. Site clearance therefore has the potential to result in the killing or injury of great crested newts. This would be a High adverse impact on an ecological feature considered by the applicant to be of County (Medium) value, resulting in a Major adverse effect that is significant. However, the County Council's Ecology Adviser considers that the importance of the population is no more than a Borough (Low) value. Nevertheless, the killing and injury of this species would be an offence; therefore mitigation is required prior to any works taking place.

13.53 In addition, site clearance works would have the potential to kill or injure reptiles within the site. This is classified as having a High adverse impact on an ecological feature of Borough (Low) value, resulting in a Moderate adverse effect that is also significant. Again, an offence would take place if this was to happen and mitigation would be needed.

13.54 There are no bat roosts located within the site. The one tree that has the potential to support a roost will be inspected prior to construction works taking place and if a roost is identified, the applicant will obtain a Natural England EPMSL.

13.55 With reference to breeding birds, site clearance works may result in the killing of these, their injury, or the destruction of nests. This would be a High adverse impact on an ecological feature of Local (Very low) value,

amounting to a minor adverse effect that is not significant. However, due to the legal protection of breeding birds, mitigation will be required.

**Temporary impacts during operation of the ERF**

Pollution incidents

13.56 The ES acknowledges that there is the potential for fuel spillages, run-off and other pollution incidents to impact upon adjacent designated habitats, especially the Rye House Power Station LWS 72/009. However, as during the construction of the facility, employees will have appropriate training and equipment to deal with such pollution incidents. Also, the operational areas of the site will be predominantly consist of impermeable hardstanding, so risks of ground or groundwater pollution will be very low. Consequently, it is expected that there will be a Very Low adverse impact upon ecological features of a County (Medium) value, leading to a negligible effect; additional mitigation is therefore not required.

**Permanent impacts of operation of the ERF**

Permanent loss or fragmentation of habitats within the site

13.57 In respect of great crested newts, the facility will result in the loss of a breeding pond within the site as well as terrestrial and aquatic habitat used for foraging and refuge. The development may also result in a physical barrier between LWS 72/009 and the newt habitat on Network Rail land, potentially resulting in fragmentation of the habitats, preventing migration. This is considered to represent a High level impact on an ecological feature of County (Medium) value, resulting in a major adverse effect which is significant. Again, an offence would take place; mitigation for the effects of this will be required.

13.58 The proposed IBA shed and perimeter roadway within the site would result in a loss of habitat suitable for grass snakes and common lizards. This would be a Medium impact on a feature of Borough (Low) value, leading to a minor adverse effect which is not significant. Similar suitable habitat will be retained within the site as well as just beyond its boundaries.

13.59 The removal of 1.5 hectares of trees and scrub as a result of the development will have a Medium adverse impact on foraging bats across the site, which is an ecological feature of Borough (Low) value. Consequently, there will be a minor effect overall and mitigation is not required. Similarly, the impact of the removal of this habitat on breeding birds is considered to have a Medium adverse impact on a feature of Local (Very Low) value, leading to a negligible effect that is not significant; no mitigation is required.

13.60 In respect of invertebrates, suitable habitat on site will be removed but this is considered to have a Medium adverse impact on a feature of Borough (Low) value, leading to a minor effect which is not significant.

**Permanent impacts during operation of the ERF**

Air Quality

13.61 A range of ecological receptors were included within the air quality study and assessment carried out as part of the ES. The impact of emissions on these has been qualified as follows:

- As direct impacts arising due to any increases in atmospheric pollutant concentrations; and
- As indirect impacts arising through the deposition of acids and nutrient nitrogen deposition to the ground surface.

13.62 In this regard, the critical levels for the protection of vegetation and ecosystems are derived from the UK Air Quality Standards, while guidelines are derived from the Centre for Ecology and Hydrology, set out in the Environment Agency's Horizontal Guidance.

13.63 In respect of designated sites, permitting guidance in relation to air quality indicates that where the following thresholds are not exceeded, impacts on designated sites can be scoped out of further consideration as being effectively inconsequential, even 'in combination'. These assessment thresholds are supported by Natural England.

- the Process Contribution (PC) falls below 1% of the Critical Level/Load (CL);
- the Predicted Environmental Contribution (PEC) falls below 70% of the CL (as a trigger for detailed modelling where this has not already been undertaken). Where detailed modelling has taken place (as in the case of this planning application) a PEC below 100% of the CL is also likely to enable a conclusion of no adverse effect.

13.64 The ES details that, in respect of the Lee Valley SPA/Ramsar sites, Rye Meads SSSI, and on the Lee Valley North (EP14) LWS, the PC would exceed 1% of the CL (long-term) for NOx and 70% PEC. With modelling that includes outputs form the existing Rye House Power Station (RHPS) and the planned Trent Developments' ATT/AD facility, the PC would also exceed both 1% of the CL (long-term) for NOx and 70% PEC at the Hunsdon Mead SSSI. On the Lee Valley SPA/Ramsar (Rye Meads component) and on Lee Valley North (EP14) LWS the PC would also exceed 10% of the CL (short-term). The PC would also exceed 1% of the CL (long-term) for ammonia and 70% PEC on the Lee Valley SPA/Ramsar sites, and Rye Meads SSSI. However, the overall PEC (i.e. the predicted total NOx concentration and ammonia concentration once ERF emissions are taken into account) at all of

these sites will remain below the CL, therefore NOx and ammonia can be discounted except as a source of nitrogen, which is modelled separately.

13.65 The PC falls below 1% of the CL for nitrogen deposition on all sites except Lee Valley SPA/Ramsar site (Rye Meads component), Totwelhill Bushes LWS Ep23, Rye Meads SSSI and Lee Valley North LWS.

13.66 The PC would exceed 1% of the CL for sulphur dioxide at the Lee Valley North LWS, although the PEC falls below 100% of the CL. It can therefore be concluded that the effect of the ERF would be inconsequential in respect of sulphur dioxide.

13.67 The PC for acid deposition is predicted to exceed 1% of the CL at Totwellhill Ancient Woodland, due to the high contribution of background concentrations to total baseline concentrations. However, the PEC falls below 100% of the CL. It can therefore be concluded that the effect of the ERF would be inconsequential for this pollutant.

13.68 It is therefore determined that the concentrations of all other relevant pollutants and deposition would fall below relevant thresholds with regard to designated sites, with the exception of:

- The Rye Meads SSSI/Lee Valley SPA/Ramsar site as it relates to nitrogen deposition. However, the Habitats Regulations Assessment (HRA) carried out in support of the planning application concluded that the increase in total atmospheric nitrogen deposition within sensitive habitats over existing baseline levels will be very small (1%), which will be an even smaller increase in overall nitrogen inputs when placed within the context of nitrogen from fluvial sources. In addition, the principal limiting nutrient in the Rye Meads system is phosphorus. As such, it is concluded that adverse effects on the integrity of the SPA/Ramsar site would not occur; and
- Lee Valley North Local Wildlife Site, and Totwelhill Bushes LWS for which nitrogen deposition is discussed in more detail below.

13.69 At the Lee Valley North LWS, it is predicted that nitrogen levels at some of the modelled locations within this will exceed 5% of the CL. However, this has been modelled on a worst-case scenario and deposition from the actual operational emissions is likely to be significantly lower. Nitrogen deposition already exceeds the CL by 31% at this LWS and by 281% at the Totwelhill Bushes LWS. The cumulative impact of further nitrogen deposition in addition to existing levels has therefore been considered as part of the ES.

13.70 This has concluded that, in the case of the Lee Valley North LWS, the main interest of the site revolves around its avian species. Consequently, any relatively small impact upon vegetation as a result of nitrogen deposition is concluded to have a low magnitude impact

upon an ecological feature of County (Medium) value, resulting in a minor adverse effect which is not significant. At Totwelhill Bushes NWS, the woodland habitat is predicted to experience an increase of 0.5% nitrogen deposits over existing levels. As a result of this modelling, the increase in such deposition is predicted to be inconsequential.

13.71 In his consultation response, the County Council's Ecology Adviser considered the approach and methodology used by the applicant in assessing air quality, concluding that these were reasonable and followed best practice. Accordingly, the Ecology Adviser had no reasons to doubt the findings and conclusions of the air quality assessment within the Habitats Regulations Assessment submitted with the planning application. Irrespective of this, he considers that there may be opportunities within an appropriate landscaping scheme to address any increase in traffic fumes resulting from an increase in traffic.

Disturbance – lighting

13.72 Any change in lighting as a result of the operation of the ERF is considered to have a Very Low adverse impact on the Lee Valley SPA, which is an ecological feature of International (High) value; it will therefore have a minor effect. This is on the basis that the site is currently illuminated in association with its rail aggregates depot use, as are other adjacent premises. The lighting is anticipated to be sensitively designed, ensuring that light spill outside the site is minimised. Therefore, the impact of the lighting over and above the existing baseline is likely to have a minimal effect. No other designated sites are considered to be affected by the lighting. It is further considered that the lighting will have a negligible impact upon bat species.

13.73 The Canals & Rivers Trust has raised concerns about the potential for the lighting of the ERF to adversely affect the night time biodiversity of the River Lee water corridor. The Trust has therefore requested that a condition be imposed requiring the submission of a lighting strategy in order to control external lighting and light pollution on the water corridor. Similar concerns were raised by the Lee Valley Regional Park Authority requesting that, should the County Council be minded to grant planning permission for the facility, a condition be imposed to clarify the impact of construction and operational lighting on ecology; this is considered reasonable.

Disturbance – noise

13.74 With reference to the noise assessment carried out as part of the ES and with reference to known noise levels that may result in the disturbance of wildfowl and water birds, it is anticipated that the

marginal increases in noise levels are within acceptable limits and will not have an impact upon any of the designated sites.

Overshadowing

13.75 Due to the presence and retention of trees on the boundary of the site, the ES concludes that these will provide satisfactory screening to the River Lee environment and, as such, the only overshadowing that is likely to take place in ecology terms will arise from the twin emission stacks. The level of overshadowing that the proposed development will have on the River Lee is considered to be a Very Low impact on an ecological feature of County (Medium) value. The overall effect is therefore considered to be negligible.

Landscaping

13.76 Sedum roofs will be provided to low level buildings around the Flue Gas Treatment Hall. Also within the site will be two new flood water storage areas and two new surface water retention basins. An outline landscaping scheme has been provided showing details of new tree and shrub planting, making these areas attractive to breeding birds.

**Mitigation and monitoring**

Great Crested Newts

13.77 The operation of the ERF will result in the permanent loss of approximately 1.5ha of terrestrial habitat of potential value to great crested newts. The balancing pond will also be removed, resulting in loss of a breeding pond used by the species and which is linked with the population at LWS 72/009. However, trees to the eastern boundary of the Application Site will be retained and ephemeral/short perennial vegetation associated with the railway sidings will also be retained.

13.78 A great crested newt EPSML will be required from Natural England for the site clearance works and this will set out a detailed mitigation strategy including the following measures:

- Provision of mitigation habitat on adjacent land owned by the Canals and Rivers Trust;
- Creation of two new ponds of at least 100m$^2$ in surface area, designed for great crested newts, together with additional hibernation and refuge habitats;
- Sensitive timing of works to minimise the impact on the newts;
- Use of fencing and traps to capture and exclude great crested newts from the site.

13.79 It is proposed to erect a permanent newt fence within the site to prevent newts from entering the operational area of the site. However, the County Council's Ecology Adviser is of the opinion that this may

present an unnecessary barrier, which could impinge upon the existing permeability of the site for this species. This issue can be considered further under any details required to be submitted in relation to mitigation. In addition, a green link will be provided from the adjacent Trent Developments site, allowing migration between habitats to overcome any fragmentation. Following construction of the ERF, the applicant proposes to monitor the newt population for a period of six years. The County Council's Ecology Adviser considers that this period of time is excessive and that monitoring during years 2 and 5 would be sufficient. However, the monitoring regime can be agreed by way of a condition requiring further details to be submitted.

Reptiles

13.80 Reptiles will be trapped and excluded from the site, being translocated to the mitigation area owned by the Canals and Rivers Trust or to suitable habitat at the railway sidings. These habitats will be enhanced in order that migration is possible between the two. However, as there will be a general lack of suitable habitat on site after the ERF has been constructed, it is considered that monitoring of reptiles is not required.

Breeding birds

13.81 Site clearance works will either take place outside of the defined breeding bird period or, where this is not possible, a qualified ecologist will be employed to ensure that such works do not result in the destruction of nests. Due to the relatively low impact upon breeding birds, the ES concludes that monitoring will not be required post construction of the facility.

***The three tests arising from the Habitat Directive***

13.82 A local planning authority could ordinarily grant planning permission for a development, unless it is concluded that the proposal would be likely to offend one of the prohibitions cited within this chapter and would be unlikely to be licensed by Natural England. As such, a local planning authority should consider whether the three tests set out in Regulation 53 of the Habitat Directive have been met in order to establish if it is likely that a licence would be granted by Natural England, taking into account the potential harm to the European Protected Species, mitigation that is proposed and whether the three tests can be satisfied.

13.83 Test 1 of the three tests, as set out within Regulation 53(2)(e), states that "a licence can be granted for the purposes of 'preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment'".

13.84 As explained elsewhere within this report, there is a clear overriding need in the public interest for the establishment of the proposed ERF

as it provides significant social and economic benefits. The proposed development meets an urgent need to provide a facility capable of dealing with the county's residual waste in a far more sustainable and economically beneficial manner, pushing this waste up the waste hierarchy. It prevents the disposal of such waste to landfill, which is economically inefficient and would result in the reduction of transportation miles of residual waste; offering significant advantages from a sustainability point of view. In addition, the generation of energy from the waste demonstrates further benefits from a social and economic perspective. As such, it is considered that Test 1 within Regulation 53 of the Habitat Directive is met.

13.85 Test 2, within Regulation 53(9)(a) of the Habitat Directive, requires that "that there is no satisfactory alternative".

13.86 In this instance, a thorough alternative sites assessment has been undertaken (as explained elsewhere within this report), which demonstrated that the site at Ratty's Lane is the only viable available location for the proposed ERF. Furthermore, the development of the ERF has been shown to provide the best means of providing an alternative to the existing manner, in which residual waste generated within the county is treated. Therefore, it is considered that Test 2 within Regulation 53 of the Habitat Directive is also met.

13.87 Finally, Test 3, within Regulation 53(9)(b) requires "that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range".

13.88 In this instance, the primary concern is the impact of the development on the existing population of great crested newts within the site, especially as there is the potential for site works to result in the killing and injury of some newts. However, it is considered that adequate mitigation measures have been proposed, which should prevent the killing or injury of great crested newts and that the population should be sustained through these measures. In addition, monitoring of the population will take place for a six year period after the ERF has been built. These measures will be controlled by way of a condition imposed upon any planning permission. It is therefore considered that, whilst there may be some impact on local populations of great crested newts, the overall population will be maintained. The County Council's Ecology Adviser has indicated that the proposed methodology for capture and translocation of this species to tow new ponds is broadly sufficient to satisfy the third test of the Habitat Directive.

13.89 Similarly, in respect of reptiles and breeding birds, it is considered that suitable mitigation has been proposed to avoid the killing or injury of these species and in the case of breeding birds, the destruction of nests. Again, these mitigation measures can be controlled through the

imposition of suitable conditions and the overall populations should be unaffected.

13.90 Consequently, it is considered that the likely impacts on great crested newts, reptiles and breeding birds are acceptable provided that the implementation of the mitigation and enhancement measures for both species are secured by the way of planning conditions. All three tests of the Habitats Directive are therefore considered to have been met.

*Conclusions*

13.91 It is important to note that Natural England, when consulted on the planning application, made no objection on the basis that the proposed development will not have an adverse impact upon designated sites although, for the reasons set out earlier in this chapter, their advice has not extended to potential impacts on protected species.

13.92 All of the information submitted in support of the application clearly demonstrates that designated sites will not be significantly affected by the proposed development, either through construction works or through the operation of the facility itself.

13.93 It is considered that appropriate mitigation will be provided to ensure that there will be no significantly adverse effect upon protected species, with the three tests set out within the Habitat Directive being met. The creation of the suitable habitat within, and adjacent to, the site will also provide benefits in terms of biodiversity.

13.94 Nevertheless, it is important to receive further information in terms of a detailed landscaping scheme, a construction and environmental management scheme and a lighting strategy to ensure that the effects of the development are minimised whilst also offering advantages in terms of habitat creation.

13.95 However, the County Council's Ecology Adviser has stated that he considers there to be an omission in the extent of the ecological work, consisting of a lack of emphasis on the railway siding, which he considers to probably be the most important feature within the site. This area provides an opportunity for additional habitat measures to be provided; therefore it is recommended that this be put forward as the emphasis of a suitable landscaping/ecological management plan, which can be required to be submitted by way of a condition.

13.96 In conclusion, it is considered that, subject to the imposition of suitable and appropriate conditions, the proposed development accords with local and national planning policy relating to ecology.

## 14. Land Stability and Contamination

*Policy background*

14.1 Paragraph 109 of the NPPF states that the planning system should contribute to and enhance the natural and local environment by, amongst other things, preventing new development from contributing to or being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil pollution. It continues by saying that this can be achieved through the remediation and mitigation of "despoiled, degraded, derelict, contaminated and unstable land, where appropriate".

14.2 Paragraph 111 of the NPPF promotes the use of previously developed – or brownfield – land. In addition, paragraph 120 of the NPPF states that planning decisions should prevent unacceptable risks from pollution by ensuring that new development is suitable for its proposed location and that the effects, including those that are cumulative, of pollution should be taken into account. This paragraph very much places the onus on the developer for securing that safe development takes place on land affected by contamination.

14.3 Paragraph 121 goes on to say that planning decisions should ensure that the site is suitable for its new use taking account of its previous use and any pollution arising from that land use. It further states that land should not be capable of being determined as contaminated land after remediation of it as taken place in connection with approved development proposals. Adequate site investigation information that is carried out by a competent person is a requisite of paragraph 121.

14.4 As previously rehearsed, Policy 11 of the Waste Core Strategy defines the general criteria for assessing planning applications for waste related development. This includes, within criterion iv), the need for proposals not to adversely impact upon wildlife habitats, or the natural, built or historic environments.

*Evaluation*

14.5 As part of the planning application, an assessment of the likely significant effects on ground conditions as a result of the proposed ERF has been undertaken as part of the ES, looking at the effects during the construction, operational and decommissioning stages of the proposed development.

14.6 In determining whether there is a land contamination issue, the UK guidance specifies that there must be a source, a pathway and a receptor. The source of pollution is defined as being the presence of substances that may cause harm. A receptor is something that may be harmed by the pollution, such as a water body, humans, buildings, or fauna and flora. The pathway is the existence of a link between the source and the receptor. Even if the source of contamination is identified, there must be a pathway and receptor before a problem can be identified.

14.7 Receptors within and in the vicinity of the site have been identified as part of the work carried out within the ES and have been assigned different levels of sensitivity ranging from High to Low. Following the identification of sources of pollution from within the site, pathways have also been identified and the potential impacts on identified receptors have been considered. From this, the magnitude of change from the baseline conditions has been determined, ranging from High to Very Low/Negligible. Finally, the classification of effect follows from this, as set out in Table 14.1.

Table 14.1: Classification of Effect of Pollution

| **Receptor Sensitivity** | Magnitude of Change **High** | Magnitude of Change **Medium** | Magnitude of Change **Low** | Magnitude of Change **Very Low** |
|---|---|---|---|---|
| High | Major | Major | Moderate | Negligible |
| Medium | Major | Moderate | Minor | Negligible |
| Low | Moderate | Minor | Negligible | Negligible |

14.8 In determining a baseline for the site, the assessment initially included a desktop study of the site based on its former use as a coal yard and its present use as a rail aggregates depot, including the existing coated stone plant.

14.9 Ground investigations to determine the geology of the site, as well as its hydrogeological and hydrological conditions, had been undertaken during 2011. Boreholes were sunk and trial pits excavated, with soil samples being taken and analysed for a range of contaminants. In addition, sampling of the River Lee took place in three locations.

14.10 The outcome of these investigations was that a hotspot of lead was identified in made ground in the north-eastern area of the application site. This was not widespread across the site as a whole "at concentrations posing a risk to future site users". However, remediation measures were identified as being required within the hotspot area. An analysis of PAH within made ground samples across the site showed that there were elevated levels of benzo(a)pyrene. It was therefore recommended, by the consultants carrying out the investigation works, that remediation would be required in areas of proposed soft landscaping within the site. Additionally, asbestos fibres were identified in four of the 41 soil samples screened. The consultants recommended that, as no asbestos had been encountered during field works, no specific remedial action would be required in respect of asbestos beyond appropriate provisions being made in the Contractor's health and safety plan, when construction is carried out.

14.11 Samples from natural soils were carried out to analyse for a general suite of contaminants; none of these samples exceeded human health criteria.

14.12 In respect of groundwater and surface water, the original investigations identified TPH and PAH levels above quality standard thresholds for freshwater. Further monitoring of groundwater was subsequently carried out in July 2016, which identified nickel as being marginally over guideline levels in two of the analysed samples. TPHs were also above guideline levels in one sample.

***Potential Impacts***

14.13 From the desktop study and the on-site investigations, the potential impacts of contaminated land and its associated pollutants has been set out within the ES, with reference back to Table 14.1.

***Effects during enabling works and construction***

14.14 The ES identifies that there may be a risk to construction workers from dermal contact with, or ingestion of, contaminated soil and shallow groundwater within the site. Construction workers are assigned a High sensitivity as a receptor. The risk arises from the elevated levels of hydrocarbons and metals within the groundwater and from PAHs and concentrations of lead in made ground within the site. However, this would be mitigated through the provision of suitable and appropriate personal protective equipment (PPE) to all employees. Nevertheless, the magnitude of change resulting from the potential exposure to contaminated soils, dusts, gases, particulates and unexploded ordnance (UXO) is considered to be medium. On the basis that the effects upon site workers would be limited for the duration of the works, the pre-mitigation effect upon the health of workers is considered to be of local, medium-term, temporary, major adverse impact. There would be a similar effect upon neighbouring sites and personnel within these throughout the enabling and construction phase of the development, which are also classed as having a High sensitivity.

14.15 Neighbouring uses and the general public located more than 100 metres from the application site are considered to have a Low sensitivity. The magnitude of change for this receptor is also low, so the overall pre-mitigation effect upon health of this receptor is considered, again with reference to Table 14.1, to be of negligible impact.

14.16 In respect of groundwater, the ES identifies the potential for enabling and construction works to introduce the risk of contamination to the underlying Secondary A Aquifer. In addition, areas of contamination that had not been picked up during the baseline assessment could be disturbed by enabling and construction works. Furthermore, the increased use of water within the site during construction, such as for dust suppression, has the potential to lead to contaminated water. Groundwater quality could also be affected by piling.

14.17 The Secondary A Aquifer is a potential receptor of medium sensitivity and the magnitude of change, as a result of exposure to contaminated soil, is considered to be medium in value. It is considered that the impact upon the aquifer is only likely to take place during the duration of the construction works and, as such, the overall effect upon this is considered to be of a local, medium-term, temporary, moderate adverse impact.

14.18 However, the Principal Aquifer underlying the site is considered to be of high sensitivity as a receptor. As with the secondary aquifer, the magnitude of change can be defined as medium, therefore the overall effect is, as before, considered to be of a local, medium-term, temporary, moderate adverse impact.

14.19 With reference to surface water, there is potential for run-off to affect the adjacent River Lee, as well as, ponds in the vicinity of the site. This arises from the potential for contaminated groundwater and any spillages within the site to, in turn, contaminate surface water. The River Lee is considered to be a receptor of medium sensitivity and the magnitude of change resulting from exposure is defined as being medium for contaminated soils and groundwater, dusts and particulates. Again, any effect would be just for the duration of the enabling and construction works. The overall pre-mitigation effect upon the River Lee during this phase of the development is considered to be of local, medium-term, temporary, moderate adverse impact.

14.20 The disturbance of localised ground contamination, together with the increased use of water during the construction period, may lead to the increased potential for water to become contaminated together with increased surface water run-off. This would pose a risk to existing and any proposed new utilities and infrastructure, which represent a medium sensitivity receptor. The magnitude of change is defined as medium, so in this respect the enabling and construction works would present a local, short-term, temporary, moderate adverse impact on utilities and infrastructure.

14.21 With reference to earthworks such as piling and trench excavations, these could have an impact on land stability. As such, surrounding structures may be at risk through uncontrolled settlement. This is considered to represent a low magnitude of change, which is of low sensitivity. Therefore, in respect of land stability, the works would result in a local, short-term, temporary, minor adverse impact.

***Effects once the development is operational***

14.22 In respect of the likely effects of hazardous materials and ground contamination on human health, the ES considers the end users of the ERF, as well as neighbouring uses, occupiers and the general public immediately adjacent to the application site. Within the site, it is considered that the areas of hardstanding provide an effective barrier to

any residual contamination. However, where there is soft landscaping, there is potential for end users to be affected by any residual contamination.

14.23 All of these receptors are of high sensitivity. The magnitude of change resulting from ground contamination is defined as low. Therefore, the ES considers that this would result in a local, long-term moderate adverse impact on the health of the end users of the site together with users of neighbouring sites once the ERF is operational.

14.24 With specific reference to surface water and groundwater resources, all operations conducted within the ERF will be contained on-site with no discharges to land, surface water or groundwater. Consequently, in respect of both the primary and secondary aquifers, as well as the River Lee, the ES concludes that there would be an effect of negligible significance.

14.25 In respect of below ground services such as water pipes, there is potential for ground contamination to attack these, if they are constructed of plastic. Similarly, concrete infrastructure can also be attacked by certain chemicals within the contamination. These services are considered to be of medium sensitivity, with the magnitude of change being medium. The overall pre-mitigation effect upon proposed buildings and below services is considered to be of local, long-term, temporary, moderate adverse impact.

***Impacts during decommissioning***

14.26 Similar risks to those identified as being relevant to the enabling and construction works are identified within the ES as being relevant to the decommissioning of the ERF.

***Mitigation and monitoring***

14.27 In addition to the mitigation measures that will be submitted, as part of the Construction and Environmental Management Plan which would be required by way of a condition, further mitigation measures are proposed by the applicant in respect of land contamination.

14.28 In the first instance, the potential impact to human health and controlled waters through mobilisation of contaminants within the made ground, will be further dealt with through the carrying out of further site investigations and surveys to confirm that the previously identified conditions are still relevant. This can then be utilised within detailed design works to be undertaken once planning permission has been granted. Similarly, further gas monitoring will confirm the present situation with regards to the gas regime.

14.29 With reference to the proposed piling work and its potential impact upon the underlying secondary aquifer, techniques can be employed in

line with best practice and guidance to ensure that the transfer of contaminants is minimised. A groundwater monitoring programme is proposed to take place during and after piling works to ensure that any unexpected impacts are detected immediately. The details of the monitoring will be agreed with the Environment Agency.

14.30 As there is a potential for UXO to be located within the site, which has a potential impact on human life, the applicant will commission an Explosive Ordnance Threat Assessment prior to any excavation and piling works. This will inform whether specific measures are required to be taken.

14.31 Where there is the potential for an impact on human health as a result of contact with made ground through soft landscaped areas, suitable remedies will be carried out. These will consist of the removal of contaminated soils to landfill, remediation on site, or by placing a clean cover of soils over the made ground in relation to the soft landscaping scheme. As previously indicated, PPE will be provided to all employees during the enabling and construction phase, thus mitigating the risks posed through inhalation, ingestion and dermal contact of contaminants.

14.32 In respect of invasive plants, which may have an impact on human health, guidance will be followed to ensure that the risks posed by accessing areas that contain Japanese Knotweed and Giant Hogweed are mitigated.

14.33 Once the development is operational, it is considered that the large area of hardstanding within the site will act as a barrier to any potential residual pollutants. Therefore, no specific mitigation is proposed in respect of this, apart from regular inspections of the infrastructure to ensure that it is sound.

14.34 In addition, the waste storage bunker itself will be constructed using the appropriate concrete to provide resistance to attack from low pH and sulphates. Furthermore, the bunker will be water tested to ensure that there are no leaks from it.

14.35 Following mitigation, the ES concludes that all enabling works and construction effects will be reduced so that residual effects are Very Low/Negligible, with the exception of deep piling works, which has a residual effect of Local Short-Term Temporary Minor Adverse.

14.36 If unexpected contamination is encountered during the monitoring of enabling and construction works, the works in this area will temporarily cease and the opinion of a suitably qualified consultant will be obtained.

14.37 Concerns have been raised by the Environmental Health department at Broxbourne Borough Council. In the first instance, they state that the ES refers to an initial ground investigation carried out by Campbell

Reith, but that this only provides an overview and details pertinent to the site investigation may have been omitted. Arup advises the Waste Planning Authority that it would have been beneficial for the applicant to have included baseline information as part of the appendices to the ES, but that this does not alter the findings of the assessment. Arup further advises that pertinent information, such as borehole logs and chemical data, will be required to be submitted to discharge conditions related to contamination.

14.38 The ES also refers to a site investigation carried out in September 2011, which Environmental Health considers to be before amended human health risk assessment criteria came into force. In addition, Environmental Health are concerned that the baseline summary refers to elevated concentrations of PAH with respect to human health guideline values, but these results are not represented. It is concluded, however, that these issues can be overcome by way of the contaminated land conditions attached to the planning permission, requiring updated human health criteria to be taken into account as well as additional ground investigations and groundwater monitoring.

14.39 Concerns have also been raised in respect of groundwater testing, with Environmental Health stating that the strata of the soil does not appear to have been tested, "which is concerning as any dust produced during the excavation and construction phases of the development could potentially create a Source Pathway Receptor". Consequently, Environmental Health say that it is imperative that "all pollutants identified are assessed before a Generic Qualitative Risk Assessment and a Detailed Quantitative Risk Assessment, in order to determine whether remediation is necessary.

14.40 Arup has advised the Waste Planning Authority on this issue, stating that these issues can be overcome through the imposition of satisfactorily worded planning conditions.

*Conclusions*

14.41 It is considered that adequate surveys have been carried out to assess the present situation regarding land contamination. As a result of the risks identified, sufficient procedures and actions have been proposed in terms of providing mitigation and the monitoring of contamination, where required, into the future.

14.42 The proposed mitigation and monitoring regimes can be controlled by way of appropriately worded conditions, thus ensuring that any risks arising from the presence of pollution and contaminants is minimised.

14.43 Consequently, it is concluded that the development accords with national and local planning polices relating to land contamination.

## 15. Hydrogeology and Groundwater

*Policy background*

15.1 On a European level, the Water Framework Directive (WFD) sets out a framework for a European wide approach in the terms of water policy. Water bodies are assessed for Ecological Status and Chemical Status, and are classed as either High, Good, Moderate, Poor or Bad. The Environment Agency (EA) has responsibility for monitoring this and ensuring that targets are met. The WFD has the aim of ensuring that all water bodies, including groundwater, are classed a Good or above.

15.2 In addition, the Groundwater Directive seeks to protect groundwater from pollution through the control of discharges and the disposal of certain dangerous substances to groundwater.

15.3 The European Industrial Emissions Directive refers to incineration plants, requiring them to have a discharge permit, allowing such plants to discharge water used during the incineration process back into the environment. The aim of this is to ensure that discharged waters do not have an adverse impact on water quality.

15.4 On a national level, the EA's framework for the regulation and management of groundwater is set out within the set of documents known as Groundwater and Protection: Policy and Practice. These outline the EA's aims and objectives in terms of groundwater together with its technical approach for its management and protection.

15.5 From a planning perspective, paragraph 109 of the NPPF states that the planning system should contribute to and enhance the local and natural environment through preventing new and existing development from contributing to or being put at unacceptable risk from – or being adversely affected by – unacceptable levels of water pollution. Paragraph 120 further states that planning decisions should prevent unacceptable risks from pollution by ensuring that new development is appropriate for its location.

15.6 Policy 14 of the Waste Core Strategy relates specifically to buffer zones, stating that waste management proposals should include "buffer zones to watercourses to ensure the ecology and integrity of the watercourse and river corridor is protected". Policy 16 of the Waste Core Strategy states that waste management proposals must demonstrate that they will not have a negative impact on the water environment unless appropriate measures can be imposed to mitigate harmful effects.

15.7 Policy SUS5 of the Broxbourne Local Plan states that when considering proposals for potentially hazardous or polluting development, an assessment of the possible impact of the development on health, the natural environment or general amenity resulting from, amongst other things, release to water, will be carried out. Policy SUS15 of the Local

Plan states that “planning permission will not be granted for development which poses a threat to the quality of either surface or groundwater”.

15.8 Policy W1 of the emerging Local Plan requires that development should preserve and enhance the water environment. Policy W2 further states that proposals should avoid damage to Groundwater Source Protection Zones.

*Evaluation*

15.9 In assessing the potential impacts upon groundwater, potential sources of effect have been identified by the applicant, together with likely pathways and receptors. The importance of the receptors has been evaluated ranging from Very High (for example, a water resource with an importance and rarity at a national level, such as a Special Area of Conservation (SAC) or Special Protection Area (SPA)) to Low (such as a non ‘main’ river or stream without important ecological habitat).

15.10 From this, the assessment identifies the magnitude of impact based on the likely degree of impact relative to the nature and extent of the proposed development. Once this is carried out, the significance of the potential effect has been arrived at. Effects that are deemed to be Major or Moderate are considered to be significant, whereas that are Minor or Negligible are considered to not be of significance.

15.11 Surveys of the geology and hydrogeology of the site have been undertaken by the applicant, together with an analysis of groundwater depth and flow, as well as its quality.

***Groundwater receptors***

15.12 The gravel and chalk aquifers beneath the site have been identified as being a potential groundwater receptor. The chemical status of the underlying chalk is ‘Poor’, as a result of impacts on surface waters. Consequently, it is important that the proposed development does not worsen this situation.

15.13 In respect of groundwater abstractions, the application site is located within the Outer Zone (Zone 2) of a Groundwater Source Protection Zone (SPZ). A SPZ1 (Inner Protection Zone) has been identified as being situated 219 metres west of the site. One abstraction borehole is located within one kilometre of the site, being some 886 metres west of the site.

15.14 There are designated sites that have been identified as part of the baseline study. The first of these is the Local Wildlife Site (LWS) on the opposite side of Ratty’s Lane to the south. To the north-east are the Rye Meads SSSI, forming part of the Lee Valley SPA and Ramsar site.

In addition, the Lee Valley North LWS is located to the east of the site, which includes the area around Glen Faba.

***Surface water receptors***

15.15 To the east of the application site is the River Lee, where the River Stort converges with the Lee. In addition, the New River runs approximately 450 metres to the north-west of the site boundary. Approximately 650 metres from the south-western boundary of the site is the River Lynch, which is a tributary of the Lee.

15.16 The Lee Navigation between Fieldes Weir and Enfield Lock to the south has been identified as being the site's surface water catchment. The WFD assessment for this indicates that this is of 'Moderate' status from an ecological and chemical perspective.

***During construction***

15.17 It is proposed to implement a temporary drainage network strategy during the construction phase of the development. This will include measures such as the installation of temporary drainage channels and surface water storage ponds, which will deal with surface water runoff whilst the operational drainage infrastructure is being constructed. Piling will not be undertaken on site until any ground that is identified as being highly contaminated is removed in order to prevent the direct discharge of contaminants to the underlying aquifer. Nevertheless, the Environment Agency advises that a condition be attached to any planning permission requiring that no piling takes place until details have been provided to and approved by the local planning authority.

15.18 During the construction phase of the development, excavation, dewatering and the construction of storage tanks and attenuation basins also have the potential to impact upon groundwater receptors, as these have the potential to penetrate the top of the alluvium thus creating a pathway to the aquifer. It is anticipated, however, that with the appropriate construction methods and with the appropriate design of the attenuation measures, that such risks will be minimised.

15.19 There is the further potential for spillages during the construction phase, although the risks of this can be minimised through adherence to a suitably conditioned Construction Environmental Management Plan.

***During operation***

15.20 It is anticipated that the normal operation of the ERF will not result in any exposure to groundwater, with no resultant effect on the aquifer or surface water bodies that would otherwise receive groundwater.

***Mitigation***

15.21 As the ES considers that the risks associated with the construction phase are Low, the ES concludes that no further mitigation is necessary.

15.22 However, the ES also concludes that monitoring of groundwater levels and groundwater chemistry is necessary into the future, so as to identify any future pollution incidents. It also identifies that the existing boreholes are insufficient for the purposes of monitoring groundwater during the construction and operational phases of development, so proposes the placement of a further four boreholes in the chalk and in the underlying gravel to the south and east of the site, in order to pick up groundwater that will travel in those directions from the site and towards the River Lee.

***Residual effects***

15.23 The ES concludes by setting out the residual effects of the development upon hydrogeology and groundwater. Each of the potential impacts, both during construction and operation of the ERF, have been examined. In each case, the ES concludes that the residual effect, once appropriate mitigation has been carried out (where necessary), is likely to be Not Significant.

15.24 Irrespective of this, the Environment Agency has advised that as the site is located within Special Protection Zone 2, a condition should be imposed that seeks to protect the vulnerability of the groundwater by requiring the applicant to submit details of a remediation strategy, dealing with the risks associated with the contamination of the site. This should be agreed in writing with the local planning authority before the development commences. The Environment Agency further requires that a monitoring and maintenance plan be submitted to the County Council to ensure that any instances of contamination can be identified and dealt with, thus providing safeguards for human health and the overall water environment.

15.25 The EA further requires conditions to be imposed detailing how contamination will be treated, if identified, together with the management of any boreholes deemed necessary in respect of the monitoring of groundwater quality.

*Conclusions*

15.26 The Environment Agency has stated in its response to the planning application consultation that the details relating to hydrogeology and groundwater submitted with the planning application "provide us with confidence that it will be possible to suitably manage the risk posed to controlled waters by this development". The EA further states that "the submitted documents provide confidence that the applicant has considered the potential issues associated with the redevelopment of a

potentially contaminated site and the storage and drainage of potentially contaminated liquids close to, or below, the groundwater table". However, this advice is dependent on the imposition of conditions requiring further details to be provided as a means of safeguarding the water environment. All of the suggested conditions are considered to be reasonable in this regard.

15.27 It is considered that the proposed development will not have a negative impact on the water environment, subject to appropriate measures being imposed to mitigate any harmful effects. It is further considered that the proposed development is appropriate to its location in this regard, preventing unacceptable risks from pollution. Consequently, the proposed development accords with policies and guidance set out within the NPPF, the Waste Core Strategy and the Broxbourne Local Plan.

## 16. Hydrology and Flood Risk

*Policy background*

16.1 The NPPF requires that flood risk is taken into account at all stages of the planning process. The framework also requires that a Sequential Test be applied during the planning process to ensure that preference for developable land is given to land that has the lowest risk of flooding, with this being primarily based on the Flood Zoning system. The NPPF also considers the vulnerability of different forms of development in relation to flooding, with waste treatment facilities being classified as being 'Less Vulnerable'.

16.2 Underpinning the Sequential Test is the aim to direct development away from areas of flood risk. If this cannot be achieved, it may be possible to demonstrate that development is still feasible by the management of flood risk by way of an Exception Test. The Exception Test within the NPPF requires the demonstration that:

- The development provides wide sustainability benefits that outweigh the flood risk; and
- A Flood Risk Assessment must be able to demonstrate that the proposed development either does not cause increased flood risk elsewhere, or reduces flood risk.

16.3 Policy 12 of the Waste Core Strategy states that, as a minimum, development proposals should incorporate Sustainable Drainage Systems (SuDS) into their designs as a means of addressing the principles of sustainability. Policy 16 of the Waste Core Strategy states that, amongst other matters, waste management proposals will be permitted subject to:

> "Where possible avoid floodplain areas as demonstrated with a Sequential Test and if this can not be achieved, reduce the risk of

flooding or not have a negative impact on storage or flow capacity of the floodplain, in line with the exceptions Test where required."

16.4 Policy SUS16 of the Broxbourne Local Plan states that the susceptibility of land to flooding is a material consideration when considering planning applications, with development proposals being assessed with respect to the impact of the proposal on the flood plain. The policy reiterates the need for reference to the sequential test, referring to the need to take into account the advice from the Environment Agency and any other relevant statutory bodies. Policy SUS18 further states that proposals should provide sustainable surface water disposal solutions and that they should ensure that run-off does not increase the risk of unacceptable flooding of watercourses, land or property.

16.5 Draft Policy W4 of the emerging Local Plan further seeks to ensure that sustainable drainage networks have the additional capacity to reduce flood risk, making sure that surface water run-off is managed as close to its source as possible. Draft Policy D5 seeks to ensure that the functional flood plain is free from development.

*Evaluation*

16.6 When the planning application was originally submitted, concerns were raised by both the Local Lead Flood Authority (LLFA) and the Environment Agency (EA) in respect of the Flood Risk Assessment (FRA) that accompanied the application. The LLFA was concerned that the FRA failed to address how the whole site would be drained and how the development proposal mitigated any potential surface water risk. The LLFA's main concern was "the location of the site in a protected floodplain and the consequential risk of combined flooding from the river and from surface water". The EA expressed "serious concerns over the fluvial flood risk aspects of the development".

16.7 Consequently, the applicant revised the FRA and submitted this alongside other information. The County Council carried out a re-consultation exercise relating to this.

***Fluvial flood risk***

16.8 The majority of the application site is located within Flood Zone 3, being land that is assessed as having a 1 in 100 or greater annual probability of river flooding (the 1% Annual Exceedance Probability (AEP) event). The NPPF and its associated PPG assesses that 'Less Vulnerable' development is appropriate within Flood Zone 3, without the need to apply the NPPF's Exception Test.

16.9 The primary source of flood risk to the application site is from the adjacent River Lee. Historical flood records show that the last fluvial flooding of the site occurred in 1968, but this was before the completion

of the River Lee Flood Relief Channel in 1976. In addition, an earth bund was constructed along the eastern boundary of the site during the early 1990s. A structural analysis of the bund has been carried out, which shows that it is an impermeable and stable permanent feature. This has been corroborated by the EA's own investigations of the bund.

16.10 Modelling carried out to inform the FRA has demonstrated that flood waters would not enter the site during the 1% AEP for both the current scenario and after the development has been built. However, for a 1 in 1000 year scenario (0.1% AEP), the modelling shows that flood water would overtop the northern edge of the boundary bund, with flood flows gravitating across the central area of the site. It also shows that flood waters will enter the Ratty's Lane entrance.

16.11 A wall, to be placed along the central extent of the eastern boundary of the site, would seek to consolidate the bund. This would not alter existing flood flow paths around the general area, nor lessen the existing flood storage volume on the Canal and Rivers Trust land along the eastern boundary of the site.

16.12 As the site will be protected from flood waters up to the 1% AEP scenario, with some flooding occurring during the 0.1% AEP flood event, the site can be classified as being within Flood Zone 2 for the purposes of this planning application.

16.13 Modelling has also been carried out to allow for future climate change, based on allowances agreed with the Environment Agency in addition to the 1% AEP flood event; this further allowance has been set at 25%. The modelling showed that the eastern bund would protect the site from flood water in such flood events. However, flood water would enter the site via the Ratty's Lane entrance, increasing the accumulation of flood water in the south-eastern part of the site compared to the existing baseline situation. This is due to this part of the site being lowered to allow for landscaping and car parking.

16.14 Based on the 1% AEP plus 25% climate change flood event, the modelling that has been carried out shows that flood flows around the application site would be unaffected by the proposed development. As the footprint of the proposed ERF building is outside of the 1% AEP plus climate change flood event parameters, the EA has stated that "conventional level-for-level volume-for-volume floodplain compensation is subsequently not required for the development, as flood water is not displaced, and flood risk is not increased elsewhere".

16.15 By way of mitigation, the buildings within the proposed ERF have been designed so that their finished floor levels are at least 300mm above the highest flood levels when based on the 1% AEP plus climate change flood level. The EA requires a condition to be attached to any planning permission to ensure that the finished floor levels of the

proposed development allow for the 300mm freeboard above predicted flood waters.

16.16 The application site is covered by the EA's Flood Warning Service, being located within the 'Lower River Lee at Hoddesdon and Cheshunt including Broxbourne and Waltham Abbey' Flood Warning Area. The FRA indicates that the occupiers of the site will be required to sign up to the warning service to allow the implementation of flood evacuation measures. The modelling indicates that peak flood depths on the northern stretch of Ratty's Lane during the 1% AEP flood event will not exceed 200mm, with a peak velocity of no more than 0.1 metre per second. It is anticipated that during the 1% plus 25% climate change flood event, safe evacuation from the site could be achieved via the embankment adjacent to the railway sidings.

16.17 The FRA commits the developer to establishing an Emergency Plan for the site prior to the operation of the proposed ERF and within this a safe evacuation procedure will be included. In its response, the EA has stated that the content of the Emergency Plan in this regard should be agreed with the lead local flood authority prior to occupation. The EA further states that if the local planning authority is not satisfied with the emergency flood plan, "then we would recommend that you refuse the application on the grounds of safety during a flood event, as site users will be exposed to flood hazards on access/egress routes". It is considered that a condition can be attached to any planning permission requiring the details of the Emergency Plan to be agreed in writing by the local planning authority prior to occupation of the site.

16.18 In respect of the impact of the proposed development on fluvial flood risk elsewhere, the modelling predicts that during the 1% plus 25% climate change flood event, 1,224 cubic metres of floodwater will be attenuated within the site, specifically within the landscaped and parking areas of the site. This model demonstrates that the site increases flood storage and does not reduce storage. As such, the development does not adversely affect flood extent or levels outside the site. Further compensatory storage within the site to deal with fluvial flood waters is therefore not required.

***Surface water flood risk***

16.19 Detailed flood risk information indicates that the application site presently has an annual chance of flooding from surface water between 0.1% and 1% AEP, which is classified as 'Low Risk'.

16.20 Once the ERF is operational, a considerable amount of hardstanding and impermeable roof surfaces will be introduced to the site. The FRA concludes that, without mitigation, this has the potential to increase surface water run-off to downstream sites, thus increasing the surface water flood risk. To mitigate for this, the proposed development would replace the existing surface water storage system with a formal

drainage system that features attenuation of flows to greenfield rates and a surface water discharge to the River Lee. A cellular storage SuDS feature will be provided beneath the car parking area on the eastern side of the site. Furthermore, run-off from roofs will be collected through a rainwater harvesting system for re-use within the building.

16.21 The Local Lead Flood Authority's response to the drainage strategy that is attached to the FRA indicates that "the proposed site can be adequately drained and mitigate any potential existing surface water flood risk if carried out in accordance with the overall drainage strategy". In addition, the authority concludes that "the provision of a range of SuDS source control measures ensures that any impact from the development to the local environment and watercourses is mitigated appropriately".

16.22 Consequently, the Local Lead Flood Authority concludes that the proposed development does not result in any significant increase in surface water flood risk to the site or areas outside the site. This is on the basis that conditions be attached to any planning permission requiring full details of a final detailed drainage strategy to be submitted to the local planning authority for its approval.

***Groundwater flood risk***

16.23 A desk study coupled with intrusive investigations indicates that, although there have been no records of groundwater flooding close to the application site, groundwater levels fluctuate, especially in relationship to the levels of the River Lee. There is therefore the potential for groundwater levels to rise close to current ground levels, as a result of this, a flooding pathway exists and the FRA concludes that the risk of flooding from groundwater is moderate. However, the finished floor levels of the buildings are believed to provide the necessary mitigation for any incidences of groundwater flooding within the site.

16.24 When considered in respect of the proposed development, it is concluded that there are no significant works below ground levels that would have the potential to alter groundwater flow paths or levels. Consequently, the development should not result in any impact on groundwater flood risks elsewhere.

***Sewer flooding***

16.25 Flood risk from sewer flooding is considered to be low as and such flooding is likely to be held within the highway corridor outside the site, as the public sewer system runs along this corridor.

16.26 The proposed development incorporates the use of an on-site Packaged Treatment Plant to deal with foul water from the

administration and visitor centres. Subject to a permit to discharge from the EA, it is envisaged that this will be discharged to the River Lee once it has been treated. Non-domestic foul effluent from the site will be stored and subsequently re-used within the site, with any overflow from this process being discharged into the foul water sewer. It is considered that there is capacity for this and there will not be an increase in the risk of sewer flooding elsewhere.

*Conclusions*

16.27 The development has been thoroughly assessed in respect of its impact upon flooding and the risks that the site has in terms of flooding. The proposed development incorporates SuDS into its design and results in development that does not have a negative impact on the storage of flow capacity of the floodplain. Consequently, the development accords with Policies 12 and 16 of the Waste Core Strategy, as well as policies in the Broxbourne Local Plan.

16.28 Both the Environment Agency and the Local Lead Flood Authority are satisfied that the details provided and the development itself will not have a significant adverse impact upon flooding in the area, nor significantly be affected by the risks of flooding, subject to the imposition of a number of conditions that seek to ensure that this remains the case.

## 17. *Health Impact Assessment*

*Policy background*

17.1 The National Planning Policy for Waste states that local planning authorities, when determining planning applications, should "consider the likely impact on the local environment and on amenity against the criteria set out in Appendix B and the locational implications of any advice on health from the relevant health bodies". The criteria includes such considerations as air emissions (including dust), noise, light and vibration, and odour.

*Evaluation*

17.2 Accompanying the planning application is a detailed Health Impact Assessment (HIA). The scope of the HIA was previously agreed in liaison with the County Council's Public Health Service. The aim of the HIS is as follows:

- To determine the potential health impacts of the proposed development on local receptors;
- To assess the nature and extent of these health impacts;
- To identify ways to maximise positive and minimise negative health impacts; and

- To inform the planning process and respond to health issues raised through this process.

17.3 The HIA takes the World Health Organization's (WHO) definition of health, which is that health is "a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity". The HIA has been based upon a number of determinants of health, including:

- age and genetics;
- individual life style factors;
- living and working conditions; and
- general socio-economic, cultural and environmental conditions.

17.4 The HIA assesses the effect of the proposed development on these health determinants, via health pathways. A health pathway can be described as being any activity that influences a known determinant of health.

17.5 In respect of emissions to air from the twin stacks, the HIA concludes that the proposed development would be a small contributor to local airborne concentrations of pollutants and that the additional exposure to local residents would be very small. Therefore, the health effects resulting from emissions to air would be negligible. The Public Health Service accepts this conclusion, further citing advice from Public Health England (PHE), which advised the service that:

> "PHE's position is that modern, well managed incinerators make only a small contribution to local concentrations of air pollutants. It is possible that such small additions could have an impact on health but such effects, if they exist, are likely to be very small and not detectable. This view is presented in the position statement from September 2009, reissued in February 2010….
>
> PHE will review its advice in light of new substantial research on the health effects of incinerators published in peer reviewed journals. To date, PHE is not aware of any evidence that requires a change in our position statement."

17.6 However, due to significant concerns from local residents in terms of health and wellbeing, the Public Health Service requests that a condition be attached to any planning permission requiring the developers to undertake air quality monitoring during the construction phase of the development. Such monitoring should include the monitoring of particulate matter, including $PM_{2.5}$. Such a request is considered reasonable as a means of ensuring that air quality is not significantly affected, whilst providing assurances to local residents.

17.7 In addition, the HIA concludes that other aspects of the proposed development, such as traffic emissions and the handling of fuel and

ash, will not give rise to adverse health effects, as they are considered insignificant as sources of pollution.

17.8 During the construction and operation of the proposed development, the HIA concludes that noise levels experienced by nearby residential receptors would be minimal. However, it further concludes that noise and vibration is likely to adversely affect Lock Keeper's Cottage and noise would adversely affect house boat moorings on the River Lee during the construction of the ERF. The HIA states that "participants at HIA engagement activities expressed concern that noise levels may cause stress and annoyance", with these possibly affecting the welfare of the community.

17.9 In respect of traffic and movement around the general area, the HIA acknowledges that the ES concluded that during the construction and operational phases of the development there would be a negligible or minor impact on the local highway network. However, participants at HIA engagement activities expressed concerns that a perceived increase in traffic would result in an increase in road traffic accidents, with a detrimental impact upon the safety of pedestrians and cyclists. There was also concern regarding a perceived increase in congestion. Conversely the HIA has conducted a qualitative analysis, which concludes that the proposed development will have a negligible impact in these regards.

17.10 As set out in the chapter relating to Landscape within this report, there will be some significant visual impacts as a consequence of the construction and operation of the proposed development. The HIA summarises that this may serve as a "constant reminder of perceived health impacts" associated with the development. It further concludes that the impact of the development upon green space may result in less physical activity amongst users, with attendant implications for physical health, if their enjoyment of the green space is lessened as a result of the presence of the ERF.

17.11 In respect of the increased employment opportunities resulting from the proposed development, the HIA concludes that this will be unlikely to result in measurable benefits to the health of local residents.

17.12 Although house prices and the effect of development upon these is not considered to be a material planning consideration, the HIA identifies that any reduction in property values, which is purely hypothetical, may have an impact on the wellbeing of local residents.

17.13 Finally, one of the most likely adverse effects on health and wellbeing that has been identified within the HIA relates to residents' feelings about the area, together with a lack of trust in Veolia and the Environment Agency to be able to operate and control the development sufficiently. If such feelings become entrenched, the HIA states that

this may have an impact on mental health and stress levels of local residents.

17.14 As a consequence of these findings, the HIA sets out a series of recommendations to be adopted during the construction and operational phases of the proposed development. These are in order to minimise the negative impacts to health, whilst maximising the positive impacts. The suggested measures during the construction phase are as follows:

- Communicate information regarding construction activities throughout the construction period to the most local communities through the Community Liaison Group (CLG) and other channels such as community meetings.
- Establish a community complaints procedure in addition to the retention of the Community Liaison Group. This procedure should be advertised widely, including the steps that will be taken once a complaint is received and the timescale in which a response and resolution can be expected.

17.15 In respect of the operation of the facility, the HIA states that the following measures should be adopted throughout the lifetime of the development:

- Inform police and emergency services of any issues related to site safety and access.
- Encourage local employment and procurement. If feasible, and available, local suppliers should be used for goods and services. Jobs created by the scheme should also be advertised and made available in the local area initially.
- Ensure open communication and sharing of information, including the display of emissions data on a website, in a form that is accessible and as close to real time as practicable.

17.16 The Public Health Service also stresses the importance of community engagement and promotes the establishment of a Community Liaison Group; therefore ensuring that there are regular meetings and the establishment of a community complaints procedure as part of this.

*Conclusions*

17.17 The Health Impact Assessment has scrutinised the contents of the ES and concluded that, with the exception of noise and vibration that will have a significant impact upon the amenity and potential wellbeing of Lock Keeper's cottage and moorings on the River Lee, the development will not result in significant health impacts upon other receptors. Mitigation for the moorings and Lock Keeper's Cottage are set out in the relevant chapter within this report relating to noise and vibration.

17.18 In turn, the Public Health Service has analysed the contents and findings of the Health Impact Assessment, accepting its conclusions and offering no objection to the proposed development from a health perspective. This is subject to the imposition of conditions relating to the monitoring of air quality, as well as the commitment to engage with the local community. The applicant's commitment to carry out further mitigation, as set out in paragraphs 17.14 and 17.15 of this report, is also considered appropriate as a means of reassuring local residents in respect of perceived health impacts.

## 18. Historic Environment

*Policy background*

18.1 Within the NPPF, paragraph 128 states that local planning authorities should require applicants to describe the significance of any heritage assets affected by development proposals, including any effect on their setting. The NPPF further states that the level of detail should be proportionate to the importance of the historic asset.

18.2 Paragraph 132 of the NPPF states that "when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation", and that "the more important the heritage asset, the greater the weight should be". It continues by saying that significance can be harmed or lost through such things as development within its setting.

18.3 Paragraph 133 of the NPPF states that where a proposed development would result in substantial harm or a total loss of significance, then planning permission should be refused unless the adverse impact is necessary to achieve substantial public benefits that outweigh the harm or loss.

18.4 Paragraph 134 of the NPPF continues by stating that "where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use".

18.5 The Planning (Listed Buildings and Conservation Areas) Act 1990 requires that local planning authorities, when considering planning applications that affect a listed building or its setting, must have regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest that it possesses. Decision makers should also give considerable importance and weight to the desirability of preserving the setting of listed buildings when carrying out the balancing exercise.

18.6 Policy 17 of the Waste Core Strategy states that waste management proposals will be permitted where it can be demonstrated that there would not be an irreversible adverse impact on a list of sites of

international and national importance. This list includes Scheduled Ancient Monuments, listed buildings and their settings, Historic Parks, and Areas of Archaeological Significance.

18.7 Policy 18 of the Waste Core Strategy expands on this, seeking to protect regional and local designated sites and areas. These include buildings of architectural or historic merit, Conservation Areas and their settings, sites with historic associations, and unregistered historic parks and gardens and their settings.

18.8 In respect of Broxbourne's emerging Local Plan, draft Policy HA9: Historic Parks and Garden protects "special historic character, appearance, views into or out of and the setting of those sites listed on the Historic England 'Register of Historic Parks and Gardens'… and other non-designated, locally important sites" from material harm as a result of development proposals.

18.9 Draft Policy HA12: Works affecting the setting of a Nationally Designated Building, Structure, Landscape, Park or Garden or Other Feature states that "proposals outside the curtilage, which affect the setting of a nationally designated building, structure, landscape, historic park or garden or other feature, should demonstrate that: a) the proposal does not adversely impact on the relevant features of the building, structure or feature and its setting, and b) the appearance, character and setting of the building, structure or feature are sustained or enhanced".

*Evaluation*

18.10 There are no heritage assets located within the planning application site. There are, however, two scheduled monuments located within the vicinity of the site. The first of these is Rye House, located approximately 700 metres to the north-west of the site. This scheduled monument consists of a moated enclosure and gatehouse, which itself is a Grade I listed building. Other buildings and structures associated with the monument are Grade II* and Grade II listed. The second scheduled monument is located just over one kilometre to the south-east at Nether Hall, Roydon, which consists of a gatehouse that formed part of a moated site. As with Rye House, the gatehouse is Grade I listed and other buildings and structures associated with this are Grade II* or Grade II listed.

18.11 The landscape and visual effects of the proposed development have been considered at length within the ES submitted with the planning application. This has also considered the impact of the development on the scheduled monuments. The ES concludes that after the construction of the ERF, the impact on the Rye House Gatehouse from filtered views of the facility would be Low, with the resultant industrial building being appropriate within its industrial context, including the large warehouses of Sainsbury's Distribution Centre, the Rye House

Power Station and the overhead power lines and their pylons. The ES further concludes that glimpsed views of construction works and the completed scheme would also be available in winter from within the park around the gatehouse, although these views would be would be filtered by intervening structures and vegetation. Therefore, it is concluded that the impact, both during construction and during the operation of the facility, would not be significant in respect of this asset or its setting. In respect of Nether Hall, it is considered that there would be a negligible visual effect on travellers along Netherhall Road during and after construction of the ERF, having no significance on the asset or its setting. The conclusions of the ES in this respect have been assessed and are considered to be reasonable, providing an accurate depiction of these assets and the likely impact of the proposals upon their significance.

18.12 Approximately two kilometres north east of the application site is the Grade II listed historic garden at Stanstead Bury and a similar distance away in an east-north-east direction, is the Grade II listed historic garden known as Briggens. In respect of both of these, the ES concludes that that the effects of the development will be Negligible, having no significant impact on these or upon their setting. Again, this conclusion is considered to be reasonable, accurately portraying the impact upon this feature.

18.13 The Conservation Area within Hoddesdon Town Centre is located approximately one kilometre to the south-west of the Ratty's Lane site. Broxbourne Borough Council, in its response to the planning application, states that:

> "Hoddesdon is an historic town with one of the finest town centres in Hertfordshire. The ambience of the town is already significantly impacted by views of the existing power station at Ratty's Lane. The application proposal will be of a different order altogether in terms of the visual impacts. It will be disproportionately dominant and therefore have a significant detrimental impact on large areas of Hoddesdon which include the town centre, the main approach roads and several residential areas for which it will loom as an imposing backdrop."

18.14 A Zone of Theoretical Visibility (ZTV) assessment has been carried out by the applicant, which has been computer-generated taking into account woodland and buildings on the extent of potential visibility; this has been verified through on-site surveys. The ZTV assessment shows that the vast majority of the Hoddesdon Conservation Area will not have views towards the proposed development, with only very small parts of the Conservation Area having the potential to see the proposed ERF. Even then, these will be at least one kilometre from the ERF, with views partially screened by existing development, especially the existing Rye House Power Station.

18.15 A number of visual receptors have been identified within the ES to assess the effect of the development upon these. Two of these are located within the Conservation Area, being those at Yewlands, the footpath along the New River in the south-east of the Conservation Area, and The Towers high rise residential development in its north. In respect of Yewlands, the ES concludes that the effects of construction and operation of the facility would not be significant. In respect of The Towers, it is considered that during the construction of the ERF there will be a major visual effect, giving rise to a significant adverse impact, as middle-distance panoramic views of the site's construction would be seen across the intervening buildings of the built-up area of Hoddesdon. Upon completion, however, the ultimate conclusion is that the disruption to views arising from construction would be replaced by the introduction of an interesting feature on the horizon.

18.16 Even though the development will be visible from these receptors, upon completion of the development the distance from the Conservation Area will ultimately result in a negligible impact upon the setting of the Conservation Area which is not likely to harm its significance.

18.17 Similarly, it is considered that any listed buildings within Hoddesdon town centre and the Conservation Area are significantly distant from the proposed development, such that the impact upon any listed buildings is likely to be negligible and not to harm their significance.

18.18 The Hoddesdon Society has objected to the planning application on the basis that HGVs travelling to and from the site will be within metres of heritage assets within the Hoddesdon Conservation Area. The Conservation Area is relatively linear, following Hoddesdon's High Street south from the Dinant link road, with its northern extent touching the roundabout of the link road where it meets Amwell Street. However, the vast majority of the Conservation Area is located well away from the route that HGVs will take to the site. In addition, the nearest listed building is located approximately 100 metres within the Conservation Area, being relatively well screened from the road. In any event, as identified in the chapter relating to transportation, the increase in vehicle numbers, as a result of the proposed development, is not considered to result in a significant increase. The route to the employment area is already very well used, so it is likely that the daily increase in traffic is likely to be imperceptible when considered overall in this context.

18.19 Historic England, in its response to the local planning authority, did not wish to offer any comments on the proposed development and its impact upon heritage assets. Instead, it suggested that the views of the County Council's own specialist conservation and archaeological advisers be sought, as relevant.

18.20 The County Council's Senior Historic Environment Adviser limited his advice to that of the protection of heritage assets of archaeological

interest, concluding that the development was likely to have an impact upon these. Accordingly, should the County Council be minded to grant planning permission, he advises that conditions be imposed requiring that investigations be undertaken to identify whether such assets exist within the site, together with the requirement for mitigation to take place should such assets be identified; this is considered reasonable.

18.21 The County Council's Landscape Officer has further considered the impact of the development from a landscape and visual impact perspective. This assessment did not identify any adverse impacts upon heritage assets within the vicinity of the scheme.

*Conclusion*

18.22 With reference to Paragraph 133 of the NPPF, it can be concluded that the assessment of harm set out within the ES is accepted. Only the Conservation Area, when viewed from The Towers high-rise block, will experience significant adverse harm, limited to the construction of the proposed development. This harm will not be experienced post-completion of the ERF. Nevertheless, in accordance with paragraph 133, planning permission should be refused unless the adverse impact is necessary to achieve substantial public benefits that outweigh the harm. This will be assessed in the conclusions and planning balance at the end of this report.

18.23 All other designated heritage assets have been assessed in detail and, in all cases, the proposed development will have no significance. In accordance with paragraph 134, this harm will be weighed against the public benefits of the proposal.

18.24 In respect of heritage assets of an archaeological interest, the protection of these can be achieved through the imposition of suitably worded conditions.

## 19. Green Belt

*Policy background*

19.1 Paragraph 79 of the NPPF states that "the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open". Paragraph 80 continues by setting out the five purposes of the Green Belt, which are as follows:

- to check the unrestricted sprawl of large built-up areas;
- to prevent neighbouring towns merging into one another;
- to assist in safeguarding the countryside from encroachment;
- to preserve the setting and special character of historic towns; and
- to assist in urban regeneration, by encouraging the recycling of derelict and other land.

19.2 Paragraph 81 of the NPPF further states that local planning policies should plan positively to enhance the beneficial use of the Green Belt through such measures as retaining and enhancing landscapes, visual amenity and biodiversity.

19.3 Policy 6 of the Waste Core Strategy refers specifically to applications for new and/or the expansion of existing waste management facilities within the Green Belt, stating that these would need to demonstrate very special circumstances sufficient to outweigh the harm to the Green Belt together with any other harm.

19.4 Policy GBC2 of the Broxbourne Local Plan refers to development within the Metropolitan Green Belt, specifying the types of development that would be acceptable within Green Belt areas in order to preserve openness.

19.5 Policy GB1 of the Broxbourne emerging plan specifies that permission will not be grated for inappropriate development within the Green Belt, unless very special circumstances are demonstrated that clearly outweigh the harm.

*Evaluation*

19.6 Broxbourne Borough Council has objected to the proposed development on Green Belt grounds, stating that:

> "The proposed development would have a significant unacceptable impact on the Green Belt contrary to the NPPF and the Development Plan."

19.7 Within the report that the Borough Council took to its committee, the ERF is described as being:

> "a monolithic, carbuncular eyesore that would blight Hoddesdon throughout its lifetime, and possibly beyond. It would also have a destructively harmful impact on the Green Belt in Hertfordshire and Essex as well as the Lee Valley Regional Park."

19.8 Epping Forest District Council also raises Green Belt concerns, stating that "the proposal will appear too conspicuous as viewed from the Green Belt and countryside" due to its bulk but also because of the proposed illumination of the ERF building.

19.9 The vast majority of the application site lies outside the Metropolitan Green Belt. The boundary of the Green Belt more or less follows the eastern boundary of the site, with the land owned by the Canal and Rivers Trust and the towpath falling within the Green Belt. The only part of the development that encroaches into the Green Belt is the construction of a surface water drainage outfall and a below ground

surface water connection. Paragraph 90 of the NPPF sets out the forms of development that are not considered inappropriate within the Green Belt, so long as they preserve the openness of the Green Belt and do not conflict with the purposes of including land within the Green Belt. One of these forms of development is 'engineering operations'. It can be concluded that these minor works fall within the definition of engineering works and that, by their very nature, they have negligible impact upon openness. In addition, they do not conflict with the purposes of including land within the Green Belt. Consequently, these elements are not considered to be inappropriate and are not in breach of Green Belt policies.

19.10 The concept of national and local Green Belt policy is to control development that takes place within the confines of the designated Green Belt. It is important to note that Green Belt policy is not a landscape designation but is a policy designation. No reference is made within the policies to the protection of the Green Belt by virtue of controlling land that is adjacent to the Green Belt. In fact, the southern and eastern boundaries of the North East Hoddesdon Industrial Area abut the Metropolitan Green Belt. Commercial/industrial development is located right up against the Green Belt boundary in these locations.

19.11 The commentary within the Broxbourne Local Plan actually states (in paragraph 4.6.10) that the North East Hoddesdon Industrial Area is particularly suitable for general industry and warehousing, being located adjacent to rail and waterways links. As such, it acknowledges that industrial/commercial uses can, and should, co-exist with the adjacent River Lee. Although Policy EMP3 of the Local Plan, to which this commentary relates, says that development proposals should include measures to reduce the impact on the environment of the adjoining Lea Valley Park, there is no requirement within this site specific policy to the need to consider the impact on the setting of the adjacent Green Belt.

19.12 Nevertheless, the Landscape and Visual Impact Assessment submitted with the planning application did consider the impact of the development on the Green Belt. This concluded that the retention and enhancement of the existing buffer to the east of the site on the Canal and Rivers Trust land (and within the Green Belt) would serve to protect the character of the area, preserving the openness of the Green Belt. As set out in the earlier chapter that considered landscape and visual impact, the proposed development would be highly visible from within the Lee Valley to the east of the site. This would, to a certain extent, be screened by this natural buffer but it is clear that a development of this scale will still result in development that is obvious within the wider landscape. However, it is agreed that the Green Belt's openness will not be affected by the proposed development.

*Conclusions*

19.13 Apart from the surface water drainage outfall and a below ground surface water connection, none of the development will be located within the Metropolitan Green Belt. These drainage arrangements are small in scale and nature resulting in no significant impact upon the openness of the Green Belt, nor do they conflict with the purposes of including land within the Green Belt.

19.14 Although the ERF will be visible from the Green Belt, it is located outside of its confines and, as such, national and local Green Belt policies do not apply to the vast majority of the proposed development.

## 20. Loss of Rail Aggregates Depot

*Policy background*

20.1 Paragraph 143 of the NPPF states that local planning authorities, when preparing their Local Plans, should ensure that existing, planned and potential rail heads are safeguarded.

20.2 Minerals Policy 10 of the Hertfordshire Minerals Local Plan Review 2002-2016 refers to railheads and wharves. This states that "existing and disused railheads and wharves will be safeguarded where they have potential for the exportation and importation of minerals and secondary/recycled aggregates". As such, railheads should be retained unless:

- the existing facility can be satisfactorily relocated within the development proposals; or
- it can be demonstrated that the site is no longer viable for use as a rail aggregates depot; or
- the facility will be replaced in an appropriate alternative location.

*Evaluation*

20.3 As previously rehearsed, the existing rail aggregates depot use of the site will be forfeited should planning permission be granted for the ERF. The applicant describes this as a temporary loss based on the lifespan of the proposed ERF, but acknowledges that it's a long term temporary loss. Nevertheless, the establishment of the ERF would result in the loss of the rail aggregates depot, in its present format, for a considerable period of time. On the face of it, this would be contrary to the aims of the NPPF and Minerals Policy 10. One of Broxbourne Borough Council's objections to the planning application is on the basis that the proposed development represents a departure from Minerals Policy 10.

20.4 Although the site operates under a 1983 planning permission that allows the use of the rail siding for unloading aggregates, storage and transfer of aggregates and to operate an asphalt coating plant and concrete batching plant, the applicant points out that the concrete

batching plant element has never been implemented. Also, the coated road stone plant was mothballed a number of years ago and was removed from the site in 2016. Secondary or recycled aggregates are not produced or used at the site, with activities restricted to the delivery of primary aggregates to the site by rail.

20.5 The Ratty's Lane site is one of five rail allocated aggregates depots in the county; the other four being located at Hitchin, Stevenage, Radlett and Watford, however the depot in Hitchin is no longer operational. Within a 15 mile radius of the site (deemed to be the market area for the site) is one further rail aggregates depot, at Harlow Mill in Essex.

20.6 The Minerals Planning Authority carried out a survey in 2013/14, determining that 501,789 tonnes of primary aggregates in the form of crushed rock was imported to Hertfordshire through the network of existing rail aggregates depots, plus 43,338 of sharp sands and gravels. The applicant has carried out an analysis of the likely future need of primary aggregates within the county, stating that this is primarily determined by major development projects, especially those that involve transport infrastructure. The analysis surmises that such projects also make use of primary aggregates excavated within Hertfordshire in the form of sand and gravel and that there is an increased use of secondary aggregates used within the county. Consequently, as rail accounts for less than 10% of the movement of aggregates within England and Wales and due to the availability of primary and secondary aggregates from within the county, the analysis concludes that "significant growth in crushed rock imports into Hertfordshire is considered unlikely".

20.7 The applicant has also carried out an assessment of the existing rail aggregates depots in the county. This identifies that the Radlett and Stevenage facilities alone have the ability to handle a combined throughput capacity of 550,000 tonnes of primary aggregates, which exceeds the amount imported to Hertfordshire in the year 2013/14. Any future growth, however unlikely, could be accommodated at the Watford and Hitchin depots, together with the availability of the Harlow Mill depot, which has a capacity of 400,000 tonnes per annum.

20.8 The applicant has further carried out an assessment of coated stone plants within the county. The coated stone plant at the Ratty's Lane site ceased to operate in 2012 and was removed from the site in 2016. One of the coated stone plants at Harlow Mill ceased to operate with effect from 2010. In the meantime, a modern and more efficient coated stone facility commenced operations at the Radlett rail aggregates depot in 2015. Consequently, the assessment concludes that the closure of the Ratty's Lane and one of the Harlow Mill plants means that there was an oversupply of such facilities in the general area, with the Radlett facility being the focus of coated stone production. As all rail aggregate depot sites and their respective coated stone plants are

owned and operated by Tarmac, that company is able to control production of coated road stone within the county.

20.9 Similarly, the fact that the concrete batching element of the 1983 planning permission has never been built is indicative of the lack of need for establishment of such a facility within the site. This is especially true as alternative concrete batching facilities are located within the wider area.

20.10 Finally, it is important to state that the existing rail head will be retained within the site for the duration of the operation of the ERF. Furthermore, it is intended that incinerator bottom ash (IBA) will be transported away from the site for further processing, with this material ultimately being able to be used as an alternative for primary aggregates, as a road base material. This is a significant quantity of material, amounting to approximately 25% of the volume of the residual waste that will be incinerated within the facility.

*Conclusions*

20.11 The proposed development results in the loss of the existing rail aggregates depot use for a significant period of time, contrary to national and local planning policies that seek to safeguard the retention of such facilities. However, an analysis of existing facilities indicates that the need for the importation of crushed rock into the county can be covered by other rail aggregates depots within Hertfordshire. These are all operated by Tarmac, indicating that the supply of these primary aggregates by rail can be accommodated even with the closure of the Ratty's Lane depot. Furthermore, an analysis of coated stone and concrete batching plants shows that the demand for these can also be accommodated at existing alternative facilities. Consequently, it can be concluded that the Ratty's Lane rail aggregates depot is no longer viable and that its loss will not have a significant impact upon the supply of crushed rock in the county as a whole. Therefore, the loss of the facility accords with criterion b) of Minerals Policy 10.

20.12 Furthermore, the retention of the railhead in order to allow for the export of IBA from the site, to ultimately be used as a secondary aggregate, offers significant benefits in terms of reducing the regional need for primary aggregates.

## 21. Sustainable development

*Policy background*

21.1 Issues pertaining to sustainable development have already been looked at in previous chapters of this report; specifically within Chapter 7 (Need) and Chapter 8 (Strategic Location). It is, however, necessary to provide a further assessment of the technology that will be employed

as well as the wider benefits, if present, in respect of sustainable development.

21.2 To reiterate, paragraph 14 of the NPPF states that at its heart "is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking". In respect of planning applications, the NPPF says that develop that accord with the provisions of the development plan should be granted without delay but, where the development plan is silent, or relevant policies are out of date, planning permission should be granted unless any adverse impacts would "significantly and demonstrably outweigh the benefits, when assessed against the policies" within the NPPF, or where specific policies in the NPPF indicate that development should be restricted.

21.3 The NPPF sets out three dimensions of sustainable development; economic, social and environmental. The economic role is focussed on "ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure". The social role seeks, amongst other things, to create "a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being". The NPPF's environmental role seeks a contribution to protecting and enhancing the "natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy".

21.4 Policy 1A of the Waste Core Strategy reiterates the presumption in favour of sustainable development, repeating the broad aims of the NPPF in seeking to secure development that improves the economic, social and environmental conditions in the area.

21.5 Policy 10 of the Waste Core Strategy refers to climate change. The commentary to the policy states that the Waste Development Framework must play its part in mitigating climate change, and that "the main contribution will be achieved by supporting a shift to more sustainable modes of transport, implementing the proximity principle within the overall spatial strategy, and supporting proposals that recover energy from waste". The policy itself states that "proposals for waste management facilities must have regard to measures that minimise greenhouse gas emissions and to climate change risks that will affect the development over its lifetime".

*Evaluation*

21.5 In terms of energy production, the ERF is designed to meet R1 'recovery' status, as referred to within the Waste Development

Framework. At its nominal capacity of 320,000 tonnes of waste per annum, it is estimated that this will generate 33.5MWe gross (30.2MWe net) of electricity. As previously rehearsed, the energy recovery of waste pushes the waste up the waste hierarchy.

21.6 The DEFRA publication *Energy from waste: A guide to the debate*, which was published in its present format in 2014, examines the sustainability and benefits of incinerating waste when compared to sending it to landfill. This refers to the Climate Change Act, which established a legally binding target to reduce the UK's greenhouse gas emissions by at least 80% by 2050 when compared to the base year of 1990. In 2007, approximately 4% of total UK greenhouse gas emissions came from waste, with around 90% of these emissions coming from landfill. The analysis from DEFRA's guide highlights that both landfill and combustion of waste will result in the release of carbon into the atmosphere. However, landfill releases carbon dioxide and methane in roughly equal proportions, whereas combustion just results in the release of carbon dioxide; methane is approximately 25 times as damaging as carbon dioxide.

21.7 The guide examines the differences between landfill and combustion further. In respect of the energy from waste plant, this will generate energy that would otherwise have to be generated by a conventional gas-fired power station. Consequently, although biogenic carbon that is present in residual waste will be incinerated, resulting in carbon dioxide being released into the atmosphere, biogenic carbon is considered to be 'short cycle' as it was only relatively recently absorbed by growing matter. The combustion of this saves the fossil carbon dioxide that would have been released by the conventional power station. The DEFRA guide sums this up by stating that:

> "This means that in our comparison some of the fossil carbon dioxide released by the energy from waste plant can be offset by the saving from the gas fired power station, reducing the overall impact. The more efficiently the energy from waste plant converts the waste to useful energy, the greater the carbon dioxide being offset and the lower the net emissions."

21.8 Alternatively, the DEFRA guide states that some of the biogenic material in landfill will break down, with the carbon converted to a mixture of carbon dioxide and methane; otherwise known as landfill gas. Although some of this will be captured and burnt, thus generating electricity and off-setting power station emissions, some of the methane generated within the landfill will still be released into the atmosphere. Due to the potency of methane, the guide concludes that "even a relatively small amount of methane can have a dramatic effect and be equivalent to a much larger amount of carbon dioxide".

21.9 Consequently, the DEFRA guide concludes that energy recovery from residual waste has a lower greenhouse gas impact when compared to landfilling waste. The guide states that:

> "(energy recovery) would therefore be considered higher than landfill in the waste hierarchy and the preferred option for managing residual waste in terms of minimising potential climate change."

21.10 Obviously, the more efficient the plant is at turning waste into energy, the greater the carbon offset and the lower the net emissions from waste.

21.11 The applicant has undertaken a review of the principal technical options that are available in respect of treating residual waste within Hertfordshire and has submitted this in support of the planning application. In respect of the incineration of this waste, Veolia confirms that it operates 10 other such facilities within the UK. Nine of these have R1 certification, with the remaining plant awaiting certification. Veolia state that the technology is proven, flexible and improves year on year in terms of its overall performance. It also offers benefits as ferrous material is able to be extracted for recycling and IBA is able to be treated for use as a secondary aggregate. In addition, Flue Gas Treatment residues are able to be reprocessed for beneficial use.

21.12 Veolia's assessment concludes that incineration offers significant advantages over alternative methods of treating residual waste, concluding that:

> "Stand-alone thermal treatment using modern state of the art technology is….flexible and robust and is the technology proposed for Hertfordshire. Veolia believe this approach is appropriate to the prevailing circumstances including the current and projected waste arising, composition and recycling rates, the client needs, and local available infrastructure."

21.13 Consequently, it can be seen that the proposed development provides significant advantages in respect of reducing landfill gas emissions, being a preferred option to the landfilling of waste as a means of reducing greenhouse gas emissions, thus having a positive impact upon climate change.

21.14 In respect of transportation, Chapter 8 of this report has considered the benefits of locating an ERF close to the origins of the sources of waste, fully complying with the proximity principle. This has demonstrated the sustainability in transportation terms of providing an energy recovery facility within the confines of the county, thus reducing transportation costs and emissions when compared to the present position whereby waste is exported to facilities outside of Hertfordshire. Also, the export of IBA via rail will provide significant sustainability benefits in terms of using alternatives to conventional travel by road.

21.15 Furthermore, preceding chapters have demonstrated that the environmental impacts of the development will not, on the whole, have significantly adverse effects on identified receptors, with the flood risk assessment fully taking into account climate change tolerances.

21.16 Accompanying the planning application is a Sustainability Statement, which assesses the overall sustainability of the proposed development. This has referenced the County Council's Site Allocation Sustainability Appraisal. This sets out seven objectives as follows:

1. To protect and enhance the quality of the natural and historic environment.
2. To achieve and promote the sustainable land use, construction, design and transport in Hertfordshire.
3. To reduce contributions to climate change.
4. To provide sustainable resource management.
5. To maximise the potential economic benefits of waste management to a sustainable economy in Hertfordshire.
6. To contribute to the improved health and amenity of local communities in Hertfordshire.
7. To maximise community participation and access to services and facilities in Hertfordshire.

21.17 In respect of the first of these, it is concluded that ecological habitats and protected species are afforded adequate protection or mitigation, with some enhancement for biodiversity also included within the proposed scheme. Heritage assets are not significantly affected and whilst there will be an impact upon the adjacent Lee Valley Regional Park, this will be mitigated through appropriate landscaping and design of the facility.

21.18 In respect of objective 2, it is considered that the development will result in the re-use of previously developed land that is allocated as an employment site within the Local Plan. As previously rehearsed, it will offer significant benefits in terms of sustainable transportation. In terms of the design of the building, it will be constructed to meet the assessment of being BREEAM Excellent, which is the sustainability assessment for master planning projects, infrastructure and buildings.

21.19 Again, as previously rehearsed, the proposed development will make a significant contribution to reducing climate change. In respect of objective 4, residual waste will comprise a resource that produces low carbon and partly renewable energy, with the main residue in the form of IBA being able to be converted to secondary aggregates.

21.20 It is considered that, with regards to objective 5, using the residual waste as a fuel to produce electricity maximises its value and the wider economic benefits of waste management of not exporting the waste to

landfill or out of county facilities are clear. Likewise, the re-use of IBA meets this objective.

21.21 Although the proposed development will not contribute to the improved health and amenity of local communities, it is considered that in the majority of cases there will be no such significant impacts as a consequence of the development, thus maintaining the status quo. However, in some instances the development may have a minor negative impact, which can be mitigated through an appropriate financial contribution.

21.22 Finally, in respect of objective 7, the applicant has undertaken a programme of community engagement, which is described in detail in the Statement of Community Involvement that accompanies the application. The proposed development includes the provision of a Visitor Centre, which will enable further engagement with local communities in respect of education relating to the operation of the site and its role in terms of its contribution to managing waste within Hertfordshire.

21.23 The Hoddesdon Society has objected to the proposed development on the grounds that it will have an unacceptable impact on the vitality and viability of the town centre, raising serious concerns that the socio-economic factors pertaining to the application were scoped out. As identified in the preceding paragraphs, however, the application site is located on a designated employment site, some distance from the town centre. The assessment of the likely impact of vehicle movements on local congestion has not identified any significant problem, so it is extremely unlikely that the vitality and viability of Hoddesdon town centre will be impacted. Furthermore, when the applicant submitted the original scoping report, it identified in respect of the socio-economic impacts that these were assessed as part of the Fieldes Lock application in 2012. This concluded that that proposed development would not result in significant environmental effects in this regard. Consequently, socio-economics was scoped out of this planning application, which the County Council considered to be reasonable.

21.24 Broxbourne Borough Council has objected on the grounds that the proposed development does not include a provision for the generation of heat as well as electricity from the facility, which it argues is an inefficient and unsustainable form of energy recovery.

21.25 However, whilst the proposed ERF will not, at the outset, provide heat, the facility will be ready to operate as a Combined Heat and Power (CHP) facility in the future. With this in mind, the applicant has submitted a District Heating Assessment with the planning application. This looks, in detail, at the potential receivers of any heat that could be produced by the proposed ERF, identifying a number of potentially suitable medium and high heat density nodes that could be connected to a heat network served form the Ratty's Lane site. Consequently, the

study concludes that there is a potentially viable heat network project that could be implemented at some point in the future. Therefore, although the proposed ERF will not provide heat at the outset, there is a potential for this to happen, subject to the carrying out of further studies to reassess the preliminary findings to ensure that this is financially viable.

21.26 Whilst the production and delivery of heat would offer significant added benefits, it should be noted that a facility that only produces electricity does not conflict with the Waste Core Strategy. Policy 3 of the document states, inter alia, that "proposals for the treatment of waste which maximise recovery and where appropriate generate and recover heat **and/or** power will be acceptable in principle" (my emphasis). Similarly, the JMWMS states that one of the issues to be taken into account when planning new facilities for waste is "turning waste into energy, such as local heating **or** electricity" (my emphasis again). Consequently, the policy position is that there is no requirement for a combined heat and electricity facility.

*Conclusions*

21.27 There are clear benefits arising from the proposed ERF in terms of sustainable development. The development will result in an overall reduction in greenhouse gases as a consequence of incinerating the waste, as opposed to sending it for disposal at landfill sites. There will also be significant reductions in transportation, according with the proximity principle and coupled with the exportation of IBA by rail.

21.28 The Sustainability Statement produced by the applicant also demonstrates the wider compliance with the County Council's Site Allocation Sustainability Appraisal.

21.29 Consequently, the proposed development can be seen to accord with the general aims of the NPPF in terms of sustainable development. This is particularly so with reference to the environmental role set out in the NPPF, as the development would help to improve biodiversity, with mitigation for any impacts upon biodiversity and would assist in minimising waste and pollution, mitigating and adapting to climate change, with the incineration of waste going some way to moving to a low carbon economy. In respect of the economic role, the development will result in the correct usage of the allocated employment land supporting growth and innovation. From the perspective of the social role, the development would result in a high quality built environment. Although the development would not support the community's health, social and cultural well-being, it is considered that it will not have a significant impact on these elements.

21.30 Therefore, in respect of sustainable development, the proposed development accords with the NPPF as well as Policies 1A and 14 of the Waste Core Strategy.

## 22. Draft Heads of Terms for the Legal Agreement

22.1 Regulation 122 of the Community Infrastructure Levy Regulations 2010 states that a planning obligation may only constitute a reason for granting planning permission for the development if the obligation is:

- Necessary to make the development acceptable in planning terms.
- Directly related to the development.
- Fairly and reasonably related in scale and kind to the development.

22.2 Consequently, it can be considered that the provision of infrastructure that relates to a particular development and is necessary for the development to proceed, is a legitimate planning benefit to be sought through the medium of planning obligations.

22.3 In the first instance, one of the key elements of the proposed development is the exportation of Incinerator Bottom Ash from the site by rail. This provides for sustainable transport and would ultimately remove the need for the export of IBA via road. At the present time, however, details of how and where there will be taken are relatively vague. Furthermore, the ability for this material to be utilised as a secondary aggregate as a road base material provides significant justification for the loss of the rail aggregates depot.

22.4 Consequently, in order that an end supply for the IBA is found as expediently as possible, thus ensuring that it is converted into a secondary aggregate, it is recommended that a condition of the section 106 Agreement should be to ensure, within 12 months of operations commencing on site, that all IBA is removed from the site by rail and to a facility that re-uses the material, after treatment, as secondary aggregate. The applicants have advised that they would be happy to abide by this requirement.

*Hertfordshire County Council – Highways Authority*

22.5 The Highways Authority has identified that there is a general need for highways improvements in terms of providing access to the Essex Road employment area. As such, they are presently looking at a package of improvements (as set out in their consultation response), consisting of:

- A proposed new bridge and associated road over Woollensbrook and the New River to the south of Essex Road and other improvements to remove the existing New River Bridge pinch point. A new offline bridge has been identified as the most appropriate long term solution to the issue and future access to the business park following the joint master planning exercise undertaken by Arup for HCC and the Borough of Broxbourne Council;

- On line improvements to Essex Road to improve pedestrian and cycle access along the route;
- On line improvements to Essex Road to smooth traffic flows along the route;
- Construction of cycle a route along Charlton Road to link Essex Road to the town centre and residential areas; and
- Improvements to the New River Path Right of Way/permissive route to improve access from Essex Road to Broxbourne Station and residential areas.

22.6 Both the Highways Authority and Broxbourne Borough Council have collected pooled Section 106 contributions from a number of other developments across the Essex Road Employment Area to go towards upgrading the bridge to overcome the issues that exist. Consequently, as this development will increase the number of large vehicles routing across this bridge each day and there is a need to provide alternatives to ensure the business park is accessible into the future. The Highways Authority believes it is justified to seek a pooled contribution to add to those already collected and is seeking a total of £750,000 from the proposed development, as a financial contribution for the above package of improvements.

22.7 Although the proposed development does not rely upon the access improvements that the Highways Authority seek to carry out, there is a clear relationship between the two elements. The proposed development will result in additional HGVs accessing Essex Road, so it is reasonable to expect a financial contribution of this nature, being directly related to the planning application and is fairly and reasonably related in scale and kind to the development. The applicants have confirmed that they consider these works to be acceptable, and have confirmed that they are willing to provide the financial contribution that is sought.

22.8 The Highway Authority has also suggested that conditions be imposed seeking to ensure that:

(a) The existing public right of way abutting the site shall remain undisturbed and unobstructed at all times; and
(b) The installation of pedestrian dropped kerbs and tactile paving at the western end of the Essex Road/Pindar Road junction are carried out.

22.9 As both of these considerations fall outside the site, they should fall within the terms of the Section 106 Agreement. However, the applicants rightly point out that there is no need for the provision to ensure that the existing public right of way is undisturbed and unobstructed as existing legislation would prevent this from taking place. However, as the installation of dropped kerbs and tactile paving is directly related to the development, it is considered that this provision meets the tests set out in Regulation 122. The applicants agree to this.

*Broxbourne Borough Council*

22.10 Broxbourne Borough Council has requested that, should planning permission be granted, then the following items should be included within the remit of any legal agreement:

1. Financial contribution towards the improvement of Hoddesdon Town Centre;
2. Financial contribution towards the mitigation of congestion on Essex Road;
3. Financial contribution to the environmental enhancement of Hoddesdon Business Park;
4. Financial contribution towards the regeneration of the Rye Park area; and
5. A specified requirement for the implementation of a combined heat and power network for the local area within an agreed timescale.

22.11 Further information has been sought from Broxbourne Borough Council in respect of the fine detail of where financial contributions would be spent but, at the time of going to press, this further information has not been provided.

22.12 In respect of improvements to Hoddesdon Town Centre and Hoddesdon Business Park, it has already been assessed that the development would not have a significant adverse impact upon these receptors. In fact, the design of the proposed ERF will provide enhancements within the confines of the business park itself, providing a modern development of a contemporary design, replacing the dated and somewhat scruffy and utilitarian nature of the existing rail aggregates depot. Consequently, it is considered that such contributions are not necessary to make the proposed development acceptable in planning terms and, as such, these do not accord with Regulation 122. Similarly, it has been concluded that there will be no significant impacts upon the Rye Park area, so any contributions towards the regeneration of this area would not be necessary to make the proposed development acceptable in planning terms and would not be directly related to the proposed development.

22.13 In respect of the requested financial contribution towards the mitigation of congestion on Essex Road, it is considered that this replicates the requested financial contribution that has been asked for by the Highways Authority.

22.14 In respect of setting out a specified requirement for the implementation of a combined heat and power network for the local area within an agreed timescale, the sustainable benefits of the technology that is proposed has been examined. Whilst the technology allows for heat to also be generated at some point in the future, this is dependent on a number of factors. Consequently, the production of energy, in itself, is

considered to offer significant benefits and it is considered that the need to expand this to require that the facility also generates heat is not a necessary requirement to make the proposed development acceptable in planning terms. As before, therefore, this request does not meet the requirements of Regulation 122. However, although the applicants are unable to provide guarantees about the future provision of a combined heat and power facility in the future, they have indicated that they are committed to reviewing such future opportunities and the potential viability of connection to end users. As such, they are willing to commit to this review process as being a requirement of the Section 106 Agreement, and this is considered reasonable.

*Essex County Council*

22.15 Essex County Council has expressed concerns in terms of the routing of HGVs into and out of the site, both during the operation of the development as well as during its construction. The applicant assess that all of the HGV movements will arrive and depart from the direction of the A10. In order that these vehicles do not take detours away from this primary route, Essex County Council requests that the routing of lorries be controlled by way of the section 106 Agreement.

22.16 It is highly unlikely, due to the nature of the roads involved, that HGVs will take alternative routes to and from the site. Nevertheless, the Highways Authority has considered the issue of routing and has suggested the imposition of a condition to ensure that HGVs do not travel along Dobb's Weir Road. This is considered satisfactory, with there being no need to replicate this control within the legal agreement.

*Canal and Rivers Trust*

22.17 The Trust seeks local environmental improvements, which it considers to be required to help mitigate the impact of the proposed development on the wider waterway corridor. The Trust is of the opinion that these should include:

- Improved landscaping screening to the waterway corridor;
- Improvements to the car park adjacent to the Lee Navigation, at the northern end of Ratty's Lane;
- Improvements to the towpath between the Ratty's Lane access and Rye House rail station;
- Improved rubbish disposal facilities on the towpath;
- A financial contribution towards the "Stort Valley Meadowlands" project, a forthcoming Heritage Lottery Fund (HLF) bid, which will be in partnership with the Canal & River Trust.

22.18 As set out within the chapter of this report relating to landscape and visual impact, there will be an adverse impact upon certain characteristics of the Lee Valley Regional Park and the River Lee. Although the mitigation proposed by the applicant will go some way

towards softening these impacts, it is considered that further mitigation, in the form of the funding of general improvements to the water corridor in the vicinity of the application site, will provide considerable benefits.

22.19 In respect of the proposed improved landscaping screening, however, this will be covered by a condition attached to the planning permission. Similarly, improvements to the car park are actually required by way of the planning permission granted for the ATT/AD plant on the opposite side of Ratty's Lane.

22.20 The proposed development will encourage additional footfall along the towpath from the railway station and, as such, it is considered that a financial contribution towards improving this is reasonable and meets the requirements of the regulations. Again, improvements that will be achieved through the Stort Valley Meadowlands project will assist in mitigating the impact of the development, and it is considered that a financial contribution towards this is reasonable, although further information will need to be obtained from the Trust in order to understand what is sought. The applicants have indicated that they are content with providing such financial contributions, and discussions are taking place with the applicant to determine an amount that is considered acceptable. It is anticipated that this will be verbally reported to the committee meeting. In respect of the improved rubbish disposal facilities, however, it is considered that this is not directly related to the development nor is it necessary to make the proposed development acceptable in planning terms.

*Lee Valley Regional Park Authority*

22.21 The Park Authority has stated that should planning permission be granted, it would wish to see the following as part of any legal agreement:

(a) The production and implementation of a detailed landscaping scheme together with a Landscape Management and Maintenance Plan; and
(b) A contribution of £268,000 towards visitor infrastructure improvements within the Nature Improvement Area at Glen Faba to compensate for the significant adverse effects on the visual amenity of Park users.

22.22 As with the environmental improvements sought by the Canal and Rivers Trust, the financial contribution would provide an opportunity for the development to provide enhancement opportunities to areas within the Lee Valley Regional Park that will be adversely affected, to some degree, by the proposed development. Such improvements would be directly related to the development and would be fair and reasonable when looked at in terms of the scale of the development in total. However, the sum that is sought is currently being discussed with the applicant. It is anticipated that an agreed figure will be reported verbally at the committee meeting.

22.23 In respect of the landscape management and maintenance plan, it is considered that this will replicate conditions within the planning permission.

*Roydon Parish Council*

22.24 The Parish Council requests that any section 106 Agreement should include the provision of pollution monitoring equipment to be installed, at ground level, at an agreed location, in Roydon village; this would be at the applicant's cost. It is requested that this be examined on a regular basis by an independent assessor, again at the applicant's cost and any adverse findings brought to the attention of the Environment Agency and local councils (including Parish). The company should then take the necessary steps to rectify the problem within a specified time or be forced to take the plant off-line.

22.25 Such monitoring equipment has not been suggested as being necessary by the Public Health Service or the Environment Agency. In fact, the provision of such equipment would replicate the routine monitoring of emissions from the site that will be carried out by the Environment Agency in relation to the environmental permit. Although such equipment would provide a degree of reassurance to local residents, the mitigation suggested within the Health Impact Assessment relating to community engagement should be sufficient in this regard, with this mitigation being endorsed by the Public Health Service.

*Conclusions*

22.26 It is therefore recommended that planning permission be granted subject to the completion of a section 106 Agreement, with the following heads of terms:

1. A commitment to ensure that all IBA is removed by rail to a dedicated facility to enable it to become secondary aggregate within 12 months of the operations commencing on site.
2. A financial contribution of £750,000 to assist in funding access improvements into Essex Road.
3. A requirement to install pedestrian dropped kerbs and tactile paving at the western end of the Essex Road/Pindar Road junction.
4. A commitment to review future CHP opportunities and viability of connection of such a facility to end users.
5. A financial contribution towards visitor infrastructure improvements within the Nature Improvement Area at Glen Faba.
6. A financial contribution towards improvements to the towpath between the Ratty's Lane access and Rye House railway station;
7. A financial contribution towards the "Stort Valley Meadowlands" project.

## 23. Conclusions and Planning Balance

23.1 There is a scarcity of facilities that allow the treatment of residual LACW within the county. Just one landfill site remains open, at Westmill Quarry, but this is expected to close in the short to medium term. The majority of residual LACW produced within Hertfordshire is currently exported outside the county, for landfill or incineration. It has therefore been identified that there is an overwhelming need for a facility of this kind within Hertfordshire.

23.2 The treatment of residual waste by incineration, thus allowing the generation of renewable energy, allows these waste materials to be pushed up the waste hierarchy. This accords with the Waste (England and Wales) Regulations 2011 and is further supported by the Waste Management Plan for England. In addition, Policy 3 of the Waste Core Strategy promotes the incineration of waste to allow the generation of electricity, as does the Joint Municipal Waste Management Strategy for Hertfordshire. The establishment of an ERF at Ratty's Lane would enable the Waste Disposal Authority to be able to manage all residual LACW generated within the county, within the confines of the county.

23.3 Furthermore, treating the LACW at an energy recovery facility provides a cost-effective alternative to sending a large percentage of it to landfill. Not only is landfill expensive, but it is more environmentally damaging than energy recovery, which ultimately constitutes a recovery operation. The production of energy from waste assists in reducing greenhouse gas emissions, when compared to the landfilling of waste.

23.4 Although the site at Ratty's Lane is not located within any of the preferred areas designated within the Waste Development Framework, the applicant has carried out a thorough assessment of alternative sites, which concludes that there are no viable alternative locations for such a facility within Hertfordshire. Although the Waste Core Strategy pushes new waste treatment facilities towards preferred areas, this is not prescriptive, subject to adherence to other criteria as set out in other policies of the Waste Core Strategy. In this case, the Ratty's Lane site consists of previously developed land located within a designated employment area. The site is in a sustainable location with reference to the proximity of the origins of waste materials, being located close to major road networks. The proposed development accords with the County Council's Spatial Vision as well as the JMWMS, meeting the criteria contained within Policy 7 of the Waste Core Strategy, which considers development proposals on sites outside of preferred areas.

23.5 The proposed development results in a number of extra HGV movements, during both the construction and operation phases of the facility. A detailed Transport Assessment has been submitted, analysing the impacts of these increased vehicle numbers on the local highway network. This concludes that during the construction of the

ERF, impacts upon the local highway will not be significant. During the operation of the facility, the 268 daily HGV movements have again been analysed, with it being concluded that there will not be a significant impact upon any of the identified receptors apart from along Ratty's Lane itself. The Highway Authority is content with this analysis and its conclusions. Highway safety and the safety and amenity of pedestrians and cyclists have also been considered, with there being no significant impact upon these as a consequence of the operation of the ERF. Nevertheless, the Highway Authority wishes to retain some control over the development through the imposition of a number of conditions, relating to such matters as vehicle routeing, vehicle numbers and traffic controls along Ratty's Lane.

23.6 In respect of air quality, it has been identified that the residential property at Lock Keeper's Cottage will experience a minor adverse impact as a result of the potential for dust to be generated during construction works. However, this is anticipated to be a short-lived event, with there being no general risk to human health. Furthermore, dust will be controlled by way of a condition attached to the planning permission, as well as adherence to a Construction Environmental Management Plan. Impacts from construction traffic are considered to be low. However, it is proposed to impose a further condition that will require monitoring of air quality to be undertaken during the construction of the ERF.

23.7 In respect of the operation of the ERF, the primary emissions will be from the twin stacks and the two diesel generators located on site. The ES has assessed the likely impacts of this on a range of receptors in the vicinity of the development, concluding that there will be negligible and insignificant impacts upon these. Similarly, in respect of HGV movements, it is concluded that there will be an imperceptible change in the majority of receptors along the route to the ERF. However, one receptor at Burford Mews is likely to experience a minor adverse impact on local air quality, raising $NO_2$ levels by less than 2% overall. This still results in a level beneath the objective value for air quality. As a means of ensuring that cleaner-type vehicles access the development, it is proposed to impose a condition requiring that all HGVs under the control of the applicant are EURO 5 or EURO 6 compliant.

23.8 During the construction phase of the development, a minor adverse effect will be experienced at Lock Keeper's Cottage and at the house boats along the River Lee. This is on the basis that site clearance works and the construction of access roads, together with earthworks within the site, will exceed threshold noise levels by between 6 and 8dB. This is based on a worst-case scenario but will nevertheless be a temporary effect limited to the construction phase. However, once the ERF is operational, noise generated by the facility is considered to have a negligible impact upon its surroundings and receptors.

23.9 The primary effects of the proposed development will be those arising from its visual impact and the impact of the development upon the wider landscape. This arises as a consequence of the height, scale and bulk of the proposed building. In particular, the development will have a significant effect when viewed in the context of Landscape Character Areas to the south and east of the site, especially within the sensitive Lee Valley Regional Park, in conflict with policies within the Regional Authority's Park Plan. Landscaping and screening of the site will assist in providing mitigation against this to some degree, but it is also considered that the contemporary design of the ERF will assist in providing general enhancements to the employment area in which it is located.

23.10 In terms of the visual impact of the development, 13 receptors will experience major or moderate effects from construction works, with six of these being residential in nature. It is acknowledged that this is a temporary effect during the construction phase. Upon operation of the facility, in year 1 five receptor groups will experience a major or moderate adverse visual impact, which is considered to be significant, with two of these being residential. At year 15, mitigation planting would provide further softening of the development in visual terms, but significant adverse residual effects would persist at the properties at Glen Faba and on the house boats at Fielde's Lock. In addition to the proposed landscaping, which will be required to be provided by way of condition, both the Regional Park Authority and the Canal and Rivers Trust seek financial contributions to enable improvements to the water corridor in the vicinity of the site. This is a reasonable method in which to provide additional mitigation for the impact of the proposed development in terms of landscape and visual impacts. This accords with Policy 18 of the Waste Core Strategy.

23.11 In ecological terms, the primary issue will be the permanent loss of approximately 1.5 hectares of terrestrial habitat with potential value to great crested newts. However, this will be mitigated through the provision of replacement habitat.

23.12 The applicant has provided adequate assessments of the potential for contamination within the site and the measures to be taken should contamination be identified. Furthermore, it is proposed to impose conditions that also seek to ensure that any contaminated land within the site is appropriately addressed.

23.13 The risks associated with flooding have been assessed in detail, with it being concluded that the proposed development will not have an impact on flooding, nor will it be significantly affected by flooding. In terms of groundwater and hydrogeology, it is concluded that the proposed development will not significantly affect the water environment, subject to the imposition of conditions.

23.14 The only designated heritage asset that will experience any significant harm is the Hoddesdon Conservation Area, with views towards the construction of the development being considered to constitute significant adverse harm. In accordance with paragraph 133 of the NPPF, planning permission should be refused unless the adverse impact is necessary to achieve substantial public benefits that outweigh the harm. The harm, however, is limited to the construction of the facility and is therefore temporary in nature. Furthermore, the establishment and operation of an ERF will provide significant public benefits in allowing the Waste Disposal Authority to treat all residual LACW that arises within Hertfordshire in a sustainable manner, pushing waste up the hierarchy. These benefits are considered to far outweigh the temporary adverse impact upon the Conservation Area. Similarly, with reference to paragraph 134 of the NPPF, the impact of the proposed development on all other designated heritage assets will have no significance, with the public benefits of the ERF outweighing this.

23.15 Despite being located adjacent to the Metropolitan Green Belt, it is considered that the development will not have an impact on openness. The only part of the development that will encroach into the Green Belt will be a surface water drainage outfall and a below ground surface water connection. These elements do not conflict with the purposes of including land in the Green Belt and have a negligible effect on openness.

23.16 Although the proposed development results in the loss of a safeguarded rail aggregates depot, an analysis of existing provision shows that the existing depot is unviable and that its loss does not conflict with Policy 10 of the Minerals Local Plan. The retention of the railhead also allows IBA to be exported from the site for its ultimate use as a secondary aggregate.

23.17 It can be concluded that the proposed ERF accords with the golden thread running through the NPPF, which specifies a presumption in favour of sustainable development.

23.18 The development will result in adverse impacts, especially in relation to its visual and landscape impact as well as in respect of a temporary impact upon the Hoddesdon Conservation Area. Noise and dust are also likely to result in significant effects upon residential properties located within the vicinity of the site, but once again for a temporary period during the construction of the facility. Despite these impacts, mitigation is proposed that will assist in lessening these adverse impacts; either through landscaping requirements or controls through conditions, or by way of the provision of financial contributions to assist in carrying out environmental improvements to the water corridor and Lee Valley Regional Park. Furthermore, the overall benefits of the development, which have been considered at length within this report,

are considered to far outweigh any residual impacts that may be experienced once the development is operational.

23.19 It is therefore recommended that planning permission be granted, subject to the imposition of the following conditions, as well as the completion of a section 106 Agreement in the terms previously described.

**Conditions**

**Time Limit**

**1.** The development to which this planning permission relates shall be begun no later than three years from the date of this permission.

Reason: To comply with the requirements of Section 91 of the Town and Country Act 1990 (as amended).

**Approved Plans**

**2.** The development hereby permitted shall be carried out in accordance with the following approved plans and documents unless otherwise agreed in writing:

Planning Application Supporting Statement with accompanying appendices – December 2016
Environmental Statement with accompanying documents, plans and appendices – December 2016
Environmental Statement Non Technical Summary – December 2016
Regulation 22: Further Information & Post-Submission Changes to the Planning Application – August 2017
Site Location Plan – 60493630-PA01 Rev 02
Planning Application Boundary Plan – 60493630-PA02 Rev 05
Existing Layout Plan – 60493630-PA03
Existing Site Topography Sheet 1 of 4 – 60493630-PA04.1 Rev 0
Existing Site Topography Sheet 2 of 4 – 60493630-PA04.2 Rev 0
Existing Site Topography Sheet 3 of 4 – 60493630-PA04.3 Rev 0.1
Existing Site Topography Sheet 4 of 4 – 60493630-PA04.4 Rev 0.1
Proposed Layout General Arrangement – 152030_DC_RY_SW_GA_C_101 Rev D
Proposed Levels Sheet 1 of 2 – 152030_DC_RY_SW_GA_C_105 Rev A
Proposed Levels Sheet 2 of 2 – 152030_DC_RY_SW_GA_C_106 Rev B
Energy Recovery Facility Ground Floor Plan – P2-000 Rev 7
Energy Recovery Facility Tipping Hall Level – P2-030 Rev 6
Energy Recovery Facility Roof Plan – P4-001 Rev 5
Administration/Visitor Centre Level 000 Floor Plan – P2-003 Rev 3
Administration/Visitor Centre Level 001 Floor Plan – P2-004 Rev 3

Administration/Visitor Centre Level 002 Floor Plan – P2-005 Rev 3
Administration/Visitor Centre Level 003 Floor Plan – P2-006 Rev 3
Administration/Visitor Centre Level 004 Floor Plan – P2-007 Rev 3
Administration/Visitor Centre Level 005 Floor Plan – P2-008 Rev 3
Administration/Visitor Centre Level 006 Floor Plan – P2-009 Rev 3
Proposed Site Sections Sheet 1 – 152030_DC_RY_SW_GA_C_116 Rev B
Proposed Site Sections Sheet 2 – 152030_DC_RY_SW_GA_C_117 Rev B
Proposed Elevations North Eastern Façade – P3-001 Rev 7
Proposed Elevations South Western Façade – P3-002 Rev 7
Proposed Elevations North Western Façade – P3-003 Rev 6
Proposed Elevations South Eastern Façade – P3-004 Rev 6
Weighbridge Office Building Floor Plan and Elevations – P2-1000 Rev 5
Proposed IBA Building Floor Plan and Elevations – P2-2000 Rev 2
Outline Landscape Scheme – 60493630-PA05 Rev B
Proposed Drainage Layout – 152030_DC_RY_SW_GA_C_102 Rev D
Preliminary External Lighting Layout – 9233-SES-XX-XX-DR-X-E-TDSK2 Rev P3
Ratty's Lane General Arrangement Sheet 1 – 60493630-PA09 Rev F
Ratty's Lane General Arrangement Sheet 2 – 60493630-PA09 Rev F
Vehicle Tracking Sheet 1 of 2 – 152030_DC_RY_SW_GA_C_113 Rev D
Vehicle Tracking Sheet 2 of 2 – 152030_DC_RY_SW_GA_C_114 Rev B
Ratty's Lane Traffic Signal General Arrangement Sheet 1 – 60493630-PA09 Rev F

Reason: For the avoidance of doubt.

**Landscaping**

**3.** Within 12 months of the commencement of the development, a detailed landscape management plan and biodiversity enhancement scheme, including details of native species mitigation planting, maturing of vegetation, management responsibilities and maintenance schedules for all landscaped areas, shall be submitted to, and approved by, the Local Planning Authority. The submitted details shall include a biodiversity enhancement scheme. The development shall be carried out in accordance with the approved details.

Reason: To mitigate the impact of the development on visual receptors, to enhance visual integration within the landscape, to reduce the impact on ecology, to enhance biodiversity, and to comply with NPPF requirements for good design, conserving and

enhancing the natural environment. To ensure the protection of wildlife and supporting habitat and secure opportunities for the enhancement of the nature conservation value of the site. This is in line with National Planning Policy Framework (NPPF) policy to provide a net gain in biodiversity.

**4.** Within 12 months of the commencement of development, details of all hard landscaping areas, and the materials to be used within these, shall be submitted to, and approved by, the local planning authority. The development shall be carried out in accordance with the approved details.

Reason: To ensure a satisfactory appearance to the development.

**Materials**

**5.** Within 12 months of the commencement of development, full details of the materials to be used on the exterior of all buildings shall be submitted to, and approved by, the local planning authority. The development shall be carried out in accordance with the approved details.

Reason: To ensure a satisfactory appearance to the development.

**Lighting**

**6.** Within 12 months of the commencement of development, details of a lighting strategy, showing both the internal and external lighting of the ERF, shall be submitted to, and approved by, the local planning authority. The development shall be carried out in accordance with the approved details and maintained for the duration of the development.

Reason: To ensure that the lighting of the ERF does not result in a visual impact that adversely affects amenity.

**Highways**

**7.** Prior to the commissioning of the ERF, all access and junction arrangements serving the development shall be completed in accordance with the approved in principle plans, drawing numbers 152030/DC/RY/SW/GA/C/101 Revision D and 152030/DC/RY/SW/GA/C/106/Rev B (both in the revised Appendix 11.1 document) and constructed to the specification of the Highway Authority and the Planning Authority's satisfaction.

Reason: To ensure the provision of an access appropriate for the development in the interests of highway safety and convenience.

**8.** Concurrent with construction of the access, visibility splays as shown on Drawing Number 152030/DC/RY/SW/SK/C/107 Revision A (Transport Responses Letter) shall be provided and permanently maintained, within which there shall be no obstruction to visibility between 600mm and 2m above the carriageway level.

Reason: To provide adequate visibility for drivers entering or leaving the site.

**9.** Prior to the commissioning of the ERF, the proposed signalisation scheme along Ratty's Lane, as shown indicatively on Drawing Number 60493630-PA09 Revision F (revised Appendix 11.1 document) and as outlined in the text of the 'Transport Responses Letter' dated 19th May 2017, shall be completed and be fully operational to the satisfaction of the local planning authority. This shall be maintained for the duration of the development.

Reason: In the interest of the free and safe flow of traffic along Ratty's Lane and the wider highway network.

**10.** Before commencement of the development, the proposed extension to the parking restrictions along Ratty's Lane in the form of double yellow lines and signage, as shown indicatively on Drawing Number 60493630-PA09 Revision F (revised Appendix 11.1 document), shall be completed and be fully operational to the satisfaction of the local planning authority. This shall be maintained for the duration of the development.

Reason: In the interest of the free and safe flow of traffic along Ratty's Lane and the wider highway network.

**11.** Within 12 months of the commencement of the development, additional plans shall be submitted to, and approved in writing by, the local planning authority to show the detailed surface improvement works to Ratty's Lane. The works shall be completed to the satisfaction of the Planning Authority prior to the commissioning of the ERF and they shall be thereafter maintained for the duration of the development.

Reason: In the interest of sustainable travel, to ensure a good quality surface for pedestrians walking to and from the site.

**12.** Unless otherwise agreed in writing in advance by the Planning Authority, there shall be no more than 268 Heavy Goods Vehicle (HGV) movements (134 in, 134 out) at the site in any one working day. For the purposes of this condition, a HGV is defined as being a vehicle that is over 7.5 tonnes gross weight.

Reason: To ensure the free and safe flow of traffic along the public highway is maintained in the vicinity of the site.

**13.** Except where required to do so by the emergency services, no HGVs shall travel to or from the site in the direction of Essex Road south / Dobbs Weir Road. All HGVs, other than direct deliveries from the Broxbourne District and the Household Waste Recycling Centre along Pindar Road, shall approach and depart the site via the Dinant Link Road and the A10 (refer to Figure 7-1/01 in the Transport Assessment).

Reason: To ensure that HGVs route along sections of the highway which have been modelled and found suitable to accommodate development traffic.

**14.** Before the development is first brought into use, all on site vehicular areas, including internal access roads and parking spaces, shall be accessible, surfaced, marked out and fully completed in accordance with Drawing Numbers 152030/DC/RY/SW/GA/C/101/D and 152030/DC/RY/SW/GA/C/102/D (both in the revised Appendix 11.1 document) and carried out in a manner to the satisfaction of the local planning authority. These shall thereafter be maintained for the duration of the development.

Reason: To ensure satisfactory parking of vehicles outside highway limits and to minimise danger, obstruction, and inconvenience to users of the highway and of the premises.

**15.** Best practical means shall be taken at all times to ensure that all vehicles leaving the development site during construction of the development are in a condition such as not emit dust or deposit mud, slurry or other debris on the highway. In particular (but without prejudice to the foregoing) efficient means shall be installed prior to commencement of the development and thereafter maintained and employed at all times during construction of the development, to include cleaning the wheels of all construction vehicles leaving the site.

Reason: In order to minimise the amount of mud, soil and other materials originating from the site being deposited on the highway, and in the interests of highway safety and visual amenity.

**16.** Prior to the commencement of the development, a 'Construction Traffic Management Plan' shall be submitted to, and approved in writing by, the local planning authority in consultation with the Highway Authority. Thereafter the construction of the development shall only be carried out in accordance with the approved Plan, unless otherwise agreed by the local planning authority. The 'Construction Traffic Management Plan' shall identify details of:

- The phasing of construction and proposed construction programme;

- The methods for accessing the site, including wider construction vehicle routing;
- The numbers of daily construction vehicles including details of their sizes, at each phase of the development;
- The hours of operation and construction vehicle movements;
- Any highway works necessary to enable construction to take place;
- Construction vehicle parking, turning and loading/unloading arrangements clear of the public highway;
- Hoardings;
- The management of traffic to reduce congestion, including the management of traffic and temporary signalisation along Ratty's Lane;
- The provision of appropriate warning signage;
- The provision for addressing any abnormal wear and tear to the highway;
- Consultation with local businesses or neighbours;
- Any other Construction Sites in the local area;
- Waste management proposals.

Reason: To ensure the impact of construction vehicles on the local road network is minimised.

**Health and Air Quality**

**17.** Prior to the commencement of development, details of air quality monitoring for the construction phase of the development shall be submitted to, and approved in writing by, the Local Planning Authority. These details should include the monitoring of dust and particulate matter, including $PM_{2.5}$. Monitoring locations should take account of likely receptors in relation to the facility itself and the vehicle movements associated with its construction. The approved details shall be maintained for the duration of the construction and the results of air quality monitoring should be supplied to the Local Planning Authority on a monthly basis.

Reason: To ensure that the construction of the development does not result in significant adverse impacts upon air quality.

**18.** Best practical means shall be taken at all times to ensure that Non-Road Mobile Machinery (NRMM) used during the construction of the ERF complies with the requirements for outer London, detailed in paragraphs 7.6 and 7.7 of the Greater London Authority's Supplementary Planning Guidance (The Control of Dust and Emissions During Construction and Demolition). Details of non-compliant NRMM should be provided to the local planning authority prior to it arriving on site.

Reason: To ensure that the construction of the development does not result in significant adverse impacts upon air quality.

**19.** All HGVs accessing the site during the operation of the ERF that are under the direct control of the operators of the ERF shall be Euro 5 or Euro 6 (or cleaner) in terms of their emissions.

Reason: To ensure that the operation of the development does not result in significant adverse impacts upon air quality, and to ensure that optimum fuel efficiencies are maintained.

**20.** Prior to the commencement of development, details of sustained community engagement shall be submitted to, and approved in writing by, the Local Planning Authority. Such details shall include:

a. the establishment of a Community Liaison Group (CLG);

b. the timings and frequency of CLG meetings; and

c. establishment of a community complaints procedure as an early action.

Each of these shall be maintained for the duration of the development.

Reason: To ensure that there is a continued relationship with local community groups, thus ensuring that any wellbeing concerns can be relayed to the operators of the development.

**Odour**

**21.** Prior to the commissioning of the ERF, an Odour Management Plan shall be submitted to, and approved by, the local planning authority.

Reason: To ensure that the operation of the development does not result in odour that would affect amenity.

**External Storage of Goods**

**22.** Unless otherwise approved in writing by the local planning authority, there shall be no external storage of uncontained waste materials on site.

Reason: In the interests of local amenity.

**Drainage and Hydrology**

**23.** No development shall take place until a full final detailed drainage strategy has been submitted to and approved in writing by the Local Planning Authority. The scheme shall include full detailed engineering drawings of all the proposed SuDS measures in line with the latest edition of the SuDS Manual by CIRIA, and any amendments required to the whole area contained within the red boundary that may affect the surface water management. The

scheme shall subsequently be implemented in accordance with the approved details before the development is completed.

Reason: To ensure that sufficient drainage measures are employed within the site.

**24.** Prior to the first delivery of waste to the site, a detailed drainage layout supported by engineering drawings of all drainage components as built, and a management and maintenance strategy must be submitted to, and approved by, the Local Planning Authority. The management and maintenance plan shall include arrangements for adoption and any other arrangements to secure the operation of the scheme throughout its lifetime, and this shall be adhered to for the lifetime of the development.

Reason: To ensure that sufficient drainage measures are employed within the site.

**25.** The submitted flood risk assessment (FRA); 'Rye House Energy Recovery Facility, Hoddesdon, Hertfordshire; Flood Risk Assessment Final Report, August 2017' prepared by AECOM Infrastructure & Environment UK Ltd for Veolia Environmental Services Ltd, and associated plans demonstrate that finished floor levels of the Energy Recovery Facility (ERF) building shall be set no lower than 29.04mAOD, which ensures a 300mm freeboard above the modelled 1 in 100 year 25% flood level to protect the development from flooding. The development should be carried out in accordance with this FRA.

Reason: To protect the development from flooding.

**26.** Other than the demolition of existing structures, no development approved by this planning permission shall commence until a remediation strategy to deal with the risks associated with contamination of the site has been submitted to, and approved in writing by, the county council. This strategy will include the following components:

1. A preliminary risk assessment which has identified:

- all previous uses;
- potential contaminants associated with those uses;
- a conceptual model of the site indicating sources, pathways and receptors; and;
- potentially unacceptable risks arising from contamination at the site.

2. A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.

3. The results of the site investigation and the detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.

4. A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.
Any changes to these components require the written consent of the local planning authority. The scheme shall be implemented as approved.

Reason: To protect groundwater. The site is located in a vulnerable groundwater area within a Source Protection Zone 2 (SPZ2). This condition will ensure that the development is not put at unacceptable risk from, or adversely affected by, unacceptable levels water pollution in line with paragraph 109 of the National Planning Policy Framework.

**27.** Prior to the first delivery of waste to the site, a verification report demonstrating the completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to, and approved in writing, by the local planning authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

Reason: To ensure that the site does not pose any further risk to human health or the water environment by demonstrating that the requirements of the approved verification plan have been met and that remediation of the site is complete. This is in line with paragraph 109 of the National Planning Policy Framework.

**28.** Other than the demolition of existing structures, the development hereby permitted shall not commence until a monitoring and maintenance plan with respect to groundwater contamination, including a timetable of monitoring and submission of reports to the Local Planning Authority, has been submitted to, and approved in writing by, the Local Planning Authority. Reports as specified in the approved plan, including details of any necessary contingency action arising from the groundwater monitoring, shall be submitted to, and approved in writing by, the Local Planning Authority.

Reason: To ensure that the site does not pose any risk to human health or the water environment by managing any ongoing contamination issues and completing all necessary long-term

remediation measures. This is in line with paragraph 109 of the National Planning Policy Framework.

**29.** If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until a remediation strategy detailing how this contamination will be dealt with has been submitted to and approved in writing by the Local Planning Authority. The remediation strategy shall be implemented as approved.

Reason: No investigation can completely characterise a site. This ensures that the development is not put at unacceptable risk from, or adversely affected by, unacceptable levels water pollution from previously unidentified contamination sources at the development site in line with paragraph 109 of the National Planning Policy Framework.

**30.** A scheme for managing any borehole installed for the investigation of soils, groundwater or geotechnical purposes shall be submitted to and approved in writing by the local planning authority. The scheme shall provide details of how redundant boreholes are to be decommissioned and how any boreholes that need to be retained, post-development, for monitoring purposes will be secured, protected and inspected. The scheme as approved shall be implemented prior to the first delivery of waste to the site.

Reason: To ensure that redundant boreholes are safe and secure, and do not cause groundwater pollution or loss of water supplies in line with paragraph 109 of the National Planning Policy Framework.

**31.** Piling using penetrative methods shall not be carried out other than with the written consent of the local planning authority. The development shall be carried out in accordance with the approved details.

Reason: To ensure that the proposed piling does not harm groundwater resources in line with paragraph 109 of the National Planning Policy Framework and Position Statement G1 – Direct Inputs to Groundwater of the Environment Agency's Groundwater Protection: Principles and Practice.

**32.** No drainage systems for the infiltration of surface water drainage into the ground is permitted other than with the express written consent of the Local Planning Authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to controlled waters. The development shall be carried out in accordance with the approved details.

Reason: Infiltration through contaminated land and soakaways act as preferential pathways for contaminants to have the potential to impact on groundwater quality.

**33.** There shall be no discharge of surface water into the River Lee until further details of the proposed site drainage and how this discharges into the River Lee, together with pollution control systems, have been submitted to, and agreed by, the local planning authority. These details shall be maintained for the duration of the development and shall include:

- the selected separators are of the type specified and are sized in accordance with PPG3 (shown via submitted calculations);
- adequate silt storage is provided for;
- adequate sedimentation tanks and/or ponds;
- sufficient access points in the design is provided to allow for inspection and cleaning of the interceptors' internal chambers;
- the separators are labelled above ground;
- there is an adequate maintenance procedure for the separators;
- the surface water pipework is constructed of material that will prevent the permeation of contaminants from the soil and groundwater into the surface water drainage system.

**34.** Except where approved in accordance with the site drainage details approved under Condition 33:

- No surface water (either via drains or surface water run-off) or extracted perched water or groundwater is allowed to be discharged into the canal during the demolition/construction works.
- Any existing surface water drains connecting the site with the river shall be immediately capped off at both ends for the duration of the demolition & construction works – i.e. at the point of surface water ingress and at the river outfall.

Reason: To ensure that discharges into the River Lee are carried out in an appropriate manner and that there is no pollution of the River Lee as a consequence of the development.

**35.** Prior to the occupation of the proposed development, an Emergency Plan should be submitted to, and approved in writing by, the local planning authority. The Emergency Plan and any safe evacuation and access/egress arrangements must be agreed with the lead local flood authority prior to occupation. Occupants of the site should sign up to receive Environment Agency flood alerts and warnings.

Reason: To ensure that an Emergency Plan is established in the event of any flooding of the site.

**36.** The development should not commence until (a) full details, including anticipated flow rates and detailed site plans, have been submitted to, and approved by, the local planning authority (in consultation with Thames Water), and (b) arrangements have been made to the satisfaction of the local planning authority (in consultation with Thames Water) for the provision of adequate water supplies for the whole of the development.

Reason: To ensure that the water supply infrastructure has sufficient capacity to cope with the additional demand.

**37.** No development shall commence until details have been submitted to, and approved by, the local planning authority (in consultation with Thames Water), of how the developer intends to ensure the water abstraction source is not detrimentally affected by the proposed development both during and after its construction.

Reason: To ensure that the water abstraction source is not detrimentally affected by the development.

**Ecology and Biodiversity**

**38.** No development shall take place until a plan detailing the protection and/or mitigation of damage to populations of Great Crested Newt and their associated habitat during construction works and once the development is complete has been submitted to, and approved by, the local planning authority. The Great Crested Newt protection plan shall be carried out in accordance with a timetable for implementation as approved.

The plan shall include the following elements:
• Details of Great Crested Newt trapping methodology
• Method statement for removal of Pond 1 and site clearance
• Protection of existing Great Crested Newt population from NWR1 linear waterbody
• Details of mitigation pond designs and construction, including proposed enhancements
• Details of other mitigation such as hibernacula and migration corridors to ensure habitat connectivity
• Details of buffers (min 5m wide) around ponds, including planting scheme

Reason: This condition is necessary to protect the Great Crested Newt and its habitat within and adjacent to the development site. Without it, avoidable damage could be caused to the nature conservation value of the site. Under the Wildlife and Countryside Act 1981, LPAs should take reasonable steps to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which the site is of special

scientific interest. Under section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 local planning authorities must have regard to purpose of conserving biodiversity.

**39.** Other than the demolition or removal of above ground structures, no development shall commence until a detailed method statement for removing or the long-term management / control of Japanese Knotweed and Himalayan Balsam on the site shall be submitted to and approved in writing by the local planning authority. The method statement shall include measures that will be used to prevent the spread of Japanese Knotweed and Himalayan Balsam during any operations e.g. mowing, strimming or soil movement. It shall also contain measures to ensure that any soils brought to the site are free of the seeds / root / stem of any invasive plant listed under the Wildlife and Countryside Act 1981, as amended. Development shall proceed in accordance with the approved method statement.

Reason: This condition is necessary to prevent the spread of Japanese Knotweed and Himalayan Balsam which is an invasive species. Without it, avoidable damage could be caused to the nature conservation value of the site contrary to National Planning Policy Framework paragraph 109, which requires the planning system to aim to conserve and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible.

**40.** No development shall take place until a method statement/construction environmental management plan that is in accordance with the approach outlined in the Draft Construction Environmental Management Plan (appendix 4.1 of the Environmental Statement), has been submitted to, and approved in writing by, the local planning authority. This shall deal with the treatment of any environmentally sensitive areas, their aftercare and maintenance as well as a plan detailing the works to be carried out showing how the environment will be protected during the works. Such a scheme shall include details of the following:
• The timing of the works
• The measures to be used during the development in order to minimise environmental impact of the works (considering both potential disturbance and pollution).
• The ecological enhancements as mitigation for the loss of habitat resulting from the development.
• A map or plan showing habitat areas to be specifically protected (identified in the ecological report) during the works.
• Any necessary mitigation for protected species
• Construction methods.
• Any necessary pollution protection methods.
• Information on the persons/bodies responsible for particular activities associated with the method statement that demonstrate they are qualified for the activity they are undertaking.

The works shall be carried out in accordance with the approved method statement.

Reason: This condition is necessary to ensure the protection of wildlife and supporting habitat and secure opportunities for the enhancement of the nature conservation value of the site in line with national planning policy.

**41.** No removal of hedgerows, trees or shrubs shall take place between 1st March and 31st August inclusive, unless a competent ecologist has undertaken a careful, detailed check of vegetation for active birds' nests immediately before the vegetation is cleared and provided written confirmation that no birds will be harmed and/or that there are appropriate measures in place to protect nesting bird interest on site. Any such written confirmation should be submitted to the Local Planning Authority.

Reason: To ensure that the construction of the scheme does not adversely impact upon nesting birds.

**42.** No development shall take place until a method statement for reptile mitigation has been submitted to, and approved in writing by, the Local Planning Authority. The content of the method statement shall include the:
a) purpose and objectives for the proposed works;
b) detailed design(s) and/or working method(s) necessary to achieve stated objectives (including, where relevant, type and source of materials to be used);
c) extent and location of proposed works shown on appropriate scale maps and plans;
d) timetable for implementation, demonstrating that works are aligned with the proposed phasing of construction;
e) persons responsible for implementing the works;
f) initial aftercare and long-term maintenance (where relevant);
g) disposal of any wastes arising from works.
The works shall be carried out strictly in accordance with the approved details and shall be retained in that manner thereafter.

Reason: To ensure that there is appropriate mitigation for reptiles.

**Historic Environment**

**43.** Other than the demolition or removal of above ground structures to ground floor level, no development shall take place/commence until an Archaeological Written Scheme of Investigation has been submitted to and approved by the local planning authority in writing. The scheme shall include an assessment of archaeological significance and research questions; and:

1. The programme and methodology of site investigation and recording

2. The programme and methodology of site investigation and recording as suggested by the archaeological evaluation
3. The programme for post investigation assessment
4. Provision to be made for analysis of the site investigation and recording
5. Provision to be made for publication and dissemination of the analysis and records of the site investigation
6. Provision to be made for archive deposition of the analysis and records of the site investigation
7. Nomination of a competent person or persons/organisation to undertake the works set out within the Archaeological Written Scheme of Investigation.

The development shall take place in accordance with the programme of archaeological works set out in the Written Scheme of Investigation.

The development shall not be occupied/used until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation and the provision made for analysis and publication where appropriate.

Reason: To protect probable heritage assets of archaeological interest on the site.

**Noise**

**44.** During any periods of site operation, excluding periods of maintenance or emergency, the rating levels LAeq1 hr (as defined in BS 4142) of the permitted activities shall not exceed the baseline background noise levels (LA90) by more than 5 dB at the nearest noise sensitive facade.

Reason: To ensure that the development does not result in adverse noise levels and in the interests of local amenity.

**Grid Connection**

**45.** Other than during the commissioning of the ERF, no combustion of waste shall take place until a grid connection to a substation has been installed and is capable of transmitting electricity generated by the ERF. No waste shall thereafter be combusted at the ERF unless electricity is also being generated by the ERF, which is being transmitted to the national grid, except during periods of maintenance, inspection or repair, or at the direction of the holder of a licence under section 6(1) (b) or (c) of the Electricity Act 1989, who is entitled to give such a direction in relation to transmission of electricity from the ERF to the national grid.

Reason: To ensure that the ERF produces renewable energy.

**Decommissioning**

**46.** Not less than 6 months prior to any planned date for the permanent decommissioning of the development hereby permitted, the operator shall submit a scheme to the local planning authority setting out details of the proposed decommissioning of any elements of the development that are not required in connection with the subsequent afteruse of the site together with a timetable for these works. The scheme shall include a provision for leaving the site in a condition that is suitable for future development or the full restoration of the site. No works of decommissioning shall take place until the scheme has been approved in writing by the local planning authority. The decommissioning shall be carried out in accordance with the approved scheme.

Reason: To ensure that the site is adequately restored upon the decommissioning of the ERF.

**Removal of permitted development rights**

**47.** Notwithstanding the provisions of the Town and Country Planning (General Permitted Development) Order 2015, or any subsequent amendment of that Order, planning permission shall be obtained for the erection of any building, fixed plant, fixed machinery or fixed structures on the land and the written agreement of the local planning authority shall be obtained prior to the placing on site of any buildings or structures in the nature of portable plant.

Reason: To retain control over the development.

**Informatives**

The applicant/developer should refer to the current “Code of Practice for Works affecting the Canal & River Trust” to ensure that any necessary consents are obtained (https://canalrivertrust.org.uk/business-and-trade/undertaking-works-on-our-property-and-our-code-of-practice).

The applicant/developer is advised that any encroachment or access onto the canal towpath or other Trust Land requires written consent from the Canal & River Trust, and they should contact the Canal & River Trust’s Estates Surveyor, Jonathan Young (jonathan.young@canalrivertrust.org.uk) regarding any required agreement.

The applicant/developer is advised that any drainage to the Navigation requires written consent from the Canal & River Trust, and they should

contact the Canal & River Trust's Utilities team for more information (nick.pogson@canalrivertrust.org.uk).

Storage of materials: The applicant is advised that the storage of materials associated with the construction of this development should be provided within the site on land which is not public highway, and the use of such areas must not interfere with the public highway. If this is not possible, authorisation should be sought from the Highway Authority before construction works commence. Further information is available via the website https://www.hertfordshire.gov.uk/services/highways-roads-and-pavements/highways-roads-and-pavements.aspx or by telephoning 0300 1234047.

Obstruction of public highway land: It is an offence under Section 137 of the Highways Act 1980 for any person, without lawful authority or excuse, in any way to wilfully obstruct the free passage along a highway or public right of way. If this development is likely to result in the public highway or public right of way network becoming routinely blocked (fully or partly) the applicant must contact the Highway Authority to obtain their permission and requirements before construction works commence. Further information is available via the website https://www.hertfordshire.gov.uk/services/highways-roads-and-pavements/highways-roads-and-pavements.aspx or by telephoning 0300 1234047.

Road Deposits: It is an offence under Section 148 of the Highways Act 1980 to deposit mud or other debris on the public highway, and Section 149 of the same Act gives the Highway Authority powers to remove such material at the expense of the party responsible. Therefore, best practical means shall be taken at all times to ensure that all vehicles leaving the site during construction of the development are in a condition such as not to emit dust or deposit mud, slurry or other debris on the highway. Further information is available via the website https://www.hertfordshire.gov.uk/services/highways-roads-and-pavements/highways-roads-and-pavements.aspx or by telephoning 0300 1234047.

Construction standards for works within the highway: Any works to be undertaken on the public highway associated with this development shall be constructed to the satisfaction and specification of the Highway Authority, by an approved contractor, and in accordance with Hertfordshire County Council's publication "Roads in Hertfordshire – Highway Design Guide (2011)". Before works commence the applicant will need to apply to the Highway Authority to obtain their permission and requirements. Further information is available via the website http://www.hertsdirect.org/services/transtreets/highways/ or by telephoning 0300 1234047.