

# GPP

GP PLANNING LTD



## ENVIRONMENTAL STATEMENT

REGENERATION - WOODHURST



THE HEATH, WOODHURST, HUNTINGDON,  
CAMBRIDGESHIRE, PE28 3BS

ENVAR COMPOSTING LIMITED



JUNE 2021

Environmental Statement		
Woodhurst Regeneration Project	Envar Ltd	E001-014

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# 1 INTRODUCTION

## 1.1 Context

- 1.1.1 This Environmental Statement (ES) has been prepared pursuant to the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. The ES sets out in detail the outcome of the Environmental Impact Assessment carried out in respect of the proposed construction of a Dry Anaerobic Digestion (AD) facility, Pellet Fertiliser Facility, Healthcare Waste Recovery Facility, Waste Transfer Station, Vehicle Re-Fuelling Station and a Biomass Fuel Storage Building, including surface water storage lagoons, extension to concrete pad, demolition of IVC buildings/tunnels and ancillary development at the Applicant's existing waste management facility, The Heath, Woodhurst, Huntingdon, PE28 3BS.
- 1.1.2 The ES has been prepared in accordance with the requirements of Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 and Cambridgeshire County Council's formal 'Scoping Opinion', which is dated 1<sup>st</sup> September 2020. The Council's Scoping Opinion is enclosed at Appendix 1.
- 1.1.3 The environmental disciplines to be addressed within the ES are presented as individual chapters, with accompanying technical appendices. Each environmental discipline sets out the methodology, approach and limitations in order to fully assess the likely impacts of the proposed development and then goes on to consider the likely significant effects. Any mitigation measures or recommendations are then considered along with any likely residual effects.
- 1.1.4 The NTS is presented as a separate, standalone document.
- 1.1.5 The Planning Application submission includes the following information, documents and drawings:

### Documents

- Planning Form;
- Planning Statement;
- Environmental Statement (this document);
- Statement of Community Involvement
- Non-Technical Summary

### Drawings

- GPP/E/CWH/21/01 Rev 03 - Site Location Plan

- GPP/E/CWH/20/02 Rev 02 – Existing Site Layout Plan
- GPP/E/CWH/21/03 Rev 11 - Proposed Site Layout Plan
- GPP/E/CWH/21/04 Rev 01 – Elevations and Floor Plan of Healthcare Waste ERF
- GPP/E/CWH/21/05 Rev 03 - Elevations and Floor Plan of Waste Transfer Building
- GPP/E/CWH/21/06 Rev 03 - Elevations and Floor Plan of Biomass Storage Building
- GPP/E/CWH/21/07 Rev 01 - Elevations and Floor Plan of Pellet Fertiliser Production Facility
- GPP/E/CWH/21/08 Rev 00 – Cross Sections, and
- GPP/E/CWH/21/09 Rev 01 – Isometric Model

## 1.2 Pre-Application Planning Consultation

1.2.1 The Applicant received pre-application advice from the Council in writing on 6<sup>th</sup> August 2020, reference PR/H/4112/20/CW, for the proposed construction of a Dry Anaerobic Digestion (AD) facility and Healthcare Waste Incinerator in addition to the existing waste management facility at The Heath, Woodhurst, Huntingdon, PE28 3BS.

1.2.2 The pre-application advice from the Council concludes as follows:

*“The NPPF and HLP policy support economic growth and the development of businesses in rural areas and it is noted that around 8 full time jobs would be created. The in vessel composting process is a net consumer of energy whereas treating the same food waste and green waste by AD would generate electricity which would be piped into the grid replacing non-renewable natural gas. This would comply with the broad sustainability aims of national development plan policies in this respect. The properties of clinical waste mean that it cannot be reused or for the most part recycled. It therefore needs to be disposed of safely by landfill or incineration. Using the heat from the combustion process in the proposed incinerator to fuel the proposed AD plant would demonstrate the benefit of co-locating the proposed new waste management facilities as would the addition of the digestate to the windrows for final composting.*

1.2.3 *It is my opinion that subject to satisfactory design and it being demonstrated that the proposed AD plant and clinical waste incinerator would be operated without causing unacceptable adverse impacts on human health or amenity or on the natural environment the proposed development could be supported in principle”.*

1.2.4 A copy of the Council’s pre-application advice is attached to the accompanying Planning Statement at Appendix 1.

### 1.3 Statement of Community Involvement

- 1.3.1 The Applicant has carried out a community consultation exercise between 11<sup>th</sup> May 2021 and 28<sup>th</sup> May 2021. The Community Consultation exercise has regard to the County Council's Statement of Community Involvement (SCI adopted January 2019) and has involved the following main stages:
- Formal Pre-Application Engagement with Cambridgeshire County Council as Waste Planning Authority;
  - Scoping Opinion request with Cambridgeshire County Council;
  - Meeting with the Local MP and Local Councillor;
  - Arrangement of a Local Liaison Meeting;
  - Explanatory video (<https://www.youtube.com/watch?v=UaMuFWmEIYc>), and
  - Leaflet/Publication Mail Drop & Website seeking local community feedback.
- 1.3.2 The Statement of Community Involvement, which explains the Applicant's approach to the event and responses received is enclosed at Appendix 2 to this ES.

### 1.4 The Application Site and its Setting

- 1.4.1 The proposed development will be located towards the northern extent of the site as shown on drawing no. GPP/E/CWH/21/03 Rev11 titled Proposed Site Layout Plan. The Application Site is approximately 8.91 hectares in size and is shown edged red on drawing no. GPP/E/CWH/21/01 Rev03.
- 1.4.2 The developed land includes buildings for in-vessel composting (IVC) and biomass boilers, areas of hardstanding for composting stabilisation/maturation and wood waste storage and processing, water storage lagoons, former residential properties used as offices for educational purposes, concrete storage bays, litter fencing, screening bunds, weighbridges and a waste water treatment plant.
- 1.4.3 The main access into the site for Heavy Commercial Vehicles (HCV's) will be E1 located on the western flank of the site. This is the existing access used by HCV's delivering material. Access E3, also on the western flank, will be used by HCV's exporting material out of the site (as existing) and car parking for staff. Existing entrance E5 will be used by cars and motorcycles for car parking. The other existing entrances around the site (including E2 and E4) will be kept locked/gated and only used for emergency access. The access points are shown on drawing reference 'Proposed Site Layout Plan' reference GPP/E/CWH/21/03 Rev11.
- 1.4.4 The waste management facility is located towards the south western most part of the parish of Somersham, approximately 3km south-west of the village. Bluntisham is approximately 2.5km to the east,

Woodhurst approximately 1.5km to the north-west and Pidley-cum-Fenton approximately 2.5km to the north.

- 1.4.5 Adjacent land-uses include a redundant mushroom farm to the north-east and agricultural land to the south-east. The north-western boundary is the B1040 St Ives Road, and the south-western boundary is Bluntisham Heath Road, a class C road which runs between Woodhurst and Bluntisham.
- 1.4.6 There are 6 residential units within a travellers' site immediately to the north of the former mushroom farm and 3 residential properties (Rectory Farm and Rectory Farm Cottages) close to the Raptor Foundation. The Raptor Foundation which includes residential properties, a guest house, shops and a tea room is located to the north of the site, on the opposite side of the B1040. A joinery business is located 230 metres to the southwest of the site on Somersham Road. There are no other properties within 500 metres of the Envar site.
- 1.4.7 According to the Environment Agency's floodplain maps, the proposed development is sited outside of both Flood Zone 3 and Flood Zone 2 i.e. it is located in Zone 1 which represents the lowest probability of flooding at a 1:1000 annual probability.

## Designations

- 1.4.8 Within 2 kilometres (km) of the Application Site the following designations can be found:

### Historic

#### Listed Buildings

- 2no. Milestones (B1086);
- Granary to Manor Farmhouse (Grade II);
- Manor Farmhouse (Grade II);
- Horseshoe Cottage (Grade II);
- Swans Weir (Grade II);
- Holdick Farmhouse (Grade II\*), and
- Chelsea Rest Penny Farthing (Grade II).

### Ecological

- The St Ives to March Disused Railway (The Parks South) County Wildlife Site;
- Heath Fruit Farm County Wildlife Site, and
- Lawn Orchard County Wildlife Site.

### Landscape

- The site is located within the Bedfordshire and Cambridgeshire Claylands National Character Area (NCA).

### Public Rights of Way

- No Public Rights of Way (PRoW) are affected by the proposal.

## 1.5 Planning History

1.5.1 The existing waste management facility has a long and complex planning history associated with the site, which can be summarised as follows:

- H/1011/92/CW – Composting to produce a peat substitute from organic vegetable waste (granted on 8/12/1999 – not implemented);
- H/0739/94/CW – Extension to composting building (granted on 11/10/1994);
- H/5023/02/CW – Concrete apron for the preparation of green waste (granted on 7/11/2002 – not implemented);
- H/5005/04/CW – Extension of an existing building to enclose 8 existing composting tunnels; composting of organic feedstocks to produce compost for agriculture, horticulture and landscaping; establishment of ADAS Composting Research Project (granted on 15/07/2004 – subject to S106 agreement dated 14/07/2004);
- H/5021/05/CW – Change of use of Heath Tops from residential to part residential and part educational facility and offices (granted 12/12/2005);
- H/5003/06/CW – Replacement building to contain four enclosed composting tunnels (granted 22/05/2006);
- H/5000/07/CW – Erection of semi-permanent office building (granted 12/06/2006; temporary permission expired 30/04/2012);
- H/5001/07/CW – Plant to treat waste water from composting site (granted 26/03/2007);
- H/5002/07/CW – Cladding of open barn to provide enclosed composting building (granted 26/03/2007);
- H/5005/07/CW – Extension of concrete pad for maturation of compost (granted 11/04/2007 – not implemented);
- H/5015/09/CW – Erection of three composting tunnels and waste reception building (granted 14/09/2009 – not implemented);



- H/5037/09/CW – Variation of Condition 7 of H/5005/04/CW to state ‘No vehicle shall enter or leave the site except between the hours of 0700 and 1800 Mondays to Fridays except Public Holidays and 0700 and 1330 on Saturdays. Working on site shall take place between the hours of 0700 and 1800 on any day of the week’ (granted 4/01/2010);
- H/5021/11/CW – Demolition of old composting tunnels and ancillary structures; extension to waste reception building; new building to house new composting tunnels, bio-filters & manoeuvring area; covered link to connect buildings; relocation of weighbridge and office; alteration of access to B1086 (granted 7/06/2012);
- H/5003/12/CW – Extension of concrete pad for maturation of compost with drainage balancing lagoons, reed bed; perimeter earth bunds screening (granted 7/06/2012);
- H/5000/14/CW – Erection of 4m high litter-net fencing (granted 16/05/2014);
- H/5001/14/CW – Construction of a waste water lagoon, additional discharge tank to waste-water treatment plant and buffer tank for rain-water harvesting (part retrospective) (granted 11/09/2014);
- H/5007/17/CW – S73 Planning Application to develop land without complying with conditions 2 and 5 of planning permission H/05021/11/CW to allow alternative access arrangements (granted 2/11/2017);
- H/5004/17/CW – S73 Planning Application to develop land without complying with condition 7 of planning permission H/05037/09/CW to extend the hours of operation including vehicle movements to 0500 to 2200 hours daily (granted 2/11/2017);
- H/5005/17/CW – Change of use of existing building and adjacent land from composting and maturation of compost to recovery of waste in biomass boilers, drying waste, storage of biomass and drying material and bulking up and shredding waste wood (part retrospective) (granted 2/11/2017);
- H/5006/17/CW – Section 73 planning application to develop land without complying with condition 2 of planning permission H/05003/12/CW (Extension of concrete pad for maturation of compost with drainage balancing lagoons, reed bed; perimeter earth bunds [for] screening) to extend concrete pad into area of balancing lagoon (granted 8/11/2017), and
- H/5005/17/CW/N1 – Non-material amendment to the site layout plan to allow changes to the position of the internal access road, earth bund, weighbridges and weighbridge office (granted 4/5/2018).

## 2 THE EIA PROCESS AND ENVIRONMENTAL STATEMENT

### 2.1 Introduction

2.1.1 The Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2017 (the EIA Regulations) set out a list of descriptions of Schedule 1 developments for which an Environmental Impact Assessment (EIA) is mandatory and a list of Schedule 2 developments for which an EIA may be required. An Environmental Statement (ES), which sets out the EIA findings, and associated technical documents are a mandatory accompaniment to a planning application for which an EIA is required.

#### Schedule 1

2.1.2 Schedule 1 identifies 24 different categories of development in which EIA is mandatory.

#### Schedule 2

2.1.3 The basic test of the need for an EIA in a particular case is the likelihood of significant adverse effects on the environment by virtue of factors such as its nature, size and location.

2.1.4 The National Planning Practice Guide (NPPG) at paragraph 017 Reference ID: 4-017-20170728 confirms that *“if a proposed project is listed in the first column in Schedule 2 of the 2017 Regulations and exceeds the relevant thresholds or criteria set out in the second column (sometimes referred to as ‘exclusion thresholds and criteria’) the proposal needs to be screened by the local planning authority to determine whether significant effects on the environment are likely and hence whether an Environmental Impact Assessment is required. Projects listed in Schedule 2 which are located in, or partly in, a sensitive area also need to be screened, even if they are below the thresholds or do not meet the criteria”*.

### 2.2 Screening – Schedule 1

2.2.1 Schedule 1, paragraph 9 relates to the disposal of waste and states *“waste disposal installations for the incineration, chemical treatment or landfill of hazardous waste as defined in Article 3(2) of that Directive”*. This Planning Application, in part, proposes to dispose of hazardous waste (clinical) through incineration, and is therefore listed as Schedule 1 development for the purposes of the EIA Regulations 2017.

2.2.2 The proposed development is therefore Schedule 1 development where the submission of an Environmental Statement (ES) is a mandatory requirement.

## 2.3 EIA Scoping

- 2.3.1 In order to establish the scope of the EIA, a formal Scoping Opinion request was submitted to the Council on 28 July 2020.
- 2.3.2 The NPPG at paragraph 035 Reference ID: 4-035-20170728 states that *“whilst every ES should provide a full factual description of the development, the emphasis should be on the ‘main’ or ‘significant’ environmental effects to which a development is likely to give rise. The ES should be proportionate and not be any longer than is necessary to assess properly those effects”*.
- 2.3.3 The formal Scoping Opinion is appended to this ES at Appendix 1. The Council concluded that the following main environmental topics should be the subject of the EIA:
- Air quality (including odour, dust and human health)
  - Noise Assessment, and
  - Landscape and visual impact.
- 2.3.4 The accompanying Planning Statement addresses any other relevant environmental issues (e.g. Flood Risk/Surface Water Drainage and Transport) that are not considered to be significant in terms of the EIA Regulations and will not need to be assessed to the same level of detail as the impacts identified above.

## 2.4 EIA Methodology

- 2.4.1 The Applicant has concluded in terms of this Planning Application that the proposal is ‘EIA Development’ and the Planning Application submission should therefore be accompanied by an ES that reports on the potential and likely impacts on the environment.
- 2.4.2 Schedule 4 of the EIA Regulations (Regulation 18-3) sets out the information required for the inclusion in Environmental Statements. The preparation and submission of this Environmental Statement follows that requirement.
- 2.4.3 The EIA is an iterative process comprising a number of integral parts culminating in the preparation of an ES that will accompany the planning application.
- 2.4.4 The EIA process is summarised as comprising the following key stages:
- Scoping - this stage, seeking formal views on the scope of work to be assessed;

- Baseline studies – a series of baseline assessments will be conducted in respect of the specialist areas. These will comprise both desktop and site-based reconnaissance studies to establish the existing environmental conditions against which the impact of the proposed development can be benchmarked and assessed;
- Assessment of Effects and their Significance – an assessment of the effects will be conducted for each of the disciplines, recording the level of significance;
- Mitigation – measures necessary to reduce the potential impact, and
- Residual Effects – residual effects will be identified after mitigation is taken into account.

2.4.5 Baseline assessment work has been carried out across the relevant disciplines. Potential effects of the development have been identified and assessed according to the magnitude of change against the sensitivity of the identified receptors.

2.4.6 The assessments follow best practice and use a standard matrix and terminology to record professional judgement on the likely effects. The assessment identifies significant effects and the level of significance (slight, moderate, substantial or very substantial) and whether the effects are considered to be direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative.

2.4.7 Mitigation is also recorded for each topic area and the level of significance of effect will be recorded pre- and post-mitigation. Residual effects (i.e. those remaining post mitigation or other environmental controls) is also reported in the ES.

2.4.8 The EIA has been carried out wholly in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) and appropriate Government guidance.

2.4.9 The specific methodologies for the assessment of the individual environmental topics are presented separately in the technical appendices to the ES; these are summarised in the individual topic chapters later in this ES.

2.4.10 The ES and technical appendices should be read in tandem.

### **Baseline Survey**

2.4.11 Baseline survey work has been carried out as part of the EIA process. A series of detailed surveys were undertaken to establish the baseline conditions on the site and are set out in each of the environmental topic chapters.

### **Approach to Assessment**

2.4.12 Independent, suitably qualified consultants working to recognised guidelines, legislation and regulations have carried out the assessments undertaken for each environmental topic area.

2.4.13 The technical assessments have considered the environmental impacts resulting from the maximum development parameters and most unfavourable conditions; in effect the “worst-case” scenario.

### **Cumulative Effects**

2.4.14 A number of environmental impacts may combine to result in a cumulative impact that is of greater significance than the individual impacts. Also, there is the potential for the impacts of the proposed development to have a cumulative impact with past, present and future developments.

2.4.15 The EIA and assessment of effects considers all phases of the development and, where appropriate, takes account of cumulative effects.

2.4.16 The ES includes a cumulative effects assessment which identifies, describes and evaluates the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out.

2.4.17 Cumulative effects are considered on a topic basis and addresses committed and consented projects. A summary of cumulative effects is set out in Chapter 10. Regard is also given to ‘known’ projects at the planning stage acknowledging that the effects of these projects may be much less certain.

### **Limitations and Assumptions**

2.4.18 Each individual appended technical assessment includes discussion on the limitations and assumptions made during the process.

## 2.5 The Environmental Statement

2.5.1 While the Regulations set out the matters that need to be included in the ES, there is no prescribed format. However, Regulation 18(3) of the EIA Regulations states that an Environmental Statement is a statement which includes at least:

- a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;
- b) description of the likely significant effects of the proposed development on the environment;
- c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- d) a description of the reasonable alternatives studied by the applicant or appellant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the significant effects of the development on the environment;
- e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and
- f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.

2.5.2 An environmental statement must—

- g) be prepared by persons who in the opinion of the relevant planning authority have sufficient expertise to ensure the completeness and quality of the statement;
- h) contain a statement by or on behalf of the applicant or appellant describing the expertise of the person who prepared the environmental statement;
- i) where a scoping opinion or direction has been issued in accordance with regulation x, be based on the most recent scoping opinion or direction issued (so far as the proposed development remains materially the same as the proposed development which was the subject of that opinion or direction);
- j) include the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment; and

- k) take into account other relevant environmental assessments required under Union legislation or any other provision of domestic legislation, with a view to avoiding duplication of assessment.

2.5.3 The ES for the proposed development comprises the following chapters:

- Chapter 1 - Introduction
- Chapter 2 – The EIA Process and Environmental Statement
- Chapter 3 – Existing and Permitted Development
- Chapter 4 – The Proposed Development
- Chapter 5 – Planning Policy Context
- Chapter 6 – Air Quality (including odour, traffic and human health)
- Chapter 7 – Noise Assessment
- Chapter 8 – Landscape and Visual Impact
- Chapter 9 – Assessment of Main Alternatives
- Chapter 10 – Cumulative Effects
- Chapter 11 – Conclusions

2.5.4 The ES is accompanied by Technical Appendices (which are separately referenced, see Contents Page), which are labelled according to the corresponding ES Chapter, as follows:

2.5.5 Technical Appendices to the Environmental Statement:

- Appendix 1      Scoping Opinion Direction
- Appendix 2      Statement of Community Involvement
- Appendix 3      Statement of Competency
- Appendix 4      Air Quality
- Appendix 5      Health Impact Assessment
- Appendix 6      Noise
- Appendix 7      Landscape & Visual Impact

## 2.6 Statement of Competency

2.6.1 In accordance with the Regulation 18(5) (b) of the EIA Regulations, an ES must be prepared by persons who in the opinion of the LPA have sufficient expertise to ensure the completeness and quality of the statement.

2.6.2 The EIA and ES has been part written and co-ordinated by GP Planning Limited, with input from a number of specialist environmental consultants, as follows:

- Air Quality – Environmental Visage Limited
- Noise – AF Acoustics Limited
- Landscape and Visual Impact – ALD Limited

2.6.3 GP Planning demonstrates competence in EIA as follows:

- Our Lead EIA co-ordinators are experienced EIA practitioners with extensive breadth and depth of experience in EIA and hold relevant chartered status of the Royal Town Planning Institute. The chartered status of our staff characterises them as knowledgeable, experienced, competent and committed environmental professionals.

2.6.4 A detailed statement of Competency is attached at Appendix 3 and contains the qualifications and experience of the Project Team.

## 2.7 Documentation

2.7.1 There is a duty on the Applicant, under Regulation 23 (Part 5) of the EIA Regulations to ensure that a reasonable number of copies of the ES are available at the addresses named in the relevant notices pursuant to the relevant Notices. Given the restrictions imposed by the COVID pandemic, it is not currently possible to make hard copies available.

2.7.2 While there is no requirement to make available copies of the ES to members of the public, documentation can be supplied at a charge of £25 for the ES and a similar charge of £25 for the ES Technical Appendices (on CD). This reflects the administrative costs and postage.

2.7.3 Copies of the Non-Technical Summary (NTS) are available via email from the below address free of charge:  
[info@gpplanning.co.uk](mailto:info@gpplanning.co.uk)



## 3 EXISTING AND PERMITTED DEVELOPMENT

### 3.1 Introduction

- 3.1.1 The Applicant's existing waste management facility has a long planning history, which has resulted in the grant of planning permissions for a number of development proposals across the site. The existing waste management facility currently covers approximately 11 hectares within an 18.5-hectare land holding (shown edged blue) on the 'Existing Site Layout Plan' drawing GPP/E/CWH/20/02 Rev02 (Existing Site Layout Plan).
- 3.1.2 A brief description of the existing permitted development on the site is set out below and key components referenced according to labels on the Existing Site Layout Plan drawing GPP/E/CWH/20/02 Rev02.

### 3.2 Key Site Infrastructure

- 3.2.1 There are two main access/egress points on the western boundary of the site off of the B1040 St Ives Road and 1 on the southern boundary off of Bluntisham Heath Road. The other accesses around the sites have been gated and locked and will only be used for emergency access.
- 3.2.2 The site has 2 offices (marked as 1 and 5), a welfare building (6), a weighbridge area (4) and associated weighbridge office (7) together with a workshop building (8). There are currently 4 surface water lagoons on site that manage surface water across the site.

### 3.3 In-Vessel Composting (IVC) Facility

- 3.3.1 The IVC facility consists of a number of buildings, 'tunnels' (10) and structures including a biofilter (9) used to receive, process and compost green and food waste at the site. This built infrastructure will be removed to make way for the proposed Dry AD Plant. The composting waste materials are taken to adjacent hardstanding areas for compost stabilisation and maturation (11).
- 3.3.2 The throughput of composting material across the site as a whole is restricted by the extant planning permission to a maximum of 135,000 tonnes of waste material per annum corresponding to an upper limit of 120 Heavy Good's Vehicles in and 120 Heavy Good's Vehicles out (240 HGV movements).
- 3.3.3 The IVC Facility produces high quality compost for agricultural and horticultural use that is made to Compost Protocol standards and PAS100, allowing materials to leave the site as a product, not a waste.

All of the compost produced at the site is used by both local farmers horticultural users and is in high demand.

### **3.4 Hardstanding for Composting Stabilisation & Maturation**

3.4.1 The Applicant's composting facility includes a large concrete impermeable pad where composted material is taken to stabilise and mature in open windrows (11).

### **3.5 Waste Transfer Building**

3.5.1 The site has planning permission (reference H/5015/09/CW) for a waste transfer operation for bulking-up various waste streams (e.g. cardboard, food waste, wood, plastic, paper) for onward transfer to specialist waste management facility. The throughput of material is in the order of 20,000 tonnes per annum. The deposit, bulking-up and transfer of waste takes place within the existing waste reception building (identified as no.20 on the Existing Site Layout Plan drawing reference GPP/E/CWH/20/02 Rev02).

### **3.6 Biomass Boiler and Ancillary Development**

3.6.1 The site benefits from planning permission (reference H/5005/17/CW) for two small scale biomass boilers for the drying of virgin wood, external flue stacks, concrete hardstanding and biomass feed hoppers. Each biomass boiler has a thermal capacity of 999kW and is contained within an existing mono pitched lean to building (21). The existing lean-to measures approximately 20.4m in length x 6.8m in width x 5m in height (at the highest point).

3.6.2 Two cylindrical exhaust flues stand at a maximum of 9.8m in height (above ground level) and are connected to the boiler units. Each exhaust flue is approximately 2m above the ridge height of the adjacent building.

3.6.3 Pre-chipped Grade A waste wood or virgin wood is used to fuel the biomass boilers. Beyond the wood chip feed conveyors, consistent delivery is ensured by a fuel feeding screw which feeds the chipped wood into the boiler chamber for combustion. The heat generated by the combustion process is directed to the heat exchanger which in turn heats water. Hot water is then transferred via pipework (flow and return) to heat the Dryer Units (number on plan). The biomass boilers operate 24 hours a day.

3.6.4 There are two covered feed hoppers with walking floors located adjacent to the northern façade of the lean to on the outside of the building (13). The feed hoppers ensure the steady supply of wood chip to the biomass boilers via a conveyor system. Each feed hopper measures approximately 6m in length x 2.4m

in width x 3.6m in height. In addition, there are two drying material feed hoppers of similar size located adjacent to the eastern façade of the building (22).

### **3.7 Waste Water Treatment Plant**

- 3.7.1 In March 2007, planning permission (reference H/5001/07/CW) was granted for the installation of a waste water treatment plant (12), which has now been built and is operational. Surface water from the waste processing areas and maturation yard is collected through a series of surface water attenuation lagoons. The waste water treatment plant is designed to process and treat surface water to enable it to be discharged to the local water course via a discharge consent approved by the Environment Agency.

## 4 PROPOSED DEVELOPMENT

### 4.1 Introduction

4.1.1 This Planning Application seeks planning permission for the construction of the following at the Applicant's existing waste management facility - The Heath, Woodhurst, Huntingdon, PE28 3BS:

- i) Dry Anaerobic Digestion (AD) Facility;
- ii) Healthcare Waste Energy Recovery Facility (ERF);
- iii) Pellet Fertiliser Production Facility;
- iv) Vehicle Re-Fuelling Station;
- v) Waste Transfer Station, and
- vi) Woodchip Biomass Fuel Storage Building

4.1.2 The proposed development therefore contains 6 main elements. In addition to the main built elements, the proposal also involves the construction of four replacement surface water lagoons to manage surface water run-off and an extension to the existing concrete pad.

4.1.3 The Dry AD facility, Healthcare Waste ERF and Pellet Fertiliser Production Facility are inter-connected and have co-location benefits (predominantly heat and power). The main elements are described separately below.

4.1.4 The planning application boundary is shown edged red on drawing GPP/E/CWH/21/01 Rev03 – Site Location Plan. Other land within the Applicant's ownership is shown edged blue on the same drawing. The proposed layout of the development is shown on the enclosed 'Proposed Site Layout Plan' reference GPP/E/CWH/21/03 Rev11. Drawing GPP/E/CWH/21/08 Rev00 shows four cross sections through the site and drawing GPP/E/CWH/21/09 Rev01 shows an illustrative 3D model of the proposed development.

4.1.5 The Applicant's existing site benefits from planning permission for the storage of biomass woodchip fuel and a waste transfer station operation. Those elements of the proposal are therefore being relocated to accommodate the construction of the proposed Dry AD Plant and Healthcare Waste Energy Recovery Facility. Further details, with reference to the Proposed Site Layout Plan are set out below.

## 4.2 Description of Development

4.2.1 The proposed description of development is as follows:

*“Construction of a Dry Anaerobic Digestion (AD) facility, Healthcare Waste Energy Recovery Facility (ERF), Pellet Fertiliser Production Facility, Vehicle Re-fuelling station, Waste Transfer Station, Woodchip Biomass Fuel Storage Building, Surface Water Storage Lagoon, extension to concrete pad and ancillary related development”*

## 4.3 Drawings

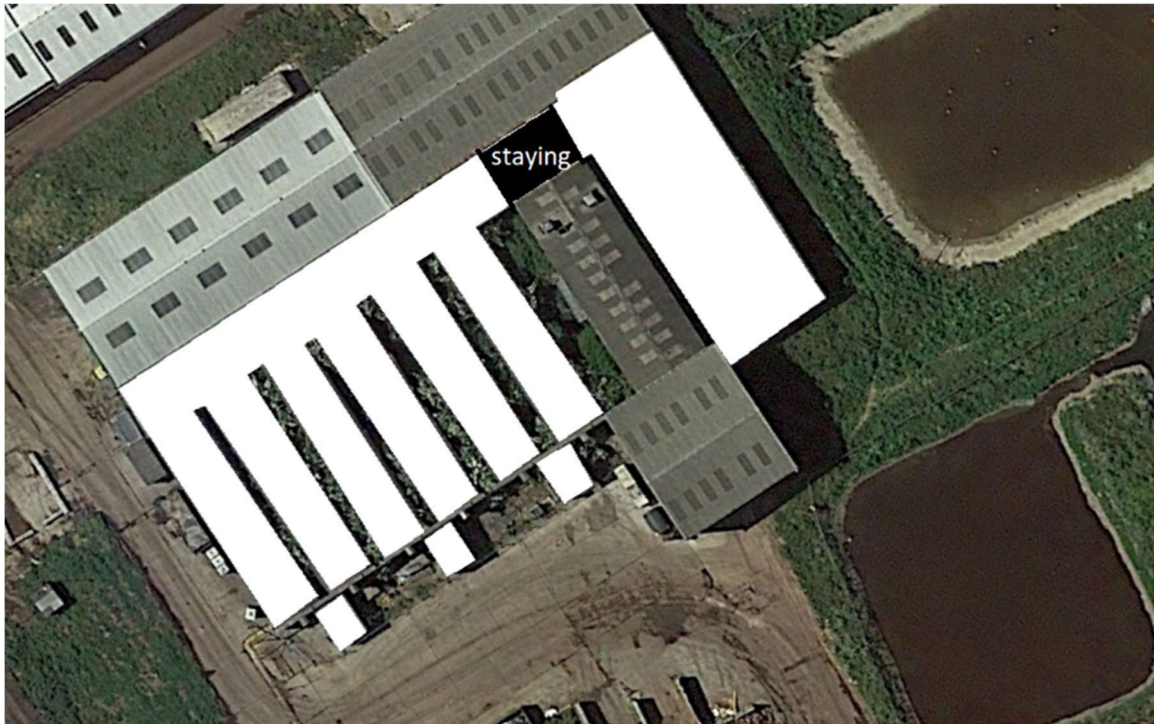
4.3.1 The main elements of the proposed development are shown on drawing(s):

- Site Location Plan - GPP/E/CWH/21/01 Rev03
- Existing Site Layout - GPP/E/CWH/20/02 Rev02
- Proposed Site Layout Plan - GPP/E/CWH/21/03 Rev11
- Elevations and floor plan of the Healthcare Waste ERF Building - GPP/E/CWH/21/04 Rev01
- Elevations and floor plan of the Waste Transfer Station - GPP/E/CWH/21/05 Rev03
- Elevations and floor plan of the Biomass Woodchip Building GPP/E/CWH/21/06 Rev03
- Elevations and floor plan of the Pellet Fertiliser Production Facility - GPP/E/CWH/21/07 Rev01
- Cross sections - GPP/E/CWH/21/08 Rev00
- 3D model of the Proposed Development – GPP/E/CWH/21/09 Rev01

## 4.4 Demolition of IVC Facility

4.4.1 The IVC facility consists of a number of buildings, tunnels and structures. There are 6no. tunnels, a central and end ‘lean-to’ structure and 3no. brick-built fan buildings, which will be demolished. There is also an existing building adjacent to the existing lagoon (circa 400 square metres in size) which will also be removed to make room for the 2no. Combined Heat & Power Plants.

4.4.2 The aerial photograph below shows the buildings and structures ‘blocked out in white’ which will be removed to make way for the construction of the proposed Dry AD plant and associated infrastructure.



## 4.5 Proposed Scheme Details

### i) Dry AD Facility

#### Overview

4.5.1 The proposed Dry AD Plant (items 31-43 on the Proposed Site Layout Plan) will process imported co-mingled food and green waste. The waste will be biologically processed via the introduction of anaerobic bacteria. This will create a usable bio-methane product which will be pressurised, cleaned, and fed into the national gas grid (via an underground pipeline adjacent to the site) as a source of renewable power replacing finite fossil fuels. At the end of the process, the food and green waste mix having been dried (using two belt-driers), is deodorised and composted in the maturation stage which is transformed into a nutrient rich sustainable fertiliser product for use on local farms and horticulture and landscape markets.

#### Plant, Equipment and Buildings

4.5.2 The main plant, equipment, and buildings associated with the Dry AD facility are listed below:

- Food and green waste reception area (AD Building) (36)
- Dewatering equipment located in dewatering area
- x2 Digesters and associated equipment in dry digestate storage (38 and 39)
- X3 Liquid waste tanks and associated equipment (outside AD Building)

- x2 Belt dryers and associated equipment located in drying area (37)
- Dried digestate storage area (37)
- Air Treatment Equipment and Biofilter (35)
- Biogas storage system (41)
- Biogas Upgrading Unit (BUG) (43)
- X2 Combined Heat & Power Plants (40)
- Biomethane Storage Tank (42)
- x2 Emergency Flares (45)
- Grid Entry Unit (31)

4.5.3 The proposed Dry AD Facility is shown as item 36 on the enclosed 'Proposed Site Layout Plan reference GPP/E/CWH/21/03 Rev11. This drawing shows the location of the main plant, equipment, and buildings associated with the Dry AD facility. Four cross sections of the proposed development, including the Dry AD Facility within the Application Site are shown on drawing reference GPP/E/CWH/21/08 Rev00.

#### **Site Operations and Process Description**

4.5.4 The AD process uses drying equipment within a sealed and enclosed building. Anaerobic digestion (AD) technology has been around for some time and most UK AD plants are 'wet' plants. The material which is processed and pumped through most UK plants is a liquid at a nominal 15% solids, free flowing and, at large volumes due to the high liquid levels. This makes it difficult to store and use in large amounts.

4.5.5 By contrast the proposed, proven, Dry Anaerobic Digestion technology uses an organic feedstock material which has a much higher solid content (nominally 55%). It is moved via a screw which transits a plug flow along a digestion vessel. Input material can receive an amount of recirculated digestate at the infeed point to 'kick-start' the AD process resulting in the rapid production of biogas and short residence time in the digester in a system. The process results in a typical efficiency of around 90% harvesting as much of the available biogas as is realistically possible. Fully enclosed and sealed, the extraction of biogas is prepared for injection into the national grid.

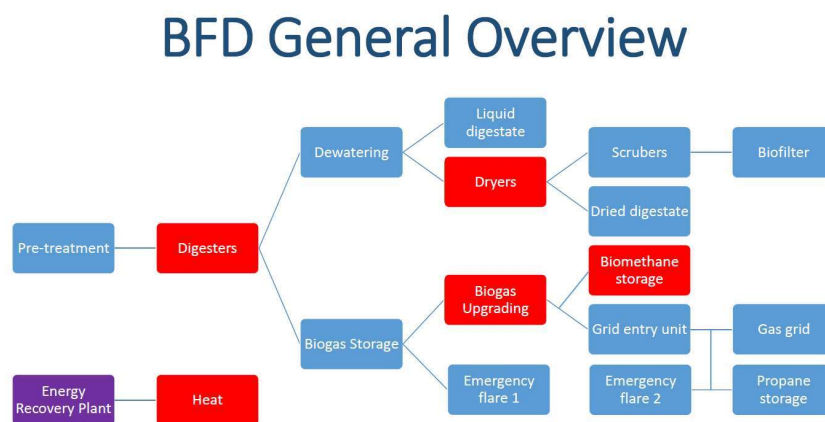
4.5.6 The material processed by the proposed Dry AD process is also more flexible in that a more fibrous material can be processed with greater ease. This makes it more marketable and can attract feedstock with less preparation. A mixture of green and food waste can be processed through the Dry AD Plant (compared to wet AD which uses primarily food only). The extraction of the biogas during this process is significant when compared to wet AD plants, with the ability to extract around 90% compared to the 60% biogas.



4.5.7 The final material arising from the Dry AD process is dried using recovered heat from the Healthcare Waste ERF. This drying process removes both odour and water leaving a nutrient rich material which can be further composted and stabilised into a quality pelletised product. The pelletised product is a sustainable alternative to fossil fuel and heavy chemical fertilisers, boasting water retention, drainage, compaction reliving and soil biology enhancing properties.

4.5.8 The main inputs to the process are recovered heat from the ERF which is used to power the biological processes and electricity to drive the motors. Electricity will be provided by the proposed two x one megawatt combined heat and power (CHP) units (40) which are designed to produce enough power to run most activities on site. In addition to the electricity that is produced, the CHP engines also produce usable heat. The heat is extracted from the water jacket of the combustion engine itself and also from the flue gasses. By extracting usable heat from both sources, the proposal ensures that the full potential of the gaseous fuel is used and not wasted to the atmosphere (common in many power generation developments both small and large).

4.5.9 An overview of the process is depicted in Block Flow Diagram (BFD) below:



### Feedstock Quantities & Outputs

4.5.10 The Dry AD facility will process approximately 70,000 tonnes of imported green and food waste per year. Following the anaerobic digestion and maturation process, approximately 50,000 tonnes of nutrient rich compost material will be exported from the site as a fertiliser and soil improver.

### Operating Hours

#### Importation of Feedstock

4.5.11 The deliveries of feedstock and the export of digestate will take place between the following hours:



- 05.00 to 22.00 daily including Sundays and Public/Bank Holidays

#### Feedstock Processing

4.5.12 The facility will process feedstock 24 hours a day, 7 days a week. It will operate continuously throughout the year except during shutdowns for maintenance purposes.

#### Environmental Controls

4.5.13 The principal potential sources of odour from the proposed Dry AD Facility are likely to be from the following main elements:

- Waste reception, dewatering, drying, storage and handling (AD Building).
- Waste processing machinery.
- Emissions from the CHP engines
- Emissions from the biofilter.

4.5.14 In order to mitigate odour, the AD building will be fully enclosed, under negative pressure and the resultant exhaust air will undergo treatment. The air is extracted at chosen points distributed around the Dry AD building, allowing a good and uniform air circulation inside it. Additionally, the processing machinery will be directly or indirectly connected to the air treatment system.

### ii) Healthcare Waste Energy Recovery Facility

#### Overview

4.5.15 Many Healthcare Waste ERF's around the UK are built with the sole purpose of safely disposing of healthcare waste but rarely include any capability to recover potentially useful heat and power from the process. Clearly to ensure safe destruction of pathogens, which given the pandemic is even more critical than before, high temperatures are required. Healthcare Waste ERF's use a huge amount of energy to reach high temperatures in excess of 1200 degrees Celsius, so it makes sense to utilise this heat wherever possible. The plant will be designed to deal with healthcare waste arising from within the region and sized primarily to use all the waste heat produced. This means that the plant will be a relatively small size with a throughput of approximately 12,000 tonnes per annum.

#### Proposed Energy Recovery Facility (ERF)

4.5.16 The proposed Healthcare Waste ERF consists of a new building to the north of the existing IVC facility (46). The proposed new building will house a thermal treatment process which will safely handle healthcare waste and other difficult wastes streams that are not capable of being recycled.

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4.5.17 The treatment process will be permitted by the Environment Agency as a Waste Incineration Activity and will be operated in accordance with the Environmental Permitting Regulations 2016 (as amended) and Chapter IV of the Industrial Emissions Directive (IED).

4.5.18 The plant will enable the recovery of energy in the form of heat and power. The Healthcare Waste ERF will supply heat to the Dry AD plant using heat transfer equipment available as part of the proposed development.

4.5.19 There will be a yard surrounding the Healthcare Waste ERF building for manoeuvring and parking, and an area for gas handling equipment to enable efficient operation of the system. There will be an associated exhaust flue. The waste handling and thermal treatment process is entirely enclosed from start to finish to comply with appropriate regulations; no handling, processing or storage will take place outside.

#### **Plant, Equipment and Buildings**

4.5.20 The proposed Healthcare Waste ERF is shown as item 46 on the enclosed 'Proposed Site Layout Plan reference GPP/E/CWH/21/03 Rev11.

4.5.21 The main plant, equipment, and buildings associated within the Healthcare Waste ERF are:

- The reception and storage of clinical waste;
- Bin movement and clean-up;
- The combustion of clinical waste;
- The reception, emulsification and combustion of waste oil;
- Waste heat recovery system;
- Screw expander turbine;
- Air Pollution Control System;
- Bottom ash removal system;
- Filter fly ash removal system; and
- Continuous Emissions Monitoring System.
- Emissions stack

#### **Building**

4.5.22 Elevations of the Healthcare Waste ERF are shown on the enclosed drawing GPP/E/CWH/21/04 Rev01. Four cross sections of the proposed development, including the Healthcare Waste ERF within the Application Site are shown on drawing GPP/E/CWH/21/08 Rev00.

4.5.23 The Healthcare Waste ERF will be housed within a steel portal framed building which will be 53 metres long and 39 metres wide. The height of the building will be 8.7 metres to the eaves and 10 metres to the ridge. The building will clad with box profiled steel cladding coloured dark green to assimilate into the existing complex and surrounding landscape. The building will contain a stack which will be 26 metres high from ground level.

#### Site Operations and Process Description

4.5.24 The operational system comprises two sections, the primary combustion chamber where the solid waste is destroyed and the secondary combustion chamber where combustion products are thermally treated and oxidised. Waste is only introduced into the primary combustion chamber once sufficient temperatures have been reached. The auxiliary fuel used is oil and waste oil. The waste oil is emulsified on site which will be used to supplement combustion once the chamber is above a temperature of at least 850°C.

4.5.25 Within the primary combustion chamber, the waste progresses over two hydraulically driven stepped hearths. Bottom ash is collected and quenched prior to transfer offsite for disposal at an appropriately permitted facility. The hot gases produced from the primary combustion chamber are transferred to the secondary combustion chamber for thermal oxidation.

4.5.26 The secondary combustion chamber serves to provide the necessary temperature and residence time conditions (greater than 2 seconds at 1,100°C) to meet with the Industrial Emissions Directive (IED). Hot gases from the secondary combustion chamber are then transferred to the waste heat boiler via a hot gas duct. All steam produced by the waste heat boiler is directed through two screw expander turbines to generate electricity for export and site parasitic requirements.

4.5.27 The energy recovery plant is expected to process up to 2,000 kg of waste per hour. Delivered feedstock will not be stored for longer than 24 hours, however, in the case of a bank/public holiday weekend, waste may need to be stored for up to 4 days.

4.5.28 Healthcare waste will either be delivered to site in sealed clinical waste bins or in double sealed bags. Waste feedstock material will be manually loaded into the container management system using a forklift vehicle or grab. A container lift will empty the material into the feed hopper and is then mechanically fed into the primary combustion chamber. The container will then be transferred to the container wash for disinfection. The energy recovery plant will also take liquid waste that requires treatment, and this will be injected into the treatment process.

### Source/Catchment of Feedstock

4.5.29 Waste feedstock material will be sourced, as far as possible, from within the County of Cambridgeshire and the Peterborough area. The Healthcare Waste ERF will only receive waste material secured under a contract with the Applicant. This facility will not be open to the public or businesses/trade.

### Types of Waste and Quantities

4.5.30 In order to operate the proposed facility, a bespoke Environmental Installation Permit will be required to be obtained from the Environment Agency. The Permit will strictly control the type and amount of waste that can be handled at the site.

4.5.31 The proposed facility will process and recover energy from approximately 12,000 tonnes of waste per annum (approximately 50 tonnes per day).

4.5.32 It will manage the following types of waste:

- **Health Care Waste:** Health care waste is produced by organisations providing health and social care, or in a person's own home where health and social care is provided.
- **Hazardous Waste:** which includes waste matter, or components of that waste, that can cause harm to the environment or human health. This may cause the waste to be classified as hazardous. Some examples of common types of hazardous waste found in everyday health care activities are: medicines, needles or suture needle, incontinence pads, soft waste, such as dressings
- **Hygiene Waste:** defined within the Controlled Waste Regulations as waste that:
  - i. Is not clinical waste,
  - ii. contains body fluids, secretions, or excretions,
  - iii. is classified under specific codes in the List of Wastes Regulations
  - iv. Medicinal waste, which can be defined as either medicines that can no longer be unused (e.g. out-of-date stock or items contaminated with medicines.
- **Law Enforcement Confiscated Material:** that has been seized or detained by the Police, Border Force, HM Revenue and Customs (HMRC) and the National Crime Agency (NCA). Examples of such seizures include excise goods (cigarettes, tobacco and alcohol), firearms and prohibited drugs.

### Residual Waste

4.5.33 The main residual waste at the end of the waste recovery process is incinerator bottom ash (IBA) and air pollution control residues (APC) waste from the energy conversion processing units. There will be approximately 2 tonnes of IBA per day and 28 tonnes of APC per month equating to approximately 1320 tonnes per annum in total. The residual waste will be conveyed to a sealed skip. Once full, the skip will be

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taken off-site to a suitably licensed waste management facility for disposal and new skip located in its place (once or twice per week). Skips containing APC residues consisting of contaminated lime and spent carbon pellets will be collected by a specialist contractor on a weekly or fortnightly basis as required. IBA and APC removal collections will be scheduled on different days where possible to minimise vehicle movements.

### **Transportation of Material**

- 4.5.34 Waste feedstock material will be transported to the Healthcare Waste ERF, predominantly by specialist light good vehicles and vans (approximately 1-2 loads per hour). Bulk loads of material in articulated lorries are unlikely to exceed 2 delivered loads per day. The feedstock material will be delivered within the energy recovery facility building and no material will be handled or stored outside.
- 4.5.35 After processing, a residual waste ash will be exported from the site (in bulk loads) which approximately once per week.

### **Operating Hours**

#### Importation of Waste

- 4.5.36 The delivery of waste for treatment within the Healthcare Waste ERF will take place between the following hours:
- 05.00 to 22.00 hours daily including Sundays and Public/Bank Holidays

#### Treatment of Waste

- 4.5.37 The facility will process feedstock 24 hours a day, 7 days a week. It will operate continuously throughout the year except during shutdowns for maintenance purposes.

### **Environmental Controls**

- 4.5.38 Flue gas cleaning and pollution control consists of Selective Non-Catalytic Reduction (SNCR) through urea injection within the combustion chambers, sodium bicarbonate injection for acid gas neutralisation, and activated carbon powder injection for absorption and removal of heavy metals, dioxins, Volatile Organic Compounds (VOCs) and other harmful substances.

### iii) Pellet Fertiliser Production Facility

#### Overview

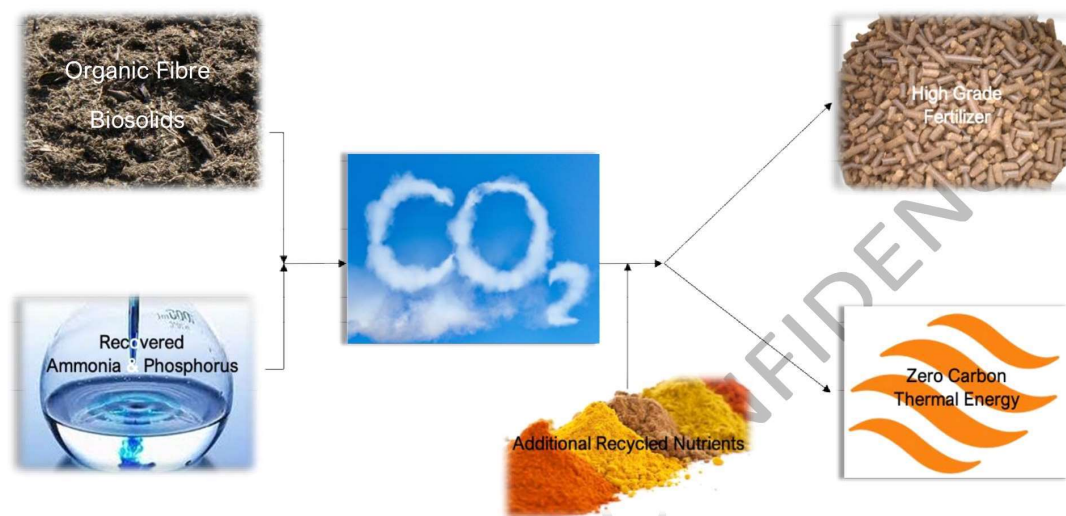
- 4.5.39 The proposed Pellet Fertiliser Plant (building 47 on the Proposed Site Layout Plan) complements the Applicant's existing compost production by offering a granular fertiliser option in addition to the standard organic soil conditioner. The technology captures carbon dioxide from sources ranging from combustion flue gas to biogas separation. The captured CO<sub>2</sub> is used to stabilise ammonia plus further nutrients can be added from waste or recycled materials with the formulation adjustable to utilise particularly abundant feedstocks or achieve a specific balance. The process requires some heat as part of the production, however, there is sufficient heat from the various associated site processes as illustrated on the heat process block diagram.
- 4.5.40 In simple terms, some of the organic output post digestion through the Dry AD is diverted to the pellet production facility where a specific Nitrogen, Phosphorus and Potassium (NPK) fertiliser product is produced which will match a traditional 100% chemical NPK fertiliser, but with a significantly reduced carbon footprint.
- 4.5.41 Most farmers need to use a traditional NPK fertiliser. This will enable the Applicant to offer both the soil conditioner, which does provide nutrients but primarily organic matter and the bespoke NPK fertiliser to provide specific nutrient support for plant growth.

#### Building

- 4.5.42 Elevations of the Pellet Fertiliser Production Facility are shown on the enclosed drawing GPP/E/CWH/21/07 Rev01. Four cross sections of the proposed development, including the Pellet Fertiliser Production Facility building within the Application Site are shown on drawing GPP/E/CWH/21/08 Rev00.
- 4.5.43 The Pellet Fertiliser Production Facility will be housed within a steel portal framed building which will be 70 metres long and 40 metres wide. The height of the building will be 9.0 metres to the eaves and 11 metres to the ridge. The building will have 6 roller shutter doors to provide access/agrees and will be clad with box profiled steel cladding coloured dark green to assimilate into the existing complex and surrounding landscape. Elevations of the proposed building are shown on drawing Elevations and a floor plan of the proposed building are shown drawing GPP/E/CWH/21/07 Rev01.

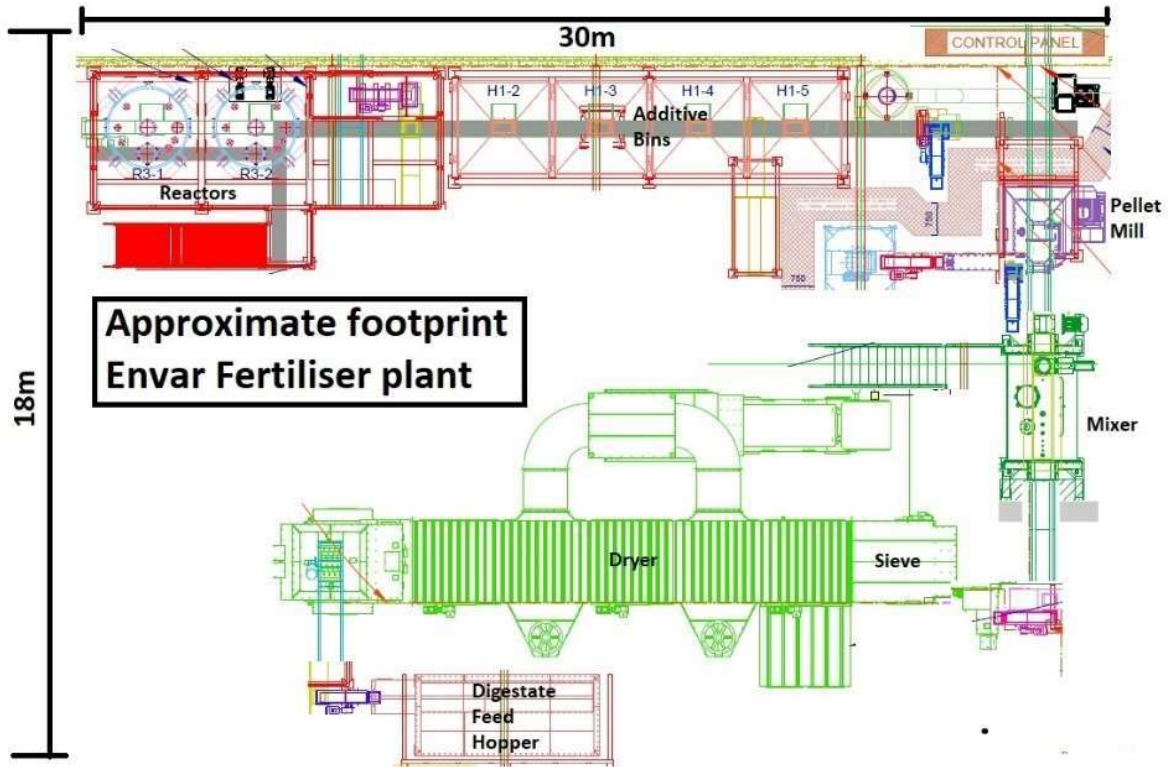
### Pellet Fertiliser Plant

4.5.44 The process at the centre of the fertiliser production system is relatively simple. It combines an organic fibre, Ammonia and CO<sub>2</sub>. The ammonia acts as a Nitrogen source for the plants and allows the capture of, which in turn stabilises the ammonia allowing it to be converted into a more useful form. This step is potentially followed by the addition of further nutrients to supplement those held with the feedstock streams that are feeding the process and allow the production of the desired end formulation of N, P and K. An illustrative process diagram is set out below.

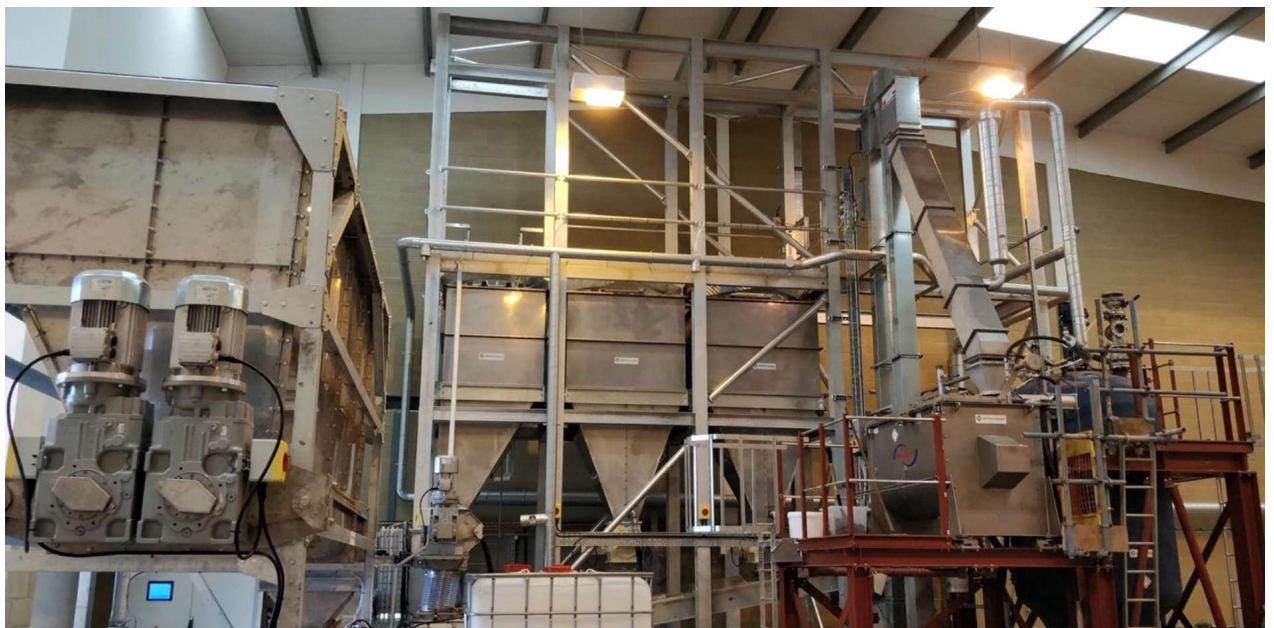


4.5.45 The products created by the process are in essence packages of plant nutrients harvested from existing anaerobic digestion operations. By packaging the nutrients in user-friendly formats bound together by carbon captured from the proposed biogas handling processes, the Applicant proposes to create a new range of biogenic fertilisers. Importantly these materials are all user friendly and can be delivered to the local market using conventional agricultural equipment. An illustrative diagram of the layout of the plant within the building is shown below.





4.5.46 The supplier of the Pellet Fertiliser Plant has a commercial scale demonstration plant, which is fully operational. A photograph of the type of plant that will be located inside the building is shown below. This plant can produce a range of fertiliser products varying in Nitrogen content between 30%N to 4%N; in formats ranging from compound pellets through to organic-based loose material and liquids.





### Carbon Capture

4.5.47 The carbon savings result from the direct capture of CO<sub>2</sub> during the production process; the replacement of high carbon intensity inputs by recovered ones, which produces a large avoidance of primary carbon use; and finally, the retention of robust carbon based materials within the fertiliser matrix ensuring high levels of carbon retention in soil.

### Operating Hours

4.5.48 The Pellet Fertiliser Production Facility will operate between the following hours:

- 05.00 to 22.00 hours daily including Sundays and Public/Bank Holidays

### Traffic Movements

4.5.49 The Pellet Fertiliser Production Facility will utilise some of the material that has been through the Dry AD Plant. There will be no additional throughput of material as a result of this process. The exportation of the pellet fertiliser product will replace a proportion of the traffic that will be associated with the exportation of the compost product from site and therefore the plant will not generate any additional traffic movements.

## iv) CNG Vehicle Fuelling Station

4.5.50 The biogas produced by the proposed Dry AD facility will, in addition to being exported to the National Grid, be capable of being used as an alternative fuel to diesel for the Applicant's fleet of commercial vehicles. The biogas will be stored in the storage vessel (41 on the Proposed Site Layout drawing reference GPP/E/CWH/21/03 Rev11).

4.5.51 The proposal therefore includes a small-scale Compressed Natural Gas (CNG) Refuelling Station, which will be located to the north-east of the access into the site (see key 29 on the Proposed Site Layout drawing reference GPP/E/CWH/21/03 Rev11). The CNG Refuelling Station will not be open to the general public.

4.5.52 The proposed CNG Refuelling Station will be similar to the station depicted in the photograph below.



## v) Waste Transfer Station

### Overview

4.5.53 The Applicant proposes to relocate the existing waste transfer operation within a new purpose-built steel portal frame building (28). The waste transfer operation will only involve the transfer and bulking of waste. There will therefore be no processing or treatment of waste within the building. Planning permission for the existing waste management facility was granted under the auspices of permission reference H/5005/17/CW dated 8<sup>th</sup> November 2017.

### Waste Transfer Station Building

4.5.54 The proposed waste transfer station building will have a steel portal frame construction and clad in box profiled cladding coloured dark green. The building will be used for the tipping of imported waste, bulking up and exportation from the site in bulk loads. There will be 3x roller shutter doors; one for in-coming waste, a second for outgoing waste and a third for loading out vehicles. The building will have dimensions of 70 metres long by 40 metres wide and 10 metres high to the ridge (8 metres high to the ridge). Elevations and a floor plan of the proposed building are shown drawing GPP/E/CWH/21/05 Rev03.

### Storage and Management of Waste (Loading and Unloading)

- 4.5.55 The handling and storage of waste material will all be within the proposed waste transfer building (none outside). Waste materials will be stored in bays using moveable concrete Lego blocks as walls. The Applicant proposes to keep the internal layout of the Lego block storage bays flexible to respond to the requirements of the operations and types of waste streams.
- 4.5.56 Waste material will be tipped with the reception bay and moved to separate storage bays using a front loader/and or telehandler. There will be a baler located within the building for baling cardboard, paper, and packaging.
- 4.5.57 Once there is a sufficient quantity of material bulked up, it will be exported from site in HGV (e.g., roll-on roll-off's or articulated loads). Material will be loaded from within the building via covered 'sheep dip' type arrangement on the side of the building. The following photograph shows the typical arrangement of the gap in the concrete walls from which a front loader will load the waste into a roll-on roll-off container or articulated lorry.



### Waste Types & Quantities

4.5.58 The waste transfer station will have a throughput of approximately 20,000 tonnes per annum. The proposal will involve the bulking and transfer of commercial/industrial waste and construction and demolition waste. Commercial and industrial waste will include cardboard, plastics, metal, paper and wood whilst the construction and demolition waste will include rubble, and hardcore and general municipal waste streams.

### Plant, Equipment & Machinery

4.5.59 The waste transfer station will use mobile plant to load and unload waste materials for onward despatch. This will include a standard loading shovel, telehandler or material handling machinery as required. The plant/machinery will only operate inside the building.

### Storage and Handling of Waste

4.5.60 Waste will be stored within concrete bays inside the building. There will be no handling or storage of waste material outside of the building. The storage of waste will be designed to comply with the Environment Agency's Fire Prevention Plan guidance at all times.

### Traffic & Transportation

4.5.61 The throughput of waste material will be approximately 20,000 tonnes per annum, which broadly consistent with the throughput granted for the existing permission reference H/5005/17/CW. Details of the traffic associated with this element of the proposal is set out in section 4.6 below.

### Waste Catchment Area

4.5.62 In terms of waste catchment area, it is proposed that the facility complies with condition 5 of planning permission reference H/5005/17/CW as follows:

*Not less than 40% by weight of wastes accepted at the waste management site outlined in blue on drawing no. GPP/E/H/17/01 Rev 4 The Heath, Woodhurst, Huntingdon PE28 3BS Existing Site Layout Plan in any 12 month period shall be sourced from the East of England Region. The East of England means the counties of Norfolk, Suffolk, Cambridgeshire, Essex, Hertfordshire, Bedfordshire and Northamptonshire together with the unitary authorities of Peterborough, Southend on Sea, Milton Keynes and Luton. The operator shall endeavour that within 5 years of the date of this permission at least 25% by weight of wastes shall be procured from a 40 kilometre catchment area of the site and the administrative areas of Cambridgeshire*

*and Peterborough as shown on 'Plan CCC1 - Waste Catchment Area'. Waste from a waste transfer station within the defined catchment area shown on 'Plan CCC1 - Waste Catchment Area' shall be regarded as arising from within the catchment area.*

### Operating Hours

4.5.63 The waste transfer station will operate between the following hours:

- 05.00 to 22.00 hours daily including Sundays and Public/Bank Holidays

### vi) Biomass Woodchip Fuel Store

#### Overview

4.5.64 The existing x2 biomass boilers currently dry approximately 20,000 tonnes of wood chip per annum. The proposed biomass fuel storage building (49 on the Proposed Site Layout drawing reference GPP/E/CWH/21/03 Rev11) will house wood chip that will be used in the existing biomass operations on site.

4.5.65 The biomass fuel (wood chip) is currently stored in stockpiles outside. If the feedstock woodchip gets wet during periods of inclement weather, it can decrease the amount of energy that can be produced. In these circumstances, the woodchip requires drying in the 'drying units' on site. The storage of woodchip outside can also make it more difficult to control dust in dry and windy conditions. The proposed biomass fuel storage building will therefore have a number of benefits to the operation of the existing boilers on site.

4.5.66 Reduction in the potential for fire will also result as a consequence of containment in a building, also dust reduction.

#### Biomass Woodchip Storage Building

4.5.67 The proposed Biomass Woodchip Storage Building will have a steel portal frame construction and will be 70 metres long and 40 metres wide. The height of the building will be 8.0 metres to the eaves and 10 metres to the ridge. The building will contain 3.0-metre-high concrete push walls to facilitate the loading of material by a front-loader.

4.5.68 The building will have 2 roller shutter doors to provide access/agrees and will be clad with box profiled steel cladding coloured dark green to assimilate into the existing complex and surrounding landscape. Elevations and a floor plan of the proposed Biomass Woodchip Storage Building are shown on drawing GPP/E/CWH/21/06 Rev03.

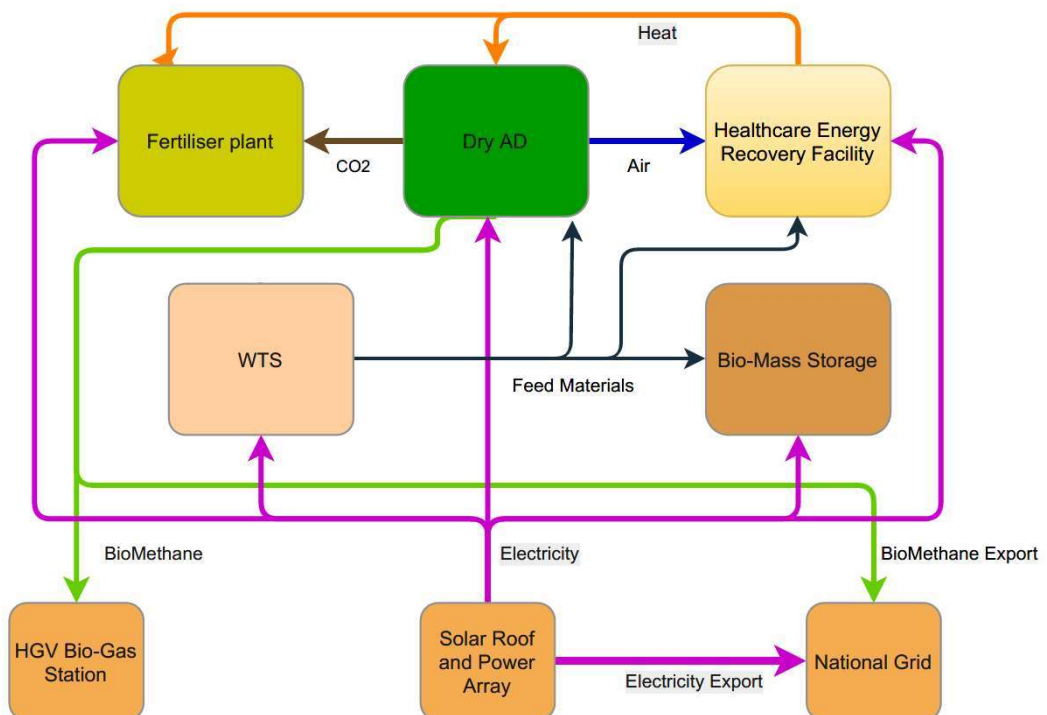
**Operating Hours**

4.5.69 The delivery of woodchip to the proposed replacement storage building will be between the following hours:

- 05.00 to 22.00 daily including Sundays and Public/Bank Holidays
- There will be shredding of wood waste between 07.00 to 18.00 daily including Sundays and Public/Bank Holidays

**4.6 Co-Location Benefits**

4.6.1 There are a number of co-location benefits between the main elements of the proposed development, in particular the Dry AD Plant, the Pellet Fertiliser Production Facility and the Healthcare Waste ERF together with the x2 Combined Heat and Power (CHP) Plants. In conjunction with the existing processes on the site, these proposed components significantly enhance the efficiency and sustainability of the entire operations. The schematic diagram below shows the sustainability benefits and inter-relationship between the main elements of the proposed development.



4.6.2 The main synergies and relationships between the various parts of the proposed development that combine to provide a sustainable waste management solution are:



1. Heat that is generated in the Healthcare Waste ERF will be used in the Dry AD Plant process and Pellet Fertiliser Production Facility providing significant on site energy efficiencies.
2. The Dry AD Plant will not only turn green/food waste into a soil conditioner and a pellet fertiliser, but it will also produce renewable biogas that can be exported to the national grid network via what mechanism and used on site by the Applicant as a fuel for road going vehicles.
3. The CHP elements will generate a significant percentage of the electrical power required by the proposed development with the heat being utilised throughout the system.
4. Roof mounted solar panels on the roofs of the main new buildings will also provide a sustainable power source for use on site.
5. The sorting of waste in the Waste Transfer Station will enable the Applicant to supply wood to the Biomass Woodchip Storage Building and organic waste matter to the Dry AD Plant.
6. Direct capture of carbon dioxide during the pellet fertiliser production process.

## **4.7 Traffic, Access, Vehicle Numbers & Parking**

- 4.7.1 The main access into the site for Heavy Commercial Vehicles (HCV's) will be E1 located on the western flank of the site. This is the existing access used by HCV's delivering material. Access E3, also on the western flank, will be used by HCV's exporting material out of the site (as existing) and car parking for staff. Existing entrance E5 will be used by cars and motorcycles for car parking. The other existing entrances around the site (including E2 and E4) will be kept locked/gated and only used for emergency access. The access points are shown on drawing reference 'Proposed Site Layout Plan' reference GPP/E/CWH/21/03 Rev11.
- 4.7.2 The total permitted annual tonnages throughput at the site (taking into account all of the proposed components) will not increase over and above the existing restriction of 200,000 tonnes per annum imposed by the extant planning permission. There will therefore be no increase in traffic beyond the previously granted HCV movement of 120 in and 120 out (240 movements per day). The proposed development means there will only be a change in the type of waste and material being imported to the site for treatment and management rather than overall vehicle movements.
- 4.7.3 In addition to existing vehicle movements by vans, light goods vehicles (LGV's) and heavy commercial vehicles (HCV's), the proposal will lead to an increase in staffing numbers at the site, with approximately 22 new jobs being created. The total vehicular trips per working day associated with staff driving their cars into and out of the site is likely to be approximately 44 movements (22 in and 22 out).

- 4.7.4 A Traffic Management Plan (TMP) accompanies the Planning Statement at Appendix 3. The TMP seeks to ensure the movement of HCVs (including construction traffic) is effectively managed to minimise local highway network capacity impacts and to ensure that highway safety is not compromised.
- 4.7.5 The TMP proposes that all HCVs use the primary vehicle routeing via the St. Ives Bypass link to the A14 or A141 as these are the largest and main access routes to the site from the wider highway road network. Through the use of these routes HCV traffic will avoid the majority of local residential areas and potentially sensitive traffic areas before accessing main transport links.
- 4.7.6 The existing waste management site has car parking arrangement provided at the 'Heathtops' as shown on the enclosed Proposed Site Layout drawing GPP/E/CWH/21/03 Rev11 labelled as item 51.
- 4.7.7 It is proposed to create additional car parking spaces at the 'Cheffins' within the Application site on the southern boundary as shown on drawing Proposed Site Layout drawing GPP/E/CWH/21/03 Rev11 labelled as item 52. There will be approximately 80 additional car parking spaces (including 4x disabled spaces, motor bike parking and cycle racks) within this area.

## 4.8 Surface Water Drainage

- 4.8.1 The proposed development site overlaps with areas of the existing waste management facility which already drain to an existing water management system. It is therefore proposed to augment the existing system to manage the additional run-off from the proposed development. It is proposed to construct 4 new surface water lagoons (x3 for dirty water and x1 for clean water).
- 4.8.2 Under normal rainfall conditions water from roofs and roads will be conveyed to a new 'clean' water lagoon. 'Dirty' run-off from hardstanding areas will be conveyed to three new 'dirty' water lagoons for subsequent treatment. Treated water will be re-used on-site or discharged from the site under licence.
- 4.8.3 Water which has been collected from the waste processing areas will drain into the onsite storage lagoons where it is treated in an on-site leachate treatment plant (LTP). The LTP is designed to process water, cleaning it to a level whereby it is permitted to be discharged into local surface water systems with the roof water. The process is controlled by strict BAT standards administered by the Environment Agency.



## 4.9 Water Holding Tanks & Fire Risk Management

- 4.9.1 The applicant will install a UKAS accredited fire detection and suppression system to protect both human health and the plant and equipment. Details of the fire prevention measures will be set out in the Fire Prevention Plan accompanying the Environmental Permit application to the Environment Agency.
- 4.9.2 Two fire water tanks will be located on the site (circa 4.2 metres wide and 9 metres in height), which will be used to provide a supply of fire water in the event of a fire. The location of the new water tanks and pump house are shown on drawing reference GPP/E/CWH/21/03 Rev11 Proposed Layout Plan (34). Each tank will hold approximately 100,000 litres of water. Additional fire water capacity will also be available from the proposed surface water attenuation lagoons. Four cross sections of the proposed development shown the scale and appearance of the fire water tanks within the Application Site and are shown on drawing reference GPP/E/CWH/21/08 Rev00.

## 4.10 Construction

- 4.10.1 Construction of the proposed development is expected to take around 12-18 months (36 months maximum).
- 4.10.2 The construction programme is anticipated to comprise the following key phases:
- Phase 1 – Construction of the Waste Transfer Station and Biomass Woodchip Storage Building
  - Phase 2 – Lagoon construction
  - Phase 3 and 4 - Dry AD construction alongside Healthcare Waste Recovery Facility
  - Phase 5– Pellet Fertilizer Building and processing equipment construction.
- 4.10.3 Construction will take place in accordance with a Traffic Management Plan (see Appendix 3 to the accompanying Planning Statement).
- 4.10.4 Construction activities would take place 07:00 – 18:00 hours Mondays to Friday and 07:00-13:00 hours on Saturdays. No external construction will take place on Sundays and Bank Holidays.

## 4.11 Employment & Economics

- 4.11.1 The proposal represents a significant financial investment into the future development of the existing waste management facility. The proposed development will generate a minimum of 22 full time jobs together wider indirect and induced employment. As well as direct employment, the proposed

development will create indirect and induced employment opportunities as a consequence of how the supply chains operate.

- 4.11.2 During construction, the proposed development will give rise to direct employment at full time equivalent levels of around 30 jobs annually over a two-three-year construction phase.

## **4.12 Security**

The site entrance has a lockable gate's access, and the site will be secured with a 2 metre high perimeter steel security fence. The applicant will install a CCTV system to deter and prevent crime. The Site Manager will be responsible for ensuring that the site is safe and secure when not operating. The site already operates a night time security guard and this would continue.

## 5 PLANNING POLICY CONTEXT

### 5.1 Introduction

5.1.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that the determination of a Planning Application must be made in accordance with the Development Plan unless material considerations indicate otherwise.

5.1.2 In this instance, the Development Plan consists of the following documents:

- Cambridgeshire and Peterborough Minerals and Waste Core Strategy DPD adopted July 2011;
- Cambridgeshire and Peterborough Minerals and Waste Site Specific Proposals DPD adopted February 2012, and
- Huntingdonshire Local Plan adopted May 2019.

5.1.3 The main policies within each document considered relevant to the proposal are set out below.

### 5.2 The Development Plan

#### **Cambridgeshire and Peterborough Minerals and Waste Core Strategy**

5.2.1 The Minerals and Waste Core Strategy sets the framework for all minerals and waste developments until 2026. It sets out policies to guide minerals and waste management development.

5.2.2 The following main policies of the adopted Minerals and Waste Core Strategy are relevant to the determination of this Planning Application:

- CS2 – Strategic Vision and Objectives for Sustainable Waste Management Development;
- CS14 – The Scale of Waste Management Provision;
- CS15 – The Location of Future Waste Management Facilities;
- CS18 – Waste Management Proposals Outside Allocated Areas;
- CS19 – The Location of Hazardous Waste Facilities – Resource Recovery and Landfill;
- CS22 – Climate Change;
- CS24 – Design of Sustainable Minerals and Waste Management Facilities;
- CS29 – The Need for Waste Management Development and the Movement of Waste;
- CS30 – Waste Consultation Areas;
- CS32 – Traffic and Highways;

- CS33 – Protection of Landscape Character;
- CS34 – Protecting Surrounding Uses;
- CS35 – Biodiversity and Geodiversity;
- CS36 – Archaeology and the Historic Environment;
- CS39 – Water Resources and Water Pollution Prevention, and
- CS40 – Airport Safeguarding.

### Cambridgeshire and Peterborough Minerals and Waste Site Specific Proposals DPD

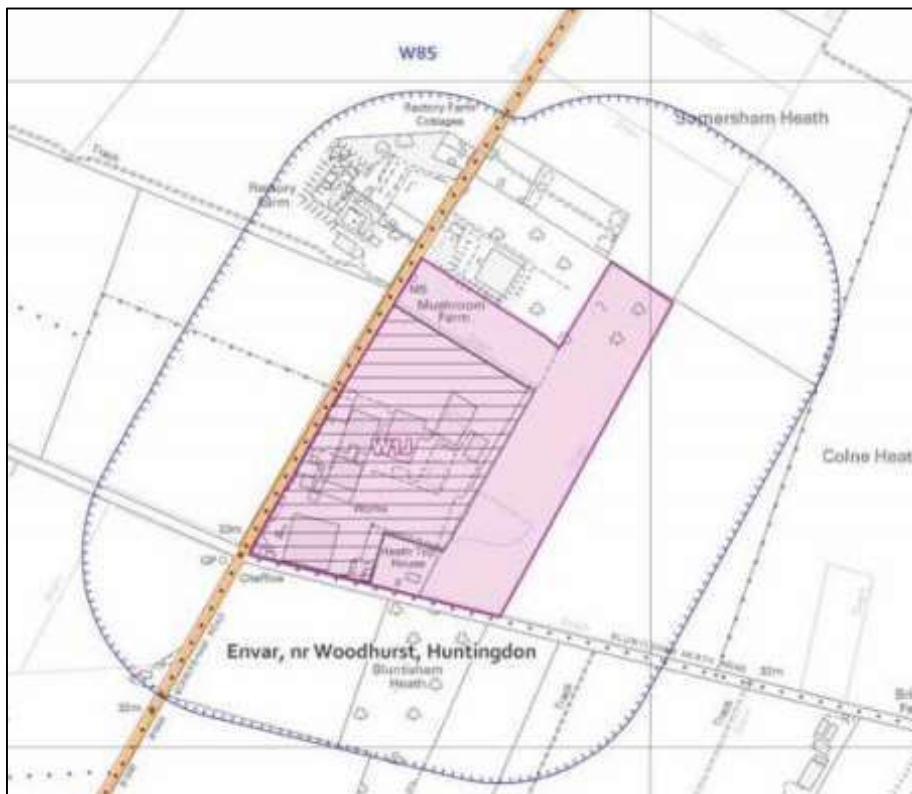
5.2.3 The Site Specific Proposals DPD sets out site specific allocations for minerals and waste development and supporting site specific policies to support the strategic vision.

5.2.4 The following main policies of the adopted Site Specific Proposals DPD are relevant to the determination of this Planning Application:

- Policy SSP W1 – Waste Recycling and Recovery Facilities (Non-Landfill), and
- Policy SSP W8 – Waste Consultation Areas.

5.2.5 The site specific and Area of Search allocations for waste recycling and recovery facilities include:

- Policy SSP W1J – Envar, Woodhurst (in vessel and windrow composting).



## 5.2.6 Summary of Policy W1J – Envar, Woodhurst (The Allocation):

<b>Site Name</b>	<b>Envar, Woodhurst</b>
<b>Description of Proposed Use</b>	Waste Recycling and Recovery Facility. Composting windrow and In Vessel
<b>Area</b>	18.5 ha
<b>Approximate Timescale</b>	Existing site expansion dependant on demand and market conditions
<b>District</b>	Huntingdonshire
<b>Parish</b>	Somersham
<b>Grid Ref</b>	TL 337 755
<b>Site Characteristics</b>	
<ul style="list-style-type: none"> <li>• Currently in waste management use for composting</li> <li>• Within airport safeguarding areas for Cambridge, Wyton and Alconbury</li> <li>• High grade agricultural land (Grade 2)</li> <li>• Close to sensitive receptors (residential on southern boundary and raptor centre on north west boundary)</li> <li>• Site located in area of high archaeological potential</li> </ul>	

### Huntingdonshire Local Plan

## 5.2.7 The following main policies of the adopted Local Plan are relevant to the determination of this Planning Application:

- Policy LP2 – Strategy for Development;
- Policy LP5 – Flood Risk;
- Policy LP10 – The Countryside;
- Policy LP11 – Design Context;
- Policy LP12 – Design Implementation;
- Policy LP14 – Amenity;
- Policy LP15 – Surface Water;
- Policy LP16 – Sustainable Travel;
- Policy LP17 – Parking Provision and Vehicle Movement;
- Policy LP19 – Rural Economy;
- Policy LP29 – Health Impact Assessment;
- Policy LP30 – Biodiversity and Geodiversity;
- Policy LP34 – Heritage Assets and their Settings;

- Policy LP35 – Renewable and Low Carbon Energy;
- Policy LP36 – Air Quality, and
- Policy LP37 – Ground Contamination and Groundwater Pollution.

### 5.3 Other Relevant Documents

5.3.1 The National Planning Practice Guide (NPPG) confirms that the National Planning Policy Framework (NPPF) represents up-to-date government planning policy and must be taken into account where it is relevant to a Planning Application.

5.3.2 The following documents are therefore considered to represent a material consideration in the determination of this Planning Application:

- National Planning Policy Framework;
- National Planning Practice Guidance;
- Resources and Waste Strategy for England (2018);
- National Planning Policy for Waste (2014);
- Waste Strategy for England (2007);
- Emerging Cambridgeshire and Peterborough Minerals and Waste Local Plan;
- Cambridgeshire and Peterborough Location and Design of Waste Management Facilities SPD (2011);
- Cambridgeshire Flood and Water SPD (2018);
- Huntingdonshire Design Guide SPD (2017), and
- Huntingdonshire Landscape and Townscape Assessment SPD (2007).

#### **Emerging Cambridgeshire and Peterborough Minerals and Waste Local Plan**

5.3.3 The Council and Peterborough City Council are in the process of reviewing the joint Minerals and Waste Development Plan. The current Core Strategy Development Plan Document (DPD) was adopted in 2011 and the Site Specific Proposals DPD was adopted in 2012. These two plans are being reviewed and a single joint Minerals and Waste Local Plan (MWLP) covering the two authority areas is being produced to replace them.

5.3.4 The Councils have consulted on a Preliminary Draft Local Plan (May 2018); a Further Draft Local Plan (March 2019) and, more recently, a Proposed Submission Local Plan (November 2019). Views were sought on a range of draft policies, and on the approach the plan should take in guiding mineral and waste management development over the period to 2036. Following these consultations, the Councils took all comments into consideration.

5.3.5 On 24<sup>th</sup> March 2020, the Councils submitted the new Cambridgeshire and Peterborough Minerals and Waste Local Plan to the government for examination by an independent planning inspector. Following the hearing sessions, the Inspector produced a report with recommended modifications to the submitted Local Plan to make the document 'sound'. The Councils are due to consider the recommended modifications in the summer 2021.

5.3.6 The following emerging policies are considered relevant to the Proposed Development:

- Policy 1 – Sustainable Development and Climate Change;
- Policy 3 – Waste Management Needs;
- Policy 4 – Providing for Waste Management;
- Policy 10 – Waste Management Areas (WMAs);
- Policy 16 – Consultation Areas;
- Policy 17 – Design;
- Policy 18 – Amenity Considerations;
- Policy 20 – Biodiversity and Geodiversity;
- Policy 21 – The Historic Environment;
- Policy 22 – Water Resources;
- Policy 23 – Traffic, Highways and Rights of Way, and
- Policy 25 – Aerodrome Safeguarding.

5.3.7 Given that the emerging Minerals and Waste Local Plan has been through independent examination, it is considered that the above listed policies can be afforded significant weight in the determination of this Planning Application.

## 6 AIR QUALITY

### 6.1 Introduction

- 6.1.1 An Air Quality Assessment (AQA) incorporating detailed atmospheric dispersion modelling has been undertaken by Environmental Visage Ltd for emissions to atmosphere from the proposed development. The detailed technical AQA report is enclosed at Appendix 4 to this ES.
- 6.1.2 The AQA has been undertaken to assess the likely impacts from the proposed discharges to atmosphere which include:
- A single point source release from the Healthcare Energy Recovery Facility (HERF);
  - Emissions from the biofilter servicing the dry Anaerobic Digestion (AD) plant;
  - A single point source release from the Biogas Up-Grade facility (BUG);
  - A single point source release from the Fertiliser Pellet Production Plant abatement technologies (fertiliser plant);
  - Two exhaust stacks, discharging through a common wind shield, each serving one of the two proposed Combined Heat and Power (CHP) units, and
  - Emissions from the two existing biomass boilers.
- 6.1.3 Each of the plant incorporated into the assessment is assumed to operate continually throughout the year. The proposed development will also include a small gas-fired boiler which has not been included in the modelling exercise as it will only discharge on the few occasions that the HERF is not available to provide heat to the Dry AD plant and will not therefore need to operate at the same time as the HERF.
- 6.1.4 Additionally, two emergency flares will be incorporated into the site operations, one to service the BUG, which has a 98 % operational time, suggesting potential flaring for up to 2 % of the year, and the other to provide an emergency flare for the grid entry point, with an estimated maximum operation of 1.5 % of the year. Neither of the flares have been modelled as they may release during managed maintenance periods or emergency conditions only and, as required, processes will be shut-down as quickly as possible to minimise any flaring which may otherwise need to continue for a prolonged period.
- 6.1.5 The AQA gives consideration to the impact of emissions to atmosphere from the development proposals, providing information on contributions of pollutants to local air quality, deposition and odour levels. It also forms the basis of a separate human health impact assessment, specifically considering the impact of potential emissions of Dioxins, Furans, and Dioxin-like PCBs.



## 6.2 Policy Context

6.2.1 Policy CS34 (Protecting Surrounding Uses) of the Minerals and Waste Core Strategy states that:

*“Waste management development will only be permitted where it can be demonstrated that there would be no significant harm to the environment, human health or safety, existing or proposed neighbouring land uses, visual intrusion or loss to residential or other amenities. Mitigation measures will be required, including where appropriate a buffer zone, between the proposed development and neighbouring existing or proposed sensitive land uses.”*

6.2.2 Policy LP14 of the Huntingdon Local Plan and emerging Policy 18 of the Minerals and Waste Core Strategy also seek to protect residential and ‘other amenity’.

## 6.3 Assessment Methodology

### ADMA Model

6.3.1 The modelling software used in the AQA report is ADMS Version 5.2. This is the preferred software and is one of a range of models available for assessing the impact on local air quality of pollutant emissions to atmosphere. Those used routinely in the UK for this sort of modelling included United States Environmental Protection Agency (US-EPA) models such as AEROMOD, and the ADMS modelling developed in the UK by Cambridge Environmental Research Consultants (CERC).

6.3.2 The ADMS model can be used to assess ambient pollutant concentrations arising from a wide variety of emission sources associated with an industrial process. It can be used for initial screening or more refined determination of ground level pollutant concentrations on either a short-term basis (up to 24- hour averages) or longer term (monthly, quarterly or annual averages).

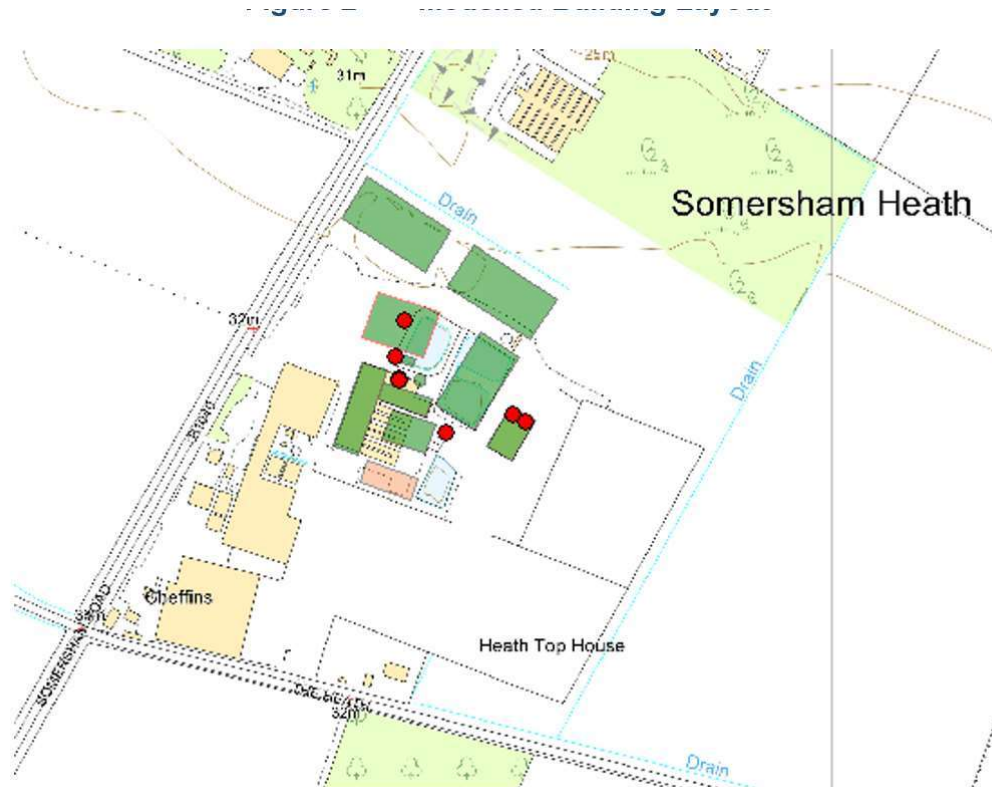
6.3.3 Atmospheric dispersion modelling is not a precise science and results can be impacted by a variety of factors such as:

- Model uncertainty - due to limitations in the dispersion algorithms incorporated into the model and their ability to replicate “real life” situations;
- Data uncertainty - due to potential errors associated with emission estimates, discharge characteristics, land use characteristics and the relevance of the meteorological data to a particular location; and,
- Variability - randomness of measurements used.

## Assessment Input Data

- 6.3.4 The location and dimensions of development infrastructure and release points were obtained from the planning drawings and data supplied by the technology providers. Emissions from the HERF were assumed to discharge continually at the maximum emission limit values permissible for such plant, as detailed in the Best Available Techniques (BAT) conclusions document for waste incineration processes.
- 6.3.5 The modelled buildings and infrastructure are shown on Figure 6.1 below in green, with the exception of the biofilter which is in orange, and the location of emission points are denoted by red circles.

Figure 6.1



## Pollutant Emissions

- 6.3.6 A range of pollutants will be emitted from the site processes. These are set out in Table 3 of the AQA report. Where available, data provided by the technology providers regarding the specific installation proposed has been applied. Measured emissions data from the biomass boilers, which are already in-situ and operational, has been included within the model, and the specified emission concentrations for the HERF represent the maximum permitted emission level for energy recovery facilities such as the one proposed by the Applicant.

- 6.3.7 Hydrogen Sulphide will be discharged from the biofilter in small concentrations. The concentration of approximately  $3 \text{ mg Nm}^{-3}$  equates to 2 parts per million (ppm) and is considered the maximum short-term release from the filter. Generally, emissions are expected to be lower, at approximately 1 ppm, and the impact of both emission rates have been reported.
- 6.3.8 It is also important to note that the site has existing operations and material of the same nature and volume will be passing through the site as already exists. The existing units are not Dry AD plant, however and, in processing wetter material, have higher odour potential than the Dry AD units to be installed. Although the existing biofilter units will not necessarily be replaced in their entirety, the majority of the incoming compostable material will, in future, pass through the Dry AD process with emission via the new, purpose built and state of the art biofilter. The effect of this should be two-fold. Firstly, the majority of the odorous emission will pass through this new plant and hence should therefore be abated more effectively than currently, and secondly, the majority of the processed material subsequently entering the windrows will be much drier and therefore less odorous than currently, thereby reducing fugitive emissions from the site.
- 6.3.9 Finally, it is noted that although the two existing biomass boilers will contribute to levels of particulate discharged to atmosphere from the site operations, no information on the particulate release was available for incorporation into the modelling exercise. Therefore, the assessment of particulate emissions considers the impact of the proposed operations only.

## 6.4 Baseline Conditions

### Sensitive Receptors

- 6.4.1 Specific receptors, representing locations where members of the general public may be present for significant periods of time, as well as nearby ecological habitat receptors, were entered into the model. A total of 10 local receptors were included in the model and are shown in Figure 6.2 below.
- 6.4.2 Additionally, twelve more distant receptors were modelled to confirm the impact of the proposed development in other residential areas such as Somersham and St. Ives, and the potential impact on the Ouse Washes Ramsar site, Special Area of Conservation and Special Protection Area. Finally, thirteen points around the site boundary were identified specifically for consideration of odour levels, as the terms of the future Environmental Permit will consider the potential nuisance impact of odour outside of the site boundary.

Figure 6.2 – Receptor Locations



### Meteorological Data

6.4.3 The detailed air quality assessment was undertaken using the ADMS Version 5.2 atmospheric dispersion model, applying the hourly average meteorological data set for the RAF Mildenhall measurement station, between 2016 and 2020. The RAF Mildenhall meteorological measurement station is located approximately 36 km to the east of the application site. The 2020 wind rose from the site shows the prevailing wind from the south-west. With the exception of 2018, during which the wind direction was more widely spread, although still prevailing from the south-west, the wind direction across the five years of monitoring data was principally south-westerly.

## Background Air Quality

6.4.4 To assist with the assessment work, background air quality data for 2021 in the locality of the application site was taken from the 2018 DEFRA Background Maps website as shown on Table 6.1 below.

**Table 6.1 – Background Level of Pollution**

Pollutant	Annual Average Concentration ( $\mu\text{g m}^{-3}$ )	Short-Term Concentration ( $\mu\text{g m}^{-3}$ )
Oxides of Nitrogen ( $\text{NO}_x$ )	9.29	18.46
Nitrogen Dioxide ( $\text{NO}_2$ )	7.20	14.40
Particulate Matter ( $\text{PM}_{10}$ )	15.35	30.71
Particulate Matter ( $\text{PM}_{2.5}$ )	9.21	18.41
Carbon Monoxide ( $\text{CO}$ ) ( $\text{mg m}^{-3}$ )	0.118	0.24
Sulphur Dioxide ( $\text{SO}_2$ )	2.38	4.76
Benzene (VOC)	0.127	0.25
Concentrations at grid point 533500 275500		

Note: The short-term concentration is twice the annual average.

## Determining Significance

6.4.5 The UK Government, via the Environment Agency, provides guidance for screening the significance of air quality impacts associated with the operation of industrial processes. For long-term impacts, the guidance recommends a 1 % insignificance threshold relative to a long-term Air Quality Standard (AQS) or Environmental Assessment Level (EAL) of the substance being studied, with a corresponding 10 % insignificance threshold for the assessment of short-term impacts.

6.4.6 If both of these criteria are met, there is no requirement to do any further assessment of the substance and its impact is screened as insignificant.

6.4.7 If the initial criteria are not met, a second stage screening assessment is undertaken to determine the impact of the Predicted Environmental Concentration (PEC). The PEC is the sum of the Process Contribution (PC) plus the appropriate background concentration. The second stage screening assessment states that if:

- the short-term PC is less than 20 % of the short-term environmental standard minus twice the long-term background concentration; and
- the long-term PEC is less than 70 % of the long-term environmental standard,

6.4.8 There is no requirement to do any further assessment of the substance and its impact is screened as insignificant.

## Other Assessment Criteria

6.4.9 Within the AQA report, and in addition to applying the Environment Agency’s screening methodology, descriptive terms for the impact significance of long-term contributions of pollution are based on those published in Land Use Planning and Development Control: Planning for Air Quality (2017 Update) prepared by Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM)<sup>1</sup>. The land use planning guide focuses principally on the impact of NO<sub>2</sub> and PM<sub>10</sub> emissions as these are the most common pollutants of concern for local air quality, and states that impact description involves expressing the “*magnitude of incremental change as a proportion of a relevant assessment level and then examining this change in the context of the new total concentration and its relationship with the assessment criterion*”. The EPUK / IAQM descriptor matrix is shown in Table 6.2 below:

**Table 6.2 Assessment - Definition of Impact Magnitude for Changes in Annual Mean Nitrogen Dioxide and Particulates (PM<sub>10</sub>) Concentration**

LT Average Concentration	Percentage Increase on Air Quality Assessment Level (AQAL)			
	1	2 - 5	6 – 10	> 10
75 % or less of AQAL	Negligible	Negligible	Slight	Moderate
76 – 94 % of AQAL	Negligible	Slight	Moderate	Moderate
95 – 102 % of AQAL	Slight	Moderate	Moderate	Substantial
103 – 109 % of AQAL	Moderate	Moderate	Substantial	Substantial
110 % or more of AQAL	Moderate	Substantial	Substantial	Substantial

## 6.5 Assessment of Impacts

### ADMS Modelling

- 6.5.1 The assessment employed the ADMS Version 5.2 atmospheric dispersion model to determine the likely impact of the releases. Meteorological data sets from the RAF Mildenhall measurement station, which is located approximately 36 km to the east of the site, were applied within the model, and due consideration was given to site buildings and other local environmental conditions.
- 6.5.2 The AQA has modelled emissions from a wide range of atmospheric process contributions from the proposed development including NO<sub>x</sub>, SO<sub>2</sub>, CO, Particles (PM<sub>10</sub>), VOCs, Ammonia, HCl, HF, Mercury, Cadmium, Other Metals, Hydrocarbons, Dioxins & Furans, Hydrogen Sulphide and greenhouse gases.
- 6.5.3 The results of the modelling show that, although the maximum process contributions of Nitrogen Dioxide cannot readily be screened as insignificant, the major source of ground level concentrations of NO<sub>2</sub> were the two existing biomass boilers and the point of maximum impact occurs well within the site boundary,



dispersing rapidly from that point. Process contributions and the predicted environmental concentrations of NO<sub>2</sub> at all sensitive receptors were screened as insignificant.

- 6.5.4 Contributions of other pollutant species were also screened as insignificant, when considering normal, short-term or other than normal operating conditions.

### **Air Quality Impacts at Specific Receptors & Nearby Ecological Receptors**

- 6.5.5 The model was also set up to calculate the impact of emissions at twenty-two specific receptors in the vicinity of the site. The locations of the most local of these receptors were shown in Figure 2 above, and represent sensitive ecological sites, and locations where members of the general public may be present for extended periods of time, either through residence in a particular area, or as a result of their employment.
- 6.5.6 When considering the potential impact of air pollutants at sensitive receptors, all species were screened as insignificant at either the initial or secondary assessment stage and when considering human health or ecological receptors. The contributions to ecological Critical Levels and Critical Loads were also screened as insignificant.

## **6.6 Odour Assessment**

### **Introduction**

- 6.6.1 As a composting process, the Applicant's existing operational activities include the handling and storage of biodegradable wastes, digestion processes and composting of material in open windrows. Accordingly, the site does have the potential to create odours, and on occasion, these can escape the site boundary.
- 6.6.2 In developing the site towards a Dry AD process, the Applicant will be better able to control the release of odour from the main digestion process as the odorous moisture is driven off the compostable material and emissions from the process and from the enclosed AD process building will be extracted via the biofilter prior to discharge. Once digested and moved into the windrows for maturation, the drier, processed material will have significantly less odour potential than that of wet AD process material, which is the current process adopted at the site.
- 6.6.3 The existing site operations include wet AD processes and in processing wetter material, the existing units have higher odour potential than the dry AD units to be installed. Although the existing biofilter units will not necessarily be replaced in their entirety, the majority of the discharge from the process will in future

pass through the dry AD process with emission via the new, purpose built and state of the art biofilter. The effect of this should be two-fold. Firstly, the majority of the odorous emission will pass through this new plant and hence should therefore be abated more effectively than currently, and secondly, the majority of the processed material subsequently entering the windrows will be much drier and therefore less odorous than currently, thereby reducing fugitive emissions from the site.

- 6.6.4 In order to assess the odour impacts of the operations now proposed, the ADMS dispersion model was used to consider the impact of the potentially odorous discharges from the new biofilter and the fertiliser plant, at the site boundary and at the sensitive local receptors. No information was available on the odour emissions from the existing discharges and hence these could not be incorporated into the modelling exercise. However, once the new plant is operational, the requirement for the existing units to operate will reduce substantially.

### Detailed Atmospheric Dispersion Modelling

- 6.6.5 Detailed atmospheric dispersion modelling was undertaken to assess the potential impact on ground level odour concentrations of emissions from the proposed new biofilter and fertiliser plant, both of which have the potential for an odorous release.

### Determining Significance

- 6.6.6 The perception of odour requires three inputs: a source; a pathway and the presence of receptors. The scale of the impact is determined by parameters collectively referred to as FIDOL (Frequency, Intensity, Duration, Offensiveness and Location); these are described in more detail in the table below, taken from guidance provided by the Institute for Air Quality Management (IAQM).

Frequency	How often an individual is exposed to odour
Intensity	The individual's perception of the strength of the odour
Duration	The overall duration that individuals are exposed to an odour over time.
Odour unpleasantness	Odour unpleasantness describes the character of an odour as it relates to the 'hedonic tone' (which may be pleasant, neutral or unpleasant) at a given odour concentration/intensity. This can be measured in the laboratory as the hedonic tone, and when measured by the standard method and expressed on a standard nine-point scale it is termed the hedonic score.
Location	The type of land use and nature of human activities in the vicinity of an odour source. Tolerance and expectation of the receptor. The 'Location' factor can be considered to encompass the receptor characteristics, receptor sensitivity, and socio-economic factors.

- 6.6.7 Based on the FIDOL factors, IAQM defines three levels of sensitivity for nearby receptors that can be applied when defining the odour impact risk using atmospheric dispersion modelling techniques. These assessment criteria are defined in terms of a minimum concentration of odour (reflecting the



intensity/strength) that occurs for a minimum period of time (reflecting duration and frequency) over a typical meteorological year. The concentration element of these criteria can be increased or lowered to reflect variations in the offensiveness of the odours released from a specific type of facility, and the sensitivity of nearby locations.

<b>High sensitivity receptor</b>	<p>Surrounding land where:</p> <ul style="list-style-type: none"> <li>users can reasonably expect enjoyment of a high level of amenity; and</li> <li>people would reasonably be expected to be present here continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.</li> </ul> <p>Examples may include residential dwellings, hospitals, schools/education and tourist/cultural.</p>
<b>Medium sensitivity receptor</b>	<p>Surrounding land where:</p> <ul style="list-style-type: none"> <li>users would expect to enjoy a reasonable level of amenity, but wouldn't reasonably expect to enjoy the same level of amenity as in their home; or</li> <li>people wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.</li> </ul> <p>Examples may include places of work, commercial/retail premises and playing/recreation fields.</p>
<b>Low sensitivity receptor</b>	<p>Surrounding land where:</p> <ul style="list-style-type: none"> <li>the enjoyment of amenity would not reasonably be expected; or</li> <li>there is transient exposure, where the people would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land.</li> </ul> <p>Examples may include industrial use, farms, footpaths and roads.</p>

6.6.8 In terms of the above sensitivity criteria, residential properties in the vicinity of the EnVar site, such as receptor numbers 2, 3, 5 and 7 would be classified as “high sensitivity receptors”, while the Silks Farm School nature area, modelled as receptor number 6, would be classified as a “medium sensitivity receptor”, and the Snow Cap Mushroom Farm (receptor number 4) would be a “low sensitivity receptor”.

6.6.9 IAQM guidance states that,

*“a high sensitivity receptor subject to a large odour exposure will experience a substantial adverse effect, and a low sensitivity receptor subject to a small odour exposure will experience a negligible effect; however, between these extremes the various combinations will give rise to a gradation of effects for which no descriptor terms have been universally agreed.”*

6.6.10 The IAQM guidance proposes the following general framework of descriptors for the magnitude of effects for receptors of different sensitivities.

		Receptor Sensitivity		
		Low	Medium	High
Odour Exposure (Impact)	Very Large	Moderate adverse	Substantial adverse	Substantial adverse
	Large	Slight adverse	Moderate adverse	Substantial adverse
	Medium	Negligible	Slight adverse	Moderate adverse
	Small	Negligible	Negligible	Slight adverse
	Negligible	Negligible	Negligible	Negligible

6.6.11 In terms of defining the magnitude and significance of the impact, the IAQM guidance proposes the following:

Odour Exposure Level $C_{98}, ou_e/m^3$	Receptor Sensitivity		
	Low	Medium	High
$\geq 10$	Moderate	Substantial	Substantial
5- $\lt 10$	Moderate	Moderate	Substantial
3- $\lt 5$	Slight	Moderate	Moderate
1.5- $\lt 3$	Negligible	Slight	Moderate
0.5- $\lt 1.5$	Negligible	Negligible	Slight
$\lt 0.5$	Negligible	Negligible	Negligible

When compiling this Table, it has been assumed, on a conservative basis that the odour in question is at the offensive end of the spectrum. For odours that are less unpleasant, the level of odour exposure required to elicit the same effect may be somewhat higher, requiring professional judgement to be applied. It also should be noted that the Table applies equally to cases where there are increases and decreases in odour exposure as a result of this development, in which case the appropriate terms "adverse" or "beneficial" should be added to the descriptors.

6.6.12 The Odour Exposure Level is expressed as the 98<sup>th</sup> percentile of the modelled hourly averages. The IAQM states within their guidance that:

*“Odour assessment methodology, as it has developed in Europe and UK over the last 35 years, has become well-established. The predictive, quantitative approach involves obtaining estimates of the odour source emission rate, use of the emissions in a dispersion model to predict 98<sup>th</sup> percentile concentration at sensitive receptors and comparison of these with criteria that have evolved from research and survey work. At the present time, this remains an accepted technique and the IAQM supports this.”*

6.6.13 However, the level of offensiveness of any odour must also be taken into account as some process odours may of course be pleasant. Within their ‘H4’ odour management guidance<sup>ii</sup>, the Environment Agency suggests the following criterion for differing odour sources:

Criterion, $C_{98}, ou_e/m^3$	Offensiveness	Odour Emission Sources
1.5	Most Offensive	Processes involving decaying animal or fish remains Processes involving septic effluent or sludge Biological landfill odours
3.0	Moderately Offensive	Intensive livestock rearing Fat frying (food processing) Sugar beet processing Well aerated green waste composting
6.0	Less Offensive	Brewery Confectionery Coffee

6.6.14 Accordingly, an EAL of  $3 \text{ OU}_E \text{ m}^{-3}$ , appropriate for the assessment of moderately offensive odours, was used as the basis for the assessment of odour releases from the site, which undertakes composting operations and fertiliser production across the site. It is noted that both of the preceding odour exposure tables above detail the impact of the ‘most offensive’ odours and hence, for a ‘moderately offensive’ odour, a level of judgement must be applied to the assessment.

### Results from Detailed Modelling of Odour Release

6.6.15 The results from detailed modelling are presented in the Table 6.3 below and reflect the maximum hourly average process contribution (PC) for odour, expressed as the 98th percentile value at the site boundary and at the discrete sensitive receptor points, from five years’ worth of modelling.

Table 6.3

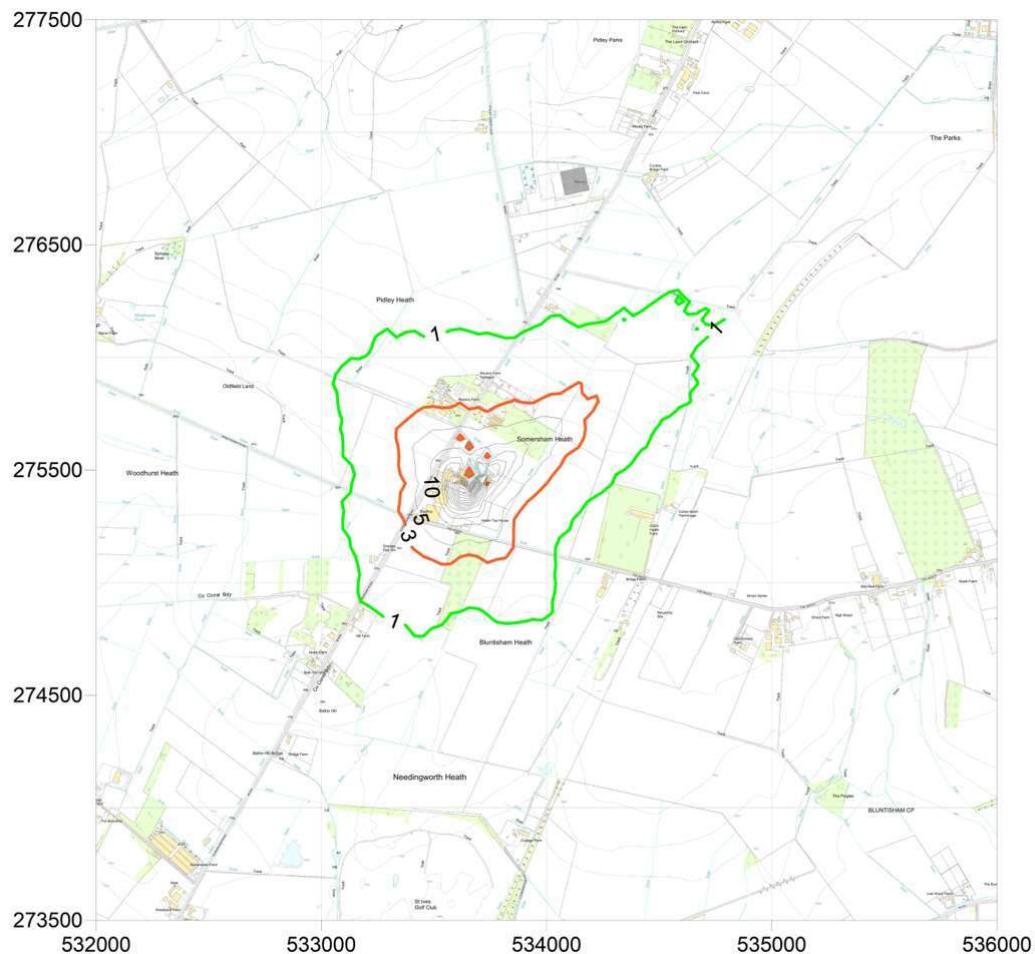
Receptor Number	Receptor Name	98 <sup>th</sup> Percentile Hourly Average Odour ( $\text{OU}_E \text{ m}^{-3}$ )	IAQM Significance Criterion*	Number of Exceedances of $3 \text{ OU}_E \text{ m}^{-3}$
1	Raptor Foundation	2.14	Slight	145
2	Residential Property 1 (N)	2.98	Moderate	174
3	Residential Property 2 (N)	1.81	Moderate	129
4	Snow Cap Mushroom Farm	<b>3.47</b>	Slight	<b>198</b>
5	Caravan Site	<b>3.06</b>	Moderate	175
6	Silks Farm School Nature Area	0.92	Negligible	111
7	Residential Property 3 (SSW)	0.83	Slight	80
8	St Ives Disused Railway	0.71	Negligible	55
9	Heath Fruit Farm	0.22	Negligible	0
10	Lawn Orchard	0.19	Negligible	0
O1	EnVar Boundary Point 1	<b>6.15</b>	N/A	<b>327</b>
O2	EnVar Boundary Point 2	<b>9.70</b>		<b>559</b>
O3	EnVar Boundary Point 3	<b>17.36</b>		<b>612</b>
O4	EnVar Boundary Point 4	<b>13.29</b>		<b>387</b>
O5	EnVar Boundary Point 5	<b>6.30</b>		<b>271</b>
O6	EnVar Boundary Point 6	<b>5.10</b>		<b>305</b>
O7	EnVar Boundary Point 7	<b>4.69</b>		<b>296</b>
O8	EnVar Boundary Point 8	<b>5.23</b>		<b>289</b>
O9	EnVar Boundary Point 9	<b>7.08</b>		<b>414</b>
O10	EnVar Boundary Point 10	<b>7.39</b>		<b>470</b>
O11	EnVar Boundary Point 11	<b>3.46</b>		<b>210</b>
O12	EnVar Boundary Point 12	<b>8.22</b>		<b>472</b>
O13	EnVar Boundary Point 13	<b>12.45</b>		<b>612</b>
Note * Based on an odour at the ‘most offensive’ end of the assessment spectrum				

6.6.16 In Table 6.3 above, high sensitivity receptors have their numbers marked in blue, medium sensitivity receptors have their numbers marked in orange, and lower sensitivity receptors are marked in yellow. The points around the site boundary, which are not specific receptors are prefixed with O and have their numbers marked in grey. The results presented are the maximum results from modelling five years’ worth of meteorological data.

- 6.6.17 The detailed modelling predicted that 8 out of 10 of the sensitive receptors would not experience odour concentrations above 3 OUE m<sup>-3</sup> expressed as the 98th percentile of the hourly average, at the grid references included to represent them. Whilst the IAQM significance criterion listed in table 6 above suggests that the impact of the results could range from negligible to moderate across the receptors, the ‘medium offensiveness’ nature of the odour would in fact reduce this potential impact. In reality, given that odour concentrations remain below or only a fraction above 3 OUE m<sup>-3</sup> at all residential receptors and noting the anticipated overall reduction in the odour potential of the proposed site processes when compared to the existing site operations, it is considered that the overall impact will be of slight significance at most, and this when accepting that the site has caused some previous annoyance, which will naturally heighten sensitivity.
- 6.6.18 An odour concentration of 1 OUE m<sup>-3</sup> is the threshold for detection by members of the general public with a “typically average” sense of smell. Accordingly, the maximum odour process contributions at receptor numbers 6 - 10, as predicted by detailed modelling, will probably be imperceptible and unlikely to be a reasonable cause for annoyance for people living and working at these locations.
- 6.6.19 Additionally, it is noted that the 98<sup>th</sup> percentile of hourly average values throughout the year, translates into a maximum number of permissible exceedances of 175 per year, whilst remaining within the 98<sup>th</sup> percentile. Although the odour concentration at receptor numbers 4 and 5 do exceed 3 OUE m<sup>-3</sup> on occasion, only at receptor number 4, Snow Cap Mushroom Farm, does the level actually exceed 3 OUE m<sup>-3</sup> more than 175 times in the year, and as such, the potential for anything other than a slight impact at receptor number 5 is limited. As a low sensitivity receptor, the mushroom farm would be considered to be slightly impacted by an odour concentration of 3 - 5 OUE m<sup>-3</sup>. Accordingly, and whilst recognising the slightly higher odour concentration which may be experienced at the mushroom farm for approximately 2.26 % of the year (198 exceedances), the majority of the sensitive receptor locations modelled would remain within the assessment level recommended for moderately offensive odours.
- 6.6.20 When considering the odour concentrations at the site boundary, these are notably higher. However, the site boundary does not represent a sensitive receptor location in itself and, even the highest concentrations, which are significantly above the 3 OUE m<sup>-3</sup> assessment level occur for very short periods. The worst-case exceedances over the five years’ worth of meteorological data modelled resulted in the odour concentrations exceeding 3 OUE m<sup>-3</sup> for less than 7 % of the year at the site boundary points and continues to disperse quickly from the site boundary.
- 6.6.21 Figure 6.3 below depicts the dispersion of odour from the site sources.



Figure 6.3



6.6.22 The orange contour line corresponds to an hourly average odour concentration of  $3 \text{ OU}_E \text{ m}^{-3}$  expressed as the 98<sup>th</sup> percentile of the hourly average, while the green contour line corresponds to an hourly average odour concentration of  $1 \text{ OU}_E \text{ m}^{-3}$  expressed as the 98<sup>th</sup> percentile of the hourly average, which is the odour threshold for members of the general public with a typical sense of smell.

6.6.23 As can be seen, the  $3 \text{ OU}_E \text{ m}^{-3}$  contour line extends a little way beyond the site boundary and does incorporate the Snow Cap Mushroom Farm and small areas of the Caravan Park and the Raptor Foundation, both of which are situated to the north of the site. However, the areas identified as exceeding  $3 \text{ OU}_E \text{ m}^{-3}$  and the number of hours per year in which any exceedance of that concentration occur are limited. Concentrations of odour dissipate quickly from their source and, only the nearest residential properties to the site will experience levels of odour between 1 and  $3 \text{ OU}_E \text{ m}^{-3}$  expressed as the 98<sup>th</sup> percentile of the hourly average.

6.6.24 The overall impact of future odour emissions from the site can therefore be expected to be of slight significance due to the introduction of the Dry AD plant and the impact of that on the maturation process, including the provision of a new biofilter and fertiliser plant at the site.

## 6.7 Health Impact Assessment

6.7.1 A Health Impact Assessment (HIA) has been carried out and is enclosed at Appendix 5 to this ES. As detailed in the Air Quality Assessment report (AQA), the assessment did not include emissions from the small gas-fired boiler which will only discharge on the few occasions that the HERF is not available to provide heat to the dry AD plant, nor the two emergency flares which will each operate for less than 2 % of the year.

6.7.2 Air Quality Standards (AQS) have been established primarily to protect the health of the general population and the detailed atmospheric dispersion modelling reported in the AQA showed that there will be no off-site exceedances of any AQS objective value or Environmental Assessment Level. Accordingly, it is expected that the operation of the proposed facility is unlikely to pose a significant risk to the health of the local population living in the surrounding area. However, no such standards exist for the consideration of the impact of Dioxins and Furans and, in order to quantify the potential impact of these airborne pollutants on the health of surrounding communities.

6.7.3 The HIA document presents the results from the HIA studies undertaken on the basis of model predictions for increases in ambient pollutant concentrations arising from the operation of the proposed HERF and should be read in conjunction with the associated air quality assessment report.

6.7.4 Detailed atmospheric dispersion modelling of emissions from the 26-metre-high chimney that will be associated with the HERF was undertaken using the ADMS Version 5.2 model to predict increases in pollutant concentrations at nearby sensitive receptors such as residential properties, schools and locations where people may congregate for significant periods of time. The Air Quality Assessment (AQA) produced to report the dispersion modelling work included detailed consideration of model-predicted process contributions against health-based Air Quality Standards and relevant Environmental Assessment Levels recommended by the Environment Agency.

6.7.5 In addition to the AQA, the HIA report has applied the US EPA Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities to assess the potential risk to health of people living and working in the locality of the proposed HERF due to emissions of Dioxins and Furans, and Dioxin-like PCBs. The assessment considered the potential health risks associated with the intake of Dioxins from the

consumption of potentially contaminated foodstuffs due to emissions to atmosphere from the chimney of the proposed HERF. The assumptions used within the assessment are conservative and therefore the study is considered to represent a worst-case.

- 6.7.6 The HIA report indicates that the risk to health of the local population due to exposure to Dioxins in emissions from the facility is likely to be low, remaining within 1 % of the Tolerable Daily Intake (TDI) of 2  $\text{pg kg}^{-1}$  for adults. The inclusion of Dioxin-like PCBs into the assessment resulted in a marginal increase in the resulting Process Contributions but remained a very small proportion of the 2  $\text{pg kg}^{-1}$  TDI.
- 6.7.7 The assessment for health risks associated with exposure to emissions of PAH demonstrated that process contributions at the sensitive receptors equate to between 0.3 and 2.7 % of the Air Quality Standard (0.25  $\text{ng m}^{-3}$  PAH as B[a]P). However, where contributions were not immediately screened as insignificant, all were screened at the secondary assessment stage.
- 6.7.8 In conclusion, the results from the HIA confirms that there is no significant health risk associated with potential exposure to emissions of Dioxins, Furans, PCBs or PAH from the HERF.

## 6.8 Air Quality Impacts from Traffic

- 6.8.1 The AQA report contains an assessment of the potential air quality impacts from traffic associated with the proposal. The report notes that Air quality in Huntingdonshire is generally good and Nitrogen Dioxide (NO<sub>2</sub>) is the only pollutant that currently exceeds the objective level across some areas of the district. The primary source of NO<sub>2</sub> in Huntingdonshire is due to vehicle emissions, mostly originating from the A14 and to a lesser extent the A1 that runs through the district. However, local traffic within the market towns also causes some elevated levels of NO<sub>2</sub>, compared to the rest of the district.
- 6.8.2 Huntingdonshire currently has four Air Quality Management Areas (AQMA's) as listed below although, as noted in the 2020 Air Quality Annual Status Report for 2019i produced by Huntingdonshire District Council, three of the four are due to be revoked.
1. Huntingdon,
  2. St Neots,
  3. Brampton, and
  4. A14 Hemingford to Fenstanton.



- 6.8.3 Each of these AQMAs have been designated due to their annual average levels of Nitrogen Dioxide. Monitoring across Huntingdonshire in 2019 reported slight increases in NO<sub>2</sub> at many sites. However, all locations outside of Huntingdon itself continue to be well below the national objectives. As such, it is intended that each of the AQMA's at St Neots, Brampton and Fenstanton should be revoked, leaving Huntingdon the only AQMA remaining in the area.
- 6.8.4 The Huntingdon AQMA is limited in its extent, extending across the southern part of Huntingdon town centre, bounded largely by the A141 to the west, A1037 to the south (previously known as the A14) and the River Great Ouse to the east. As the Huntingdon AQMA is located approximately 10 km to the south west of the Evar site the proposed development will have no direct impact on the AQMA. However, as the AQMA does run parallel to the A1037 and the A141, including incorporating a short section of the A1037, traffic associated with the proposal may indeed utilise these A roads, consideration is given to the likely impact on this sensitive area, as well as the area in the immediate vicinity of the Envar Composting site.
- 6.8.5 In light of the fact that the proposal does not seek an increase in tonnages beyond that which is already permitted, the potential air quality impacts from traffic associated with the proposal is considered insignificant.

## 6.9 Cumulative Impacts

- 6.9.1 The air quality assessment has ensured that the various elements of the proposal, including the existing on site biomass boilers, have been modelled together so that any potential cumulative impacts have been considered within the report. No unacceptable cumulative air quality impacts are predicted to arise.
- 6.9.2 Given the fairly remote location of the site in proximity to other commercial/industrial development, the proposal will also not combine with any existing or planned development in the locality that could give rise to unacceptable cumulative air quality impacts.

## 6.10 Conclusions

- 6.10.1 The AQA report has considered in detail the potential air quality and odour impacts of the proposal using robust methodology. The results of the modelling show that, although the maximum process contributions of Nitrogen Dioxide cannot readily be screened as insignificant, the major source of ground level concentrations of NO<sub>2</sub> were the two existing biomass boilers and the point of maximum impact

occurs well within the site boundary, dispersing rapidly from that point. Process contributions and the predicted environmental concentrations of NO<sub>2</sub> at all sensitive receptors were screened as insignificant.

- 6.10.2 Contributions of other pollutant species were also screened as insignificant, when considering normal, short-term or other than normal operating conditions.
- 6.10.3 When considering the potential impact of air pollutants at sensitive receptors, all species were screened as insignificant at either the initial or secondary assessment stage and when considering human health or ecological receptors. The contributions to ecological Critical Levels and Critical Loads were also screened as insignificant.
- 6.10.4 Further modelling predicted that 8 out of 10 of the most local sensitive receptors would not experience odour concentrations above the assessment level of 3 OUE m<sup>-3</sup> expressed as the 98th percentile of the hourly average, and the overall impact at all receptors was considered to be of slight significance at most.
- 6.10.5 In overall terms, there will be a net reduction in odour impacts when compared to the existing IVC facility. Even the highest modelled concentrations occur for very short periods with the worst-case exceedances over the five years' worth of meteorological data modelled resulting in the odour concentrations at the boundary exceeding 3 OUE m<sup>-3</sup> for less than 7 % of the year, and with concentrations continuing to disperse quickly from the site boundary.
- 6.10.6 The overall conclusion from detailed modelling of emissions from the proposal is that the potential impact on local air quality is likely to be small and unlikely to result in a significant threat to the health of people living and working nearby in compliance with Policy CS34 of the Minerals and Waste Core Strategy, Policy LP14 of the Huntingdon Local Plan and emerging Policy 18 of the Minerals and Waste Core Strategy.

## 7 NOISE

### 7.1 Introduction

- 7.1.1 A Noise Assessment accompanies this ES report and is enclosed at Appendix 6. The Noise Assessment has regard to the background noise assessment work most recently prepared in 2017 to accompany a planning application for a biomass boiler, which considered noise from the existing operations and those proposed with the boiler in operation.
- 7.1.2 The enclosed report presents an assessment of the noise levels attributable to the operation of the proposal and makes recommendations for measures to be considered during the detailed design of the proposed facility to ensure that the cumulative operation of the site does not result in adverse noise impacts at surrounding sensitive receptors.

### 7.2 Policy Context

- 7.2.1 Paragraphs 170 and 180 of the NPPF, Policy CS34 of the Minerals and Waste Core Strategy, Policy LP14 of the Huntingdon Local Plan and emerging Policy 18 of the Minerals and Waste Core Strategy require waste management proposals to demonstrate that there will be no significant harm to the environment or local amenity.
- 7.2.2 Paragraphs 170 and 180 of the NPPF, Policy CS34 of the Minerals and Waste Core Strategy, Policy LP14 of the Huntingdon Local Plan and emerging Policy 18 of the Minerals and Waste Core Strategy require waste management proposals to demonstrate that there will be no significant harm to the environment or local amenity.

### 7.3 Assessment Methodology

- 7.3.1 The Noise Assessment has been undertaken with due regard to National planning policy and British Standards relating the assessment of noise impacts from new development including the World Health Organisation guidance, which provides additional guidance upon potential effects in relation to noise.
- 7.3.2 British Standard 4142 is the British Standard for rating and assessing noise of a commercial or industrial nature and is relevant to the noise associated with the operation of the proposed plant. BS 4142 is a comparative standard in which the estimated noise levels from the proposed development are compared to the representative / typical background noise level from existing uses. BS 4142 relates the likelihood

of complaint to the difference between the Rating Level of the noise being assessed and the background noise level.

- 7.3.3 The background noise level is the LA90 noise level, usually measured in the absence of noise from the source being assessed but may include other existing industrial or commercial sounds. The background noise levels should generally be obtained from a series of measurements each of not less than 15-minute duration.
- 7.3.4 The Rating Level of the noise being assessed is defined as its LAeq noise level (the 'specific noise level'), with the addition of appropriate corrections should the noise exhibit a marked impulsive and/or tonal component or should the noise be irregular enough in character to attract attention. The extent of the correction is dependent upon the degree of tonality or character in the noise and is determined either by professional judgement, where the plant is not operational at present, or by measurement.
- 7.3.5 Where the noise is tonal in nature, the standard imposes the following penalties when assessing the rating level:
- 2 dB for a tone which is just perceptible;
  - 4 dB where the tone is clearly perceptible; and
  - 6 dB where the tone is highly perceptible.
- 7.3.6 Methods for identifying whether noise is tonal in nature are provided within BS 4142. Where noise exhibits other sound characteristics, the Standard advises a penalty of 3 dB should be applied.
- 7.3.7 During the daytime, the specified noise levels are determined over a reference time interval of 1 hour, with a 15 minute reference period adopted when assessing night-time noise.
- 7.3.8 If the Rating Level of the noise being assessed exceeds the background level by 10 dB or more BS 4142 advises that there is likely to be an indication of a significant adverse impact, depending upon context. A difference between background level and Rating Level of around 5 dB is likely to be an indication of an adverse impact, depending upon context. The lower the Rating Level is, relative to the background noise level, the less likely the specific source will have an adverse or significant adverse impact. Where the Rating Level does not exceed the background noise level is an indication of a low impact, depending upon context.
- 7.3.9 The assessment method outlined above is intended for the assessment of external noise levels and is not intended to assess the extent of impact at internal locations.
-

## 7.4 Baseline Conditions

- 7.4.1 Baseline noise monitoring exercises were carried out during 2016 and 2017 to establish the prevailing background noise levels used within the noise assessment which accompanied the planning application for a biomass boiler.
- 7.4.2 Given that the boiler is now operational on a 24 hour basis, it has been considered appropriate to use the results from the previous monitoring exercise, as the baseline for the current assessment, as the noise levels monitored at that time did not include any effect of the operation of the boiler. Given that there have been no other changes in the noise environment in the surrounding area, the previous monitored background noise levels are likely to be lower than at present and will thus provide for a worst case assessment, when considering noise from the cumulative operation of the site.
- 7.4.3 The baseline noise monitoring exercise comprised unattended noise surveys used to establish the noise environment, both during the day and night-time periods, which were carried out during 2017.
- 7.4.4 The instrument adjacent to Rectory Farm was positioned on the boundary of the former mushroom farm to the east of the B1030, with the microphone set back an equivalent distance from the road as the property opposite. The monitoring equipment adjacent to Bridge Farm, was positioned within the hedgerow adjacent to the road, again with the microphone set at an equivalent position back from the road. The results of back

### Rectory Farm

- 48 – 52 dB  $L_{A90}$  during the daytime (07:00 – 18:00) period;
- 38 – 51 dB  $L_{A90}$  during the evening (18:00 – 22:00) period (broad spread of data recorded, with an average level of 44 dB  $L_{A90}$ );
- 32 - 34 dB  $L_{A90}$  during the night-time (22:00 – 07:00) period; and
- 47 – 50 dB  $L_{A90}$  during the early morning (05:00 – 07:00) period.

### Bridge Farm

- 40 – 42 dB  $L_{A90}$  during the daytime (07:00 – 18:00) period;
- 36 dB  $L_{A90}$  during the evening (18:00 – 22:00) period;
- 30 dB  $L_{A90}$  during the night-time (22:00 – 07:00) period; and
- 35 dB  $L_{A90}$  during the early morning (05:00 – 07:00) period.

7.4.5 At each location, it was clear from the results, that the noise levels during the daytime periods were principally influenced by traffic travelling along the local roads, with the plant operating at Envar not generally audible.

## 7.5 Assessment of Impacts

7.5.1 The site is located to the north of St Ives and is situated to the east of the B1040 and north of Bluntisham Road. There are no residential properties in close proximity to the Application site, with the closest dwellings being:

- Heathfields, located adjacent to the B1040, approximately 530 metres from the southern site boundary, with the property located adjacent to commercial premises and set down below the ground level at the site;
- Rectory Farm Cottages and the travellers caravan site located to the north of the site, adjacent to the B1030, approximately 230 metres from the closest proposed building. The ground level at the properties are approximately 10 metres below the ground level at the site, with the buildings effectively screened; and
- Bridge Farm adjacent to Bluntisham Heath Road, approximately 750 metres from the eastern site boundary.

7.5.2 The Noise Assessment report has presented an initial BS 4142 assessment, made on the basis of a likely worst case operating scenario. For the purposes of the initial assessment, it is assumed that the various plant elements would be fully operational during each assessment period (see below), with no additional mitigation measures provided. The relevant assessment periods being:

Early Morning (05:00 – 07:00)	Daytime (07:00 – 18:00)	Evening (18:00 – 22:00)	Night-time (22:00 – 05:00)
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7.5.3 Noise levels attributable to the operation of the site have been calculated utilising a sound modelling package, which implements an approved calculation methodology. Calculations have been made for the main operational periods throughout the day, i.e. the early morning / evening periods, daytime and overnight, on the basis of the plant which would be operational during each period shown above.

7.5.4 The result of the sound modelling is shown in the table below.

Location	Calculated Noise Levels [dB L <sub>Aeq,T</sub> ]			
	Early Morning (05:00 – 07:00)	Daytime (07:00 – 18:00)	Evening (18:00 – 22:00)	Night-time (22:00 – 05:00)
Rectory Farm	40	41	40	36
Travellers Site	37	41	37	35
Bridge Farm	36	39	36	32
Heathfields	39	40	39	35

7.5.5 The assessment concludes that the operations during the early morning, daytime and evening period would result in noise levels equivalent to the present operations and would not result in adverse noise impacts during these periods.

7.5.6 Overnight, the initial assessment indicates that the operation of the Dry AD and Healthcare Waste Energy Recovery Plant has the potential to result in adverse noise impacts at surrounding properties. It is therefore proposed to incorporate additional mitigation measures into the final design of the proposed facility to ensure noise levels are reduced to a satisfactory standard to minimise the potential for adverse impacts.

## 7.6 Mitigation

7.6.1 To ensure adverse impacts are minimised, it is recommended that noise levels attributable to the night-time operation of the plant do not exceed a rating level of 35 dB L<sub>Aeq,T</sub>. This would ensure noise levels remained below the Lowest Observed Effects Level with regards the WHO guidelines and also below the threshold specified within BS 8233 as maintaining a good standard of noise. Whilst the current revision of BS 4142 does not specify a lower limit, simply referring to other guidelines, a rating level of 35 dB L<sub>Aeq,T</sub> was also specified in a previous revision of the Standard as representing a very low level of noise. Furthermore, specifying a night-time rating level of 35 dB L<sub>Aeq,T</sub> would ensure that the rating level did not exceed a level of more than 5 dB(A) above the prevailing background noise levels overnight, thus seeking to minimise any potential adverse impacts when assessed against the requirements of BS 4142. It is therefore proposed that the noise attenuation measures for the plant are developed during the detailed design stage.

7.6.2 The calculations undertaken to derive the noise levels indicate that the main sources of noise during the night-time period would be attributable to the plant operating within the Dry AD building and associated

external plant, including the air treatment system, biomethane compressor, mixers and plant associated with the operation of the biofilter.

7.6.3 Noise levels attributable to the plant operating within the Dry AD building could be reduced utilising cladding with a higher acoustic specification, such as EuroClad Elite 51.3, which provides a sound reduction of 41 dB, significantly higher than standard cladding.

7.6.4 Externally, mitigation would be provided for the external plant, generating the highest noise levels, which based upon the initial modelling would include the air treatment system, mixers and biofilter plant. By the use of appropriate mitigation, such as enclosures, noise levels from these items of plant would be reduced by at least 10 dB(A). The mitigation measures would also seek to reduce any potential tonality associated with the operation of the plant, such that any tonality was either not audible at the surrounding properties or barely audible.

## 7.7 Residual Impacts

7.7.1 The noise assessment, with the additional mitigation measures provided, indicates that the rating noise levels would generally not exceed the prevailing background noise levels, thus the initial BS 4142 assessment would conclude a low potential for adverse impacts.

7.7.2 The noise levels would additionally achieve a 'no observed effects' levels when assessed against the requirements of the WHO guidelines and ensure a good standard of noise is maintained internally with regards to the requirements of BS 8233.

7.7.3 With appropriate mitigation measures, which would be fully developed during the detailed design stage, the operation of the site would not result in any adverse noise impacts at surrounding properties throughout the day and night-time periods.

7.7.4 To ensure that appropriate mitigation is incorporated into the final design, it is proposed that, on the basis planning permission is granted, a planning condition is imposed requiring details of the final plant, together with mitigation measures, and a further assessment of the noise levels to be made during the detailed design stage. The details will be agreed with the local planning authority and implemented prior to the new plant becoming operational.



## 7.8 Cumulative Impacts

- 7.8.1 This report presents an assessment of the noise levels attributable to the operation of the proposed development and makes recommendations for measures to be considered during the detailed design to the proposed plant to ensure that the cumulative operation of the site does not result in adverse noise impacts at surrounding properties.
- 7.8.2 The noise assessment has due regard to existing background noise levels. The application site is not located in a rural area and is remote from other major commercial and industrial noise related noise sources. The proposal will not therefore combine with any existing development to give rise to unacceptable cumulative noise impacts. There is also no known planned development in the vicinity of the site that has the potential to combine with the proposal that could give rise to unacceptable cumulative noise impacts.

## 7.9 Conclusions

- 7.9.1 The conclusions of the Noise Assessment demonstrate that the proposal is capable of being controlled to acceptable noise levels by the imposition of appropriate planning conditions which will ensure that the cumulative operation of the proposed development does not result in adverse noise impacts at surrounding properties in compliance with paragraphs 170 and 180 of the NPPF, Policy CS34 of the Minerals and Waste Core Strategy, Policy LP14 of the Huntingdon Local Plan and emerging Policy 18 of the Minerals and Waste Core Strategy.

## 8 LANDSCAPE AND VISUAL IMPACT

### 8.1 Introduction

- 8.1.1 A Landscape and Visual Impact Assessment (LVIA) report has been prepared with a view to understanding how the proposed changes to the development are visually placed within the landscape and enable recommendations on how the proposed development should be implemented and integrated into the landscape.
- 8.1.2 The detailed technical LVIA report is enclosed at Appendix 7 to this ES.

#### **The Site & Ownership Extent**

- 8.1.3 The Application site is located towards the southernmost part of the parish of Somersham, approximately 3km southwest of the village. Bluntisham and approximately 2.5km to the east, Woodhurst. The Heath is located to the east of the Somersham Road (B1040) and the north of the Bluntisham Heath Road at its cross roads.
- 8.1.4 The Application Site is split into two areas, within a wider 18.5-hectare land holding. The first larger area 1, sits to the west, north and northeast of the wider site, and the second smaller area 2 sits to the south of the wider site. Both areas either already have built form / hard standing / lagoons on them or are classed as previously developed land / brown field. Access to area 1 will be from the west at an existing access point off the Somersham Road (B1040) and access to area 2 will be from the south off the Bluntisham Heath Road also at an existing access point.
- 8.1.5 Adjacent land-uses outside of the wider land holding include a redundant mushroom farm (Woodhurst Farm) to the northeast and agricultural land to the east, south and west. The Raptor Foundation which includes residential properties, a guest house, shops and a tearoom is situated to the northwest of the site, on the opposite side of the Somersham Road (B1040).
- 8.1.6 On the whole the western boundary of area 1 adjacent to the Somersham Road (B1040) is well treed, the northern boundary and the eastern boundary are open, and the southern boundary is the existing area of storage for compost and chippings, this also provides the western and northern boundary for area 2. Mature vegetation forms the eastern boundary of area 2, and a low open hedge forms the southern boundary of area 2.

8.1.7 From area 1 you can see out of the site towards the northwest, north, northeast and east, area 2 is much more enclosed and has very short-range views with the exception of a small opportunity to the south in between hedgerows. These features are identified in the LVIA report on drawing ALD879/LD1007 RevP01 with supporting images of the site on ALD879/LD1009 RevP01.

8.1.8 The application site is generally flat at approximately 28-32m AOD, the application area has a slight tilt from south to north. To the north of the site on its boundary a drainage ditch runs in an east to west direction.

### **The Study Area**

8.1.9 The Landscape and Visual Impact Assessment zone is illustrated on drawing ALD879/LD1000 RevP01 and can be found in the Appendices to the back of this document.

8.1.10 The study area comprises an area within a circa 4km radius from the site within which the visibility of the site is assessed. Due to topography, built settlement, high mature treed hedgerows and woodland tracts the study area is an even spread to the north, east, south and west, with the farthest viewpoint being at about the 2.4km mark.

8.1.11 The study area comprises an area within a 4km radius from the development site and extends:

- To the northeast – the village of Somersham
- To the east – the village of Earith
- To the south – the village of Needingworth and town of St Ives
- To the west – the village of Old Hurst

### **Scope of the Assessment**

8.1.12 The LVIA report is split into nine sub-sections;

8.1.13 This first section provides an introduction to the assessment. The second section sets out the landscape and visual policy context for the scheme.

8.1.14 The third section describes the assessment methodology that has been adopted and the consultation that has been carried out in relation to landscape and visual issues.

8.1.15 The fourth section consists of a landscape baseline study for the existing site and its surroundings. This breaks the landscape down into component parts, making it easier to understand and identify any elements or features that might be particularly sensitive to the proposed development.

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- 8.1.16 The fifth section consists of a visual baseline study for the existing site and its surroundings. This highlights locations sensitive to development and is presented as viewpoints located at different points throughout the study area along with a brief explanation of their existing status quality.
- 8.1.17 The sixth section sets out the potential landscape and visual impacts that the scheme could have without any mitigation, including construction phase landscape and visual effects and potential effects on the completion of the scheme.
- 8.1.18 The seventh section describes the landscape and visual mitigation measures that are either inherent to the scheme (design developed during the EIA process) or additionally proposed.
- 8.1.19 The eighth section provides an assessment of the cumulative landscape and visual effects of the application scheme and other associated development proposals in the vicinity.
- 8.1.20 The ninth section is a summary of all conclusions and recommendations.
- 8.1.21 A LVIA has been carried out in line with the Landscape Institutes 'Guidelines for Landscape and Visual Impact Assessment (GLVIA3)' document.

## 8.2 Policy Context & Legislation

- 8.2.1 Policy CS24 and emerging Policy 17 of the Minerals and Waste Core Strategy require all proposals for waste management development to achieve a high standard in their design and mitigation of environmental impacts including climate change and be consistent with the guidance provided in the MWSPD. Policy CS33 and emerging Policy 17 of the Minerals and Waste Core Strategy require waste management development to be assimilated into its surroundings and local landscape character area. MWCS policy CS34 also seeks to minimise visual intrusion. The Huntingdon Local Plan policies LP2 and LP10 requires development to recognise the intrinsic character and beauty of the countryside.

### Designations

- 8.2.2 Section 2 of the LVIA report briefly outlines planning issues specifically relevant to landscape matters within the general study area and site. This section confirms that the site is not situated within any International, National or Local designations. The 4km study area does contain several designations one of which come close to the north western boundary (Listed Building) of the proposed application site. Where the development site is anticipated to form an additional boundary to this designated site, or is anticipated to have an impact upon it, it must be recognised, and relevant policy objectives should be

met, taking into account how existing developments in the study area meet these policy objectives whilst being in close proximity to the designated sites.

8.2.3 Although the site itself does not lie within a local landscape designation, within the 4km study area, there are areas that include:

- Conservation Areas
- Public Right of Ways (PROWs)
- Listed Buildings
- Local Nature Reserves (Cambs Wildlife Site Areas)

### 8.3 Assessment Methodology

8.3.1 The format of this assessment and the methodology employed accords with the 'Guidelines for Landscape and Visual Impact Assessments' by The Landscape Institute and the Institute of Environmental Management and Assessment, 3rd Edition published April 2013, The Landscape Institutes Technical Guidance Note 06/19 Visual Representation of Development Proposals Published 17th September 2019 and Natural England (NE) with Department for Environment, Food and Rural Affairs (DEFRA). Landscape and Sea Scape Character Assessments (October 2014).

8.3.2 The study comprises:

- A desktop review of current statutory and non-statutory documents;
- A landscape assessment of the wider context of the site including an analysis of character, quality and sensitivity, and the identification of key viewpoints;
- An assessment of the site and its immediate landscape setting;
- An understanding of views affected by the proposed development, and
- A description of the proposed scheme.

8.3.3 A list of all the documents reviewed and/or consulted is contained within the full LVIA.

8.3.4 Use was made of mapping information and data to identify a selection of potential viewpoints (receptors). This selection of potential viewpoints, and any others identified during the fieldwork were then visited and assessed for their overall potential sensitivity to industrial development.

8.3.5 The field work for the assessment was carried out on the 23<sup>rd</sup> February 2021 during the daytime. The weather conditions experienced were variable in nature with cloud cover and light winds, causing period of bright sun, then over cast conditions. Viewpoint 11 was the final one of the day, where the light had

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just started to fade. The conditions for the visit were considered suitable for undertaking the landscape and visual appraisal assessment.

## Methodology of Landscape and Visual Baseline Studies

### Landscape Baseline Methodology

- 8.3.6 By analysing the character of an area, its principal features and elements can be identified. Once these elements are identified, potential impacts caused by proposed development can be measured and a judgment made as to the overall effect this may have on the local landscape character.
- 8.3.7 The Countryside Agency guidelines (Swanwick et al, 2002) make a clear distinction between the characterisation process (in which the attributes of the landscape are described) and the judgement-making process. The landscape baseline section of the assessment deals with the characterisation process, and later sections make judgements about the potential effects of the proposed development based upon the characterisation.
- 8.3.8 This is also to be read in conjunction with Natural England (NE) with Department for Environment, Food and Rural Affairs (DEFRA) Landscape and Seascape Character Assessments (October 2014), which provides a brief introduction to Landscape Character Assessments.
- 8.3.9 Existing landscape character assessments are an important starting point for any new assessment, due to the hierarchical nature of character assessment:
- “Ideally assessments at different scales should fit together as a nested series or a hierarchy of landscape character types and/or areas so that assessment at each level adds more detail to the one above”* (Swanwick et al 2002, par. 2.14).
- 8.3.10 The study of landscape assessments at different strategic levels is important for a number of reasons:
- it aids the understanding of the landscape at a wider level;
  - it allows the identification of landscape elements that may be present at a number of different scales and thus of higher importance;
  - it highlights landscape character that is ‘out of context’ with other levels of the hierarchy, and
  - it may identify potential mitigation and restoration options that may not be present at the local scale, but can be beneficial at a higher level. The landscape character of the site and its surroundings should be assessed according to the above principles.

8.3.11 The assessment is also carried out in accordance with Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity (Ref 10.3).

### Landscape Evaluation

8.3.12 Table 8.1 below provides five evaluation components to assess the landscape character situation of the Assessment Site and its surroundings. Through assessing these components, the existing landscape character's capacity to accept change will be identified. These components are defined with reference to best practice guidance on character assessment.

<b>Table 8.1: Landscape Evaluation</b>	
<b>Landscape Component</b>	<b>Description</b>
Landscape Character	The distinct and recognisable pattern of elements made up from landscape components that create a sense of place. It is a reflection of the geology and soils, landform, land use, built form and human activity.
Landscape Value	The importance of an area on a national, regional or local scale. In terms of planning policy, value is recognised through designations. At a community level, recognition of value may occur without formal designation, and encompasses subjective and perceptual aspects such as scenic quality, tranquillity, wildness, cultural associations or conservation.
Landscape Condition	Equivalent to quality, this is the physical state of the landscape, or townscape, its intactness, and the state of repair of the features and elements that together make up its character.
Landscape Sensitivity	The sensitivity refers to the nature of the receptor the character and quality and the extent to which these factors will be tolerant of change in general and be able to recuperate from loss or damage.
Landscape Capacity	The ability of an area to accept change without significantly affecting its character.

8.3.13 Through providing a concise description of the existing landscape elements (such as topography, vegetation, urban grain, and built form mass and scale), an understanding of distinct character areas, which share common features and characteristics will be identified. These areas have recognisable patterns of elements, which together create the particular sense of place for the Assessment Site and its surrounding landscape.



## Landscape Value

8.3.14 The value of the identified landscape character areas is assessed using the criteria set out in Table 8.2. The value is based on, and takes into account, what is important within this landscape and whether it is of value at a national, regional or local level. Part of the assessment decisions are made as to whether the Assessment Site is special, distinctive and representative, or include, characteristic features relating to the area's national, regional or local character assessments defined character.

<b>Table 8.2: Landscape Value</b>			
<b>Value</b>	<b>Typical criteria</b>	<b>Typical scale of importance/ rarity</b>	<b>Typical examples</b>
Exceptional	High importance and rarity. No or limited potential for substitution	International, National	World Heritage Site, National Park, AONB, Grade I and Grade II* listed buildings
Major	High importance and rarity. Limited potential for substitution	National, Regional, Local	AONB, Scheduled Monuments, Conversation Area, Grade II listed buildings Register Park and Gardens
Moderate	Moderate importance and rarity. Limited potential for substitution	Regional, Local	Undesignated but value perhaps expressed through non-official publications or demonstrable use
Minor	Minor importance and rarity. Considerable potential for substitution	Local	Areas identified as having some redeeming feature or features and possibly identified for improvement
Poor	Minor importance and rarity	Local	Areas identified for recovery

## Landscape Condition

8.3.15 The condition of the identified Landscape Character Area is assessed using the criteria set out in Table 8.3. The condition refers to the state of the individual area and is described as factually as possible.

<b>Table 8.3: Landscape Condition</b>	
<b>Condition</b>	<b>Criteria</b>
High	Where the area is in good repair/quality.

<b>Table 8.3: Landscape Condition</b>	
<b>Condition</b>	<b>Criteria</b>
Moderate	Where the area is in average repair/quality.
Low	Where the area is in poor repair/quality.

### Landscape Capacity

8.3.16 Finally, the baseline Landscape Character Assessment considers the identified character area's capacity to accept change. Here, the degree to which the identified character areas can accept change without a detrimental effect is established. These findings will contribute to the effects section of this assessment. The capacity of the area to accept change will be assessed as high, moderate or low as defined in Table 8.4 below.

<b>Table 8.4: Landscape Capacity</b>	
<b>Capacity</b>	<b>Criteria</b>
High	Where the character area can accommodate significant levels of change without significant effect on its landscape character.
Moderate	Where the character area can accommodate a degree of change without significant effect on its landscape character.
Low	Where the character area can only accommodate a small amount of change without significant effect on its landscape character.

### Sensitivity of Landscape Resource

8.3.17 The determination of landscape sensitivity is an important part of the LVIA process. Sensitivity combined with the magnitude of impact, which will be assessed later, allows assessing the overall significance of the landscape effects.

8.3.18 The overall sensitivity of the existing landscape resource is based on the following factors:

- The value placed on a landscape;
- The quality placed on the landscape;
- Compatibility of the proposed development with the existing land-uses and landscape character;
- Condition of the landscape;
- Contribution of the landscape within the site to the overall landscape character;

- The scope for mitigation of the proposed scheme, and
- Degree to which landscape elements and characteristics can be replaced or substituted.

<b>Table 8.5: Landscape Sensitivity</b>	
<b>Sensitivity</b>	<b>Criteria</b>
High	The landscape character area has an exceptional or major value and a high to moderate condition and therefore would not be tolerant of change.
Moderate	The landscape character area has a moderate to minor value and a moderate condition and therefore would be tolerant of some change.
Low	The landscape character area has a moderate to poor value and a moderate to low condition and therefore would be tolerant to change.

### Visual Baseline Methodology

8.3.19 An initial study of Ordnance Survey Maps 151 & 152 - Cardiff & Bridgend/Caerdydd A Pen-y-bont & Newport & Pontypool/Casnewydd a Pont-y-pwl) (1:25,000) was carried out to identify potential viewpoints and areas for investigation based on the following criteria:

- Distance from the scheme to the receptor;
- The proportion of the development visible as well as the absolute visibility of the scheme;
- The height of the development relative to the receptor with reference also to the scale of other features in the view;
- The number and character of elements which would be lost from or added to the view;
- High concentrations of viewers, such as settlements, local recreational facilities, PROWs etc, and
- Views illustrating the visual character of the surrounding area.

8.3.20 An initial study of Ordnance Survey Maps 225 – Huntingdon and St Ives (1:25,000) was carried out to identify potential receptors and areas for investigation based on the following criteria:

- Distance from the scheme to the receptor;
- The proportion of the development visible as well as the absolute visibility of the scheme;
- The height of the development relative to the receptor with reference also to the scale of other features in the view;
- The number and character of elements which would be lost from or added to the view;
- High concentrations of viewers, such as settlements, local recreational facilities, PROWs etc, and
- Views illustrating the visual character of the surrounding area.

- 8.3.21 Viewpoints are selected on the basis of which points provide the clearest views of the site. Due to the number of potential visual receptors in the study area it would be impractical to separately visit, and capture, views experienced by each receptor. Therefore, representative viewpoints are selected to capture and assess views experienced by groups of receptors. Viewpoints must be in publicly accessible locations, however, they can be representative of views experienced from private locations such as residential properties.
- 8.3.22 A total of 11 viewpoints were recorded on the visit to illustrate the general range of visibility across the study area, as well as viewpoints with the highest sensitivity. The identified viewpoints were then visited and assessed for their sensitivity to the proposed development.
- 8.3.23 The field work for the assessment was carried out on the 23<sup>rd</sup> February 2021 during the daytime. The weather conditions experienced were variable in nature with cloud cover and light winds, causing period of bright sun, then overcast conditions. Viewpoint 11 was the final one of the day where the light had just started to fade. The conditions for the visit were considered suitable for undertaking the landscape and visual appraisal assessment.
- 8.3.24 Photographs were captured using a Canon 6D Mark II, full frame sensor camera with a 50mm fixed focal length lens. All photographs were taken with the aid of a tripod. The nature of the views are relatively wide panoramas, and it is therefore considered beneficial to present the photographs as so where these panoramas consist of three or four images, the frames have been overlaid using Adobe Photoshop Software (Creative Cloud).
- 8.3.25 On the 17<sup>th</sup> September 2019 the Landscape Institute published 'Technical Guidance Note 06/19 – Visual Representation of Development Proposals' (TGN 06/19). This document sets out revised recommendations for technical photography and the production of visualisations used as part of the LVIA process.

Table 2 Visualisation Types 1-4		Type 1	Type 2	Type 3	Type 4
		Annotated Viewpoint Photograph	3D Wireline / Model (non-photographic)	Photomontage / Photowire	Photomontage / Photowire Survey / Scale Verifiable
Aim of the Visualisation		To represent context and outline or extent of development and of key features	To represent 3D form of development / context	To represent appearance, context, form and extent of development	To represent scale, appearance, context, form, and extent of development
Photographic Equipment	Tripod	Recommended but discretionary	Not relevant	Recommended	Necessary
	Panoramic head	Not relevant		Recommended for panoramas	Necessary for panoramas
	Minimum Camera / Lens	Cropped frame or FFS + 50mm	Not relevant	Cropped frame or FFS + 50mm	Full Frame Sensor (FFS) + 50mm FL lens <sup>1</sup>
Locational Accuracy	Source of camera/viewpoint location data	GPS, OS Maps, geo-referenced aerial photography	Varies according to technology	Use good quality data: GPS, OS Maps, geo-referenced aerial photography, LIDAR	Use best available data: High resolution commercial data, LIDAR, GNSS, or measured / topographic surveys
	Survey-verified <sup>2</sup>	Not relevant			When appropriate
Data & Presentation	Verifiable (SNH) <sup>3</sup>	Not relevant			Required
	3D model	Not required	Required		
	Image Enlargement <sup>4</sup>	Typically 100%	Not relevant	Typically 100%	100% - 150%
	Form of Visualisation	sketch / outline / arrows	massing / wireline / textured	wireline / massing / rendered / textured to agreed AVR level <sup>5</sup>	
	Viewpoint mapping	Dedicated viewpoint location plan			Dedicated viewpoint location plan, + individual inset maps recommended
	Reporting of methodology and data sources	Outline description of sources and methodology recommended		Data, sources and methodology recommended	Verifiable data, sources and methodology required

Figure 8.1: Visualisation Types 1-4

Figure 8.1 above is an excerpt from TGN 06/19 which outlines the 4 types of visualisation which can be used as part of the LVIA process. Due to the scale and nature of the proposed development visualisation type 4 was selected.

8.3.26 In order to accurately produce photomontages survey verified topographical data was collected on site. Photomontages were produced using the following combination of software: LSS v10, AutoCAD Architecture 2021, 3D Studio MAX 2021, Photoshop CC v22.3.0.

**Sensitivity of Visual Resource**

8.3.27 Sensitivity of the visual resource depends on the following factors:

- The location and context of the viewpoint. For example, viewpoints which are closer to the site are generally more sensitive;
- The number of users who commonly use the viewpoint. Some viewpoints are commonly used by the public, such as formal viewing platforms, picnic areas or recreational rights of way. Other viewpoints may be difficult to gain access to;

- The nature of the viewpoint. Residents are sensitive to visual impacts as they experience the impacts on a regular and prolonged basis. Public footpaths can also be sensitive, since the users' attention is often focused on the landscape. By contrast, views from outdoor sport facilities, transport routes or places of work are less sensitive;
- Movement of viewers at the viewpoint. More transitory views, for example users of a motorway, are generally less sensitive than views experienced by residents from residential properties and footpaths that are more sensitive, and
- The cultural significance of the viewpoint. Including its appearance in guidebooks and tourist maps, or the strength to its relationship with cultural and historical associations.

Table 8.6: Sensitivity of Viewpoint	
Significance	Criteria
High	Residential properties, (views from rooms occupied during daylight / waking hours), public footpaths, bridleways, public buildings, culturally sensitive areas. This significance is reduced to moderate if viewed behind a retail, industrial or employment site.
Moderate	Residential properties (views from rooms unoccupied during daylight / waking hours) Retail and employment sites, sports and recreational facilities. Users of local roads and railways.
Low	Industrial sites, outdoor sports facilities and agricultural land. Users of main roads travelling at speed.

### Assessment Methodology and Criteria

8.3.28 Having assessed the landscape and visual baseline and identified the potential elements of the development likely to cause change to that baseline, a detailed assessment of the possible changes to all identified landscape and visual receptors can be made.

8.3.29 In order to assess the significance of effects, an assessment of the magnitude of the impact is necessary. The magnitude of landscape impacts depends upon the following factors (LI and IEMA, 2013):

- The scale or degree of change to the existing landscape resource;
- The nature of the change caused by the proposed scheme (for example beneficial or adverse): and
- The timescale or phasing of the proposed scheme.

8.3.30 For each of the viewpoints the potential magnitude of the residual visual impacts, of both construction and completion of the development, have been assessed. The magnitude of visual impacts is mainly dependent upon the following factors (LI and IEMA, 2013):

- What proportion of the existing view would change as a result of the development proposals?
- How many features or elements within the view would be changed?
- How appropriate is the proposed scheme in the context of the existing views?
- How many viewers would be affected by the changes in the view?
- What is the timescale of the proposed scheme? Also, is it continuous or intermittent?
- What is the angle of the view in relation to the main activity of the receptor?

8.3.31 The magnitude of change for each viewpoint should be assessed for both construction of the scheme and its completion.

8.3.32 The magnitude of change for both landscape and visual impacts can be categorised as:

- **High** – The proposed scheme would completely change the character and/or appearance of the landscape for a long period of time or permanently. It would affect many receptors;
- **Moderate** – The proposed scheme would cause a noticeable difference to the landscape, and would affect several receptors;
- **Low** – The proposed scheme would cause a barely perceptible impact, and would affect few receptors;
- **Negligible** – The proposed scheme is appropriate in its context. It may be difficult to differentiate from its surroundings and would affect very few or no receptors.

8.3.33 The potential significance of landscape and visual impacts is determined by a combination of the magnitude of the potential impact and the sensitivity of the landscape and visual setting to change. These two variables can be correlated as illustrated in Table 8.7 below.

Table 8.7: Impact Magnitude Matrix Sensitivity of Receptor			
Magnitude of Change	Sensitivity of Receptor		
	High	Moderate	Low
High	Major	Major/Moderate	Moderate
Moderate	Major/Moderate	Moderate	Moderate/Minor
Low	Moderate	Moderate/Minor	Minor



Negligible	Not Significant	Not Significant	Not Significant
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8.3.34 The above consideration of the sensitivity of the receptors with the magnitude of the potential impacts provides an overall assessment of the potential significance of impacts. This process is not however a quantitative process; there is not an absolute scoring system. Instead, the correlation of the two factors, although reflecting recognised features and methods of working outlined in this report, is in the end a matter of professional judgement.

8.3.35 Table 8.8 provides a brief definition of the significance criteria. It must be emphasised that both landscape and visual impacts can be either adverse or beneficial in nature except the situation where no change is predicted and in this case the impact is assessed as not significant – neither beneficial nor adverse.

Table 8.8: Significance Criteria	
Level of Significance	Description
<b>Major</b>	Very large or large change in environmental or socio-economic conditions. Effects, both adverse and beneficial, which are likely to be important considerations at a regional or district level because they contribute to achieving national, regional or local objectives, or, could result in exceeding of statutory objectives and/or breaches of legislation.
<b>Moderate</b>	Intermediate change in environmental or socio-economic conditions. Effects that are likely to be important considerations at a local level.
<b>Minor</b>	Small change in environmental or socio-economic conditions. These effects may be local issues but are unlikely to be of importance in the decision-making process.
<b>Not Significant</b>	No discernible change in environmental or socio-economic conditions. An effect that is likely to have a negligible or neutral influence, irrespective of other effects.

8.3.36 Following their identification, significant effects have been classified on the basis of their nature and duration as follows:

- **Site Specific** Effects that result from a geographically localised impact;
- **Wider** Effects that are individually significant at a regional level, but which are unlikely to be significant locally;
- **Beneficial** Effects that have a positive influence on receptors and resources;
- **Adverse** Effects that have a negative influence on receptors and resources;

- **Temporary** Effects that persist for a limited period only (due for example, to particular activities taking place for a short period of time);
- **Permanent** Effects that result from an irreversible change to the baseline environment (e.g. land-take) or which persist for the foreseeable future (e.g. noise from regular or continuous operations or activities);
- **Direct** Effects that arise from the impact of activities that form an integral part of the scheme (e.g. direct employment and income generation);
- **Indirect** Effects that arise from the impact of activities that do not explicitly form part of the scheme (e.g. offsite infrastructure upgrades to accommodate the development);
- **Secondary** Effects that arise as a consequence of an initial effect of the scheme (e.g. induced employment elsewhere); and
- **Cumulative** Effects that can arise from a combination of different effects at a specific location or the interaction of different effects over different periods of time.

8.3.37 Short to medium-term impacts are normally considered to be associated with physical construction, and long-term impacts are normally associated with a fully occupied and operational scheme.

### Limitations and Assumptions

8.3.38 The principal assumptions and limitations for this assessment are as follows:

- Baseline conditions have been established using existing assessments, available documentation and field assessment; it is important to note that this information may change before or during the construction and operation of the proposed development.

### Consultation

8.3.39 When undertaking the site visit advice was sought from Development Management Strategic Placemaking at Cardiff Council.

8.3.40 Pre-application advice was sought of Huntingdonshire District Council about the viewpoint locations. Chris Thompson (Landscape Officer) provided the following feedback:

*"I would concentrate on viewpoints within 3km max.*

*Views from footpaths / bridleways / long distance paths will be experienced by high sensitivity receptors. Therefore, more likely to result in significant effects.*

*In my knowledge of the site, I consider it to be more open to views from the north, east and west. Landform often precludes views from south.*

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*Consult landscape character details in the Huntingdonshire Landscape and Townscape Assessment SPD.”*

## 8.4 Landscape Baseline Conditions

8.4.1 All landscapes have character. It is what makes them unique and defines their sense of place. Natural England defines landscape character as;

*A distinct, recognisable and consistent pattern of elements, be it natural (soil, landform) and/or human (for example settlement and development) in the landscape that makes one landscape different from another, rather than better or worse’*

8.4.2 The Countryside Agency guidelines identify three main levels of Landscape Character Assessment:

- National and regional scale;
- County, district and unitary authority scale, and
- Local, parish and site scale.

8.4.3 This section highlights the baseline landscape conditions that could be affected during and after the proposed development takes place.

### National Landscape Character

8.4.4 In 2005, The Countryside Agency and English Nature (now ‘Natural England’), with support from English Heritage, produced a map highlighting 159 national character areas (NCAs). This map combines English Nature’s Natural Areas and the Countryside Agency’s Countryside Character Areas into a composite map of Joint Character Areas, this was revised in 2012. The map and supporting descriptions provide the top tier of the hierarchy of Landscape Character Assessment in England and a national context for regional and local landscape and ecological assessments. The site and study area have been identified as being within Character 88 ‘Bedfordshire & Cambridgeshire Claylands’.

8.4.5 The document highlights the key characteristics of the Bedfordshire & Cambridgeshire Claylands as;

- Gently undulating, lowland plateau divided by shallow river valleys that gradually widen as they approach The Fens NCA in the east.
- Underlying geology of Jurassic and Cretaceous clays overlain by more recent Quaternary glacial deposits of chalky boulder clay (till) and sand and gravel river terrace deposits within the river valleys.

Limerich, loamy and clayey soils with impeded drainage predominate, with better-drained soils in the river valleys.

- The River Great Ouse and its tributaries meander slowly across the landscape, and the River Nene and the Grand Union Canal are also features. Three aquifers underlie the NCA and a large manmade reservoir, Grafham Water, supplies water within and outside the NCA.
- Brickfields of the Marston Vale and Peterborough area form distinctive post-industrial landscapes with man-made waterbodies and landfill sites. Restoration of sand and gravel workings has left a series of flooded and restored waterbodies within the river valleys.
- Variable, scattered woodland cover comprising smaller plantations, secondary woodland, pollarded willows and poplar along river valleys, and clusters of ancient woodland, particularly on higher ground to the northwest representing remnant ancient deer parks and Royal Hunting Forests.
- Predominantly open, arable landscape of planned and regular fields bounded by open ditches and trimmed, often species-poor hedgerows which contrast with those fields that are irregular and piecemeal.
- Wide variety of semi-natural habitats supporting a range of species – some notably rare and scarce – including sites designated for species associated with ancient woodland, wetland sites important for birds, great crested newt and species of stonewort, and traditional orchards and unimproved grassland supporting a rich diversity of wild flowers.
- Rich geological and archaeological history evident in fossils, medieval earthworks, deserted villages and Roman roads. A number of historic parklands, designed landscapes and country houses – including Stowe House and Park, Kimbolton Park, Croxton Park, Wimpole Hall and Wrest Park – combine with Bletchley Park, Second World War airfields, the Cardington Airship Hangars and brickfields to provide a strong sense of history and place.
- Diversity of building materials including brick, render, thatch and stone. Locally quarried limestone features in villages such as Lavendon, Harrold and Turvey on the upper stretches of the River Great Ouse.
- Settlements cluster around major road and rail corridors, with smaller towns, villages and linear settlements widely dispersed throughout, giving a more rural feel. Small villages are usually nucleated around a church or village green, while fen-edge villages are often in a linear form along roads.
- Major transport routes cross the area, including the M1, M11, A1, A6, A5 and A14 roads, the East Coast and Midlands mainline railways, and the Grand Union Canal.
- Recreational assets include Grafham Water, the Grand Union Canal, Forest of Marston Vale Community Forest, Chilterns AONB, woodland and wetland sites, an extensive rights-of-way network and two

National Cycle Routes. The cities of Cambridge and Peterborough and several of the historic market towns in the NCA are popular tourist destinations.

8.4.6 Also, within the study area towards the outer extents beyond 3km the Character 46 'The Fens' can also be found. The document highlights the key characteristics of the The Fens as;

- Expansive, flat, open, low-lying wetland landscape influenced by the Wash estuary, and offering extensive vistas to level horizons and huge skies throughout, provides a sense of rural remoteness and tranquillity.
- Jurassic clays are overlain by rich, fertile calcareous and silty soils over the coastal and central fens and by dark, friable fen peat further inland. The soils are important for agriculture, which is hugely significant for the rural economy in the Fens. There are over 4,000 farms in the Fens; enough wheat is grown here annually to produce a quarter of a million loaves of bread and one million tons of potatoes are grown here. In addition to traditional vegetables, exotics such as pak choi are now cultivated. Some 40 per cent of England's bulbs and flowers are also produced in the Fens.
- The Wash is the largest estuarine system in Britain, supporting internationally important intertidal and coastal habitats influenced by constant processes of accretion and deposition, forming salt marsh and mudflats and providing habitats for wildfowl, wading birds and other wildlife, including grey seals and approximately 90 per cent of the UK's common seals. It also provides important natural sea defences and plays a key role in climate change regulation. Flood storage areas on the Nene, Cam, Lark and Ouse washes also provide significant biodiversity interest. True fen mainly occurs at remnant conservation sites, such as Baston or Wicken Fen.
- Overall, woodland cover is sparse, notably a few small woodland blocks, occasional avenues alongside roads, isolated field trees and shelterbelts of poplar, willow and occasionally leylandii hedges around farmsteads, and numerous orchards around Wisbech. Various alders, notably grey alder, are also used in shelterbelts and roadside avenues.
- The predominant land use is arable – wheat, root crops, bulbs, vegetables and market gardening made possible by actively draining reclaimed land areas. Associated horticultural glasshouses are a significant feature. Beef cattle graze narrow enclosures along the banks of rivers and dykes and on parts of the salt marsh and sea banks.
- Open fields, bounded by a network of drains and the distinctive hierarchy of rivers (some embanked), have a strong influence on the geometric/rectilinear landscape pattern. The structures create local enclosure and a slightly raised landform, which is mirrored in the road network that largely follows the edges of the system of large fields. The drains and ditches are also an important ecological network important for invertebrates, fish including spined loach, and macrophytes.

- The area is very rich in geodiversity and archaeology, with sediments containing evidence for past environmental and climate changes and with high potential for well-preserved waterlogged site remains at the fen edge, within some of the infilled palaeo-rivers and beneath the peat.
- Large, built structures exhibit a strong vertical visual influence, such as the 83 m-high octagonal tower of 'Boston Stump' (St Botolph's Church), Ely Cathedral on the highest part of the Isle of Ely dominating its surrounding fen, wind farms and other modern large-scale industrial and agricultural buildings, while drainage and flood storage structures and embanked rail and road routes interrupt the horizontal fen plain.
- Settlements and isolated farmsteads are mostly located on the modestly elevated 'geological islands' and the low, sinuous roddon banks (infilled ancient watercourses within fens). Elsewhere, villages tend to be dispersed ribbon settlements along the main arterial routes through the settled fens, and scattered farms remain as relics of earlier agricultural settlements. Domestic architecture mostly dates from after 1750 and comprises a mix of late Georgian-style brick houses and 20<sup>th</sup> century bungalows.

### **District Landscape Character**

8.4.7 The Landscape Character types within the wider study area are identified in detail on ALD879/LD1006 RevP01 of the LVIA report. These are taken from the Huntingdonshire Landscape and Townscape Assessment (June 2007). The site itself is located in the 'Central Claylands' (LCA 3) character area. Within the wider 4km study area the key characters of The Fens (LCA 1), Fen Margin (LCA 2) and Ouse Valley (LCA 4) can be found.

8.4.8 The document highlights the key characteristics of the Central Claylands as:

- Gently undulating arable farmland.
- Large scale field pattern with few hedgerows or hedgerow trees, giving rise to a predominantly open landscape.
- Relatively large scale developments, including airfields at Alconbury and Wyton, the major transport corridor of the A1/ A14, and significant northern extensions to the towns of Huntingdon and St Ives. Extensive cover of ancient woodland in the north west.
- Regularly spaced traditional villages, often clustered around village greens.
- Numerous Medieval moats visible as earthworks in the landscape.

### **Local Landscape Character**

8.4.9 There is no local landscape character assessment covering the site.

### Site Vegetation

8.4.10 The application site is devoid of any significant vegetation it is currently a mixture of a brownfield site covered with grass and ruderal vegetation and built form / hardstanding. On the whole the western boundary of area 1 outside of the application site and adjacent to the Somersham Road (B1040) is well treed. Mature vegetation forms the eastern boundary of area 2, and a low open hedge forms the southern boundary of area 2. Refer to drawing ALD879/LD1007 RevP01 of the LVIA report.

### Study Area Vegetation

8.4.11 The surrounding landscape is predominately arable farmland and pastoral grassland, it is also a fertile 'growing area' so numerous fields are full of orchards containing bountiful fruit crops. There are also 2 golf courses (north and south) which add variety and diversity to the surrounding vegetation, the study area is furthermore broken up with local roads that often have thick boundary hedgerows that can be gappy in nature but do contain many mature hedgerow trees

8.4.12 Within the wider study area covered by the town of St Ives and the local villages they are dominated by typical planting / vegetation associated with parks, gardens, tree lines roads etc and are ornamental in comparison to the immediate site vegetation. Refer to drawing ALD879/LD1004 RevP01 of the LVIA report for a map of the significant vegetation in the area.

### Drainage

#### Site Drainage

8.4.13 The site slopes gently to the north of the application boundary. A formal drainage network collects runoff from the buildings and hardstanding areas. And 4 lagoons used within existing operations on the site are found in the south, as identified on ALD879/LD1007 RevP01 of the LVIA report.

#### Study Area Drainage

8.4.14 The wider study area is crisscrossed with numerous drainage ditches, that drain away from the highpoints, into the lower areas, but they do not appear to collect into streams.

### Cultural and Social Factors

#### Settlement and Dominant Built Form

8.4.15 The application site is located within the parish of Somersham, Cambridgeshire. Somersham village lies approximately 14km east of Huntingdon, 6km north of St Ives.

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- 8.4.16 Both areas of the application site are a mixture of built form / hard standing / lagoons or are classed as previously developed land / brown field, currently covered by grass and ruderal vegetation. On the whole the western boundary of area 1 adjacent to the Somersham Road (B1040) is well treed, the northern boundary and the eastern boundary are open, and the southern boundary is the existing area of storage for compost and chippings, this also provides the western and northern boundary for area 2. Mature vegetation forms the eastern boundary of area 2, and a low open hedge forms the southern boundary of area 2.
- 8.4.17 The closest building not within the applicant's land holding is no more than 20m from the site boundary to the north, it is a redundant mushroom farm (Woodhurst Farm). Within the applicant's land holding to the south are numerous large sheds and smaller brick buildings relating to the exiting Waste Management Facility.
- 8.4.18 The Raptor Foundation which includes residential properties, a guest house, shops and a tearoom is situated immediately to the northwest of the site, and a static caravan site (Five Acre Field Caravan Site) is to the north just beyond the redundant mushroom farm (Woodhurst Farm). The nearest village is Woodhurst to the west at 1.5km, which is a clustered settlement around a historic core.
- 8.4.19 The majority of the villages in the area are characterised by their clustered form, with a historic core they are situated in amongst the arable field patterns. Some village edges have a well wooded character, with hedgerows and mature trees concealing buildings and restricting views, while others, have more open edges affording longer distance views.

### Historic Development

- 8.4.20 The website [www.old-maps.co.uk](http://www.old-maps.co.uk) was used to review the area and provide the following detail based on the historical OS maps that they hold for the area.
- 8.4.21 The earliest map that was available to view, showed the Somersham Road and Bluntisham Heath Cross Roads in 1888 (County Series OS), the site is to the northeast of these cross roads and shows an orchard, plus fields. Buildings presumably relating to the orchard were positioned right in the corner at the cross roads and another building was set within a more northerly field. This continued to be the case until the 1927-1928 OS County Series map, this map shows a more formal farm arrangement labelled 'The Homestead' set within the orchard, and a field to the north that appears to have been changed to marsh and woodland.

8.4.22 The 1952 OS County Series map starts to show more built development around the cross roads to the east of 'The Homestead' further along the Bluntisham Heath Road, with additional built development evident on the 1974 map. These buildings have names such as Windsor, Cheffins and Heath Top, names that are still in use today. The remainder of the area within the current land holdings was covered intensively with orchards. Sometime between the drafting of the 1974 OS map and the drafting of the 1992 OS map the site changed into the more recognisable development building lines that currently exist, and have then been added to over more recent times.

### Industry

8.4.23 Farming and horticulture appear to still be one of the main industries within the study area, but due to mechanisation, both agriculture and horticulture employs a fraction of the people they would have done in years gone by. The majority of the buildings within the surrounding villages are residential. The non-residential premises can be found to the south of the study area associated with and around St Ives. The wider applicants land holding comes under the remit of industry, as does a few of the adjacent plots, as this crossroads appears to have become a small industrialised hub.

8.4.24 Agricultural farming practices have shaped the local landscape for many years, creating a patchwork field pattern interspersed with settlements and farmland structures, synonymous with the British countryside. The majority of employment we would assume is now found outside the smaller villages in places such as Somersham, St Ives and even the applicant's main site.

### Aesthetic and Perceptual Aspects

8.4.25 The aesthetic qualities of the local area are summarised in the table below and have been divided into the main categories identified by the Countryside Agency and Scottish Natural Heritage guidance - Landscape Character Assessment Guidance for England and Scotland (CA and SNH, 2002).

Table 8.9: Aesthetic Factors	
<b>Enclosure</b>	<p>Within the site it is the existing buildings / site activities that create a sense of enclosure, the Mature vegetation to the west and the cluster of development to the north, help to screen these sides, but filtered views are still possible. To the east and south it feels much more open with views out across the neighbouring land to other local ridgelines in the area.</p> <p>The mature often well vegetated field boundaries and woodland / orchard blocks within the vicinity of site, act to contain the space and provide intermittent views back to the site.</p> <p>These boundaries combined with the undulating nature of the surrounding landscape of neighbouring fields, often creates a sense of localised enclosure especially in the lower levels,</p>

<b>Table 8.9: Aesthetic Factors</b>	
	but they are often shortlived and a person / car doesn't need to travel far for a view to open up again, or to reach higher more open ground.
<b>Balance</b>	<p>The balance of the surrounding landscape character is weighted towards agricultural practices which dominate the area. Although scattered through area, are patches of low intensity industry, in particular in the south closer to St Ives.</p> <p>Numerous settlements are scattered throughout the farmed landscape of the wider area with transport routes further dissecting the patchwork field arrangement. Significant long distance views are very limited to the highest ridges with many views being restricted due to the undulating topography and the presence of tall field boundaries.</p> <p>Breaks in these boundaries allow for mid-distance views, whilst simultaneously screening the area in the immediate foreground.</p>
<b>Pattern</b>	<p>The landscape holds a generally informal, yet organised pattern, due to historical agricultural and drainage practices, that creates a mosaic of fields all separated by either vegetated boundaries and / or drainage ditches.</p> <p>The locality experiences good transport infrastructure with country roads and several well used B roads acting as the main link between built settlements.</p> <p>Public footpaths and trails scatter the local area, meandering through farms, pastureland and local woodland.</p>
<b>Diversity</b>	<p>The local topography, assortment of different sized arable / improved grassland / crop fields and the mixture of small single farmsteads and larger villages, combine to create a relatively diverse landscape that, aesthetically, meets with the general character of the area.</p> <p>Vegetation diversity is enhanced by the native mature field boundaries and associated woodland edge ground flora that weave through the landscape.</p>
<b>Scale</b>	<p>Field boundaries and the villages break up the expanse of agricultural land to create smaller scale farms which form the local landscape. The sense of scale within the lower areas of the study area are restricted by the undulating topography mixed with mature field boundaries, woodland copses and the villages.</p> <p>Expansive rural views are experienced from the site and local highpoints within of the study area.</p>
<b>Form and Line</b>	<p>The horizontal elements include open agricultural landscape, grassland, roads and footpaths, which contrast with the vertical mass of buildings, large farm sheds and pylons that are located in the area and vertical communication masts / wind turbines on the horizons.</p> <p>Mature field boundaries and woodland copses composed of various native/naturalized tree and shrub species, provide much of the vertical element to the area and create an intermediate transition between the built form and the surrounding landscape.</p>

<b>Table 8.9: Aesthetic Factors</b>	
<b>Colour</b>	<p>Natural greens, browns and yellows of the rural countryside, dominate the background landscape, with glimpses of browns, reds, blacks and greys coming from the villages and scattered built form.</p> <p>Due to the nature of the surrounding landscape these colours continue to change throughout the seasons.</p>
<b>Movement</b>	<p>Animation is brought to the calm landscape through the localised areas of urban development that have infrastructural links such as roads, amenities, schools, churches and recreational areas.</p> <p>Seasonal and weekend peaks in activity would see greater movement, with visitors using local trails and footpaths. Dominant agricultural practices add to the informal and relaxed feel of the landscape in the background.</p>

## Transport Links

### The Site Transport Links

8.4.26 Access can be gained to the existing land holding via 3 points off the Somersham Road (B1040) and a further 4 vehicular access points off the Bluntisham Heath Road. The access to the application site will use 2 of these existing points, area 1 will be from the north western most vehicular access point off the Somersham Road (B1040) and access to area 2 will be from the south eastern most access point off the Bluntisham Heath Road.

### Study Area Transport Links

8.4.27 A strong network of minor roads exists within the study area, with the B1040 running closest to site on the western boundary in a northeast to southwest direction, the Closest A road is to the south of the site connection St Ives and Bluntisham / Earith. No railways or motorways can be found within the study area. Refer to ALD879/LD1001 RevP01 of the LVIA report.

## Landscape Dynamics

8.4.28 The landscape is continually changing and evolving, mainly in response to the demands placed upon it, but sometimes due to the lack of management. An examination of the likely changes to the landscape as a whole is important in setting the context of potential changes caused by the proposed development. It may also identify opportunities the proposed development may create for positively improving the landscape, whilst also preventing change considered to create a negative impact.

## Classification and Evaluation

- 8.4.29 The above appraisal concludes that the classification of the existing landscape as part of the Landscape Character Area is an accurate reflection of the character of the site.
- 8.4.30 The Table 8.10 below illustrates how these criteria have been appraised to achieve an assessment of the area's sensitivity.

Table 8.10:	
Landscape Elements	Description
Quality	<p>The proposed development site does not fall within any landscape designation, but is in keeping with the surrounding existing development of built form / hard standing / lagoons. The development site where not covered by have built form / hard standing / lagoons is dominated by a mixture of a brownfield flora covered with grass and ruderal vegetation maintaining a sub-optimal level of biodiversity.</p> <p>Compared to the surrounding landscape which, due to agricultural farming, is highly managed, the development site has a moderately lower level of quality. The landscape quality for the proposed development site is rated as <b>moderate-minor</b>.</p>
Value	The landscape has been assigned <b>minor</b> landscape value rating, at its importance is only relevant on a local level, with very few redeeming features and room for improvement.
Condition	The landscape of site has been assigned a <b>low condition</b> rating due to its scrub / brownfield nature, it has only one big redeeming feature its mature western boundary so there is significant room for improvement.
Capacity	The rating of <b>moderate</b> for landscape capacity has been applied, as the character area can accommodate a degree of change without significant effect on its character.
Compatibility	The development site does not fall within any land designation and views in and out of the site are restricted to the south, but available to the west, north and east. The presence of existing built form within site that is not being developed and the adjacent developments (redundant Mushroom Farm / Raptor Foundation) some at higher elevations (breaking the skyline) is of significant mass to make these proposals <b>compatible</b> with the existing environment, although localised visual changes may be significantly different to those currently experienced.
Scope for Mitigation	The proposed development provides limited opportunity for a landscape and ecological enhancement strategy to be implemented.
Overall landscape sensitivity of the site = <b>Moderate to Low</b>	

## 8.5 Visual Baseline

### Introduction

- 8.5.1 In order to assist with viewpoint selection, as well as to appreciate the potential influence of the development in the wider landscape and to indicate areas where views into the site might be possible, a desk study of the area's topography, mature vegetation, settlements, recreational facilities and footpaths was undertaken. The information obtained from this provided a selection of viewpoints that offered long distance, middle distance and glimpsed views of the site. This selection of potential viewpoints, were then visited and assessed for their overall potential sensitivity to the proposed development, during and after construction. Other viewpoints identified as important were added during the field work.
- 8.5.2 This section briefly describes issues specifically relevant to visual matters both within the site and in the context of the general study area. Specific reference should also be made to the Photographic Viewpoints for Assessment (drawings ALD879/LD1010 to LD1021 RevP01 of the LVIA report), contained within the Appendices.
- 8.5.3 This section represents the findings of the Applied Landscape Design visit in February 2021 and the desk study. It was apparent when out in the field undertaking the site survey that, in particular the undulating landform, settlement and landcover altered and in many cases blocked views to the site that were thought to be evident within the desk study assessment.
- 8.5.4 Views from throughout the study area were established on site with particular focus on views from within 3km of the site as per the recommendation of Chris Thompson (Landscape Officer) Huntingdonshire District Council. The study area goes up to 4km where further views were attempted to be found but was hard to undertake as the topography / settlement / woodlands often blocked views. Refer to drawing ALD879/LD1008 RevP01
- 8.5.5 During the site visit the settlements of Colne, Bluntisham, Earith, Needingworth and St Ives were all visited on foot from the local Public Rights of Ways or on roads. Views of the site could not be established from these points from the ground floor, nevertheless that does not rule out the possibility that they might be seen from upper storeys within buildings. However, this does not form part of this assessment as these buildings are not accessible due to being on private land and cannot be used in the assessment.

## Viewpoints

8.5.6 These viewpoints offer views that may be particularly sensitive to change. These could be associated with areas used regularly by the public, such as footpaths, roads and recreational areas or might be a single house, edge of village that has clear views of the proposed area. The viewpoints also represent areas which may be perceived to be sensitive to the visual impact of the proposed development, but which in reality have restricted views of the site.

### Viewpoint 1

8.5.7 This viewpoint is taken on Bluntisham Heath Road, immediately southeast of site at a field access gate, looking west to north, it is approximately 410m from the closest boundary. The viewpoint takes in the entire eastern boundary of the land holding and proposed site, the viewpoint is one arable field away from site at the entrance to the field / field gate. Bluntisham Heath Road is to the left of the view, this is lined with either trees an open ditch and a hedgerow depending on where you are along its point, so views are easily gained of the site. Many of the built elements on the Envar Composting site are visible beyond a low grassed bund and a tall fence wrapped with green mesh. From left to right you can clearly see the upper elements of the screening and storage shed, composting tunnels, composting and waste transfer building, and the biomass boiler and finished dry product storage building. Further right the mounds of compost are then visible. As this is a local high spot, the villages of Pidley and Somersham are visible and you can see the houses at viewpoint 5 on Pidley Hill.

8.5.8 This viewpoint's sensitivity has been rated as **moderate**.

### Viewpoint 2

8.5.9 This viewpoint is taken on the Bluntisham Heath Road, to the west of Barnfield Farm, to the west of Bluntisham, looking west to northwest, it is approximately 1.55km from the site. The view is across an arable field across and slight up to the horizon. Bluntisham Heath Road is to the left of the view, this is lined with trees and an open ditch, so long ranging views are easily gained in the area. Private individual residential properties along the road area visible, as the Colne Heath Farm and its associated buildings. Low pylons appear to follow the Bluntisham Heath Road. Other field boundaries within the view appear to be hedged, and supported with trees, and a woodland block sits to the left of Colne Heath Farm. The taller elements of the existing buildings at on the Envar Composting site are visible in the middle of the view (sheds and stacks)

8.5.10 This viewpoint's sensitivity has been rated as high.



### Viewpoint 3

- 8.5.11 This viewpoint is taken from the footpath to the south of houses on the B1086 (St Ives Road), in the western end of Somersham Village, looking south to southwest, it is approximately 2.5km from site. This is a flat far-reaching view across arable and pastoral land up to the local ridgeline that the proposed site sits on. The field in the foreground is large, and its boundary is marked by a defunct hedgerow, where only the hedgerow trees remain. The Bluntisham Heath Road follows the local ridgeline on the horizon, occasionally HGVs travelling along this road could be glimpsed. Several farm buildings are visible on the slopes and Cuckoo Bridge Plant Nursery. The redundant Mushroom Farm buildings at Woodhurst Farm, area visible, with the existing buildings at on the Envar Composting site clearly visible beyond. The various mounds of compost on site can also be seen clearly in this view beyond the treed boundaries.
- 8.5.12 This viewpoint's sensitivity has been rated as high.

### Viewpoint 4

- 8.5.13 This viewpoint is taken from the verge of the B1086 (St Ives Road), immediately south of the entrance to Cuckoo Bridge Nursery, looking south to southwest, it is approximately 1km from the site. As with previous views the defunct hedgerows lining the B1086 enable views off the road and up to the site. The St Ives Road, is the prominent feature in the foreground of the view, heading off right up to the local high point, pylons follow the right hand side of the road, crossing to the left in the mid view. Beyond the road, the view is across pastoral and arable fields, up to this pocket of industrialisation. Silks Farm School Nursery and Five Acre Field Caravan Site are visible on the lower ground mid view, then the redundant Mushroom Farm, (Woodhurst Farm) behind, and further up breaking the skyline are some of the buildings on the Envar Composing site, along with mounds of compost.
- 8.5.14 This viewpoint's sensitivity has been rated as moderate.

### Viewpoint 5

- 8.5.15 This viewpoint is taken from the verge of the B1089 (Pidley Hill), to the west of Park Farm, looking directly south, approximately 2.1km from site. This is an expansive view where the vegetation helps to draw your eye to the site beyond on the horizon. To the left of the view beyond the freshly turned soils is a short line of mature conifers marking an old boundary, to the right of the view are some mature trees that follow Pidley Sheep Lane. The view takes in the western flank of the small pocket of industrialisation and highlights the gentle rise of that area and the B1040 (Somersham Road). Five Acre Field Caravan Site is visible on the lower ground mid view to the left, then the redundant Mushroom Farm, (Woodhurst Farm)

behind, and further up breaking the skyline are some of the buildings on the Envar Composting site, along with mounds of compost, followed by the Raptor Foundation to the right of this complex.

8.5.16 This viewpoint's sensitivity has been rated as high.

#### **Viewpoint 6**

8.5.17 Footpath to the south of Pidley accessed off Old Hurst Road, the viewpoint is a break in a well wooded boundary looking south to southeast, approximately 1.9km from site. This was an opportunistic view on a footpath that generally has a well treed boundary, the view was taken where a break occurred and afforded a view across to the proposed site. You look across a barbed wire infill fence across arable fields and well-maintained hedgerows, the site sits behind these hedgerows, so only the higher elements are visible. The large building on the Raptor Foundation site is also visible.

8.5.18 This viewpoint's sensitivity has been rated as high.

#### **Viewpoint 7**

8.5.19 On Pidley Sheep Lane (B1040), at the entrance to Sheep Lane Farm Buildings, looking south, approximately 1.3km from site. This is a well-used local road, when you're travelling down it towards the southeast you are looking in the general direction of the Envar Composting site and its western boundary. The left of the view is framed by a hedgerow that follows the road, beyond it you can see the poly tunnels and buildings of D'Arcy & Everest Plant Nursery. The midground of the view beyond the road is a mixture of arable and pastoral fields. The horizon is very busy takes in the small pocket of industrialisation and highlights the gentle rise of that area from left to right. Five Acre Field Caravan Site is visible on the lower ground mid view to the left, then the redundant Mushroom Farm, (Woodhurst Farm) behind, and further up breaking the skyline are some of the buildings on the Envar Composting site, along with mounds of compost, followed by the Raptor Foundation to the right of this complex. Then the palisade fence enclosing Sheep Lane Farm Buildings. Low pylons crisscross the centre of the view along the road.

8.5.20 This viewpoint's sensitivity has been rated as moderate.

#### **5.2.22 Viewpoint 8**

8.5.21 This viewpoint is taken from the verge at the Entrance to the Raptor Foundation, on the B1086 (Somersham Road), looking south to southeast at approximately 190m from the northern site boundary. The entrance to the redundant Mushroom Farm (Woodhurst Farm) and one of its larger buildings, is sitting central in the view. Along with pylons that follow the hedgerow along the Somersham Road. At this point

the Somersham Road rises gently to the crossroads, which is out of view on the horizon, road signage is evident. The ground level of the application site is screened from view by intervening vegetation.

8.5.22 This viewpoint's sensitivity has been rated as moderate.

#### 5.2.25 **Viewpoint 9**

8.5.23 This viewpoint is taken on the Wheatsheaf Road, to the east of Woodhurst, looking northeast to southeast, it is approximately 1.2km from site. This section of the Wheatsheaf Road is lined with trees sat within a ditch but no hedgerow, therefore views are opened up to the left of the image. The road and the trees provide strong visual form and generally direct the eye in this direction. However, when you stop and look out, you can see long range views to Somersham Village. The mature vegetation almost on the horizon in the mid view, marks the edge of the Somersham Road (B1040) and an intervening field boundary. The larger elements on the Raptor Foundation can clearly be seen, as can one of the water towers on the western edge of Bluntisham. The existing buildings at on the Envar Composting site are visible in the middle of the view, the left portion of these buildings are being removed to make way for the proposed development.

8.5.24 This viewpoint's sensitivity has been rated as high.

#### **Viewpoint 10**

8.5.25 This viewpoint is taken on the B1086 (Somersham Road) at the entrance to MRJ Joinery, looking north to northeast, approximately 390m from the southern site boundary. Somersham Road and its clipped strong hedgerows dominate the view, taking the eye up to the cross road to the south of site. The large green sheds on the Envar Composting site that do the Screening and Storage of compost sit on the horizon, along with the welfare and office buildings. Pylons follow the hedgerow in the left of the view and roadway signage mark out the cross road. The view looks up the hill, and the larger elements of buildings and mature trees break the skyline.

8.5.26 This viewpoint's sensitivity has been rated as low.

#### **Viewpoint 11**

8.5.27 This viewpoint is taken west of the entrance to Pidley Lodge Farm, on The Lane, between Old Hurst and Pidley, looking east to southeast, approximately 2.8km from site. The view looks over arable land and The Lane, to a horizon that gently slopes from a high point to the right, to a low point to the left. Hedgerows follow the slope and accentuate its direction, there is also a well treed area to the right of the view

surrounding the buildings of Manor Farm at Woodhurst. The water towers to the west of Bluntisham can be clearly seen, as can the Five Acre Field Caravan Site, and the largest building on site at the Raptor Foundation. The existing buildings at on the Envar Composting site are visible higher up the slope.

8.5.28 This viewpoint's sensitivity has been rated as low.

8.5.29 The table 8.11 below summarises the sensitivity of the viewpoints.

<b>Table 8.11 – Viewpoints Summary</b>				
<b>Viewpoint</b>	<b>Location</b>	<b>Distance from Site (approx.)</b>	<b>Potential Designations / Receptors</b>	<b>Sensitivity</b>
<b>Viewpoint 1</b>	On Bluntisham Heath Road, immediately southeast of site at a field access gate, looking west to north.	Approx. 410m from site.	Users of the local road network	Moderate
<b>Viewpoint 2</b>	On Bluntisham Heath Road, to the west of Barnfield Farm, to the west of Bluntisham, looking west to northwest.	Approx. 1.55km from site	Users of the local road network and individual properties	High
<b>Viewpoint 3</b>	Footpath to the south of houses on the B1086 (St Ives Road), in the western end of Somersham Village, looking south to southwest.	Approx. 2.5km from site.	Users of the local PROW network, the village of Somersham, Scheduled Ancient Monument, Conservation Area and Listed Buildings	High
<b>Viewpoint 4</b>	On the verge of the B1086 (St Ives Road), immediately south of the entrance to Cuckoo Bridge Nursery, looking south to southwest.	Approx. 1km from site.	Users of the local road network, and visitors to Cuckoo Bridge Nursery	Moderate
<b>Viewpoint 5</b>	On the verge of the B1089 (Pidley Hill), to the west of Park Farm, looking directly south.	Approx. 2.1km from site.	Users of the local road network and individual properties	High

<b>Table 8.11 – Viewpoints Summary</b>				
<b>Viewpoint</b>	<b>Location</b>	<b>Distance from Site (approx.)</b>	<b>Potential Designations / Receptors</b>	<b>Sensitivity</b>
<b>Viewpoint 6</b>	Footpath to the south of Pidley accessed of Old Hurst Road, the viewpoint is a break in a well wooded boundary looking south to southeast.	Approx. 1.9km from site.	Users of the local PROW network, the village of Pidley and Listed Buildings.	High
<b>Viewpoint 7</b>	On Pidley Sheep Lane (B1040), at the entrance to Sheep Lane Farm Buildings, looking south.	Approx. 1.3km from site.	Users of the local road network	Moderate
<b>Viewpoint 8</b>	On the verge at the Entrance to the Raptor Foundation, on the B1086 (Somersham), looking south to southeast.	Approx. 190m from site.	Users of the local road network, visitors to the Raptor Foundation and a Listed Building.	Moderate
<b>Viewpoint 9</b>	On the Wheatsheaf Road, to the east of Woodhurst, looking northeast to southeast.	Approx. 1.2km from site.	Users of the local road network and the local PROW network	High
<b>Viewpoint 10</b>	On the B1086 (Somersham Road) at the entrance to MRJ Joinery, looking north to northeast.	Approx. 390m from site.	Users of the local road network	Low
<b>Viewpoint 11</b>	West of the entrance to Pidley Lodge Farm, on The Lane, between Old Hurst and Pidley, looking east to southeast.	Approx. 2.8km from site.	Users of the local road network	Low

## 8.6 Assessment of Impacts

8.6.1 The LVIA report provides an assessment of the potential landscape and visual effects of the proposal. The report notes that the heights of the respective components of the proposed built development which are:

<b>Table 8.12: Building Details</b>			
<b>Building / Structure</b>	<b>Height (m)</b>	<b>Length (m)</b>	<b>Width (m)</b>
AD Building (No. 36)	9.00	21.90	73.00

Healthcare ERF (No. 46)	10.00	53.00	39.00
ERF Stack (No. 46)	26m	-	-
Fertiliser Plant (No. 47)	11.00	37.00	70.00
Waste Transfer (No. 28)	10.00	81.00	40.00
Biomass Store (No. 49)	10.00	81.00	40.00
Firewater Tanks (No. 27 / 34)	10.00	-	11.00
Biofilter (No. 35)	2.20	47.29	21.00
Biomass Boiler 1	4.94	23.00	6.00
Biomass Boiler 2	8.97	23.00	32.00
Digesters (combined) (No. 38 / 39)	11.09	37.00	25.40
Digestate Store (No. 37)	10.00	41.50	14.80
Biogas Store (No. 41)	7.50	-	10.00
BUG (No. 43)	5.35	18.10	7.00
BUG Tower 1 (No. 43)	10.25	-	1.02
BUG Tower 2 (No. 43)	12.87	-	1.15
CHPs (combined) (No. 40)	5.04	12.19	7.95

8.6.2 Construction of the proposed development is expected to take around 36 months (maximum). With construction activities would take place 07:00 – 18:00 hours Mondays to Friday and 07:00-13:00 hours on Saturdays. No external construction will take place on Sundays and Bank Holidays

### Introduction to Construction Phase Effects

8.6.3 The main landscape impact associated with the construction would include:

- Nominal and temporary adverse landscape impacts on aesthetic and perceptual attributes of the surrounding landscape character areas, through increased vehicular traffic during construction;
- Nominal and temporary adverse landscape impacts on tranquillity through increased vehicular traffic and construction vehicles for the duration of the construction on site;
- Adverse impact on the landscape due to the potential presence of additional lighting associated with construction;
- Loss of an area that is currently scrub / brownfield land, and
- The site will use an existing access road adjacent to it, so no extra surface materials required.

### Introduction to Construction Phase Visual Effects

8.6.4 The main visual impact associated with the construction would include:

- Adverse visual impacts on the closer viewpoints due to the visibility of elements associated with construction, including construction machinery and construction materials;
- Adverse visual impacts from increased construction traffic to and from the development including large construction vehicles;
- Adverse visual impact of cranes and other associated temporary machinery of height during the build that will regularly break the skyline;
- Adverse impact from viewpoints in close proximity to the application site due to the presence of lighting associated with construction;
- Beneficial visual impact of machinery / building materials that are already in use in the land holding area adjacent, and
- Adverse visual impact due to a significant increase in construction movement on a site for the area that is brownfield, therefore is still at this point, unlike the area that is existing hard landscape / buildings.

### Introduction to Operational Phase Effects

8.6.5 The main landscape impact associated with the development (see section 6.5) relates to the change of land use and the introduction of the of additional built form into the site / area. The majority of the land is currently brownfield / scrub / buildings / hard landscape. The physical elements of change and effect on the landscape are limited to:

- Loss of an area that is currently scrub / brownfield land;
- Increased human activity on site;
- Adverse impact of lighting on site; and
- Introduction of built form characteristic to the surrounding area into the site.

### Introduction to Operational Phase Visual Effects

8.6.6 The main landscape impact associated with the development would be an increase / strengthening of the mass of the built form due to the proposed including:

- Adverse impact from viewpoints in close proximity to the application site due to the increase in built form (See table 1 for building heights) These elements will break the skyline within surrounding views due to their position on the top of a ridgeline;



- Adverse impact from viewpoints in close proximity to the application site due to the increase in solidity of built form and reduction of openness at a local high point;
- Adverse visual impacts from the increased illumination of the site;
- Positive visual impact from the site changing use from a brownfield site to an semi-industrial site in keeping with the immediate surrounding land use; and
- Positive visual effect of the site once operational is that the soft landscape will be maintained and managed, with new planting being introduced to the site boundaries as opposed to the current scrub / brown field.

## 8.7 Mitigation of Impacts

### Introduction to Mitigation

- 8.7.1 Landscape and visual issues within the study area have been considered during the development's evolution to give priority towards the landscape and visual mitigation. This will ensure that a comprehensive and integrated approach is taken to the landscape proposals.
- 8.7.2 This section develops the outline landscape and visual mitigation strategy for the site. It aims to mitigate any landscape and visual impacts of the development which were identified in the previous section during the construction and operational phases.
- 8.7.3 The mitigation measures have been grouped as inherent and additional landscape and visual mitigation measures. Inherent landscape and visual mitigation measures are included in the strategy/design for the site and have been developed during the LVIA process.

### Introduction to the Mitigation of Construction Phase Effects

- 8.7.4 **Construction phase effect mitigation:** landscape:
- Retention of more valuable landscape features within or on the ownership boundary line;
  - Fencing off existing landscape features to be retained or on the site boundary. Where applicable, Trees in Relation to Construction BS 5879:2012 should be applied to protect root areas;
  - Where possible, use of fall cut-off lighting to reduce stray upward light and minimise light pollution;
  - Provision of 5m stand-offs in order to safeguard mature perimeter vegetation outside of site, and
  - The use of an existing road to bring all vehicles and equipment to site.

**8.7.5 Construction phase effect mitigation:** Visual

- Where possible, use of fall cut-off lighting to reduce stray upward light and minimise light pollution;
- Provision of 5m stand-offs in order to safeguard perimeter vegetation outside of site;
- Managing construction machinery to not be sat around unused in prominent positions;
- Demolition activities undertaken in such a way as to reduce dust; and
- Use of solid hoarding to deflect low level views into site.

**Introduction to the Mitigation of Operational Phase Effects****8.7.6 Operational phase effect mitigation:** landscape inherent mitigation measures:

- Replacement of any perimeter vegetation lost through construction or operational activity to ensure the integrity of the vegetated site boundary. The planting palette should utilise 'like for like' species, and
- Additional mitigation measures: Use where possible of permeable surface materials in interests of sustainable urban drainage.

**8.7.7 Operational phase effect mitigation:** Visual inherent mitigation measures:

- Planting implemented to the boundaries of the site where existing boundary vegetation will be removed; and
- Utilising a building shapes that are broken up / irregular in form, ensuring a solid straight line is not formed.

**8.8 Residual Impacts**

8.8.1 The potential landscape and visual effects of the proposed development on the surroundings, and in particular the views from viewpoints have been assessed through desktop studies and the site visit.

**Residual Landscape Effects: Description of Residual Landscape Effects During Construction and Operational Phase**

- Having assessed the landscape baseline of the proposal site and identified the potential elements of the development likely to cause change to that baseline, a detailed assessment of the possible changes can be made.
- Construction of the development proposals would result in the removal of existing brownfield / scrub land, demolition of existing buildings / hard landscaping and the use of an existing road / access points.

In the short term this would be replaced by construction activities for the erection of the infrastructure related to the proposed development and erection of security fencing. In the long-term, ancillary elements listed in the description of the development would be in situ; and

- Construction would not require any re-profiling of the internal and surrounding landscape, so effects on topography would not be significant and levels would be maintained in their current condition. The overall impact of construction on the landscape would be low.

### Changes in Social and Cultural Factors

- The principal alteration to cultural and social factors would concern the commencement of construction activities on the edge of a rural area; and
- Upon completion the development will increase the number of jobs in the local area, increasing vehicular traffic both in the form of employees. But for the HGVs transporting goods in/out of the site this is anticipated to stay the same, however it is unlikely to increase recreational visitor numbers. Cultural or social impacts are likely to be similar to those currently experienced by the existing surrounding settlements.

### Changes in Aesthetics and Perceptual Aspects

- The visual dominance of the existing Envar Composting Facility would render any effects from the proposed development as **low/low-moderate**, assuming the development is implemented as current proposals indicate, using appropriate building materials.
- The development will add to the overall physical mass of the area.

### Residual Magnitude of Landscape Impacts Summary

8.8.2 The following summarises the residual magnitude of landscape impacts of the development:

- The predicted residual magnitude of landscape impacts of the development is localised in scale and restricted to the site, immediate environs and a further 2km, mainly due to the undulating nature and topography of the surrounding area and the presence of the Envar Composting site adjacent to the development site.
  - Low level landscape impacts arising during the development would be minor.
  - The localised nature of the landscape impacts mean that the proposed development would result in low adverse impacts on the wider landscape at a regional level. Landscape mitigation if provided would enhance the scenic quality of the area providing age structure, colour and texture to a site.
  - Topographic alterations would likely be localised and would not impact on the landscape quality of the area and would largely blend within the existing landform.
-

- It is therefore concluded that the overall magnitude of the landscape impacts would be **low**.

### Residual Visual Effects

- 8.8.3 Using the viewpoints identified in the visual baseline an assessment can be made of the potential magnitude of the visual change likely to be incurred through the proposed development.

#### Magnitude of Visual Impact

- For each of the viewpoints the potential magnitude of the residual visual impacts, taking into account each phase of the development and proposed mitigation, has been assessed. The magnitude of visual impacts is mainly dependent upon the following factors:
  - What proportion of the existing view that would change as a result of the development proposals?
  - How many features or elements within the view would be changed?
  - How appropriate is the proposed development in the context of the existing views?
  - How many viewers would be affected by the changes in the view?
  - What is the timescale of the proposed development? Also, is it continuous or intermittent?
  - What is the angle of the view in relation to the main activity of the receptor?
  - The magnitude of change is categorised as high, medium, low or negligible.

#### Magnitude of Residual Visual Change for Viewpoints

- The magnitude of change for each viewpoint was assessed for both construction and on completion.

### Viewpoints

- 8.8.4 The location of the viewpoints, and a photograph of each of the viewpoints from the site visit in February 2021, together with a description, are included within the Appendices towards the end of the document.
- 8.8.5 **Viewpoint 1** – On Bluntisham Heath Road, immediately southeast of site at a field access gate, looking west to north.

#### Construction

- 8.8.6 Due to the topography and proximity of the viewpoint in relation to the development site, it would be possible to see a significantly increased level of activity onsite for the duration of the construction of the development.
- Due to the proximity of the site the overall impact would be **moderate** and temporary in nature due to the introduction of construction activities into the view.

### On Completion

8.8.7 Any view of the development on completion would be moderate from this view due to the proximity of the view and height of the development.

- The magnitude of visual impact of the proposed development is assessed to be moderate during construction, moderate upon completion.

8.8.8 **Viewpoint 2** – On Bluntisham Heath Road, to the west of Barnfield Farm, to the west of Bluntisham, looking west to northwest.

### Construction

8.8.9 Due to the location of the viewpoint in relation to the development site, it would be possible to see an increased level of activity onsite for the duration of the construction of the proposed development. This however would be limited to the tops of machinery as the lower parts of site are screened by local intervening vegetation.

- Due to the proximity of the site the overall impact would be **moderate** and temporary in nature due to the visibility of construction activities.

### On Completion

8.8.10 Any view of the development on completion would be moderate from this view due to the proximity of the view and height of the development.

- The magnitude of visual impact of the proposed development is assessed to be **moderate** during construction, **moderate** upon completion.

8.8.11 **Viewpoint 3** – Footpath to the south of houses on the B1086 (St Ives Road), in the western end of Somersham Village, looking south to southwest.

### Construction

8.8.12 Due to the location of the viewpoint in relation to the development site and view across flat pastoral fields up to the proposed development site, it would be possible to see an increased level of activity onsite for the duration of the construction.

- Due to the existing midground vegetation in the form of hedgerows and hedgerow trees in the view between site and the viewer the overall impact would be **moderate**.

### On Completion

8.8.13 Any view of the development on completion would be moderate from this view in part due to the distance from the site and the angle of the view and the vegetation in between.

- The magnitude of visual impact of the proposed development is assessed to be **moderate** during construction, **moderate** upon completion.

8.8.14 **Viewpoint 4** - On the verge of the B1086 (St Ives Road), immediately south of the entrance to Cuckoo Bridge Nursery, looking south to southwest.

### Construction

8.8.15 Due to the location of the viewpoint in relation to the development site and view across the initially flat foreground up to the proposed development site, it would be possible to see an increased level of activity onsite for the duration of the construction.

- Due to the existing midground vegetation in the form of hedgerows and hedgerow trees in the view between site and the viewer the overall impact would be moderate.

### On Completion

8.8.16 Any view of the development on completion would be moderate from this view in part due to the distance from the site and the angle of the view and the vegetation in between.

- The magnitude of visual impact of the proposed development is assessed to be moderate during construction, moderate upon completion.

8.8.17 **Viewpoint 5** – On the verge of the B1089 (Pidley Hill), to the west of Park Farm, looking directly south.

### Construction

8.8.18 Due to the location of the viewpoint in relation to the development site on a local high point, it would be possible to see an increased level of activity onsite for the duration of the construction of the proposed development as the proposed site also sits on top of another local high point.

- Due to the proximity of the site the overall impact would be moderate and temporary in nature due to the construction activities within the site.

### On Completion

8.8.19 Any view of the development on completion would be moderate from this view due to the proximity of the view and height of the development breaking the skyline, but this would be to the higher sections of the development, not the ground level.

- The magnitude of visual impact of the proposed development is assessed to be moderate during construction, moderate upon completion.

8.8.20 **Viewpoint 6** - Footpath to the south of Pidley accessed of Old Hurst Road, the viewpoint is a break in a well wooded boundary looking south to southeast.

### Construction

8.8.21 Due to the location of the viewpoint in relation to the development site, it would be possible to see an increased level of activity onsite for the duration of the construction of the proposed development. This however would be limited to the tops of machinery as the lower parts of site are screened by intervening vegetation.

- Due to the existing landscape in the midground the overall impact would be moderate.

### On Completion

8.8.22 Any view of the development on completion would be low due to the distance from the site combined with the solid foreground vegetation.

- The magnitude of visual impact of the proposed development is assessed to be moderate during construction, low upon completion.

8.8.23 **Viewpoint 7** - On Pidley Sheep Lane (B1040), at the entrance to Sheep Lane Farm Buildings, looking south.

### Construction

8.8.24 Due to the location of the viewpoint in relation to the development site on a road that faces the site in one direction of travel, it would be possible to see an increased level of activity onsite for the duration of the construction of the proposed development.

- Due to the proximity of the site the overall impact would be moderate and temporary in nature due to the construction activities within the site.



### On Completion

8.8.25 Any view of the development on completion would be moderate, there is a busy foreground in the view and the road user should be concentrating on the road, however as the proposed development will break the skyline it will be noticeable.

- The magnitude of visual impact of the proposed development is assessed to be **moderate** during construction, **moderate** upon completion.

8.8.26 **Viewpoint 8** - On the verge at the Entrance to the Raptor Foundation, on the B1086 (Somersham Road), looking south to southeast.

### Construction

8.8.27 Due to the topography and proximity of the viewpoint in relation to the development site, it would be possible to see a significantly increased level of activity onsite for the duration of the construction of the development. This however would be limited to the tops of machinery as the lower parts of site are screened by localised vegetation and buildings.

- Due to the existing landscape in the foreground the overall impact would be moderate and temporary.

### On Completion

8.8.28 Any view of the development on completion would be moderate from this view to the distance from the site and the localised topography. The proposed development will most likely break the skyline in amongst the existing vegetation.

- The magnitude of visual impact of the proposed development is assessed to be moderate during construction, moderate upon completion.

8.8.29 **Viewpoint 9** - On the Wheatsheaf Road, to the east of Woodhurst, looking northeast to southeast.

### Construction

8.8.30 Due to the location of the viewpoint in relation to the development site on a road that will afford oblique views of the site in one direction of travel above localised vegetation, it would be possible to see an increased level of activity onsite for the duration of the construction of the proposed development.

- Due to the existing landscape in the midground the overall impact would be moderate and temporary.

### On Completion

8.8.31 Any view of the development on completion would be low, there is a busy foreground in the view and the road user should be concentrating on the road as the site is at an oblique angle, however as the proposed development will break the skyline it will be noticeable.

- The magnitude of visual impact of the proposed development is assessed to be moderate during construction, low upon completion.

8.8.32 **Viewpoint 10** - On the B1086 (Somersham Road) at the entrance to MRJ Joinery, looking north to northeast.

### Construction

8.8.33 Due to the location of the viewpoint in relation to the development site and view up to the proposed development site, it would be possible to see an increased level of activity onsite for the duration of the construction, but this would be behind the buildings in the foreground, so would be limited to the tops of cranes, and other taller machinery.

- Due to the existing midground scene in the view between site and the viewer the overall impact would be low.

### On Completion

8.8.34 Any view of the development on completion would be negligible from this view due to the intervening foreground buildings on the wider land holding. The topography is such that the proposed development site will be lower, due to the land sloping away.

- The magnitude of visual impact of the proposed development is assessed to be low during construction, negligible upon completion.

8.8.35 **Viewpoint 11** - West of the entrance to Pidley Lodge Farm, on The Lane, between Old Hurst and Pidley, looking east to southeast.

### Construction

8.8.36 Due to the location of the viewpoint in relation to the development site, it would be possible to see an increased level of activity onsite for the duration of the construction of the proposed development. This however would be limited to the tops of machinery as the lower parts of site are screened by intervening vegetation.

- Due to the existing landscape in the midground the overall impact would be moderate and temporary.

### On Completion

8.8.37 Any view of the development on completion would be low due to the distance from the site combined with the foreground vegetation.

- The magnitude of visual impact of the proposed development is assessed to be moderate during construction, low upon completion.

8.8.38 Table 8.12 summarises the cumulative and additive effects written within this chapter and formalise the potential significance of the landscape and visual impacts.

<b>Table 8.12 – Summary of Effects</b>					
<b>Receptor</b>	<b>Sensitivity</b>	<b>Phase</b>	<b>Magnitude of Change</b>	<b>Type of Impact</b>	<b>Significance</b>
<b>Viewpoint 1</b>	Moderate	Construction	Moderate	Temporary	Moderate
		Completion	Moderate	Permanent change of character and use	Moderate
<b>Viewpoint 2</b>	High	Construction	Moderate	Temporary	Major / Moderate
		Completion	Moderate	Permanent change of character and use	Major / Moderate
<b>Viewpoint 3</b>	High	Construction	Moderate	Temporary	Major / Moderate
		Completion	Moderate	Permanent change of character and use	Major / Moderate
<b>Viewpoint 4</b>	Moderate	Construction	Moderate	Temporary	Moderate
		Completion	Moderate	Permanent	Moderate
<b>Viewpoint 5</b>	High	Construction	Moderate	Temporary	Major / Moderate
		Completion	Moderate	Permanent	Major / Moderate
<b>Viewpoint 6</b>	High	Construction	Moderate	Temporary	Major / Moderate
		Completion	Low	Permanent	Moderate
<b>Viewpoint 7</b>	Moderate	Construction	Moderate	Temporary	Moderate

<b>Table 8.12 – Summary of Effects</b>					
<b>Receptor</b>	<b>Sensitivity</b>	<b>Phase</b>	<b>Magnitude of Change</b>	<b>Type of Impact</b>	<b>Significance</b>
		Completion	Moderate	Permanent	Moderate
<b>Viewpoint 8</b>	Moderate	Construction	Moderate	Temporary	Moderate
		Completion	Moderate	Permanent	Moderate
<b>Viewpoint 9</b>	High	Construction	Moderate	Temporary	Major / Moderate
		Completion	Low	Permanent change of character and use	Moderate
<b>Viewpoint 10</b>	Low	Construction	Low	Temporary	Minor
		Completion	Negligible	Permanent change of character and use	Not Significant
<b>Viewpoint 11</b>	Low	Construction	Moderate	Temporary	Moderate / Minor
		Completion	Low	Permanent change of character and use	Minor

8.8.39 Viewpoints 2, 3, 5, 6 and 9 have the highest impact of Major / Moderate for construction, with viewpoints 2, 3 and 5 coming out as with the highest impact of Major / Moderate for the landscape and visual impacts across both construction and completion as per the Impact of Magnitude Matrix Sensitivity of Receptor (Table 8).

8.8.40 The reason why these 5 viewpoints stand out as a higher impact above the other 6 viewpoints, is because they all have a high sensitivity due to residential properties, Public Rights of way and other publicly sensitive settings.

8.7.42 Table 8 categorises the two significance of impacts as the following:

- Major - Very large or large change in environmental or socio-economic conditions. Effects, both adverse and beneficial, which are likely to be important considerations at a regional or district level because they contribute to achieving national, regional or local objectives, or, could result in exceeding of statutory objectives and/or breaches of legislation.
- Moderate - Intermediate change in environmental or socio-economic conditions. Effects that are likely to be important considerations at a local level.

- 8.8.41 It should be noted that when reviewing table 12 and the descriptions of the Level of Significance, Major does not fit the profile of the effects and scheme in this instance.
- 8.8.42 This type of development is likely to swing to the Moderate Level of Significance. It would be considered Major if the development was highly visible on its own, but due to the existing buildings on the Envar Composting site, and the immediately surrounding local buildings means the area has already been subject to significant development / urbanisation / humanisation in close proximity of the site boundary. The proposed development site will be seen as an extension of the existing vernacular / a consolidation of built development that is already breaking the skyline, and blocky in nature.
- 8.8.43 On the basis of the above assessment, it is not considered that the site that is worthy of consideration at a regional or district level, hence not in keeping with the Major category.

## 8.9 Cumulative Impacts

### Cumulative Landscape Effects

- 8.9.1 The assessment of potential landscape impacts is primarily focused upon the proposed development placed within its landscape context. The general conclusion is that, in a localised context, landscape impacts would arise. However, when considered in an increasingly broad context, especially more than 2km distance from the site, these impacts are of moderate or minor significance. The extent within which this transition to minor / not significant would occur, is considered to be beyond the 3km distance from the application site due to the topography, positioning against an existing industrial background of built form in amongst the natural landcover.
- 8.9.2 The character of the wider landscape would largely be unaffected by the addition of the proposed development and its supporting infrastructure, due to the fact that beyond 2.5km from the site its visibility decreases significantly thanks to the semi-rural background with small industrial pockets and areas of built form in amongst the natural landcover. The character of the area immediately surrounding the site is semi-industrial due to the existing buildings within the land ownership being retained, the redundant Mushroom Farm (Woodhurst Farm) and the Raptor Centre. In a localised context, landscape character changes will be minor as the development is of comparable character (materials / landuse) to the industrial units and other unnatural processes immediately surrounding the site.

### Cumulative Visual Effects

- 8.9.3 The assessment of potential visual impacts is, primarily, focused upon the proposed development, placed within its visual context. The general conclusion is that, in a localised context, potential visual impacts would arise, however when seen in an increasingly broad context, these impacts are of moderate / minor significance or not significant. The extent within which this transition to not significant would occur is considered to be within 3-4km of the application site.
- 8.9.4 The local landscape already accommodates built form in the shape of Envar Composting Ltd and the settlements of Somersham, St Ives and Bluntisham, some of which sit on top of rises in the topography (and therefore break the skyline).
- 8.9.5 The existing views within 3km of the application site all contain forms of similar developments (large farm sheds etc) and land use to the proposed development but not in the size and scale of which is proposed. The proposed development will contribute to the already prominent built form on top of this ridgeline. However, the introduction of the proposed development is anticipated to appear as an extension of the existing vernacular; particularly by receptors in the closest proximity to the application site.

### The Broader Context

- 8.9.6 Any impacts relating to the development site is deemed not to be significantly adverse in the broader context of the landscape. Though agricultural land remains the dominant landscape type in the area, the existing built form in the shape of Envar Composting Ltd, local villages and farmstead and their associated buildings and infrastructure comprises a substantial component in the broader context visually. Meaning the area has already been subject to significant development / urbanisation / humanisation in particular the land immediately to the west north and east of the site boundary.

## 8.10 Conclusions

- 8.10.1 It is concluded that the proposed development will not cause unacceptable landscape and visual impacts, especially in the wider landscape. The site sits within an existing small developed industrialised area with a number of other buildings / sheds within a wider area. The existing small industrialised area already hosts buildings, large sheds, moving machinery and fencing that that are characteristic of the proposed development.
- 8.10.2 It was apparent during the site survey that the landform, landcover and landscape elements significantly altered and, in some cases, blocked views to the site that were thought to be evident within the desk

study assessment. This is especially the case beyond the 3km distance with topography, wooded areas, tall hedgerows and buildings forming visual barriers in views towards the site.

- 8.10.3 The constraints of the site around the proposed development do not provide much opportunity for a landscape and ecological enhancement strategy. The Applicant's best endeavours in this regard are set out at paragraph 6.6.69 of the accompanying Planning Statement.
- 8.10.4 The use of different sized and styled buildings on the proposed development enables such a large mass to be broken down and an illusion of reduction in scale achieved and will act to minimise the impact of built form spreading into previously partially undeveloped land.
- 8.10.5 The colour of the proposed building is an important factor, as a white / light coloured cladding will stand out more against the surrounding landscape when viewed from a distance. The appearance of the building should assist in blending the development into its surroundings. Potentially on the different aspects of the proposed building different colours/materials could be used to break down further the scale and massing of the proposed development.
- 8.10.6 It is anticipated that that the significance of the majority of visual effects will be minor / moderate adverse. However, from viewpoints: 2, 3 and 5, the significance of visual effects is anticipated to be moderate / major adverse for both construction and completion. Viewpoints 6 and 9 will have visual effects which is anticipated to be moderate / major adverse for just construction.
- 8.10.7 When considered in an increasingly broad context of the landscape, the proposed development is anticipated to be assimilated into the existing landscape and views. The existing area is considered to have the capacity to absorb the introduced characteristic elements without overarching change to the landscape character of the area and the loss of moderate to low sensitivity and uncharacteristic elements is considered acceptable. Where the visual impacts of the proposed development have been assessed to be the highest the impacts are considered to be sufficiently localised and contained that the impacts are acceptable. Where the majority of views of the proposed development are possible, they are generally seen against a backdrop of similar elements, therefore the introduction of the proposed development into these views will not appear as uncharacteristic to the existing views.
- 8.10.8 Having regard to the assessment set out in the LVIA report, it is concluded that the proposal will not conflict with Policies CS24, CS33, CS34 and emerging Policy 17 of the Minerals and Waste Core Strategy Policy and policies LP2 and LP10 of the Huntingdon Local Plan.



## 9 ASSESSMENT OF THE MAIN ALTERNATIVES

### 9.1 Introduction

9.1.1 Paragraph: 041 (Reference ID: 4-041-20170728) of the Planning Practice Guide provides advice on whether an Applicant needs to consider alternatives as part of the Environmental Impact Assessment process. It states:

*The 2017 Regulations do not require an applicant to consider alternatives. However, where alternatives have been considered, paragraph 2 of Schedule 4 requires the applicant to include in their Environmental Statement a description of the reasonable alternatives studied (for example in terms of development design, technology, location, size and scale) and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.*

9.1.2 Further guidance is provided in the Planning Practice Guidance in respect to the need to consider alternatives. Paragraph 041 (Reference ID: 4-041-20140306) states that;

*“Where alternatives have been considered, paragraph 4 of part II of Schedule 4 requires the applicant to include in their Environmental Statement an outline of the main alternatives considered, and the main reasons for their choice”.*

9.1.3 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) states in Schedule 4 (paragraph 2) that an Environmental Statement must include:

*A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.*

9.1.4 There is no prescribed methodology within legislation or government guidance for undertaking an assessment of alternatives in relation to the preparation of a planning application. It is unreasonable to attempt to assess every alternative option. Therefore, having regard to Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, an outline of the main alternatives is considered below.

9.1.5 In this case, the Applicant has considered reasonable alternatives and the following section considers:

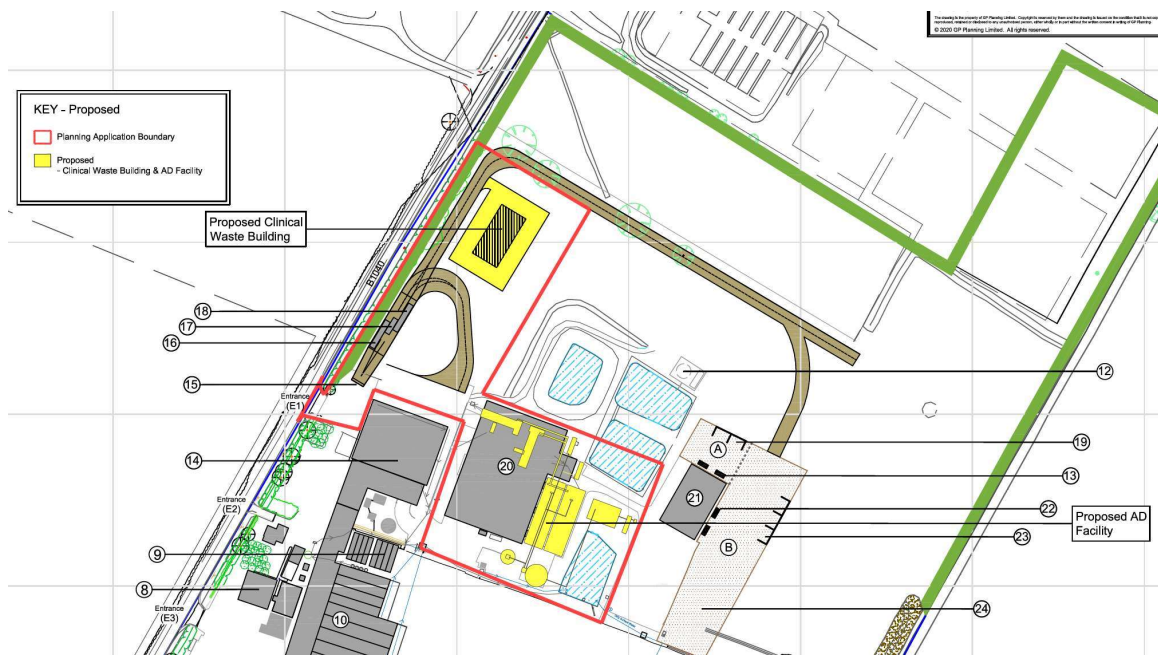
- Appropriate Locations in Principle
- Alternative Site=Specific Location Options

## 9.2 Appropriate Locations in Principle

- 9.2.1 The proposal has been assessed in the light of the Development Plan and other relevant planning/environmental policy documentation. From this assessment, it is evident that the site does not contain (or is in close proximity to) any important designations such (as SSSI, SAC, SPA, ANOB, National Park, Greenbelt etc.) that might require the Applicant to consider alternative options because of the sensitivity of the site.
- 9.2.2 The proposal will be located on the Applicant's existing land holding and on land (in part) which benefits from planning permission(s) for existing waste management and energy related uses. The Applicant's existing land holding is also a preferred location for the recycling and recovery of waste; in-vessel and open windrow composting of green and food waste. The emerging Minerals and Waste Local Plan proposes to allocate the entire Envar site boundary as a future 'Waste Management Area' (WMA). The location of the proposal is therefore acceptable in principle and there is no land use planning related reason to consider alternative site locations for the proposed development.
- 9.2.3 In the light of the above, it is considered that because there is no in principle constraints to the proposal and that detailed environmental assessment work indicates that the scheme can operate in an environmentally acceptable manner. The site is therefore considered to be good alternative for waste management and sustainable energy related uses.

## 9.3 Site Specific Location Options

- 9.3.1 The proposed layout has been informed by the constraints and opportunities afforded by the Site and its surrounding area, together with a consideration of the proposals potential impact within its setting and the requirement for the most environmentally friendly option which maximises the sustainability credentials of the scheme.
- 9.3.2 The Applicant submitted an early site layout option to the Council as part of the pre-application and scoping opinion request on 28<sup>th</sup> July 2019. At that time, the plan was to site the Healthcare Waste Energy Recovery Facility on the western boundary of the site and the Dry AD plant to the east of building number 20, as shown on the plan extract below.



- 9.3.3 Since the early site location assessment work which was carried out on 2019/2020, the Applicant has added additional built elements to the proposed development in the form of a Waste Transfer Building, Biomass Woodchip Storage Building and Pellet Fertiliser Building.
- 9.3.4 The Dry AD Plant will replace the existing IVC facility in its current location and will take advantage of replacing the IVC tunnels thereby minimising the amount of new built form. In order to ensure that heat loss is minimised, and operational efficiency is optimised, the Healthcare Waste Energy Recovery Facility is required to be located as close to the Dry AD Plant as possible. There is also a need to provide safe and effective internal access areas for vehicles within the site. It is therefore proposed to relocate the Healthcare Waste Energy Recovery Facility further east and closer to the Dry AD Plant from the original concept. The proposed location of the Healthcare Waste Energy Recovery Facility will therefore maximise the sustainability credentials of the proposal in this regard.
- 9.3.5 The location of the stack on the Healthcare Waste Energy Recovery Facility has undergone numerous iterations as part of the Air Quality Assessment work. The finalised and proposed location of the stack minimises the potential air quality impacts upon the surrounding environment, and it therefore represents the best environmental option.
- 9.3.6 The overall design of the proposed development has had a number of minor iterations to maximise efficiency and minimise any environmental related impacts. The proposed final scheme was established by a number of key factors that has influenced the layout and distribution of the proposed buildings and infrastructure including:

- The orientation and shape of the Site;
- Access into the Site and circulation/configuration of the internal movement of HCVs and plant;
- Adjoining uses and sensitive receptors;
- Topography;
- Operational and sustainability efficiency;
- Security and safety;
- Noise;
- Air quality, and
- Scale and visual impact.

## 9.4 Conclusion

- 9.4.1 The Application Site is acceptable in land use planning terms by being located on land which (in part) benefits from planning permission for waste management uses and by being allocated in the existing, and emerging, Waste Local Plan as a waste management area. The location of the proposal within Cambridgeshire is therefore acceptable in principle.
- 9.4.2 The EIA work has considered site-specific impacts of the proposal and concludes that no significant impacts are predicted to arise. The Applicant has considered a variety of site-specific alternatives with a view to presenting the most environmentally acceptable scheme. It is considered that the submitted scheme represents the preferred scheme in terms of environmental acceptability. The choice of the site layout design delivers an energy efficient operation minimising heat loss and energy consumption.
- 9.4.3 The assessment of main alternatives is considered to comply with the Development Plan and the requirements of the EIA Regulations 2017.

## 10 CUMULATIVE IMPACT ASSESSMENT

### 10.1 Introduction

10.1.1 Schedule 4 of the EIA Regulations 2017 (as amended) relates to information for inclusion in Environmental Statements and requires:

*A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, **cumulative**, short, medium and long term, permanent and temporary, positive and negative effects of the development....*

10.1.2 Paragraph 11.18 of the Minerals and Waste Core Strategy states that:

*In assessing the likely impact of proposals including those arising from an intensification of an existing development, the Waste Planning Authority will have regard to the ability of the site to accommodate new changed or increased activities without compromising the environmental conditions of the site and the relationship of the site with neighbouring development. In some circumstances, for example where a number of waste management uses are in one area, it may be appropriate to consider the cumulative impact of proposals. In the case of larger proposals this may be done through the Environmental Impact Assessment process.*

10.1.3 Paragraph 151 of the National Planning Framework under the chapter 'Planning for Climate Change' states:

*To help increase the use and supply of renewable and low carbon energy and heat, plans should: a) provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts)*

10.1.4 In terms of Ground Conditions and Pollution, paragraph 180 of the National Planning Framework states:

*Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

- a) *mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life<sup>60</sup>;*
- b) *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and*
- c) *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*

10.1.5 This section of the Environmental Statement therefore provides an assessment of the potential for potentially adverse cumulative impacts to arise as a result of the Proposed Development.

## 10.2 Assessment Methodology

10.2.1 There is no national or local policy guidance as to how the cumulative effects of a proposed development should be carried out. However, having regard to the requirements of the National planning policy and the EIA Regulations, the following assessment of cumulative effects will have regard to 2 main areas:

- successive and simultaneous effects from concurrent developments
- combined effects from the same development

### Successive & Simultaneous Effects

10.2.2 The consideration of successive and simultaneous effects from concurrent developments are considered in parallel given that this assessment requires the identification of previous and new developments in the locality (as well as other forms of development that might give rise to similar types of impact).

### Combined Effects

10.2.3 Energy and waste management related development (like other forms of complex development proposals) can produce effects that occur together and when combined can potentially give rise to significant impacts. The methodology for assessing cumulative environmental effects from such operations follows the approach taken by the Planning Inspector in the consideration of UK Coal's surface mining operation at Huntington Lane, Telford.

10.2.4 In paragraph 552 of the Inspector's Report into the Telford proposal he noted for individually acceptable impacts to be elevated together to unacceptable impacts, they must have a synergistic effect. In order to assess the combined effects properly it is necessary to consider whether some or all of the individually

acceptable effects are so close to being unacceptable, that when combined together, the totality is unacceptable.

- 10.2.5 The consideration of the combined effects from the application proposal will have regard to how potentially close each individual environmental impact is to being unacceptable or objectionable. This will enable a professional judgement to be made on the potential accumulated totality (i.e. the judged acceptability or otherwise of their combined environmental effect).

### **Negative & Positive Effects**

- 10.2.6 In order to assess the overall cumulative impact of the proposal in a balanced manner it is logical that the potential positive impacts of the scheme are identified and aggregated to indicate a potential cumulative positive effect. In this regard, the cumulative impact assessment will therefore consider the potential cumulative benefits of the scheme as well as the potential cumulative negatives impacts.

## **10.3 Successive and Simultaneous Effects**

- 10.3.1 Unacceptable adverse successive impacts on a local community can arise where the area has been the subject of a succession of similar developments of a long and sustained period of time; for example the impact of decades of opencast mining on villages/towns in the coalfield areas of Britain.
- 10.3.2 The Envar site is relatively remote from the main residential areas including the villages of Somersham (approximately 3km south-west), Bluntisham (which is approximately 2.5km to the east), Woodhurst (approximately 1.5km to the north-west) and Pidley-cum-Fenton approximately 2.5km to the north.
- 10.3.3 There are 6 residential units with a travellers' site immediately to the north of the former mushroom farm and 3 residential properties (Rectory Farm and Rectory Farm Cottages) close to the Raptor Foundation. The Raptor Foundation which includes residential properties, a guest house, shops and a tea room is located to the north of the site, on the opposite side of the B1040. A joinery business is located 230 metres to the southwest of the site on Somersham Road. There are no other properties within 500 metres of the Envar site.
- 10.3.4 All of the successive grants of planning permission (since 1992) have been on land within the ownership of the Applicant and have not sprawled beyond the site boundary. Land within the vicinity of the site has retained a rural appearance and has not been subject to successive development proposals. The existing allocated land and emerging allocation for waste management uses is relatively self-contained and does



adjoin further existing or planned development that could combine together to give rise to unacceptable cumulative effects.

10.3.5 In that context, the operation of the proposal alongside the existing built development, which has the support of the existing and emerging Local Plan, is unlikely to give rise to unacceptable successive effects on the local community.

10.3.6 Each of the specialist environmental reports has considered the potential for the respective topics areas (e.g. air quality, noise and landscape/visual impact) to combine with other developments in the area (including any that are planned/permitted) to give rise to adverse combined effects. The professional judgement of the specialist consultants concluded that no combined adverse impacts are likely to arise. There is therefore no clear reason why the proposal will combine with any existing development (or planned) to give rise to unacceptable successive or simultaneous effects.

## 10.4 Combined Effects

### Approach to Potential Levels of Acceptability

10.4.1 Waste management and energy related development (like other forms of complex development proposals) can produce effects that occur together and when combined can potentially give rise to significant impacts. The methodology for assessing cumulative environmental effects from such operations was considered by the Planning Inspector in the consideration of UK Coal's surface mining operation at Huntington Lane, Telford. At paragraph 552 of the Inspector's Report he noted for individually acceptable impacts to be elevated together to unacceptable impacts, they must have a *synergistic* effect.

10.4.2 In order to assess the combined effects properly it is necessary to consider whether some or all of the individually acceptable effects are so close to being unacceptable, that when combined together, the totality is unacceptable.

### Significance of Potential Individual Environmental Impacts

10.4.3 In order to assess whether any combination of environmental features could give rise to unacceptable combined effects, a summary of whether each individual environmental topic is likely to give rise to significant effects and therefore could make a contribution to cumulative harm. The conclusion reached in the table below has had careful regard to the specialist environmental reports attached to the Environmental Statement.

ENVIRONMENTAL FEATURE	SIGNIFICANCE OF POTENTIAL IMPACT
<b>Air Quality</b>	The potential impact from the proposal upon air quality is not considered to be significant. The potential health impacts of the proposal on the local community are judged to be insignificant. The proposed Dry AD facility is considered to provide an overall improvement in terms of the potential for odour issues in the locality. This topic area is therefore considerably below a threshold of making any substantial contribution to cumulative harm.
<b>Noise</b>	The impact of noise on the locality can be controlled and mitigated to be within recognised noise limits. This topic area is therefore below a threshold of making any substantial contribution to cumulative harm.
<b>LVIA</b>	The overall potential visual and landscape impacts are not likely to be significant. This topic area is therefore considerably below a threshold of making any substantial contribution to cumulative harm.

### Conclusions on the Potential Impacts

10.4.4 None of the individual environmental aspects of the proposal are close to the thresholds of acceptability and individually they do not make a significant potential contribution to cumulative harm.

## 10.5 The Combined Effects of Multiple Environmental Impacts

10.5.1 Having regard to the judgements set out above, this section considers whether any of the individual impacts are likely to aggregate together to give rise to unacceptable cumulative harm to nearby receptors.

10.5.2 The air quality related impacts assessed in this proposal, including odour and health impacts, have been assessed as having a low potential risk to local amenity nuisance and adverse air quality impacts. The individual assessment reports have a specific focus on the predicted concentrations of certain pollutants at sensitive human and habitat receptor locations. The assessment work has concluded that none of the air quality related impacts are likely to combine in any way to give rise to unacceptable cumulative effects on the environment.

10.5.3 The potential impacts of noise impacts are individually assessment as being 'not significant'. The potential landscape and visual impacts of the proposed development are not likely to be significant and can be assimilated into the landscape alongside the existing industrialised nature of the site. It is therefore unlikely that they will combine with air quality related or landscape and visual impacts to produce unacceptable adverse cumulative effects on local amenity.

10.5.4 No other potential combination of the individual environmental impacts are likely to combine together make a significant contribution to cumulative harm.

## 10.6 Assessment of Potential Positive Effects

10.6.1 In order to assess the overall cumulative impact of the proposal in a balanced manner it is logical that the potential positive impacts of the scheme are identified and aggregated to indicate a potential cumulative positive effect. This enables them to be weighted, in combination, into an overall judgement of cumulative acceptability or otherwise.

10.6.2 The key positives effects in relation to the proposals are:

- Contributing to the County's waste management recycling targets.
- Diverting waste from landfill.
- Recovering of heat and power from the treatment of waste materials.
- Production of renewable energy in the form of biogas to supply to the National grid replacing fossil fuels.
- Providing biogas to run the Applicant's fleet of vehicles replacing fossil fuels.
- Treating organic waste to produce a fertiliser substituting inorganic fertilisers.
- Significant employment and economic benefits
- Net improvements to the biodiversity of the area following the completion of the works

## 10.7 Overall Conclusions on Cumulative Effects

10.7.1 In accordance with the EIA Regulations 2017 and Planning Policy, an assessment of the potential cumulative impact has been carried out to support this planning application. The approach to assessing cumulative impact has considered successive simultaneous effects from concurrent developments and the combined multiple effects from the same development. The assessment of cumulative impact has had regard to positive and negative effects to ensure that an overall balanced judgement is reached.

10.7.2 The potential positive impacts are particularly relevant when considering the combined effects from the same development.

10.7.3 The assessment has concluded that no unacceptable successive or simultaneous effects are likely to occur as a result of the Proposed Development.

10.7.4 This assessment has considered whether the acceptable individual environmental, when taken together, could combine to create unacceptable environmental effects. There is nothing about the combination of the impacts that is unusual in this case. Any overall adverse cumulative effects will be controlled by the imposition of planning conditions and offset by the cumulative benefits. It is therefore concluded that,

because none of the individual environmental areas are nearly unacceptable, the totality will not be cumulatively unacceptable.

## 11 CONCLUSION

### 11.1 The Planning Balance

11.1.1 This Planning Statement accompanies a Planning Application on behalf of Envar Composting Ltd seeking planning permission for the construction of a Dry Anaerobic Digestion (AD) facility, Healthcare Waste Recovery Facility, Pellet Fertiliser Facility, Waste Transfer Station, Vehicle Re-Fuelling Station, Biomass Fuel Storage Building, Surface Water Storage Lagoons and ancillary development.

11.1.2 The following sets out the conclusions of the assessment of the proposal against the Development Plan and other material considerations in accordance with Section 38(6) of the Planning and Compulsory Purchase Act 2004.

#### Principle of Development

11.1.3 The principle of a waste management and energy related uses on the Application Site is firmly established by the granting of various planning permissions over many years. The Application site is located on land which is allocated in the Development Plan for waste recycling and recovery activities, and as a future 'Waste Management Area' within the emerging Waste Local Plan which has been through independent examination, and subject to recommended modifications by the Planning Inspector, is likely to be adopted by the Council in the summer of 2021. Significant weight should therefore be attached to the site's allocation as a 'Waste Management Area' in the emerging Waste Local Plan.

11.1.4 The recycling of green and food waste, including the recovery of heat from the Healthcare Waste Energy Recovery Facility, will complement existing activities on-site and will, in part, make use of previously developed land. There are clear co-location benefits between the various elements of the proposal in terms of utilising on heat and power generated on site, generating a renewable form of fuel in the form of biomethane, turning waste into a valuable agricultural fertilisers and minimising waste to landfill. The sustainable credentials of the proposal are therefore matters which should be given significant weight in the planning balance.

#### Environmental Impact

11.1.5 The Environmental Impact Assessment process has fed into the production of the accompanying Environmental Statement, which is part of the supporting documentation for the Planning Application, has considered an appropriate range of environmental issues as established as part of the pre-Application

engagement with the Council and the 'Scoping' exercise that included engagement with statutory and non-statutory stakeholders including the local community.

11.1.6 The findings of the EIA concluded that having taken into account the proposed mitigation the effects of the proposed development are not considered to be significant. The impacts which could be considered to be more contentious (landscape and visual, air quality/human health, and noise) are capable of being fully mitigated through an iterative design process and through careful consideration of emissions control and abatement techniques.

11.1.7 In respect of air quality, assessments have focused on the principal emissions to air, including:

- potential impact on local air quality.
- impact of emission concentrations around the key routes associated with material deliveries and waste removal.
- the risk to the health of people living and working in the vicinity of the proposed Dry AD and Healthcare Waste Energy Recovery Facility.

11.1.8 The findings of the EIA work demonstrates that the proposed development will not give rise to significant adverse air quality effects for either human or ecological receptors in either the short-term or the long-term.

11.1.9 In terms of noise, the assessment concludes that the operations during the early morning, daytime and evening period would result in noise levels equivalent to the present operations and will not result in adverse noise impacts during these periods.

11.1.10 Overnight, the initial assessment indicates that the operation of the Dry AD and Healthcare Waste energy recovery plant has the potential to result in adverse impacts at surrounding properties. It is therefore proposed to incorporate additional mitigation measures into the final design of the proposed facility to ensure noise levels are reduced to a satisfactory standard to minimise the potential for adverse impacts. Calculations made in the Noise Assessment on the basis of likely mitigation measures, demonstrate that it is possible to reduce noise levels to a satisfactory level.

11.1.11 It is therefore proposed that the noise attenuation measures for the plant are developed during the detailed design stage. It is suggested that, on the basis planning permission is granted, a planning

condition is imposed requiring further noise assessment to be undertaken to demonstrate that the operation of the new plant would not result in adverse noise impacts.

11.1.12 In respect of the landscape and visual impact the proposed development is located within an existing small developed industrialised area with a number of other buildings / sheds within a wider area. The existing small industrialised area already hosts buildings, large sheds, moving machinery and fencing that are characteristic of the proposed development. In overall terms, the proposal, when considered in an increasingly broad context of the landscape, is anticipated to be assimilated into the existing landscape and views. The existing area is considered to have the capacity to absorb the introduced characteristic elements without overarching change to the landscape character of the area and the loss of moderate to low sensitivity and uncharacteristic elements is considered acceptable. It is therefore concluded that no unacceptable landscape and visual impacts will arise.

11.1.13 The potential impact of the development on other environmental issues such as, traffic, flood risk, surface water drainage, ecology and cultural heritage have also been assessed. The conclusion in respect of each of these is that the nature of the development and the design process has ensured that there will be no adverse impacts on any of these issues.

11.1.14 With mitigation in place, where appropriate, the majority of environmental effects identified through the EIA process associated with the Proposed Development have been classified as not significant.

11.1.15 Clear consideration is given to planning policy across all of the disciplines and there are no policy conflicts.

### **Overall Conclusion**

11.1.16 The principle of a waste management development on the application site has already been established. The proposal is also located on land which is allocated in the Development Plan for waste recycling and recovery activities, and as a future 'Waste Management Area' within the emerging Waste Local Plan (soon to be adopted). The principle of the development is therefore acceptable in land use planning terms.

11.1.17 The application has been subject to EIA which has in turn resulted in a detailed and robust ES. With mitigation in place, where appropriate, the majority of environmental effects identified through the EIA for the proposed development have been classified as not significant.

11.1.18 The proposal has been assessed against the Development Plan and other relevant material considerations which has demonstrated that that the location of the proposal is entirely appropriate and does not conflict



with existing or emerging local planning policies and will not give rise to any unacceptable adverse environmental, health or local amenity related impacts.

11.1.19 In overall conclusion, it is considered that the proposed development should be supported and granted planning permission.

**APPENDIX 1: SCOPING OPINION**

**APPENDIX 2: STATEMENT OF COMMUNITY INVOLVMENT**

**APPENDIX 3: STATEMENT OF COMPETENCY**

## APPENDIX 4: AIR QUALITY ASSESSMENT

## APPENDIX 5: HEALTH IMPACT ASSESSMENT

**APPENDIX 6: NOISE ASSESSMENT**



**APPENDIX 7: LANDSCAPE & VISUAL IMPACT ASSESSMENT**

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