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3. PROJECT DESCRIPTION

Introduction

3.1 The EIA Regulations require that the Environmental Statement (ES) should include a description of the development, which then provides a context for the assessment of the aspects of the environment likely to be significantly affected by the development, and the measures available to prevent, reduce and where possible offset any significant effects on the environment.

Site Selection

3.2 The Environment Agency's guidance on facilities such as the proposed AD facility states that the sites should not be within any of the following:

- groundwater source protection zone 1;
- 10 metres of a watercourse;
- An Air Quality Management Area (AQMA);
- 200 metres of a European Site, Ramsar site or a Site of Special Scientific Interest (SSSI); or
- 200 metres of a sensitive receptor (unless the stack height is greater than 7m (or "3m effective height).

3.3 Additionally, the best and most versatile agricultural land should be avoided, as should land at risk from flooding. The application site meets the criteria set out above and is classified as Grade 2 'good' agricultural land and is located within Flood Zone 1 (low risk).

3.4 AD facility location is primarily driven by the key objectives of a rural location with good access to the local transport network and established feedstock providers whilst also ensuring that primary infrastructure components, specifically the digester dome tops, are well-screened to retain the characteristic rural amenity of the surrounding landscape. The key constraints which were taken into account during the design process included:

- landscape character and visual amenity;
- location of residential properties – proximity to noise sensitive receptors;
- presence of protected habitats and species;
- potential for traffic, transport and access effects;
- presence of archaeological and cultural heritage features;
- presence of watercourses and associated flood risk (including surface water);

- key recreational routes and other land users; and
- presence of existing utilities including power lines, pipelines and telecommunications links.

3.5 In addition, Acorn's site selection required the site to:

- be within close proximity to the primary sources of feedstock including energy crops and manures produced on the surrounding agricultural land;
- be within sufficient proximity to the local road network for feedstock deliveries and biomethane, CO_2 and digestate removal;
- have local power grid connection as a back up to the on-site electricity generation; and
- be capable of meeting planning and environmental criteria top avoid adverse amenity impacts, visually screened where feasible from sensitive views, and minimising impacts on flora and fauna.

3.6 Once the application site had been identified as suitable in principle for the proposed development, the following assessments took place:

- Initial (phase 1) desk-based screening of the site and surrounding study area (up to approximately 5km) to identify site constraints and opportunities;
- More detailed phase 2 Environmental Impact Assessment Screening opinion, whereby all potential constraining environmental factor were considered across a range of technical disciplines, including site surveys where appropriate.

Design Principles

3.7 The proposed development Site has been identified as occupying a suitable and sustainable location for the development of an AD facility and associated infrastructure, close to the primary sources of feedstock and well located for access to the A1307 Cambridge Road and the wider road network surrounding Haverhill and south-east Cambridgeshire.

3.8 The layout and design of the proposed development was considered as part of an iterative design process aimed at reducing the potential environmental effects of the proposed development whilst taking accommodating operational and commercial requirements.

3.9 Considerable effort has been made to produce a site layout which achieves the most satisfactory relationship with the landscape of the Site whilst respecting other environmental and technical considerations. During the EIA Screening process, the multi-disciplinary team met to discuss the various issues which were identified as part of the initial constraints screening process.

3.10 The team identified the optimal locations for each type of infrastructure component, i.e., electrical, CHP, tall storage tanks, inert rainwater lagoons, satellite digestate lagoons, pipeline routing etc. Mitigation of the potential effects of the proposed development was incorporated through the iterative design process.

3.11 Changes made as a consequence of this design process, e.g., application of tree root protection zones and landscaping, vegetative screening; access design and access improvements to the A1307 Cambridge Road and technical consideration of potential impacts on residential properties (i.e., air quality and noise) are considered to be embedded mitigation.

3.12 The findings of the technical and environmental studies undertaken for the planning application were used to inform the design of the proposed development, and hence achieved a 'best fit' within the environment of the proposed Site.

Proposed Development

3.13 The proposed development would consist of approximately 4.63ha of impermeable hardstanding located on farmland north of Spring Grove Farm on the Thurlow Estate, Withersfield, Suffolk. The application would include for highway modifications to Spring Grove Farm access onto the adjoining A1307 Cambridge Road.

3.14 For the purpose of the technical assessments, it has been assumed that the AD plant would have a lifetime of *c.*25 years.

3.15 The proposed development would accept in the region of 92,000 tonnes per annum of feedstock from local farms.

3.16 The proposed development would generate biogas which will be upgraded to biomethane before being removed from the site by tanker to a central facility where it will be injected into the national grid. The AD facility would have the capacity to produce approximately 19,735,050 m^3 of biogas per annum. The proposed development would provide enough green gas to meet the heating demand of 7,650 UK households (based on 14.1MWh/y per household). In comparison with standard UK grid emissions, the biomethane produced by the AD facility would have an equivalent saving of 31,230 tonnes of CO_2 each year, equivalent to taking 20,750 cars off the road.

3.17 In addition to the biogas, the AD process also produces a nutrient rich solid fertiliser and soil conditioner and a liquid fertiliser (digestate), which would be used on local farms in place of raw manures and artificial fertilisers.

3.18 The AD process would also result in the production of CO_2- rich 'offgas'. The 'offgas' is normally vented by AD plan operators, where the main goal is the production of biomethane. However, Acorn sees this 'offgas' as a precious resource, and all their AD plants will be fitted with equipment to upgrade the CO_2 to 99.9% purity, suitable for almost all industrial and commercial applications in the UK. Up to 13,515tpa of upgraded CO_2 will be liquified and transported by road to end users, ideally located locally.

3.19 There are a number of stages of the production process and these are detailed further below.

Feeding System

3.20 The feedstock would be brought to the AD facility from the applicant's land and surrounding farms using tractors and trailers and HGV or tankers, depending on the type of feedstock. All vehicles would access the Site via the weighbridge, where the weighbridge operator would record the type of feedstock and tonnages.

3.21 The feedstock would comprise the following:

- silage (rye 15,000tpa; oat 5,000tpa; maize 16,500tpa; and grass 10,000tpa);
- straw (20,500tpa);
- farmyard manure (10,000tpa); and
- poultry litter (15,000tpa).

3.22 Feedstock would be unloaded into the three silage clamps, manure reception shed and straw building as appropriate.

3.23 Crop silage and grass would be unloaded and stored in the silage clamps, which would be constructed with pre-cast 3.16m high concrete U-shaped wall panels filled with earth for additional strength. The clamps will have a hard wearing and acid resistant rolled asphalt floor and be fitted with a protective sheet to preserve the feedstock and reduce odour. The clamps will have a liquid drainage and collection system for dirty liquid run-off and this would be pumped directly into the buffer tanks for feeding back into the process.

3.24 Loading shovels would also be used to transfer the crop silage from the clamps to the feed hoppers, which would be equipped with walking floors. Loading shovels would also be used to transfer feedstock from the chicken shed and straw bunker into the feed hoppers.

3.25 The macerator would mechanically crush, homogenise and defibre the solid feedstock through shear forces rather than shredding. The feed screw pumps also functions as a mixing pump, allowing captured rainwater or digestate required for dilution to be mixed with feedstock. Use of a macerator for pre-processing improves the digestibility of the solid feedstocks. The processed straw will then be fed into the digestion tank.

3.26 Liquid feedstock (farmyard manure) would be transferred from a tanker through the liquid in-bay to a series of liquid feedstock storage tanks via the tanker connection point. Liquid feedstock would be transferred from the liquid feedstock storage tanks to the digester via a transfer pump.

Digestion

3.27 Within the series of digester tanks, the feedstock would undergo anaerobic digestion, a sequence of processes by which microorganisms break down the feedstock material in the absence of oxygen. Material in the feed hoppers and liquid feedstock storage tanks would be transferred to the digester tanks where it would remain for a number of days to maximise the biogas potential from the feedstock.

3.28 Each digester would have an operational storage capacity of 35,000m^3 and be equipped with submersible mixers to create uniform mixing. There would be a series of pipework entering and leaving the digesters including substrate, digestate, biogas, air, liquid digestate recirculation, and condensate. An optimum temperature of between 38-42^{o}C would be maintained within the digesters through use of the internal heating system which would be supplied with heat from the on-site CHP via the heating manifold. Digestate would be heated to a temperature of 70 ^{o}C for 1 hour in the pasteurisation plant to ensure it is safe to spread to land.

3.29 The digesters would be fitted with a double layer, self-supporting membrane dome for biogas storage. The membrane roof would be supported at all times by using air blowers to inflate the void between the two membranes.

3.30 The total height of the digester tanks would be approximately 17m. The stored biogas would then be pumped into the gas cleaning unit, so that it is suitable for injection into the gas grid.

Storage and Digestate Separation

3.31 The digestate held within the storage tanks would be transferred to the digestate separation process for dewatering. The digestate would be temporarily stored in a header tank for flow regulation before being transferred to the screw presses via series of screw pumps. The dewatered digestate would be stored in a storage bunker and the liquid digestate would flow to the liquid digestate storage lagoons (5 lagoons each with a capacity of 10,000m^3, combined storage of 30,000m^3). Each lagoon will comprise a reinforced High Density Polyethylene (HDPE) liner with a floating HDPE cover, with a leakage detection and geotextile protective lining. This will sit within a bunded earthen lagoon wall. The lagoons are designed to hold over nine months' of storage, whilst having a free board of 750mm. This will ensure the agronomic benefits of the odourless digestate are maximised for local arable crop rotations and will be in full accordance with Environment Agency regulations and best practice guidelines.

3.32 The liquid digestate would be stored on site until it can be used as an agricultural fertiliser on surrounding land. This reduces the need to import artificial fertilisers and as the AD process destroys most weed seeds present in the feedstock, the need for artificial weed killers would be reduced. The solid part of the digestate would be dried and exported by tractor and trailer for use on surrounding farmland. In addition, the potential to provide pipelines directly to enable spreading on neighbouring farmland is being investigated. This would enable to digestate to be piped directly to the land upon which it can be spread, avoiding the use of road transport. From there it could be spread with an umbilical system.

Biogas Clean-up and Membrane Upgrading

3.33 Biogas held within the storage tanks would be processed through the biogas clean-up plant. The biogas clean-up and membrane upgrading plant would remove impurities within the biogas stream to produce biomethane and carbon dioxide. Contaminants including hydrogen sulphide, carbon dioxide and water vapour.

3.34 There would be sulphur nets in each digester to enable conversion of hydrogen sulphide to elemental sulphur. Pre-treatment to remove contaminants would be required prior to biogas entry into the CHP and gas upgrade to remove contaminants.

3.35 The next step in the upgrading process would be to convert water vapour present in the biogas stream into a liquid through a condenser. In the condenser, cold utility fluid would be used to decrease the temperature of the biogas, promoting condensation of water vapor. Water vapour removed from the biogas would flow to the digestate storage lagoons.

3.36 Lastly, a membrane upgrader would be used to separate the methane present in the biogas from the carbon dioxide by only allowing methane molecules to pass through a permeable membrane, based on the operating conditions and membrane specification. Carbon dioxide would be recovered and stored onsite for offtake by end users in the food horticulture and construction products industries. Water vapour removed from the biogas would flow to the digestate storage lagoons.

Electricity Generation

3.37 The CHP plant would comprise two CHP units rated at 0.6 MW_e and 1.5 MW_e electrical capacity of CHP units, with a total installed electrical capacity of 2.1MW_e. One CHP would be fuelled by biogas produced from the membrane upgrader, and the other would be fuelled by natural gas. Heat produced from the CHP plant would be diverted to the digesters through the site's heating manifold to improve process efficiency.

Biomethane, Storage, Transport and Upgrading

3.38 Any biogas which is not used for generating electricity would be compressed for transport via tanker to one of the Acorn injection hubs. Biogas would be produced at a rate requiring around two offtakes per day. The biomethane delivered to the hub would be compressed and cooled prior to injection into the national grid through a hub Grid Entry Unit.

3.39 Any excess or reject gas which cannot be used in the CHP plant, storage, transport, or through the grid entry unit would be flared via an emergency gas flare which would be installed on the north west corner of the site. The flare will be completely shrouded and will meet Environment Agency Best Available Technology Guidance. This means it will burn up the gas at 1,000 centigrade to prevent air pollution and the flame will be completely hidden from view. It will only be used when the CHP and gas clean-up equipment is undergoing scheduled maintenance or in case of break down or emergency. It will be positioned 10m from all structures and planting.

Water Management

3.40 The proposed AD facility would capture as much rainwater as possible for use in the process. Based on annual average estimates, rainwater capture is expected to be sufficient for approximately 100% of the process water demand. Two primary drainage systems will be adopted, for the clean (surface water runoff) and contaminated (foul) water systems.

3.41 Accordingly, the Site has been designed to have a conservative approach, a discharge to the Stour Brook to the south of the main Site has been adopted as the means of discharge of surface water runoff resulting from the proposed development. A lagoon has been incorporated within the proposed development design to control discharge of runoff and attenuation storage will be provided within the lagoon.

Site Layout

Scale

3.42 The main operational part of the site would comprise of two adjoining arable fields, approximately 9.3ha of which at Bowsey Field and 3.2ha at Spring Grove Field and details of size of plant and buildings proposed are set out in Table 3-1. The proposed pipeline length would be 3055m in length, the on site access track is 230m from the main road to the main site entrance and an off site lagoon area of 1.5ha.

3.43 The site layout of the main site and the off site lagoon area in Figures 3-1 and 3-2 below.

Figure 3-1: Main Site Layout

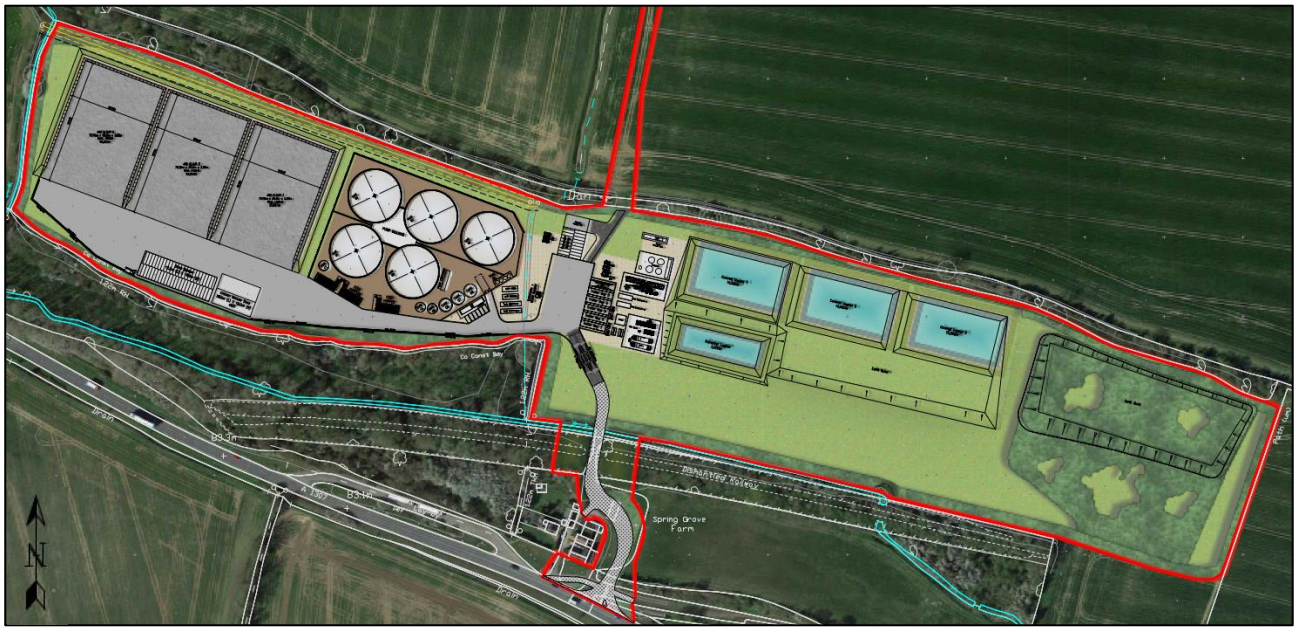
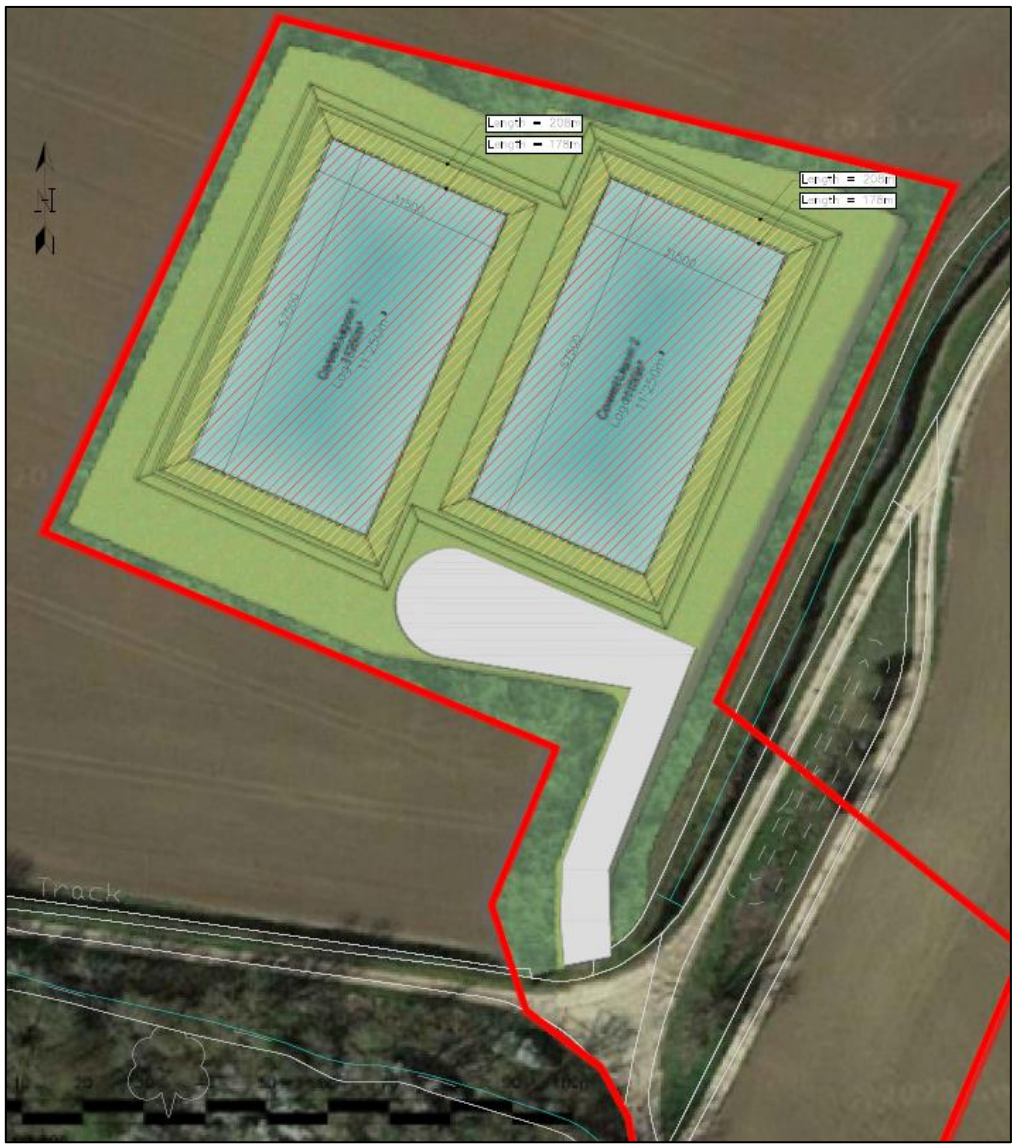


Figure 3-2: Off Site Lagoon Area



Materials and Appearance

3.44 The design of the proposed AD facility has been carefully considered so as to ensure that the appearance of the proposed AD facility blends into its rural setting as much as possible. Design measures include the careful consideration of colour palette to integrate structures within the surrounds, and careful siting of the development infrastructure, i.e. focusing taller structures within the western extent against the backdrop of existing and established mature trees and the careful use of external lighting, specifically at night time.

Hardstanding

3.45 Due to the nature of the proposed development, the majority of the site will form new impermeable area. The new impermeable area will be predominately formed of the hardstanding footprints of the five digester tanks, the digestate lagoons, silage clamp area and circulation areas.

Lighting and Security

3.46 Some external artificial lighting would be requited at the facility to ensure safe working during periods of reduced daylight. A lighting Assessment has been undertaken by Strenger[1] to quantify the impact of artificial light associated with the proposed development on its surroundings, which include residential and ecological receptors.

3.47 Compliance has been achieved with the adoption of an environmentally sympathetic scheme of lighting having the following mitigation measures:

- the use of luminaires with zero direct contribution to upward light;
- adopting zero-degree luminaire uplift angles;
- careful aiming and positioning of luminaires;
- careful selection of luminaires;
- the use of optimal light distributions for their specific location and orientation;
- optimisation of mounting heights;
- the use of dimming (via factory pre-set);
- the use of presence detection controls and zoned switching;
- a 365-day timer clock and photocell controls;
- using the lowest colour temperature light sources practicable (3000K generally & 4000K for explosive atmosphere luminaires but only where 3000K is not available);
- the use of light spill shields;
- the adoption of the lowest intensity LED modules practicable; and
- minimising the task illuminance level.

3.48 The following mitigation measures have been adopted in the design and planned operation of the Proposed Development:

[1] Lighting Assessment prepared by Strenger – June 2022

- embedded by design, the siting of areas requiring a high level of illumination away from potentially light sensitive ecological receptors;
- by risk-assessed design & operation (by others), not lighting the storage clamps; and
- by risk-assessed design & operation (by others), not lighting the site access road.

3.49 The AD facility will include a control system linked to a Supervisory Control and Data Acquisition (SCADA) system which provides an interface for the operator to control the plant and captures and records all the data produced by the process. The control system would control all aspects of the process and send out performance and error alarms to the operator. The control system performs a number of key functions including:

- controlling the liquid levels in the tanks;
- automatic pumping between all of the tanks;
- automatic safety overrides;
- control of the feeding rate to the digester to match gas production to demand;
- control of separator operation;
- opening and shutting valves in sequence to match pumping;
- turning on and off the agitators;
- implementing actions in case of alarms e.g. switch off pumps in case of tank reaching maximum levels;
- automatic foaming management by implementing a special mixing and pumping mode to break up and disperse foam and floating layers; and
- sending warning alarms to the operator and Acorn Bioenergy

3.50 CCTV may be required, and its location would be carefully considered within the design parameters.

Fencing

3.51 The AD Facility would be enclosed by Protek anti-climb fencing around the core site (or similar). Deer/wildlife fencing would be installed around the perimeters of the lagoons. Double-leaf vehicle access gates and a pedestrian access gate will allow entry into the Site.

Planting/Landscaping

3.52 There is an area which is currently visibly open, and it is proposed that to address this, a major new woodland block is proposed that will reinforce the eastern boundary and provide a contribution to biodiversity. The woodland would be planted on top of an area of bunded soil, providing a degree

of enclosure and visual mitigation from completion of construction works. The northern boundary of the site will be subject to further hedgerow planting to secure long-term resilience of the boundary as a screening element of the site.

Site Infrastructure

3.53 The primary components of the proposed development are shown on the accompanying drawings and would include the items of plant set out in Table 3-1

Table 3-1 – Description and Dimensions of AD Facility Components

Element	Description of Equipment/Plant	Dimensions
Liquid Digestate Tanks, Pre-Tanks, Dirty Water Tanks	Storage of liquid feedstocks, dirty water run off to be reused in the process. To be in green or an alternative colour agreeable to the LPA.	Total 3no 8 x8 and 3 no 6 x 8
Manure Reception Shed	Storage of poultry litter and farmyard manures. To be partly clad in green under a fibre cement roof or clad using an alternative colour agreeable to the LPA.	26.0m x 19.5m x 6m to eaves, 8m to ridge
Straw Building	To be partly clad in green under a fibre cement roof or clad using an alternative colour agreeable to the LPA. Straw storage building including bunker and processing.	54.5m x 16.05 x 6m to eaves, 8m to ridge 18.7m x 16.05m
Silage Clamps (x3)	The three silage clamps will be constructed with pre-cast 3.16m high concrete U-shaped wall panels that are filled with earth for additional strength. The clamps will have a hard wearing and acid resistant rolled asphalt floor. The clamps will have a liquid drainage and collection system for dirty liquid run-off. This will be pumped directly into the dirty water tanks for feeding back into the process	Clamp 1,2,3 – 78.75m x 52.5m wide x 3.52m high
Feeder Hoppers (x2)	Feedstock is fed into the feed hoppers as per the sites feeding plan. Once the feed is loaded it exits and proceeds for further feed pre-treatment before pumped to the digesters. To be green or an	3 no, Approx area 220m3 each

Element	Description of Equipment/Plant	Dimensions
	alternative colour agreeable to the LPA.	
Digester Tanks / Fermenters (x5)	Tanks take feedstock, pumped from upstream processing equipment, with sufficient dry matter content. Digester tank configuration allows for a retention time, with the substrate within the digesters mixed by agitators and recirculated. Generated biogas will flow to the digester headspace before treatment to downstream equipment. To be clad in green or an alternative colour agreeable to the LPA.	Storage operational capacity of each 41,000m³; straight wall height of 9m with 7.6m gas dome; 34m diameter; max height approximately 16.6m high
Pasteurisation Tanks	The pasteurisation tanks would treat the fermented feedstock prior to it being pumped into the digestate lagoons.	4 x 25m3 tanks approx. 3m diameter x11 m high (top of agitator)
Separator Building	The separator within the building would extract solids from the digestate before it is pumped to the digestate lagoon.	18m x 15m x 6m to eaves, 8m to ridge
Digestate Lagoons (x5)	The lagoons will be used to store the liquid digestate until it can be spread on to land. The lagoons will be covered in line with Environment Agency (EA) requirements.	Storage capacity 3 x 10,000m³
Gas Flare	For infrequent use during maintenance to burn off any excess gas.	Stack height 9m. Flue diameter 2.4m. Footprint 5 x 4m
Biogas Upgrade Unit	To clean and pressurise the gas prior to transfer to the gas grid. CO_2 vent is connected from gas upgrade unit to the CO2 capture Unit	Over footprint 26 x 9m x 3m. (2 no. containers and associated equipment). Vent height 7.5m
CO_2 Capture Unit	Captured CO_2 to be sold	Process plant - Approx 10m x 16m x 4.75m
CO_2 Tanks	Storage vessels for captured CO_2	2 no, 13.2m long by 3m diameter by 3.4m high including plinth.
Combined Heat and Power (CHP) Units (x2)	To provide the AD facility with power and heat. The units would be powered by gas from the biogas plant.	CHP1 –13m x 3m x 3m, stack 9m CHP2 – 13m x 3m x 3m, stack 9m plus, associated equipment

Element	Description of Equipment/Plant	Dimensions
	To be green or an alternative colour agreeable to the LPA. Associated equipment includes heat exchangers and pumping systems	
Compressors (x2)	Compression of gas before injecting into road tankers.	Each – 2 no, 13m x 3m x 3m, stack 5m plus associated equipment
Compressed gas storage (x2)	Storage vessels for compressed gas	2 x banks of gas storage, each 6.5m x 3m x 3m
Propane Tanks	The propane tanks will add propane to the biomethane gas as required.	2 x 12.5 tonnes plus associated equipment
Biomethane/CO^2 off-take vehicle bay (x5)	Loading bay area for tanker parking	
Containment Bund	Civil engineering works on site related to the primary containment construction to current CIRIA guidance and recommendations	Circa 9424m^2
Lagoon offtake bay	HGV bay for extracting digestate	1 no, offtake station for HGV
Parking Area	6 bay car parking area for visitor car parking in office area.	
New Site Access Roads	Via the A1307 (utilising existing farm access)	
Pump room container	Contains pumps to facilitate substrate/digestate between the final storage tank and digesters. along with heat distribution systems to main equipment.	1no. inside containment bund and 2no outside containment bund 13m x 3m x 3m
Rainwater Harvesting Lagoon (underground storage crates)	To collect surface run off from the site.	
SCADA Alarm Monitoring Systems	Supervisory Control and Data Acquisition (SCADA) system will provide an interface for the operator to control the plant, and capture/record all data produced by the process.	n/a
Site Boundary Fence	2.4m high v mesh fencing installed around the core site. Deer/wildlife fencing installed around lagoons. Double leaf vehicle access gates and a pedestrian access gate will allow entry into the Site.	Along the main site, lagoons and landscaping bund.

Element	Description of Equipment/Plant	Dimensions
Weighbridge and Site Office Welfare Office Unit (x2)	To record incoming and outgoing deliveries	4 x 40ft containers on top of each other.
ASS (evaporator)	Including process plant container on single pad	Circa 15.3m x 12m. 12m High

Operations Hours

3.54 The AD process involves a biological process that is continuous. The processing plant would therefore be operational 24/7. The facility would be staffed during the hours of 07:00 – 19:00 Monday to Sunday, except during peak harvest periods when working hours would be extended as necessary. A supervisory control and data acquisition (SCADA) system would monitor the facility overnight when it is not manned.

3.55 In terms of the biomethane, the facility would benefit from approximately 6-7 hours of storage capacity for produced gas; gas export and collection would therefore take place approximately twice each day 24-hour period including once or twice overnight, this will be the main activity requiring night-time lighting.

Access and Haul Roads

3.56 Proposed access to the AD facility would be served via the upgraded existing farm access off of the A1307 Cambridge Road. Chapter 6 of the ES shows the proposed junction design, which is in line with CD123 DMRB, to meet the requirements of HGVs. The junction would be hard surfaced. To ensure site security, the entrance would be secured by a locked gate out of hours set back within the site. A 7m wide, hard surfaced access road would be created from the site access junction to the main site.

3.57 In the interests of highway safety and operation, the proposed site access has been designed to allow an HGV to gain access whilst an HGV awaits egress. This would avoid queuing and any subsequent backing up on the adjoining A1307.

3.58 Parking spaces and manoeuvring space would be carefully considered to ensure that no vehicles would need to queue to get into the Site. In consideration of this, six car parking spaces are proposed.

Traffic and Vehicle Movements

3.59 Deliveries of crops to site would be determined by the harvest. Harvests are ordinarily completed on a campaign basis therefore during the peak harvest periods delivery hours would be in line with standard agricultural harvest-time activity.

3.60 Vehicle movements relating to delivery of agricultural by-products and export of digestate would generally be limited to the following hours:

- Monday – Friday 07:00 – 18:00; and
- Saturday 07:00 – 13:00

3.61 Vehicle movements will comprise tractors with trailers and various HGVs including tube trailers, in the form of maximum-sized articulated lorries.

Employment

3.62 The facility would be staffed by up to five full time equivalent (FTE) members of staff on-site.

3.63 The construction of the AD facility would generate approximately 100 FTE jobs. The temporary increase in employment and the associated secondary economic effects such as supply chain multiplier effects, and spend on local services, would have positive effects at a local level during the construction phase.

Construction

3.64 The construction process would be managed to ensure minimum disruption during the construction period. The process would be managed in accordance with construction good practice including the recommended management and mitigation measures out in the relevant technical reports accompanying the planning application. All appropriate health and safety management systems would be put in place.

3.65 A Construction Traffic Management Plan (CTMP) would set out measures for managing the following:

- setting out the site entrance from Spring Grove Farm access and interface with traffic on the adjoining A1307;
- construction of internal access road;
- traffic management including routeing and timing of deliveries;
- protection of trees and hedges;
- provision of parking and turning areas within the site;
- signs and instructions; and
- visibility.

3.66 It is expected that construction of the proposed development would take approximate 70 weeks and require up to 100 onsite construction workers during the peak construction phase. Approximately 3,000 HGV deliveries would be required during the construction of the proposed development. This equates to an average of 11 HGV trips per day (or 22 HGV movements, so 11 in and 11 out) across a 275 day year.

3.67 Construction activities, including deliveries, would be limited to 7am to 7pm Monday to Friday, with reduced hours on Saturday for the duration of the construction period. There would be no construction activities undertaken on Sundays or bank holidays without prior approval.

3.68 The access would be improved to ensure it met the requirements of HGV vehicles and these improvements would include hard surfacing and construction of a bell mouth and the required visibility splays.

3.69 There is a potential for construction dust associated with the proposed development which could potentially affect the closest sensitive residential receptors, however best practice mitigation measures would be employed to limit the potential for impact.

3.70 Construction related noise arising predominantly from HGV movements would be both temporary, and within restricted hours. Construction activities, including deliveries, would be expected to occur Monday to Friday, with reduced hours on Saturday for the duration of the construction period. There would be no construction activities undertaken on Sundays or Bank Holidays without prior approval.