

Waste Operation as a Reasonably Associated Activity Bespoke Application

Whitlingham Sludge Treatment Centre

Anglian Water Services Ltd

July 2024

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1 Non-Technical Summary

1.1 Introduction

In order to satisfy the requirements of the Environmental Permitting Regulations (EPR) 2016, Anglian Water Services (AWS) “The Operator” applied to the Environment Agency for a variation to the existing Whitlingham Sludge treatment Centre (STC) waste operation bespoke permit (EPR/LP3499SY) and to consolidate the CHP waste operation permit (EPR/RP3435GB) to an installation permit – (application reference number EPR/LP3499SY/V006).

The current IED permit application would only allow the storage of cake produced or imported for treatment at the installation meaning that only cake produced or to be treated at Whitlingham by the anaerobic digestion process may be stored.

To facilitate the continued import, storage and export of cake from other AWS sites prior to deployment to land or to other AW STC anaerobic digestion facilities for treatment as per the current STC permit, AWS have been advised that the addition of a waste operation as a reasonably associated activity would be required. From discussions, it is not likely that the standard rules permit conditions for “SR2010 No 17: storage of wastes to be used in land treatment” could be met due to proximity to buildings that are used by the public or are domestic dwellings.

AWS are therefore seeking to vary the existing compost permit (EPR/ZP3437EF/V002) to a waste operation as a reasonably associated activity to the IED permit that is being determined.

To consider the application for the variation of the compost permit to a waste operation as a reasonably associated activity some additional information regarding the new activity is required. This Main Supporting Document (MSD) which includes this non technical summary (NTS), associated application forms and supporting documents provides that additional information. The application is for the variation of the current compost permit to a waste operation for cake storage as a reasonably associated activity to the Whitlingham Sludge Treatment Centre (STC) current IED permit application.

1.2 Overview of the site and activities

Whitlingham Water Recycling Centre (WRC) and Sludge Treatment Centre (STC) is located Whitlingham Sludge Treatment Centre, Kirby Bedon Road, Trowse, Norwich, Norfolk, NR14 8TZ (NGR: TG 27880 07554). The WRC is operated under the Urban Wastewater Treatment Regulations (UWwTR) and has a standalone Water Discharge Activity Environmental Permit, this will remain an independent permitted activity. The STC operation is a non-hazardous waste activity which is currently carried out under a bespoke waste operation permit (EPR/LP3499SY). The waste activity comprises of imports, physio-chemical and anaerobic digestion (AD) treatment, and the storage of waste, all for recovery purposes. The STC handles waste derived from the wastewater treatment process indigenously produced on-site and imported wastes. The Site undertakes AD of sewage sludge from the on-site WRC and will continue this operation under a new bespoke Industrial Emissions Directive (IED) installation permit. No hazardous waste is imported or treated at Whitlingham STC. The site has a standalone Water Discharge Activity Environmental Permit which will remain an independent permitted activity.

The Combined Heat and Power plant is also currently permitted under a waste operation permit (EPR/RP3435GB). Electricity and heat for the site are primarily provided by the combustion of biogas generated from the 2 CHP engines (1 x 1.2 MWe, 1 x 1750 kWe spark ignition engines) and on-site treatment processes, and by dual fuel (biogas and gas oil) steam raising boiler providing steam to the thermal hydrolysis process (THP) plant.

1.3 Overview of the Current IED Installation Permit Application

The primary permitted installation activity will be the AD treatment activity. The AD activity will treat indigenously produced sludges and imported sludges and domestic waste. Permitted Directly Associated Activities (DAAs) will be the physio-chemical treatment of sludges; the storage of sludges and cake from the AD activity; the storage of biogas derived from the AD treatment of waste and the combustion of biogas in an on-site Combined Heat and Power plant (CHP). In the event the CHP cannot run in an emergency or due to operational issues, biogas will be combusted via an on-site flare stack and boiler system.

As part of the permit variation and consolidation, AWS wishes to add 2 new EWC waste codes to allow for cake to be imported onto site for treatment and/or storage before deployment to land. These codes are 19 02 06 "sludges from physico/chemical treatment other than those mentioned in 19 02 05" and 19 06 06 "digestate from anaerobic treatment of animal and vegetable waste". The full list of EWC waste accepted at Whitlingham, and to be included on the permit, are listed in Appendix A.

The IED permit will include:

- Primary Digestion Tanks (Top Storage)
- Secondary Digestion Tanks
- Gas Holder
- Digester 1, 2
- Pulper Tank
- Flash Tank
- Cambi Pressure Vessels 1, 2, 3, 4
- THP Cake Silo
- Import Cake Silo
- Cake Bunker
- Post Digestion Tank
- Gas Oil Silo
- RO Plant Salt Storage
- Waste Oil Tanks
- CHP engines 1, 2
- Contact Tank
- Thickened SAS Tank
- Liquors Tank
- SHARON Plant
- Poly Make up Silo
- Consolidation Tanks x3
- Thickened SAS Tank (Post GBT)

- Degas Tank
- Post Digestion storage tank
- Centrifuges (Duty/Duty/Standby) 1,2,3 (General thickening)
- Post Digestion 1,2,3,4 (clam press)
- Auxiliary boilers 1,2,3
- Biogas burner (flare stack)

The following are outputs from the process:

- Cake (dewatered post digestion sludge) - stored in cake bays before being shipped for use as a fertiliser;
- Bio-gas - stored in an existing gas holder, and is then either:
- Burnt in CHPs, for use on site with surplus exported to the grid
- Burnt in the fired steam boiler
- Flared in the waste biogas burner.

2 Introduction

2.1 Overview

This document has been prepared to support the application to vary the existing compost permit (EPR/ZP3437EF/V002) to a waste operation as a reasonably associated activity (hereafter referred to as 'the Permit') for the Whitlingham Sludge Treatment Centre (STC) ('the Site') Anglian Water Services(AWS) ('the Operator').

This document contains a description of the Site and proposed reasonably associated activities an assessment of the possible effects of these activities and responses to questions in Parts A, C2, C4 and F1 of the application documentation (plus supporting information where required). Completed forms Part A, C2, C4 and F1 are included as separate documents.

The waste operation reasonably associated activities are to operate the cake storage area for

- The storage of digested biosolids cake from Whitlingham STC prior to being deployed to land under Sludge Use in Agriculture Regulations (SUiAR).
- The import and storage of digested biosolid cake produced at other AWS sites prior to being deployed to land under Sludge Use in Agriculture Regulations (SUiAR).
- Treatment of digested biosolids cake with non-waste straw where necessary to ensure the correct moisture of digested cake is achieved / maintained.
- The import and storage of raw cake prior to export to other AW STC Anaerobic Digestion facilities for treatment.

AWS is seeking to set the total quantity of cake accepted at the Site as 150,000 tonnes per annum (tpa). The maximum amount of cake stored at Whitlingham at any one time is 35,000 tonnes. Cake will not be stored for more than 36 months in line with the activities condition in the standard rules permit "SR2010 No 17: storage of wastes to be used in land treatment". The quantity of digested cake needed to be treated by the addition and mixing of non waste straw will be 10,000 tonnes per year.

No additional infrastructure will be installed, and no site operations or infrastructure will be changed as part of this application.

The site is not within an Air Quality Management Area; the closest AQMA is in Norwich approximately 2.9km north west.

There are no point source emissions to land from the waste operation. There are no point or fugitive emissions to surface water or groundwater during normal operation.

Refer to the Environmental Risk Assessment and Environmental Management Plan for the risks and mitigation measures in place at Whitlingham STC including the cake storage area.

2.2 Document content and structure

The following application forms have been completed to support the application and have been submitted as stand-alone documents:

- Part A: About You
- Part C2: Varying a bespoke permit
- Part C4: Variation to a bespoke installation permit
- Part F1: Charges and declarations

The main body of the Permit application document ('the Main Supporting Document') includes all the supplementary information required in response to relevant questions within the Part A, Part C2, Part C4 and Part F1 application forms for which there was insufficient space on the forms to answer the questions in full.

The Environmental Permit variation application document ('the Main Supporting Document') consists of two main parts:

- Section 5 provides the general information required to inform Form C2 relating to the variation of a bespoke permit; and
- Section 6 provides the more detailed information required to inform Form C4 relating to the variation of a bespoke installation permit.

Form F1 covers the required financial information required for payment of the application fee.

Additional information included as part of this submission and not as stand-alone documents, are found in the following appendices:

- Appendix A - European Waste Catalogue (EWC) Codes
- Appendix B – Site location plans
- Appendix C – Site plan
- Appendix D – Sensitive Receptors

Stand-alone documents included as part of this submission, are detailed below:

- Environmental Risk Assessment
- Environmental Management Plan
- Climate Change Risk Assessment
- Drainage Plan (broken down into two documents)
- ISO 9001 Certificate
- ISO 14001 Certificate
- Evidence of Technical Competence (CMS)
- Odour Management Plan
- Odour Assessment Report
- Annexes to original permit application

- Anglian Water Services Limited Proposal Q740629 – signed
- AWS convictions up to May 2023
- 22.12.01 AWS Delegated Authority to EA
- Whitlingham Site Condition Report
- Whitlingham Bioaerosol Risk Assessment
- Whitlingham Cake Storage Permit Boundary
- Form A
- Form C2
- Form C4
- Form F1

3 Process Description

3.1 Cake Import and Storage

Whitlingham Sludge Treatment Centre (STC) is co-located on Whitlingham Water Recycling Centre (WRC).

The Water Recycling team own and manage the permit and have operational control over the site, and work in conjunction with Water Recycling Operational Logistics (WROL) and Circular Economy (CE) teams who oversee cake movements and storage of cake on site. Any complaints received proven to be specific to WROLs operations will be passed on to the Environmental Compliance Team for further investigation.

Cake is imported for temporary storage on the site's storage pad.

Digested cake (19 06 06) is imported from other AWS sites for storage. The stored digested cake is stored in storage bays prior to transport off site and application for beneficial use on agricultural land as a soil conditioner under the sludge use in agriculture regulations (SUiAR). All the treated biosolids cake is a quality assured compliant product under the Biosolids Assurance Scheme (BAS). Digested cake is imported from other AWS sites after going through an anaerobic digestion treatment process as detailed in the relevant site's HACCP plan.

Raw cake (19 02 06) is imported from other AWS sites for storage. The stored raw cake is stored in storage bays prior to transport off site for anaerobic digestion treatment at other AWS anaerobic digestion sites.

3.2 Site Operations

There is site drainage around the pads with a retaining walls to reduce the risk of pollutions. There are also groyne walls creating bays made from concrete lego walls.

The reception area is inspected monthly to ensure that there are no cracks or damage to the integrity of the impervious areas. The reception area has drainage to ensure that any spillages are collected and contained and transferred to the head of the WRC for treatment.

Vehicles discharge cake onto a concrete pad with sealed drainage allowing excess liquid to drain back to the head of the works for full treatment. If there is deemed an issue with the storage pad, then cake should be removed until further notice whilst the issue is fixed.

The only handling of the waste is done by the excavators, operated by WROL/contractor's technically competent people.

Due to the wet form of the biosolids stored on the site, they do not pose a fire risk. Therefore a Fire Prevention Plan is not required for the site.

The cake straw mixing is carried by the on site loading shovels.

3.3 Cake Acceptance

The following acceptance procedures are in place for imports form other AW sites:

- Quantity of waste delivered is measured.
- Unloading is undertaken by trained operative.

- Vehicle movements are managed by WROL.

Given all digested cake and raw cake is from other Anglian Water sites, AWS is aware of the composition of the waste, handling requirements and the EWC codes to ensure that these are compliant with the EWC codes of waste that can be accepted as contained in the Environmental Permit.

The WROL / CE teams inspect the site monthly. In addition there is a framework of AW employees and contractors (drivers) who will monitor cake stocks and flag any potential compliance issues to the Circular Economy (CE) biosolids compliance team. ISO 14001 accredited Environmental Management System for WROL manages the impact of the activities carried out by the team as detailed below:

- Cake storage on site and it's compliance to the waste permit.
- Haulage of AWS cake to and from the site
- Spreading biosolids on land – the regulation of this activity is covered under a separate mobile plant permit.

The scope of ISO 14001 covers the activities that WROL carry out, rather than the site itself as the site's responsibility lies with the Water Recycling team (the site owners). Locations that are listed on the ISO 14001 certificate relate to the main office bases for the WROL team.

3.4 Sampling, Compliance and Quarantine

On the STC where the digested cake is produced, the biosolid material is sampled regularly throughout the process to ensure it will meet the Biosolid Assurance Scheme standard (BAS). Any requirements for quarantining stock are detailed in the HACCP plan. Sampling is done at the relevant treatment site, or at Whitlingham.

If a cake sample fails Hazard Analysis and Critical Control Point standards (HACCP), the site will put out signs so loads cannot be taken off site and it remain until the sample has passed the BAS standard. The full bay is quarantined from the time the sample fails, to when it has passed the standards required to ensure wastes are not mixed.

Digested cake is exported to land where it meets the BAS standard for land spreading. This is wholly owned and operated by the AWS's Circular Economy team and is governed by the Sludge Use in Agriculture (SUAR) regulations.

4 Part A – About you

4.1 Question 5c: AWS Directors:

Director and Company Secretary contacts:

Barry, John Richard (Mr) – [REDACTED]

Courtice, Veronica Anne (Dame) – [REDACTED]

Donnelly Anthony – [REDACTED]

Durrant, Kathryn Louise – [REDACTED]

Nassuphis, Alexandros – [REDACTED]

Ogier, Batiste Thomas Degaris – [REDACTED]

Patel, Zarin Homi (Ms) – [REDACTED]

Phillips-Davies Paul Merton Alistair – [REDACTED]

Rivaz Rosalind Catherine (Dr) – [REDACTED]

Simpson, Peter (Mr) – [REDACTED]

Vassileva, Albena Simeonova – [REDACTED]

AWS Company Secretary:

Russell, Claire (Mrs) – [REDACTED]

Directors and Company secretary dates of birth should be redacted wherever this application is made public.

4.2 Question 7: Contact details

Application contact:

Name: Don Haymes

Address: Anglian Water Services, Lancaster House, Lancaster Way, Huntingdon, PE29 6XU

Phone number: [REDACTED]

Email: dhaymes@anglianwater.co.uk

Operational contact:

Name: Shaun Barker

Address: Whitlingham Sludge Treatment Centre, Kirby Bedon Road, Norwich, Norfolk, NR14 8TZ

Phone number: [REDACTED]

Email: sbarker5@anglianwater.co.uk

Billing contact:

Name: June Hayes

Address: Anglian Water Services, Lancaster House, Lancaster Way, Huntingdon, PE29 6XU

Phone number: [REDACTED]

Email: jhayes2@anglianwater.co.uk

5 Part C2: General – varying bespoke permit

5.1 Question 2: About your proposed changes

This application is for a substantial variation of the current compost EPR permit (EPR/ZP3437EF/V002) to a waste operation as a reasonably associated activity to the existing EPR permit (EPR/KP3734GJ/V005) that is currently being determined into a bespoke installation permit under the Industrial Emissions Directive. The CHP and STC waste activities will be included on the same IED permit.

No site operations are changing because of this variation. Please refer to Table 1 in section 6.1 for detailed information of the current activities.

5.2 Question 3a and Appendix 2: Relevant offences

No relevant person in AWS relating to this permit application has been convicted of any relevant offence. Information relating to previous AWS convictions is contained within a stand alone document AWS Convictions May 2023.

5.3 Question 3b: Technical ability

Operational management is provided by qualified individuals and considered to be technically competent. All staff on site are trained to manage and operate activities without causing pollution. Competency in terms of the requirements of the environmental permit will be ensured through the appropriate training of all staff, covering:

- Awareness of the regulatory implications of the Permit for the permitted activity and their own work activities;
- Awareness of all potential environmental effects from operation under normal and abnormal circumstances;
- Awareness of the need to report any deviation from the Permit; and
- Prevention of accidental emissions, and action to be taken when accidental emissions occur.

All staff are aware of the implications of activities undertaken including the operation of the site. Skills and competencies necessary to work on site are documented and records of training needs and training received for these posts are maintained.

Currently AWS uses the AWS developed technical competency course to demonstrate that personnel have the appropriate technical skills and knowledge to manage the activities undertaken. The AWS scheme is independently certificated as meeting the requirements of the Standard. The Competence Management System (CMS) enables Operators to demonstrate technically competent management on the basis of corporate competence and employees' individual competence. Individual competence remains a key component with each employee having the relevant technical competences required to carry out their role.

AWS engage a third-party certification body (LRQA) to audit and certify the CMS.

Anglian Water are however in the process of moving from LRQA to BSI as the accredited certification body for the CMS system. Therefore, a copy of the contract that is in place with BSI has been provided as a standalone document "Anglian Water Services Limited Proposal

Q740629 – signed” which includes the Whitlingham site as part of the schedule listed on page 10 of the document.

Details on technically competent people at Whitlingham STC, Stuart Chatten, Ryan Britcher, Kevin Lamb, Norbert Molnar, Luke Wheeler.

The Waste Permitting Scientist located within the Environmental Quality team for AWS provides face to face CMS training to all appropriate AWS personnel and the Treatment Manager, and once issued, training will be provided in respect of the obligations of the Environmental Permit for the site.

5.4 Question 3d: Management System

5.4.1 Integrated Management System

AWS operates a number of management systems, scoped and configured to provide the best overall level of assurance and value to the business. The Integrated Management System (IMS) unifies several management system processes into a single framework, enabling our organisation to work as a single unit with unified objectives. The management system standards which support this framework share the same core structure and use common system clauses, terms and definitions, bringing consistency and compatibility between standards.

Key benefits of the IMS framework are:

- Aligned IMS Policy and management system objectives
- Improved risk management and integration
- Optimised use of business resources
- Enhanced customer satisfaction through the successful delivery of service expectations
- Efficiencies gained from the third-party assessment process - by planning external assessments against a core set of requirements across AW functions and activities, we reduce business impact and maximise value, both in cost and assurance
- Full alignment with AW strategic priorities, business goals and outcomes.

Under the umbrella IMS framework, there several smaller management systems which operate together to cover several areas relevant to AWS. For this permit application, the most relevant management systems are ISO 9001 Quality Management and ISO 14001 Environmental Management.

ISO 9001 Quality Management which is concerned with many aspects of water services, water recycling, labs, and AWS’s Water Recycling Operational Logistics (WROL) / Circular Economy (CE) departments which manage tankering and cake storage on sites.

ISO 14001 Environmental Management only covers RES’s activities on site and sludge and cake movements between AWS sites. The WROL / CE environmental management system manages the impact of the activities carried out by the team as detailed below:

- Cake storage on site and it’s compliance to the waste permit
- Haulage of AWS sludge and cake to and from the site
- Spreading biosolids on land – the regulation of this activity is covered under a separate mobile plant permit.

The scope of ISO 14001 covers the activities that WROL / CE carry out, rather than the STCs itself as the site's responsibility lies with the Water Recycling team (the site owners). Locations that are listed on the ISO 14001 certificate relate to the main office bases for the WROL / CE teams.

Process controls for the sludge product are managed by the Water Recycling team, and HACCP monitoring points are in place at strategic positions in the treatment process, with hardwired measures in place that prevent non-compliant product moving forwards through the treatment process and are detailed in the sites HACCP plans. Compliance to the HACCP plans is reported on at key internal meetings attended by the Director of Water Recycling and heads of department.

The Water Recycling team own and manage the permit and have operational control over the STC, and work in conjunction with WROL / CE teams who oversee cake movements and storage of cake on site. Any complaints received proven to be specific to WROL's / CE's operations will be passed on to CE's Environmental Compliance Team for further investigation.

5.4.2 Environmental Management Plan

AWS has a site-specific environmental management plan for each AWS site, including Whitlingham STC. The site-specific environmental management plan (refer to EMP in application pack) was developed to identify potential risks of the activities carried out, manage and control these impacts. The EMP also acts as a signposting tool for staff to understand what plans and mitigation are in place for:

- establishing an environmental policy;
- determining environmental aspects and impacts of products / activities / services through a risk assessment process;
- planning environmental objectives and measurable targets;
- implementing and operating programs to meet objectives and targets;
- ensuring compliance with environmental legislation including the requirements of environmental permits;
- checking and corrective action; and
- management review.

The EMP allows for the auditing of environmental performance against given criteria and those within the Environmental Permit to demonstrate continual improvement as part of the Plan, Do, Check, Act methodology.

- emergency response;
- odour control; and
- accident management.

AWS has a number of policies and procedures covering the O&M and monitoring of wastewater treatment processes that include sludge treatment plants; these policies and procedures fall within AWS's overarching management systems. The key procedures are called POSWASTES, POSMAINT and POSTEL.

POSWASTES includes policies, procedures and standards covering all aspects of wastewater treatment operation, including day-to-day operation, training requirements for operators and sampling / testing. POSMAINT covers policies and standards for the maintenance of assets such as planned preventative maintenance and reactive maintenance. POSTEL covers AWS remote monitoring telemetry systems, including policies and standards for alarm action codes, response times and data collection.

5.4.3 Roles and Responsibilities

The Treatment Manager is supported and advised by experts within the Energy Team, Process Science team and the Environmental Regulation team. The Treatment Manager has a staff of works technicians reporting to them. The Treatment Manager reviews the EMP annually to ensure it is relevant and complete.

AWS ensures compliance with both relevant legislation and appropriate standards (for example Environmental Permit conditions) by undertaking regular legislation reviews to identify updates to legislation and guidance applicable to the Plant and its management. The Waste Permitting Scientist monitors waste imports into site to ensure they are below permitted limits.

The Treatment Manager is in regular contact with several colleagues regarding operational and compliance issues including CE compliance team in relation to cake storage and treatment.

5.4.4 Complaints

Where complaints have been directly associated with or about Whitlingham STC in 2020, they have been listed below.

Table 1: Table of Complaints

Complaint date	Summary
01/06/2020	Noise due to the ongoing Alliance work on site
28/07/2020	Odour due to the cake pad
29/07/2020	Litter on access road
13/08/2020	Odour due to the cake pad
14/08/2020	Noise

5.5 Question 5a: Site layout plan and process diagram

Plans provided, to satisfy question 5a, can be found in the following documents:

- Site Location Plans – see Appendix B
- Site Layout Plan - see Appendix C
- Drainage Plan – see standalone document

5.6 Question 5b: Site condition report

In accordance with Environment Agency requirements, a Site Condition Report (SCR) was produced during the original permit applications to demonstrate the condition of the land and groundwater at the Site on issue of the proposed permit. The permit variation will not result in a change to the permitted boundary; therefore, a revised site condition report has not been prepared.

The waste operation area that this reasonably associated activity application is for was included in the original SCR for the IED permit.

Site details and condition of the land at permit issue can be found in the original permit application.

5.7 Question 6a: Environmental risk assessment

Using the methodology outlined in with the EA's environmental management guidance 'Risk Assessments for your environmental permit', this section provides a revised assessment of the effects of releases from the site on the environment. It also provides a justification that the measures in place for their control will adequately protect the environment. Emissions resulting in insignificant effects have been screened out; where further detailed assessments of potential environmental impacts are required this is also noted. A full description of the nature of the releases and measures to control them is provided in Section 6.3 below.

The ERA sets the requirements for the management of the permitted area, emission control measures etc. It assesses the risks to the environment, amenity and human health. All control measures within the rules must be adhered to in order to obtain the permit.

The ERA assesses the impacts from the following environmental concerns:

- Point source and fugitive emissions to air;
- Point source and fugitive emissions to water and land;
- Noise and vibration;
- Odour;
- Litter, mud and debris;
- Vermin and insects (pests);
- Human health and environment safety (i.e. visual impacts, Site security, flood risk); and
- Natural habitats and ecology.

Where emissions result in insignificant effects these have been screened out and where further detailed assessments of potential environmental impacts are required this is noted.

A copy of the ERA can be found as a stand-alone document in the application pack.

5.8 Question 6b: Climate change risk screening

The Site is planned to operate and require an IED permit for more than five years and, therefore, requires a CCRA. It has been submitted as part of the application because the screening score exceeds 5.

The score was calculated as follows:

- Timescale: the Site is anticipated to operate beyond 2060;
- Flooding: the Site is not susceptible to extreme flooding from rivers or sea without flood defences, and no flood defences are present; and
- Water use: Majority of water use for the proposed permitted activities is sourced from recycled secondary washwater. Mains supply is used for:
 - Poly make up - uses potable water
 - Heat exchanger system water
 - Eye baths and safety showers
 - Limited wash-down points where it would be uneconomic to extend the final effluent wash-water system
 - Office messing facilities
 - Odour control odorisers

No water is currently abstracted from surface and/or groundwater, however AWS are proposing to reinstate a borehole for abstraction in the future (not included in the screening score).

A copy of the CCRA can be found as a standalone document in the application pack. The mitigation measures are also included in the environmental management plan.

6 Part C3 – Variation to a bespoke installation permit

6.1 Question 1: Table 1a: Activities applied for

Table 2: Activities applied for Whitlingham STC Installation (Table 1a in form)

Name of the waste operation	Schedule 1 or other references	Description of the Activity	Activity capacity	Annex I (D codes) and Annex II (R codes) and descriptions	Hazardous waste treatment capacity	Non-hazardous waste treatment capacity
Reasonably associated activities						
Great Billing STC	S5.4, Part A (1), (b) and (i) Storage	Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the Site where it is produced).		R13	0	150,000 tonnes per year 35,000 tonnes at any one time
	S5.4, Part A (1), (b) and (i) Treatment	Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)		R3	0	75 tonnes per day
	Raw material storage				0	0 tonnes
For all storage operations	Total storage capacity		35,000 tonnes ¹		0	35,000 tonnes
	Annual throughput		150,000 tonnes		0	150,000 tonnes

¹ Note: This figure excludes STC assets, and only imports into the storage area should be considered as a throughput in the context of this application

6.2 Question 1: Table 1b: Types of waste accepted

There will be no changes to the current waste acceptance procedure as described in the original IED application.

The EWC codes accepted at Whitlingham are in line with the existing waste operation permit. The only additional waste codes to be added in this variation are 19 06 06 which is to reflect the Environmental Agency's change in guidance to separate biosolids in raw or limed cake (19 02 06) and digested cake (19 06 06).

Digested cake coded 19 06 06 is accepted from the onsite Water Recycling Centre and from other AWS sites for storage on site. The trucks enter the site and are weighed at a weighbridge before being directed to one of two cake bays.

A full list of EWC coded wastes can be found in Appendix A.

The following acceptance procedures are in place:

- Quantity of cake delivered is measured;
- The capacity of the cake storage area is checked to ensure that there is sufficient storage capacity;
- Unloading is undertaken by trained operative; and
- Documents are checked and recorded via a tracking system and maintained on site.

AWS is aware of the composition of the waste, handling requirements and the EWC codes to ensure that these are compliant with the EWC codes of waste that can be accepted as contained in the Environmental Permit. The reception area is regularly inspected to ensure that there are no cracks or damage to the integrity of the impervious areas. The reception area has drainage to ensure that any spillages are collected and contained and transferred to the head of the Water Recycling Centre for treatment.

6.3 Question 2: Point source emissions to air, water and land

6.3.1 Emissions to air

There are three mobile units on site which emit suppression sprays (perfume) into the air to reduce odours on site.

6.3.2 Emissions to water (other than sewers)

Not considered applicable as the drainage network sends water to the head of the works for treatment. There will be no point sources emissions from the Site. There are no direct potentially contaminated discharges to controlled surface waters.

There will be no direct discharge of wastewater to controlled waters.

There are no direct potentially contaminated discharges to groundwaters.

Accidental releases of materials to the environment are controlled through adequate containment measures and working procedures.

6.3.3 Point Emissions to sewers, effluent treatment plants or other transfers off Site

There will be no point source emissions or direct discharges to controlled waters or public sewers, as part of the permit operation. Any surface water from the cake pads will be discharged to the drainage system of the adjacent Whitlingham WRC and will undergo treatment through the works before being discharged under an existing water discharge permit. On-Site WRC effluent will meet the requirements of the existing discharge consent. The water used at the Site will be contained in a closed circuit; all wastewater streams will either be recycled within the process or captured and rerouted to the adjacent WRC.

Discharges will be minimal, typically arising from periodic maintenance/cleaning operations. As such, there are no direct potentially contaminated discharges to controlled surface waters and no significant impacts. All drainage (surface water or foul water) will be captured by the on-Site drainage system and returned to the head of the WRC. A drainage plan of the Site is provided with the application as a standalone document (split into two).

Due to the anticipated very low levels of contamination of the water and the volumes involved, no monitoring of its composition is proposed prior to discharge to the WRC.

Any areas of the Site, where there is a risk of contamination of surface water, groundwater or discharge of process waters are located on impermeable concrete surface. All surface water from these areas drain to the WRC internal drainage system and are returned to the head of the works for treatment prior to discharge as final effluent.

A list of the point source emissions to sewers, effluent treatment plants and other transfers off Site is included as Table 3.

Table 3 : Point source emissions to sewers

Emission point reference, and location	Source	Location	Characteristics	Frequency	Monitoring / mitigation measures prior to final discharge and emission point discharge.
Rainwater	Run off from impervious surfaces	Cake Storage / Treatment Area	Clean rainwater from runoff	Rainfall Dependent	Rerouted to adjacent WRC

Please refer to the ERA (see standalone document) on the environmental risk the water emissions pose and how these are mitigated, where relevant.

6.3.4 Point Source Emissions to land

There will be no point source emissions to land as part of the activities carried out on-Site. All surface water and rainwater on site feeds into the site drainage which circulates back to the head of works for full treatment.

6.4 Question 3: Operating techniques

This section provides a technical overview of the components, the proposed techniques and measures to prevent and reduce waste arising and emissions of substances and heat, including during periods of start-up or shut-down, momentary stoppage and malfunction, and leaks.

Specifically, consideration is made of:

- The technology to be used;
- The process, in terms of how it will be operated and controlled;
- Measures implemented to control emissions to air, water, sewer and land.

Table 4 lists the technical guidance notes (TGNs) used to inform the techniques and measures proposed to prevent and reduce waste arising and emissions of substances,

Table 4: Technical standards

Description of the schedule 1 activity or directly associated activity	Best available technique (BATC, BREF or TGN reference)	Document reference
Whitlingham STC cake storage and treatment as a reasonable associated activity.	Environment Agency environmental permitting guidance, including: Develop a management system: environmental permits H1 - Risk assessments for your environmental permit H3 Noise assessment and control H4 Odour management H5 Site condition report Control and monitor emissions for your environmental permit Biological waste treatment: appropriate measures for permitted facilities - Biowaste Appropriate Measure Guidance	Develop a management system: environmental permits - GOV.UK (www.gov.uk) Risk assessments for your environmental permit - GOV.UK (www.gov.uk) Noise and vibration management: environmental permits - GOV.UK (www.gov.uk) Environmental permitting: H4 odour management - GOV.UK (www.gov.uk) Environmental permitting: H5 Site condition report - GOV.UK (www.gov.uk) Control and monitor emissions for your environmental permit - GOV.UK (www.gov.uk) Biological waste treatment: appropriate measures for permitted facilities - Guidance - GOV.UK (www.gov.uk)

The Environmental Management System and Environmental Risk Assessment (refer to documents in application pack) indicate that, given the current and continued use of appropriate management measures, there are not expected to be any significant risks to the environment arising as a result of the proposed continuation of site operations. Where a risk has been shown in these documents, appropriate mitigation measures have been put in place to minimise the risk to the environment.

6.5 Appropriate Measures

As there is technical guidance and standards and within the technical guidance (Biological waste treatment: appropriate measures for permitted facilities - Biowaste Appropriate Measure Guidance) there is no choice of standards and it is not proposed to use another standard there is no need to justify using the technical guidance or standards. Section 6.3 above indicates there will be no point source emissions to air, water, land or sewer or other transfers off site.

Diffuse emissions have been screened out in the environmental risk assessment provided as a stand alone document with this application.

The cake imports would be of digested cake (19 06 06) and raw cake (19 02 06) see below table and Appendix A for EWC code and description.

The digested cake that has gone through the AD process and is both BAS and SUIAR compliant. The justification for the inclusion of this code for this operation is to ensure that there is capacity to store digested cake when the land bank for spreading is unavailable, thus ensuring the digested cake can still be used.

For raw cake the justification for the inclusion of this code for this operation is to ensure that there is capacity to store raw cake when anaerobic digestion capacity is unavailable, thus ensuring the raw cake can still be processed once capacity is available again.

Waste Code	WM3 Description of waste	Anglian Water Description
19 06 06	digestate from anaerobic treatment of animal and vegetable waste	Digested cake
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05	Raw Cake

The maximum amount of cake that could be stored on site at any one time would be 35,000 tonnes. As a absolute maximum cake will not be stored for more than 36 months in line with the activities condition in the standard rules permit "SR2010 No 17: storage of wastes to be used in land treatment". However the usual cake storage period would be a maximum of 12 months to ensure that the maximum period of potential storage is covered this would be from one growing season to the next. Storage time is dependant on landbank availability.

On the STC where the digested cake is produced, the biosolid material is sampled regularly throughout the process to ensure it will meet the Biosolid Assurance Scheme standard (BAS). Sampling is done at the relevant treatment site, or at Whitlingham.

If a cake sample fails Hazard Analysis and Critical Control Point standards (HACCP), the site will put out signs so loads cannot be taken off site and it remain until the sample has passed the BAS standard. The full bay is quarantined from the time the sample fails, to when it has passed the standards required to ensure wastes are not mixed. Any requirements for quarantining stock are detailed in the HACCP plan.

In order to prevent or minimise fugitive emissions to air when the cake is handled by on site machinery for loading or unloading of vehicles or for moving the cake around the site drop heights are kept as low as possible. All vehicle leaving the site carrying cake will be covered

6.6 Question 3b: General requirements

6.6.1 Overview

This section provides an overview of the measures in place at the Site for controlling fugitive emissions, noise and odour. An Environmental Risk Assessment has been completed, in accordance with the H1 ERA Guidance and is provided with the application. The response to this question relates to Table 3b in the Part C4 form

The site has been constructed and operational for a number of years. All elements of the site have been constructed to appropriate standards and are maintained by the existing management systems outlined.

The Environmental Risk Assessment and Odour Management Plan indicate that, given the current and continued use of appropriate management measures, there are not expected to be any significant risks to the environment arising as a result of this permit application. There are no emission limits for operations at Whitlingham cake storage / treatment area.

Regular monthly checks on storage area's integrity are undertaken as part of the ongoing monitoring regime.

6.6.2 Control of fugitive emissions to air

There are no significant fugitive emissions to air of gases, vapours, or particulates as part of normal Site operation.

Details of the procedures AWS follow with regards to the control of mud and debris and potentially polluting leaks and spillages are addressed in the EMP.

As cake storage activities are not being changed on Site as a result of the proposal, it is not anticipated that Air Quality Dispersion Modelling is required to address the emissions.

The results of the air quality desktop study indicate compliance with all relevant air quality standards for both the protection of human health and designated sites. Overall impacts of all air pollutants are considered to be low from the routine activities undertaken on the Site. The existing approaches and relevant procedures presented in the EMP and OMP and operational procedures are considered to adequately address the emissions that may present a risk.

6.6.3 Odour

The Site is situated relatively close to a residential house within 200metres of the permit boundary. Immediately surrounding the site there is a significant area of woodland and farmland. Odour complaints are listed in Table 1 in section 5.5.4 above. There are no proposed works to be undertaken on the Site in respect of this permit application, therefore, the activities

on-Site are not anticipated to increase the off-Site impact or result in adverse impact on nearby sensitive receptors or the amenity of the area surrounding the Site.

The OMP contains guidance of good practices for carrying out operational and maintenance activities, identifies specific measures for odour control and sets out procedures to monitor and respond to odour complaints.

The OMP was written in accordance with the Environment Agency's H4 Odour Management guidance (2011).

Management of the odour risks at the Site is also addressed in the Odour Management Plan. The risk assessment provides mitigation measures to be followed by all staff to ensure normal operation minimises in odours leaving the site boundary:

- Scrape clean and remove cake on left on the ground surface
- Clear and report all spillages to Site office
- Ensure washdown of vehicles is carried out before leaving site where needed

The level of odour risk from the Site is considered to be low, as shown in ERA, and the existing Odour Management Plan provides sufficient mitigation, a new Plan is not considered to be required. The existing Plan has been updated to incorporate the latest details and any further actions, procedures and investment which need to be implemented.

Refer to the stand-alone Odour Modelling Report which provides more information about the current odour condition, and possible mitigation to be reviewed as part of an stepped improvement plan.

6.6.4 Noise

Initial screening has been carried out for the Site. The Site has not received any noise complaints and since the Site is not undergoing changes to equipment and vehicle movements prior to application submission, a Noise Impact Assessment (NIA) is not considered to be required. Appropriate mitigation for noise and vibration impacts are provided in the ERA.

A Noise Management Plan would be required whereby the NIA concludes that noise and vibration requires management, such as monitoring and maintaining abatement measures. Since noise and vibration impacts are considered to be appropriately mitigated in the ERA, a Noise Management Plan is also not considered to be required.

6.6.5 Dust and particulates

There are not considered to be any significant dust or particulate sources from the Site as identified in the Environmental Risk Assessment. Dust is actively managed by a 3rd party contractor as needed.

6.6.6 Bio-aerosols

A bio-aerosols risk assessment has been undertaken for the Site see the standalone document Whitlingham Bioaerosol Risk Assessment. The area source emissions are not considered to be any significant risk to the nearest sensitive receptors. See Appendix E for a map of the site in relation to the sensitive receptors. There are no wildlife sites with statutory designations within 250 metres of the site.

6.6.7 Control of fugitive emissions to surface water, sewer and groundwater

There are not considered to be any fugitive emissions to surface water, sewers or groundwater. There is appropriate containment for the control of liquid wastes put in place to minimise any potential releases, as identified in the EMP.

6.6.8 Control of fugitive emissions to land

Waste generated on the Site includes the following:

Table 5: Waste recovery of different waste streams

Activity	Waste stream	Waste recovery/disposal
Waste generated from other Site activities (i.e. offices)	General waste	Recycled where possible at a materials recycling Site. Non-recyclable waste is disposed of to a designated landfill site.
	Scrap metal	Recycled at scrap metal recycling facilities
	WEEE	Recycled at WEEE recycling facilities

Whitlingham WRC has a designated waste management area that is located NGR TG 27856 07569. All skips and containers are located on a hardstanding to prevent leaching into the ground. Skips and containers are clearly labelled. All waste from the Site is sorted into this waste area at the main site other than the gas cylinders.

If a complaint is made with respect to litter the complaints procedure will be followed. The Site Manager will arrange for litter pickers to clear up as appropriate and will assess whether further control measures will be required to ensure that the risk of recurrence is minimised. The details of the complaint and actions taken to resolve the issue will be recorded in the Site Diary and the complaints register.

6.6.9 Site security

Activities are managed and operated in accordance with the management system. Access to Site and waste is restricted by a 2.5m high chain link security fence. A galvanised steel, electronic, palisade gate secures the main access and is controlled by the control room. The Site is manned 6-6 pm, 7 days a week. For visitors and unauthorised personnel, contacts to ring are on the gate at the Site entrance, is used. The Site also benefits from a CCTV system, consisting of up to 18 cameras. Regular inspections of the boundary fencing and buildings are undertaken to ensure that these have not been compromised and continue to prevent easy access to Site. Repairs are undertaken in accordance with the EMS requirements.

Other risks relating to human health and the environment is presented in Environmental Risk Assessment.

6.6.10 Complaints procedure

All complaints received relating to any aspect of the Site and its activities will be recorded and acted upon. Complaints, and actions taken, will be either recorded in the Site Diary or on a complaint record form. If a Site receives a complaint, this form should be completed and shown to the Environment Agency when they next inspect the Site. The forms will be used as evidence that any complaints received have been taken seriously and that actions have been taken to rectify any problems identified.

Complaints will be investigated promptly, and any appropriate remedial action taken. The complainant and anyone else likely to have been affected, should be informed about what has been found and actions taken in a timely manner. The details of the complaint and the actions taken will be recorded in the Site Diary or log.

The aim will be to undertake measures to prevent complaints from being raised. However, where this is not possible, proactive measures will be taken to prevent further complaints from being made. For example, if a complaint is made with respect to dust, the Site Manager will arrange for dust suppression equipment to be used. The Site Manager will assess whether further control measures will be required to ensure that the risk of recurrence is minimised. The details of the complaint will be recorded in the Site Diary and the complaints register. If a complaint is received AWS will be informed as soon as is practicable and the complaints procedure will be followed. Confirmation will be recorded in the Site Diary or inspection log. The Site Manager will inform the Environment Agency of the complaint, if appropriate.

Any drivers who regularly cause a dust or mud and debris nuisance as a result of mismanagement of their vehicles will be discussed and advice sought if relevant.

If a complaint is made with respect to insects the Site Manager will investigate whether any of the activities at the Site could be the source of the nuisance.

If a complaint is made with respect to litter the Site Manager will arrange for litter pickers to clear up as appropriate and will assess whether further control measures will be required to ensure that the risk of recurrence is minimised. The details of the complaint will be recorded in the Site Diary.

Any complaints relating to fugitive emissions and the actions taken will also be recorded in the Site Diary and copies of the incident reports (including those provided to the Environment Agency) retained on-Site.

If a complaint is made with respect to vermin or an infestation is suspected, where normal treatment activities appear to be unsuccessful, the Site Manager will discuss and agree any further measures required with the pest control firm. The complaint reporting procedure will be followed as described below.

If a complaint is made with respect to noise or vibration the Site Manager will assess the cause of the complaint and will report the findings. If the noise or vibration leading to the complaint has been caused by a continuing operation, additional noise or vibration surveys may be required to confirm the degree of impact upon the receptor. The Site Manager will make any recommendations for further noise or vibration control to the Management Team and shall inform the Environment Agency of the complaint as soon as it is practicable to do so.

In the unlikely event that a complaint is made with respect to odour the Site Manager will investigate the source of the odour and take steps to reduce its impact. If the source appears to come from the Site then appropriate actions to reduce the odour will be taken.

Complaints investigation procedure

In the event of any complaint, this section deals with the complaint assessment procedures. The primary role of this assessment will be to ascertain whether the complaint is associated with any Site operations and what action should be taken to prevent or minimise the probability of a recurrence.

It is important that any person acting on behalf of AWS is appropriately trained and that all steps and decisions are documented.

Step 1 – Complaint received

The Site operator or Environment Agency receives a complaint regarding the STC. Details logged within the complaints register.

Step 2 – How to respond

Complainant is contacted to inform them the complaint has been received and request further information, where required.

The primary reasons for investigation of complaints are to identify the likely cause and source for the complaint and it is important to gather as much information about the complaint as possible. At the outset of any investigation, the Site Manager is to determine the priority for responding to the complaint.

If possible, someone from the Environment Agency will attend after a complaint has been made so that they can carry out an effective and subjective appraisal of the complaints and note any results into the complaints register.

Step 3 – Determine what to record and how

The complaint details and the investigation outcomes and actions taken are to be recorded in the CSMS. This information must be filled in on Site at the time of notification of the complaint.

Step 4 – Follow-up investigation

In order to resolve any problems successfully, it is essential to understand fully the source, reason and the operational conditions that led to the complaint. The first step in the investigation will be to select the most appropriate methodology for assessment. All the information collected should be filled in on the internal complaints form and a note made referencing this in the complaints register.

Step 5 – Communication with the complainant

The Site Manager or contractor tasked with addressing the complaint is responsible for collecting all the information and providing feedback to the complainant, or the Customer Contact Centre will contact the complainant. Wherever possible an explanation of the actions taken and the reasons for the decision should be made to the complainant.

If it is decided that there was no ground for the complaint this should be clearly explained to the complainant, along with information about what they should do, if they are unhappy with the response.

Step 6 – Monthly complaints records

AWS will be developing a system to log and track complaints so they are more easily accessible for site teams. Currently all complaints AWS receives are stored on a computerised system (SAP).

6.7 Question 4: Monitoring

The storage area of the site currently does not have requirements for any monitoring of activities, emissions or the environment. This is a reasonably associated waste operations application for a site with no point source emissions like generators or engine, therefore there is no monitoring proposed..

6.7.1 Emissions to water (other than sewers)

There are no direct releases to controlled waters of emissions arising from the cake storage / treatment area. As such, no monitoring or reporting is required.

6.7.2 Emissions to sewers, effluent treatment plants or other transfers off Site

All discharge directly to the site drainage system which diverts water to the head of the works of the adjacent Whitlingham WRC. As such, no monitoring or reporting is required. There are no direct releases to public sewer or other transfers off site of emissions arising from the cake storage / treatment area.

6.7.3 Emissions to land

There are no direct releases to land of emissions arising from the cake storage / treatment area.

7 Part F1 – OPRA, charges and declarations

7.1 Question 1: Working out charges

Advice confirmed that this application activities is 1.16.12 as on the Environment Agency's charging scheme.. The resultant total application fee being £7,930.00.

7.2 Question 3: Payment

Payment will be by Barclaycard. Contact details are found in Section 4.1 of this MSD and in Form A section 7 c.

Fee to be paid: £7,930.00.

Breakdown of fee:

- Substantial Permit Variation 1.16.12 £7,930.00

7.3 Question 5: Confidentiality and National Security

AWS do not wish to claim confidentiality with this application.

Directors dates of birth should be redacted wherever this application is made public.

7.4 Question 6: Application Checklist

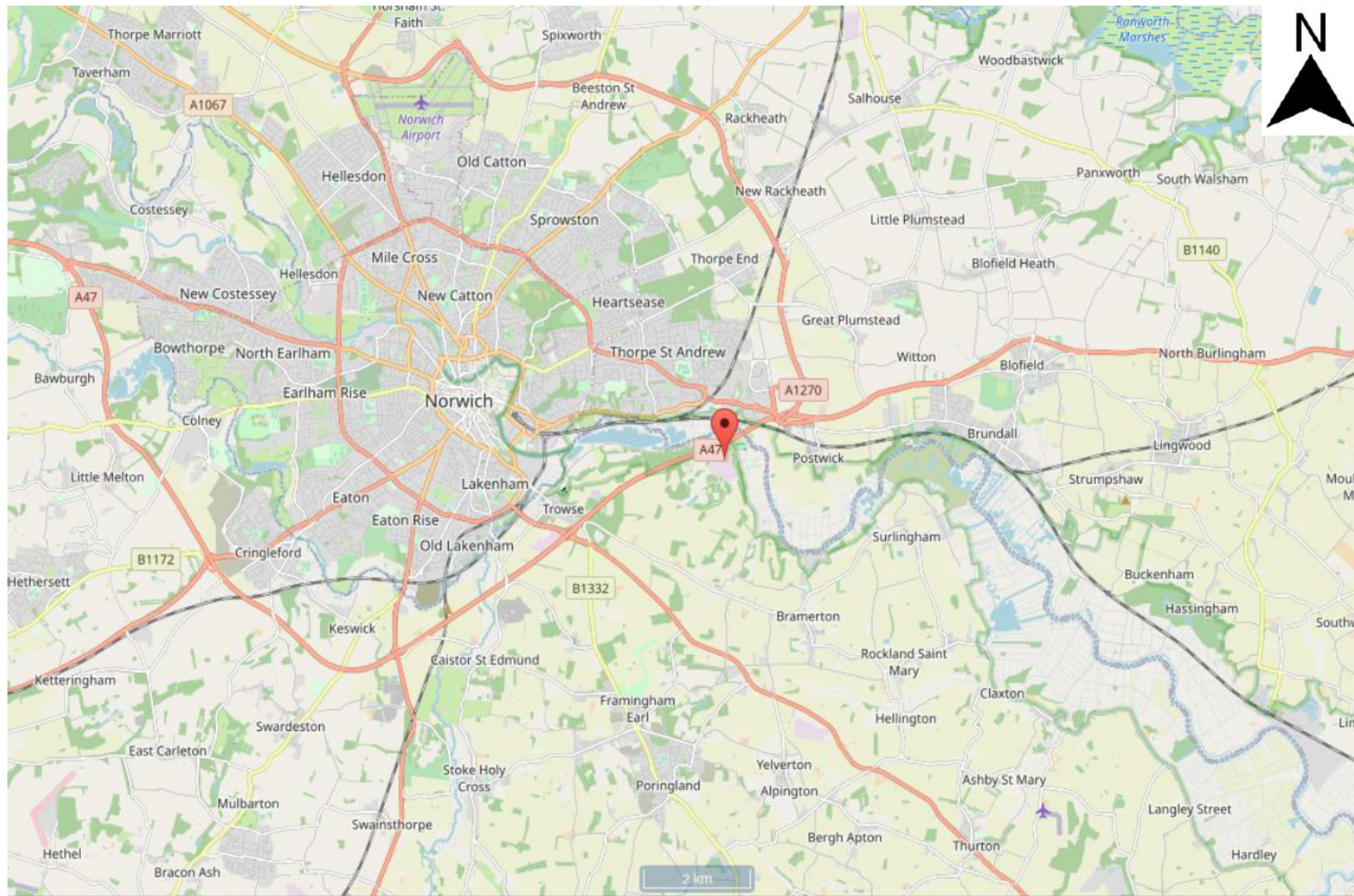
A full list of stand-alone documents which form part of the application can be found in section 2.2 above. References to all other questions are found in the MSD which makes reference to the question in the subtitle. Specific sections to the MSD are identified in the relevant forms.

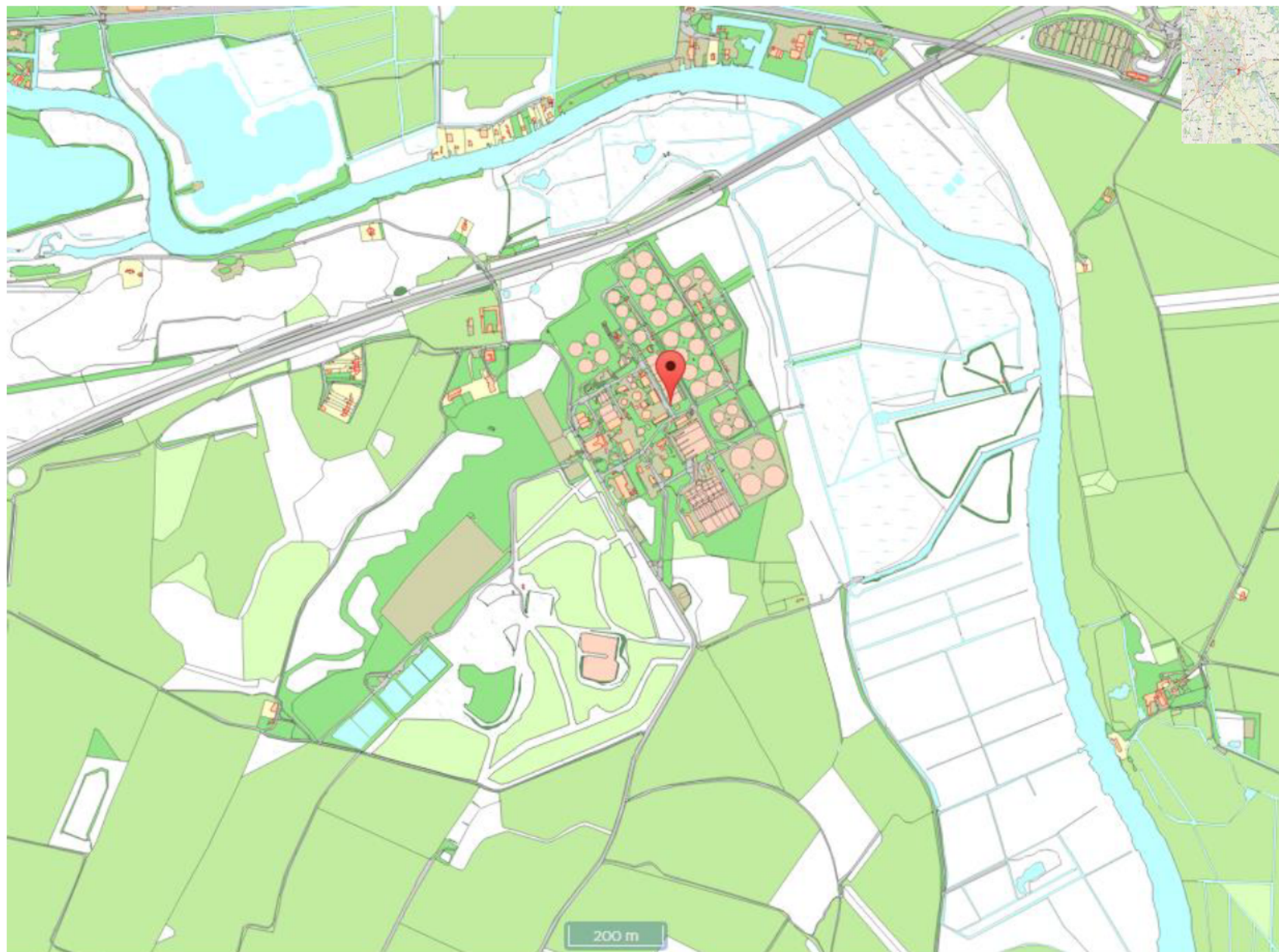
A. Appendix A - European Waste Catalogue (EWC) Codes

The waste codes below are the only wastes to be imported into Whitlingham. The descriptions are taken from directly WM3. The main text in Section 6 above offers more clarification over specific wastes.

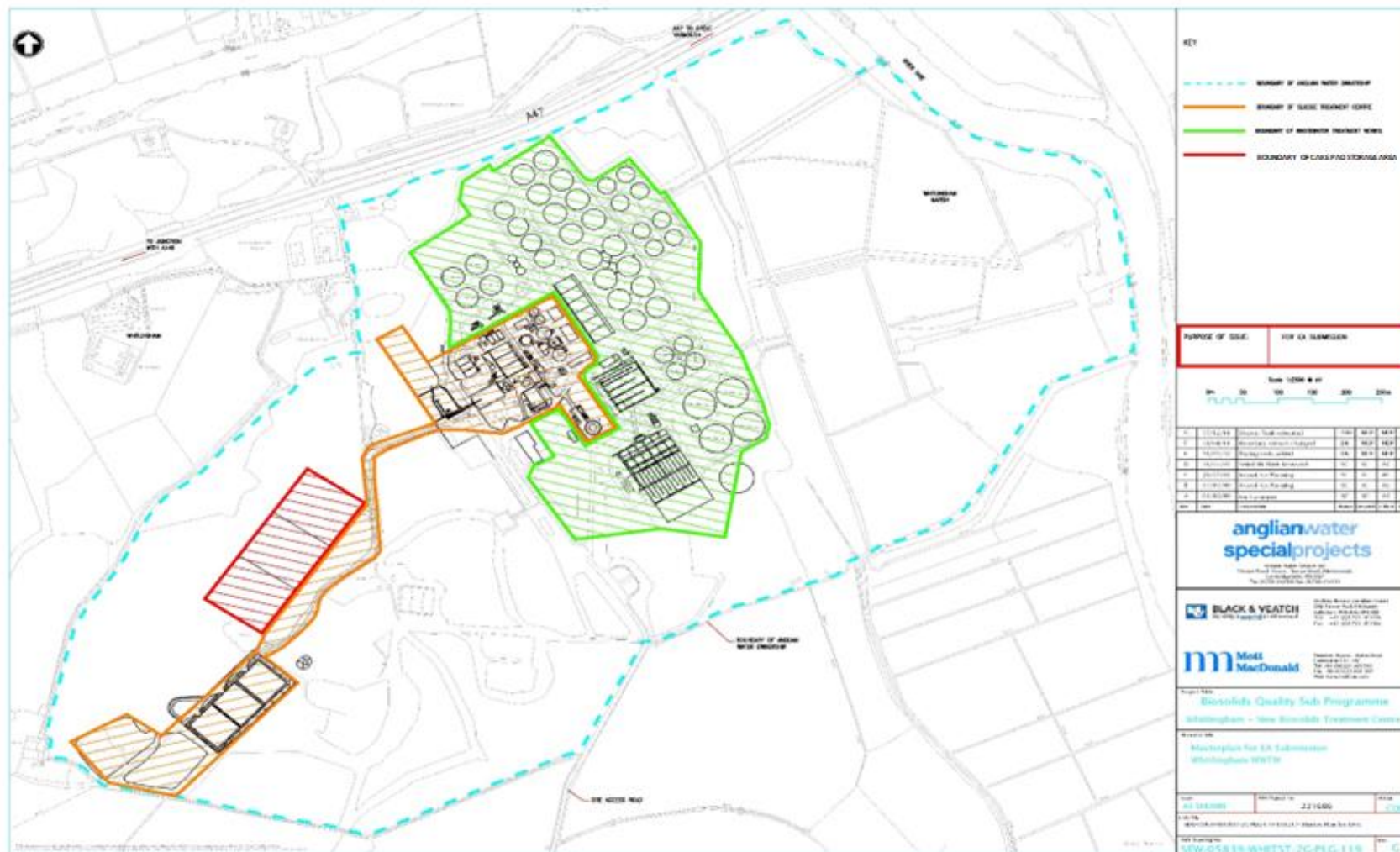
EWC code	Description	Where the waste is imported to
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/INDUSTRIAL USE	
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)	
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05	Cake Storage Pad
19 06	wastes from anaerobic treatment of waste	
19 06 06	digestate from anaerobic treatment of animal and vegetable waste	Cake Storage Pad

B. Appendix B – Site Location Plans



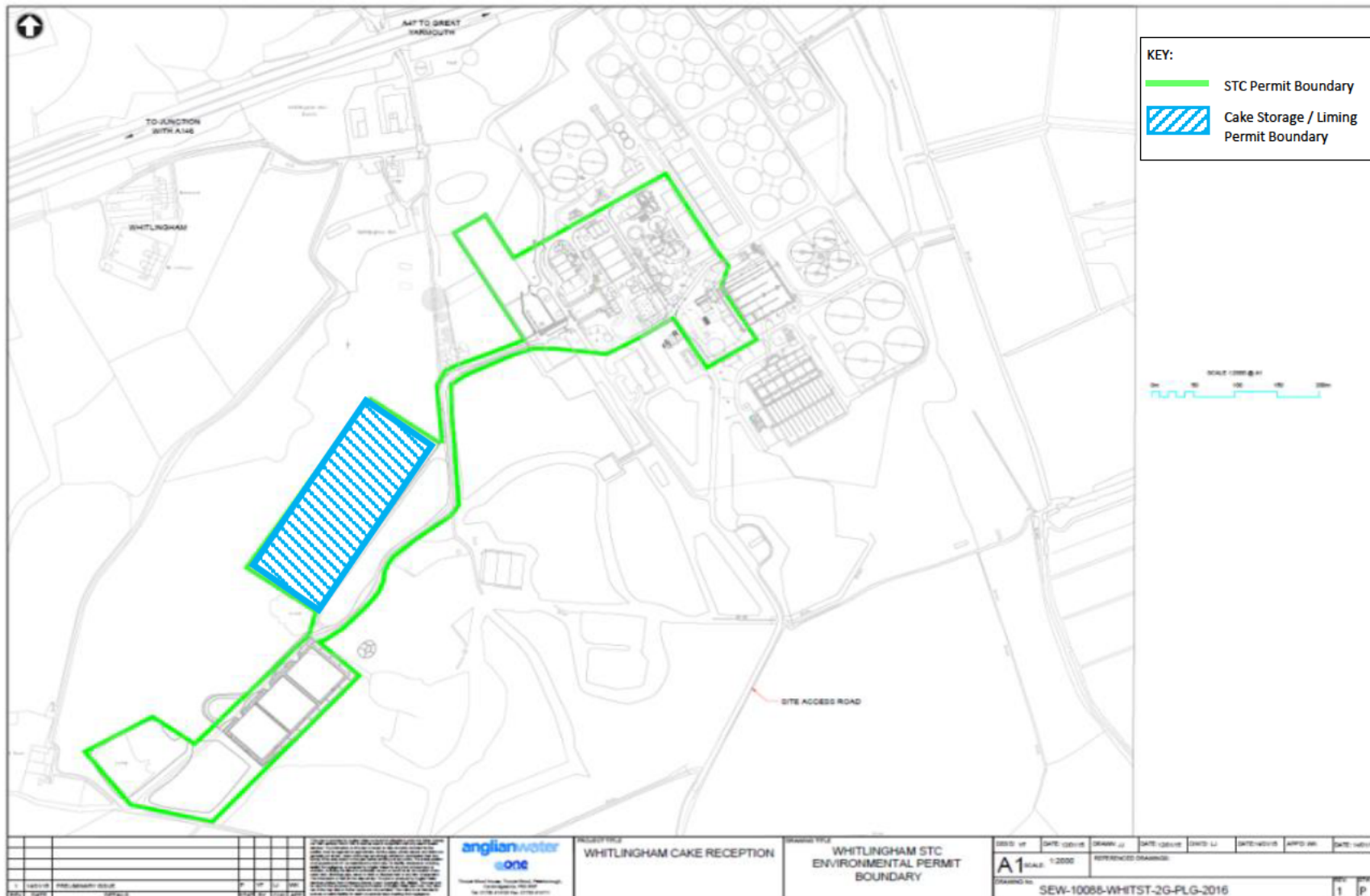


Site Location Plan with cake storage area, WRC and STC marked

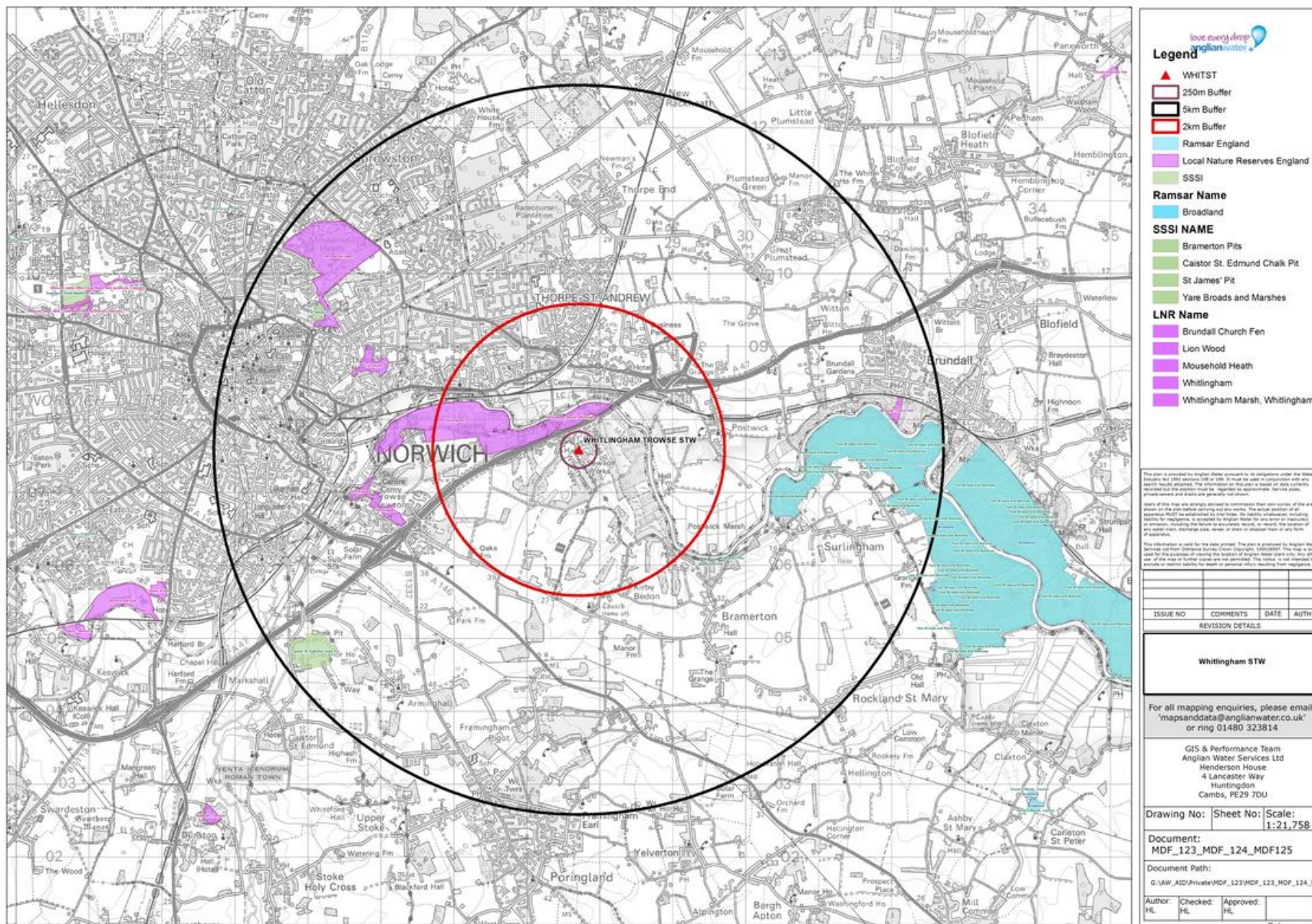


C. Appendix C – Site Plan Permit Boundary

The STC site plan and permit boundary is taken form the existing STC permit (EPR/LP3499SY).
 The only change is to add the Permit Boundary area associated with the Cake Storage Area.



D. Appendix E – Sensitive Receptors



Legend

- ▲ WHITST
- 250m Buffer
- 5km Buffer
- 2km Buffer
- Ramsar England
- Local Nature Reserves England
- SSSI

Ramsar Name

- Broadland

SSSI NAME

- Bramerton Pits
- Caistor St. Edmund Chalk Pit
- St James' Pit
- Yare Broads and Marshes

LNR Name

- Brundall Church Fen
- Lion Wood
- Mousehold Heath
- Whittingham
- Whittingham Marsh, Whittingham

This plan is provided by Anglian Water pursuant to its obligations under the Water Resources Act 1989 (section 126) or 1989. It must be used in conjunction with any search results obtained. The information on this plan is based on data currently available but the position must be regarded as approximate. Service points, private sewers and drains are generally not shown.

Boundaries of the map are generally intended to approximate their true position as they appear on the plan before printing and are not intended to be used for any purpose requiring high accuracy. The information on this plan is based on data currently available but the position must be regarded as approximate. Service points, private sewers and drains are generally not shown.

This information is valid for the date printed. The plan is provided by Anglian Water pursuant to the Water Resources Act 1989 (section 126) or 1989. It must be used in conjunction with any search results obtained. The information on this plan is based on data currently available but the position must be regarded as approximate. Service points, private sewers and drains are generally not shown.

ISSUE NO	COMMENTS	DATE	AUTH
REVISION DETAILS			
Whittingham STW			

For all mapping enquiries, please email mapsanddata@anglianwater.co.uk or ring 01480 323814

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Drawing No: Sheet No: Scale:
1:21,758

Document:
MDF_123_MDF_124_MDF125

Document Path:
G:\AW_ASD\Private\MDF_123\MDF_123_MDF_124_MDF125

Author: HL	Checked: HL	Approved: HL
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Date:
25/03/2021