Cotton Valley
Residue Management Plan

Sewage Treatment Centres

Anglian Water Services Ltd

Version Control

Version	Date	Changes made	Published by
1.0	23/05/2024	Document creation & approval	Don Haymes & Phil Seamons

Contents

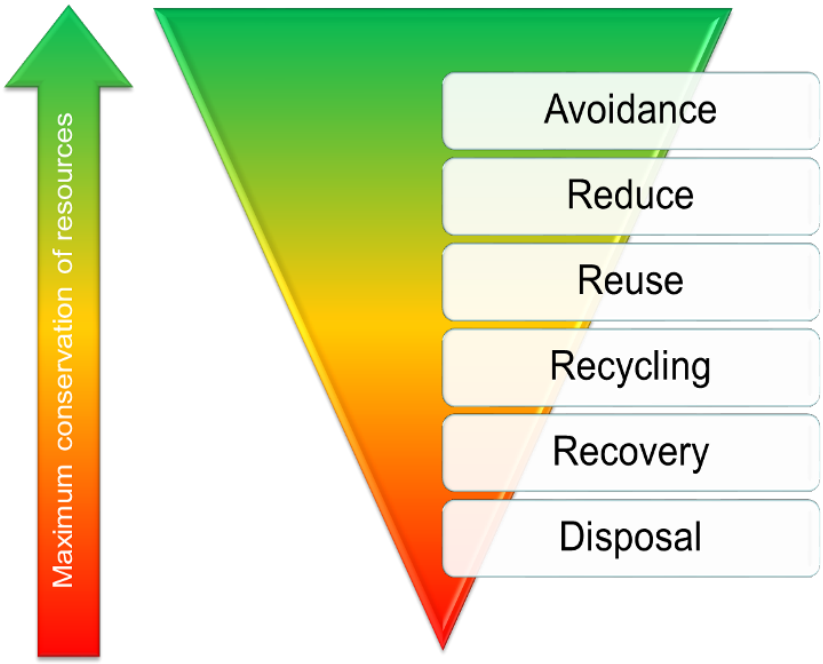
1 Introduction and Scope

This site specific Residue Management Plan defines what Anglian Water Services Ltd (AWS) do to minimise the generation of residues; optimise reuse, recycling and recovery of energy and ensuring the appropriate disposal of any residues.

This site specific Residue Management Plan is applicable to solid waste generated within the sludge treatment centre permitted area of the site. This document does not focus on the general wastes created from activities outside the scope of the permit, for example office buildings even if they are collocated on the same site, or on gaseous emissions from the processes.

2 Waste Hierarchy

The Waste Hierarchy demonstrates the most preferred options for waste management, and Anglian Water Services applies the waste hierarchy (included below for reference) to all residue generated during the course of the treatment operations.



3 Responsibility

The treatment manager for the site is responsible for reviewing the Residue Management Plan to include identifying any changes to the residues generated and their fate including minimisation and ensuring the waste hierarchy is applied. This document is reviewed annually as part of the Competency Management System (CMS) annual self audit, but in reality the review process is ongoing as part of the regular performance monitoring for the site. There are many drivers for reducing use of raw materials, and creation of wastes within our processes, including environmental, financial, and resourcing, so it is in our best interests to undertake these reviews regularly.

4 Residue Plan

Table 1

Activity	Waste stream	Waste recovery/disposal
Sludge thickening and sludge dewatering	Centrate	Returned to the WRC for treatment
Treatment of high strength liquor from digested sludge dewatering	Effluent from post digestion	Approximately 810 m3 per day is Returned to the WRC for treatment
Grit and Screenings from digester cleansing	Grit and Screenings Screenings	As much grit and screenings as possible are screened out during earlier processes (outside the scope of this permit) to minimise that entering anaerobic digestion process. Grit and screenings removed from digesters are screened to segregate the waste streams. Grit can be recycled. As screenings originate from nonsegregated sources, there are currently no alternatives to landfill.
Anaerobic digestion	Biogas	Transferred to CHP unit for electricity and heat production (and export to grid)
CHPs	Waste lube oil	Recycled at waste oil recycling facilities
	Concentrate from RO plant	Returned to the WRC for treatment
	RO plant filters	Disposed of appropriately with 3rd party as detailed in EMS
	CHP disposables e.g. oil filters	Disposed of appropriately with 3rd party as detailed in EMS
Waste generated from other site activities	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

Refer to POSWASTE for more information.

To reduce volumes of waste:

- All materials and consumables delivered to site are inspected to ensure that they are fit-for-purpose. Damaged items are refused and returned to the supplier.
- Sewage sludge is treated and de-watered at the site. Treated sludge is then recycled to agricultural land as a soil conditioner. The treated sludge meets the Biosolids Assurance

Scheme Quality Standards. The volume of sludge recycled to agricultural land is monitored by WROL / CE teams.

- The biogas from the AD process is burned in a CHP engine and is used to provide heat & power for the site processes.
- Polymer intermediate bulk containers (IBCs) are sent back to the supplier for re-use.
- WEEE, batteries, waste oils and oil contaminated items such as oily rags are treated as hazardous waste and are therefore segregated from non-hazardous wastes in accordance with legislation. These are removed from site by an approved supplier, using approved waste carriers.
- Gas Cylinders for Nitrogen/Odorant/Calibration Gas etc. are collected by a 3rd party contractor from the Site as they deliver a batch of new cylinders.

5 Waste Removal

All residue is removed form the site using suitably competent and approved third party waste management contractors, to permitted waste facilities.

6 Duty of Care

All waste contractors used will be registered with the Environment Agency and have a current Waste Carriers Licence. Our waste contractors will supply us with a Waste Transfer Note (WTN) and/or Waste Consignment Note (WCN) - dependant on what type of waste is being removed from site. All waste documentation for the installation is retained for the appropriate length of time at the site (two years for WTN and three years for WCN)

The Circular Economy team manage the waste transfer notes and season tickets on behalf of the company. The disposal site is usually not named on the season ticket document as to make it relevant to multiple AWS sites, therefore the season tickets should be used in conjunction with the ticket's Annexes which list all AWS import sites.

7 Residue Production Conclusion

Due to the small number and type of residue streams, there is very little scope for further reduction of those generated on site. All current waste recycling / recovery / disposal routes are considered to be BAT compliant and utilise the application of the Waste Hierarchy.