

Standard Operating Procedure (SOP)

Title	SOP 17 Biosolids TTW Acceptance & Delivery
Site	Finham, Strongford, Minworth, Stoke Bardolph

Purpose	<p>This document contains the procedure for accepting cake sludge waste from external (non-Severn Trent Water) customers into the sludge/anaerobic digester treatment route.</p> <p>To describe the step-by-step procedure for accepting sewage cake and sludge waste into a permitted Severn Trent sewage treatment works. The procedure ensures environmental quality standards, BAS/sludge is not detrimentally affected by external cake imports</p>
Who	Tankered Trade Waste Manager, Tankered Process Team, Bio Ops Process Team, Tankered Trade Waste Technicians, Commercial Team, Biosolids Team, Bio Ops Team

Must Have (H&S, Quality, Quantity, Environment, Training, Resources)

If none required then just add 'N/A'

- EMS training (updated every 3 years)
- Tankered Waste experience or 12 months experience in the waste or water treatment industry
- Standard Operating Procedures (SOP)
- CWID (Commercial Waste Information Database)
- QUIS (For Lab results)
- Waste Acceptance Form (WAF)

Remember – 'Stop, Think, Take 20'

Summary Must Do's

If none required then just add 'N/A'

- Review and update the approval process as required.
- Review and complete waste stream pre acceptance measures within a timely manner.
- Review WAF details to ensure they are completed in line with our requirements (e.g. correct EWC, SIC, details on origin of waste).
- Ensure TCP is available to accept trade waste delivery.
- Ensure waste is approved (booked-in on daily bookings sheet or CWID)
- Ensure all paperwork is completed, and the receipt is uploaded to CWID.
- Do ensure all paperwork is completed, and the receipt is uploaded to CWID. Do not allow a load to discharge if the WTN (waste transfer note) does not have all the necessary fields completed correctly
- Ensure the driver is inducted (if not, carry out site induction), and is competent with discharge points on site. The driver must have a site induction card.
- Ensure site stakeholders are aware of imports and reception points are available to accept delivery.
- Review procedure to implement any changes required by the site environmental permit.

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Document Control & Governance:			
Document Owner Name		Shayek Ahmed	
Document Owner Role		Tanker Trade Waste Process Manager	
Date of Next Review		16/10/2027	
Version Number		3.0	
Waterpedia Reference		<i>To be entered by Waterpedia Team</i>	
Version	Date Reviewed	Summary of Changes	Reviewed by
1.0	07/04/2021	New SOP	E. Ruswa
2.0	13/01/2022	Updated procedure to include references to testing, approval, and rejection for Biosolids	O.Boertje & C Bane
3.0	16/10/2024	Updated into new Waterpedia format and additional controls included	S. Ahmed
<p>The only valid version of this Standard Operating Procedure (SOP) is the electronic version held in Waterpedia.</p> <p>If printed, it is uncontrolled.</p> <p>Ensure the printed version matches the Revision History details in Waterpedia.</p> <p>If not, 'DO NOT USE' and contact your line manager for the new version</p>			

Biosolids (Cake) Pre-Acceptance

A discussion is undertaken between various stakeholders including those from THP team, Bioresources and the Tanker Trade Waste team. Commonly the enquirer will be from another water company, but this might not always be the case. Part of the discussion includes the key requirements such as duration of the task and frequency and when to undertake the Duty of Care audit. If this is a new site or enquirer, a duty of care visit is undertaken. For more frequent customers duty of care audits are arranged periodically.

As part of the Duty of Care audit a sample of the waste is obtained and sent to an accredited lab for analysis. Elements of the assessment include reviewing where the waste is currently being stored, analysis of any existing results, how the site runs, any health and safety or environmental pollution events.

The samples are sent off and tested for the determinants outlined in table 1.

Table 1: For Biosolids (Cake)

Description	Units
Mercury [Hg] (total) as Hg dry weight	mg/kg
Arsenic [As] (total) as As dry weight	mg/kg
Selenium [Se] (total) as Se dry weight	mg/kg
pH sludges and soils	pH_unit
Nitrogen as N % Dry weight	% DW
Phosphate as P % Dry weight	% DW
Potassium as K % Dry weight	% DW

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Molybdenum (total) as Mo dry weight	mg/kg
Solids Total at 105c	%
Loss on Ignition dried solids	%
Cadmium (total) as Cd dry weight	mg/kg
Chromium (total) as Cr dry weight	mg/kg
Copper (total) as Cu dry weight	mg/kg
Lead (total) as Pb dry weight	mg/kg
Nickel (total) as Ni dry weight	mg/kg
Zinc (total) as Zn dry weight	mg/kg
Sulphur as SO ₃ % Dry weight	% DW
Sulphur as S % Dry weight	% DW
Magnesium as MgO % Dry weight	% DW
Magnesium as Mg % Dry weight	% DW
Potassium as K ₂ O % Dry weight	% DW
Phosphate as P ₂ O ₅ , % dry weight	% DW
Available Fluoride as F (mg/kg)	mg/kg

Pre-Acceptance Results & Review

Once the results are returned a review is undertaken of the availability of requested reception site, requirements of product site e.g. thickness, if the results are within the safe limits.

Then a full review of the information is undertaken including a review of the risk calculation:

- Risk Calculator – Risk level for sites, paying close attention to the destination sites.
- Suitability for Biological Treatment:
 - Inhibition values
 - Biodegradability through BOD/COD results
 - Current performance of the treatment process
 - Other site variables such as weather, maintenance work, projects
- Site Loadings/Chemical Limits - need to be considered for discharge conditions.
- Biosolids/BAS (Biosolids Assurance Scheme) compliance - in particular, metal concentrations are considered in line with current cake PTE (potentially toxic elements) concentrations.
- Review WAF:
 - All required information is present
 - Ensure SIC code is correct
- Review EWC code & compare with site permit codes
- A check must be completed to ensure a customer account is in place.
- BAS compliance – particular focus on metal concentrations to ensure that the PTE (potentially toxic elements) match the limits in the biosolids.

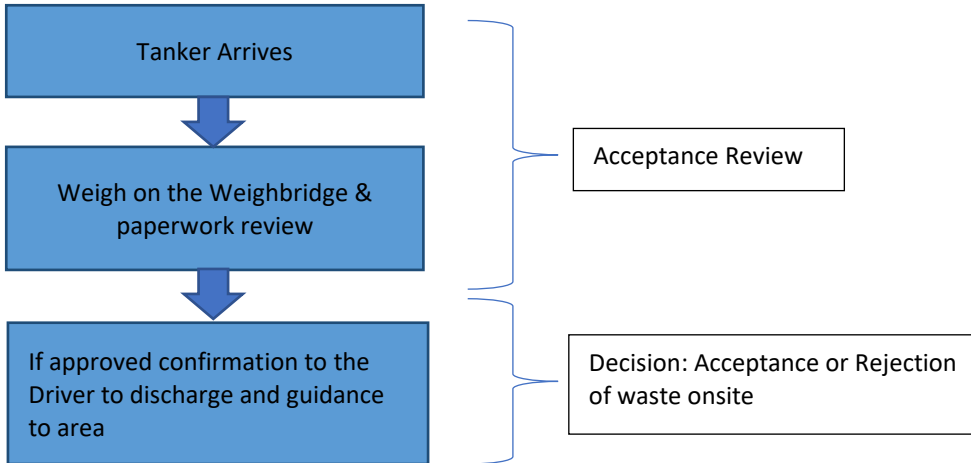
If this waste is accepted for a short duration, then a seasonal permit is issued. All the details are recorded on the database CWID. Loads can only be booked if the approval process has been passed by the process team. Bookings are then determined by the stakeholders and booked accordingly

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through the booking office. Once bookings are confirmed, the bookings office will send a list of the weeks booking to Bio Ops and the TTW techs if they also based at the same site.

Standard Operating Procedure (SOP)

Biosolids (Cake) Onsite Acceptance



Biosolids Acceptance

Tanker Trade Waste Technician (TTWT) or Bio Ops may be required to accept the loads at site. Once the delivery vehicle reaches site, the TTWT confirms that the driver has completed a Severn Trent site induction and if required, performs a site induction with them. Vehicles must “weigh in” prior to discharge and “weigh out” post discharge to ensure that an accurate delivery weight is recorded.

TTWT/Bio Ops must check the below before allowing the Biosolids to tip:

- **Booking Form:** Cross-check the booking information (e.g., material type, origin, and volume) with what was logged in advance.
- **Waste Transfer Notes (WTNs):** Verify the paperwork (e.g., EWC code, producer details) to ensure compliance and match with the declared waste stream.
- **Pre-Tip Visual Check:** Before tipping, inspect the vehicle visually to identify any obvious signs of contamination, unusual material, or incorrect waste type. This could involve inspecting any parts of the load that are visible.
- **Odour Check:** Strong or unusual odors could indicate the presence of hazardous or prohibited waste. Comparing the smell to the expected waste can give clues about potential contamination.
- **Prior-Load History:** Check records of previous loads carried by the vehicle to ensure there hasn’t been any potential cross-contamination. If a last load carried that wasn’t biosolids, there must be a wash out certificate made available for the technician.

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A representative sample is taken as part of the onsite testing protocol (SOP 10 and SOP 13). Depending on the length of the agreement, the frequency of sampling will be increased accordingly. As a minimum sampling for ongoing Biosolids must be carried out quarterly. Paperwork is reviewed includes a copy of the season ticket which is held on CWID.

Waste Transfer Note/Season Ticket

The waste transfer note or a season ticket should include:

- EWC code
- SIC code
- Haulier's carrier registration number
- Name and address of waste producer
- Name and address of disposal site
- The waste hierarchy confirmation must be signed
- Driver name and signature should be present

The technician then fills out the required sections on a WTN and ensures that a copy is captured as part of the waste receipting records. The driver must keep a copy of the season ticket to confirm to the TTWT of the load he has on. The sample jar is labelled with the waste producer, TW ticket number, waste stream reference number and date received on a small sticker and place it on the sample container lid. A sample will be stored safely as required until disposed off or sent for analysis.

Offloading Biosolids

Providing the waste is suitable, the driver is permitted to offload the waste and a Severn Trent representative will be available to support the driver and monitor the discharge. Upon returning, the driver is issued with the updated Waste Transfer Note/ticket and directed to weigh on the weighbridge.

Cake Acceptance into the THP – Bio Ops

Note: This change does not apply to Severn Trent cake trucks.

Scope:

Applies to contractors (regardless of whether they are moving STW cake) and other water company trucks delivering cake.

Manual Operation of Cake Bin Hydraulic Power Pack Pump:

- The pump will be set to manual to prevent unauthorised cake deliveries.
- During business hours, Bio Ops will manage this process.

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- Outside business hours, shift operators are responsible.

QR Code System at Cake Reception:

Delivery drivers must complete the top two QR codes on the JRP logger (See Appendix 1).
 Severn Trent personnel must complete the bottom QR code linked to a Microsoft form.

Verification Process:

- Drivers must present a time and date-stamped photo showing the clean condition of the cake truck before loading.
- If the truck was clean, accept the load, set the pump to auto, and reset relevant alarms to allow offloading.
- After offloading, return the pump to manual to prevent unauthorised tips.

Handling Non-compliance:

If evidence is lacking or inadequate, refuse the load and report to the appropriate authority (in hours: report to the designated person; out of hours: report to the Bio ADO).

Communication:

This procedure has been communicated to other water companies and contract partners. Non-compliance will result in load rejection.

TTWT will then receipt the load on CWID. Where TTWT is not available, Bio Ops must keep WTNs and record gross weight and feedback to the commercial team via email in order to receipt on CWID.

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CAKE IMPORTS – MINWORTH STW



1. Please complete the cake import form first

Scan QR code or link

<https://forms.office.com/e/YV8zKRujDS>

2. And then email your time/date stamped trailer pictures to minworthcakeimports@severntrent.co.uk

Scan QR code for email window



3. Severn Trent Operator completes this form at this QR code or link

<https://forms.office.com/e/g0PC2faVjs>

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References:

- Technical Guidance WM3: Waste Classification – Guidance on the Classification and assessment of Waste
- BREF for Waste Treatment 2018
- Site Permits
- SOP 02 TTW Waste Acceptance
- SOP 03 TTW Non-conformance
- SOP 10 Standard Sampling Tests
- SOP 11 Sewage Sludge Acceptance Procedure
- SOP 13 Hach Lang: Completing on-site analysis using Hach Lang Cuvettes
- SOP 14 Moisture content sampling procedure
- SOP 22 How to use a JRP Logger

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