Standard Operating Procedure (SOP)

Title	SOP 01 TTW Waste Pre-Acceptance
Site	All TTW sites

Purpose	The pre-acceptance procedure determines the suitability of a waste stream treatment at a wastewater site. The procedure ensures environmental quality standards, BAS/sludge and the sewage treatment process is not detrimentally affected by a waste stream prior to acceptance at a Trade Waste site.
Who	Process team, Commercial team and the TTW manager and technicians.

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

- EMS training (updated every 3 years)
- Tankered Waste experience or 12 months experience in the waste or water treatment industry
- CIWM Hazardous Waste Classification course
- University degree or similar level of experience and knowledge in a Scientific Area
- Standard Operating Procedures (SOP)
- CWID (Commercial Waste Information Database)
- LCW Risk calculator with H1 assessment
- 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).
- Notify the Commercial team once a decision has been made regarding a rejection/acceptance of a waste stream.
- Set discharge conditions for Low and Medium risk waste-streams
- Establish site limits on testing parameters, such as potentially toxic elements (PTEs) and review in-line with Biosolids and Effluent results

Document Control & Governance:

Document Owner Name	Shayek Ahmed
Document Owner Role	Process Team Manager
Date of Next Review	14/08/2026

Version Number		5.0	
Waterpedia Reference		*To be entered by Waterpedia Team*	
Version	**Date Reviewed**	**Summary of Changes**	**Reviewed by**
1.0	07/04/2020	Initial Waste Pre-approval process.	E. Ruswa
2.0	07/04/2021	Merged into a big document.	E. Ruswa
3.0	21/10/2021	Waste pre-approval process updated.	O. Boertje
4.0	14/02/2022	Updated references to include BREF	O. Boertje
5.0	14/08/2024	Updated into new Waterpedia format and added section for Emergency loads and waste unable to provide pre acceptance sample.	S. Ahmed

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If printed, it is uncontrolled.
Ensure the printed version matches the Revision History details in Waterpedia.
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Procedure

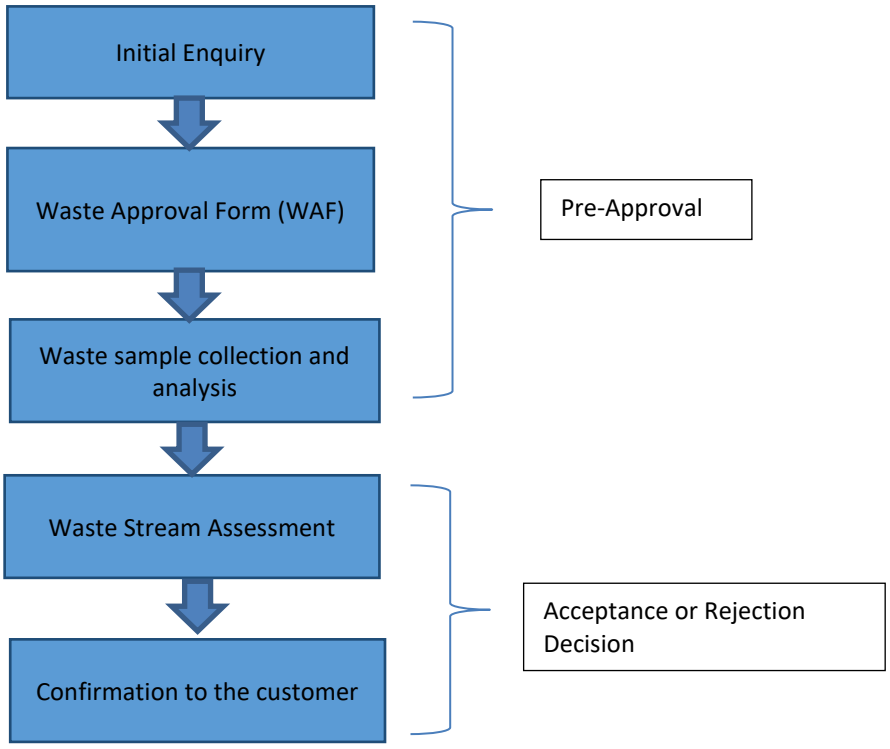

Figure 1: Waste Pre-Approval Process

Initial Enquiry

As outlined in Figure 1, the first step is the initial enquiry from a customer. The commercial team liaise with the customer and supply them with a Waste Approval Form (WAF). The customer completes the WAF which provides information to support waste characterisation and classification as per WM3 classification and assessment of waste.

This includes:

- The name, location, and contact details of the waste producer.
- Relevant details of the process generating the waste.
- An appropriate description of the waste including its physical form.
- Details of the chemical inputs which give rise to the waste and the expected concentrations. Where possible, this should be informed by chemical analysis.
- Information of any animal byproducts (ABP) handled on site and control measures in place to prevent contamination of non-ABP material.
- Information on the nature and variability of the waste production process(es); EWC code (to be checked against requested site's IED (Industrial Emissions Directive) permits and appears suitable for the waste in question – ultimately, the producer is responsible for assignment of the EWC code)
- Person responsible for the technical assessment of the waste
- Description of how the waste classification (EWC) was decided as per WM3.
- SIC Code (to be checked is reasonable based on Government/companies house website)
- Process generating the waste
- Nature of the producer business
- Haulier of Waste (if known at time of completion)
- Preferred disposal sites (final approval may be restricted to different sites)
- Approximate yearly tonnage & frequency of delivery
- Other relevant information i.e., COD, Suspended Solids, Ammonia, metal analysis, (sample will be used for this, if not present), List I, List II, and Red List substances if present etc.
- Miscible in water declaration (Must be "Yes", if "No", the waste must be rejected, as it will not be treatable via the inlet route)
- Biodegradable declaration (Must be "Yes", if "No", the waste must be rejected. Waste must be treatable aerobically via activated sludge. "Waste which is not biodegradable shall not be accepted" is stated on all IED permits)
- Flash point declaration (Must be >60C, as we currently do not have EX rated discharge equipment/safety apparatus in place for flammable wastes)

As part of the WAF the waste producer identifies whether the waste contains any hazardous properties prior to approval samples being sent off. Minworth and Strongford are permitted for certain hazardous waste EWCs. However, as from April 1st, 2024, Tankered Trade Waste has ceased accepting hazardous waste. There will never be any radioactive waste streams pursued, nor those which may have a risk of containing or be contaminated with radioactive properties.

Sampling:

A 2-litre representative sample of waste is obtained and analysed to determine the chemical composition of the waste. It is sent to a MCERTS/UKAS accredited laboratories for analysis. Sample analysis is required to ensure that there is sufficient information to aid characterisation of the waste. Determinants tested in the sales sample suite are outlined in Table 1. Determinants tested for sewage sludge and cake are outlined in Table 2.

Table 1:List of sample determinants used for Sales samples **Description**	**Units**
pH	pH_unit
Suspended Solids [SS]	mg/l
Biological Oxygen Demand [BOD] (2mg/l ATU) 5 day suppressed	mg/l
Ammoniacal Nitrogen [N]	mg/l
Nitrite as [N]	mg/l
Nitrate as [N]	mg/l
Iron [Fe] (total)	mg/l
Aluminium [Al] (total)	mg/l
Cadmium (total) as Cd	mg/l
Cadmium in Filtrate	Mg/l
Chromium (total) as Cr (mg/l)	mg/l
Copper (total) as Cu (mg/l)	mg/l
Lead (Total) as Pb (mg/l)	mg/l
Nickel (total) as Ni (mg/l)	mg/l
Nickel in Filtrate	Mg/l
Zinc (total) as Zn (mg/l)	mg/l
Zinc in Filtrate	Mg/l
Phenols monohydric (mg/l)	mg/l
Sulphide as S (mg/l)	mg/l
Fluoride as F (mg/l)	mg/l
COD (total)	mg/l
Phosphorous total as P	mg/l
Arsenic total as As (mg/l)	mg/l
Mercury Total as Hg	mg/l
Selenium (total) as Se (mg/l)	mg Se/l
Tin (total) as Sn (mg/l)	mg Sn/l
Bromide as Br	mg/l
Cyanide excluding Iron Cyanide (mg/l)	mg/l
Antimony (total) as Sb (mg/l)	mg Sb/l
Molybdenum total mg/l	mg/l
COD 1h settled	mg/l

Sulphate as SO4	mg SO4/l
Chloride	mg Cl/l
AMTOX nitrification inhibition test 25% dilution	%
AMTOX nitrification inhibition test 10%	%
AMTOX nitrification inhibition test 1%	%
AMTOX nitrification inhibition test 0.5%	%
AMTOX nitrification inhibition test 0.1%	%
AMTOX nitrification inhibition test 5%	%
AMTOX nitrification inhibition test 50%	%
Phenols monohydric (mg/l) HPLC	mg/l

Table 2: For sewage sludge (>3% thickness) and sewage cake samples

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
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 SO3 % Dry weight	% DW
Sulphur as S % Dry weight	% DW
Magnesium as MgO % Dry weight	% DW
Magnesium as Mg % Dry weight	% DW
Potassium as K2O % Dry weight	% DW
Phosphate as P2O5, % dry weight	% DW
Available Fluoride as F (mg/kg)	mg/kg

Individual waste streams may require additional analysis with consideration to the ecological risk. Furthermore, if the WAF indicates that other contaminates are present these will be investigated with additional analysis undertaken. For example, Siloxane testing is undertaken for wastes with chemical, cosmetic, or pharmaceutical origins.

Emergency Loads

Under certain circumstances waste can be accepted without the pre-acceptance sample. When the generation of waste is deemed an environmental or health and safety risk, it can be brought into a suitable trade waste site without the pre-acceptance sample. In place of lab analysis, a suite of on-site analysis must be completed using the Hach Lang photo spectrometer.

Waste-streams Without a Pre-acceptance Sample

When a customer is unable to provide a sample prior to transportation because the waste is not physically accessible before collection of the waste, we may be able accept the waste. The waste must be low risk and the customer will need to provide a detailed method statement and risk assessment of the work that is being carried out that will generate the waste. For example, with pressure test waters, they will need to give information of any additives and the concentrations that may have been added. What the lines contained, and if there is contamination with other site products to complete an on-site analysis.

The sample suite for both emergency loads and waste streams without a pre-acceptance sample are detailed in table 3a and 3b.

Table 3a: Suite for Emergency load samples, and producers who are unable to provide a pre-acceptance sample.

Hach Lang Test Description	Units
Ammonia	Mg/l
Chlorides	Mg/l
COD	Mg/l
Cyanide	Mg/l
Nitrates	Mg/l
Nitrites	Mg/l
Orthophosphates	Mg/l
Phenols	Mg/l
Zinc	Mg/l

Table 3b: Suite for Emergency load samples, and producers who are unable to provide a pre-acceptance sample.

Visual Checks	
Colour	
Odour	
Reaction with Acid	
Reaction with Alkali	
Is it water miscible	
Does it have any layers	

Does it contain solids in the form of sand or grit	
Further observation	
Quantifix Dip Strip Test	**Unit**
Ammonia	Mg/l
Chromate	Mg/l
Copper	Mg/l
Iron	Mg/l
Nickel	Mg/l
Nitrates	Mg/l
Nitrites	Mg/l
Sulphates	Mg/l
Zinc	Mg/l

Waste Stream Risk

Waste stream risk is determined using a calculator which assesses the waste for environment quality standards and eco-toxicological risk to the treatment process and biosolids cake quality. Waste streams will be classified as either:

- **Low risk**
- **Medium risk**
- **High risk**

This is determined by the number of risk thresholds which have been breached. Each breach will be assessed to understand the risk and determine any measures which need implemented to mitigate the risk (e.g. Splitting discharge, use of holding tank, restricting the number of loads or sites). If more than 3 determinants breach the predetermined thresholds, the waste will be classed as high risk, and must either be rejected or can be discussed with the Treatment Quality Team.

Regardless of the risk profile, regular communication with the site team ensures that we are alerted to any issues with the processes, final effluent or biosolids. This allows the Process Team to modify thresholds or change the feeding patterns e.g. all at inlet or 'drip feed' to inlet via tanks to support the site's functionality.

If any single determinant is considered too high, and additional measures will not mitigate the risk sufficiently, the waste will be rejected.

CWID Upload

Details of a waste enquiry must be entered onto CWID by the Commercial team as soon as is practicable in the process. Waste stream approvals are only valid in CWID, and waste bookings will not be permitted unless the waste stream is approved within CWID by the Process team, and all relevant information is saved on the system.

As a minimum this will include all the details from a fully completed WAF and a copy of the WAF saved on the system. Once an enquiry is entered onto CWID, it is allocated a specific reference number which must be utilised during all future stages of waste stream approval & acceptance. All waste bookings must be recorded in CWID.

System Failure:

In the event of a system failure / power failure – deliveries may be accepted and recorded using hard copy "Tankered Waste Tickets" and the information uploaded to CWID as soon as practicable. However, if any member of the Trade Waste team has any queries regarding the booking / approval of delivery; the delivery MUST NOT be accepted until the query can be resolved.

Risk & Documentation Review

Once a completed WAF is received it is uploaded to CWID. Then a full review of the information is undertaken including a review of the risk calculation:

- Risk Calculator – Risk level for sites including an H1 assessment, 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 – in particular, Ammonia and COD concentrations 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:
  - Confirmation all require 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

- A check must be completed to ensure the requested discharge sites have the appropriate EWC code as per WM3 protocol, and that the description for the waste stream is specified on the permit.

Depending on the level of risk, either a technician, Tankered trade waste manager or a member of the process team are permitted to review and determine approval. If acceptable, individual site approvals can be added on the waste stream CWID page under the "Approvals" tab. Extra measures should be added in the "special requirements" tab. The commercial team can provide information if required but do not decide on approvals. Queries and updates relating to specific parts of the WAF may be appended to the notes section of the waste stream in place of completing the WAF again. Digital and printed signatures are acceptable on WAFs.

Note: If specific information is not present on the WAF, the review of analysis may continue but the waste stream MUST NOT be approved until a fully completed and signed WAF is received and saved in CWID. If not, there must be suitable updates made against the waste stream notes section to include the required details.

Approval Timescales

The approval process' highest priority is to protect the environment and to maintain the highest standards in these areas, there is no pre-determined timescale by which an approval must be completed.

However, in consideration of providing a high quality to our customers, the team will endeavor to complete the process (approval on CWID) within the following timescales from receipt of a sample to the approval on CWID:

- Low Risk: 12 working days
- Medium Risk: 14 working days
- High Risk: 14 working days

The Process team will liaise with the commercial team to ensure that customers can be kept updated as to the progress of an approval especially where the above timescales will not be possible. For example, waste streams that might require additional tests may need longer.

Confirmation to Customer:

Once a decision on the waste stream has been made, the commercial team will be informed. They will then notify the customer. All records are kept in CWID's digital process control system, and the system will be updated to reflect the decision.

Acceptance:

The Commercial Team will then issue conditions of disposal to the customer and include any caveats specified by the Process team. The waste stream may be booked in according to those requirements. The waste stream is valid for 12 months from the point of the last booking. Re-approval may be granted providing that there is no notable change to the waste stream and all WAF conditions remain the same. Any additional changes identified will result in more sampling and another review of the documentation.

Rejections:

When the enquiry does not lead to the waste being received, the opportunity/ waste stream is deactivated. An explanation of why the waste stream was rejected must be given, such as contamination, unable to biodegrade or high in Potential Toxic Elements (PTEs). This is included in the CWID update and relayed to the Commercial Team to accurately inform the customer.

Criteria Limits for non-conformance/rejection:

The limits for non-conformances are set based on regular reviews with the site effluent and Biosolids results. These are used to determine thresholds which are bespoke to each site. The waste samples are used as part of the assessment to determine if the waste is unsuitable for treatment.

References:

- SOP 02 TTW Waste Acceptance
- SOP 03 TTW Non-conformance
- Technical Guidance WM3: Waste Classification – Guidance on the Classification and assessment of Waste: Waste_classification_technical_guidance_WM3.pdf (publishing.service.gov.uk)
- BREF for Waste Treatment 2018: BREF for Waste Treatments (europa.eu)
- Site Permits: Site Permits
- Environment Agency guidance on red list materials and priority substances:
  Freshwaters_specific_pollutants_and_operational_environmental_quality_standards.ods (live.com)
  Environmental Quality Standards Directive (EQSD) list for WFD assessments - GOV.UK (www.gov.uk)
  Nature of business: Standard Industrial Classification (SIC) codes:
  Nature of business: Standard Industrial Classification (SIC) codes (companieshouse.gov.uk)