

Bioresources - Tankered Trade Waste			
Document Title	SOP 02 TTW Waste Acceptance		
Document Owner Role	Process Manager	Version Number	3.0
Date of Last Review	02/11 /21	Date of next Review	02/11/22
Identified Risks			
<ul style="list-style-type: none"> • HS&W risks associated with unsuitable / volatile / hazardous waste streams. • Excessive solids could damage the pipework infrastructure • Activated Sludge Process lanes collapse: from Overloading of nutrients <ul style="list-style-type: none"> ○ Inhibition of the microbial activity through the introduction of too many inhibitory compounds such as metals or cyanide or pH levels are too extreme • Digestors inhibits Methane (CH₄) generation due to: <ul style="list-style-type: none"> ○ excessive volume of heavy metals such as Chromium (Cr III) and Cadmium (Cd) ○ They can poison the active bacteria and inhibit the methanogenic bacteria ○ This leads the presence of organic acids • Combined Heat Power process impacted by: <ul style="list-style-type: none"> ○ High levels of Hydrogen Sulphide (H₂S) can damage engines ○ High levels of Siloxanes (Si) pas through the biogas and result in silica deposits. ○ These damage the engine valves, oil life etc leading to greater downtime and more equipment to be replaced • Compliance risks: <ul style="list-style-type: none"> ○ Loss of waste permits if waste not listed on them permitted or waste does not have the appropriate EWC. ○ Final effluent discharge consents missed due to high solids or heavy metals or Phosphorus (P) ○ BAS Compliance for Biosolids non-conforming if too high metal content ○ Wider environmental damage from failures of the treatment processes due to unsuitable waste streams being accepted. 			
<p>If this is a printed version please ensure that it is still within the current review period, if not 'DO NOT USE' and contact your line manager for a new version</p>			
<p style="text-align: center;">Remember – If you can't do the job safely, don't do it. 'DO NOT CARRY OUT THE PROCEDURE' And seek advice from your line manager</p>			

Introduction

The waste approval process outlines the stages required when the waste stream has arrived on site including receipting, testing, reviewing and approval/rejection.

Key Roles and Responsibilities

Tankered Trade Waste Manager	<ul style="list-style-type: none"> ○ Ensure that the approval process is be followed ○ Ensure that the operating procedures are followed ○ Ensure that the Tankered Trade Waste Technicians have undergone
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(TWM):	<p>appropriate training</p> <ul style="list-style-type: none"> ○ Can make approval decisions if they have been deemed as technically competent ○ Investigate HSW & Environmental concerns from the Compliance Technicians
Tankered Process Team (TPT)	<ul style="list-style-type: none"> ○ Reviewing and updating the procedures as required ○ Notifying the commercial team once a decision has been made regarding a rejection/acceptance. ○ Setting 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
Tankered Trade Waste Technicians (TTWT)	<ul style="list-style-type: none"> ○ Preparing and sending samples for analysis at UKAS approved lab ○ Review the driver paperwork and ensure it is completed correctly ○ Confirm that the specific load is present on the site daily bookings ○ Safely collecting samples from tankers and undertaking onsite chemical analysis ○ Based on site analysis compare the UKAS lab results and ensure that these match/show that it is the same waste stream ○ Follow the non-conformance procedure if a waste is not suitable and do not permit the load to discharge ○ Keep samples in storage for a minimum of 14 days ○ Check that the driver is inducted to site and wearing the correct PPE ○ Escalating concerns to TWM or TPT where H&S, regulatory compliance or processes are at risk ○ If a site has a holding tank, be aware of the capacity and what waste streams are using it ○ Undertake regular compliance sampling as per the waste stream requirements
Commercial Team	<ul style="list-style-type: none"> ○ Setting the price for the waste stream and informing the customer of the discharge conditions set by the technicians or process specialist. ○ Providing customers with WAF to complete and setting up sales opportunity on CWID. ○ Notifying the customer of the outcome of the Approval Assessment.
Treatment Quality Team	<ul style="list-style-type: none"> ○ Review high-risk waste streams with the process team ○ Determine whether high-risk waste streams reviewed will be accepted by the site.

Required Training

Tankered Trade Waste Technicians (TTWT)/ Technically Competent Person (TCP)	<ul style="list-style-type: none"> • In date EMS training • At least 6 months experience in the waste industry (if they are approving low risk wastes) HNC Chemistry, University Degree in a Scientific Area or similar experience • Experience undertaking sampling and lab testing • How to use CWID • Collect samples from tankers onsite • Undertaken a suite of tests (section sampling and testing) • Compare the test results with those of the Sales & Compliance results • Reviewing WAF details to ensure they comply with our permits and processes • Raising concerns of HSW & Environmental to Process team or Tankered Trade Waste Manager • Updating CWID with waste received • Ensure TCP is available at the time of arrival of tanker delivery. • TCP to ensure driver is competent/inducted/wearing correct PPE. • TCP to ensure paperwork contains correct information and is filled out correctly. • TCP to ensure each load is to specification and if there are any discrepancies the TCP should follow the non-conformance procedure.
Tankered Process Team (TPT)	<p>The requirements for the TTWT in addition to:</p> <ul style="list-style-type: none"> • Tankered Waste experience or 12 months experience in the waste industry • CIWM Hazardous Waste Classification course • Cranfield University Biological Processes/Activated Sludge Treatment course
Tankered Trade Waste Manager (TWM):	<ul style="list-style-type: none"> • In date EMS training • Experience of working in the Waste Industry • Understanding of Health, Safety, Wellbeing and Environmental Compliance • Able to support with decisions on acceptance/rejections if they have the competencies outlined for the TPT
Commercial Team	<ul style="list-style-type: none"> • Being the first port of call for customer relations • Informing the customer regarding a rejection and why • For Emergencies, informing the TPT and site TTWT/TCP about the waste stream expected
Tanker Driver	<ul style="list-style-type: none"> • Ensure that they are competent to operate their vehicle • Ensure they have completed a site induction, if not contact the TTWT/TCP • Work with the TTWT/TCP so that samples can be extracted from the tanker • Provide the appropriate paperwork (e.g. Waste transfer notes) • Must wear appropriate site PPE

Documentation & Resources

- Standard Operating Procedures (SOP)
- CWID (Commercial Waste Information Database)
- LCW Risk calculator

- QUIS (For Lab results)
- Waste Acceptance Form (WAF)
- Daily Bookings access
- Severn Trent Tankered Waste Ticket Book
- Waste Transfer Note/Consignment Note (where applicable)
- Sample of the waste
- pH Meter (correctly calibrated)
- Chemical Test Strips (TW Technicians only)
- Spill Kit
- Suitable Hoses (4-inch Bauer female fitting or 3-inch bsp)
- PPE: Hard hat/bump cap, Hi visibility vest or jacket, Steel toe cap boots, Gloves, Eye protection, Ear protection

Process

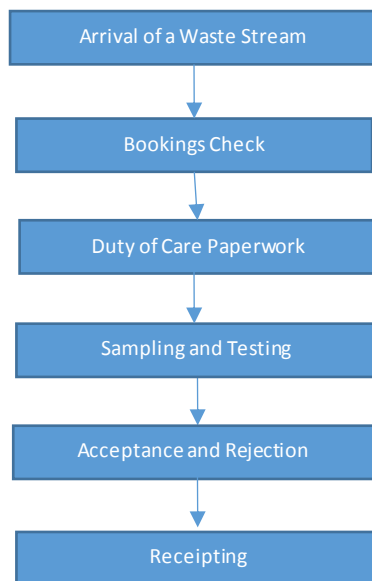


Figure 1: Process Overview

Arrival of Waste Stream

As outlined in Figure 1, the first stage is the arrival of a waste stream to site. Upon arriving at a Severn Trent Water site, the tanker driver will report to the relevant TCP present on site. The TCP will confirm that the driver has been inducted and can provide a site induction card. If the driver is not inducted, the TCP should follow the STW site induction procedure. The driver **must** wear the correct PPE whilst they are working on a Severn Trent Water site.

Bookings Check

The TCP will check the drivers' waste transfer note and match it to the corresponding booking in CWID (Commercial Waste Information Database) or the daily Bookings Sheet, to confirm that the waste has been booked in and has received approval for discharge at this site.

Any of the arrow buttons will enable you to filter the table which includes the Site , EWC or Date.

Date	Site Disposal Pt	Sample Req	Waste Stream	Old STW Ref	Producer (V)	Haulier	EWC (Waste)	Waste Descr	Expected Vo
13/10/2021	Minworth Inlet	No	08830				16 10 02	Lagoon Water	27.00
13/10/2021	Minworth Inlet	No	08830				16 10 02	Lagoon Water	27.00
13/10/2021	Minworth Inlet	No	08830				16 10 02	Lagoon Water	27.00
13/10/2021	Minworth Inlet	No	08830				16 10 02	Lagoon Water	27.00
13/10/2021	Minworth Inlet	No	08851				19 06 03	Brine	27.00
13/10/2021	Minworth Inlet	No	08135				19 07 03	Leachate	27.00
13/10/2021	Minworth Inlet	No	08028				19 07 03	Landfill Leachat	25.00
13/10/2021	Minworth Inlet	No	08028				19 07 03	Landfill Leachat	25.00
13/10/2021	Minworth Inlet	No	08135				19 07 03	Leachate	27.00
13/10/2021	Minworth Inlet	No	01478				19 07 03	Landfill Leachat	27.00

Figure 2: Bookings Extract from CWID into Excel

Figure 2 depicts an example of a bookings extract from CWID. This is sent out every afternoon. The table format enables it to be filtered to show specific details such as site or even inlet or holding tank for the day, week or month or even year. If the load is not listed on CWID or the daily bookings sheet, the TCP and the driver/ company must contact the TW Booking office as per the non-conformance procedure.

Contact Details for the Booking Office:

Tel: 0345 608 0107

Email: tankeredwaste@severntrent.co.uk

Note: For sites with a non-fixed TTWT, they require a printed "Booking Sheet" only.

Duty of Care Paperwork

After confirmation of the waste booked in, the Duty of Care paperwork must be checked. This includes a Waste Transfer Note (WTN) and a Weighbridge Ticket. A Waste Transfer Note (WTN) is a legal requirement which documents the movement and disposal of non-hazardous waste.

The TCP must ensure the customers WTN has the following information:

- Description of the waste stream
- Carrier Registration Number
- Correct EWC code for the waste stream
- Signed declaration to confirm that the Waste Hierarchy has been applied
- Full name of the person, company and address of the transferor (person transferring the waste to someone else)
- Full name of the person, company and address of the transferee (person accepting the waste from someone else)
- SIC code for the transferor
- Status of the persons involved in the transfer (e.g. producer, importer)
- Fully address of transfer or collection point
- Full address of disposal point
- Date and time of transfer (optional)

If the EWC code is incorrect or the SIC code is absent on the waste transfer note, then it is not complete. It is the driver's responsibility to obtain the information from the customer/ haulier company and provide the TCP with the correct information. This WTN cannot be considered completed until all the information is correct.

The TCP should complete the section for the disposer of the waste. Each Waste transfer note is different and may vary in style. Therefore, it is important to make sure you read the form properly and fill out all the required information. This includes the TCP's printed name, signature and date the waste is accepted. It is important to be aware that not all WTNs are designed identically to the example in Figure 3. There should be at least two copies of the WTN: One for the haulier and one for the disposal site. When the form has been completed and signed by the TCP, separate the copies and keep one copy for our records and give the hauliers copy back to the driver. Severn Trent keeps copies for at least 6 years.

Weighbridge Ticket

A weighbridge ticket confirms the volume of the waste stream and must accompany the waste transfer note. If a weighbridge ticket is not provided the TCP will record the volume of the waste stream as the maximum the tanker can legally transport.

Note: some sites have logger systems in place which will record volumes.

Hazardous Waste Consignment Note

If the waste is hazardous it **must** have a Consignment Note with a unique consignment note number. This is a legal requirement. The consignment note must show all movements of the waste from the producer to the consignee. Without these details, it is not safe to accept it.

The people responsible for the waste during its lifetime are:

- Producer – person who produced the waste
- Holder – person who is currently holding the waste (can be a producer or broker)
- Consignor – person who is authorising the waste to be removed from the premise at which it is produced or held
- Carrier – person who collects the waste from where it's produced or held, and delivers it to the consignee
- Consignee – the person to whom the waste is being transported for disposal or recovery

There are five parts to the consignment note that the TCP must ensure are properly completed before accepting the waste:

- Part A – provides unique number and details where the waste came from
- Part B – describes the waste, the amount and what makes it hazardous
- Part C – carriers declaration and signature
- Part D – consignors declaration
- Part E – Consignee's (TCP) acceptance of the waste

The EWC codes on the Duty of Care paperwork must match up with the sites permitted EWC codes (see site specific waste management permit). The TCP must not sign the WTN or Part E of the consignment note until the waste stream has been tested and accepted. The hazardous waste consignment notes are then stored for at least 6 years.

The waste cannot be accepted until all the listed requirements are met. If information is absent or incorrect, then the driver must contact the haulier and/or the customer for clarification as per the non-conformance procedure.

Tankered Trade Delivery Ticket

A Severn Trent Tankered Trade delivery ticket must be filled out for each trade waste delivery. When filling out the TW delivery ticket ensure the tanker’s last load was suitable for a sewage treatment works. For example, if the last load was oil or a hazardous substance the tanker MUST have a tanker clear certificate.

Figure 3: Example Tankered Delivery Ticket

Sampling and Testing

Once the load is officially booked in and paperwork checked; the driver will be given a sample container and asked to provide a sample of the waste.

If the sample is taken from the sight glass, the driver should either flush the sight glass clear of any previous load and metal contamination prior to obtaining the official sample. If there are any questions over the validity of the sample, the driver should obtain another from an alternative sampling point (from the sight glass or back of the tanker).

Note: Ideally the TCP will observe all samples being collected by the driver. However due to operational restraints pre-collected samples can be accepted for waste streams categorised as low risk (as defined in SOP01) including sludge and biosolids. The TCP must observe sample collection for all medium and high risk loads but must also complete ad hoc sample collection for low-risk loads. These are then analysed on site.

- If TCP fails to observe the sample being collected by the driver, a separate sample shall be collected from the discharge point sample tap to verify.
- Staffing levels shall be increased from 1 TCP on a site receiving on average greater than 20 loads a day to ensure sampling is thorough.
- Sites where tanker parking locations are far removed from the chemist office, CCTV shall be installed to aid observations.

Samples should be stored for 14 working days (as per site permit) before disposal for possible investigational purposes, and should be labelled with:

- The Producer of the waste
- The associated STW Number, used by Severn Trent to identify the waste stream
- The number of the Tankered Trade Waste Ticket (TW *****)

- The date on which the sample was received

In addition, the TCP must confirm with the driver that:

That the last load on the tanker must be suitable for the sewage treatment biological process. Therefore, it must have been taken to a sewage works or classified as digester waste, thus suitable for land spreading.

If there is uncertainty whether origin of a waste stream is acceptable on a particular site, they can check the acceptable EWCs on the site permit. Additionally, the Process team are available to consult with and can review the origin with the WAF and site permit. Otherwise, the tanker must have a wash out certificate. If there is no wash out certificate, follow the non-conformance procedure (SOP03).

Before a tanker is discharged, a TCP must carry out a full analysis on the waste stream. The chemical analysis includes: Appearance Assessment, pH, Ammonia, Nitrates, Nitrites, Sulphate, Chromium, Nickel, Copper, Iron, Zinc, Dry Solids (liquid sludge only).

Some waste streams may present a notable odour. In instances where the odour can be detected easily when taking a sample/performing analysis, it should be recorded under the “comments” section of the TW ticket. This will assist with any investigations as per sites individual odour management plans. Depending on the strength of the odour there may be cause for a waste stream to be rejected/suspended pending an investigation or mitigation of the odour from the customer.

Note for low risk waste streams discharging at sites with no fixed TW technician, the waste must be tested for pH and appearance as a minimum. For sludge cake, we cannot complete all the above tests because it is solid. As a minimum, the appearance should be checked to confirm it is cake and samples sent off periodically for ALS 705 analysis. The results of these tests should be compared with Approval and historical sample data stored on CWID database (approved analysis). If the waste does not conform to these parameters, follow the non-conformance procedure. Details on how to complete those tests are outlined as part of training.

Acceptance and Rejection

If the TCP is satisfied that the waste conforms to expected results the load can be accepted for discharge. For inlet waste, Duty of Care paperwork can be signed, for sewage sludge or high COD waste (destined for holding tanks) make sure there is enough room in the digester or holding tank beforehand. If there is not enough available capacity in the tank, explain the situation to the driver, (I.e. delay or unable to accept the waste). The driver will then be allowed to discharge at the appropriate point.

If the waste does not conform, the process team will be consulted to determine if the waste will still be safe. For example, higher COD levels might mean that the waste may require more energy to degrade. In this instance, the process team may decide to permit the waste. However, a non-conformance will be raised on the system. The commercial team will also be notified to ensure that they can inform the customer to understand why the levels might have changed.

Alternatively, the process team may decide that the higher COD levels might not be appropriate (could be weather, site conditions etc). Upon the decision of a rejection, the commercial team will be informed (the exact person will be dependent on who manages the customer). The discussion will include details as to the reason behind the rejection and if

there are opportunities that the waste might be accepted in the future such as reduce levels of PTE. The commercial team will then speak directly to the supplier or haulier and inform them of the reasoning behind a rejection. The waste will be identified as non-conforming and the driver will not be permitted to discharge. Instead they will have to leave site with the full tanker.

The compliance technicians will note on the system that the waste stream booked in has been rejected and document the reasoning. The haulier will then have to leave site without discharging. Depending on the reason behind the rejection, the whole account may be suspended. *Note: more detail on discharge points can be found in local procedures.*

Receipting

Once the waste analysis has been completed and the sample complies to the acceptable parameters, a Tankered Trade Delivery Ticket (TW ticket) must be filled out.

Three copies of each ticket are created- one white and two carbon copies (green and pink).

To fill out the ticket:

1. Place cardboard behind the pink copy.
2. Enter the information onto the TW ticket.
3. Make sure the EWC on the daily booking sheet matches the EWC on the haulier's waste transfer note before adding onto the TW ticket.
4. Also ensure the correct carrier's registration and vehicle registration is legible.
5. Fill out the Tanker clear certificate section with the tanker's previous load; where the waste came from, the description of the waste, the disposal point and the date of disposal.
6. If the previous waste stream carried was not suitable for a sewage treatment works, the driver should provide a tanker clear certificate. In this instance the cleaning company, date cleaned and the clean out certificate number should be entered.
7. In the section for person receiving at works; enter the time and date that the vehicle arrived and print and sign the ticket in order to authorise the waste disposal.
8. The driver must print and sign their name and enter their induction number
9. Once the driver has signed the paperwork, tear out the green copy and give to the driver for their records.
10. The white copy should be torn along the perforated edges and attached to the disposal copy of the waste transfer note.
11. The pink copy should remain in the TW ticket book for future reference. If there is a consignment note, a copy of the consignment note must also be attached to the TW delivery ticket.
12. The analysis results for the relevant sample should be written on the TW delivery ticket

The non-hazardous duty of care paperwork and Hazardous consignment notes should be stored for 6 years. The TW ticket book should be stored for 3 months and then can be disposed of securely.

The completed TW delivery ticket should be used to transfer information to CWID.

BOOKING : INFORMATION
Minworth Inlet 27/09/2018

Receipt Of Waste

Arrival Details

Arrival Time: 27/09/2018 08:15 *Enter the date and time*

Disposal Point Used: Inlet *Select appropriate disposal point*

Amount of Waste Received: 27.68 *Enter weight received*

Unit: Tonne

Revenue: £260.75

Signature Captured: No

Received By: [Redacted]

TW Ticket: Dw198491 *Enter TW delivery note number*

Vehicle Registration: [Redacted] *Enter Vehicle registration number*

Hazard Consignment Number: -- *If the waste stream is hazardous the consignment number must be entered in this box*

Waste Transfer Note Number: --

Waste Received COO (kg): 339.08

Last Load & Site / Tanker Wash Ct: leachate minworth 26/09/2018 *Enter last load information*

Sample analysis should be entered into the corresponding test box

Tests Carried Out

pH	8.13	Ammonia	2,000.00	Sulphate	200.00	Fe	10.00
Zn	0.00	Ni	0.00	Cu	0.00	Cr	3.00
Nitrate	0.00	Nitrite	0.00	Appearance	black	H2S	--

Figure 4: Illustration of the CWID page showing how to enter information from the TW delivery ticket.

How to transfer to CWID:

1. Open the CWID database onto the relevant site bookings.
2. Find the corresponding booking on the CWID booking page and open the page.
3. Check the name of the waste producer is the same on both CWID and the TW delivery ticket and then scroll down to enter the details.
4. Once the information has been entered onto CWID press the save icon and close the page.
5. All tickets must be written up into CWID within 24 hours after receiving the waste. On sites with no CWID access (and no hazardous waste) it must be completed 4 days after month end.

Sewage Sludge Cake Imports

Imports of third-party sludge/ cake should be off-loaded as described below:

1. Check that the driver has been inducted.
2. The driver will bring a sample from the collection site.
3. Due to the low risk of sludge observation to take a sample is not required. However random observations are undertaken to ensure that standards are maintained.
4. The sample should have a soil consistency. For further detail see the Waste acceptance form (WAF). This can be found on the customers waste stream page on CWID.
5. Ask the driver for his paperwork and ensure all relevant information is on the transfer note.
6. Ascertain what the last load the tipper truck was carrying and that it is suitable for a sewage treatment works.
7. Allow the driver to go and offload the waste.
8. Whilst the driver offloads complete the paperwork.
9. Fill out the Trade Waste delivery ticket and Waste transfer note.
10. Complete the receipting of the waste.

Sludge Offloading:

1. Subject to analysis clearance by the TCP, the driver will be provided with a delivery ticket and tanker clear certificate (the same as with TTW). The TW tech or Site operator will also retain a carbon copy for our records.
2. The driver will then be provided with an Interworks logger fob for the discharge, which must be returned to the TW tech or Operator after use. The fob will give the driver access to the logger and select their company from the options menu.
3. On the driver's first visit they will be inducted and then escorted to the discharge point and directed on safe use of connections and loggers. A Standard Operating Procedure outlining how to use a JRP Logger (SOP04) is supplied to the driver in addition to an explanation by a member of the TTW.
4. Any tanker clear tickets and receipts from non-TW sites will need to be provided to TW techs at least 3 days after month end.

As with the other waste streams if there are concerns or uncertainty regarding the biosolids or the paperwork, then the process team are available to complete a further review. The process for a rejection is the same as the other waste streams: the commercial team are notified the reasons for the rejection and they notify the customer.

References:

- SOP01 TTW Waste Approval Procedure
- SOP03 TTW Waste Non-Conformance Procedure
- SOP04 How to use a JRP Logger
- WM3 Framework

Version Control			
Version	Date	Details	Published By
1.0	07/04/2020	Created and updated version	E.Ruswa
2.0	07/04/2021	Merged into larger document	E. Ruswa
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