Bioresources - Tankered Trade Waste			
Document Title	SOP 19 Tankered Domestic Waste (TDW) On Site Sampling Procedure		
Document Owner Role	Process Manager	**Version Number**	1.2
Date of Last Review	22/07/2024	**Date of next Review**	23/07/2026

Identified Risks

- 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
    - Inhibition of the microbial activity through the introduction of too many inhibitory compounds such as metals or cyanide or pH concentrations are too extreme
- Digestors inhibits Methane (CH_4) generation due to:
    - 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:
    - High concentrations of Hydrogen Sulphide (H_2S) can damage engines
    - High concentrations 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
- 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.

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

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

Introduction

This procedure explains how to get a TDW sample whilst on site including the correct instructions to give the customer on how to obtain a representative sample from the domestic tanker.

Key Roles and Responsibilities	
Tankered Trade Waste Manager (TWM):	○ Ensure that the operating procedures are followed ○ Ensure that the Tankered Trade Waste Technicians (TTWT) have undergone appropriate training ○ Can make approval decisions if they have been deemed as technically competent ○ Investigate HSW & Environmental concerns from the TTWT
Tankered Process Team (TPT):	In absence of the TTWM: ○ Ensure that the operating procedures are followed ○ Ensure that the Tankered Trade Waste Technicians (TTWT) have undergone appropriate training ○ Can make approval decisions if they have been deemed as technically competent ○ Investigate HSW & Environmental concerns from the TTWT
Tankered Trade Waste Technicians (TTWT)/Technical Competent Persons(TCP):	○ TTWT have undergone appropriate training and have a valid CMS certificate ○ TTWT have been deemed as technically competent ○ Ensure driver has the correct PPE ○ Raise concerns with the TTWM and commercial team if the driver is not sufficiently trained to use their tanker equipment and controls ○ Follow the non-conformance procedure if a waste is not domestic toilet/septic waste and do not permit the load to discharge
Commercial Team:	○ Liaise with TTWT regarding non-conformance issues ○ Contact customer if more information is required about a non-conformance ○ Contact customer if waste delivery is rejected
Tanker Driver :	○ Driver must adhere to STW PPE and safety regulations whilst on site ○ Driver must give a representative sample from his waste delivery

Required Training	
Tankered Trade Waste Technicians (TTWT)	• In date EMS training • Experience undertaking sampling and preparing samples for the laboratory • Raising concerns of HSW & Environmental to Process team or Tankered Trade Waste Manager • Collect samples from tankers onsite • How to raise a non-conformance • How to use CWID
Tankered Process Team (TPT)	The requirements for the TTWT in addition to: • Tankered Waste experience or 12 months experience in the waste industry • CIWM Hazardous Waste Classification course • Cranfield University Biological Processes/Activated Sludge Treatment course • University degree or similar level of experience and knowledge in a Scientific Area

Tankered Trade Waste Manager (TWM):	• 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

Documentation & Resources
• iPad • SOP05D Tankered Domestic Waste (TDW) Non Conformance Procedure • SOP07 Tankered Trade Waste Induction Procedure • Severn Trent Water Induction Video • CWID • Sharepoint • Sampling equipment: PPE, Bucket, funnel, pen and ALS sample bottles • Yellow barcode stickers • ARF

Procedure:

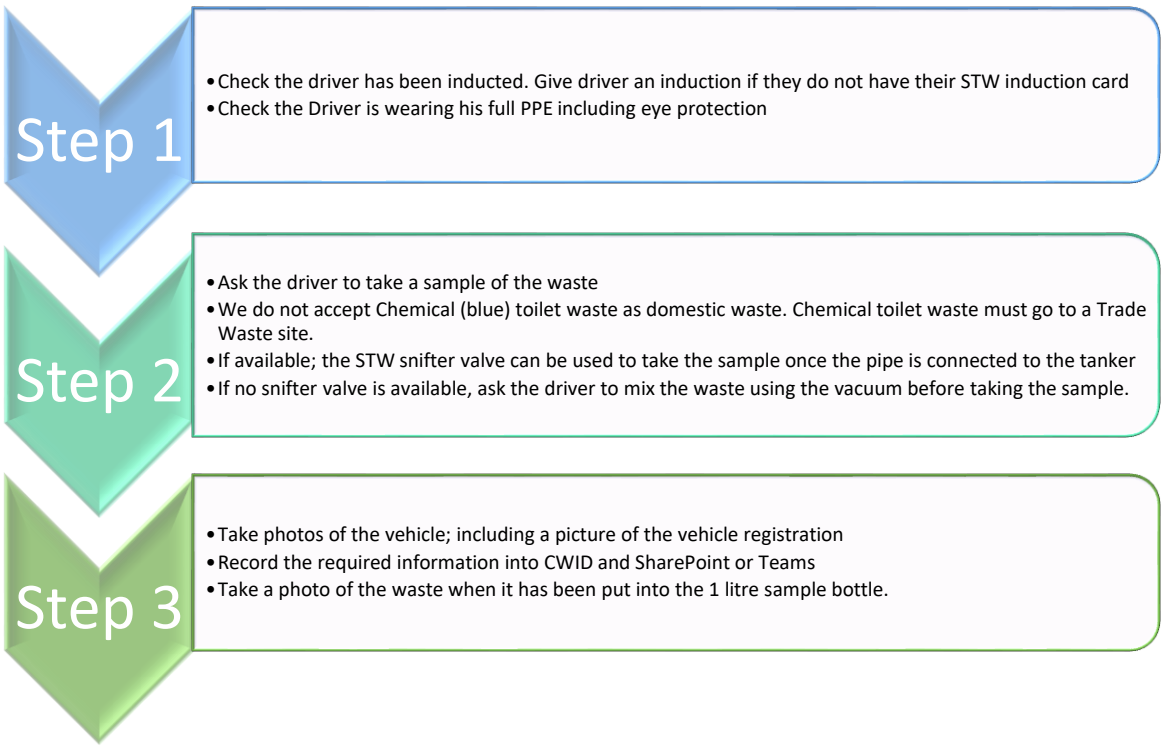

Figure 1. Process overview

Logging Working Hours

On arrival, the technician must open WhatsApp on their phone and take a photo of the logger screen. Make sure that the site name, date and time is clearly visible. Type “arrival” and add the note, and photo to the TDW login at site group. Repeat this when taking a lunch break and at the end of the day with the relevant note inserted.

Take a photo of the samples in the fridge at the end of the day and add this to the TDW login at site group.

Site Condition Tracker

On each site visit, the tech must do a check of the inlet and fill out the spreadsheet: TDW Site Condition tracker.xlsx. The inlet should have signage informing the driver of the correct PPE they must wear, what to do if a spillage occurs and who to contact if there is an accident or if there is any damaged or faulty equipment. There should be a yellow bin at each inlet containing a spill kit.

If unable to deal with the tankers for a prolonged period, for example if dealing with a non-conformance issue, or an IT issue, make a note on the sample tracker of the issue, the time and the period of time it took.

Arrival of TDW Customer

Samples must be taken from as many tankers as possible. This includes repeat customers because the waste the customers collect will be from different places each time and therefore will need sampling. It takes approximately twenty minutes to sample one tanker and enter the data required. Sample one tanker at a time and ensure all the data is entered correctly before moving onto the next customer.

When a TDW driver arrives on site:

- Check 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 **m**ust wear the correct PPE whilst they are working on a Severn Trent Water site. Mandatory PPE includes high visibility vest/ jacket, Safety boots, gloves and eye protection. A hardhat or bump cap and ear protection should be available for use if needed. The driver must not wear shorts whilst off-loading.
- Ask to see the Duty of Care documentation or any other paperwork concerning the load. Documentation may not always be available. Record if the driver had any documentation for the waste in the Domestic waste sampling tracker .xlsx
- Take a photograph of the front and side of the tanker, clearly showing the registration plate and any company branding. Check the photos are clear before saving them to CWID.
    - To take a photo – create a new sample in CWID as shown below and in image 2 and 3.
    - Click on the Notes section and in “Enter a note” write description and click on the camera icon underneath on the left of the box.
    - Only one photo per note can be entered. Make separate note for each photo.

- Once the photos have been attached to CWID skip to obtaining a TDW sample. The remaining data can be entered whilst the driver is offloading. One the sample has been bottled up, take a photo of the waste and add it into the notes section on CWID.

- **Important change to TDW**: **Chemical (Blue) toilet waste is no longer accepted as domestic waste.** Any chemically treated toilet waste is now classified as trade waste and can only be accepted at one of our 10 Tankered Trade Waste sites listed below.
    - Rugby
    - Minworth
    - Netheridge
    - Wanlip
    - Monkmoor
    - Stoke Bardolph
    - Strongford
    - Scunthorpe
    - Clay Mills
    - Rushmoor
    - Finham

Create a New TDW Sample and Enter data into CWID

- Using the iPad, open the Microsoft Dynamics App
- Chose “Waste streams” from the left hand column (image 2) and in “search this view” type in * and then customer’s name. E.g. *Bob’s Tankers, and press enter.
    - If the right customer’s name does not appear in the list, try typing part of the name. For example; if the customer’s name is Bob Hop Tankers, try typing *Bob or *Bob Hop and the correct option should come up.
- Chose the correct customer from the list
- Click on the samples tab shown in image 2
- Click on +New Sample (Image 3)
- Fill in the required data for the sample (image 4)

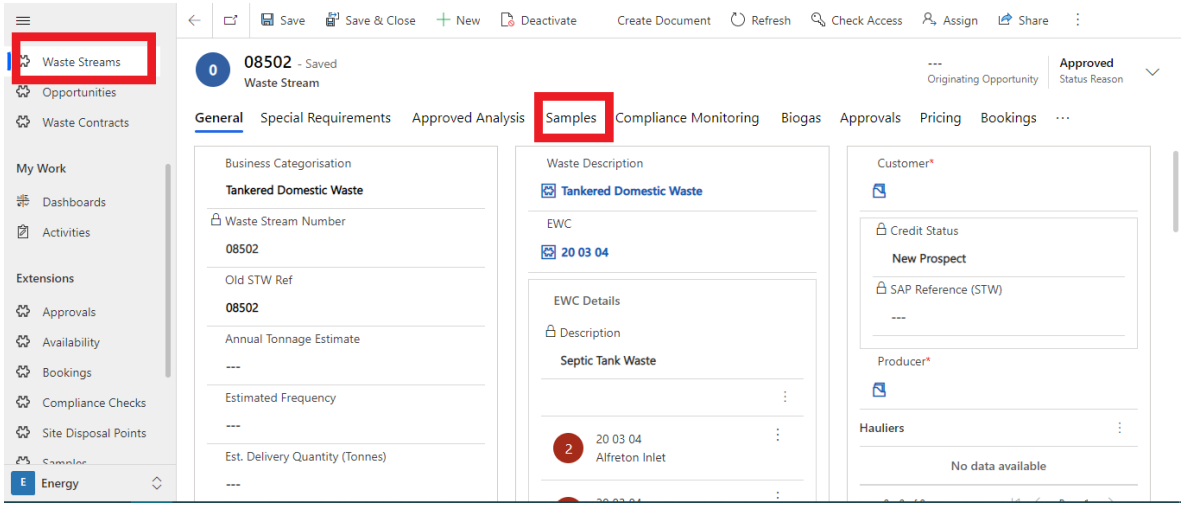

Image 2. Finding waste stream tab and sample tab in CWID

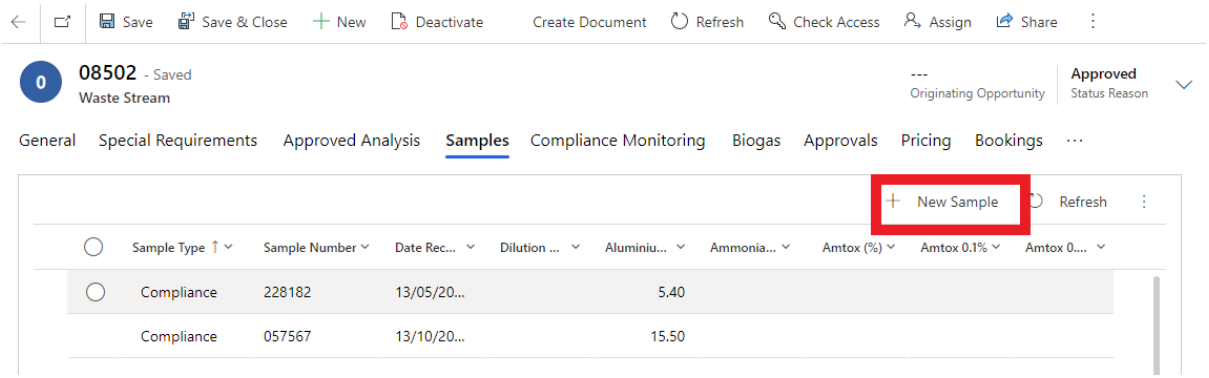

Image 3. Creating a new sample In CWID

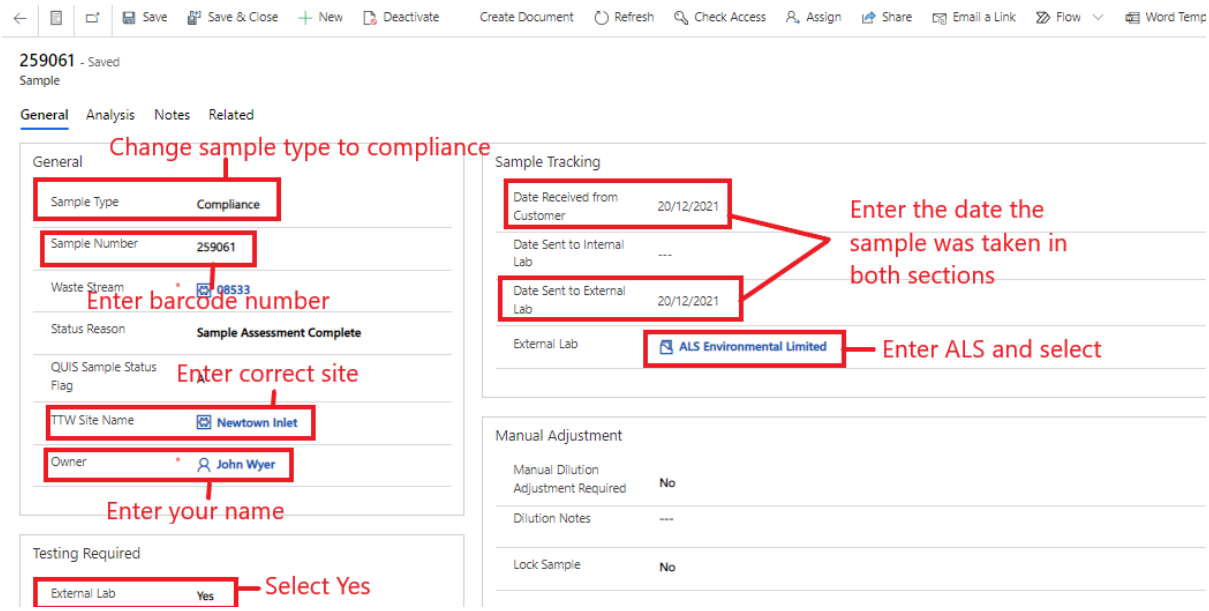

Image 4. Entering sample data into CWID

Obtaining a TDW sample

Tanker drivers are obligated under the terms of their contract with Severn Trent Water to provide a sample of their load when requested. Some STW sites have a snifter valve tap, which can be used to take the domestic sample (Image 5). The driver must connect the pipe to the tanker and release the valve. Tell the driver not to pressurise the tanker until they have logged in and the valve has opened to about 60%.

- Two litres of sample is required from each tanker. This can be poured into two 1 litre bottles until the tech is able to bottle up the sample for ALS. Label the bottles with the customer's name and arrival time.
- Whilst wearing full PPE, wait about a minute after the tanker starts offloading and then place the bottle under the snifter valve tap (see image 5) and slowly release the valve. Fill up two one-litre bottles
- If a snifter valve is not available, the driver must get the sample from the tanker. ask the driver to mix the waste using their vacuum before taking the sample. This is to make sure you get a representative sample, and to minimise contamination from their last load.
- Give the driver the option of using either a clean bucket or the one-litre bottles when getting the sample.

- The tech can use a funnel to pour the waste into the one-litre bottles.

Image 5. Snifter valve tap

- If the sample is taken from the sight glass, the driver should flush the sight glass clear of any previous load and metal contamination prior to obtaining the official sample.
- Alternatively, the driver can take a sample from the inlet at the back of the tanker.
    - Ensure that the sample is not taken from the outlet because this may contain contamination from the last load.
- It is important to check the sample and make sure it is domestic/ toilet waste. For example, if the waste has any blue or artificial colouring, oil, diesel, grease, or lots of stones the waste is likely not to be domestic waste. If this occurs, do not allow the tanker to discharge. Phone the Process Manager, process advisors or the TTW manager. If they are not available a STW technician to report the potential illegal discharge by the customer.
- Once the sample has been taken and checked, and the technician is confident the sample is domestic waste, the remaining information can be entered into CWID as illustrated in image 4.

Filling out an ARF

- Place one of the yellow stickers on the ARF in the top right box.
    - The second yellow sticker can be placed on the back of the stickers page and you can write the customer's name and date next to it. This can be kept for reference.
- Fill out the ARF as shown in image 6.
- The sampling point codes can be found in Table 1 below.
- The team ID for TDW is W42
- Place an X in Suite 705
- Take a photo in CWID of the ARF when completed

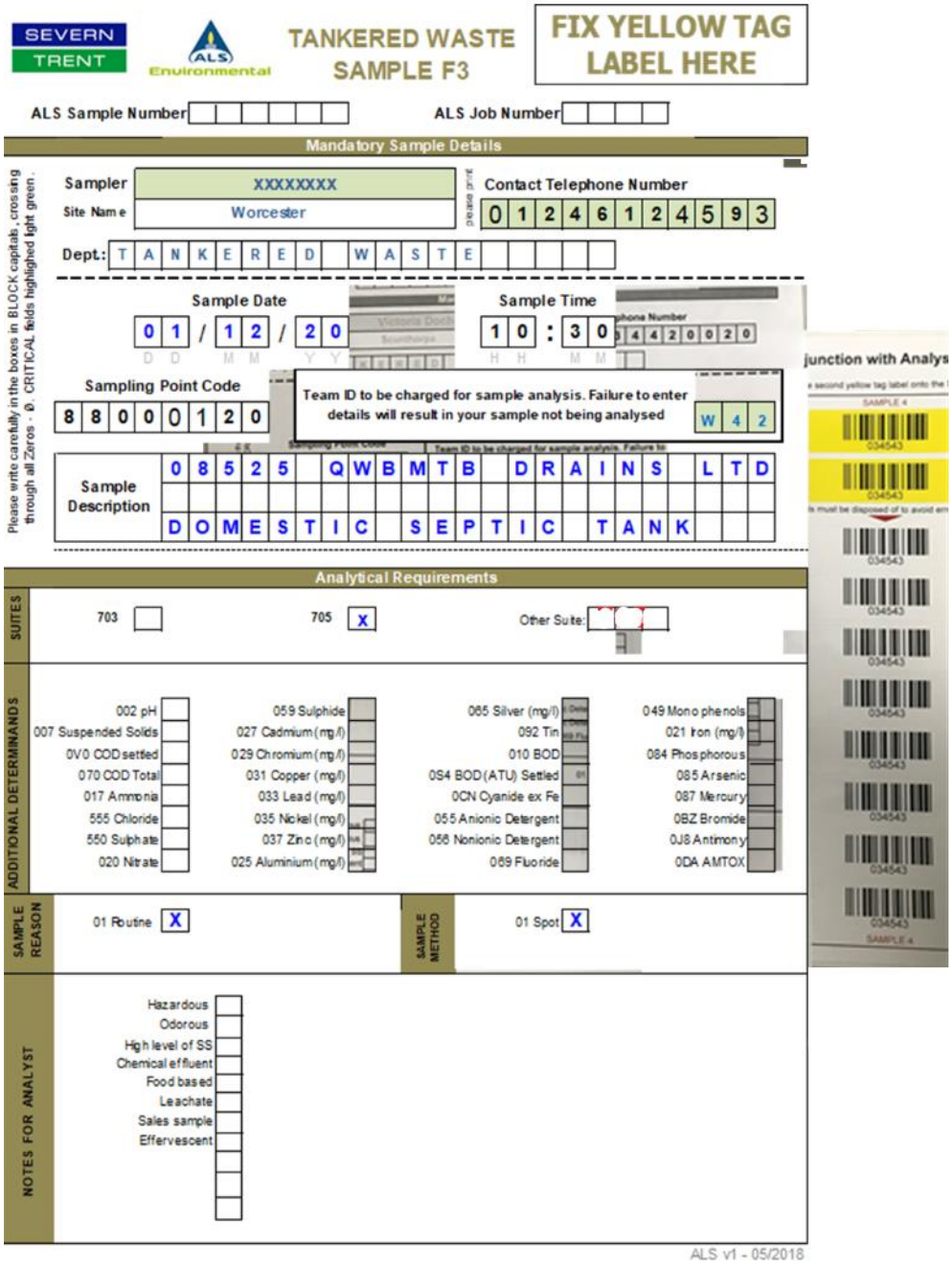

Image 6. ALS ARF and yellow barcode stickers

Data Entry

- Complete the Domestic Waste Sampling tracker
- The Domestic Waste Sampling tracker in sharepoint or Teams (The spreadsheet can be accessed from the Enitial TDW sampling page or follow the link: Domestic waste sampling tracker .xlsx). You need to enter:
    - Name of site
    - Sample Point Code
    - Time of Arrival
    - Sampler/ Tech Name
    - Date sampled
    - Customer / Company Name

- Documentation check
- ALS Barcode Number
- Type of waste
- Colour
- Any Non-conformances found
- If there is a non-conformance, which tech was contacted
- Any comments – descriptions of non-conformance and explanation of how the problem was dealt with, any issues with taking the sample or complaints from customer.

Preparing the Sample Bottles for ALS

- When there is a quiet period, start preparing the sample bottles for ALS. Prepare one sample at a time and wait until the sample preparation is completed before moving to the next sample, or dealing with a domestic waste tanker.
- Place a corresponding barcode on the bottles listed below, with the label lengthways so that it can be read by a scanner.

- 1 litre clear PET (STL13)
- phenol (STL070)
- cyanide(STL071)
- bromide(STL061)
- antimony (STL024)
- Sulphide (STL480)
- mercury(ALS026)
- HPLC Phenols (ALE 244-subcontracted)

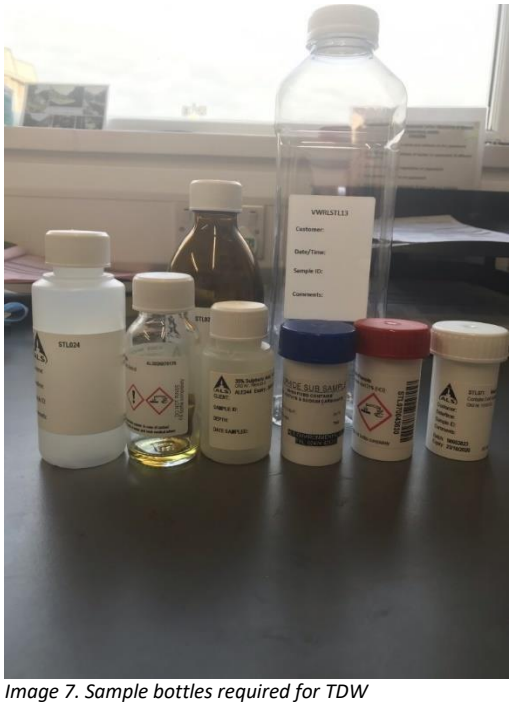

Image 7. Sample bottles required for TDW

- Fill each bottle with the sample and if available place the bottles in a bubble wrap bag ready to take to the collection point
- At the end of the day the bottles should be taken to the collection point at a hub site. If the site being sampled is not a hub site the tech should travel to the closest hub site and drop the samples off. The distance and travel times are shown in Table 2.

TDW Site Addresses and Sample Point Codes

Sewage Treatment Works	Address	Sample Point
Alfreton	Westhouses Rd, Alfreton, Derbyshire, DE55 7FF	88000100
Armthorpe	Holmewood Lane, Armthorpe, Doncaster, North Lincolnshire, DN3 3EH	88000101
Bromsgrove	Aston Road, Bromsgrove, Birmingham, Worcestershire, B60 3EX	88000102
Claymills	Meadow Lane, Claymills, Burton-on-Trent, Derbyshire, DE13 0DB	88000103
Hayden	Hayden Lane, Cheltenham, Gloucestershire, GL51 0SP	92100891
Finham	Gate 1, St Martins Road, Finham, Coventry, West Midlands, CV3 6SD	93124221
Derby	Megaloughton Lane, Spondon, Derby, Derbyshire, DE21 7BR	95120399
Netheridge	Hempstead Lane, Hempstead, Gloucester, Gloucestershire, GL2 5LF	92120117
Kidderminster	Stourport Road, Oldington, Kidderminster, Worcestershire, DY11 7QL	88000104
Wanlip	Fillingate, Wanlip, Leicester, Leicestershire, LE7 4PF	94100500
Loughborough	Festival Drive, Loughborough, Leicestershire, LE11 0AJ	94100501
Mansfield	Bath Lane, Mansfield, Nottinghamshire, NG18 2BU	88000105
Crankley Point	Quibells Lane, Crankley Point, Newark, Nottinghamshire, NG24 2AL	88000106
Newtown	Dolfar Lock, Newtown, Powys, SY16 2AS	88000107
Stoke Bardolph	Stoke Lane, Stoke Bardolph, Burton, Nottinghamshire, NG14 5HL	88000108
Newthorpe	Halls Lane, Newthorpe, Nottinghamshire, NG16 2DE	88000109
Hartshill	Woodford Lane, Hartshill, Nuneaton, Warwickshire, CV10 0SA	88000110
Mile Oak	Maesbury Road, Oswestry, Shropshire, SY10 8HA	88000111
Redditch	Spernal Lane, Spernal Ash, Redditch, Warwickshire, B80 7EU	88000112
Rugby	Newbold Road, Rugby, Warwickshire, CV21 1HF	93162713
Scunthorpe	Scotter Road, Scunthorpe, North Lincolnshire, DN17 2BU	88000113
Monkmoor	Monkmoor Lane, Monkmoor, Shrewsbury, Shropshire, SY2 5TL	88000114
Barston	Friday Lane, Eastcote, Solihull, West Midlands, B92 0HY	98101212
Brancote	Tixall Road, Stafford, Staffordshire, ST18 0XX	97120175
Strongford	Barlaston Old Road, Barlaston, Stoke on Trent, Staffordshire, ST12 9EX	97110075
Roundhill	Gibbet Lane, Kinver, Stourbridge, West Midlands, DY7 2QU	88000115
Minworth	Kingsbury Road, Minworth, Sutton Coldfield, West Midlands, B76 9DP	98101056
Rushmoor	Rushmoor Lane, Allscott, Telford, Shropshire, TF6 5EX	88000116
Goscote	Goscote Lodge Crescent, Goscote, Walsall, West Midlands, WS3 1SB	88000117
Longbridge	Stratford Road, Warwick, CV34 6QW	88000118
Barnhurst	Oxley Moor Road, Wolverhampton, Staffordshire, WV9 5HN	88000119
Worcester	Bromwich Road, Lower Wick, Worcester, Worcestershire, WR2 4ZP	88000120
Worksop	Rayton Lane, Worksop, Nottinghamshire, S81 0UD	88000121

Table 1. TDW site addresses and sampling point codes

Site name	Local Hubsite	Time from site to hub calculated on AA route planner
Armthorpe	Worksop	22.5 miles - 35 mins
Barnhurst	Barnhurst	0
Barston	Minworth	11.1 miles - 16 minutes
Brancote	Brancote	0
Bromsgrove	Sugarbrook	1.1 mile - 5 minutes
Clay mills	Clay mills	0
Crankley Point	Stoke Bardolph	19.5 miles - 35 mins
Derby	Derby	0
Finham	Finham	0
Goscote	Barnhurst	12.9 miles - 30 mins
Hartshill	Hartshill	0
Hayden	Hayden	0
Kidderminster	Roundhill	10.8 miles - 25 mins
Loughborough	Wanlip	8.8 miles - 16 mins
Mansfield	Mansfield	0
Mile Oak	Monkmoor	22.6 miles - 35 mins
Minworth	Minworth	0
Monkmoor	Monkmoor	0
Netheridge	Hayden	10.9 miles - 20 mins
Newthorpe	Stoke Bardolph	19.4 miles - 35 mins
Newtown	Monkmoor	37.2 miles - 55 mins
Redditch	Sugarbrook	12.7 miles - 21 mins
Roundhill	Roundhill	0
Rugby	Finham	14.5 miles - 25 mins
Rushmoor	Rushmoor	0
Scunthorpe	Worksop	32.5 - 55 mins
Stoke Bardolph	Stoke Bardolph	0
Strongford	Strongford	0
Wanlip	Wanlip	0
Worcester	Worcester	0
Worksop	Worksop	0

Table 2. Distance and travel times between site being sampled and ALS collection point at the hub site

References:

- SOP03D Tankered Domestic Waste (TDW) - How to Process Customer's data on CWID
- SOP04D Tankered Domestic Waste (TDW) - How to Enter Sample information onto Sharepoint Spreadsheet
- SOP05D Tankered Domestic Waste (TDW) Non Conformance Procedure
- SOP06D Tankered Domestic Waste (TDW) ALS Sample preparation

- SOP08D Tankered Domestic Waste (TDW) How to Order ALS Sample Bottles
- STW induction video: Health and safety | Working with us | Businesses | Severn Trent Water (stwater.co.uk)

Version Control			
Version	Date	Details	Published By
1.0	22/07/2022	Tankered Domestic Waste – How to Sample Domestic Waste	O.Boertje & C Bane
1.1	01/05/2024	Tankered Domestic Waste – How to Sample Domestic Waste	C Bane