REPORT: TRADE WASTE MANAGEMENT

ANNUAL CUMULATIVE REPORT
JULY 2023 – JUNE 2024

1. PURPOSE OF REPORT

This report collates the information and data obtained from Hutt City Council's trade waste team while undertaking management of trade waste function for both Lower Hutt and Upper Hutt cities.

Supply of this report is to fulfil condition 20 of Consent WGN 050359; to discharge treated effluent from the Seaview wastewater treatment plant.

The condition notes:

The permit holder shall take reasonable steps to monitor and manage trade waste inflows into the sewerage system so as to minimise the risk of disruption to the wastewater treatment process. The permit holder shall provide the Manager, Environmental Regulation, Wellington Regional Council, with an annual report on trade waste which summarises issues arising and actions taken by 31 July.

2. EXECUTIVE SUMMARY

Although dated, the last available total influent data suggests that **5.4% of the average daily flow** at the Seaview Waste Water Treatment Plant (WWTP) is from consented trade waste dischargers.

The liquid waste stream from businesses that are consented for trade waste varies greatly in volume, strength and composition.

Using the same total influent data, the trade waste stream at the WWTP accounts for around **9% of suspended solids** (SS) through the plant and approximately **24% of the chemical oxygen demand** (COD) required in the treatment process.

When compared as a ratio to the total influent stream received at the WWTP, all of the trade waste characteristics (flow, COD and SS) are generally tracking slightly downward over a long-term average.

When using data from the last five years however, the trends are fairly flat, following a significant increase in COD during the preceding period of the same time.

Compliance monitoring through waste stream sampling at consented premises continues to identify a number of non-compliance events; although these are generally rare and none identified during the report period were expected to interfere with the function of the WWTP and waste water network in general.

No trade waste consented sites have had significant environmental pollution events reported during this period.

During the period covered by this report, **three WWTP contamination issues were reported** directly to the trade waste team. All reports were regarding an unacceptable and unexpected amount of petrochemical material within the treatment process. These reports and outcomes are detailed in Section 8: Contamination Reports.

Ongoing inflow projects and initiatives from the trade waste team should also go some way towards easing and addressing current and foreseeable issues – covered in Section 10: Other Projects.

3. BACKGROUND

Hutt City Council's trade waste team manages the trade waste function for both Hutt City Council and Upper Hutt City Council; under an internal contract to the Hutt City Council Environmental Protection group.

Management of discharges from commercial and industrial sites forms the core work of the team, however a number of other, related, functions are performed by members of the trade waste team.

Any entity that discharges a non-residential liquid waste to the wastewater network is subject to the conditions of The Hutt Valley Bylaw 2016, and is generally considered to be a trade waste discharger. If the discharge requires any treatment beyond a 'normal' level at the WWTP, that entity is monitored by the trade waste team at some level. Sites (not operators) are licensed for discharge and assessed for risk to the treatment process, which then informs the licensing category that is applied. There are 5 levels of license with an additional factor that can be applied for wastewater that is technically non-compliant with the bylaw, but still acceptable within the treatment process, this is known as a conditional consent. An example of a conditional consent might be a factory that discharges an overall volume of wastewater that is higher than the bylaw allows, but is entirely acceptable within the receiving network - provided flow rates and timings are managed accordingly.

730 premises throughout the Hutt Valley were licensed to discharge trade waste during this period. Each licensee is invoiced an amount annually which reflects the risk category their premises occupies and whether they have a conditional consent condition. Notable clients include water treatment facilities, waste facilities & landfills, breweries, laundries and manufacturers. The majority of the remaining licensees are food premises (474) and automotive related premises (109).

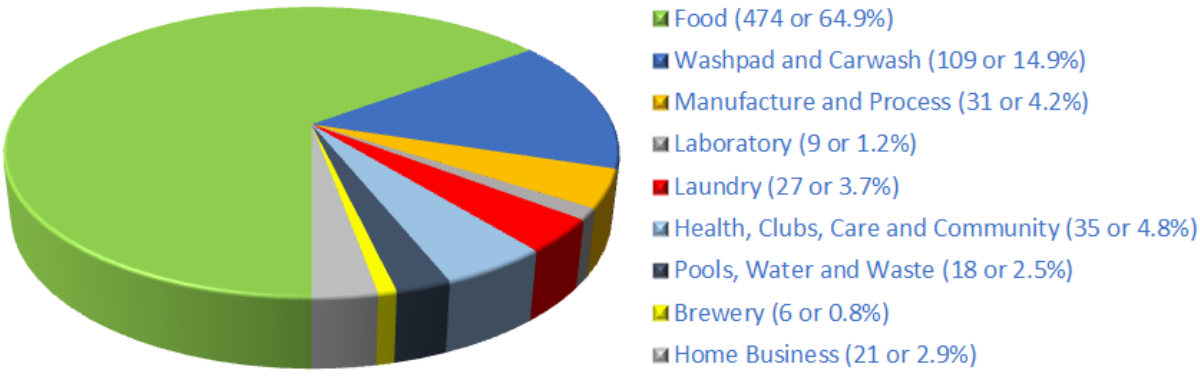

Figure 1: Breakdown of overall discharger type

Generally, consented dischargers are intended to be visited once per year at a minimum, although many of the more significant sites are visited more frequently.

Around **100 licensed dischargers are monitored regularly** via laboratory sampling, with sample analytes and frequencies ranging; depending on risk, variability of waste and compliance history. Any verified non-compliant results are re-sampled at the expense of the discharger.

Significant dischargers are also subject to user-charges, which are calculated by using an averaged sampled strength to inform an approximated cost to treat that waste water stream. The unit cost is multiplied by the strength and the volume to produce a total cost that is due to the client. Only significant dischargers during each period are invoiced.

The overall ratio of business type is fairly consistent through the two cities we monitor, with Lower Hutt having relatively more manufacture, process and automotive outfits, while Upper Hutt has a higher ratio of health, clubs, child, elder care & after-death care, laboratories and commercial brewing outfits.

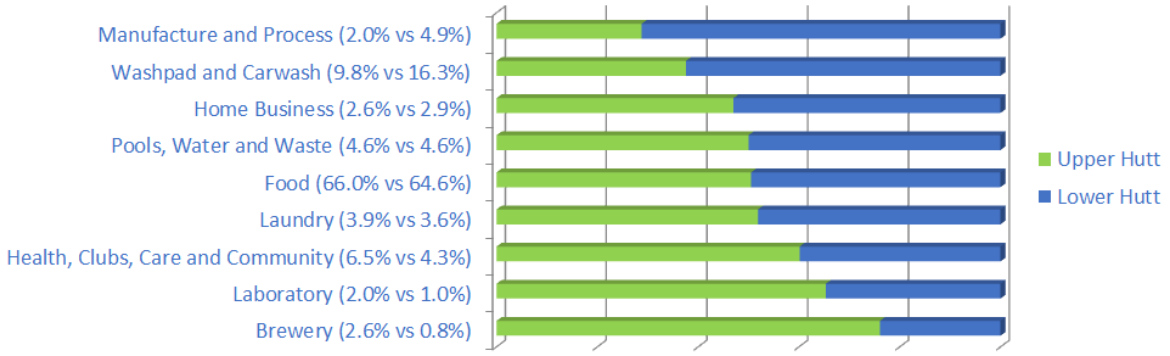

Figure 2: Ratio of total trade waste discharge type (relative to total consented premises) - Upper Hutt vs. Lower Hutt

4. OVERVIEW

4.1 Loadings

Trade waste contributes a significant portion of the WWTP influent. Trade waste loadings (calculated from the user charges calculations) are presented below:

Period	Daily Volume Avg	Daily SS Avg	Daily COD Avg
July – August 2023	2849	747	3933
September – October 2023	2920	743	4070
November – December 2023	3091	905	4875
January – February 2024	3089	906	4845
March – April 2024	2973	953	4972
May – June 2024	3300	1057	5540
Daily Average (Report Period)	**3037**	**885**	**4706**
Total at WWTP (2017-20 Average)	**56775**	**10297**	**19978**
Trade Waste % 2023-24*	**5.35%**	**8.59%**	**23.56%**
*Trade Waste % 2022-23**	*5.23%*	*7.90%*	*20.33%*

Table 1: Trade waste loadings (from user charges). COD not measured in WWTP influent - assumed to be BOD x 2.5

Note that the total WWTP influent data has not been updated in some time, so care should be taken when considering the trade waste stream as a proportion of total influent.

As illustrated below, historic data shows a generally downward trend in volumes of trade waste through the WWTP (blue trace), fairly consistent levels of suspended solids and a varying level of COD - although the general trend also appears to be downward if averaged over the preceding years.

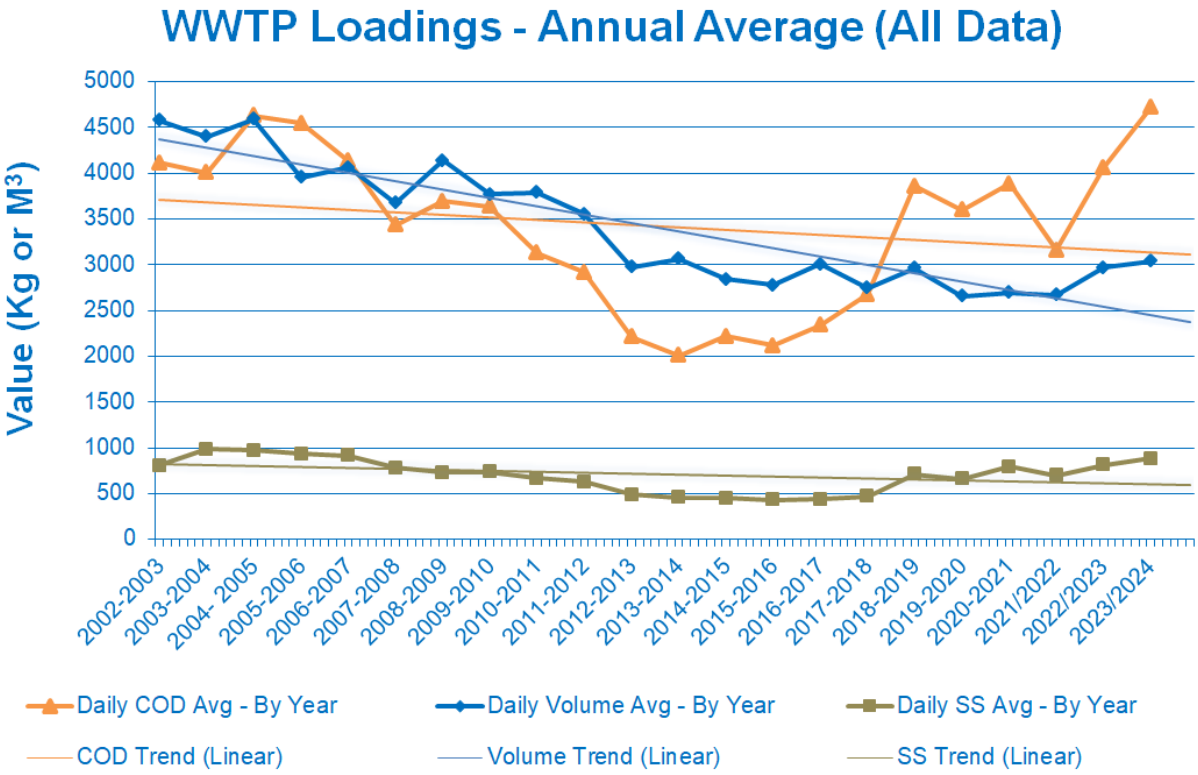

Figure 3: Historic trend of flows, suspended solid content and COD

All traces have been consistently trending upwards throughout the report period with the expected drop-off during the driest period of the year. An increase in overall discharge volume throughout the sector is reflected by an increase in total concentration of strength in a fairly relative proportion.

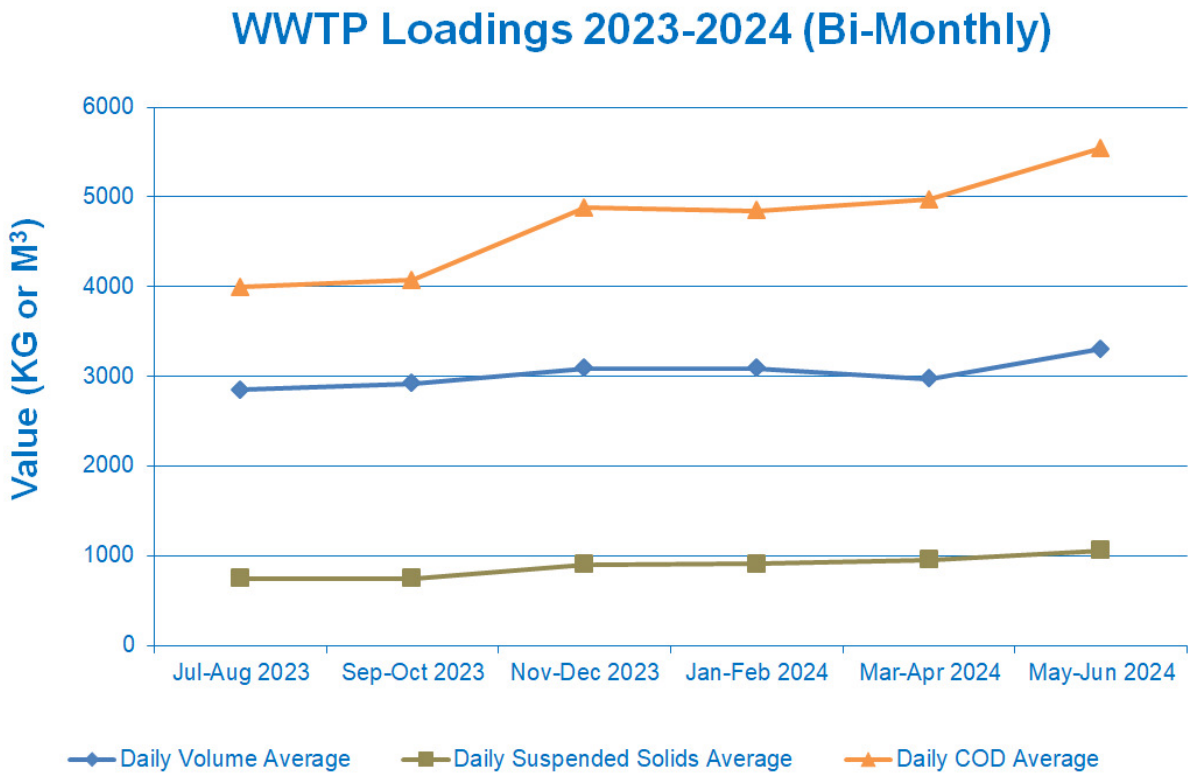

Figure 4: 2-monthly plot of flows, suspended solid content and COD

4.2 Sampling

Sampling has been generally good with the exception of minor anomalies in the process, which have been addressed without impacting data quality.

Sampler relationships remain strong and the sampling team have proved very responsive and accommodating to requests from the trade waste team. The team has returned the favour by attending site with the samplers to confirm suitable sample points, locate and open stubborn sample points.

Sampling data is being provided reliably from Eurofins once again, with reports consistently provided.

4.3 Site turnover

An expected amount of turnover has occurred during the period with final numbers slightly higher than those of the previous year. No great variance of numbers has been noted in any type of business although consented home-caterers are projected to increase in number as we process new and existing businesses.

4.4 Interaction with other teams

The Trade Waste Team has close interaction with both the building and environmental health (food) teams in both Hutt City and Upper Hutt City. These teams often advise us of new and intended businesses, allowing input on any required hardware and process to meet trade waste discharge requirements.

From time to time, there are some failures within this process and we have found ourselves requiring retrospective works to be completed on established sites that we were originally unaware of. Ongoing discussions and workshops have improved this issue somewhat.

5. COMPLIANCE MONITORING

58 incidents of significant non-compliance were documented during the report period. For these purposes, sampled strengths of more than twice consented limits (excluding pH) are considered to be of significant non-compliance.

A number of sample results at larger sites were found to be non-representative of premises output. This was confirmed after meeting with staff from non-compliant premises and assessing the processes on-site, including the sampling regime. Adjustments to this regime are underway to produce a more-accurate representation of results and resampling of these sites shows compliance.

Lapses in grease trap cleaning continues to be a minor, yet consistent, issue amongst a small portion of the food outlets. This is not normally a concern to the treatment plant, but can contribute greatly toward private and public pipe blockages and associated remedial costs. Trade Waste Officers are working with the service providers and clients to understand and improve the situation through better management.

The type of premises producing non-compliant waste streams tends to vary, with food processing, production, manufacturing, automotive services, waste processing and takeaway food chains all featuring. Virtually all of the noted non-compliance is thought to have had little effect on the local network and sewerage system overall.

The total non-compliance in the high-volume category is significantly higher than last year, this is a reflection of the issues encountered at both Waste Management Technical Services and GROENZ sites, both of which have further information noted in section 6 (notable sites) of this report.

Please note the table below includes data that was subsequently discarded due to inaccuracy or was later discovered to be affected by systematic or sampling/reporting process issues.

Period	Non-compliance Incidents where average daily trade waste output volume exceeds 5m^3/Day	Non-compliance incidents where average daily trade waste output volume is less than 5m^3/Day
July – August 2023	5	0
September – October 2023	4	5
November – December 2023	6	5
January – February 2024	11	0
March – April 2024	10	2
May – June 2024*	4	6
Total 2023 - 2024	**40**	**18**
Total 2022 - 2023	*19*	*17*

*Table 2: Significant non-compliance *Some data not received in time for reporting*

Ongoing monitoring, through site visits and sampling procedure (via Eurofins), is carried out by the Trade Waste team. A summary of inspection and compliance monitoring follows:

Period	Visits	Sites Sampled
July – August 2023	231	25
September - October 2023	212	30
November – December 2023	223	37
January – February 2024	188	3
March – April 2024	499	27
May – June 2024	159	32
Total 2023 – 2024	**1512**	**154**
Total 2022 – 2023	*1212*	*155*

Table 3: Inspection and monitoring

6. NOTABLE SITES

6.1 Waste Management Technical Services

Some concerns were raised about the waste water effluent from the Waste Management Technical Services site in Seaview during this period. Spurred by reports of bile waste processing, intensive sampling and monitoring was undertaken at this site while Waste Management, Hutt City Council, Veolia, Wellington Water and Eurofins (laboratory) worked collaboratively to monitor and protect the waste water network and treatment plant from any damage that could occur from the process; this allowed the client to work through finding an appropriate and acceptable treatment process. Compliance monitoring consisted of daily 24-hour composite collection and analysis, which was later relaxed slightly to 24-hour composite sampling on random days, twice per week. This regime is still underway and is being actively supported by the ongoing use of an autosampler supplied and maintained by Wellington Water. The client has continued to cover the other costs of sampling.

6.2 Brewtown

Now a seemingly permanent feature on annual trade waste reports, Brewtown continues to expand, adding more food outlets and expanding/upgrading existing premises. Plans for yet another, significant brewery on site have been sighted and discussed with the relevant architect. The building consent process is currently underway on site.

Separated entertainment areas within Brewtown have also increased in number, which has facilitated a number of new food preparation and sale points that required the facility to add more hardware to the wastewater drainage network. This included a wastewater pump-station/wetwell and process water pre-treatment devices (greasetraps)

6.3 Executive Commercial Laundry

Executive Commercial Laundry had a significant health and safety event occur during the report period. An amount of sodium hypochlorite was incorrectly mixed with citric acid which caused a plume of chlorine gas to be produced. Some staff were assessed medically, but were thankfully not harmed.

At the conclusion of the event, permission was sought to discharge the remainder of the resultant liquid to the wastewater network. After some discussion between the trade waste team, the site chemical engineer and an independent chemical advisor, the liquid was assessed as being safe to remain on site and was eventually re-used in the normal manner as part of the laundering process. There was no environmental or network impact from this event.

6.4 Landfills

The two landfills, Silverstream and Wainuiomata, continue to be amongst the largest dischargers of trade waste by volume. Problems with the discharge meters at these sites continue and supplied volume data is non-existent. We continue to calculate flow volumes using averages of previous flow data and rainfall data as part of the charging regime. Consents will not be reissued for these sites until the meters and reading regime are reinstated and maintained.

6.5 Zany Zeus

Zany Zeus (Seaview Road) has started trading from the new site and subsequently closed the previously used Randwick Road site.

This client is currently operating under a limited, temporary discharge consent while they install the permanent wastewater pre-treatment system. Several meetings on site have ensured that there is adequate separation of highly volatile (for COD demand) whey waste and the main waste water stream being discharged to wastewater network (via a manually operated valve – after compliance has been confirmed). pH dosing, flow monitoring and solids settlement is also to be addressed in a more-permanent and robust process than the current manual regime. Daily sampling, weekly forecasting, discharge reports and laboratory analysis are being supplied from the site during this phase. Whey waste is being collected in isolated vessels and carted from site by a contractor employed by the site. We believe this waste stream is being repurposed as a base for pig food.

6.6 Spik n Span (portable/event shower and ablution units)

Spik n Span is in the process of relocating into the new industrial area at Wallaceville Estates, Upper Hutt. Multiple discussions around required hardware and process have been had with both the architect and operator. Site works have begun and we expect that the installed hardware and process will be very similar to the portable toilet providers nearby The wastewater network in this area is known to be sensitive to flow and volume loading due to the design of the drainage within the subdivision. Discharge flow rate limits are included within consent conditions for this site.

6.7 Service Foods

Service foods has also moved into the Wallaceville Estates industrial area, combining three branches of their business which were located in various locations around Lower Hutt and Wellington. The new site posed some minor trade waste issues that became apparent after opening, but these were eventually sorted with the assistance of an on-site contact. Investigations were made into how hardware was installed as part of the consented build without the knowledge of the trade waste team and a repeat of this failure is not expected.

6.8 Wainuiomata Food Outlets

Wainuiomata has seen a return of a KFC franchise during the timeframe covered in this report. During the construction period and prior to opening, it was found that an undersized grease trap had been installed on site. Discussions between the trade waste team, building consents team, architects and builders eventually bought about the removal of the trap and installation of a more-appropriately sized unit. No issues have been noted from this site thus far.

6.9 Laundromats and Home Cooking Businesses

Laundromats and home cooking businesses are both growth areas at present. Each requires a consistent approach to capture and monitor data for usage and strength. While we have process in place for laundromats, we continue to discuss and refine our approach to home cooking businesses and expect to license an increasing number of these businesses as we catch up with both proposed and already-existing entities.

7. BIOSOLIDS

The Hutt City Council Trade Waste team no longer monitors biosolid performance.

8. CONTAMINATION REPORTS

Three reports of hydrocarbon contamination were received during the period. All were concerning excessive hydrocarbons noted in the 'trade waste' line influent tanks.

These tanks service Seaview, Eastern Bays and Wainuiomata. Wellington Water operational staff were unaware of any related issues in the pumpstations in both Wainuiomata and the Eastern Bays, suggesting the issue originated somewhere within the Seaview industrial area.

Once reported to the team, the Trade Waste Officers checked a number of consented sites that had known potential to store petrochemical in the form and amounts reported.

As each time previous, an exact point of origin was not found.

The shared belief is that this contamination has originated from a business or person that has some capacity to stockpile used petrochemical for some time. The stored product seems to be discharged in bulk at random times, possibly as their own storage ability reaches its maximum capacity. For this reason, we have concentrated on the automotive, scrap dealers, car wreckers and waste collection sectors of industry. There is also a strong likelihood that the origin of the issue is not a licensed trade waste discharger and is someone who collects the petrochemical as either an incidental part of their main business, or the collection is part of a side-business or personal endeavour that facilitates collection of these materials either intermittently or only in small volumes at a time.

As an additional measure after the last event, all known sites (licensed or not) that had likelihood of issue were made aware of the issue, the effect and how the team will be following up on similar events in the future.

9. INFLOW PROJECTS

To help smooth wet-weather flows through the WWTP, and reduce the number of overflows, the Trade Waste team have undertaken stormwater-to-sewer inflow (house to house) inspections on 300 or so properties located in Belmont Hills. This was in response to localised overflowing of the waste water network that contaminated a local stream that is popular among locals as a swimming spot during summer. Inspected properties that have inflow issues have had notification letters sent to the owners and we continue to follow up with those requests. A number of public system issues are being addressed by Wellington Water contractors also. The project is almost, but not yet complete – we are about to start the final checks on the outstanding issues.

It is proposed that the next project is undertaken in Hutt Central, due to a known inflow/infiltration issue resulting in overloading of the wastewater system.

Works of this nature are undertaken on the behalf of Wellington Water, who monitor and identify areas of inflow concern via flow-monitoring and pumpstation data.

10. OTHER PROJECTS

The team has been discussing a number of projects with Wellington Water to aid in the delivery of trade waste services:

- Merging of the two teams to offer a comprehensive, consistent solution for the region.
- Sharing documentation to reduce costs and increase consistency.

The trade waste team are commenting on BC submissions and actively pushing a number of items to help future-proof new builds. Areas of particular focus are:

- minimum sized outdoor greasetraps
- revisiting requirements around underbench grease separation units and their feasibility in restricted space situations
- in-kitchen pumps (where an outdoor trap is possible but remote).
- wash-pad areas being specified for mixed commercial/residential builds – for both rubbish areas and to allow responsible vehicle washing to occur on site.
- greasy waste lines being recommended to be installed in new builds where food outlets are likely to appear- even if they are not specified at the time.
- sink screening in all kitchens where food is prepared as part of a commercial venture or larger non-residential kitchens such as larger staff rooms and kitchens.

11. TRADE WASTE TEAM NEWS

The Trade Waste team restructure, started in 2020, is still underway. The positions within the team remain to be on a fixed-term basis while being assessed.

The team has been heavily involved in the design process for the now defunct affordable waters initiative, but await further advice on how the sector will progress. We hold some confidence that (at least some of) the progress made with national rules, software solutions and general administration will be carried into practice.

12. APPENDICES

There are no appendices to this report.

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