

Determination of Trade Waste Category

Mareeba Shire Council is responsible for managing trade waste discharges to the sewerage system. Trade Waste customers are categorised based on the risk that their Trade Waste discharge poses to our sewerage system.

Risk Score Method

The risk score methodology used to categorise commercial Trade Waste customers is a combined score total of four applicable elements:

$$\text{Trade Waste Risk Score} = (A+S+P+V)$$

Business Activity (A)

Trade Waste customers are grouped by the business activity they conduct. The grouping is based on the premise that businesses conducting the same activity will produce similar waste stream, with a score applied. An activity such as a church/place of worship or community centre/hall may not require categorisation to become a trade waste customer if the activity is not of a business nature and Mareeba Shire Council determines that discharge to sewer from the activity is representative of domestic usage.

Table 1 - Business Activity Score / Discharge Factor

Business Activity	Risk Score	Discharge Factor (%)
Animal boarding	5	25
Automotive service/repair	10	70
Bakery	10	25
Car wash/wash bay (wand/drive through)	10	70
Catering	10	50
Child Care	5	10
Church/place of worship	5	10
Community centre/hall	5	10
Correction centre	5	30
Factory/Workshop	15	70
Green grocer	5	70
Hairdresser/beauty sale	5	25
Hospital	10	30
Laboratories	10	25
Laundromat (coin operated)	5	92

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Business Activity	Risk Score	Discharge Factor (%)
Licensed club	10	50
Medical (Inc. dentist, vet)	5	25
Metal Finishing	15	90
Nursery/horticulture	5	25
Nursing home/care home (kitchen)	10	30
Panel/body repair	5	70
Plant/machinery hire/truck wash	15	70
Primary/secondary school	5	10
Pub/bar/hotel	10	25
Restaurant/café	10	50
Service Station	15	70
Small good, butcher	10	70
Sports stand (kitchen)	5	25
Supermarket	15	70
Swimming pool	5	25
Take away/fast food	10	50
Vehicle Wash (Auto/Multi-Lane)	15	90

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Substance of Most Concern (S)

The substance of most concern is the material(s) in your trade waste discharge that has the biggest impact on our sewerage system. For example, a restaurant's substances of most concern are fat, oil and grease. If there are multiple substances present, the highest score is applied.

Table 2 - Business Activity Score

Trade Waste Category	Substances	Potential Impacts	Substance Score
Low Impact	Suspended Solids (SS) Pool Filter Backwash Total Dissolved Solids (TDS)	Restricted sewer capacity Hydraulic overload	5
Medium Impact	Fat, Oil & Grease (FOG) MBAS (Detergents)	Sewer blockage Excessive foaming Biological inhibition	10
High Impact	Total Petroleum Hydrocarbons (TPH) Chemicals	Flammable/explosion Biological inhibition	15

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Pre-Treatment Equipment (P)

The type and complexity of a pre-treatment device required is largely dependent on the business activity being conducted and the substance of most concern within the Trade Waste discharge. Pre-treatment devices are given a risk score based on their complexity, susceptibility to failure and the difficulty of maintaining it in a satisfactory condition.

Table 3 - Pre-Treatment Score

Definition	Pre-Treatment Fixtures	Score
Low Risk	Cooling Facility Basket Arrestors (in sink/in floor) Plaster Trap Bottle Trap Controlled Flow Amalgam Seperator Cleaner Production	5
Low-Medium	Grease Trap Neutralising Trap	15
Medium Risk	Oil/Water Seperator - (coalescing plate separator, VGS, hydro cyclone) Neutralising Trap	18
High Risk	Solvent separator pH dosing (automatic or manual dosing)	25

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Trade Waste Volume (V)

To categorise Trade Waste customers according to their demand on the sewer an additions score is applied for the estimated trade waste discharge to sewer. The applicable trade waste volume is calculated based on three inputs:

- Metered water consumption for the business.
- Reduction in volume on the basis that 80 per cent of the metered consumption is discharged to sewer, known as the base volume.
- Application of discharge factors (DF) which reflect a percentage of metered water consumption; this amount is considered to be the Trade Waste discharge to sewer.

Trade Waste volume is determined by the formula below.

$$\text{Trade Waste Volume} = (\text{FY12-13 water consumption} - \text{DR}) \times \text{BV} \times \text{DF}$$

Where:

- DR = 200kL, which is the allowance if a domestic residence is present.
- BV = Base volume is 80 per cent of annual potable water meter consumption.
- DF = Trade Waste discharge factor is a percentage factor amount applied depending on the type of business activity, for example a restaurant is 50 per cent.

Table 4 - Volume Score

Lower Limit (kL/annum)	Upper Limit (kL/annum)	Volume Score
0	300	5
301	600	10
601	1100	20
>1101	1101	30

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Trade Waste Categories

Using the Trade Waste risk score calculated from the method above, the applicable Trade Waste category can be determined from the table below:

Table 5 - Trade Waste Category Risk Score

Lower Risk Score	Upper Risk Score	Risk Category
0	34	1 (Very Low)
35	55	2 (Low)
56	70	3 (Medium)
71	100	4 (High)

Category Very Low

This is a customer discharging low volume and/or low impact Trade Waste that is minimal risk to the sewerage system and may be managed through cleaner production methods.

Category Low, Medium & High

These are customers discharging low to medium volume and low impact Trade Waste that requires physical pre-treatment at the source to make it acceptable for discharge to the sewerage system.

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Trade Waste Category Calculation Examples

Restaurant

A restaurant with 650kL potable water consumption per year:

$$\text{Trade Waste Volume} = W \times BV \times DF$$

Criteria	Description	Risk Score
Business Activity (A)	Restaurant	10
Substance of concern (S)	Fat, Oil and Grease	10
Pre-Treatment (P)	Grease Trap	15
Trade Waste Volume (V)	$650 \times 0.8 \times 0.5 = 260\text{kL}$	5
Total Risk Score	A + S + P + V	40 (Cat. Low)

A restaurant with 1,300kL potable water consumption per year with domestic premises connected to the same meter:

$$\text{Trade Waste Volume} = W \times BV \times DF$$

Criteria	Description	Risk Score
Business Activity (A)	Restaurant	10
Substance of concern (S)	Fat, Oil and Grease	10
Pre-Treatment (P)	Grease Trap	15
Trade Waste Volume (V)	$(1,300 - 200) \times 0.8 \times 0.5 = 440\text{kL}$	10
Total Risk Score	A + S + P + V	45 (Cat. Low)

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A restaurant with 3,300kL potable water consumption per year:

$$\text{Trade Waste Volume} = W \times BV \times DF$$

Criteria	Description	Risk Score
Business Activity (A)	Restaurant	10
Substance of concern (S)	Fat, Oil and Grease	10
Pre-Treatment (P)	Grease Trap	15
Trade Waste Volume (V)	$3,300 \times 0.8 \times 0.5 = 1,320\text{kL}$	30
Total Risk Score	A + S + P + V	65 (Cat. High)

Hair Salon

A hair salon with 650kL potable water consumption per year:

$$\text{Trade Waste Volume} = W \times BV \times DF$$

Criteria	Description	Risk Score
Business Activity (A)	Hair Salon	5
Substance of concern (S)	Total Dissolved Solids	5
Pre-Treatment (P)	Cleaner Production	5
Trade Waste Volume (V)	$650 \times 0.8 \times 0.25 = 130\text{kL}$	5
Total Risk Score	A + S + P + V	20 (Cat. Very Low)

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Automotive Service/Repair

An automotive service/repair business with 1,000kL potable water consumption per year:

Trade Waste Volume = W x BV x DF

Criteria	Description	Risk Score
Business Activity (A)	Automotive service/repair	10
Substance of concern (S)	Total petroleum hydrocarbons	10
Pre-Treatment (P)	Oil/Water Separator	18
Trade Waste Volume (V)	1,000 x 0.8 x 0.7 = 560kL	10
Total Risk Score	A + S + P + V	48 (Cat. Medium)