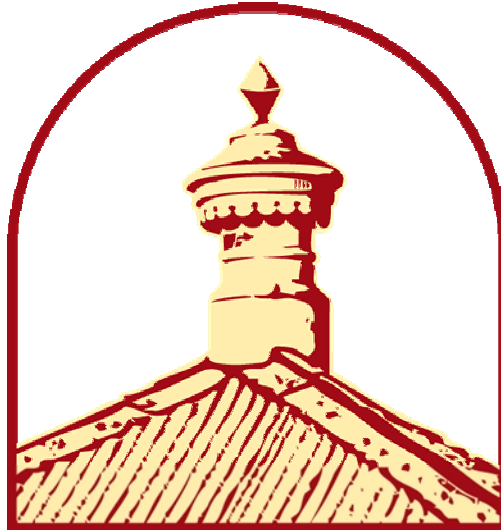


Charters Towers Regional Council



TRADE WASTE ENVIRONMENTAL MANAGEMENT PLAN

Engineering Services (Water) Section

PRE-TREATMENT GUIDELINES

FOR

TRADE WASTE DISCHARGES

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**MODEL TRADE WASTE POLICY
PRE-TREATMENT GUIDELINES FOR TRADE WASTE DISCHARGES**

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1.0

INTRODUCTION

As part of its Trade Waste Policy Council will strictly regulate the discharge of trade waste to the sewer. All discharges must comply with the Sewer Admission Limits as set out in the Trade Waste Policy Statement.

The following information is provided as a **GUIDE ONLY** to assist waste generators. As waste quality may vary between individual generators of a given industry, pre-treatment requirements will need to be verified for each application. These guidelines centre around the use of arrestors as a minimum requirement for pre-treatment for small discharges. Their effectiveness is dependent on proper sizing and regular maintenance. The design and sizing of pre-treatment devices must be approved by Council. There may be situations where alternative pre-treatment devices or processes are more appropriate.

2.0 WASTE FROM COMMERCIAL AND SERVICE INDUSTRIES

Both the Owner and the trade waste Generator, where the Owner is not the Generator, of a premises where commercial or service enterprises are undertaken, or likely to be undertaken, must apply to Council for approval to discharge waste to the sewer. Discharge without Council approval is illegal and subject to penalties defined in the Water Act 2000.

In most cases discharges from these businesses will, after appropriate pre-treatment as indicated in Table 1, be suitable for discharge to the sewer as Category 1 or Category 2 waste. Depending on the size of the business and the nature of the waste there may, however, be instances when some of these businesses will discharge Category 3 waste.

Requirements for the cleaning and maintenance of all pre-treatment devices by the owner/generator will be written into Permits and Agreements.

Commercial and service enterprises include, but are not limited to, the following:

- Restaurants, coffee shops, cafes
- Fast food outlets/take aways
- Butchers
- Bakers/hot bread shops
- Seafood shops
- Delicatessens
- Pie/pastry outlets
- Icecream parlours
- Hotels
- Motels
- Hospitals
- Clubs
- Laundromats
- Hairdressers
- Nursing homes
- Medical surgeries (includes dental, veterinary, chiropractic businesses which have X-ray facilities)
- Garbage collection areas in Commercial buildings.
- Service stations/ other automotive related businesses (small scale)
- Small Engineering works
- Photographic/x-ray/graphic arts/ mini labs
- Airconditioning wastes- condensates, cooling tower wastes
- Commercial Refrigeration condensates
- Swimming pool backwash water
- Supermarkets/Shopping centres

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3.0 GREASE ARRESTOR REQUIREMENTS

The use of solvents, enzymes, bacterial cultures, odour control agents or pesticides in grease arrestors is prohibited unless specifically approved by Council. Conditional approval may be given to allow the discharger to demonstrate to Council that the product to be used does not adversely impact on the sewerage system.

The maximum capacity of an individual grease arrestor shall be 2000 litres. Where the capacity requirement for a premises is greater than 2000 litres, additional arrestors shall be used, with each arrestor to be a discrete installation separately treating a defined waste stream.

Table 2 outlines a method for estimating the size of grease arrestors. The final determination of adequate capacity will be done by the Trade Waste Officer.

Cleaning and maintenance of grease arrestors will be carried out by a Council approved liquid waste disposal contractor as specified in the Permit / Agreement conditions.

4.0 WASTE FROM MAJOR MANUFACTURING/PROCESSING INDUSTRIES

Both the Owner and the trade waste Generator, where the Owner is not the Generator, of all premises where major manufacturing and industrial processing are undertaken, or likely to be undertaken, must apply to Council for approval to discharge waste to the sewer. Discharge without Council approval is illegal and subject to penalties defined in the Water Act 2000.

Most of the industries in the list below will fall into Category 3, although they may be included in Category 1 or 2 if the business is small or waste has been pre-treated to the extent of meeting the classification requirements for these categories.

While Council staff can provide general advice to industry on waste management and disposal matters, dischargers in this category should seek advice from the Department of Environment and Heritage or consultants on matters such as:

- appropriate treatment strategies to meet sewer admission limits;
- waste minimisation and water conservation methods;
- treatment and disposal of waste generated by pre-treatment and other wastes not suitable for sewer discharge.

Advice on the disposal of non-sewerable waste may be obtained from:

Water Officer
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Major industrial, manufacturing and processing industries likely to fall into Category 3 include, but are not limited to, the following:

Food/Beverage

Fruit/vegetable processing (canning, freezing, juicing)
Meat Processing/small goods manufacturing
Abattoirs - Meat/poultry
Rendering
Sea foods
Dairy products
Breweries
Wineries/distilleries
Soft drink/cordial manufacturing
Confectionary
Large scale baking (bread, biscuits, pastries etc)
Grain milling
Oil seed/oil extraction
Fermentation/yeast
Sugar
Starch

Chemical Related

Chemical manufacturing - general (organic and inorganic)
Soap, detergent and associated product manufacturing/formulating
Explosives
Pharmaceuticals/cosmetics
Fertilisers
Pesticides/herbicides
Chlor-alkali
Plastics
Resins, Adhesives/latex
Paints/varnishes/lacquers
Fibreglass
Rubber - natural/synthetic

Apparel/Textile

Tanneries
Textiles (wool, cotton, synthetics; includes dye wastes)
Wool scouring
Industrial/commercial laundries

Materials

Paper and Cardboard processing/manufacturing
Printing/publications/graphic arts/photographic (large scale)
Cement
Asphalt/Bitumen
Timber preservation

Veneer/plywood
Glass / ceramics manufacturing
Metal

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Mining/Minerals industries
smelting/refining
foundries
Electroplaters/galvanisers
Metal processing
Metal finishing
Fabrication and powder coating

Automotive/Engineering/Petroleum

Engineering (large scale)
Petroleum refining
Waste oil refining

Service

Laboratories- scientific and pathology
Electrical manufacturing/processing
Electronics
Commercial swimming pools/ornamental ponds
Repackaging activities
Industrial/commercial storage areas/warehouses
Recyclers
Industrial/commercial wash areas - car, bus, truck, stables, garbage collection,
Power generation

5.0 SPECIFICATIONS FOR PRE-TREATMENT DEVICES

5.1 Oil Arrestors

For the purpose of this policy, the term oil arrestors refers to triple baffle oil interceptor, coalescing plate separator, hydrocyclone or any other device which separates oils from other liquid waste.

Oil arrestors are to be of a type and to be installed in order for the discharge to Council's sewer system that shall comply to the admissible standards set out in Appendix 2 of the Charters Towers Regional council Trade Waste Environmental Management Plan.

Only 'Quick break detergents/degreasers' are to be used where waste is discharged to the sewer via the oil arrestor.

Maintenance cleaning of oil arrestors shall be carried out on a regular basis in accordance with the conditions of the Trade Waste Permit or Legal Agreement by a Council approved Liquid Removal Contractor.

The minimum size of an individual arrestor shall be 550 Litres.

Oil arrestors are to cause no odour nuisance.

Oil arrestors shall be installed so as not to allow stormwater to enter them. The surrounding ground shall be grade away from the arrestor.

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5.2 Grease Arrestor

All grease arrestors shall be fitted with gas tight lids.

Grease arrestors are to be of a type and to be installed in order to the discharge to Council's Sewer system that shall comply with the admissible standards set out in Appendix 2 of the Charters Towers Regional Council Trade Waste Environmental Management Plan.

Venting arrangements for grease arrestors shall be via 2 x 100mm vents. One 100mm vent shall be on the upstream line and shall terminate in accordance with AS3500. The other vent shall be on the grease arrestor and shall terminate approximately 1.2 metres above the finished height of the other vent. This allows for more effective cooling of the grease arrestor contents which leads to a more effective performance of the trap.

5.3 Silt Traps

Silt traps are to be regularly cleaned and the material removed after dewatering may be disposed at the land fill site.

5.4 Balancing Tanks

Balancing tanks are to be regularly cleaned and the material removed after dewatering may be disposed at the land fill site.

5.5 Neutralising Tanks

Neutralising traps are to be regularly cleaned and the trap refurbished with clean media to ensure effective operation of the trap.

6.0 STANDARD DRAWINGS

A complete set of standard drawings are to be submitted before any approval shall be given. The information on the drawings shall include but is not confined to"

- a site plan
- a floor plan
- the location of drains, sewers and stormwater system
- the location of the pre-treatment equipment
- details of pre-treatment equipment including stormwater diversion if applicable
- location of any bunding
- sampling points
- details of any structure associated with pre-treatment e.g. roof

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**TABLE 1:
GENERAL PRE-TREATMENT GUIDELINES FOR MINOR TRADE WASTE GENERATORS.**

(WILL BE SATISFACTORY FOR MOST CATEGORY 1 AND 2 DISCHARGES)

Generator/Source	Characteristics of Waste	General Treatment Requirements
<u><i>Automotive/Engineering Industries</i></u>		
Wreckers	Oil, grease, solids	Oil arrestor (1)
Detailing-	Oil, grease, solids, detergents	Oil arrestor (1)
Engine/gear box reconditioning (small operation)	Oil, grease, solids, lead, detergents, kerosene	Oil arrestor (1)
Equipment Hire Company	Oil, grease, solids, kerosene, detergents	Oil arrestor (1)
Lawnmower Repairs	Oil, grease, grass, solids, detergents	Oil arrestor (1)
Mechanical Workshop	Oil, grease, solids, detergents, kerosene	Oil arrestor (1)
Panel beating/spray painting	Suspended solids, oil and grease	General purpose pit, Oil arrestor (1)
<u><i>Service Stations</i></u>		
Workshop Only	Oil and grease	Oil arrestor (1)
Covered Fore Court	Oil and grease	Not permitted to sewer or storm water drain – Dry cleaning technique should be adopted
<u><i>Car Wash Areas – Residential</i></u>		
Open areas	oil, grease, solids, rain	silt trap, 550 L minimum capacity
Roofed and bunded (to prevent stormwater ingress)	oil, grease, solids	silt trap, 550 L minimum capacity
<u><i>Car Wash Areas – Commercial</i></u>		
Open areas	Oil grease, solids, rain	stormwater diversion pit, first flush pit "first 10mm of rain", oil arrestor (1), rainwater controls, pumped discharge, flow measurement.
Roofed and bunded Radiator Repair (small operation)	Oil, grease, solids Suspended solids, pH, toxic metals	oil arrestor (1) pH adjustment prior to solid settlement and pH adjustment before discharge to sewer may require oil separation and metal precipitate removal

NOTES: (1) oil arrestors should be of the **coalescing plate type minimum capacity 1 kL/hour (or some other specification)**; use only

quick break detergents (detergent cleans by emulsifying oils and grease; the emulsion formed should break in less than 1 hour to allow separation of the oil from the water in the arrestor)

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(WILL BE SATISFACTORY FOR MOST CATEGORY 1 AND 2 DISCHARGES)

Generator/Source	Characteristics of Waste	General Treatment Requirements
<i>Commercial Food Outlets</i>		
Hot Bread, Bakery, pies, cakes, pastries	flour products, grease	dry arrester or removable basket in-floor waste collection; grease arrester (2)
Butcher, small, retail	grease (washing floors & utensils)	fixed mesh screen and basket in sink and basins; grease arrester (2)
Chicken (fresh) retail, meat cutting and preparation	grease	fixed mesh screens & baskets in-floor waste collection, mesh sinks and basins; grease arrester (2)
Fish – fresh – no cooking	scales, fish gut	fixed mesh screen & basket in floor waste; dry arrester pit
Fish shop retail & cooking on site	scales, grease	fixed mesh screen & basket in floor waste; screens in sink & basin; grease arrester (2)
Canteen/Cafeteria (with hot food preparation)	grease	grease arrester (2)
Caterer	grease	grease arrester (2)
Community Halls (food preparation)	grease	grease arrester (2)
Sandwich/Coffee Shop – no hot foods prepared	nil	no requirements
Sandwich Bar with hot food take-away	grease	grease arrester (2)
Coffee Shop, Hot food prepared and served	grease	grease arrester (2)
Take Away food outlets	grease	grease arrester (2)
Take Away food outlets – large outlets e.g McDonalds, Pizza Hut, Kentucky Fried, BBQ and Charcoal Chicken etc.	grease	grease arrester (2)
Commercial Kitchen	Grease	Grease arrester (2)
Hospital Kitchens	Grease & oil, high temperatures	Grease arrester, capacity to cool hot discharge water to less than 38C

Nursing Homes/Kitchen	Grease/solids	Grease arrestor (2)
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**TABLE 1:
GENERAL PRE-TREATMENT GUIDELINES FOR MINOR TRADE WASTE GENERATORS.
(WILL BE SATISFACTORY FOR MOST CATEGORY 1 AND 2 DISCHARGES)**

Generator/Source	Characteristics of Waste	General Treatment Requirements
Restaurant	Grease	grease arrestor (2)
Hotel with counter lunches restaurant	Grease	grease arrestor (2)
Motel, kitchen/restaurants	Grease	grease arrestor (2)
Boarding Houses/Kitchen	Grease	grease arrestor (2)
Bistro	Grease/oil	grease arrestor (2)
Ice cream parlour – with hot food, take-away	Grease	grease arrestor (2)
Shopping Centres preparation	Grease and solids	grease arrestor (2)
Supermarkets – incorporating butcher and/or baker	Grease and flour	grease arrestor (2) and basket traps; dry arrester pit or basket in-floor waste collection
<i><u>Other Commercial/Service Industries</u></i>		
Garbage can cleaning units/hotels/restaurants	Grease/solids	Fixed screen over floor waste; if grease arrestor installed, waste to pass via arrestor
Hairdressing Salon	No threat	No pre-treatment; avoid discharge through grease arrestor
Hobby Clubs:		
- <200L per day	Suspended solids	No pre-treatment
- 200L – 1000L per day	Suspended solids	Plaster arrester
- > 1000L per day	Suspended solids	Solids settlement pit 1000L, min of 1 hour retention
Dental / Medical / Veterinary Surgeries:		
- no plaster casts	Solids	Bottle trap
- plaster casts	Solids	Plaster arrester
- X-rays	Rinse water and spent solutions	To sewer via balancing tank after silver recovery (refer Photographic Industry Code of Practice)

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Generator/Source	Characteristics of Waste	General Treatment Requirements
Photographic waste - Fast Photo - X-Rays	rinse water and spent solutions	to sewer via balancing tank after silver recovery (refer Photographic Industry Code of Practice)
School-Home Science, Tuckshops (hot food) - laboratory	grease acid/alkali, chemical	grease arrestor (2) sediment & neutralising trap
Optician (<200L per day)	Suspended Solids	bottle trap under sink
Laundromat	Lint, temperature	line screens 1mm mesh; cooling pit if temperature > 38C (washing machine internal screens acceptable)
Kennels	Solids	dry arrestor pit; open area controls

NOTES: (2) See Table 2 for guidelines for sizing of grease arrestors.

**TABLE 2:
GUIDELINES FOR SIZING GREASE ARRESTORS**

I: The capacity of a grease arrestor may be calculated from the following capacity allowances for various fixtures and fittings in Commercial Premises

Fixture/Fitting	Capacity (litres)
Commercial Kitchen Sink	140
Double Bowl or Pot Sink	280
Basin	30
Water Heated Baine Marie	40
Dishwasher	
- small (under bench)	400
- medium (upright)	800
- large (more than one outlet)	1200
Potato Peeler	
- small (bench)	100
- medium (Upright)	200
- large	400
Steamer/Hydrotherm/Boiling pots/Stock Pots	100
Wok Burner	140
Mixing Bowl	140
Glass Washers (not in liquor sales area)	200

OR II: If a restaurant, coffee shop, hotel, motel, hostel, nursing home etc does not have fixture or fittings in excess of 250 litres capacity the following criteria shall apply:

Servicing capacity	Minimum size grease arrestor
0 - 40 persons	550 L
40 - 90 persons	1000 L

OR III: MINIMUM GREASE ARRESTOR TRAP CAPACITIES

Business	Arrestor Size	Comment
Takeaways Delicatessens Retail Seafood outlets (no processing/cooking) Icecream Parlours	500 L - 1000 L	No Cooking Chicken, No Woks

Hot Bread Shop		Depending on Fixtures/fittings/seating capacity
Pizza Shop		
Takeaway and Delicatessen		
Coffee	shop	(0-40 persons)
Restaurant (0-40 persons)		-
10-		
Retail Butcher	1000 - 2000L	
Coffee Shop (40-90 persons)		
Restaurants (40-90 persons)		
Coffee Shop (91-180 persons)	2000 L	
Restaurants (91-180 persons)		
Nursing Homes		
Hostel		
Hotel		
Hospital		
Retail Chicken		
Shopping Centres (combination shops)		

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