

Liquid Trade Waste Regulation Guidelines

April 2009

These Guidelines are currently under review and some of the contents may not be current or relevant.

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***Liquid Trade Waste Regulation Guidelines:
April 2009***

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Foreword

Local Water Utilities (LWUs) are responsible for the provision of water supply and sewerage services in NSW country towns. There are currently 106 LWUs of which 100 LWUs provide reticulated sewerage services to 1.67 million people (94.9% coverage). The current replacement cost of the existing water supply and sewerage assets is \$18,800M.

Sound regulation of sewerage and liquid trade waste is a key component of the NSW Government's *Best-Practice Management of Water Supply and Sewerage Guidelines, 2007*. All LWUs are expected to comply with the requirements of the *Best-Practice Management Guidelines* by June 2009.

These *Liquid Trade Waste Regulation Guidelines* have been prepared to enable LWUs to carry out best-practice regulation of sewerage and liquid trade waste in non-metropolitan NSW.

In addition to setting out the comprehensive NSW framework for regulation of sewerage and trade waste, these *Trade Waste Regulation Guidelines* also simplify LWU approval of trade waste dischargers by:

- authorising **LWUs to assume concurrence for low risk liquid trade waste dischargers** to the sewerage system. The Guidelines nominate the pre-treatment equipment and conditions of approval to be applied for these activities;
- encouraging LWUs with significant experience in trade waste regulation to apply for authorisation **to assume concurrence for medium risk liquid trade waste dischargers** to the sewerage system; and
- simplifying the approval process for liquid trade waste applications by the Crown.

The **benefits of best-practice sewerage and trade waste regulation include:**

- **improved sewerage system performance** - ie. reduced frequency of sewage odour complaints, reduced frequency of sewer chokes;
- **meet LWU's due diligence obligations and achieve improved environmental outcomes** - ie. improved compliance with LWU's sewage treatment works licences, more options for water recycling and biosolids reuse;
- **full cost recovery** - ie. commercial pricing of sewerage and liquid trade waste and removal of cross-subsidies;
- **reduced annual sewerage bills** as the improved sewerage system performance will 'free up' system capacity. This will enable the LWU to serve population growth and new commercial development without needing to augment the existing sewerage infrastructure.

These Guidelines will assist each LWU to **achieve sound, efficient and effective regulation of sewerage and trade waste** and to comply with the *Best-Practice Management of Water Supply and Sewerage Guidelines, 2007*. This will also ensure compliance with the *National Framework for Wastewater Source Management, 2008*.

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BEST PRACTICE MANAGEMENT

Contents

Foreword.....	i
Acknowledgements	ii
Contents	iii
Abbreviations	ix
Glossary.....	x
Key Additions to the 2005 Guidelines	xv
1. Introduction.....	1
1.1 Purpose of the Guidelines.....	1
1.2 What are in these Guidelines.....	2
1.3 Who are these Guidelines for?	3
1.4 What is liquid trade waste?	4
1.5 Charging categories.....	5
1.6 Concurrence classifications	5
1.7 The legislative framework	6
1.7.1 Background.....	6
1.7.2 Employee awareness and training	6
1.7.3 Legislation underlying approvals and concurrence	7
1.7.4 Local water utility responsibility for liquid trade waste.....	7
1.7.5 Determination of acceptance of a discharge	8
1.8 The NSW framework for regulation of sewerage and trade waste	9
1.9 Alignment with the national framework for wastewater source management.....	11
2. The Concurrence Classifications	13
2.1 The Concurrence Classifications	13
2.2 Concurrence Classification A – automatic assumed concurrence	13
2.3 Concurrence Classification B – assumed concurrence available.....	16
2.4 Concurrence Classification C – concurrence mandatory.....	16
2.5 Concurrence Classification S – concurrence for acceptance of septic tank and pan waste.....	17
2.6 When is DWE concurrence required?.....	17
3. Approval and enforcement	19
3.1 The approval process	19
3.2 The five steps to approval.....	20
3.3 Step 1: The pre-application consultation	22

3.4	Step 2: Receiving the application.....	22
3.4.1	Who can make the application?	23
3.4.2	Validity of existing approval if the owner or occupier changes.....	23
3.4.3	Information requirements for liquid trade waste applications	23
3.5	Step 3: Assessing the application.....	24
3.5.1	Factors to consider	24
3.5.2	Material Safety Data Sheets	24
3.5.3	Guideline limits for liquid trade waste discharge	27
3.5.4	Prohibited substances	31
3.5.5	Approve or refuse?	32
3.6	Step 4: Seeking concurrence.....	35
3.6.1	Legal responsibilities	35
3.6.2	Whether concurrence can be assumed or not	35
3.6.3	Information the LWU needs to provide to DWE upon seeking concurrence	35
3.6.4	Special circumstances	36
3.7	Step 5: Finalising the determination.....	36
3.7.1	Approving the application	36
3.7.2	Term of an approval.....	37
3.7.3	Refusing the application	37
3.8	Exceptions.....	38
3.8.1	Exceptions for existing premises without a grease arrestor or with undersized arrestor	38
3.8.2	Exceptions for existing oily waste pits (small dischargers only)	39
3.9	Developing a local approvals policy for liquid trade waste	40
3.9.1	What is a local approvals policy?	40
3.9.2	Model policy for liquid trade waste regulation	41
3.9.3	Adopting a trade waste regulation policy.....	41
3.10	Liquid trade waste services agreements	42
3.11	Enforcement.....	43
3.11.1	Failure to obtain an approval	43
3.11.2	Failure to comply with an approval	43
3.11.3	Giving orders	43
3.11.4	Revoking an approval.....	44
3.11.5	Powers to disconnect a trade waste service	45

3.11.6	Prevention of waste and misuse of water	45
3.12	Site inspections	45
3.12.1	What is a trade waste site inspection?	45
3.12.2	What is achieved from a site inspection?	46
3.12.3	Entry onto premises	48
4.	Concurrence Classification A – automatic assumed concurrence.....	49
4.1	What is Concurrence Classification A?	49
4.2	The approval process for Concurrence Classification A.....	59
4.2.1	Information the applicant needs to supply	59
4.2.2	Information LWU needs to check	59
4.2.3	Assessing and approving an application	59
4.3	Commercial retail food preparation activities	61
4.3.1	No greasy/oily wastes generated	61
4.3.2	Greasy/oily wastes generated	63
4.4	Other commercial activities	65
4.4.1	Animal wash activities.....	66
4.4.2	Boiler blowdown.....	66
4.4.3	Car detailing.....	68
4.4.4	Cooling towers	69
4.4.5	Craft activities	69
4.4.6	Dental surgery/dental technician/dental specialist	70
4.4.7	Doctor's surgery/medical centre	71
4.4.8	Florist	71
4.4.9	Funeral parlour or morgue	71
4.4.10	Hairdressing and beauticians	72
4.4.11	Jewellery shop	72
4.4.12	Laboratory.....	73
4.4.13	Laundry or laundromat (coin operated)	74
4.4.14	Lawnmower repairs	74
4.4.15	Mechanical repairs.....	75
4.4.16	Mobile cleaning units	78
4.4.17	Optical service (retail)	78
4.4.18	Pet shop (retail)	79
4.4.19	Photographic.....	79

4.4.20	Plants (retail).....	80
4.4.21	School.....	80
4.4.22	Stone working	81
4.4.23	Swimming pool/spa/hydrotherapy	82
4.4.24	Vehicle washing.....	83
4.4.25	Venetian blind cleaning.....	84
4.4.26	Veterinary surgery	84
5.	Concurrence Classification B – assumed concurrence available	85
5.1	What is Concurrence Classification B?.....	85
5.1.1	Classification B – requirements for assumed concurrence	87
5.1.2	Undersized grease arrestors – requirements for assumed concurrence	88
5.2	The approval process for Concurrence Classification B.....	89
5.2.1	Information the applicant needs to supply	89
5.2.2	Information LWU needs to check	89
5.2.3	Assessing and approving an application	89
5.3	Liquid trade waste on-site inspection.....	90
6.	Concurrence Classification C – concurrence mandatory.....	91
6.1	What is Concurrence Classification C?	91
6.2	The approval process for Concurrence Classification C.....	91
6.2.1	Information the applicant needs to supply	91
6.2.2	Information LWU needs to check	93
6.2.3	Assessing the application and forwarding supporting information to DWE.....	94
6.3	Additional considerations	95
6.4	Liquid trade waste on-site inspection.....	95
7	Concurrence Classification S – concurrence for acceptance of septic tank and pan waste	97
7.1	What is Concurrence Classification S?.....	97
7.2	The approval process for Concurrence Classification S.....	98
7.2.1	Information that the applicant needs to supply	98
7.2.2	Assessing and approving the application	99
7.3	Types of waste and their management.....	99
7.3.1	Septic tank effluent	99
7.3.2	Septage	100
7.3.3	Due diligence	101
7.3.4	Decommissioning of on-site systems	102

7.3.5	Suggested conditions of approval	102
7.3.6	Ship-to-shore pump-outs	104
7.3.7	General	104
7.3.8	Galley waste	105
7.3.9	Hose connections for ship-to-shore pump-outs.....	106
7.3.10	Application information required for approval	109
7.3.11	Suggested conditions of approval	109
7.3.12	Caravan/motorhome/caravan park waste dump point.....	109
7.3.13	Chemical toilet waste.....	110
7.3.14	Other types of waste.....	110
8	References	111

Figures

Figure 1:	What are in these Guidelines?.....	2
Figure 2:	DWE auditing procedure for assumed concurrence	15
Figure 3:	Identification of Concurrence Classification.....	18
Figure 4:	The approval process for liquid trade waste applications.....	21
Figure 5:	Procedure for Approval of Classification A Applications.....	60
Figure 6:	Arrival of loaded tanker	102
Figure 7:	Tanker unloading effluent through flexible connection and KAM-LOK coupling	103
Figure 8:	Loaded tanker in bunded area which drains into holding tank	103
Figure 9:	Boat pump-out arrangement.....	107
Figure 10:	Boat Pump-out Facility (Schematic Diagram).....	108

Tables

Table 1:	Information requirements for liquid trade waste applications	25
Table 2:	Factors to consider in assessing liquid trade waste applications	26
Table 3:	Guideline limits for acceptance of liquid trade waste into the sewerage system.....	27
Table 4:	Substances prohibited from being discharged into the sewerage system	31
Table 5:	Conditions to the approval of liquid trade waste discharges	33
Table 5A:	Approval process for liquid trade waste applications by the Crown	34
Table 6:	Exception requirements	39
Table 7:	Types of prescribed standard non-complex pre-treatment equipment.....	49
Table 8:	Commercial retail food preparation activities that generate Concurrence Classification A liquid trade waste discharge.....	51
Table 9:	Other Commercial Activities that generate Concurrence Classification A liquid trade waste discharges	56
Table 10:	Discharges from other commercial activities	65
Table 11:	Typical constituents found in automotive products	77
Table 12:	Pre-treatment requirements and conditions of approval.....	81

Table 13:	Commercial activities generating Concurrence Classification B	86
Table 14:	Examples of Classification C activities	92
Table 15:	Approval conditions for septic tank waste.....	102
Table 16:	Approval Conditions for ship-to-shore pump-outs	109

Appendices

A	Notice of Concurrence	113
B	Liquid Trade Waste Provisions in the <i>Local Government Act, 1993</i> and the <i>Local Government (General) Regulation, 2005</i>	121
C	Liquid Trade Waste Application Forms	125
D	2009 Model Policy for Discharge of Liquid Trade Waste Regulation.....	155
E	General Conditions of Approval	211
F	Overview of Common Methods of Liquid Trade Waste Pre-Treatment	229
G	Discharge Factors	303
H	Due Diligence Program, Contingency Plan and Effluent Improvement Plan.....	317
I	Liquid Trade Waste Fees and Charges	323

INDEX	327
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Abbreviations

ANZECC	Australian and New Zealand Environment and Conservation Council
AS	Amalgam Separator
BOD	Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
CPI	Consumer Price Index
CPI/CPS	Coalescing Plate Interceptor/Separator
DA	Development Application
DECC	Department of Environment and Climate Change
DWE	Department of Water and Energy (NSW)
EIP	Effluent Improvement Plan
EMP	Environmental Management Plan
EP	Equivalent Population
GPS	Global Positioning System
HSS	Hydrocyclone Separation System
LAP	Local Approvals Policy
LWU	Local Water Utility
MBAS	Methylene Blue Active Substances
MSDS	Material Safety Data Sheets
NATA	National Association of Testing Authorities
NHMRC	National Health and Medical Research Council
NOHSC	National Occupational Health and Safety Commission
NSW	New South Wales
O&G	Oil and Grease
OH&S	Occupational Health & Safety
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
SCD	Surge Control Device
SDF	Sewer Discharge Factor
SS	Suspended Solids
SRU	Silver Recovery Unit
STW	Sewage Treatment Works
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen
TWDF	Trade Waste Discharge Factor
TWO	Trade Waste Officer
VGS	Vertical Gravity Separator
WSAA	Water Services Association of Australia

Glossary

Assumed Concurrence: Councils with significant experience in trade waste regulation are encouraged to apply to the Department of Water and Energy (DWE) for authorisation to assume concurrence for Classification B or Classification S activities (page 87 of Chapter 5 and page 97 of Chapter 7). If granted, Council will no longer need to forward such applications to DWE for concurrence.

Automatic Assumed Concurrence: Councils have been authorised to assume DWE concurrence for Classification A activities. Such applications may be approved by Council without forwarding the application to DWE for concurrence.

Biochemical Oxygen Demand (BOD₅): The amount of oxygen utilised by micro-organisms in the process of decomposition of organic material in wastewater over a period of five days at 20°C. In practical terms, BOD is a measure of biodegradable organic content of the waste.

Biohazardous Waste: All biologically contaminated waste that could potentially cause harm to humans, animals and plants. These include specimen cultures from medical and pathological laboratories, waste from the production of biological agents, discarded live and attenuated vaccines, human blood and certain human body fluids, and animal or plant pathogens.

Bilge Water: minor amounts of water collecting in the bilge from spray, rain, seepage, spillage and boat movements. Bilge water may be contaminated with oil, grease, petroleum products and saltwater.

Biosolids: Primarily organic solid product produced by sewage processing. Until such solids are suitable for beneficial use, they are defined as wastewater solids or sewage sludge.

Bunding: Secondary containment provided for storage areas, particularly for materials with the propensity to cause environmental damage.

CAS # (Chemical Abstracts Service): Registry Number is a unique identifier for chemical substances. A registry number identifies a chemical substance or molecular structure when there are many possible generic, proprietary or trivial names. These are typically listed on a MSDS.

Chemical Oxygen Demand (COD): A measure of oxygen required to oxidise organic and inorganic matter in wastewater by a strong chemical oxidant. Wastewaters containing high levels of readily oxidised compounds have a high COD.

Chemical Toilet: Toilet in which wastes are deposited into a holding tank containing a deodorizing or other chemicals; wastes are stored and must be pumped out (and chemical recharged) periodically.

Commercial Retail Discharge: Commercial dischargers can be described as businesses that deal directly with the public.

Commercial Kitchen/Caterer: For the purpose of these Guidelines, a commercial kitchen is a premise that is typically a stand-alone operation and prepares food for consumption off-site. These types of businesses typically cater to wedding functions, conferences, parties, etc. This definition would not apply to a food processing factory supplying pre-prepared meals to an airline company or similar.

Contingency Plan: A set of procedures for responding to an incident that will affect the quality of liquid trade waste discharged to the sewerage system. The plan also encompasses procedures to protect the environment from accidental and unauthorised discharges of liquid trade waste to the stormwater drainage system, and leaks and spillages from stored products and chemicals.

Council: Reference is made to 'council' when referring to legislation for all other instances the term 'local water utility (LWU)' is used.

Crown Land: Basically all land where the title is owned by the State and reserved for such public purposes as recreation, schools, hospitals, cemeteries, community facilities, preservation of flora and fauna, and grazing.

DWE Concurrence: For the purpose of these Guidelines, DWE concurrence is required before a council may approve an application for the discharge of liquid trade waste or septic tank and pan waste to the sewerage system. It is a requirement under section 90(1) of the Local Government Act and clause 28 of the *Local Government (General) Regulation 2005* that council obtain the written agreement of the Director-General of Department of Water and Energy (DWE) prior to approving such waste to be discharged to the Council sewerage system.

Digester: A tank in which sludge is placed to allow digestion to occur usually under anaerobic (in the absence of oxygen) conditions.

Director-General: Director-General means the Director-General, DWE.

Due Diligence Program: A plan that identifies potential health and safety, environmental or other hazards (eg. spills, accidents or leaks) and appropriate corrective actions aimed at minimising or preventing the hazards.

Effluent: The liquid discharged following a wastewater treatment process.

Effluent Improvement Plan (EIP): The document required to be submitted by a discharger who is not meeting the acceptance limits for discharge waste quality set down in Council's approval conditions and/or liquid trade waste agreement. The document sets out how a discharger will meet the acceptance limits for the discharge of liquid trade waste to the sewerage system within a given timeframe.

Galley Waste: In these Guidelines, a liquid waste from a kitchen or a food preparation area of a vessel; solid wastes are excluded.

Heavy Metals: Metals of high atomic weight which in high concentrations can exert a toxic effect and may accumulate in the environment and the food chain. Examples include mercury, chromium, cadmium, arsenic, nickel, lead and zinc.

Housekeeping: is a general term, which covers all waste minimisation activities connected with the way in which operations within the premises are carried out.

Industrial Discharges: Industrial liquid trade waste is defined as liquid waste generated by industrial or manufacturing processes. Examples are provided in Table 14.

ISO 14001: An international Standard which specifies a management system to control the environmental issues surrounding a business. The system requires the organisation to produce a series of environmental objectives and targets, and a management program for achieving these.

KAM-LOK: A coupling system designed for quick interlocking and release of hose fittings.

Large Fast Food Outlet: A food business that typically discharges more than 5 kL/d. Premises of this nature include KFC, McDonalds, Red Rooster, Pizza Hut, Hungry Jack's and Burger King.

Local Approvals Policy (LAP): A local approvals policy (LAP) for liquid trade waste is a document that sets out a council's policy for the approval of trade waste discharges to its sewerage system. The Local Government Act (Part 3 of Chapter 7) sets out the requirements for the preparation of a local approvals policy.

Local Government Regulation: *Local Government (General) Regulation 2005* under the *Local Government Act 1993*.

Liquid Trade Waste: Liquid trade waste means all liquid waste other than sewage of a domestic nature.

Local Water Utility: Reference is made to 'council' when referring to legislation for all other instances the term 'local water utility' is used.

Mandatory Concurrence: For the liquid waste in Classification C, Councils will need to obtain concurrence from DWE on each occasion.

Material Safety Data Sheets (MSDS): A document which provides information and profile of a particular compound or a mixture. It usually contains the following information: physical and chemical properties, health hazard information and advice on first aid, and safe handling and disposal procedures.

Methylene Blue Active Substances (MBAS): These are anionic surfactants (see Surfactants definition) and are called MBAS as their presence and concentration is detected by measuring the colour change in a standard solution of methylene blue dye.

Minimal Pre-treatment: For the purpose of these Guidelines includes sink strainers, dry basket arrestors, plaster arrestors and fixed or removable screens.

Mixed Business: A corner general store typically located in an isolated position from a busy central business area, that in addition to selling a variety of goods also has a hotplate and may cook a minor amount of food.

Nightsoil: Human excreta deposited in a bucket or other receptacle for manual removal.

Non-metropolitan NSW: The areas of the State that are not serviced by the Sydney Water Corporation, the Hunter Water Corporation.

Open Area: Any unroofed process, storage, washing or transport area potentially contaminated with rainwater and substances which may adversely affect the sewerage system or the environment.

Pan: For the purpose of these Guidelines "pan" means any moveable receptacle kept in a closet and used for the reception of human waste.

pH: A measure of acidity or alkalinity of an aqueous solution, expressed as the logarithm of the reciprocal of the hydrogen ion (H^+) activity in moles per litre at a given temperature; pH 7 is neutral, below 7 is acidic and above 7 is alkaline.

Premises: Has the same meaning as defined in the Local Government Act Dictionary and includes any of the following:

- (a) a building of any description or any part of it and the appurtenances to it
- (b) land, whether built on or not
- (c) a shed or other structure
- (d) a tent
- (e) a swimming pool
- (f) a ship or vessel of any description (including a houseboat)
- (g) a van.

Prescribed Pre-treatment Equipment: For the purpose of these Guidelines is defined as standard non-complex equipment used for pre-treatment of liquid trade waste, eg. a grease arrestor, an oil arrestor/separator, solids arrestor, cooling pit (refer to Table 7 on page 49).

Primary Measurement Device: A device such as a gauging pit, weir tank or flume installed in the liquid trade waste discharge line suitable for installation of instrumentation for flow measurement. In cases of commercial flows this can mean a removable section of pipe (in the fresh water supply to the trade waste area) and the installation of a check meter.

Quick Break Detergent: Detergents which are used for cleaning by emulsifying oil into microscopic droplets, with the oil finally breaking away and rising to the surface of the water. The criterion for quick break detergents is that the emulsion should break completely and wastewater should separate into oily and aqueous layer within 20 to 30 minutes.

Scum: Material that collects at the top of primary wastewater treatment tanks, including oils, grease, soaps and plastics.

Septage: Material pumped out from a septic tank during desludging; contains partly decomposed scum, sludge and liquid.

Septic Tank: Wastewater treatment device that provides a preliminary form of treatment for wastewater, comprising sedimentation of settleable solids, flotation of oils and fats, and anaerobic digestion of sludge.

Septic Tank Effluent: The liquid discharged from a septic tank after treatment.

Sewage Management Facility: A human waste storage facility or a waste treatment device intended to process sewage and includes a drain connected to such a facility or device.

Sewage of a Domestic Nature: Human faecal matter and urine and waste water associated with ordinary kitchen, laundry and ablution activities of a household, but does not include waste in or from a sewage management facility.

Sewerage System: The network of sewage collection, transportation, treatment and by-products (effluent and biosolids) management facilities.

Ship-to-Shore Pump-out: Liquid waste from a vessel that may be considered for disposal to the sewerage system. This includes on-board toilet wastes, galley wastes and dry dock cleaning waste from maintenance activities.

Sludge: The solids that are removed from wastewater by treatment.

Sludge Lagoon: A basin in the earth for receiving and stabilisation of sludge from a sewage treatment works.

Stand-alone Garage: A business that typically does mechanical repairs and servicing of passenger motor vehicles (with the exclusion of radiator repairs done on site), is in isolation from any other business, and has no other sources of liquid trade wastes being generated from the premises. The term would not apply to a business that forms part of a complex, such as a manufacturing industry, fleet management operation, trucking operation, auction facility or bus depot. It may also apply to a service station with a garage (mechanical workshop) that does not have a covered forecourt area for sewer discharge and/or automatic vehicle washing facilities.

Stand-alone Workshop: A premises whose sole business entails maintenance repairs to mechanical machinery (with the exclusion of radiator repairs done on site), such as motorbikes, lawnmowers or boats, and is in isolation from any other business and has no other sources of liquid trade waste being generated from the premises. The term would not apply to a business that forms part of a complex, such as a manufacturing industry, fleet management operation, trucking operation, auction facility or bus depot. It may also apply to a service station with a garage (mechanical workshop) that does not have a covered forecourt area for sewer discharge and/or automatic vehicle washing facilities.

Stormwater Run-off: Run-off resulting from rainfall.

Sullage: Domestic wastewater excluding toilet waste.

Surfactants: The key active ingredient of detergents, soaps, emulsifiers, wetting agents and penetrants. Anionic surfactants react with a chemical called methylene blue to form a blue-chloroform-soluble complex; the intensity of colour is proportional to concentration.

Surge Control Device: A device that is installed in a grease arrestor chamber and may improve the arrestor performance by stabilising hydraulic surges.

Suspended Solids (SS): The insoluble solid matter suspended in wastewater that can be separated by laboratory filtration and is retained on a filter. Previously also referred to as non-filtrable residue (NFR).

Total Dissolved Solids (TDS): Total amount of dissolved material in the water.

Waste Minimisation: Procedures and processes implemented by industry and business to modify, change, alter or substitute work practices and products that will result in a reduction in the volume and/or strength of waste discharged to sewer.

Key Additions to the 2005 Guidelines

These Guidelines extend and update the 2005 Liquid Trade Waste Management Guidelines. This section summarises the key additions and amendments to the 2005 document.

On 1st September 2005 the nine 1999/98 Local Government Regulations were replaced with the *Local Government (General) Regulation 2005* (Regulation). In July 2008, the Water Services Association of Australia (WSAA) published its *National Wastewater Source Management Guideline*, which includes the *National Framework for Wastewater Source Management*.

These Guidelines have been updated to incorporate changes and appropriate references to the 2005 Regulation and the above National Guideline.

Glossary

The Glossary has been amended by including a new definition of **Liquid Trade Waste** and the definitions of **Sewage of a Domestic Nature** and **Sewage Management Facility** in accordance with Clause 3 of the Regulation.

Chapter 1

Section 1.4.2 What is Liquid Trade Waste?

The new definition of *Trade Waste* ensures that **all** liquid wastes discharged to the sewerage system, other than domestic sewage, are classified as trade waste and need to be approved under section 68 of the *Local Government Act, 1993*. Under this definition septic tank and pan waste are now trade waste.

New sections have been provided:

- **1.5 Charging Categories** outlining the four (4) trade waste charging categories;
- **1.7.2 Employee Awareness and Training** providing training requirements for LWU employees;
- **1.7.4 Local Water Utility Responsibility for Liquid Trade Waste** providing the key objectives of wastewater source management;
- **1.8 The NSW Framework for Regulation of Sewerage and Trade Waste** setting out the six (6) measures in this preventive risk management approach, which has been developed to address the use of common pool resources. The framework is driven by the NSW Government's *Best-Practice Management of Water Supply and Sewerage Guidelines, August 2007*;
- **1.9 Alignment with the National Framework for Wastewater Source Management** This section shows how the NSW framework and the requirements of the *Best-Practice Management Guidelines* are consistent with the 12 elements of the *National Framework for Wastewater Source Management*.

Chapter 2

The new definition of trade waste has been incorporated in amendments to Chapter 2.

Section 2.3

This section has been amended by extending the provisions for authorising LWUs to assume concurrence for medium risk trade wastes to also include assumed concurrence for an undersized grease arrestor (Exceptions).

Chapter 3

Section 3.5.3 Guideline limits for liquid trade waste discharge

Guideline limits in Table 3 (page 27) have been amended in line with the recommended Non-domestic Wastewater Acceptance Criteria of the *National Wastewater Source Management Guideline*.

Section 3.5.4 Prohibited substances

Substances that Council's policy must exclude from the discharge to the sewerage system are shown in Table 4 (page 31) in this section and in Table 3 (page 175) of the 2009 Model Policy.

Sections 3.5.5 and 3.7.3

These sections have been expanded by including procedures for approval of trade waste applications by the Crown (pages 34 and 37).

Section 3.11 Enforcement

A new section 3.11.5 Powers to Disconnect a Trade Waste Service has been provided (page 45).

Chapter 4

Table 9 (page 56)

Six (6) new activities have been included: medical centre (no X-ray or Laboratory), mobile carpet cleaning, photographic tray work/manual development, plants retail, drive through car wash and external truck wash. Accordingly LWUs are now authorised to assume concurrence for these activities and do not need to send these applications to DWE for concurrence.

In addition, the conditions of approval for a number of activities listed in this Table have been amended.

Sections 4.4.1, 4.4.18, 4.4.26

Housekeeping requirements associated with animal wash, pet shop and veterinary surgery activities have been expanded (page 66).

Section 4.4.12

Amendments to this section include changes to the Concurrence Classification for some laboratories. The minimum capacity of the balancing pit has been reduced to 600L (page 73).

Section 4.4.13

This section has been amended by clarifying requirements in regard to a cooling pit for a laundry using cold water only.

Section 4.4.15

This section has been amended by clarifying the type of mechanical workshops included in Concurrence Classification A (page 75).

Section 4.4.16

A new activity, mobile carpet cleaning units, has been included (page 78).

Section 4.4.19

A new activity, tray work/manual development, has been included (page 79).

Section 4.4.20

A new section on Plants retail activity has been included (page 80).

Section 4.4.24

Requirements have been included for a new activity – external truck washing (page 83).

Chapter 5**Section 5.1 Table 13**

A new activity, Radiator Repair, has been included and the list of laboratories in Concurrence Classification B has been modified (page 86).

Section 5.1.2

A new section Undersized Grease Arrestors – Requirements for Assumed Concurrence has been provided (page 88).

Chapter 6**Table 14**

Eight new activities have been included (page 92).

Chapter 7

Septic tank and pan waste are now defined as trade waste and this Chapter has been amended accordingly.

A list of waste for which assumed concurrence is available has been provided in section 7.1 (page 97).

Appendix A

This Appendix has been amended by including 6 new activities in the Schedule of Liquid Trade Waste Discharges with Assumed Concurrence (page 116).

Appendix B

This Appendix has been amended by including provisions in the *Local Government (General) Regulation 2005* in regard to acceptance of liquid trade waste to the sewerage system (page 123).

Appendix C

This Appendix has been amended by including new Acceptance Guideline Limits and an application form for Septic Tank, Pan and Ship-to-shore Pump-out waste (page 143)

Appendix D

Amendments to this Appendix are shown on page 155.

Appendix E

This Appendix has been amended by including appropriate clauses and references to the *Local Government (General) Regulation 2005* (page 211).

Additional conditions of approval for premises with an undersized grease arrestor have been provided (Conditions 115 to 119 on page 227).

Appendix F

Section 3.2

Additional information has been provided in regard to the requirements for bunding (page 240).

Section 4 Table 1

Additional requirements have been included in regard to Barbequing process, Animal wash and Veterinary activities. The minimum capacity of a balancing pit for laboratories has been changed to 600L (page 245).

Section 10 Waste Tracking System

Additional information has been provided in regard to waste tracking systems (page 275).

Appendix G

Table 1

Trade Waste Discharge Factors for 6 activities have been amended (page 306).

Appendix H

This Appendix has been amended by including additional requirements for a due diligence program and the contingency plan (page 317).

Appendix I

2005 Model Policy for Acceptance of Septic tank and Pan Waste to the Sewerage System has been deleted, with the relevant provisions included in Appendix D.

A new Appendix I Liquid Trade Waste Fees and Charges has been provided.

Index

A comprehensive index has been provided (page 327).

1. Introduction

1.1 Purpose of the Guidelines

Sound regulation of sewerage and liquid trade waste is a key component of the NSW Government's *Best-Practice Management of Water Supply and Sewerage Guidelines, 2007*. All NSW Local Water Utilities (LWUs) are expected to comply with the requirements of the *Best-Practice Management Guidelines* by June 2009.

These *Liquid Trade Waste Regulation Guidelines* have been prepared to enable LWUs to carry out best-practice regulation of sewerage and liquid trade waste in non-metropolitan NSW.

The NSW framework for regulation of sewerage and trade waste is provided in section 1.8 on page 9 and in the comprehensive Model Trade Waste Policy provided in Appendix D (page 176). As shown in section 1.9 on page 11, the NSW framework is consistent with the *National Framework for Wastewater Source Management* set out in the *National Wastewater Source Management Guideline, July 2008*, Water Services Association of Australia (WSAA).

These *Trade Waste Regulation Guidelines* also simplify LWU approval of trade waste dischargers by:

- authorising **LWUs to assume concurrence for low risk liquid trade waste dischargers** to the sewerage system (refer Appendix A). The Guidelines nominate the pre-treatment equipment and conditions of approval to be applied for these activities
- encouraging LWUs with significant experience in trade waste regulation to apply for authorisation to **assume concurrence for medium risk liquid trade waste discharges** to the sewerage system
- simplifying the approval process for liquid trade waste applications by the Crown.

These Guidelines also update and extend the following documents:

- *Liquid Trade Waste Management Guidelines, 2005*, including the *2005 Model Policy for Discharge of Liquid Trade Waste to the Sewerage System*
- *Concurrence Guideline for Liquid Trade Waste Discharges to the Sewerage System, 2002*
- *2006 Model Policy for Discharge of Liquid Trade Waste to the Sewerage System*.

The benefits of best-practice sewerage and trade waste regulation are:

- **improved sewerage system performance** - ie. reduced frequency of sewage odour complaints, reduced frequency of sewer chokes; **and protection** of sewerage infrastructure, worker health and safety, and the environment
- **meet LWU's due diligence obligations and achieve improved environmental outcomes** - ie. improved compliance with LWU's sewage treatment works licences, more options for water recycling and biosolids reuse
- **full cost recovery** - ie. commercial pricing of sewerage and liquid trade waste and removal of cross-subsidies

- **reduced annual sewerage bills** as the improved sewerage system performance will 'free up' system capacity. This will enable the LWU to serve population growth and new commercial development without needing to augment the existing sewerage infrastructure
- a faster and simpler approval process, together with recognition by industry of the economic **benefits to them of adopting cleaner production methodologies** and consistently complying with their conditions of approval
- **Compliance with the Best-Practice Management Guidelines**, which also ensures compliance with the *National Framework for Wastewater Source Management*.

1.2 What are in these Guidelines

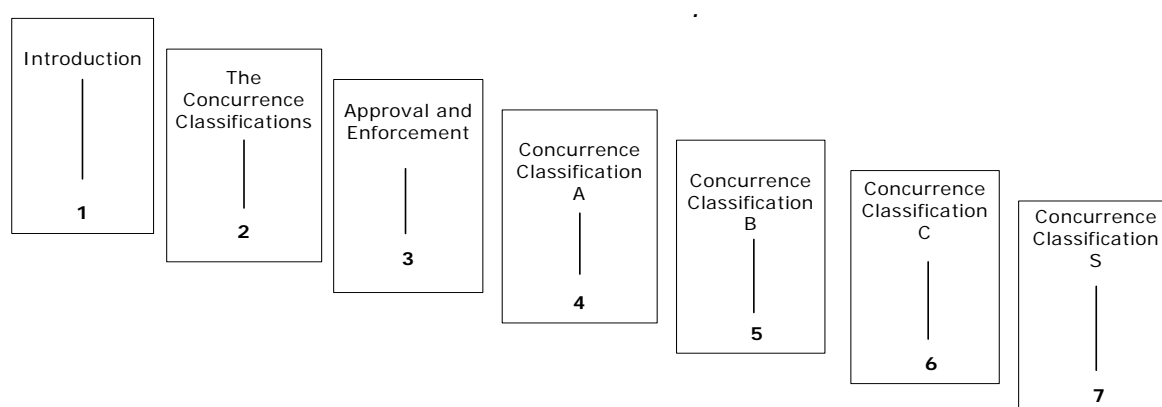


Figure 1: What are in these Guidelines?

These Guidelines involve seven chapters on trade waste regulation as follows (Figure 1):

- **Chapter 1 – Introduction** - explains the purpose and contents of the Guidelines, and the basic concepts of concurrence for liquid trade waste discharged to the sewerage system. It also describes the legislative framework for the approval of applications for liquid trade waste discharges and the NSW framework for regulation of sewerage and trade waste. The chapter also shows that the NSW framework is consistent with the *National Framework for Wastewater Source Management, July 2008*
- **Chapter 2 – The Concurrence Classifications** - Outlines the four (4) classifications for the approval of liquid trade waste dischargers
- **Chapter 3- Approval and Enforcement** - describes the five (5) steps LWUs will usually need to follow when approving dischargers of liquid trade waste to their sewerage system. Also addresses how LWUs can develop an approvals policy for liquid trade waste including levying of appropriate sewerage and liquid trade waste fees and charges
- **Chapter 4 – Concurrence Classification A** - involves concurrence for 'low risk' liquid trade waste. LWUs have been authorised to assume concurrence for these dischargers. Sets out the factors to consider in approving the discharge of these wastes, conditions of approval, and minimum pre-treatment requirements

- **Chapter 5 – Concurrence Classification B** - involves concurrence for 'medium risk' liquid trade waste. Sets out the factors to consider in approving these dischargers and encourages LWUs with significant experience in trade waste regulation to apply for authorisation to assume concurrence for medium risk dischargers to the sewerage system
- **Chapter 6 – Concurrence Classification C** - involves concurrence for 'high-risk' liquid trade waste. Sets out the information to be provided to DWE to support the application, and sets out the factors to be taken into consideration in approving these dischargers, as well as drafting conditions of approval
- **Chapter 7 – Concurrence Classification S** - involves concurrence for acceptance of septic tank and pan waste. Provides guidance on the management of septic tank waste, chemical toilet waste and ship-to-shore pump-outs. Also, sets out the information to be provided to support the application, and sets out the factors to consider in approving acceptance of the wastes, as well as drafting conditions of approval. As for Classification B, LWUs with significant experience in trade waste regulation are encouraged to apply for authorisation to assume concurrence for Classification S dischargers.

In addition, 9 appendices address specific areas of trade waste regulation, including Appendix D, which provides a comprehensive *Model Policy for Liquid Trade Waste Regulation*. Appendix D is suitable for adaption and adoption by each LWU. Each LWU's adopted trade waste policy documents its approval, monitoring and enforcement processes for liquid trade waste discharged to its sewerage system and the levying of commercial sewerage and liquid trade waste fees and charges. Each LWU's policy will ensure the proper control of liquid trade waste discharges to the sewerage system and hence protect public health, worker safety, the environment, and the LWU's sewerage system. The policy also promotes waste minimisation, water conservation, water recycling and biosolids reuse.

1.3 Who are these Guidelines for?

These Guidelines have been prepared for use by LWU staff who manage the approval, monitoring and cost recovery for sewerage and liquid trade waste discharges and the acceptance of septic tank and pan wastes to the sewerage system.

Staff who manage the approval of development applications will also find the Guidelines useful, particularly for developments that include a change of business and a proposal to discharge liquid trade waste to the sewerage system.

1.4 What is liquid trade waste?

Liquid trade waste is defined in the *Local Government (General) Regulation 2005* as:

Liquid trade waste means all liquid waste other than sewage of a domestic nature

An incorrect, though commonly held view is that only industrial premises produce liquid trade waste. In fact, ***liquid trade waste includes liquid waste from:***

- industrial premises
- business/commercial premises (eg. beautician, florist, hairdresser, hotel, motel, restaurant, butcher, service station, supermarket, dentist)
- community/public premises (including craft club, school, college, university, hospital and nursing home)
- trade activities (eg. mobile carpet cleaner)
- any commercial activities carried out at a residential premises
- saleyards, racecourses and stables and kennels that are not associated with domestic households
- septic tank waste, waste from marine pump-out facilities and established sites for the discharge of pan content from mobile homes/caravans to the sewerage system.

Liquid trade waste excludes:

- toilet, hand wash basin*, shower and bath wastes derived from all the premises and activities mentioned above
- wastewater from residential toilets, kitchens, bathrooms or laundries (ie. domestic sewage)
- common use (non-commercial) kitchen and laundry facilities in caravan parks
- residential pool backwash.

These Guidelines do not address the management and discharge of liquid waste to destinations other than the sewerage system, eg. to waterways or onto land.

Note: Liquid trade waste has commonly been referred to as 'trade waste', 'industrial wastewater', 'industrial effluent' or 'trade effluent' or more recently 'trade wastewater'. The term 'liquid trade waste' is used throughout these Guidelines.

* Used for personal hygiene only

1.5 Charging categories

As set out on page 183 of Appendix D, there are 4 trade waste charging categories:

- Category 1 – dischargers requiring minimal pre-treatment, or prescribed pre-treatment with low impact on the sewerage system
- Category 2 – dischargers with prescribed pre-treatment¹
- Category 2S – septic tank, pan and ship-to-shore waste
- Category 3 – large (>20kL/d) and industrial dischargers.

Appendix D provides an outline of each charging category.

1.6 Concurrence classifications

Four (4) classifications of liquid trade waste have been established for approval purposes: Concurrence Classifications A, B, C and S. These classifications are based on the level of risk, ie. low risk, medium risk and high risk liquid trade waste (A, B and C respectively) and septic tank and pan waste.

Concurrence Classification A liquid trade waste has ‘**automatic assumed concurrence**’. This means that for waste in this classification the LWU has been authorised to assume concurrence.

Concurrence Classification B liquid trade waste has ‘**assumed concurrence available**’. For waste in this classification, the **LWU may apply** to the Department for authorisation to **assume concurrence**. The Department will grant assumed concurrence in response to such applications if the LWU satisfies the requirements in section 5.1.1 on page 87.

Concurrence Classification C liquid trade waste requires ‘**mandatory concurrence**’, meaning that for waste in this classification the LWU will need to obtain concurrence from DWE for each application.

Concurrence Classification S for acceptance of **septic tank and pan waste**. For waste in this classification the **LWU may apply** to the Department for authorisation to **assume concurrence**. The Department will grant assumed concurrence in response to such applications if the LWU satisfies the requirements on page 97 of section 7.1. DWE concurrence is required for each application where the waste is not nominated in the Notice of Assumed Concurrence or the LWU has not been granted such notice.

Chapter 2 provides an outline of each classification.

¹ Excludes low impact activities in Category 1.

1.7 The legislative framework

1.7.1 Background

Pollution and damage to the environment resulting from poor liquid trade waste management practices are not products of recent times. On many occasions, particularly before the 1960s, such matters were often left to resolution by common law actions in the courts, or civil remedies for negligence or public and private nuisance. These civil remedies provided some measure of protection to individuals, but did little for the protection of the environment. Refer also to section 1.8 on page 9.

Since the 1960s, successive governments have created through Parliament a legislative scheme aimed at greater protection of the environment, health and safety by the introduction of a number of statutes. Those of particular relevance are:

- *Environmental Planning and Assessment Act 1979*
- *Protection of the Environment Operations Act 1997*
- *Local Government Act 1993*
- *Occupational Health and Safety Act 2000*
- *Public Health Act 1991*
- *Environmentally Hazardous Chemicals Act 1985*
- *Radiation Control Act 1990*
- *Water Management Act 2000.*

The various statutes have provided LWUs with a range of tools for better regulation and pricing of liquid trade waste, including planning controls, approvals, levying of appropriate sewerage and trade waste fees and charges, trade waste services agreements, notices, orders, enforcement and prosecution controls.

1.7.2 Employee awareness and training

In order to successfully regulate its sewerage and trade waste services in accordance with the NSW Framework in section 1.8 on page 9, each LWU should ensure its employees maintain appropriate experience and qualifications. In addition, the LWU should provide appropriate training² to ensure its employees have the necessary skills and motivation. Employees should also be encouraged to participate in decision making in their areas of responsibility.

² Suitable training may include:

- NSW Trade Waste Regulation Course
- NSW Wastewater Operator Training Course and Update Seminar
- Occupational Health and Safety (OH&S)
- Confined Spaces
- Understanding your LWU's trade waste regulation policy and procedures and sewerage and trade waste fees and charges.

Training may also include in-house training, on-the-job experience, mentor programs, seminars and conferences. Records of all employees who have participated in training should be maintained by the LWU.

1.7.3 Legislation underlying approvals and concurrence

LWUs are responsible for approving liquid trade waste dischargers to their sewerage system through section 68 of the Local Government Act. However, section 90 (1) of the Local Government Act and clause 28 of the *Local Government (General) Regulation 2005* (Regulation) require LWUs to obtain concurrence from DWE, which is a focus of these Guidelines. This Regulation came into force in September 2005.

Appendix B on page 121 lists the key sections in the Local Government Act and the clauses in the Regulation relevant for the approval, pricing, monitoring and enforcement of liquid trade waste discharges to the sewerage system.

1.7.4 Local water utility responsibility for liquid trade waste

Sewerage systems are designed to safely collect, transfer and treat wastewater³, which is mostly of domestic origin. However, these systems may also be capable of accepting liquid **trade waste** provided that the discharges are **planned, known and controlled within acceptable limits**. Some liquid trade wastes may be difficult to treat separately, so joint treatment with domestic sewage may offer an improved service to the community.

In the absence of suitable controls and pricing, the liquid trade waste will have adverse impacts on the sewerage system, environment, workers and public health and safety as noted in section 1.8.

It is therefore important for LWUs to implement best-practice in administering, regulating, monitoring and pricing of sewerage and liquid trade waste. This will ensure the trade waste does not:

- adversely impact on the sewage treatment works processes
- compromise worker health and safety
- cause damage to LWU's infrastructure and assets
- significantly increase maintenance cost of LWU's infrastructure
- result in sewer chokes and blockages
- cause significant sewage odour complaints
- adversely affect the environment
- cause harm to public health and safety
- compromise opportunities for water recycling and biosolids reuse.

³ The 5 key wastewater source management objectives are set out in page 13 of the *National Wastewater Source Management Guideline*, WSAA July 2008:

- Objective 1 - Safety of People
- Objective 2 - Protection of Assets
- Objective 3 - Protection of Treatment Processes
- Objective 4 - Facilitation of Regulatory and Licence Compliance
- Objective 5 - Facilitation of Recycling.

1.7.5 Determination of acceptance of a discharge

The LWU's decision to accept liquid trade waste to its sewerage system is on the basis of a preventative risk management framework for managing risks to the sewerage system within an integrated water cycle management context (refer to page 169 of Appendix D). In determining the acceptance of liquid trade waste to the sewerage system, the LWU needs to consider:

- the capability of its sewerage system to accept the discharge (this includes the collection and transportation systems, sewage treatment processes, and effluent and biosolids management practices)
- commercial sewerage developer charges for the sewerage and liquid trade waste discharges from the development
- its implementation of best-practice annual sewerage and liquid trade waste fees and charges
- protection of public health and the health and safety of employees
- compliance with statutory requirements
- the potential for growth of the community.

Where the LWU does not accept a liquid trade waste to its sewerage system, opportunities may be available for it to assist the waste discharger to develop alternative options, such as on-site effluent management or joint treatment with other waste facility operators.

1.8 The NSW framework for regulation of sewerage and trade waste

Starting with annual performance monitoring in NSW since 1986, the Department of Water and Energy (DWE) has been working closely with LWUs and the Local Government and Shires Associations in developing policies, guidelines, worked examples and software, and has provided feedback and a helpdesk for LWUs in regard to the sound planning, management, operation and maintenance of water supply and sewerage in non-metropolitan NSW. These initiatives were formalised with the release of the NSW Government's comprehensive *Best-Practice Management of Water Supply and Sewerage Guidelines* in May 2004⁴.

Due to the "*Tragedy of the Commons*"⁵ in the use of common pool resources, sound regulation of sewerage and trade waste requires implementation of **all** the following integrated measures by each LWU.

1. Preparation and implementation of a sound trade waste regulation policy (Appendix D), assessment of each trade waste application and determination of appropriate conditions of approval (Chapter 3). The conditions must be consistent with the LWU's *Integrated Water Cycle Management Strategy* and demand management plan. In addition, execution of a liquid trade waste services agreement is required for large dischargers to assure compliance (page 42 of Chapter 3).
2. Preparation and implementation of a sound *Development Servicing Plan*⁶, with commercial sewerage developer charges to ensure new development pays a fair share of the cost of the required infrastructure.

⁴ The *Best-Practice Management Guidelines* were updated in August 2007. As shown on page 13 of the *2007/08 NSW Water Supply and Sewerage Performance Monitoring Report* (available at www.dwe.nsw.gov.au), the NSW utilities (LWUs) have achieved the following levels of compliance with the *Best-Practice Management Guidelines*:

- Overall the LWUs have now met 80% of the requirements of the *Best-Practice Management Guidelines*;
- 86% of LWUs have a sound 30-year strategic business plan and financial plan; these plans cover 96% of the connected properties in non-metropolitan NSW;
- 71% of LWUs have commenced an Integrated Water Cycle Management Strategy;
- 90% of LWUs have appropriate pricing and full cost recovery for sewerage;
- 67% of LWUs have complying non-residential sewerage charges;
- 68% of LWUs have an appropriate sewerage Development Servicing Plan (DSP) with commercial developer charges;
- 62% of LWUs have complying liquid trade waste fees and charges;
- 68% of LWUs have completed an appropriate liquid trade waste policy and have issued an appropriate approval to all of their liquid trade waste dischargers; and
- 74% of LWUs are carrying out water recycling.

⁵ Refer to page 3 of *National Wastewater Source Management Guideline, July 2008*, WSAA. Thus, in the absence of appropriate controls and measures (such as conditions of approval, a sewer usage charge, a trade waste usage charge, a non-compliance trade waste usage charge, excess mass charges, non-compliance excess mass charges and penalty notices), it would be in the economic interest of each trade waste discharger to minimize their efforts and expenditure on control and pre-treatment of their trade waste before discharging it to the sewerage system. In the past, failure to implement these measures has caused multi-million dollar damage to sewerage networks, pumping stations and treatment works (refer to the examples shown on pages 30, 47 and 48).

⁶ In accordance with the *NSW Developer Charges Guidelines for Water Supply, Sewerage and Stormwater, 2002*.

3. Full cost recovery with appropriate sewer usage charges⁷ and trade waste fees and charges⁸ in order to provide the necessary pricing signals to dischargers. These charges must include non-compliance trade waste usage charges and non-compliance excess mass charges in order to provide the necessary incentives for dischargers to consistently comply with their conditions of approval.
4. Monitoring, mentoring and coaching of dischargers in order to achieve cleaner production and assist them to comply with their conditions of approval (page 193 of Appendix D).
5. Enforcement, including appropriate use of penalty notices under section 222 of the *Protection of the Environment Operations Act 1997*. Orders may also be issued and penalties imposed for offences under sections 626, 627 and 628 of the *Local Government Act 1993* (page 43 of Chapter 3).
6. Disconnection of a trade waste service in the event of persistent failure to comply with the LWU's conditions of approval (page 45 of Chapter 3).

Together, the above six measures comprise the NSW framework for regulation of sewerage and trade waste⁹. The framework involves a preventive risk management approach, which has been developed to address the use of common pool resources by providing economic incentives for dischargers to minimise their waste and to consistently comply with their conditions of approval.

⁷ In accordance with page 29 of the *NSW Water Supply, Sewerage and Trade Waste Pricing Guidelines, 2002*.

⁸ In accordance with Appendices D and I.

⁹ In order to comply with the *Best-Practice Management of Water Supply and Sewerage Guidelines, 2007*, the LWU's *Liquid Trade Waste Regulation Policy* must be based on the *2005 Model Trade Waste Policy* or any later model policy consented to by DWE and the *Local Government (General) Regulation 2005*. However, in order to align with the *National Framework for Wastewater Source Management*, all LWUs are required to adopt a policy based on the *2009 Model Policy* in Appendix D by June 2011.

1.9 Alignment with the national framework for wastewater source management

The NSW framework for regulation of sewerage and trade waste is set out in section 1.8. The NSW framework is driven by the NSW Government's *Best-Practice Management of Water Supply and Sewerage Guidelines, 2007* and is consistent with that in the *National Framework for Wastewater Source Management* ¹⁰.

In particular, under the *Best-Practice Management Guidelines* each LWU is required to achieve the following outcomes:

- Prepare and implement a 30-year *Integrated Water Cycle Management Strategy*, demand management plan, pay-for-use water supply pricing and community and customer involvement (Elements 1, 6, 8)
- Annual performance monitoring, including an annual triple bottom line (TBL) Performance Report and Action Plan which identifies and addresses any areas of under-performance (Elements 5, 6, 9, 10, 11, 12)
- Achieve full cost recovery for water supply, sewerage and trade waste services and apply an appropriate non-residential sewer usage charge (Elements 3, 8)
- Prepare and implement a sound trade waste regulation policy and issue an appropriate approval to each trade waste discharger, including waste minimisation and cleaner production. (Elements 1, 2, 3, 4, 7, 8)
- Appropriate trade waste fees and charges (including incentives to comply with LWU's approval conditions through non-compliance trade waste usage charges and non-compliance excess mass charges) (Elements 3, 8)
- Trade waste services agreement for large dischargers to assure compliance (Elements 3, 8)

¹⁰ The following 12 elements of the *National Framework for Wastewater Source Management* are set out on page 22 of the *National Wastewater Source Management Guideline, July 2008*, WSAA:

COMMITMENT

1. Commitment to Wastewater Source Management

SYSTEM ANALYSIS and MANAGEMENT

2. Assessment of the Wastewater System
3. Preventive Measures for Wastewater Input Quality Management
4. Operational Procedures and Process Control
5. Verification of Wastewater Inputs Quality
6. Management of Incidents/Complaints and Emergencies

SUPPORTING REQUIREMENTS

7. Employee Awareness and Training
8. Customer and stakeholder involvement and awareness
9. System Validation and Research and Development
10. Documentation and Reporting

REVIEW

11. Evaluation and Audit
12. Review and Continual Improvement

- Appropriate training of LWU staff and monitoring, mentoring and coaching of trade waste dischargers (Elements 1, 4, 5, 7, 8)
- Enforcement, including appropriate use of penalty notices or orders (Elements 3, 8)
- Disconnection of a trade waste service in the event of persistent failure to comply with the LWU's conditions of approval (Element 8).

2. The Concurrence Classifications

2.1 The Concurrence Classifications

These Guidelines establish a process for the approval and management of liquid trade waste dischargers to the sewerage system. Classifications A, B, C and S have been established:

- **Concurrence Classification A – Automatic Assumed Concurrence**
(refer to section 2.2 below and Chapter 4);
- **Concurrence Classification B – Assumed Concurrence Available**
(refer to section 2.3 on page 16 and Chapter 5);
- **Concurrence Classification C – Concurrence Mandatory**
(refer to section 2.4 on page 16 and Chapter 6); and
- **Concurrence Classification S - Concurrence for acceptance of septic tank and pan waste** (refer to section 2.5 on page 17 and Chapter 7).

Where a liquid trade waste discharge includes waste in more than one (1) classification, the highest classification applies. For example, if a business/industry generates three liquid trade waste streams and two of them fall within Concurrence Classification A and one falls within Concurrence Classification B, the application must be considered as Concurrence Classification B.

The *2005 Model Policy for Discharge of Liquid Trade Waste to the Sewerage System* has been updated and extended to address the provisions of the *Local Government (General) Regulation 2005* and the above concurrence classifications. The *Model Policy* is set out in Appendix D and outlined in Chapter 3.

2.2 Concurrence Classification A – automatic assumed concurrence

Concurrence Classification A is for low risk trade waste with standard non-complex pre-treatment requirements. The applications from dischargers in this classification do not need to be provided to DWE for concurrence.

Concurrence Classification A involves low risk liquid trade waste dischargers where:

- the waste discharged is of a low volume and/or low strength
- no pre-treatment is required, or there are prescribed standard non-complex pre-treatment devices available to treat the waste to a satisfactory level
- the waste poses a low risk to the sewerage system, the environment and public or worker health and safety
- standard conditions may be used for the approval
- the trade waste volume is up to 5 kL/d or 1000 kL/a, except in the case of commercial retail food preparation activities, where up to 16 kL/d is allowed.

However, where more than four (4) Concurrence Classification A discharges are being generated from one premises or complex, such as a shopping arcade, small shopping complex, educational facility or hospital, the discharges must be treated as Concurrence Classification B. This requirement does not include activities that the LWU may exempt from obtaining approval (refer to Table 1 on page 167 of Appendix D).

Tables 8 and 9 on pages 51 and 56 list those activities that generate discharges classed as Concurrence Classification A. The Director-General of DWE has authorised all LWUs to assume concurrence for approving applications for the discharge of liquid trade waste Concurrence Classification A to the sewerage systems (Appendix A).

Trade waste applications do not have automatic assumed concurrence and **DWE concurrence is required** (refer to section 2.6 on page 17 and section 3.8 on page 38, **where an applicant proposes:**

- an **alternative type of pre-treatment** to that listed in Chapter 4 of these Guidelines
- **nil pre-treatment** where pre-treatment is required under these Guidelines
- pre-treatment equipment that is **undersized***
- to discharge some **stormwater** from an open or partially roofed area.

It is a condition of the authorisation for automatic assumed concurrence that the LWU must provide DWE with a list of the liquid trade waste dischargers it has approved as Concurrence Classification A. A copy of the annual reporting form is provided on page 119 of Appendix A.

LWUs will be audited by DWE from time to time to ensure that they are complying with the above requirements for approving Concurrence Classification A liquid trade waste dischargers. Figure 2 illustrates the key steps in the auditing process.

The full process for approving Concurrence Classification A dischargers is described in Chapter 4. Note that the activities in Tables 8 and 9 may be expanded or contracted by DWE in response to new developments and LWU experiences. LWUs will be provided with written notification of any amendments

* Assumed Concurrence is available to LWUs for premises with an undersized grease arrestor subject to satisfying requirements of section 5.1.2 on page 88.

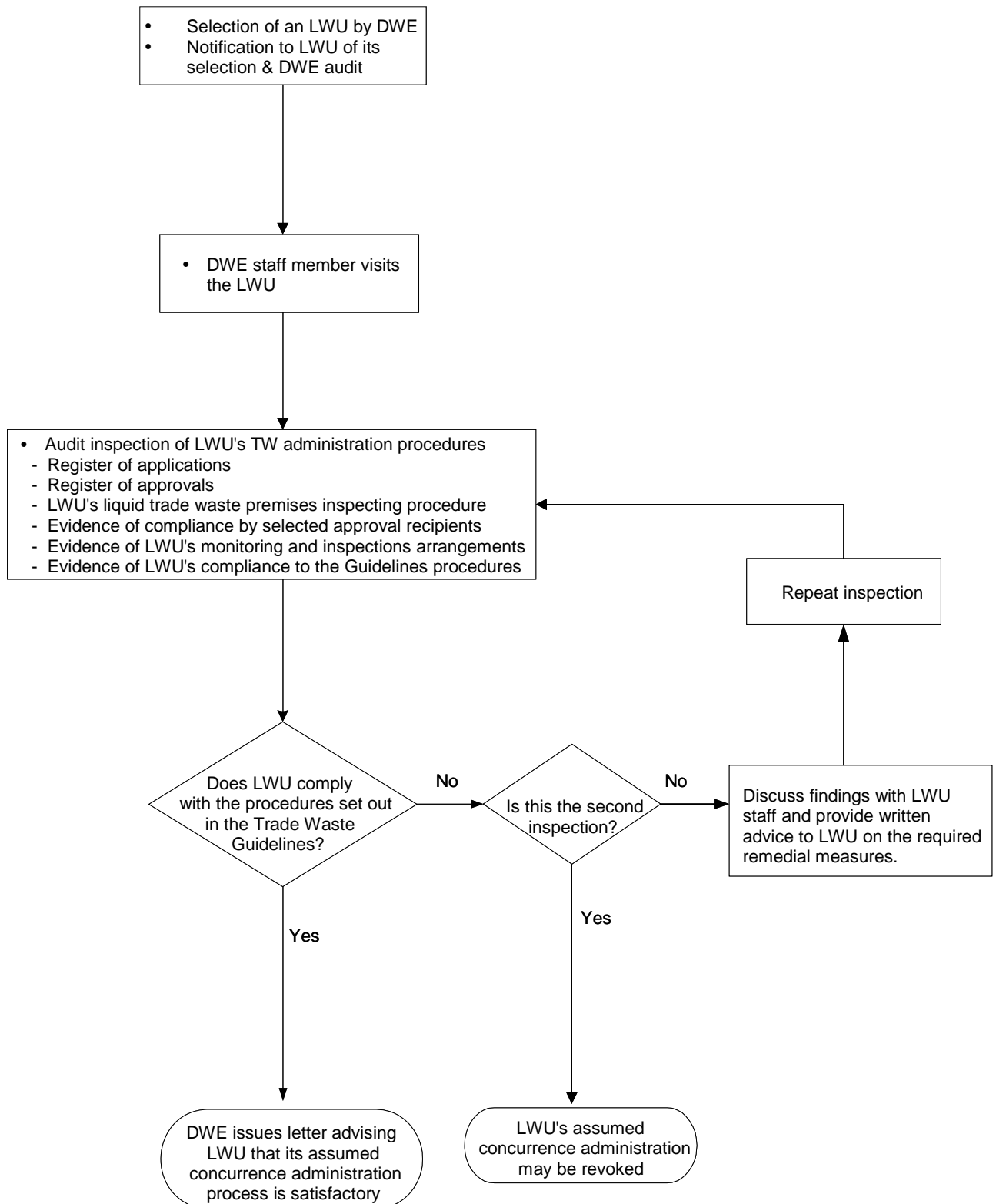


Figure 2: DWE auditing procedure for assumed concurrence

2.3 Concurrence Classification B – assumed concurrence available

Concurrence **Classification B** comprises those liquid trade waste dischargers where **LWUs may apply** to the Director-General, DWE for authorisation **to assume concurrence**. DWE may grant assumed concurrence if the LWU meets the requirements in Chapter 5 (refer to sections 5.1.1 and 5.1.2 on page 87 and page 88).

An LWU officer with significant experience in liquid trade waste regulation can competently manage the approval requirements for activities in this classification. These activities are of medium risk.

Classification B dischargers are defined as:

- all commercial retail activities as listed in **Table 13** on page 86
- any classification A activity (as listed in Tables 8 and 9 on pages 51 to 58) that exceeds the Classification A flow limit of 5 kL/d or 16 kL/d for specified liquid trade waste activities
- any Classification A activity that comprises more than four (4) Concurrence Classification A discharges from a single premises or a complex. This requirement does not include activities shown on the exemption list (Table 1 on page 167 of Appendix D)
- the volume of waste discharged does not exceed 20 kL/d
- meet the guideline limits for acceptance detailed in Table 2 on page 172 of Appendix D or meets the LWU's guideline acceptance limits detailed in its Trade Waste Policy.

LWUs will be audited by DWE from time to time to ensure that they are complying with the requirements for approving Concurrence Classification B liquid trade waste discharges (refer Figure 2).

The full process for approving Concurrence Classification B discharges is set out in Chapter 5.

Assumed Concurrence is also available to LWUs in regard to trade waste dischargers in Classification A or B with an undersized grease arrestor subject to satisfying the requirements of section 5.1.2 on page 88.

2.4 Concurrence Classification C – concurrence mandatory

Concurrence **Classification C** comprises **high risk and large** liquid trade waste **dischargers** where **concurrence must be sought by the LWU** from the Director-General of DWE. These comprise:

- any activity which is in **Classification A, Classification B or Classification S** that exceeds a discharge volume of **20 kL/d**, and
- any activity **not nominated** in the above Classifications.

2.5 Concurrence Classification S – concurrence for acceptance of septic tank and pan waste

Concurrence **Classification S** comprises pan contents, septic tank pump-outs, chemical toilet waste and ship-to-shore pump-outs accepted into the sewerage system. While these are trade wastes, specific procedures need to be applied to their regulation as the waste is often transported or pumped-out from its source. For this reason, these wastes have a separate classification for approval purposes. The waste is now defined as trade waste and the concurrence of the Director-General, DWE is required in accordance with section 90 (1) of the Local Government Act and Clause 28 of the Regulation.

LWUs may apply to the Director-General, DWE for authorisation to **assume concurrence**. DWE may grant assumed concurrence to the LWU for the acceptance of wastes in this classification if the LWU meets the requirements in Chapter 7 (refer section 7.1 on page 97).

DWE Concurrence is required before acceptance of waste in this classification if:

- the LWU has not been granted assumed concurrence for this classification
- the proposed waste is not nominated in the DWE Notice of Assumed Concurrence.

LWUs will be audited by DWE from time to time to ensure they are complying with the requirements for accepting Classification S wastes.

2.6 When is DWE concurrence required?

LWUs must seek DWE concurrence for the following approvals:

- all liquid trade waste dischargers in **Classification C**
- where an activity is listed under **Classification A or B** but the **proposal does not satisfy criteria for the classification** relevant to the proposal. Refer to section 2.2 on page 13, section 4.1 on page 49 for Classification A and to section 5.1 on page 85* for Classification B.
- all approvals in **Classification B** if the LWU has not been authorised to assume concurrence for this classification
- all approvals in **Classification S**, if the LWU has not been authorised to assume concurrence for this classification or the waste is not nominated in the Notice of Assumed Concurrence issued to the LWU (refer to section 2.5).

Figure 3 is to assist LWUs in determining the appropriate concurrence classification and where DWE concurrence is required.

* Not required where the LWU has been authorised to assume concurrence for trade waste dischargers with an undersized grease arrestor, subject to satisfying the requirements of section 5.1.2 on page 88.

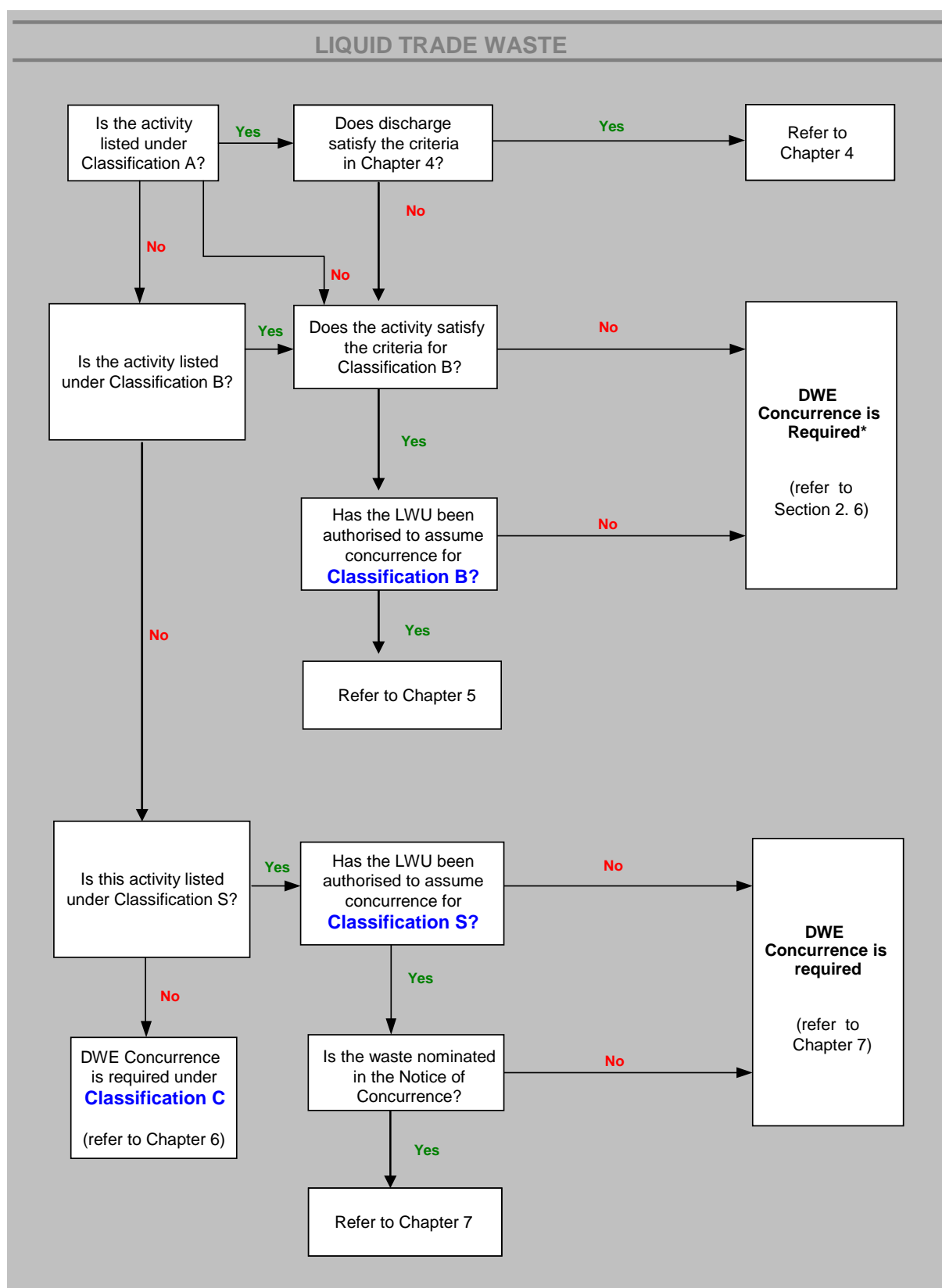


Figure 3: Identification of Concurrence Classification

* Not required where the LWU has been authorised to assume concurrence for trade waste dischargers with an undersized grease arrestor, subject to satisfying the requirements of section 5.1.2 on page 88.

3. Approval and enforcement

This chapter describes the process for approving liquid trade waste discharged to the sewerage system. **Reviewing and approving applications from all liquid trade waste dischargers to the sewerage system is the responsibility of each LWU.** However, unless the LWU has been authorised to assume concurrence for Classification B and S, **DWE concurrence** is required for all Classification B, C and S applications.

Each LWU needs to develop its own **liquid trade waste approval process** and may use this chapter as a guide. This chapter also addresses developing a **liquid trade waste policy** and LWU **enforcement powers**.

3.1 The approval process

LWUs have a number of statutory responsibilities for the approval of liquid trade waste discharged to their sewerage system. A person wishing to discharge liquid trade waste must first obtain LWU approval, as stated in section 68 of the *Local Government Act 1993*. Under the Act, the LWU is ultimately responsible for the acceptance of these discharges. This responsibility, as set out in the Act, includes:

- ensuring that all the required information has been submitted with the application
- identifying any areas where the application does not conform to the LWU's liquid trade waste policy (if such a policy is in place)
- liaising with applicants on any additional information requirements
- determining whether it should approve the application
- where approval is to be granted, drafting the approval (including any conditions of approval), seeking DWE concurrence to the approval where required (section 2.6 on page 17)
- issuing the approval
- where an application is to be refused, preparing a notice of refusal, including any reasons for refusal, and issuing the refusal notice. Such refusals do not need to be provided to DWE*.

The regulatory and administrative responsibilities of LWUs for the approval process are further set out in the *Local Government (General) Regulation 2005* (refer to Appendix B).

The requirement for LWUs to seek concurrence from the DWE Director-General before granting approval is set out in section 90 (1) of the *Local Government Act* and in the relevant regulation.

The *Local Government Act* and *Regulation* underpin the approval process and set out what is to accompany applications, the assessment of applications, and items that may be included as conditions of approval to the discharge.

As part of the approval process, the Act empowers LWUs to issue orders, deal with offences and exercise enforcement. A person who discharges liquid trade waste to the sewerage system without obtaining an approval is guilty of an offence under section 626 of the *Local Government Act*. Enforcement is discussed in section 3.11 on page 43.

* Except for trade waste applications by the Crown (refer to page 34).

3.2 The five steps to approval

The approval process involves five steps:

- Step 1 – Pre-application consultation
- Step 2 – Receiving the application
- Step 3 – Assessing the application
- Step 4 – Seeking concurrence
- Step 5 – Finalising the determination.

The following sections (3.3 to 3.7) describe each of the five steps LWUs may follow in approving liquid trade waste discharges to the sewerage system. Not all of the steps may be required in every case, but many applications will follow this general pattern. Figure 4 illustrates the five steps, together with references to the relevant legislation where appropriate.

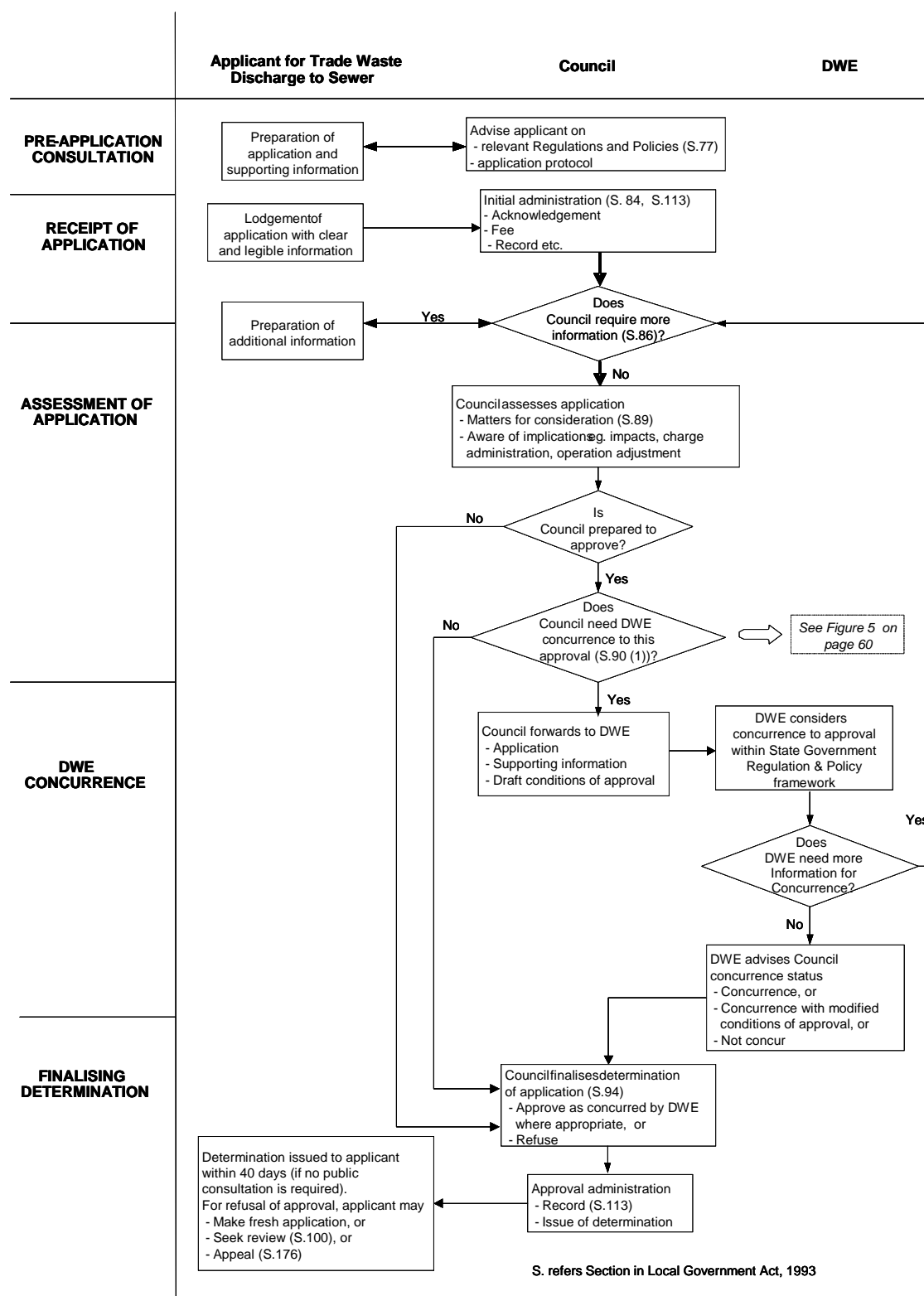


Figure 4: The approval process for liquid trade waste applications

3.3 Step 1: The pre-application consultation

Sometimes approval of a development application (DA) may be required for an activity that generates a liquid trade waste discharge. Applicants tend to seek approval of a DA prior to, and independently of, the approval for the discharge of liquid trade waste to the sewerage system. Many applicants may be unaware that a liquid trade waste approval is required.

LWU staff should, during the pre-lodgement stage of a DA, help the applicant by identifying all the approvals that will be required and the supporting information needed for each application. In particular, they should ask whether the activity will generate liquid waste and how the applicant proposes to manage such an activity.

If liquid trade waste is to be discharged to the sewerage system, LWU staff should:

- tell the applicant they will need liquid trade waste approval
- give the applicant a copy of the application form and indicate whether an application is Classification A⁺
- give details on information needed for the application
- give details on any relevant LWU policies, particularly those relating to liquid trade waste.

On a related matter, LWU approval is required for carrying out sewerage work (ie. on-site plumbing work), as stated in section 68 of the Local Government Act. Activities that discharge liquid trade waste to the sewerage system will usually require an approval to carry out sewerage work, in addition to a liquid trade waste approval. For example, a pipe conveying the discharges, and any pre-treatment equipment, will need to be connected to the sewerage system. The connections to the sewerage system are on-site plumbing work. It is noted that pre-treatment devices used to treat liquid trade waste are not plumbing and drainage products.

Section 68 also requires a person to seek LWU approval for carrying out stormwater drainage work (ie. on-site drainage work). Such works may be required on premises that generate liquid trade waste.

There is great benefit in LWU staff working with applicants before either a DA or liquid trade waste application is lodged. Even in those situations where a DA is not required, but a liquid trade waste approval is, LWU staff should advise applicants of any other necessary approvals, policies and information to be submitted.

3.4 Step 2: Receiving the application

Applications to discharge liquid trade waste to the sewerage system must be lodged with the LWU, using a dedicated application form. An example of a combined application form for Concurrence Classifications A, B, C and S is provided on page 126 of Appendix C (refer section 4.2.1 on page 59 for an explanation of this form).

⁺ As noted on page 126, Classification A applications require completion of only pages 1, 2 and 10 of the application form.

3.4.1 Who can make the application?

Section 78 of the Local Government Act states that an application may be made by the person seeking to carry out the activity or the owner of the land or a person who has the consent of the owner.

In most cases, the tenant (person or business) makes the application but is required through section 78 of the Local Government Act to have the written permission of the owner¹¹ of the land.

It is possible for the owner to make the application and pass on all requirements and conditions of approval to the tenant through the lease arrangement or “effective transmission of approval”.

If the Crown is the owner of the land on which the premises stands, the application may be made by, or with the consent of, a Minister or a person authorised for that purpose by a Minister.

3.4.2 Validity of existing approval if the owner or occupier changes

There are a number of scenarios to consider in relation to administrative processes to follow with regard to change of property ownership and/or occupancy.

New approval is required where there is a change of:

- approval holder (either owner or occupier)
- activity
- approval conditions.

New approval is **not** required where there is a change of:

- owner, if occupier is the approval holder. New owner’s consent is required to continue the activity (ie. for the existing approval).
(The occupier should notify the LWU in advance of change of ownership to allow updating of records).
- occupier, if owner is the approval holder and activity is unchanged.
(The owner should notify the LWU in advance of change of occupier to allow updating of records).

Note: In all cases, the approval must be renewed before its expiry date.

3.4.3 Information requirements for liquid trade waste applications

In accordance with clause 25 of the Regulation, applications must include information as shown in Table 1 on page 25. Applications must include information, such as plans and specifications of the means of discharge, any associated pre-treatment equipment, and details relating to the quality and quantity of the liquid trade waste.

It is in an applicant’s interest to clearly present any information relating to the liquid trade waste discharge. Any other relevant information submitted as part of other approval applications (eg. environmental studies, plumbing and drainage diagrams) should also be included.

¹¹ Note that the owner of the property will be billed for water supply, sewerage and liquid trade waste services provided and it is the owner’s responsibility to pay such fees and charges within the period specified. The owner may arrange to recover such fees and charges through the lease arrangement between the owner and the occupier.

Where development consent and a liquid trade waste approval are both required (and Council is the approval authority for both), an applicant may apply for both approvals in the DA. Applicants should be advised to consult with the council before doing this. The ability to apply for both approvals in the one development application is provided for under section 78A(3) of the *Environmental Planning and Assessment Act 1979*.

3.5 Step 3: Assessing the application

3.5.1 Factors to consider

The LWU is responsible for deciding whether or not to approve a liquid trade waste application. It must take a number of matters into consideration when assessing an application for any type of approval, as set out in section 89 of the Local Government Act. There are also other matters specific to liquid trade waste discharged to the sewerage system to take into account, as listed in Table 2 on page 26.

3.5.2 Material Safety Data Sheets

An important step in the assessment process is confirmation of the quality of the proposed liquid waste. This can be confirmed by sampling analysis and the applicant supplying Material Safety Data Sheets (MSDS) to the LWU for assessment of products that can be found in waste proposed for discharge.

The National Occupational Health and Safety Commission (NOHSC Worksafe Australia) has developed standards for the format and layout of MSDS published in the *National Code of Practice for the Preparation of Material Safety Data Sheets* (NOHSC April 2003).

It is important that MSDS meet the requirements of the *Code of Practice for the Preparation of Material Safety Data Sheets* (WorkCover NSW, 2006). Other types of formats may give incorrect or insufficient information.

All sections of the MSDS should be completed. If information on particular areas is not available or not applicable this should be noted.

While assessing the acceptance of liquid trade waste into the sewerage system attention should be paid to the following information provided by MSDS:

- hazardous ingredients in a composition of a product
- chemical and physical properties
- ecological information
- spill, leak and product disposal management.

Useful reference material on MSDS can be found on:

- *Guidance Note for Completion of a Material Safety Data Sheet*, Worksafe Australia, Third Edition, 1991 (Australian Government Publishing Service).

Table 1: Information requirements for liquid trade waste applications

- Site owner's full name, address and contact telephone number
- Address of the business/industry where discharge to sewerage system will occur
- Name of contact person for the premises and telephone contact for the business/industry
- Proposed date of commencement of discharge to the sewerage system
- Type of business activity
- Hours of business operation
- Proposed rate of discharge, including:
 - average per day, and maximum per day and per hour
 - hours of the day during which discharge takes place.
- Site plan, including:
 - details of any proposed liquid trade waste pre-treatment facilities
 - details on equipment maintenance
 - internal wastewater drainage
 - treatment process details
 - pump size
 - operational characteristics
 - operational procedures
 - location of a sampling point
 - proposed connection point to the sewerage system.
 - stormwater drainage plan.

Additional information required for applications in Concurrence Classification B or C

- Flow diagram and hydraulic profile of proposed liquid trade waste pre-treatment facilities
- Physical and chemical characteristics of the discharge, including:
 - nature of source
 - expected maximum and average concentrations of pollutants, and
 - temperature and pH.
- Location, nature and chemical composition of all substances stored/used on site
- Relevant MSDS sheets
- Location of flow measurement point and proposed methods
- Justification for disposing of Concurrence Classification C liquid trade waste discharges into the sewerage system over other possible options (if any)
- Methods of disposal for other wastes that are not to be discharged to the sewerage system
- Any relevant environmental impact assessments
- Consultant report (if applicable)
- Any additional details as requested by the LWU.

Additional information required for applications in Concurrence Classification S is shown in section 7.2.1 on page 98.

Table 2: Factors to consider in assessing liquid trade waste applications

- The potential for the liquid trade waste discharge to impact on public health
- The possible impacts the discharge may have on the environment (land, water, air, noise or nuisance)
- The potential impacts of the discharge on the health and safety of local water utility employees
- The possible impact of the discharge on sewerage infrastructure or sewage treatment processes
- The capability of the sewerage system (reticulation and treatment components) to accept the quality and quantity of liquid trade waste proposed for discharge to the system
- The impact the liquid trade waste may have on the ability of the sewerage system to meet other legal requirements (eg. licence under the POEO Act)
- The potential impacts of the discharge on management practices for effluent and biosolids produced from the sewage treatment process
- Compliance of the proposed liquid trade waste discharge with guideline limits in the LWU Liquid Trade Waste Policy*
- The adequacy of the proposed maintenance program of pre-treatment facilities and the discharge monitoring program (if applicable)
- The adequacy of the pre-treatment process(es) to treat the liquid trade waste to a level acceptable for discharge to the sewerage system, including proposed safeguards in the event of the pre-treatment system's failure
- Whether appropriate safeguards are proposed to avoid the discharge of other wastes to the sewerage system that are not included in the approval
- The adequacy of chemical storage and handling facilities, and the proposed safeguards for preventing the discharge of chemicals to the sewerage system
- Whether prohibited substances are proposed to be discharged
- The potential for stormwater ingress into the sewerage system and adequacy of stormwater controls
- Waste minimisation and water conservation programs
- The adequacy of proposed due diligence program and contingency plan, where required.

***Note:** The quality of trade waste from some low risk commercial activities in Classification A will exceed guideline limits in Table 3 on the facing page and in the LWU's liquid trade waste policy (eg. section 4.3.2 on page 63). As a higher level of pre-treatment is not cost-effective, such waste is acceptable if the discharger installs and properly operates and maintains the required pre-treatment equipment (refer to Tables 7 to 9).

3.5.3 Guideline limits for liquid trade waste discharge

Liquid trade wastes discharged to the sewerage system have the potential to adversely impact on the sewerage system (including infrastructure, sewage treatment processes, and effluent and biosolids quality), the environment, and public and worker health and safety if adequate controls are not put in place.

Placing limits on the quality of the liquid trade waste and levying of appropriate fees and charges are effective controls for minimising the potential for negative impacts. In addition execution of a trade waste services agreement is recommended for large and industrial dischargers and where otherwise considered to be warranted by the LWU. Table 3 sets out acceptance guideline limits for a range of contaminants that may occur in liquid trade wastes.

Table 3: Guideline limits for acceptance of liquid trade waste into the sewerage system

Parameter*	Limits [#]
General acceptance guideline limits	
Flow rate	The maximum daily and instantaneous rate of discharge (kL/h or L/s) is set on the available capacity of the sewer. Large dischargers are required to provide a balancing tank to even out the load on the sewage treatment works.
BOD ₅ and suspended solids	Normally approved at 300 mg/L each. Concentration up to 600mg/L and in some cases higher concentration for low mass loadings may be acceptable if the treatment works has sufficient capacity and odour will not be a problem.
COD	Normally not to exceed BOD ₅ by more than three times. This ratio is given for a guide only to prevent the discharge of non-biodegradable waste.
Total dissolved solids	Up to 4000 mg/L may be accepted. However, the acceptance limit may be reduced depending on available effluent disposal options and will be subject to a mass load limit.
Temperature	Less than 38°C.
pH	Within the range 7.0 to 9.0.
Oil and grease	100 mg/L if the volume of the discharge is < 10% of the design capacity of the treatment works, and 50 mg/L if the volume is > 10%.
Detergents	All industrial detergents are to be biodegradable. A limit on the concentration of 50 mg/L (as MBAS) may be imposed on large liquid trade waste discharges.
Colour	No visible colour when the waste is diluted to the equivalent dilution afforded by domestic sewage flow.
Radioactive substances	The discharge must comply with the <i>Radiation Control Act, 1990</i> .

* See Glossary for explanation of terms

[#] Refer to *National Wastewater Source Management Guideline, July 2008*, WSAA for recommended analytical methods

Table 3 (continued) – Guideline limits for acceptance of liquid trade waste into the sewerage system

	Parameter	Maximum Concentration (mg/L)
Guideline limits for inorganic and organic compounds		
Inorganic compounds	Ammonia (as N)	50
	Boron	5
	Bromine	5
	Chlorine	10
	Cyanide	1
	Fluoride	20
	Nitrogen (total Kjeldahl)	100
	Phosphorus (total)	20
	Sulphate (as SO ₄)	500
	Sulphide (as S)	1
	Sulphite (as SO ₃)	15
Organic compounds	Benzene	0.04
	Toluene	0.5
	Ethylbenzene	1
	Xylene	1
	Formaldehyde	30
	Phenolic compounds (except pentachlorophenol)	5
	Petroleum hydrocarbons (non-flammable)*	30
	Pesticides general (except organochlorine and organophosphorus)*	0.1
	Polynuclear Aromatic Hydrocarbons (PAHs)	5

* Refer to Table 4 on page 31

Table 3 (continued) – Guideline limits for acceptance of liquid trade waste into the sewerage system

Parameter	Maximum Concentration (mg/L)	Allowed Daily Mass Limit (g/d)
Guideline limits for metals		
Aluminium	100	-
Arsenic	1	2
Cadmium	1	6
Chromium*	3	15
Cobalt	5	15
Copper	5	15
Iron	100	—
Lead	1	6
Manganese	10	30
Mercury	0.01	0.05
Molybdenum	5	30
Nickel	3	15
Selenium	1	15
Silver	2 [#]	6
Tin	5	15
Zinc	5	15
Total heavy metals excluding aluminium, iron and manganese	Less than 30 mg/L and subject to total mass loading requirements	

* Where hexavalent chromium (Cr⁶⁺) is present in the process water, pre-treatment will be required to reduce it to the trivalent state (Cr³⁺), prior to discharge into the sewer. Discharge of hexavalent chromium from chromate compounds used as corrosion inhibitors in cooling towers is not permitted.

[#] This limit is applicable to large dischargers. The concentration of silver in photoprocessing waste where a balancing tank is provided is not to exceed 5mg/L (refer to section 12 of Appendix F).

The guideline limits in Table 3 are consistent with the recommended Non-domestic Wastewater Acceptance Criteria of the *National Wastewater Source Management Guideline, July 2008, WSAA*.

Note that these limits are a guide only, and LWUs may choose to adjust the limits according to their circumstances. For example, there may be a need to adjust the pH range for some major dischargers. If a trade waste is of a high strength and takes a long time to reach the STW, its pH may drop significantly during transportation. Therefore, for such a discharger the LWU may specify the pH range of 8.5 to 9.5 to ensure that its waste arrives at the STW with the pH close to neutral (refer to section 2 of Appendix F for the effects of low or high pH on the sewerage system).



Effect of high strength and low pH waste on sewage treatment works

Any changes should be justified and should not have the potential to result in unacceptable impacts. Where an LWU adopts less stringent guidelines, the justification for doing so will need to be provided to DWE when seeking concurrence to its draft Liquid Trade Waste Policy.

The LWU needs to contact DWE in regard to limits for substances not listed in Table 3.

3.5.4 Prohibited substances

Substances prohibited from being discharged into the sewerage system unless they are specifically approved under section 68 of the Local Government Act are listed in Table 4.

Although stormwater is a prohibited substance, there are circumstances it may not be practical or feasible to totally prevent it from entering the sewerage system. In such instances, the LWU should ensure that the applicant has taken measures to minimise the volume of stormwater entering the sewerage system (eg. first flush systems, flow separation or on-site detention).

Refer to section 2.4 on page 170 of Appendix D for requirements for the acceptance of a limited volume of stormwater to the sewerage system.

Section 8 of Appendix F provides further guidance on the management and assessment of stormwater discharges to the sewerage system as part of a liquid trade waste application.

Table 4: Substances prohibited from being discharged into the sewerage system

- organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances
- organophosphorus pesticides and/or waste arising from the preparation of these substances
- any substances liable to produce noxious or poisonous vapours in the sewerage system
- organic solvents and mineral oil
- any flammable or explosive substance
- discharges from 'Bulk Fuel Depots'
- chromate from cooling towers
- natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
- rain, surface, seepage or subsoil water, unless specifically permitted
- solid matter
- any substance assessed as not suitable to be discharged into the sewerage system
- waste that contains pollutants at concentrations which inhibit the sewage treatment process – refer to *National Wastewater Source Management Guideline, July 2008, WSAA*
- any other substances listed in a relevant regulation.

3.5.5 Approve or refuse?

At this stage the LWU must decide whether it is likely to approve or refuse the application for discharge of liquid trade waste to the sewerage system.

If the LWU decides to refuse the application, it must notify the applicant that the application has been refused (refer section 3.7.3 on page 37).

If the decision is to approve the application, the LWU must then draft the approval, including the conditions of approval. As indicated in clause 32 of the Regulation, these conditions are set out in Table 5, along with other items that should be specified. To assist LWUs, conditions of approval suitable for some activities are provided in Appendix E on page 211.

Chapter 4 sets out conditions to be included in the approval to discharge liquid trade wastes classified as Concurrence Classification A. Inclusion of these conditions is a requirement of the assumed concurrence process for this classification.

LWUs should refer to Chapter 7, Part 1, Divisions 2 and 3 of the Local Government Act for general requirements relating to determining applications for approval, including the timeframes for requesting information, making a determination, and issuing a notice of the determination.

Table 5: Conditions to the approval of liquid trade waste discharges

A council may, as a condition of granting an approval to discharge liquid trade waste to the sewerage system:

- Require that the volume of waste discharged is measured by a meter or other device
- Determine the maximum daily liquid trade waste discharge and rate of discharge to the sewerage system
- Determine the characteristics of the waste permitted to be discharged
- Set constraints on the size and capacity of the drain conveying the liquid trade waste to the sewerage system
- Set times during which the discharge is permitted.

A council may also require that an applicant complies with the following:

- The quantity and rate of liquid trade waste discharged to the sewerage system does not exceed the quantity specified in an approval
- The size and capacity of the drain conveying the liquid trade waste to the sewerage system are in accordance with the size specified in an approval
- The liquid trade waste is discharged only during times as specified in an approval
- The discharge is metered; and
- Any specified modifications to any works for the treatment of liquid trade waste, or to the method for treating the liquid trade waste, are carried out.

It is considered good practice to also include the following in an approval:

- Name of applicant and location of premises
- Duration of the approval
- Any conditions that need to be satisfied prior to the commencement of approval (ie. if a liquid trade waste agreement needs to be signed)
- The treatment processes and equipment to be used to regulate the quality, quantity and instantaneous discharge rate of the waste
- List of substances excluded from discharge to sewer
- The type, location and design of flow measurement and sampling equipment including primary measurement device/s installed
- The frequency of sampling and the type of sampling required (composite, discrete, flow proportional etc.)
- The methods of sample analysis to be adopted
- Reporting requirements (sampling and testing schedule) including the format to be adopted for recording and periodical reporting of waste quality to the LWU
- Methods to be adopted for the estimation of data lost due to failure of sampling or flow measurement equipment
- Maintenance requirements for pre-treatment equipment
- Records to be kept concerning the cleaning and maintenance of apparatus and equipment and the methods of reuse, recycling, or disposal of residual materials
- Inspection and entry protocols and sampling locations
- Due diligence program and contingency plan requirements
- Any other matters as may be necessary in the opinion of the LWU.

The Local Government Act has special provisions for processing applications submitted by the Crown. Under Section 72 of the Act, councils may not refuse to grant an approval to the Crown without the consent of the Minister for Local Government, nor can they impose a condition of approval without the consent of the Minister or the applicant. In order to simplify the approval process for trade waste applications by the Crown, the Minister for Local Government has delegated his powers for determination of trade waste applications under sections 72, 73 and 111 of the Local Government Act relating to approval number C4 of section 68 of the Act to the Director-General, Department of Water and Energy.

Thus, LWUs will no longer need to obtain concurrence from the Minister of Local Government for Crown trade waste applications. The new approval process is set out in Table 5A.

Table 5A – Approval process for liquid trade waste applications by the Crown

1. If the council intends to approve the application and the council has been granted assumed concurrence* for such applications, the application should be processed as indicated in Figure 4 on page 21. The conditions of approval must be in accordance with Table 5 on page 33.
2. For applications for which the council has not been granted assumed concurrence, the council needs to request DWE concurrence to its approval as set out on page 17.
3. If the council proposes to refuse approval of the trade waste application, it must notify the applicant and forward a copy of the application, supporting documentation and the reasons for council's determination to DWE. DWE will determine the trade waste application and notify the council and the applicant of its consent to the council's refusal of the approval or its decision not to agree to the refusal and the timeframe for the council to submit to DWE suitable conditions of approval.
4. If the applicant has any objections to the council's conditions of approval, the council needs to forward to DWE a copy of the application, supporting documentation, draft conditions of approval and council's recommendations in regard to the applicant's objections. DWE will determine the trade waste application and notify the council and the applicant of its concurrence to the council's approval and any necessary amendments to the proposed conditions of approval.
5. DWE will notify the council and the applicant of the reasons for its determination.
6. If concurrence to the trade waste approval is granted under item 4 above, the council needs to finalise the approval and issue the approval to the applicant.
7. A council must not revoke or modify any trade waste approval to the Crown, except with the written consent of the Department of Water and Energy.

* As indicated on page 1, all councils have been granted assumed concurrence for Classification A (low risk) discharges. In addition, a number of councils have been granted assumed concurrence for Classification B (medium risk), Classification S (septic tank and pan waste).

3.6 Step 4: Seeking concurrence

3.6.1 Legal responsibilities

An application should only be forwarded to DWE for concurrence once the LWU has decided to approve the application and has drafted its proposed conditions of approval (refer Figure 4 on page 21). If the LWU intends to require the discharger to execute a liquid trade waste services agreement (refer section 3.10 on page 42), the draft agreement should also be submitted to DWE.

Under section 28 of the Local Government (General) Regulation, a council must not grant an approval under section 68 of the Act to discharge trade waste (whether treated or not) to a sewer of the council unless the Director-General of the Department of Water and Energy has concurred with the approval.

Under section 90(2) of the Local Government Act, the Director-General, DWE may give the council notice that concurrence may be assumed with such qualifications or conditions as specified in the notice.

Having drafted the approval, the LWU must seek the concurrence of the Director-General, DWE, before issuing the approval, unless the LWU has been authorised to assume concurrence.

3.6.2 Whether concurrence can be assumed or not

DWE must respond to a request for concurrence within a set timeframe. Under section 90(5) of the Local Government Act, concurrence is to be assumed if at least 40 days have passed since concurrence was sought and DWE has not expressly refused concurrence, or requested additional information.

3.6.3 Information the LWU needs to provide to DWE upon seeking concurrence

Information that needs to be provided while seeking DWE concurrence is listed below under the relevant Concurrence Classification.

Concurrence Classification A

The LWU should provide information* as listed in section 4.2.1 on page 59, the LWU's assessment of the application and the proposed conditions for the discharge of waste (refer to section 4.2.3 on page 59).

* Not required to be provided to DWE where standard pre-treatment equipment and conditions of approval are to be implemented by the LWU or where the LWU has been authorised to assume concurrence for Classification B dischargers and a trade waste discharger with an undersized grease arrestor satisfies the requirements of section 5.1.2 on page 88. However, if this is not the case, the information is required to be provided to DWE – refer to pages 14 and 38.

Concurrence Classification B

The LWU should provide information⁺ as shown in section 5.2.1 on page 89, the LWU's assessment of the application and the proposed conditions for the discharge of waste (refer section 5.2.3 on page 89).

Concurrence Classification C

The LWU should provide all information required to be submitted by an applicant as listed in section 6.2.1 on page 91, the LWU's assessment of the proposal (refer to section 6.2.3 on page 94), the proposed conditions for the discharge of waste and a copy of the draft trade waste services agreement if applicable.

Concurrence Classification S

The LWU should provide information[#] as shown in section 7.2.1 on page 98, the LWU's assessment of the proposal (refer to section 7.2.2 on page 99), the proposed conditions for the discharge of waste and a copy of the draft trade waste services agreement, if applicable.

3.6.4 Special circumstances

Sometimes concurrence may be given even though a liquid trade waste discharge contains contaminants in excess of the guideline limits in Table 3 on page 27. In order for this to happen, when seeking concurrence the LWU must provide justification to DWE and demonstrate that the increased levels of contaminants will not adversely impact on:

- the sewerage system (including the sewerage transportation infrastructure, sewage treatment processes, and effluent and biosolids management)
- the environment
- public and worker health and safety.

3.7 Step 5: Finalising the determination

3.7.1 Approving the application

Once the LWU has determined to approve the application and concurrence has been granted (where required), it will prepare and issue a written approval to the applicant. The approval will set out the circumstances and conditions of approval.

⁺ Not required where the LWU has been authorised to assume concurrence for Classification B dischargers and a trade waste discharger with an undersized grease arrestor in Classification A or B satisfies the requirements of section 5.1.2 on page 88.

[#] Not required where the LWU has been authorised to assume concurrence for this particular Classification S waste listed in section 7.1 on page 97.

It is considered that best practice for administering the trade waste approval process for small commercial dischargers is to issue an approval (ie. a formal letter accompanied by approval conditions). However, as noted in section 3.10 on page 42, for certain dischargers, including Concurrence Classification C (large dischargers and industrial wastes), the LWU may also require execution of a Liquid Trade Waste Services Agreement (refer to Sample Agreement on page 197 of Appendix D).

In this case, the LWU needs to issue a 'deferred commencement approval' under section 95 of the Local Government Act. The LWU should also issue a letter requesting the discharger to execute the agreement with the LWU within the specified time frame. The approval will not be operative until the agreement is executed.

In any case, the LWU is required to issue a notice of determination under section 99 of the Local Government Act.

The date of commencement of the approval (and the agreement) would be the date the agreement has been signed by both LWU and the discharger.

3.7.2 Term of an approval

An approval lapses five (5) years after the date from which it is given, unless council specifies another period, as stated in section 103 of the Local Government Act.

The LWU may elect to shorten the duration, or it may extend or renew the approval before it lapses or at any time within three (3) months after the approval lapses (section 107, Local Government Act). However, this may only occur if:

- there is 'good cause for doing so' and the terms of the approval are not changed
- the applicant has lodged an application to amend the approval under section 106 of the Local Government Act and the terms of approval are to remain substantially the same.

If the nature of the liquid trade waste generating activity changes, or there are changes to the pre-treatment process or the quality and quantity of the liquid trade waste, a new application should be lodged and a new approval issued, as the conditions of the approval will now have changed. The new draft approval must, as before, be forwarded to DWE for concurrence where the LWU has not already been granted assumed concurrence. If there are no changes to the conditions of the approval, DWE concurrence does not need to be sought.

3.7.3 Refusing the application

If the LWU decides to refuse the application, or DWE does not concur to the application and hence the LWU cannot approve it, the LWU must notify the applicant that the application has been refused and include the reasons for refusal.

The applicant may (under section 100 of the Local Government Act) request that LWU review the determination. An applicant who is dissatisfied with council's determination may otherwise (under section 176 of the Local Government Act) appeal to the Land and Environment Court.

If the council proposes to refuse approval of a trade waste application made by the Crown, it must comply with Item 3 of Table 5A on page 34.

3.8 Exceptions

3.8.1 Exceptions for existing premises without a grease arrestor or with undersized arrestor

The following procedure is only applicable to **existing** premises.

Existing dischargers who have nil or inadequate pre-treatment equipment are required to improve their discharge waste quality by upgrading their pre-treatment equipment to the current approved technology.

Where an undersized grease arrestor is installed it may be an option to improve the quality of the effluent by increasing the pump out frequency and/or installing other suitable devices and improving housekeeping practices.

DWE acknowledges there may be some instances where the installation of a grease arrestor is not feasible or reasonable for the existing premises.

Where this occurs or where the proposed pre-treatment differs from that prescribed in these Guidelines (eg. the equipment is under the recommended size), the application does not comply with the requirements for Classification A or B and must be forwarded to DWE for concurrence*, together with the supporting information set out in Table 6 on page 39.

Exceptions should only be considered for existing activities where:

- the receiving sewerage system has capacity for accepting trade waste with higher concentration levels without incurring excessive maintenance cost
- the concentration levels will not adversely impact on sewage transportation, sewage treatment processes or by-product management
- the site precludes the installation or maintenance of appropriate pre-treatment equipment.

In most cases, cost alone is an insufficient reason for exception.

The LWU must substantiate a discharger's claim for exception from the requirement to install the prescribed standard pre-treatment equipment. DWE may require that such dischargers reduce their load on the sewerage system by improving housekeeping practice and/or installing other suitable devices.

Existing premises undergoing refurbishment/renovation must ensure they install an appropriate pre-treatment system. If a new or refurbished premises cannot accommodate the prescribed standard pre-treatment installation, then such premises is not suitable for carrying out the proposed activity.

The applicant should be informed in writing that, if a request for an exception is proposed, the requirements set out in Table 6 will apply. In particular, the applicant will need to be made aware that the exception is only applicable to the existing approval holder and is not transferable. It must also be made clear that if the type or scale of the activity change or refurbishment/renovations are carried out, the exception will lapse.

* Not required where the LWU has been authorised to assume concurrence for Classification B dischargers and a trade waste discharger with an undersized grease arrestor satisfies the requirements of section 5.1.2 on page 88.

Where the recommended pre-treatment equipment cannot be installed or the effluent quality is not improved, the LWU must ensure it imposes the trade waste usage charge of \$12.68/kL (2007/08\$) for dischargers who have **not** installed and maintained appropriate pre-treatment facilities, refer to page 190 of Appendix D.

Table 6: Exception requirements

The following requirements are to apply where an exception is sought from installing prescribed standard pre-treatment equipment in an existing premises.

- Letter from the applicant requesting an exception and on what grounds
- Letter from a hydraulic consultant, plumber or the company that provides the pre-treatment equipment stating that the pre-treatment installation is not feasible and the reason/s why
- Report from LWU inspecting officer on the feasibility of installing pre-treatment equipment. Inspection report to be signed-off by a senior LWU officer
- An assessment by the LWU that the sewerage system has the capacity to accept the proposed untreated waste load and/or the modifications, alterations or undersized pre-treatment equipment will not adversely impact on sewage treatment processes, sewage transportation system, by-product management and the environment
- Details on the proposed frequency of maintenance, cleaning and nominated licenced contractor
- Site plan.

The LWU's approval must include the following:

- The exception only applies to the nominated existing applicant and is not transferable
- If the type or scale of the activity change or renovations /refurbishment are carried out, the exception will lapse, the LWU may then require the appropriate pre-treatment equipment to be installed
- The proposed cleaning frequency and contractor details.

3.8.2 Exceptions for existing oily waste pits (small dischargers only)

The following guideline was issued to LWUs in May 1992 in regard to pits for oily wastes:

Double and triple interceptor pits and general purpose pits are not considered to be, nor are they approved as, appropriate pre-treatment equipment units for the treatment of oily wastes generated from petroleum products.

Existing dischargers who have inadequate pre-treatment equipment are required to improve their waste quality by upgrading their pre-treatment equipment to the current approved technology. However, it is recognised that such pits have been installed on some existing premises and may be able to meet the guideline acceptance limits.

Where this is the case an exception may be given provided the following information is forwarded to the Department for review:

- the applicant can demonstrate that he has been duly diligent in ensuring that appropriate clean-out frequency has been maintained since installation
- at least three (3) sample analysis results (taken on three (3) different occasions while discharging) to determine that:
 - the total oil and grease concentration is less than 100 mg/L
 - the suspended solids concentration is less than 300 mg/L
 - the petroleum hydrocarbons concentration is less than 30 mg/L (current acceptance guideline limit).

Approval for such applicants should include the following conditions:

- that a sampling frequency schedule shall be carried out to determine that the discharge quality remains within the acceptance limits
- if the waste quality fails to meet the acceptance limits, then the discharger will be required to upgrade the pre-treatment equipment to the current approved technology.

3.9 Developing a local approvals policy for liquid trade waste

3.9.1 What is a local approvals policy?

It is a document that sets out the LWU's policy for the approval, monitoring and pricing of liquid trade waste discharged to its sewerage system.

It is important for each LWU to have a policy in place to comply with best-practice and so that any person who wishes to discharge liquid trade waste to the sewerage system is aware of:

- the need to obtain the LWU's approval
- the information to be provided to the LWU in order to obtain approval
- substances that can be discharged to the sewerage system, including any limits on the quality and quantity
- substances excluded from discharge to the sewerage system
- the matters the LWU will consider in assessing an application
- the LWU's process for determining applications and the avenues for review and appeal of council decisions
- the general performance requirements for responsible liquid trade waste management
- the fees for processing applications to discharge liquid trade waste to the LWU's sewerage system
- the LWU's non-residential sewerage charges and liquid trade waste fees and charges.

3.9.2 Model policy for liquid trade waste regulation

In 2005 the Department issued a *Model Policy for Discharge of Liquid Trade Waste to the Sewerage System*. The purpose of that document was to help LWUs develop an appropriate local approvals policy for liquid trade waste.

The 2005 *Model Policy* and later Model Policies issued to LWUs have been updated and extended by the 2009 *Model Policy for Liquid Trade Waste Regulation* in Appendix D (page 155).

Liquid trade waste is now defined in Clause 3 of the *Local Government Regulation 2005* as “all liquid waste other than sewage of a domestic nature”. Thus all liquid waste discharged to the sewerage system, other than domestic sewage, is classified as trade waste. Accordingly, septic tank and pan waste are now trade waste and the new *Model Policy* includes acceptance of these wastes to the sewerage system.

As noted in section 1.8 on page 10, LWUs may operate under their existing liquid trade waste policy if it is based on the 2005 *Model Policy* or any later model policy consented to by DWE and the *Local Government (General) Regulation 2005*. However, in order to align with the *National Framework for Wastewater Source Management*, all LWUs are required to adopt a policy based on the 2009 *Model Policy* by June 2011.

The requirements for the preparation of a local approvals policy are set out in Chapter 7, Part 3 of the Local Government Act. The 2009 *Model Policy* is consistent in scope with the requirements of the Act in its three parts:

- **Part 1** – the circumstances in which a person is exempt from the necessity to obtain an approval to discharge liquid trade waste to the sewerage system
- **Part 2** – the criteria the LWU will take into consideration in determining whether to give or refuse a liquid trade waste approval
- **Part 3** – other matters relating to liquid trade waste approvals.

Table 1 on page 167 of the *Model Policy* provides a list of exemptions from the requirement to apply for approval for the discharge of liquid trade waste to the sewerage system. This list has the consent of the Director-General of DWE and the LWU may elect to include some or all of the activities listed in its local approval policy for liquid trade waste discharges to the sewerage system.

LWUs must not adopt a local approvals policy that provides for any other exemptions without the consent of the Director-General of DWE.

3.9.3 Adopting a trade waste regulation policy

As noted in section 1.8 on page 10, the requirements of the *Best-Practice Management of Water Supply and Sewerage Guidelines, 2007*, include adoption and implementation of an appropriate liquid trade waste regulation policy by LWUs.

Chapter 7, Part 3 of the Local Government Act sets out the requirements for the preparation, exhibition, adoption and amendment of a local approvals policy for liquid trade waste. Council procedures regarding adoption of a local approvals policy must comply with the provisions in the Act (sections 158 to 167).

In developing a local approvals policy for the regulation of liquid trade waste, Council should undertake the following steps:

1. Develop a draft local approvals policy
2. If the draft policy differs from the *Model Policy* in Appendix D or the trade waste fees and charges differ from the best-practice indicated in Appendix D, submit the draft policy and charges to DWE for comment. Amend the draft policy to address any DWE comments, give public notice and exhibit the policy and charges for not less than 28 days
3. After addressing any issues raised in public submissions, the amended policy is to be provided to DWE for consent together with a copy of Council's proposed trade waste fees and charges
4. Finalise, adopt and implement the policy in accordance with the DWE consent. Advise DWE the date policy was adopted and implemented by Council (address is shown on page 95).

3.10 Liquid trade waste services agreements

A liquid trade waste services agreement is a document that clearly states the rights and obligations of both the LWU and the applicant, and lists the conditions under which the LWU will accept the discharge of liquid trade waste.

As noted in section 3.7.1 on page 36, the liquid trade waste services agreement would be in addition to the LWU's approval under the Local Government Act and is warranted for large dischargers (> 20kL/d), dischargers of industrial waste and where otherwise considered appropriate by the LWU (eg. refer to section 3.11.4 on page 44).

To assist LWUs a sample agreement is provided on page 197 of Appendix D. The LWU's agreement may include additional provisions to those stipulated in the sample agreement, but none of the DWE conditions may be modified or removed.

An LWU may seek legal advice when preparing an agreement regarding the format and legal interpretation of its terms and conditions, if necessary.

As noted in section 3.7.2 on page 37 a liquid trade waste approval is set for a specified period of time. Generally, the agreement will continue until the approval is lapsed, revoked or the discharge is ceased in accordance with the approval, whichever is the earlier.

The LWU and/or the applicant may initiate a renegotiation of an agreement. This should be undertaken only where there is sufficient cause to warrant such a variation.

For major liquid trade waste dischargers who could cause considerable damage to the LWU's sewerage system or the environment if they failed to comply with their conditions of approval, DWE concurrence will be contingent on the LWU:

- requiring execution of an appropriate trade waste services agreement by the discharger
- has in place best-practice sewerage and trade waste fees and charges, including non-compliance excess mass charges.

3.11 Enforcement

Councils have various powers under the Local Government Act regarding administration of approvals for liquid trade waste discharges to the sewerage system. These are discussed in sections 3.11.1 to 3.11.5.

Councils may also invoke the provisions of the *Protection of the Environment Operations Act 1997* (POEO Act) where a discharger fails to obtain an approval to discharge from the LWU or fails to comply with the conditions of approval.

Under section 120 (1) of the POEO Act, a person who pollutes any waters, including the council's sewerage system, is guilty of an offence. Under Clause 55 of the *Protection of the Environment Operations (General) Regulations 1998*, this does not apply to pollutants discharged into the sewerage system where the discharger complies with the conditions of approval. However, a discharger who does not have the council's approval to discharge or who fails to comply with the conditions of approval may be prosecuted under this section. In addition, under section 222 of the POEO Act, the council may issue a penalty notice (ie. an on-the-spot fine) to such a discharger. In addition, council may issue a clean-up notice, prevention notice and noise control notice under the POEO Act.

However, regulation of sewerage and liquid trade waste in accordance with the *NSW Framework* (section 1.8 on page 9) will minimise the need for the LWU to apply regulatory sanctions.

3.11.1 Failure to obtain an approval

A person who discharges liquid trade waste to the sewerage system without obtaining council approval as required under section 68 of the Act is guilty of an offence under the Local Government Act. Section 626 of the Act deals with penalties for failing to obtain an approval. The council may apply sections 120 (1) and 222 of the Protection of the Environment Operations Act as noted in section 3.11.

3.11.2 Failure to comply with an approval

Failing to comply with an approval is an offence under the Local Government Act. Section 627 of the Act sets out the penalties for failing to comply with an approval. The council may apply sections 120 (1) and 222 of the Protection of the Environment Operations Act as noted in section 3.11 above.

3.11.3 Giving orders

Where a discharger fails to comply with a liquid trade waste approval, or the discharge or its associated activity has an adverse impact, and the discharger will not cooperate in remedying the situation, the council may issue an order requiring the discharger to comply with the conditions of approval. Failure to comply with an order is an offence under section 628 (3) of the Local Government Act.

Chapter 7, Part 2, Division 1 of the Local Government Act is concerned with the giving of orders. Procedures that must be followed when issuing the order are described in this Chapter. However, under section 129 (2) of the Local Government Act, a council does not have to follow notification procedures in regard to Orders 15, 22 or an order given in an emergency. Orders that may be relevant to the management of liquid trade waste discharged to the council's sewerage systems (section 124) include:

- requiring or prohibiting the doing of things to or on a premises (No. 11)
- requiring not to conduct or to cease conducting an activity, if such an activity constitutes a life threatening hazard or a threat to public health and safety (No. 15)
- requiring the preservation of healthy conditions (No. 21, 22 & 24)
- requiring the protection or repair of public places (No. 27)
- requiring compliance with an approval (No. 30).

Section 127 of the Act allows for prescribing circumstances that are to be included in or excluded from any of those specified in section 124. Matters necessary or convenient for the operation of the Act in relation to the giving of orders are also prescribed in the *Local Government (General) Regulation 2005* (refer to Appendix B).

Section 678 of the Act contains provisions relating to the action a council can take if a discharger fails to comply with an order. A council can take action to give effect to the order. Failure to comply with an order may provide grounds for the council to enter premises and undertake the work specified in the order including disconnection of trade waste discharge from the sewerage system. Council may enforce a charge to recover costs against the person responsible or the owner of the land.

3.11.4 Revoking an approval

Under section 108 of the Local Government Act, a council may need to revoke an approval. A council must have good grounds for doing so and must give notice (section 110). An approval can be revoked in the circumstances set out in section 109, including:

- failure to comply with a requirement made by or under the Act regarding a condition of the approval
- failure to comply with a condition of the approval.

If any liquid trade waste discharger consistently fails to comply with the conditions of approval, the LWU should revoke its approval and require the discharger to cease discharging liquid trade waste to the LWU's sewerage system. If the discharger takes appropriate remedial measures and the LWU is satisfied with such measures, it should grant an approval to the discharger on condition that the discharger executes an appropriate trade waste services agreement. Such an agreement will provide the LWU with better control of potentially non-compliant dischargers.

Council may also revoke an approval in other circumstances, which may give rise to an obligation to pay compensation to the affected person (section 179). Accordingly, each approval granted by the Council should be subject to careful assessment and include appropriate conditions. Refer also to page 195 of Appendix D.

3.11.5 Powers to disconnect a trade waste service

As indicated in sections 3.11.1 to 3.11.4, councils have various powers available to them for regulating the compliance of persons who either have an approval to discharge trade waste into the council's sewer or who conduct the activity without approval.

As indicated in section 3.11.3, a council may undertake a work specified in its order including disconnection of a trade waste service. In addition, Section 59A (2) of the Local Government Act enables council to disconnect its works to ensure that the council's sewerage system is used appropriately. Section 191 (1) provides councils with the power to enter premises to disconnect a trade waste service at the point where the private sewer connects with a council's main.

Council must give the owner or the occupier of the premises a written notice of its intention to enter the premises (section 193 (1)). However, in the case of an emergency or a risk or likelihood of a serious risk to health and safety, an authorised person may enter the premises without notice (section 193 (3) (b) and (c)). Section 195 of the Act requires that such a person must promptly advise council and council must give notice of entry to this person.

It is important that councils only use the above powers where there is proper cause and sufficient evidence to identify the correct premises prior to taking action. It is also recommended that councils seek legal advice to ensure that they are using these powers in a lawful manner for their specific circumstances.

3.11.6 Prevention of waste and misuse of water

Water is a valuable resource. It must be used efficiently and must be recycled where practicable. It is an offence under section 637 of the Local Government Act and clauses 159 and 160 of the Regulation to waste or misuse water.

Accordingly, dilution of trade waste with water from any non-process source, including Council's water supply, bore water, groundwater and/or stormwater as a means of reducing pollutant concentration is strictly prohibited.

3.12 Site inspections

3.12.1 What is a trade waste site inspection?

A trade waste site inspection is an inspection of a commercial or an industrial premises, with the aim of monitoring and auditing the liquid trade waste pre-treatment system for confirmation that the discharger is in compliance with the terms and conditions of an approval or liquid trade waste services agreement. Trade waste site inspections should be conducted on a regular basis.

Generally, such inspections fall into four (4) categories:

- initial site inspection
- routine site inspection
- re-inspection
- site meeting/visit.

3.12.2 What is achieved from a site inspection?

Initial inspections are ideally performed prior to the commencement of discharge to the sewerage system to ascertain that all requirements have been fulfilled. They confirm that the pre-treatment facilities have been installed:

- with the appropriate equipment as approved
- in accordance with manufacturer's specifications
- in the approved location
- in a manner to address stormwater issues (including bunding).

The work has been carried out in accordance with:

- the Conditions of Approval
- NSW OH&S Act 2000 and OH&S Regulation 2001
- the *NSW Code of Practice: Plumbing and Drainage*
- *Australian Standards National Plumbing and Drainage Code AS3500, Part 2, Sanitary Plumbing and Drainage*
- the LWU requirements.

Initial inspection also provides an opportunity to:

- obtain an initial investigation sample, if applicable
- confirm the installation of flow metering equipment, if applicable
- establish initial pre-discharge meter readings (discharge meter and potable water meter)
- confirm the adequacy of the sampling point in regard to:
 - safety
 - location
 - accessibility
 - representing all liquid trade waste discharges, if applicable
 - proximity to potable water outlet for washing
 - electrical outlet – if required for metering or automatic sampling.

Routine site inspections are performed on a regular basis as part of the LWU's due diligence responsibilities or as part of the conditions of approval or liquid trade waste agreement. All trade waste discharges need to be inspected at least once per annum, except commercial premises preparing hot food which need to be inspected four (4) times per annum (see Note on page 47). The site inspections perform a number of functions such as:

- auditing to confirm that all conditions of an approval or trade waste agreement are being met
- confirmation that the business is still operating as approved and by the same applicant/management. A change of management invariably means a change of work practices and/or alterations that may affect waste quality. In addition, if there is a change of management, and there has been certain conditions imposed on the previous discharger the new management may not feel obligated to continue those practices or conditions or may not be even aware of them

- auditing to confirm that any renovations/refurbishments of the premises have not compromised the pre-treatment system (increase in production or change of product)
- meter readings recorded for liquid trade waste charging purposes
- sampling conducted, if there is a discharge to the sewerage system for auditing and/or charging purposes
- inspection of the installed pre-treatment system to ascertain that it is operating correctly
- an opportunity to inspect log books (breakdowns, incidences etc.) or records (charts, meter readings etc.) that may alert the trade waste officer to incidences that may require follow-up action
- maintenance records are viewed for the regular cleaning and pump-out frequency of liquid trade waste pre-treatment equipment
- monitoring of the records of the disposal methods of any residual wastes (sludges etc.)
- an opportunity for the trade waste officer and the discharger to discuss any liquid trade waste issues, such as waste management and opportunities for cleaner production or reuse.

Note: An LWU officer should inspect commercial premises preparing hot food at least four (4) times per annum to ensure the pre-treatment equipment is being properly operated and maintained. A number of LWUs have found it convenient for some of the inspections to be carried out by the environmental and health officers/food inspectors. If it is not practical for the LWU to carry out four inspections/ annum, the LWU may inspect once or twice/annum and require the discharger to produce evidence that the pre-treatment equipment has been properly serviced between the inspections, eg. pump-out dockets, invoices from service contractor, etc. However, if Council has a waste tracking system in place, an annual inspection prior to pump-out would be satisfactory.



Pumping station blocked due to discharge of oil and grease



Blocked sewer

There is a record of demonstrated sewer blockages and chokes due to the discharge of untreated or poorly treated greasy/oily waste to the sewerage system. As noted on page 190 of Appendix D, if Council's inspection reveals that the pre-treatment equipment has not been properly maintained or desludged, a trade waste usage charge of \$12.68/kL (2007/08\$) will apply for the billing period.

Re-inspections are required where incidents or breaches have occurred on a previous inspection or notification. A re-inspection fee should apply as indicated on page 187 of Appendix D. The re-inspection may ascertain that:

- the non-compliance has been rectified
- procedures have been initiated to prevent re-occurrence
- steps have been taken to modify the pre-treatment
- steps in an Effluent Improvement Plan have been completed
- a discharge may or may not be from the premises as the result of a pollution inquiry investigation such as a dumping incident.

Site meetings/visits are specifically performed as an opportunity for the LWU and the discharger to discuss any liquid trade waste issues, such as:

- liquid trade waste management
- follow-up discussions on an Effluent Improvement Program
- opportunities for cleaner production or reuse
- due diligence and contingencies plans
- variation to an existing approval or liquid trade waste agreement
- due to the impending expiration of the term of approval, re-negotiation of the conditions of approval or liquid trade waste agreement
- any other LWU issues that may impact on the discharger.

3.12.3 Entry onto premises

Under sections 191 and 191A of the Local Government Act, a council employee may enter trade waste premises. Companies are required to be aware and responsible for all staff and visitors on their premises for the purposes of legal issues, risk management, OH&S, security, asset protection, fire evacuation procedures, product sterility and insurance issues. It is for such reasons that companies insist that all visitors to the premises announce their presence upon arrival.

In addition, there may be a requirement to wear specific safety equipment and/or to be escorted around the premises.

4. Concurrence Classification A – automatic assumed concurrence

4.1 What is Concurrence Classification A?

Concurrence **Classification A** comprises **low risk** liquid trade waste **dischargers** as defined in section 2.2.

Each LWU can automatically assume concurrence for all Classification A activities, meaning that it does not need to forward its proposed approval to DWE for concurrence (refer to section 2.2 on page 13 and Appendix A).

The basic philosophy on minor categories of liquid trade waste discharges is that they are acceptable provided the discharger:

- installs the prescribed pre-treatment equipment* (refer Table 7)
- properly operates and maintains the equipment
- adheres to the LWU's conditions relating to trade waste discharged into the sewerage system.

Table 7: Types of prescribed standard non-complex pre-treatment equipment

1) Grease arrestor	8) Cooling pit
2) Dry basket arrestor with fixed screens	9) Balancing, averaging, neutralising pit/tank
3) Sink screen/strainer	10) General purpose pit
4) Fixed or removable mesh screen	11) Solids settlement pit / silt arrestor
5) Coalescing plate interceptor or separator	12) Baffled settlement pit
6) Vertical gravity separator	13) Lint screen
7) Hydrocyclone separation system	14) Plaster arrestor

*** Note:** As indicated on page 26, the quality of trade waste from some low risk commercial activities in Classification A will exceed guideline limits in Table 3 on page 27. As a higher level of pre-treatment is not cost-effective, such waste is acceptable if the discharger installs and properly operates and maintains the required pre-treatment equipment (refer to Tables 7 to 9).

There are some important points to note here, namely that:

- only up to four (4) Concurrence Classification A liquid trade waste discharges from a single premises or complex have automatic assumed concurrence. If there are more than four (4), the applications are treated as Concurrence Classification B. This requirement does not include activities shown on the exemption list (Table 1 on page 167 of Appendix D)
- where an applicant proposes an alternative type of pre-treatment to those listed in Tables 8 and 9 on page 51 and 56, the discharge does not have automatic assumed concurrence and the application must be referred to DWE for concurrence (section 2.6 on page 17)

- alternative pre-treatment equipment should be considered in terms of achieving its main objectives, eg. removing pollutants from wastewater to the level satisfactory for discharge into the sewer. These levels should be comparable with benchmark levels that are achieved by standard prescribed equipment.

For the purpose of these Guidelines, the activities that generate Concurrence Classification A discharges have been divided into two broad groups:

- *Discharges from commercial retail food preparation activities/processes* (refer Table 8) – discharges of up to 16 kL/d from premises that conduct the selling of prepared food products directly to the public, including caterers. The requirements relating to these activities are set out in section 4.3 on page 61. This group is further divided into two sub-groups:
 - activities that do not generate greasy/oily type wastes (refer section 4.3.1 on page 61), and
 - activities that generate greasy/oily type wastes (refer section 4.3.2 on page 63).
- *Discharges from other commercial activities/processes* (refer Table 9) – discharges not exceeding 5 kL/d from premises that conduct businesses or provide services directly to the public. The requirements relating to these activities are set out in section 4.4 on page 65.

A list of the activities that generate Concurrence Classification A liquid trade waste discharges is given in Tables 8 and 9, along with the pre-treatment requirements.

Table 8: Commercial retail food preparation activities that generate Concurrence Classification A liquid trade waste discharge

Activity Generating Liquid Waste	Pre-treatment Type (Refer to Table 7)	Conditions (see Appendix E)	Section of Guidelines	Greasy/oily food prepared, cooked or served on-site		Default values for maximum discharge*	
				Yes	No	Daily flow (kL)	Discharge rate (L/s)
Bakery (retail)							
• only bread baked on site	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• pies, sausage rolls, quiches, cakes, pastries with creams or custards	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Bistro							
• sandwiches, coffee only	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food [#]	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Boarding house/hostel kitchen	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Butcher (retail)	1 ^b , 2 ^a , 3 ^c	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Café/coffee shop/coffee lounge							
• no hot food	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Canteen							
• no hot food	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Cafeteria							
• with hot food	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			

Chicken/poultry shop							
• retail BBQ/charcoal chicken	1 ^{b, k, l} 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
• only fresh chickens for retail with cutting and preparation of meat on-site	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Club							
• with hot food	1 ^{b, e} , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Commercial kitchen/caterer	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Community hall/civic centre							
• with hot food	1 ^{b, e} , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			0.3
Day care centre							
• no hot food	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Delicatessen							
• no hot food	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Doughnut shop	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Fast food outlets (Burger King, KFC, McDonalds, Pizza Hut, Red Rooster, etc)	1 ^d , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Fish shop							
• fresh fish for retail, no hot food	2 ^a , 3 ^c	1-14, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food	1 ^b , 2 ^a , 3 ^c	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Fruit and vegetable shop	2 ^a , 3	1-14, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3

Food caravan	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Function centre	1 ^{b, e} , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Hotel							
• no hot food	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Ice-cream parlour							
• take-away only	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• serve on site	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	
Juice bar	2 ^a , 3	1-14, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
Mixed business – minimal hot food	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
Motel							
• no hot food	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Nightclub							
• no hot food	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Nursing home kitchen	1 ^{b, f} , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Nut shop	2 ^a , 3	1-14, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
Patisserie, croissants and muffins	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Pie shop	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3

Pizza							
• <i>Pizzeria</i>	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
• <i>Pizza cooking (take-away/home delivery, no seats)</i>	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
• <i>Pizza cooking/reheating (no preparation or washing up on site, pizza heated in retail container and sold for consumption off site)</i>	Nil	1-14, 29	4.3.1		✓		
Restaurant	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Sandwich shop/salad bar/Snack Bar							
• <i>no hot food</i>	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• <i>with hot food</i>	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Primary School					✓		
• <i>Canteen (no cooking)</i>	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1	✓			
• <i>Canteen (hot food cooking)</i>	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2				
Secondary School							
• <i>Canteen (no cooking)</i>	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1				
• <i>Canteen (hot food cooking)</i>	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓	✓		
• <i>Home science (cooking)</i>	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
Supermarket							
• <i>butcher/ delicatessen/ seafood</i>	1 ^b , 2 ^a , 3 ^c	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			
• <i>BBQ chickens</i>	1 ^b , k.	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓			

Take away food outlet							
• no hot food	2 ^a , 3	1-15, 18 ^h , 28, 29	4.3.1		✓	1.1	0.3
• with hot food	1 ^b , 2 ^a , 3	1-15, 17, 18 ^h , 28, 30, 31	4.3.2	✓		1.1	0.3
Garbage bin area	2	13, 18, 22	4.3.1/4.4.16	-	-		
Fruit and vegetable dock	2	13, 18	4.3.1/4.4.16	-	-		
Potato peeling machine	2 ^{g,i}	18 ^h	4.3.1	-	-		

* The default values are recognised as typical for that activity. Those should be used except where actual data can be supplied from an applicant or is available to the LWU. Where there are no default values given, the maximum instantaneous discharge rate should be determined based on the capacity of the pre-treatment equipment.

For the purpose of this table "hot food" means that greasy/oily wastes are generated as a result of preparing and/or serving food on the premises. This excludes hot food that does not generate greasy waste eg. tea, coffee, toasted sandwiches and heated food sold for consumption off-site.

- a For all floor wastes in food preparation areas.
- b 1 000 L minimum capacity (dependent on activity) or equivalent approved pre-treatment equipment. Sized according to number of seats, flow rate and/or activity, where appropriate (refer Table 2, Appendix F).
- c All drainage from sinks to pass through dry basket arrestor.
- d 1 500 L minimum capacity (sizing will depend on flow rate, refer Table 2, Appendix F) or equivalent approved pre-treatment equipment
- e Size to be determined by the venue's capacity for the maximum amount of seats that can be installed (refer Table 2, Appendix F).
- f If garbage grinder is installed, additional grease arrestor capacity is required (refer Table 2, Appendix F).
- g Dry basket arrestor with 1 mm screen
- h If floor wastes are located in food preparation area
- i Stainless steel basket in peeling machine. Avoid discharge through the grease arrestor servicing the kitchen area, if possible.
- k 2000 L minimum capacity for steam oven or gas vat BBQ process.
- l For steam oven or gas vat, an oil and fat interceptor is required upstream of the grease arrestor.

Table 9: Other Commercial Activities that generate Concurrence Classification A liquid trade waste discharges

Activity generating liquid waste	Pre-treatment type (Refer to Table 7)	Conditions (see Appendix E)	Section of Guidelines	Default values for maximum discharge*	
				Daily Flow (kL)	Discharge Rate (L/s)
Animal wash – dog pounds/boarding kennels/ stables/ racecourses/mobile animal wash, veterinary with no X-ray	2, 3, 11 ^{a, b}	1-14, 18, 23 ^p , 65, 97, 98	4.4.1		0.5
Beautician	Nil	1, 2, 4-6, 9-12	4.4.10		
Boiler blowdown	8 ^{u k}	1-13, 25, 33, 45.	4.4.2	2.6	
Car detailing	2, 5 ^d /6/7 ^e , 11 ^h Note 1	1-14, 16, 18, 27, 48, 52-55, 65, 71 ^x	4.4.3		
Comfort Cooling tower flow rate < 500 L/hr	Nil	1-6, 8-13, 33	4.4.4		
Crafts – ceramic, pottery, jewellery, gem stones etc. (including hobby clubs) <ul style="list-style-type: none"> flows < 200 L/d flows 200-1000 L/d flows 1000-5000 L/d 	Nil	1-6, 9-14, 58 ^q , 59 ^q	4.4.5		0.3
	14	1-14, 26, 58 ^q , 59 ^q , 65	4.4.5		0.3
	10 ^f	1-14, 20, 58 ^q , 59 ^q , 65	4.4.5		0.3
Dental surgery <ul style="list-style-type: none"> No X-rays or plaster casts made on site X-rays and/or plaster casts made on site 	AS	1-12, 37	4.4.6	0.4	0.3
	AS, 14, SRU ^g	1-12, 26, 34 ^f , 35 ^o , 36 ^o , 37	4.4.6	0.4	0.3
Dental technician (no X-rays)	14	1-12, 26, 37	4.4.6	0.4	0.3
Doctor's surgery, medical centre – plaster casts made on site (no X-rays or laboratory)	14	1-12, 26, 37	4.4.7	0.1	0.3
Florist	2, 3	1-14, 18	4.4.8	0.2	0.3
Funeral parlour <ul style="list-style-type: none"> Autopsy table 					
	2, 4 ^l	1-12, 18, 37 - 40	4.4.9		0.3

Hairdressing	2 ^j , 3 ^w	1, 2, 4-6, 9-12, 14, 18 ^j	4.4.10		Note 2
Jewellery shop					
• Miniplater	Nil	1-6, 9-12, 41	4.4.11	0.1	0.3
• Ultrasonic washing	Nil	1-6, 9-12	4.4.11	0.1	0.3
• Precious stone cutting	10 or ⁿ 14	1-12, 20 or ⁿ 26, 65	4.4.11	0.1	0.3
Laboratory – pathology/analytical	9 ^{k, m} , Note 6	1-12, 21, 42-50	4.4.12		Note 3
Laundry or laundromat (coin operated)	8 ^c , 9 ^h , 13 ^l	1-13, 25, 32 ^v , 45, 51	4.4.13	Note 4	Note 4
Lawnmower repairs	2, 5 ^d /6/7 ^e , Note 1	1-14, 16, 18, 27, 48, 52-55, 65	4.4.14	1	
Mechanical workshop	2, 5 ^d /6/7 ^e Note 1	1-14, 16, 18, 27, 48, 52-55, 56 ^t , 65, 71 ^x	4.4.15	1	
Mobile carpet cleaning	3	1-12	4.4.16		
Mobile garbage bin washing	2	1-13, 18, 22	4.4.16	Note 5	0.3
Optical service (retail)	12 ^b	1-13, 24, 57, 65	4.4.17		0.3
Pet shop (retail)	2, 3	1-13, 18, 97, 98	4.4.18		0.3
Photographic			4.4.19		
▪ tray work/manual development	Nil	1-6, 9-12, 34		0.1	0.3
▪ waterless minilab	SRU ^g	1-12, 34 ^f , 35 ^o , 36 ^o		0.1	0.5
Plants (retail) (no open space or nursery)	2, 3	1-14, 18	4.4.20		0.3
Primary School	Refer to 'Crafts' in this Table				
• Crafts					
Secondary School			4.4.21		
• Cooling Towers	Refer to this Table 9 ^w or 10 ^w	1-12			
• Photographic					
• Science Laboratory	9, Note 6	1-12, 21, 42, 43, 46, 47			
Stone working	11	1-14, 23, 65	4.4.22	Note 5	0.3
Swimming Pool/Spa/Hydrotherapy Unit <5kL					
• Commercial/municipal	9	1-13, 81-87	4.4.23		

Vehicle washing	<ul style="list-style-type: none"> hand/wand-type/drive through car wash/ car underbody/engine degrease external truck wash 	2, 5 ^d /6/7 ^e , 11 ^h , Note 1 2, 5 ^d /6/7 ^e , 11 ^f Note 1	1-14, 16, 18, 27, 48, 52-55, 56 ⁱ , 65, 71 ^x 1-14, 16, 18, 27, 48, 52-55, 56 ⁱ , 65, 71 ^x 95	4.4.24		
Venetian blind cleaning		Nil	1-6, 9-13	4.4.25		0.3
Veterinary and animal kennels (with X-ray)		2, 3, SRU ⁹	1-14, 18, 34 ^r , 35 ^o , 36 ^o , 37, 65, 97, 98	4.4.26		0.5

* The default values are recognised as typical for that activity. Those should be used except where actual data can be supplied from an applicant or is available to LWU. Where there are no default values given, the maximum instantaneous discharge rate should be determined based on the capacity of the pre-treatment equipment.

- | | | | |
|---|--|-----|---|
| a | Only if animals (horses) furl in a sandpit, | n | Dependent on the daily flow, 14 if <1000 L or 10 if > 1000 L |
| b | Minimum capacity of one-hour detention. | o | If silver bearing waste is treated on-site |
| c | Sized to reduce wastewater temperature to <38°C | p | If animals furl in sand pit |
| d | 1000 L/h minimum capacity, sized according to the influent flow rate. | q | For craft, painting related activities |
| e | Sized according to the influent flow rate | r | If silver bearing waste is not treated on-site |
| f | 1000 L minimum capacity | s | For plaster casts |
| g | If there is no SRU, all silver-bearing waste shall be removed from the premises | t | For premises with a spray paint booth |
| h | Where necessary | u | pH adjustment for metals |
| i | At drainage outlet of autopsy table | v | For premises with dry cleaning |
| j | For floor wastes | w | Where available |
| k | pH correction, if required | X | In regard to Petroleum Hydrocarbons only |
| l | Washing machine internal screens are acceptable | AS | Amalgam separator (usually built into the cuspidor by manufacturer). Amalgam waste are to be collected by a licenced contractor |
| m | Waste should be sterilised by autoclaving before discharging to balancing pit/tank | SRU | Silver Recovery Unit |

Note 1 A non-emulsifying pump with suction inlet at least 300mm above the bottom of the collection well.

Note 2 Determined by the capacity of total number of sinks

Note 3 0.3 L/s if used one tap at a time for rinsing. Multiply by the number of taps if used more taps simultaneously. Where rinsing is achieved by washing by immersion in a volume of water in a sink, the calculation of the maximum instantaneous discharge rate will need to be determined by the combined flow rate of the maximum number of sinks and/or troughs that can discharge simultaneously

Note 4 To be determined by the number of washing machines and the hours of operation.

Note 5 The maximum daily usage can be calculated using the estimated time that the hose will be utilised.

Note 6 A balancing pit is only required if a general purpose pit is not installed for other waste streams. If a general purpose pit is installed the laboratory waste can go through this pit.

4.2 The approval process for Concurrence Classification A

4.2.1 Information the applicant needs to supply

An applicant who wishes to discharge Concurrence Classification A liquid trade waste to the sewerage system must seek the approval of the LWU to do so except where the LWU has incorporated exemptions into its liquid trade waste policy (refer Table 1 on page 167 of Appendix D). This includes submitting a liquid trade waste application to the LWU (refer section 3.3 on page 22).

Form C1 in Appendix C is a sample application form. It sets out the minimum information requirements that should be supplied by an applicant. LWUs may use this form, adapting it to suit their administrative procedures, if desired.

Forms C2 to C5 in Appendix C set out supplementary information to be provided by certain dischargers:

- **Form C2** – supplementary information for commercial retail food businesses
- **Form C3** – supplementary information for mechanical repair workshops or other services related to motorised equipment (eg. car detailer, lawnmower repairs or motor boat mechanical repairs)
- **Form C4** – supplementary information for laboratories
- **Form C5** – supplementary information for animal wash facilities.

4.2.2 Information LWU needs to check

As a minimum, the LWU should check that the following information is provided as part of the application:

- type of process/activity generating the liquid trade waste
- maximum daily and hourly discharge rates
- type of pre-treatment equipment to be used
- maintenance schedule for pre-treatment equipment, including all pits, tanks, pumps, etc
- measures for prevention of stormwater ingress to the sewerage system
- chemical handling and storage facilities, where necessary
- waste disposal management (other than to sewer)
- applicant's contact details
- signature (of the owner or a person who has the consent of the owner – refer section 3.4 on page 22).

4.2.3 Assessing and approving an application

There are several factors for the LWU to consider as part of the assessment process. A critical factor is whether appropriate pre-treatment equipment will be provided. Refer to section 4.3 on page 61 and section 4.4 on page 65 and Tables 8 and 9 on page 51 and 56. The prescribed pre-treatment must be included in the application for assumed concurrence.

If the LWU decides to approve the application, it should draft the approval with any relevant conditions of approval.

Figure 5 shows the procedures involved in determining whether individual concurrence is required from DWE.

A list of standard conditions of approval for Concurrence Classification A discharges are set out in Appendix E. Note that not all the conditions are applicable to every activity. Tables 8 and 9 indicate which of the conditions apply to each activity.

The conditions, identified in Tables 8 and 9, must be included in the approval. The LWU may elect to add further conditions if desired, but the additional conditions should not conflict with any of the nominated conditions listed in Appendix E.

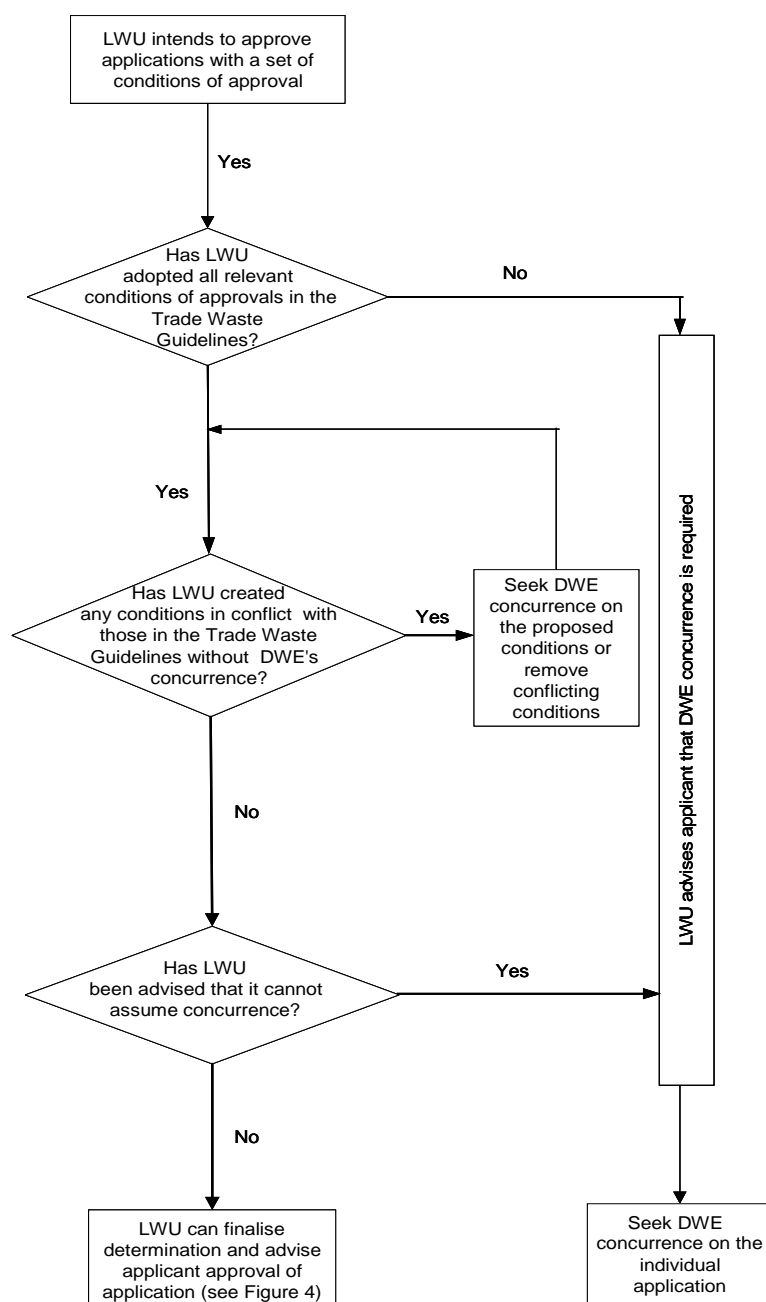


Figure 5: Procedure for Approval of Classification A Applications

4.3 Commercial retail food preparation activities

As noted in section 4.1 on page 49, discharges from commercial retail food preparation activities have been subdivided into two groups:

- activities that do not generate greasy/oily types of waste
- activities that do generate greasy/oily types of waste.

'Greasy/oily' types of wastes can be generated by either:

- cooking food on site, with the cooking process generating a grease or oily residue
- preparing food on site, with the preparation process resulting in greasy/oily or fatty waste residuals on utensils and equipment (this includes the making of creams and custards, eg. for the filling of cakes, pies and pastries)
- serving cooked food for consumption on site that has been prepared or cooked either on site or elsewhere, with the served food generating a grease or oily residue.

This definition excludes baking bread, cooking toast or serving hot tea or coffee as grease/oil generating activities. Similarly, premises that serve only fresh and toasted sandwiches, or import pies, sausage rolls and other pastry products and heat these for take-away consumption – also do not fall into this definition.

4.3.1 No greasy/oily wastes generated

Description of activities

There are a number of activities that fall within the group 'commercial retail food preparation activities – no greasy/oily wastes generated', as listed in Table 8 on page 51.

Pre-treatment requirements

Where greasy/oily wastes are not generated through the on-site cooking, preparation or serving of food, a grease arrestor does not need to be installed to treat the wastewater.

Sink wastes must be screened before being discharged to the sewerage system. While a fixed screen is a preferred device, it is recognised that some businesses may experience problems with the installation of these screens. In such situations, sink strainers must be used and a fixed screen should be considered where a cost-effective device is available. The LWU should ascertain during its regular inspections that sink strainers are in place. The LWU should require that a fixed screening device be provided, if strainers are not in use.

A basket arrestor must be installed on any floor wastes that are located in the food preparation and handling area for all the activities listed in Table 8. There must also be a fixed screen over all floor waste gullies. The basket should be removed, scraped and cleaned regularly to ensure the unit is operating properly.

Other issues

Written declaration

A written declaration from the applicant should be sought, as part of the application, that there will be no on-site cooking, preparation or serving of food that generates a greasy/oily residue. The declaration should include a statement that the LWU will be notified if this situation changes or if the business is sold or placed under new management.

Housekeeping practices:

- The LWU should require that floors are dry swept before washing to avoid wastes being caught up in the wash water discharged down the drain to the sewerage system
- The LWU should require the pre-wiping of utensils, plates, bowls etc. to the scrap bin before washing up so as to minimise the amount of waste put down the drain to the sewerage system
- The use of food waste disposal units (also known as insinkers, in-sink food waste disposers, or garbage grinders) is not allowed in non-domestic premises, unless permitted by the LWU under special circumstances (eg. hospitals, nursing homes – these dischargers incur a food waste disposal charge/bed as indicated on page 189 of Appendix D). This permission is limited to the existing premises, eg. if the hospital/nursing home kitchen is refurbished the food waste disposal unit must be removed. Wastes should instead be placed in the appropriate scrap bins.

Potato peeling appliances

Where possible, liquid trade waste from potato peeling appliances should not go through the grease arrestor in order to prevent fermentation processes occurring in the arrestor. Dry basket arrestors are to be installed for floor wastes in the food preparation area. The basket is to be removed, scraped and cleaned regularly.

Garbage bin cleaning

The area must be roofed and bunded to prevent the ingress of stormwater to the sewerage system. Although commercial retail food preparation activities that do not involve cooking and/or serving of hot food do not require a grease arrestor, some existing premises may have one installed. In such cases, the liquid trade waste from the garbage bin cleaning area should pass through the grease arrestor. A dry basket arrestor with a fixed screen is to be fitted to all floor wastes in the washing area that drain to the sewerage system.

Ice-cream parlours, with no hot food

Ice-cream parlours that do not serve hot food are not required to install pre-treatment devices, but are required to pre-wipe utensils with paper towels before washing up.

4.3.2 Greasy/oily wastes generated

Description of activity

There are a number of activities that fall within the group 'commercial retail food preparation activities – greasy/oily wastes generated'. These are listed in Table 8 on page 51.

It is important to note that with a properly operated and maintained grease arrestor, restaurants and take-away food businesses may generate liquid trade waste with up to 3000 mg/L BOD.

Barbequing Processes

The fat and oil from the barbequing processes and any discrete oil must be collected as indicated below and must not be discharged into the grease arrestor. Only wash water from the cleaning of cooking equipment can be discharged to the sewerage system via the grease arrestor.

The discharger is required to place an oil collection container underneath the cooking equipment or install an oil collection system for the collection of fat and oil produced during the cooking process. The collected oil must be emptied daily (or as necessary) into a container for collection by a Department of Environment and Climate Change (DECC) authorised oil recycler.

Businesses with chicken, duck and meat barbequing facilities with a steam oven or gas vat are required to install an oil and fat interceptor upstream of the grease arrestor.

Pre-treatment requirements

Grease arrestor

Where the discharge is less than 1100 L/d, a 1000 L capacity grease arrestor or equivalent approved pre-treatment device is required. Activities that typically generate a discharge of less than 1100 L/d are listed in Table 8. It is generally accepted that where seating or beds are provided, if there are less than 69 seats/beds, the discharge will be less than 1100 L/d.

Activities not listed with any daily flow values are likely to generate a liquid trade waste volume in excess of 1100 L/d and will require a larger-sized grease arrestor. For example, a cooking process involving a wok burner may generate high volumes of wastewater and the minimum size of a grease arrestor required is 1500L. Fast food outlets such as McDonalds, Red Rooster and KFC require grease arrestors with a minimum capacity of 1500 L. Barbequing processes with steam oven or gas vat require a grease arrestor with a minimum capacity of 2000L.

It should be noted that a large arrestor will enable a lower pump-out frequency and/or reduce the risk of paying the \$12.68/kL (2007/08\$) trade waste usage charge for failure to properly maintain pre-treatment equipment.

Where there is a dishwasher (or dishwashers) on the premises, this should be taken into consideration in the sizing of the grease arrestor by allowing 250 L for each dishwashing cycle.

Where an applicant proposed to install an equivalent approved pre-treatment device (ie. a device other than an approved boat-shaped grease arrestor), the application should include a written statement from the distributor/supplier guaranteeing the supply of parts and service maintenance.

The applicant must maintain the grease arrestor. Initially, the pump-out frequency should be set at 13 weeks and the applicant must keep records of the maintenance calls, including the frequency and dates of the pump-outs and the name of the company contracted to collect the liquid waste.

The initial pump-out frequency is used as an interim guideline to enable the applicant to commence the discharge, as it is the typical frequency for these types of activities. However, regular inspections may suggest that the frequency of pump-outs should be changed, depending on the scale of the business conducted at the premises. For example, a take-away store on the outskirts of town may have an infrequent turnover compared to a take-away premises on a busy corner in the main street.

Refer to page 46 of section 3.12.2 on the need for LWUs to inspect such premises at least four (4) times a year to ensure grease arrestors are operating properly and to minimise the incidence of sewer blockages and chokes.

Sink and floor wastes

Refer to section 4.3.1 on page 61 for requirements in regard to sink and floor wastes.

Floor wastes in food preparation areas are to be connected to the grease arrestor or equivalent approved pre-treatment equipment.

Other issues

Storage of oil and chemicals

Oil and cleaning chemicals should be stored in an area where any spillage cannot drain to the sewerage or stormwater systems. Collected used oil and fats must not be disposed of into the sewerage systems and should be removed from the premises by the DECC authorised oil and fat recycler.

Housekeeping practices

Refer to page 62 of section 4.3.1 and to section 9.1 on page 274 of Appendix F.

Use of additives in pre-treatment system

The use of bacterial, enzyme and/or odour controlling agents are prohibited unless specifically approved by the LWU with the concurrence of DWE. Any proposal for the use of the above products needs to include a product appraisal report issued by the Water Services Association of Australia (WSAA).

Garbage bin cleaning

Refer to page 62 of section 4.3.1.

4.4 Other commercial activities

Table 10: Discharges from other commercial activities

4.4.1	Animal wash activities
4.4.2	Boiler blowdown
4.4.3	Car detailing
4.4.4	Comfort cooling tower (non-industrial)
4.4.5	Craft activities
4.4.6	Dental surgery/dental technician/dental specialist
4.4.7	Doctor's surgery, medical centre (plaster casts, no X-ray or laboratory)
4.4.8	Florist
4.4.9	Funeral parlours and morgues
4.4.10	Hairdressing/beautician
4.4.11	Jewellery shop
4.4.12	Laboratories (pathological and analytical only)
4.4.13	Laundry or laundromat (coin operated)
4.4.14	Lawnmower repairs
4.4.15	Mechanical repairs
4.4.16	Mobile cleaning units
4.4.17	Optical services (retail)
4.4.18	Pet shop (retail)
4.4.19	Photographic tray work/manual development/ Waterless minilab
4.4.20	Plants (retail)
4.4.21	Schools
4.4.22	Stone working
4.4.23	Swimming pool/spa/hydrotherapy
4.4.24	Vehicle washing
4.4.25	Venetian blind cleaning
4.4.26	Veterinary surgery

In these Guidelines, 'other commercial activities' are defined as premises that 'conduct businesses or provide services (non-food activities) directly to members of the public'.

Unlike commercial retail food preparation activities, it is not possible to divide other commercial retail activities into subgroups due to the wide variation in the activities and processes undertaken. The activities listed as other commercial activities are described below.

The types of activities that fall within other commercial retail activities include the pre-treatment requirements for the associated liquid trade waste, conditions of approval, and any other relevant issues associated with the liquid trade waste discharge from the activity.

4.4.1 Animal wash activities

Description of activity

Animal wash activities include pounds, boarding kennels, racecourses and stables (not associated with domestic households) where animals are washed.

Pre-treatment requirements

A dry basket arrestor with a fixed screen must be fitted to all floor wastes in the animal wash area(s), and where the animals are kept, if floor wastes are discharged to the sewerage system. All sinks in animal wash areas are to have hair traps. The basket arrestor and hair traps should be cleaned on a regular basis.

Where the animals furl in a sandpit (eg. horses in stables and at racecourses), the liquid trade waste from the animal wash area is to pass through a settling pit before being discharged to the sewerage system. The pit should have a minimum capacity of one (1) hour detention time.

Other issues

Stormwater

The wash area must be roofed to exclude rainwater from the sewerage system. Measures are also required to divert any stormwater away from the wash area(s).

Where the areas are unroofed or partly roofed and it is not possible to roof them, measures will need to be taken to divert stormwater away from these areas. Measures will also be required to minimise the volume of rainwater that falls onto the actual wash areas from entering the sewerage system. Where full roofing is not provided over the wash areas, the application for the discharge of liquid trade waste to the sewerage system must be referred to DWE concurrence.

Use of disinfectants for sanitation purposes and pesticides for flea control

Note that organochlorine and organophosphate pesticides are substances excluded from the sewerage system (refer to section 3.5.4 on page 31). Therefore, wash water arising from the use of such substances must not be discharged to the sewerage system. MSDS for disinfectants and pesticides proposed to use at the premises must be forwarded to the LWU along with the liquid trade waste application form.

Housekeeping

- Areas where animals are kept should be dry swept before hosing down the floors.
- Animal droppings, litter, etc. shall not be disposed off to the sewerage system.
- Similarly, any waste disposal products, such as disposable bags, shall not be disposed off to the sewer, even if a manufacturer claims that a product is biodegradable.
- Animal waste disposal units are not permitted to be connected to the sewerage system.

4.4.2 Boiler blowdown

Description of activity

Boiler blowdown, or bleed-off, is the water discharged from a boiler. During the boiler blowdown process, water is discharged from the boiler to avoid the negative impacts of dissolved solids (impurities) on boiler efficiency and maintenance. As water evaporates within a boiler, dissolved solids

in the water remain and settle, resulting in build-up of sludge and scale. This is alleviated by discharging some boiler water through a valve at the bottom of the boiler.

The build-up of solids can also lead to foaming near the top of the boiler. Skimming or 'surface blowdown' removes the dissolved solids near the surface of the liquid. The amount of blowdown depends upon the boiler operating pressure, the amount of make-up water (water to be added), impurity levels in the make-up water, and the dissolved concentrations that a given boiler can tolerate. Typical blowdown volume ranges from 3% to 15% of a boiler's steam-generating capacity.

The discharge from boilers is generally continuous. However, LWUs may occasionally receive applications for a one-off discharge from closed boiler water systems (eg. due to periodic maintenance/cleaning). These discharges may involve high volume of trade waste over a short period of time and can be approved with assumed concurrence provided that the discharge is at an approved rate. This rate is generally taken to be 500 L/h to a sewerage system serving not less than six (6) tenements.

If chromate has been used in a closed boiler water system, the wastewater must not be discharged to the sewerage system. It should be collected in containers and transported off site for disposal in accordance with Department of Environment and Climate Change (DECC) requirements.

Pre-treatment requirements

The boiler blowdown water is often very hot and can cause damage to sewerage infrastructure, especially in large quantities. It can also increase biological activity, which in turn can rapidly reduce the oxygen content of the sewage, resulting in the generation of sulphides and corrosion of the sewerage system.

A cooling pit/tank is required to reduce the wastewater temperature to less than 38°C. To achieve the temperature requirement, the volume of the proposed cooling pit/tank should be at least three (3) times the maximum blowdown volume. If the pit/tank is smaller than this, the LWU should require the applicant to provide cooling pit size calculations for pit/tank to achieve the required temperature. Pits should also be ventilated to assist with the cooling of the water within the pit.

As boiler blowdown water contains metals pH adjustment may be required to drop-out the metals and then pH correction prior to discharge.

Other issues

Chemical additives

Chemicals may be added to the boiler water to inhibit corrosion or reduce scale. Some of these may contain chromium. Alternative chemical additives should be used in place of chromate additives, as these compounds are toxic and the discharge of chromium-bearing liquid trade waste is prohibited. There are some treatment systems that do not rely upon chemicals and which are harmless to the sewerage system and the environment. Applicants should be encouraged to consider such chemical-free water treatment systems where suitable.

4.4.3 Car detailing

Description of activity

Car detailing involves the external body cleaning and/or cleaning of the motor and/or underbody of cars using a hand-held hose, and/or the interior cleaning of a car. The process can be conducted at a permanent location, or at a remote location using a mobile unit.

Car detailing does *not* include high volume processes (exceeding 5 kL/d) such as:

- drive-through car washes
- self-service style car wash facilities.

Pre-treatment requirements

A coalescing plate interceptor (CPI/CPS) with a minimum capacity of 1000 L/h, a hydrocyclone separation system (HSS) or a vertical gravity separator (VGS) sized according to the influent flow rate must be installed to treat the liquid trade waste. The application should include supporting information in regard to sizing and the recommended maintenance schedule.

A collection well and non-emulsifying pump must also be provided as part of the pre-treatment system.

The units should be installed as per the manufacturer's instructions, and where applicable the distributor/supplier must be able to guarantee supply of parts and service maintenance.

A dry basket arrestor or screen must be fitted to all floor wastes that drain to the sewerage system, so as to strain out gross solids such as rags and packaging.

It should be noted that triple interceptor pits are not considered to be, nor are they approved as, appropriate pre-treatment equipment units for this type of wastewater.

Where proponents propose to wash and detail excessively muddy and soiled vehicles, the addition of a solids settlement pit/silt arrestor (minimum size capacity of 1000 L) is required prior to discharge to the proposed oil arrestor.

Other issues

Detergents

Only quick-break detergents are to be used in the washing process. All chemicals should be stored in such a manner that spills and leaks are prevented from entering the sewerage or stormwater systems.

Stormwater

Refer to Section 4.4.1 on page 66.

4.4.4 Cooling towers

Description of activity

The continuous blowdown, or “bleedoff” and other wastewater from both commercial and industrial cooling towers is liquid trade waste.

“Comfort and process air-conditioning cooling towers” are defined as cooling towers that are dedicated exclusively to (and are an integral part of) heating, ventilation, air-conditioning or refrigeration systems associated with commercial living space air-conditioning, or commercial process air-conditioning such as computer rooms. The discharge rate from cooling towers in this classification should not exceed 500 L/h.

“Industrial Cooling Towers” are cooling towers used in manufacturing for rejecting heat extracted from a manufacturing process. This activity is classified as Concurrence Classification C and an application must be forwarded to DWE.

Other issues

Commercial and industrial cooling towers generate wastewaters that vary considerably in the contaminants they may contain according to the water treatment utilised.

Certain cooling tower water treatments involve chemicals which can be harmful to the sewerage system or the environment into which they are discharged. Use of these harmful chemicals is either restricted or prohibited.

Some water treatment systems do not rely upon chemicals and are quite harmless to the sewerage system and the environment. Where appropriate these “chemical free” water treatment systems should be encouraged for use.

4.4.5 Craft activities

Description of activity

Craft activities include those undertaken at clubs, cottage industries, schools, TAFE colleges and institutions for the disabled that provide facilities for clay pottery, ceramics, cutting and polishing of gem stones and/or the making of jewellery.

Pre-treatment requirements

Pre-treatment requirements are dependent on the flow. Where the maximum daily discharge does not exceed 200 L/d, no pre-treatment is required. Where the maximum daily discharge is between 200 and 1000 L/d, a plaster arrestor is required. Where the maximum daily discharge exceeds 1000 L/d, a 1000 L general-purpose pit is required.

Other issues

Disposal of glue

Pared glue mix and unused glue emulsions should be disposed to garbage bins, not to the sewerage system.

4.4.6 Dental surgery/dental technician/dental specialist

Description of activity

These activities include:

- dental surgery including X-ray and/or plaster moulds
- dental technician, and
- dental specialist (eg. orthodontics).

They do *not* include dentists in dental hospitals and dental facilities attached to teaching institutions, as other liquid trade waste generating processes are typically associated with these premises, which are Classification B activities. Similarly, if a dental surgery is located within a medical centre and more than four (4) trade waste streams are generated from the centre, it must be treated as Classification B.

There are a number of activities that may be carried out by dentists and dental technicians that produce liquid trade waste. These include the making of fillings and teeth moulds and the processing of X-rays. The liquid trade wastes generated by these processes must be treated before being discharged to the sewerage system.

Pre-treatment requirements

Pre-treatment requirements are dependent on the process undertaken:

- fillings – an amalgam separator is required, either built into the cuspidor by the manufacturer or separately provided. Amalgam waste must be collected by a licenced contractor
- teeth mould preparation – the liquid trade waste must pass through a plaster arrestor before being discharged into the sewerage system
- X-ray processing – all silver-bearing waste must be treated in a silver recovery unit and the concentration of silver in the effluent from it must not exceed 50 mg/L. If a digital process only is used for the x-rays, a silver recovery unit is not required.

If the applicant decides not to install the required pre-treatment equipment, then the untreated wastewater must be removed from the premises and be managed in accordance with DECC requirements. The silver-bearing waste should not be discharged to the sewerage system.

Discharges from dental practices may contain copper, zinc, silver and mercury in small amounts.

Other issues

Disposal of solid waste

Solid wastes such as hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, paper and plastic items of a disposable nature, or human tissues must not be discharged to the sewerage system. Such wastes are to be disposed of in accordance with the *NSW Health Waste Management Guidelines for Health Care Facilities, 1998*, which advise on the safe handling, storage and disposal of clinical, cytotoxic, pharmaceutical and chemical wastes.

4.4.7 Doctor's surgery/medical centre

Description of activity

A 'doctor's surgery' is limited to a stand-alone doctor's practice or located within a medical centre which involves the application of plaster casts to patients and does not conduct X-ray procedures.

The activity does *not* include doctor's premises located within a medical complex, if more than four (4) trade waste streams are generated from such a complex, a hospital or teaching facility.

Other issues

Disposal of solid waste

Refer to section 4.4.6 on page 70.

4.4.8 Florist

Description of activity

Florist activities are limited to retail shops that sell flowers and floral arrangements and possibly other miscellaneous gifts. They do *not* include retail or wholesale plant/flower nurseries.

Pre-treatment requirements

Strainer screens in sink/s and a dry basket arrestor with a fixed screen must be provided for all floor wastes that are discharged to the sewerage system.

Other issues

Chemicals

No herbicides/pesticides may be discharged to the sewerage system.

Stormwater

If some activities are carried out in an open area, ingress of stormwater into the sewerage system must be prevented. Areas where stormwater is likely to become contaminated should be bunded and roofed over.

4.4.9 Funeral parlour or morgue

Description of activity

This category includes a funeral parlour or morgue in stand-alone premises. It does *not* include a morgue located within a hospital and medical training/teaching facilities.

Processes associated with a funeral parlour or morgue that generate liquid trade waste discharges include cadaver preparation and the dissection of human bodies.

Pre-treatment requirements

In areas where cadaver preparation or dissection is carried out, a dry basket arrestor with a removable basket and a fixed screen must be placed in all floor wastes that discharge to the sewerage system. The arrestor serves to collect solid matter such as tissues and hair.

Morgue and autopsy tables must have a backflow prevention device complying with the requirements of the relevant regulation and specified by the LWU which must be provided between the water supply and all equipment, appliances, fittings and areas in the mortuary.

Other issues

Discharge of formaldehyde

Where a funeral parlour prepares cadavers for viewing, there is a threat of formaldehyde discharge to the sewerage system. Formaldehyde can impact on the sewerage system and therefore must not be discharged to the system. LWU should require the applicant to submit a due diligence program within three (3) months of commencement of the discharge that outlines the measures to be taken to limit this type of discharge.

Disposal of solid waste

Refer to page 70 of section 4.4.6.

4.4.10 Hairdressing and beauticians

Description of activity

These activities include hairdresser, barber shops and beautician salons. They also include salons that provide nail artistry.

Pre-treatment requirements

Pre-treatment requirements for hairdressing salons include sink strainers. Such strainers may not be available to fit sinks in some hairdressing premises. However, they should be provided if a cost-effective screening device for hairdressers' sinks becomes available. A dry basket arrestor must be installed for any floor waste discharged into the sewerage system.

Other requirements

Where the salon/shop is located in a shopping complex discharge through the grease arrestor should be avoided, as the wastewater from the salon may have a detrimental impact on the process.

Disposal of waste

Solvents (eg. nail polish remover) must not be discharged to the sewerage system.

4.4.11 Jewellery shop

Description of activity

Jewellery shops are premises that retail jewellery to the public and which generate liquid trade wastes through precious metal plating (miniplate), ultrasonic washing and precious stone cutting.

Pre-treatment requirements

For precious stone cutting a plaster arrestor or general-purpose pit is required for pre-treatment.

No pre-treatment is required for the wastewater generated from ultrasonic washing.

Other issues***Metal plating***

A miniplate vessel is to contain no more than 1.5 L of precious metal solution.

Housekeeping practices

Chemicals used on the premises should be stored so that leaks or spills cannot drain to the sewerage system or stormwater system.

4.4.12 Laboratory**Description of activity**

Laboratory activities are restricted to stand-alone analytical, pathology and secondary school laboratories (refer to section 4.4.21 on page 80). They do *not* include laboratories that have an X-ray facility attached (such as radiology) or those that are attached to a training facility. Further, they do *not* include the following types of laboratories:

Agricultural research laboratory [*]	Pharmaceutical laboratory [*]
Animal health (parasitology) laboratory [*]	Photographic laboratory [#]
Autopsy laboratory [#]	Police crime scene unit laboratory [*]
Chemical (pesticides) laboratory [*]	Nuclear medicine and radioisotope laboratory [*]
Dental laboratory [#]	Tertiary institution laboratory [#]
Film (movies) laboratory [*]	Veterinary research laboratory [*]
Nuclear medicine laboratory (radiology) [*]	X-ray laboratory [#]

^{*} Trade waste discharge Classification C

[#] Trade waste discharge Classification B

Pre-treatment requirements

A balancing pit/tank minimum capacity 600L is to be installed to treat the liquid trade waste discharge. Infectious wastes must be sterilised by autoclaving before being discharged into the sewerage system.

The pH of the liquid trade waste is to be checked. Where it is below 7 or above 9, pH correction will need to be required before discharge to the sewerage system.

Other issues***Chemical and solutions handling***

Concentrated solutions should not be discharged to the sewerage system. Only rinse water used for the washing up of equipment may be discharged.

Concentrated acids and caustic and other corrosive chemicals should not be discharged to the sewerage system. Chemical solutions containing small quantities of these substances should be neutralised before discharging to the sewerage system.

Solvents should be collected and removed by a DECC licenced contractor, and must not be disposed of into the sewerage system.

Chemical containers should be stored in such a manner that leaks or spills cannot drain to the sewerage or stormwater systems.

Housekeeping practices

Flushing with liberal quantities of water should follow the discharge of liquid trade waste from laboratory sinks.

Spills and leaks should be cleaned up using dry cleaning methods.

Disposal of solid waste

Refer to page 70 of section 4.4.6.

4.4.13 Laundry or laundromat (coin operated)

Description of activity

Laundry activities are limited to those for public use, including a laundromat with coin-operated machines or a laundry (up to 5 kL/d). They do not include commercial or industrial laundries with discharge volumes greater than 5 kL/d.

The waste from any dry cleaning area is not allowed into the sewer system.

Pre-treatment requirements

Lint screens are to be provided (washing machine internal screens are acceptable).

A cooling pit is to be installed for the laundry wastes to pass through prior to discharge to the sewerage system. The pit must be of a capacity so as to cool the discharge to below 38°C (refer to section 11 of Appendix F). If the cooling pit is covered, venting should be provided to accelerate cooling. The applicant must also submit the consultant's or supplier's calculations regarding the capacity of the cooling pit.

A cooling pit may not be required if cold water only is used for washing or a device reducing the temperature of hot water is installed.

Other issues

pH

The pH of the liquid trade waste must be maintained within the range of 7.0 to 9.0 at all times. The pH must be adjusted, if necessary, before being discharged to the sewerage system.

4.4.14 Lawnmower repairs

Refer to section 4.4.15, 'Mechanical repairs'.

4.4.15 Mechanical repairs

Description of activity

Mechanical repair activities include the following facilities:

- a stand-alone garage
- a stand-alone mechanical workshop
- a service station workshop only (no forecourt discharge)
- lawnmower repairers that conduct mechanical repairs only and no other processes
- motor boat repairers that conduct mechanical repairs only and no other processes.

It does *not* include mechanical workshops associated with an industry, eg. a workshop at an airport, bulk fuel depot, train depot and engine re-conditioners. Trade waste applications for these activities must be referred to DWE for concurrence.

It does *not* include mechanical workshops located at a service station if there is a discharge from a covered forecourt to the sewerage system or a refuelling bay. It also does not include radiator repairers. These are included in Classification B.

Discharge of waste from a spray painting area (paint booth) to the sewerage system is not permitted.

Pre-treatment requirements

A collection well and non-emulsifying pump must be provided to collect:

- water used for washing of mechanical equipment or parts
- floor washdown.

A coalescing plate interceptor (CPI/CPS) with a minimum capacity of a 1000 L/h or a vertical gravity separator (VGS) or hydrocyclone separation system (HSS) sized according to the influent flow rate must also be installed to treat the wastewater.

In instances where the flow rate will exceed 1000 L/h, a larger capacity unit will be required and must be sized according to the influent flow rate. The applicant must provide supporting information in regard to sizing and recommended maintenance schedule with the application.

The units should be installed as per the manufacturer's instructions, and where applicable the distributor or supplier must be able to guarantee supply of parts and service maintenance.

A dry basket arrestor or screen must be fitted to all floor wastes that drain to the sewerage system, to strain out gross solids such as rags and packaging.

An oil arrestor is more efficient if detergents are not used, eg. cleaning done using high water pressure. If the use of detergents cannot be avoided, only quick-break detergents should be used. Degreasers must not be discharged into the sewerage system. Further, only non-emulsifying pumps should be used to pump the liquid waste to the separator.

Note that double and triple interceptor pits and general purpose pits are not considered to be, nor are they approved as, appropriate pre-treatment equipment units for this type of wastewater.

Other requirements

Housekeeping practices

- Businesses that use detergents to clean vehicles, mechanical parts or workshop floors are required to use quick-break detergents only. These detergents assist the separation process where any type of oil arrestor is used as pre-treatment
- Oil spills should be dry cleaned prior to washdown
- Grease blobs should be scraped up before washdown
- Screens may be used to exclude nuts, washers and the like from the pump intake
- Cleaning compounds must be compatible with the pre-treatment system
- Oils and solvents should be stored in a separate bunded area that cannot drain to the sewerage or stormwater systems
- Petrol, diesel fuel, discrete oil, kerosene, solvents and other flammable and/or explosive substances must not be discharged
- Any oil or chemical containers must be stored in such a manner that spills or leaks are prevented from entering the sewerage or stormwater systems.

Stormwater

Refer to section 4.4.1 on page 66.

Electrical equipment used in treating liquid trade waste

Flammable Class 3 liquids (see Australian Dangerous Goods Code), such as petrol, kerosene or other solvents, are potentially dangerous in the workplace. Although these substances must not be discharged to the sewerage system, there is the potential for them to be present or situated near an oil arrestor. Where a process has flammable liquids present, all electrical equipment within a defined area must be of special construction to avoid a dangerous situation occurring. For instance, if the applicant is proposing to install an oil arrestor, they must check that the electrically operated pump and other electrical devices have the correct electrical rating for the purposes for which they are used.

A licenced electrical contractor must connect the treatment system to the electricity supply. The contractor will then submit to the electrical distributor a notice on the electrical work performed at the premises and provide the applicant with a copy.

Draining of radiator coolant

Large quantities of ethylene glycol have the potential to upset the operation of the sewerage system and therefore must not be discharged to the system. Further, large quantities of ethylene glycol increase the emulsification of oils and greases and thereby reduce the efficiency of HSS, VGS or CPI/CPS systems. All radiator coolant should be collected and securely stored for recycling or disposal to an appropriate treatment facility.

Use and disposal of solvents

Solvents are often used for the cleaning of parts. Spent solvents must not be discharged to the sewerage system. Instead they must be collected and taken off site for recovery or disposal. Measures must be taken to ensure that the area used for parts washing does not drain to the sewerage system or pre-treatment equipment. However, the final rinse water can be discharged to the sewerage system via the pre-treatment equipment, provided that the parts are dried and wiped clean before rinsing.

It is recommended that applicants read the material safety data sheets for the products used on site.

Typical constituents found in automotive products are listed in Table 11.

Table 11: Typical constituents found in automotive products

Product/chemical	Constituents of concern
Antifreeze	Methanol, ethylene glycol
Automatic transmission fluid	Petroleum distillates
Battery acid (electrolyte)	Sulphuric acid, metals
Bug and tar removers	Xylene, petroleum distillates
Car wash detergents	Alkyl benzene sulfonates, phosphates
Car waxes and polishes	Petroleum solvents, alcohols, glycol ether
Degreasers (driveways/garages)	Petroleum distillates, hydrocarbons, metals
Degreasers (engines)	Chlorinated hydrocarbons, toluene, phenols
Diesel fuel, kerosene, heating oil	Hydrocarbons
Engine and radiator flushes	Petroleum solvents, ketones, butanol, glycol ether
Gasoline/fuel	Hydrocarbons
Grease lubricants	Hydrocarbons
Hydraulic fluid (brake fluid)	Hydrocarbons, fluorocarbons
Metal polishes	Petroleum distillates, isopropanol, petroleum naphthalene
Motor oils and waste oils	Hydrocarbons
Rustproofers	Phenols, metals

4.4.16 Mobile cleaning units

Garbage bin washing

Description of activity

Washing of garbage bins located at residential or commercial premises. This activity usually involves a tank mounted on a trailer where the garbage bins are washed. The water is then discharged via a screening system either to a grease arrestor, if available at the premises, or directly to the sewerage system.

Pre-treatment requirements

A fixed screen with a removable basket arrestor and generally, where commercial food premises are involved discharge is via the on-site grease arrestor (at a controlled flow rate so as not to hydraulically overload the treatment capacity of the grease arrestor). If a grease arrestor is not installed, then discharge is via the screens or basket arrestor directly to the sewerage system. Only biodegradable cleaning products are to be used.

Carpet Cleaning

Pre-treatment requirements

A filtration system 20 micron should be fitted to a mobile unit. Only biodegradable cleaning products are to be used.

4.4.17 Optical service (retail)

Description of activity

Optical (eye) services comprise businesses that sell eyeglasses and/or lenses to the public. They may be stand-alone premises or within a shopping complex. Processes associated with optical services that generate a liquid trade waste include glass or plastic cutting and grinding.

Optical services do *not* include those associated with eye hospitals, medical or educational training facilities or workshops and factories that produce lenses or eyewear. These are included in Classification B.

Pre-treatment requirements

A baffled settling tank with a one (1) hour minimum detention time is required. The tank is to be sized according to the flow rate. The applicant must provide details of the flow rate and calculations used to determine the size of the settlement tank.

Other issues

The tank should be easily accessible and cleaned at least every two (2) months.

4.4.18 Pet shop (retail)

Description of activity

Pet shop activities include those at retail outlets that buy and sell animals to the public.

Pre-treatment requirements

A dry basket arrestor with a fixed screen must be provided for all floor wastes in areas where animals are kept or washed, if floor wastes are discharged to the sewerage system.

All sinks are to have hair traps. The basket arrestor and hair traps should be cleaned on a regular basis.

Other issues

Refer to section 4.4.1 on page 66.

4.4.19 Photographic

Tray work/manual development

Description of activity

This activity is limited to small operations, such as hobby clubs, cottage industries, etc. It does *not* include graphic arts activities.

Pre-treatment requirements

All 'spent' solutions need to be collected and transported off site by a DECC licenced contractor. Only the rinse and sink waters are permitted to be discharged to the sewerage system.

A balancing tank/pit is not required for this activity.

Waterless minilab

Description of activity

Waterless minilab activities are limited to facilities such as photographic shops and chemists that use a waterless photographic processor. They do not include any other form of photographic processor.

Pre-treatment requirements

Applicants may elect to transport all 'spent' solutions off site, with only the rinse and sink waters being discharged to the sewerage system, or to discharge 'spent' solutions, rinse and sink waters to the sewerage system.

When spent solutions are not transported from the site, silver-bearing waste is to be treated in a silver recovery unit. The effluent from a silver recovery unit should not contain more than 50 mg/L of silver. The supplier of the silver recovery unit should supply a written guarantee of the unit with regard to the requirement of effluent silver limit (50 mg/L).

When all spent solutions are transported from the site, the applicant should provide written evidence to the LWU. No pre-treatment will be required.

A balancing tank/pit is not required for waterless minilabs.

Other issues

Impact on plumbing materials

Wastewater from waterless photographic processors should not come in contact with copper pipes, as this may result in corrosion. Drainage of photographic wastes to copper pipes should only be permitted where the owner of the property acknowledges and accepts in writing an awareness of the risks to the drainage system.

4.4.20 Plants (retail)

Description of activity

This activity is limited to stand-alone shops or located within a shopping centre that sell plants direct to public.

The activity does *not* include shops with an open area where ingress of stormwater to the sewerage system is not prevented or wholesale plant nurseries. These applications must be forwarded to DWE for concurrence.

Pre-treatment requirements

Strainer screens in sink/s and a dry basket arrestor with a fixed screen must be provided for all floor wastes that are discharged to the sewerage system.

Other issues

Chemicals

No fertilisers, herbicides/pesticides may be discharged to the sewerage system.

Housekeeping practices

Fertilisers, herbicides/pesticides and other chemicals used on the premises should be stored in a way that leaks or spills cannot drain to the sewerage system or stormwater system.

Floors should be dry swept before hosing down.

Stormwater

If some activities are carried out in an open area, ingress of stormwater into the sewerage system must be prevented. Areas where stormwater is likely to become contaminated should be bunded and roofed over.

4.4.21 School

Description of activity

School discharges are defined as those discharges emanating from activities associated with Primary and Secondary schools only.

Table 12: Pre-treatment requirements and conditions of approval

Activity	Pre-Treatment	Conditions
Canteen (no cooking)	refer to Table 8 on page 51	refer to Table 8
Canteen (food cooking)	refer to Table 8	refer to Table 8
Home science (cooking)	refer to Table 8	refer to Table 8
Cooling towers	refer to Table 9 on page 56	refer to Table 9
Crafts	refer to Table 9	refer to Table 9
Photographic	General purpose pit or dilution pit*	1 to 13.
Science laboratory	Dilution pit (minimum requirement of one (1) hour detention time)	1 to 13, 21, 42, 43, 46, 47, 60.

* Secondary schools – For secondary schools a general purpose pit or a balancing tank, if provided for other waste stream, eg. laboratory, is sufficient to pre-treat photographic waste prior to discharge into the sewerage system. Otherwise, no pre-treatment is required.

It is recognised that operating a silver recovery unit successfully is not practicable at a school environment due to difficulty of engaging skilled staff to operate the unit as well as insufficient flow to operate the unit satisfactorily.

Storage of waste for off-site pre-treatment and disposal is not recommended due to high risks associated in handling highly corrosive liquids in a school environment.

4.4.22 Stone working

Description of activity

Stone working activities include monumental masonry for cemetery headstones, crypts etc., architectural stone preparation for building and sculptures. Materials used may include marble, granite and sandstone.

Pre-treatment requirements

A solids settlement pit/tank must be installed to treat the liquid trade waste. The tank should have a minimum capacity of 1000 L or be sized according to the flow to give a one (1) hour minimum detention time.

The applicant should be required to clean the tank at least twice a year. This may need to be increased depending on usage.

Other issues

Recycling of liquid waste

Recycling of the liquid waste should be considered as the first option. This may involve the installation of a series of settling tanks with the occasional addition of make-up water (water to be added), and reuse of the process wastewater. The discharge of wastewater should not be permitted where recycling is possible.

Stormwater

Refer to section 4.4.1 on page 66.

4.4.23 Swimming pool/spa/hydrotherapy

Description of activity

Swimming pools and spas can be divided into three groups:

- commercial
- other institutional facilities
- municipal (public) facilities.

Commercial/other

Discharges from swimming pools and spas (including hydrotherapy units) are classified as liquid trade wastes where they are attached to:

- hotels and clubs
- nursing homes or medical facilities such as hospitals (hydrotherapy units)
- fitness facilities such as gyms
- tourist resort facilities
- education facilities
- animal facilities such as horse (greyhound) racing and training facilities.

Discharge of filter backwash water from swimming pools and spas listed above require the LWU's approval.

Other Issues

If emptying the pool for cleaning or maintenance purposes, the LWU is required to be notified. The LWU should determine an appropriate controlled flow rate to the sewerage system and limit the time of discharge to low flow periods in the sewer. This type of activity should not be undertaken during wet weather periods.

The LWU may need to set an acceptance limit for total dissolved solids to suit local conditions for discharges from salt-water pools.

Furthermore, the discharger is required to provide the LWU in advance the details of cleaning compounds, if any, (including brand name, quantity, MSDS where appropriate) which intends to use for cleaning of pool surfaces. The wastewater arising from cleaning of pool surfaces by using strong detergents or acids shall not be permitted to discharge into the sewerage system.

Pre-treatment requirements

Filter backwash water shall be collected in a holding tank and then be discharged into the sewer at a controlled rate as specified in the approval conditions. Solids settled at the bottom of the holding tank should be removed for off-site disposal and not be discharged into the sewer. The discharge shall be limited to low flow periods in the sewer.

4.4.24 Vehicle washing**Description of activity**

Vehicle washing activities (for automatic assumed concurrence) comprise commercial facilities that provide the following services:

- washing of cars by hand or with a high-pressure wand
- drive through car wash
- degreasing of car engines
- washing of car underbodies
- external truck washing.

This activity does *not* include high-volume processes (exceeding 5 kL/d), nor does it include the following processes:

- truck washing (internal)*
- washing of hire equipment[#]
- construction/plant equipment washing[#]
- discharge from a covered forecourt or refuelling bay[#]
- internal tanker washing*
- internal washing of meat vans.[#]

* Concurrence Classification C

[#] Concurrence Classification B

Those listed above may require additional pre-treatment.

Pre-treatment requirements

Refer to page 68 of section 4.4.3.

For premises with a truck wash a solids settlement pit or a general purpose pit minimum capacity 1000L must be provided prior to an oil arrestor.

Other issues***Detergents***

Refer to page 68 of section 4.4.3.

Stormwater

Refer to section 4.4.1 on page 66.

Electrical equipment used in treating liquid trade waste

Refer to page 76 of section 4.4.15.

4.4.25 Venetian blind cleaning**Description of activity**

This activity involves the cleaning of venetian blinds in stand-alone premises. It does *not* include mobile venetian blind cleaning.

Other issues***Stormwater***

Refer to page 71 of section 4.4.8.

4.4.26 Veterinary surgery**Description of activity**

Veterinary surgery activities are stand-alone premises where veterinary surgeons attend to animals. It does *not* include veterinary research facilities, which is included in Classification C.

Pre-treatment requirements

All sinks are to have hair traps. A dry basket arrestor with a fixed screen must be installed for floor wastes that are discharged to the sewerage system in areas where animals are kept or washed. The basket arrestor and hair traps should be cleaned on a regular basis.

If x-rays are conducted on site, a silver recovery unit (SRU) is also required to treat the waste from the X-ray process, unless digital. The effluent from an SRU should not contain more than 50 mg/L of silver. The supplier of the silver recovery unit should supply a written guarantee of the unit with regard to the requirement of effluent silver limit (50 mg/L).

A balancing tank/pit is not required for a veterinary surgery.

If the applicant decides not to install a silver recovery unit (SRU), then the untreated wastewater from the X-ray process must be removed from the premises by the DECC licenced contractor.

Other issues***Stormwater***

Refer to section 4.4.1 on page 66.

Use of disinfectants for sanitation purposes and pesticides for flea control

Refer to page 66 of section 4.4.1.

Housekeeping

Refer to page 66 of section 4.4.1.

Disposal of solid waste

Refer to page 70 of section 4.4.6.

5. Concurrence Classification B – assumed concurrence available

5.1 What is Concurrence Classification B?

Concurrence **Classification B** comprises **medium risk** liquid trade waste **dischargers** where an LWU **may apply** to the Director-General, DWE for the authorisation **to assume concurrence**. DWE may grant concurrence if the LWU satisfies the requirements set out in section 5.1.1 on page 87.

Concurrence Classification B activities are defined as:

- commercial activities listed in **Table 13** on page 86
- Classification A activities listed in Tables 8 and 9 on pages 51 and 56 that exceed the Classification A flow limit of 5 kL/d or 16 kL/d for commercial food preparation activities (as defined in page 50 of section 4.1)
- more than four (4) Concurrence Classification A liquid trade waste discharges from a single premises or a complex. This requirement does not include activities shown on the exemption list (Table 1 on page 167 of Appendix D)
- the discharge volume does not exceed 20 kL/d
- it meets the guideline limits* and/or conditions detailed in Table 2 on page 172 of Appendix D or meets the LWU's acceptance limits detailed in its Trade Waste Policy.

The following applications must be referred to DWE for concurrence (refer also to section 2.6 on page 17):

- where an applicant proposes an undersized grease arrestor ⁺
- where triple or double interceptor pits are used for oil/grease separation at an **existing** automotive or mechanical repairs related premises
- where an applicant proposes an alternative pre-treatment to those listed in Tables 8 and 9 on pages 51 and 56
- where an applicant proposes to discharge stormwater from open areas (refer to page 31 of section 3.5.4).

It is important to note that the wastewater generated from the following areas or processes must not be discharged into the sewerage system:

- spray booth
- battery room
- above ground fuel storage
- chemical storage
- oyster processing – depuration process
- dry cleaning process.

* While the quality of liquid trade waste received from prescribed pre-treatment equipment (Table 7 on page 49) will exceed the acceptance guidelines for discharge to the sewerage system in some instances (eg. section 4.3.2 on page 63), the trade waste discharge is considered acceptable if appropriate pre-treatment equipment has been installed and the equipment is properly operated and maintained by the discharger.

⁺ Not required where the LWU has been authorised to assume concurrence for trade waste dischargers with an undersized grease arrestor, subject to satisfying the requirements of section 5.1.2 on page 88.

Table 13: Commercial activities generating Concurrence Classification B

- Automatic dismantler
- Bus/Coach depot
- Construction equipment maintenance and cleaning
- Comfort Cooling Towers over 500 L/h (non-industrial)
- Education Facilities,
 - tertiary institution (TAFE, University, etc.)
- Equipment hire, maintenance and cleaning
- Glass cutting and grinding
- Hospital
- Laboratory
 - autopsy
 - dental
 - photographic
 - tertiary institution
- Medical centre (with X-Ray)
- Optical services at medical or educational facilities and workshops
- Oyster processing – shucking
- Panel beating
- Photographic
 - waterwash minilab
 - graphic arts
 - X-ray (non-digital)
- Radiator repair
- Screen printing
- Shopping complex
- Service station covered forecourt
- Vehicle washing (high volume, eg. drive through car wash, self-service car wash and/or including the discharge from the covered forecourt or refuelling bay).

More than four (4) Concurrence Classification A discharges from a single premises or a complex (excluding activities on the exemption list shown in Table 1 on page 167 of Appendix D).

5.1.1 Classification B – requirements for assumed concurrence

LWUs which meet the following requirements are encouraged to apply for authorisation to assume concurrence to approve Classification B discharges.

- the LWU has a current Liquid Trade Waste Regulation Policy consented to by DWE (refer to section 3.9.3 on page 41).
- a liquid trade waste officer who has significant experience in trade waste regulation including assessment of proposals and on-site inspections has been appointed to deal with liquid trade waste matters (refer to Note 1 below).
- the LWU has an appropriate policy on the procedure for regulation of this classification of discharges and provides a copy of the policy to DWE.
- the LWU maintains a register of all liquid trade waste dischargers within the LWU's area. The register is required to include the name of the business, type of waste, type of pre-treatment equipment and the approximate quantity of discharge, approval date and other relevant details.
- an annual report is provided to DWE, with a list of liquid trade waste dischargers approved by the LWU as Concurrence Classification B, using the form on page 119 of Appendix A.
- liquid waste generators (see Note 2) that do not discharge to the sewerage system should be separately listed in a register (in order to ensure that the LWU is aware of all possible sources should a dumping incident occur).

Notes:

- 1) It may not be feasible for some LWUs to employ an experienced trade waste officer on a full-time basis. However, the LWU may explore some other options:

- two or more LWUs may employ such an officer
- LWUs employ a contractor (or another LWU) experienced in trade waste regulation.

If services of such an officer become unavailable after the LWU was authorised to assume concurrence for Classification B, all applications in this classification must be forwarded to DWE for concurrence until a suitable replacement is in place.

- 2) Nominated liquid waste generators that do not discharge to the sewerage system may include businesses that:

- dispose of their waste by other means other than to the sewerage system due to cost or other constraints
- produce waste deemed unsuitable for discharge to the sewerage system and generate wastes such as:
 - prohibited matter
 - wastes that may have a detrimental effect on the sewerage system, worker health and safety or the environment
- have not complied with their approval conditions for discharge and their approval to discharge the waste into the sewerage system has been revoked by the LWU.

LWUs will be audited by DWE from time to time to ensure that they are complying with the requirements for approving Concurrence Classification B liquid trade waste dischargers (refer Figure 2 on page 15).

5.1.2 Undersized grease arrestors – requirements for assumed concurrence

Assumed concurrence is **not** available for premises without a grease arrestor or new premises with an undersized arrestor.

An LWU which has been authorised to assume concurrence for Classification B dischargers may also assume concurrence for **existing** dischargers who have an undersized grease arrestor, which satisfies the following requirements:

- Assumed concurrence for exceptions is applicable only to existing premises conducting food preparation and/or food serving activities in Classification A and B with an undersized grease arrestor. Refer to Table 2 on page 256 of Appendix F to determine the required minimum size of grease arrestor.
- The required size of an arrestor as determined in accordance with Table 2 on page 256 of Appendix F **does not** exceed 1500L. For example, concurrence is not applicable to a restaurant with 300 seats which requires a 2000L grease arrestor.
- The size of the existing grease arrestor is not less than 50% of the required capacity. For example, if the activity requires a grease arrestor of 1500L, the capacity of the existing arrestor must not be less than 750L.
- The existing grease arrestor should be of a boat shaped or a flat bottom arrestor type.
- Initially pump out should be carried out at least every four (4) weeks for arrestor capacity less than 750L and 8 weeks for 750L and greater capacity arrestors. This may need to be reviewed and modified by the LWU after trade waste inspections are carried out.
- Appropriate housekeeping practices are implemented by the discharger (refer to section 9.1 on page 274 of Appendix F).
- The approval applies only to the existing applicant and is not transferable. If the type or scale of the activity change or renovations/refurbishment are carried out, the LWU should generally require installation of an appropriate grease arrestor.
- Conditions of approval need to include conditions relevant to the activity and additional Conditions 115 to 119 as shown in Appendix E on page 227.

The application needs to be provided to DWE for concurrence if the above requirements are not satisfied.

5.2 The approval process for Concurrence Classification B

5.2.1 Information the applicant needs to supply

An applicant who wishes to discharge Concurrence Classification B liquid trade waste to the sewerage system must submit a liquid trade waste application to the LWU providing all necessary information (refer Table 1 on page 25).

A sample application form is provided in Appendix C (Form C1 on page 126). It sets out the minimum information requirements that should be supplied by an applicant. Each LWU may use this form, adapting it to suit its administrative procedures, if desired.

5.2.2 Information LWU needs to check

As a minimum, the LWU should check that the following information is provided by the applicant:

- signed application form (signature of the owner or a person who has the consent of the owner – refer section 3.4 on page 22)
- drainage diagrams and plans of the site
- type of process/activity generating the liquid trade waste
- chemicals to be used – supply MSDS
- quantity and rate of discharge
- likely substances in waste streams intended for discharge to sewerage system
- details of the proposed pre-treatment equipment including other instrumentation requirements – flowmeter etc
- maintenance schedule for pre-treatment equipment, including all pits, tanks, pumps, etc./details of maintenance personnel
- expected quality after pre-treatment – sample data, guaranteed by equipment supplier or recommended by consultant
- measures for prevention of stormwater ingress to the sewerage system
- chemical handling and storage facilities, where necessary
- waste disposal management (other than to sewer)
- applicant's contact details.

5.2.3 Assessing and approving an application

There are several factors to consider as part of the assessment process, as discussed in section 3.5 on page 24. Two of the most important factors are whether the sewerage system has the capability to accept the quality and quantity of liquid trade waste proposed for discharge and whether appropriate pre-treatment equipment will be provided.

In addition, to the factors detailed in section 3.5, the following also need to be considered in the assessment process:

- whether the proposed pre-treatment equipment meets the adequacy and compliance requirements of the guidelines in Appendix F, including other instrumentation requirements – flowmeter etc
- waste management (other than to sewer) – prohibited matter, sludge, waste streams not permitted to discharge to sewer, DECC licenced contractor details – maintenance of a log book on-site with collection date, quantity and personnel
- sewer discharge monitoring requirements/procedures –sampling parameters and frequency of sampling
- determine conditions of approval for discharge – some may be listed from Appendix E. Refer to Tables 8 and 9 (pages 51 and 56) as many proposed activities will be similar to those listed in the above tables and then use relevant conditions from Appendix E, modify as required. Draft additional conditions where necessary
- compliance with the administrative procedures outlined in the Local Government Act
- carry out a preliminary site inspection.

If the LWU proposes to approve the application, it must forward the application and the LWU's proposed conditions of approval to DWE for concurrence unless the LWU has been authorised to assume concurrence for Classification B (section 2.6 on page 17). This does not include discharges from the areas or processes listed on page 85 of section 5.1.

5.3 Liquid trade waste on-site inspection

An important part of an assessment is the initial and follow-up on-site inspections (refer to section 3.12 on page 45).

A **Site Inspection** form is provided in Appendix C (page 145) for use in carrying out site inspections. It is designed to provide prompts to the trade waste officer and assist with recording information and may be adapted for specific dischargers.

The Site Inspection form incorporates:

- information that is required prior to the site inspection
- details for flow metering data collection including the important step of recording the fresh water flow data
- details for sampling analysis
- a sheet for recording meeting/discussion notes
- a *Pre-treatment Inspection Checklist* that details items usually checked and recorded at a pre-treatment inspection (items may be deleted or added as applicable to the particular activity).

6. Concurrence Classification C – concurrence mandatory

6.1 What is Concurrence Classification C?

Concurrence **Classification C** comprises **high risk and large** liquid trade waste **dischargers** where **concurrence must be sought** by the LWU **from** the Director-General of **DWE** as defined in section 2.4 on page 16. Examples of Classification C activities are shown in **Table 14** overleaf.

Concurrence Classification C activities are those:

- any activity which is in Classification A, Classification B or Classification S that exceeds a discharge volume of 20 kL/d, and
- any activity not nominated in the above Classifications.

Note that the LWU must also seek DWE concurrence for approvals of some trade waste applications in Classifications A and B as indicated in section 2.6 on page 17, section 4.1 on page 49 and section 5.1 on page 85.

6.2 The approval process for Concurrence Classification C

6.2.1 Information the applicant needs to supply

A sample application form is provided in Appendix C on page 126. It sets out the minimum information requirements that should be provided by the applicant. LWUs may use this form and adapt it to suit their administrative procedures. The applicant should provide all the information required by this form relevant to the proposed discharge.

In addition, the applicant should also provide:

- A copy of any relevant report, such as an Environmental Impact Assessment
- A copy of the trade waste consultant's report, if applicable
- Plans and specifications of the work to be carried out
- Details of the intended use of introduced micro-organisms (bioadditives), if applicable
- Details of any recycling program or water reuse system
- Details of solids disposal
- Any plans for future expansion (sewer capacity may not be available in the future for the intended discharge)
- Any additional details as requested by the LWU
- A Due Diligence Program and a Contingency Plan (see Appendix H for details).

Dischargers must ensure that only laboratories that hold National Association of Testing Authorities (NATA) registration for the class of test(s) or specific test(s) be contracted to conduct analyses for substances specified in an application.

Table 14: Examples of Classification C activities

Abattoir	Feather Washing	Oil Recycling
Acid Pickling	Fellmonger	Oil Refinery
Adhesive/Latex Manufacture	Felt Manufacture	Paint Manufacture
Agriculture and Veterinary Drugs Manufacture	Fertilisers Manufacture	Paint Stripping
Aluminium Processing	Fibreglass Manufacture	Paper Manufacture
Anodising	Filter Cleaning	Pet Food Processing
Bakery (wholesale)	Fish Co-op	Pharmaceuticals Manufacture
Bitumen and Tar	Flour Mill	Plants Nursery (Open Areas)
Bottle Washing	Food Processing	Plaster Manufacture
Brewery	Foundry	Potato Processing
Butcher (wholesale)	Fruit and Vegetable Processing	Poultry Abattoir and Processing
Cannery	Fruit Juice (factory)	Printing
Cardboard and Carton Manufacture	Galvanising	Rubber Production
Carpet Manufacture	Glass Manufacture	Saleyards
Caustic Degreasing	Glue Manufacture	Seafood Processing
Cereals Manufacture	Grease Trap Waste Disposal	Sheet Metal Fabrication
Chemicals Manufacture	Honey Processing	Slipway
Chemicals Repackaging	Ice Cream Manufacture	Smallgoods Manufacture
Condiments/Sauces Manufacture	Industrial Waste Treatment	Soft Drink Manufacture
Confectionery Manufacture	Ink Manufacture	Starch Manufacture
Contaminated Site Treatment Facility	Joinery and Furniture	Sugar Refinery
Cooling Towers	Laboratory Agricultural Research	Tanker Washing
Cosmetics and Perfumes Manufacture	Laboratory Animal health (Parasitology)	Tannery
Cotton/Synthetics Dyeing/Spinning	Laboratory Chemical (Pesticides)	Tea/Coffee Manufacture
Cyanide Hardening	Laboratory Film (Movies)	Textile Manufacture
Dairy Products Processing	Laboratory Nuclear Medicine And Radioisotope	Timber Processing
Detergent/Soaps Manufacture	Laboratory Pharmaceutical	Tip Leachate
Detergent Mixing	Laboratory Veterinary Research	Transport Depot/Terminal
Drum Washing	Laboratory Police Crime Scene	Truck washing (internal)
Edible Oils and Fats Manufacture	Leather Finishing	Water Treatment Backwash
Egg Processing	Liquid Wastewater Treatment Facility	Waxes/Polishes
Electroplating	Meat Packing/Preserving	Wine and Spirit Bottling
Engine/Gearbox Reconditioning	Metal Finishing	Winery
Essence and Flavours Manufacture	Metal Processing	Wool Processing
Extrusion and Moulding	Mirrors Manufacture	Yeast Manufacture

6.2.2 Information LWU needs to check

As a minimum, the LWU should check that the following information is provided by the applicant:

- signed application form (signature of the owner or a person who has the consent of the owner – refer section 3.4 on page 22)
- drainage diagrams and plans of the site
- type of process/activity generating the liquid trade waste
- chemicals to be used – supply MSDS
- quantity and rate of discharge to sewer
- details of the proposed pre-treatment equipment including:
 - bunding
 - other instrumentation requirements – flowmeter etc
 - pH correction system and diversion system, if applicable
 - capacity of pre-treatment equipment
 - flow rate of pumping equipment
 - detention times of tanks/pits and ponds
- maintenance schedule for pre-treatment equipment, including all pits, tanks, pumps, etc./details of maintenance personnel
- likely substances in waste streams intended for discharge to the sewerage system
- expected waste quality after pre-treatment, confirmation by one of the following:
 - supply sample analysis data of the proposed waste quality
 - guarantee by equipment supplier
 - supported and recommended by consultant
 - sample analysis data supplied from an existing premises with a similar process and pre-treatment equipment
- measures for prevention of stormwater ingress to the sewerage system
- chemical handling and storage facilities, where applicable:
 - storage location
 - bunded area (refer to section 3.2.2 on page 240 of Appendix F)
- waste disposal management (other than to sewer) – prohibited matter, sludge, waste streams not permitted to discharge to the sewerage system:
 - management options
 - DECC licenced contractor details
 - maintenance of a log book on-site with collection date, quantity and personnel
- applicant's contact details.

6.2.3 Assessing the application and forwarding supporting information to DWE

In order to assess an application the LWU should examine all the relevant information from the applicant to determine whether its sewerage system can satisfactorily accept and treat such a discharge.

The LWU should make the applicant aware that approval of this application does not constitute a guarantee to approve any future variation to the application. Such future approval will be dependent on the available capacity of the sewerage system at that time and must not be assumed.

The following information needs to be assessed by the LWU and forwarded to DWE for assessment of the application:

- Adequacy of the pre-treatment proposal
- Capacity of the sewerage system to accept the hydraulic load (sufficient spare hydraulic capacity within the sewer pipes and pumping stations, potential for overflows)
- Capacity of the sewage treatment works to accept both hydraulic and biological load
- Impacts on the environment
- Any impacts on the workers health and safety
- Any impacts on public health or amenity
- Any impacts on the sewerage system assets
- Any impacts during wet weather events (if so, proposed action plan)
- Any ingress of stormwater from this proposal
- Impact on the DECC licence and any other DECC requirements
- Impact on effluent and biosolids management
- Impact on salinity
- Any LWU restrictions ie:
 - times of discharge
 - volume and flow rates
- LWU requirements in regard to records, eg
 - maintain a logbook
 - chart recording etc
- Sampling requirements by the applicant specifying:
 - location
 - nominated parameters
 - type and frequency
- The LWU audit samples (type and frequency)
- Carry out a preliminary site inspection and provide a report
- A draft copy of the LWU's proposed conditions of approval
- A draft copy of liquid trade waste agreement, if applicable
- Any other LWU requirements or comments.

6.3 Additional considerations

Acceptance of some large or industrial trade waste discharges may require modifications to a sewage treatment works or transportation system.

Augmentation/modification of the LWU sewage treatment works or giving effluent (effluent reuse) from the LWU sewage treatment works requires the approval of the Minister for Water under section 60 of *Local Government Act 1993*. Section 60 describes the scope of those activities for which the Minister's approval is needed and associated administrative requirements are set out in the relevant regulation. An applicant should be advised of the extent of the work required and the likely sewerage developer charges involved.

For more information on section 60 approvals please contact:

Senior Manager
Water Utility Performance
Level 18
227 Elizabeth Street
Sydney NSW 2000
Telephone: 8281 7435
Fax: 8281 7351

6.4 Liquid trade waste on-site inspection

An important function for LWUs is the initial and follow-up on-site inspections (refer to section 3.12 on page 45). A preliminary inspection is particularly important for proposed discharges in this classification.

A **Site Inspection** form - in Appendix C (page 145) has been specifically designed for Classification C dischargers. This form provides prompts to the LWU trade waste officer, assists with recording information and may be adapted by the LWU for specific dischargers (refer to section 5.3 on page 90).

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7 Concurrence Classification S – concurrence for acceptance of septic tank and pan waste

7.1 What is Concurrence Classification S?

Concurrence Classification S comprises **septic tank and pan waste** that may be accepted into the LWU's sewerage system with the concurrence of the Director-General, DWE.

These wastes include:

- septic – effluent and septage
- chemical toilet waste
- pan content/night soil
- ship-to-shore pump-out from boat/marinas.

The definition of “**pan**” is identified in the *Local Government (General) Regulation 2005* as:

“any moveable receptacle kept in a closet and used for the reception of human waste.”

In accordance with the Regulation, septic tank and pan wastes are now defined as trade waste. Acceptance of these wastes into the sewerage system requires the concurrence of DWE under section 90(1) of the *Local Government Act 1993* and Clause 28 of the Regulation.

LWUs which meet the following requirements are encouraged to apply for authorisation to assume concurrence for the acceptance of nominated waste as indicated overleaf in Classification S:

- the LWU has a current Liquid Trade Waste Regulation Policy which incorporates the acceptance of this waste to the sewerage system consented to by DWE (refer to section 3.9.3 on page 41)
- an officer, who has significant experience in regulation of this waste including assessment of proposals and on-site inspections (where applicable) has been appointed to deal with assessment of proposals and control of this waste
- the LWU has an appropriate policy on the procedure for regulation of this waste and provides a copy of its policy to DWE
- the LWU maintains a register of all applications in this category. The register must include the name of business, type of waste, the approximate quantity of waste, approval date and other relevant details.

LWUs may be authorised to assume concurrence for the acceptance of the following wastes:

- septic tank waste – effluent and septage
- chemical toilet waste
- ship-to-shore pump-outs from boat/marinas.

Applications to accept the following Concurrence Classification S waste must be referred to DWE for concurrence:

- night soil
- where the application is for the discharge of waste exceeding 20kL/d.

LWUs will be audited by DWE from time to time to ensure that they are complying with the requirements for acceptance of such waste (refer Figure 2 on page 15).

7.2 The approval process for Concurrence Classification S

7.2.1 Information that the applicant needs to supply

An applicant who wishes to discharge Concurrence Classification S liquid trade waste to the sewerage system must submit a liquid trade waste application to the LWU providing all necessary information.

A sample application form is provided in Appendix C (Form C1 on page 126 and C6 on page 143). It sets out the minimum information requirements that should be supplied by an applicant. Each LWU may use this form, adapting it to suit its administrative procedures, if desired.

The following information should be provided to facilitate the assessment process:

- Name, address and telephone number of business/industry responsible for the discharge of the proposed waste to the sewerage system
- Name and telephone number of contact person for business/industry
- Type of waste collected
- Identification of the pump out service provider
- Volume of waste for acceptance into the sewerage system (daily, weekly, annual)
- Frequency of discharge
- Proposed rate of discharge
- The use of odour inhibiting or other chemicals and their dosage rates
- Proposed method of discharge including plans and drawings if appropriate
- Information on a disposal point including plans and drawings, if applicable
- Proposed method of flow measurement where required
- Proposed method of waste volume measurement, if applicable
- Security arrangement at the proposed disposal site, if applicable
- Bunding and roofing over the proposed dump point
- Any additional information requested by the LWU.

7.2.2 Assessing and approving the application

For a proposal to be assessed, the following need to be addressed:

- The capacity of the sewage treatment system to accept both the hydraulic and biological loads
- Impacts on the environment
- Any impacts on the worker health and safety
- Any impacts on public health and safety or amenity
- Assessment of odour control problems
- Any impacts on the sewerage system assets
- Impact on any DECC licence (ie. STW) and other DECC requirements
- Impact on effluent and biosolids management
- Measures taken to ensure the integrity of the waste
- Security of a disposal point.

The LWU's assessment of the proposal and proposed conditions of approval must be referred to DWE, unless the LWU has been authorised to assume concurrence for approval of this type of waste.

Note: If structural changes or additions are required at the STW this may require approval under section 60 of the Local Government Act (refer to section 6.3 on page 95).

7.3 Types of waste and their management

7.3.1 Septic tank effluent

Septic Tank Waste may include septic tank effluent and/or septage.

The waste is anaerobic in nature and hence the presence of sulphides can be expected. Septic tank effluent is usually of similar strength to domestic waste, but has a higher concentration of ammonia. Septic tank effluent is often managed via on-site systems such as soil absorption, evapotranspiration beds or trenches. Where on-site management is not provided, the septic tank effluent must be pumped out on a regular basis. The effluent may then be treated at the sewage treatment works.

It is preferable for the septic tank effluent to be discharged at the STW inlet as this provides better opportunity for control and monitoring of this waste. Discharge at a pump station is normally not monitored and may present a greater risk of odour generation or discharge of waste not allowed to the sewerage system, eg. grease trap pump-outs. If the discharge point at the STW is not suitable, the waste should be discharged at an immediate upstream pumping station that can provide a minimum rate of dilution of 1:5 (septic/fresh sewage). This would normally entail discharge during peak flows.

Problems that could arise from the discharge of septic tank effluent include:

- odours at the discharge point
- problems with the operation of the sedimentation tanks (if present) due to the septic effluent causing settled sludge to float to the surface of these tanks
- sludge bulking in extended aeration treatment units associated with the presence of sulphides.

Such problems may be overcome by:

1. dosing the road tankers with Hydrogen Peroxide (100 mL of 35% H₂O₂ per 1000 L of effluent). Contact time of at least 30 minutes and adequate mixing must be provided before discharge to the treatment works. Care must be taken when handling hydrogen peroxide as it can cause serious damage to the eyes and skin
2. aerating the waste in a septic waste collection tank before discharge
3. discharging the waste into an aeration tank only during aeration.

The problems with the operation of the primary sedimentation tanks can be minimised by discharging the effluent into the head of the treatment works during the morning peak flow period or preferably constructing a covered holding tank at the works for the tankers to discharge into. The effluent can then be pumped to the head of the works at a controlled rate. The advantages of using a holding tank are:

- odours and the risk of spill can be minimised by the use of a hose to connect the tankers to the holding tank. The effluent should be piped to the bottom of the tank and then directed across the floor to minimise cascading which may increase the risk of releasing of offensive gases and odours
- aeration and mixing (if chemicals are used for odour control) can be provided prior to discharge
- the effluent is pumped to the works over a longer period of time, providing increased dilution with the incoming sewage
- a concrete apron can be constructed next to the holding tank so any spills can be contained
- any suspect material can be examined before it is pumped to the treatment works.

Refer to the photos on pages 102 and 103 for examples of a septic effluent dump point and holding tank.

7.3.2 Septage

Septage is the material pumped out during desludging of the septic tank and consists of the partly decomposed sludge, scum and liquid. Septage has a far greater concentration of organic material, solids and grease than septic tank effluent or raw sewage.

Septage should not be disposed of into a digester, but can be accepted directly into a sludge lagoon below the liquid level. Screening should be provided prior to discharge into a sludge lagoon. An access road suitable for tankers and an appropriate discharge area should also be provided. Septage should not be discharged into a lagoon that is to be emptied within six (6) months. This is required to allow sufficient time for pathogen reduction and sludge stabilization in the lagoon.

Septage waste may be accepted at the inlet of some sewage treatment works where screens suitable for this waste are available, eg. a mechanical step screen or a rotating drum screen. The LWU must ensure that such waste does not cause nuisance and/or compromise the performance of the STW. It is recommended that the LWU consult with DWE if a disposal point at the inlet of a treatment works is proposed.

7.3.3 Due diligence

As discussed in section 7.3.1 on page 99, septic tank effluent should be preferably discharged at the STW inlet. However, under controlled circumstances septic tank effluent may be accepted at another approved location in the sewage transportation system.

The emptying of tankers with septage into manholes or sewage pumping stations is not permitted, regardless of dilution or chemical pre-treatment, given the impact this material can have on the sewerage system. Septage may only be accepted at a designated point at the STW.

Grease trap waste is not permitted to be discharged into the sewerage system.

The proposal should include a statement that septic tank effluent will not be mixed with septage or grease trap pump out, eg. dedicated tankers will be used for each type of waste. If this is impractical for a small operation, a road tanker is required to be washed after pumping out grease trap or other waste and disposing of such waste at the appropriate facility.

To ensure the integrity of the waste, the discharge of septic tank waste should be made in the presence of an LWU employee.

The LWU should take samples of this waste periodically and test for BOD₅, suspended solids, oil and grease and ammonia (Nitrogen). The results of these tests may indicate whether grease trap pump-out or septic sludge has been discharged with the septic tank effluent.

It is recommended that the LWU includes a proposal for the discharge of septage, a due diligence program and contingency plan in its conditions of approval.

A log book must be kept at each STW and be filled in on each occasion of septic waste discharge as part of the LWU's due diligence program.

The log book should detail the following items:

- the day, date and time of discharge
- volume discharged
- contractor's name (and vehicle number if appropriate)
- pH reading
- whether odour problems occurred and contingency measures taken
- the LWU's periodical sample analysis results, when conducted. A copy of the analysis results is to be forwarded to DWE's regional office upon request
- the log book is to be made available to a DWE officer on request.

7.3.4 Decommissioning of on-site systems

When the LWU directs new tenements to be connected to a sewerage system, the on-site systems need to be decommissioned and the owners will need to dispose of the septic tank contents.

The householder needs to call a licenced pump-out services contractor who will remove the tank contents and decommission the on-site facilities.

As part of the connection, the LWU needs to issue a clear directive to the householder how to dispose of the septic tank contents of the particular premises.

7.3.5 Suggested conditions of approval

Example draft conditions of approval for Septic tank effluent/septage discharges

Table 15: Approval conditions for septic tank waste

Activity	Conditions (refer to Appendix E)
Septic tank effluent	1 to 11, 60, 61, 62, 63a, 63e, 76, 111 to 114.
Septage	1 to 11, 60, 61, 62, 63a, 63e, 76, 110, 112 to 114.

SEPTIC TANK EFFLUENT RECEIVAL STATION



Figure 6: Arrival of loaded tanker



Figure 7: Tanker unloading effluent through flexible connection and KAM-LOK coupling



Figure 8: Loaded tanker in bunded area which drains into holding tank

7.3.6 Ship-to-shore pump-outs

Wastes that may be expected from boats/marinas include:

- on-board toilet wastes

Wastes requiring further pre-treatment:

- liquid galley waste
- dry dock cleaning waste from maintenance

and wastes prohibited from discharge:

- bilge water
- stormwater or tidal waters.

Reference should be made to *Marine Pollution Regulation 2006*, 'Environmental Action for Marina, Boatsheds and Slipways' DECC, 2007 and 'Best Practice Guidelines for Waste Reception Facilities at Ports, Marinas and Boat Harbours in Australia and New Zealand', 1997, ANZECC and Australian Transport Council.

Vessels with a single waste holding tank:

The LWU should encourage the owners of vessels to make provision for a separate on-board holding tank for galley waste. Alternatively, a small (100 litre) grease arrestor can be installed within the galley. This would complement the LWU strategy of retro-fitting grease arrestors at the existing land-based premises.

In situations where toilet waste is combined with galley waste the discharge should be pumped direct to sewer and not discharged through a land based grease arrestor.

Vessels with separate holding tanks for toilet waste and galley waste (post 1 January 2005)*:

Vessels with separate holding tanks for toilet and galley wastes must have them pumped ashore separately. The toilet waste can be pumped directly to the sewerage system, but galley waste must be pumped to the sewerage system via a suitable grease arrestor on shore.

7.3.7 General

The pumping of seawater into the sewerage system has the potential to adversely impact on sewage treatment processes. It can also present a safety risk to personnel and result in corrosion.

Salinity levels can affect the process operation and may pose a problem to the discharge environment. It is important to take into consideration the impact of saline wastes on the effluent management.

Bilge water is prohibited from discharge to the sewerage system as it can be contaminated with diesel, oil, salt etc.

* Refer to *Marine Pollution Regulation 2006*, Section 31.

Should odour problems be experienced with the ship to shore pump-out facility, then odour control measures may be required.

A flow measurement system may be required to determine the volume for charging and monitoring purposes. The following options should be considered:

- At private facilities where nine (9) vessels or fewer are serviced, an “hours run” meter may be fitted to the motor of a positive displacement wastewater pump
- At commercial facilities, and private facilities where more than nine (9) vessels will be serviced in addition to the “hours run” meter a suitable section of straight pipe work should be fitted to the rising (pumped) main which conveys the wastewater to the sewerage system. 240V outlet should be provided within 2 m of the straight pipe work section for the installation of an in-line flow meter. This can be on a temporary basis for auditing purposes or a permanent basis should the discharge flow exceed 5000 L/d
- Where the pump-out facility exceeds 5000 L/d permanent flow metering should be included in the proposal
- All flow meters shall incorporate a liquid crystal display (LCD) or light emitting diode (LED) digital display not able to be reset for total volume pumped in kL, together with the instantaneous flow rate in L/s
- The flow meter to be calibrated every 12 months and a “certificate of calibration” provided to the LWU.

Measures should be taken to avoid the potential misuse of the facility. Possible safeguards include, but are not limited to:

- “KAM-LOK” fittings that prevent pumping unless the hose is fitted appropriately. This prevents pump-out if the hose was simply immersed in liquid (eg. into a bilge)
- Restricting the length of hose from the pump-out facility to the minimum. This will make it difficult for the hose to be placed in the bilge of a vessel
- Allowing the pump-out to operate for only a short period of time (usually one (1) minute) after being switched on.

7.3.8 Galley waste

Where liquid galley waste is proposed, it is recommended that a separate pump-out facility including a grease arrestor is provided and that the waste passes through the grease arrestor prior to discharge to the sewerage system. The grease arrestor should be sized according to the flow rate with a minimum capacity of 1000 L, refer to Table 2 on page 256 of Appendix F for sizing.

Combined wastes such as galley wastes/greywater/slipway/ stormwater are **not permitted** to discharge through the grease arrestor.

7.3.9 Hose connections for ship-to-shore pump-outs

Special non inter-changeable hoses must be provided for the following pump-out services. Both the hoses on the shore, and any hoses on the vessel, must have a ball valve immediately following a suitable KAM-LOK fitting to prevent spillage when the hose is disconnected from the vessel:

1. Toilet Wastes

40 mm Male KAM-LOK on vessel

40 mm Female KAM-LOK on hose end

2. Galley Wastes

40 mm Female KAM-LOK on vessel

40 mm Male KAM-LOK on hose end

3. Chemical Toilets (portable)

May be carried ashore for discharge to sewer via a flushed “slops hopper” or may be disposed of via a suction KAM-LOK fittings fitted as described in item (1) above.

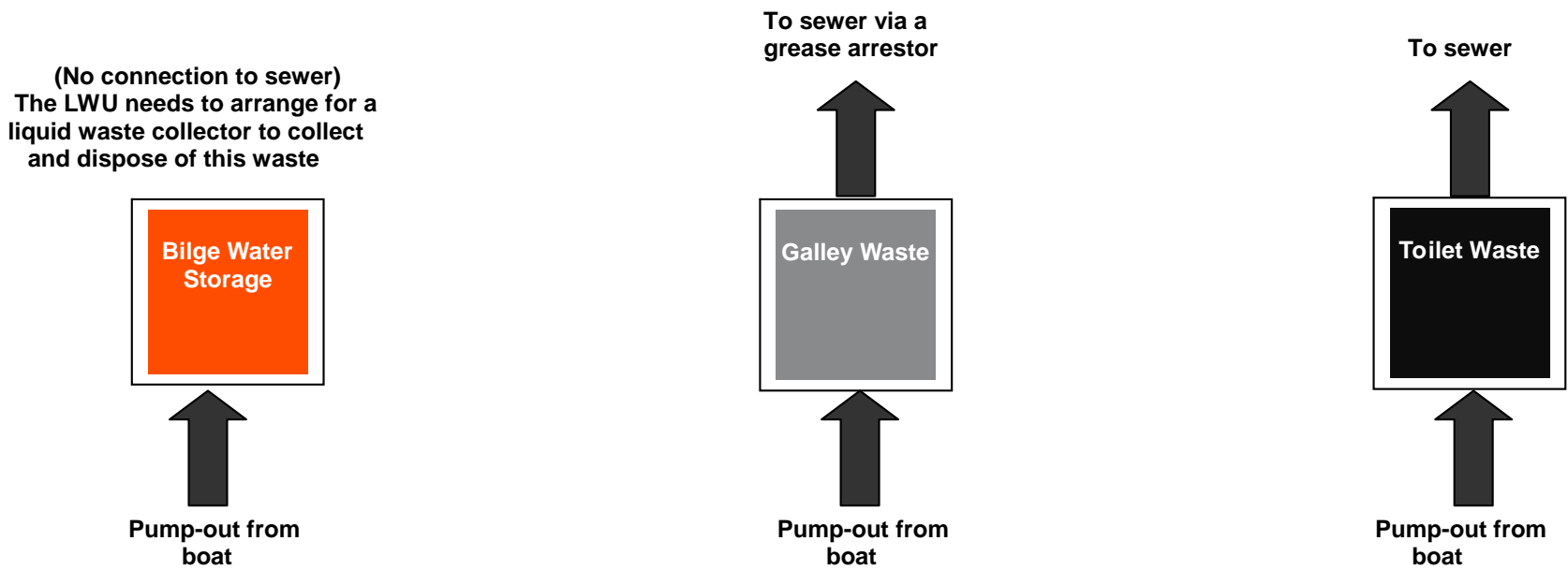


Figure 9: Boat pump-out arrangement*

* Note – Chemical toilet waste disposal arrangement is not shown

Pump suitable for greasy waste.

Hourly pumping rate shall not exceed the capacity of the GA (ie. for 1000L GA pumping rate shall not exceed 1000 L/h

Grease arrestor (above ground or inground)
(1000L minimum capacity)

Galley Waste

40 mm diameter
quick coupling
device (male)

* Septic Waste

- * From boats with separate holding tanks for toilet waste &
- * From boats with combined toilet & galley waste holding tanks

Bilge Water

**BILGE WATER
Not
Permitted
for Discharge
to the Sewer**

40 mm diameter
quick coupling
device (female)

Pump

PUMP

Hours Run meter

Pump to
sewer

Note: This is only one arrangement. It is essential that the galley waste stream is connected to sewer only after pre-treatment (eg. grease arrestor)

Figure 10: Boat Pump-out Facility (Schematic Diagram)

7.3.10 Application information required for approval

The type and number of vessels either moored at the facility/marina and/or would utilise the pump-out facility on a regular basis:

- Private
- Commercial.

Process Type: (Indicate which process/es is/are proposed)

- Septic waste (Toilet Waste with no chemical additives)
- Chemical toilet wastes
- Liquid galley wastes
- **Bilge water** is not permitted for discharge
- Owner/operator details
- Commercial facility
- Daily quantities of waste and the rate of discharge
- Times and peak periods of discharge
- The use of odour inhibiting or other chemicals and their dosage rates
- The LWU's assessment of the dilution available in the receiving sewer and concentration limit of formaldehyde expected to enter the STP
- A copy of any relevant reports or documents (eg. EIS, consultant's report etc.)
- A schematic layout of the proposed system and/or proposed pre-treatment equipment
- Any other relevant information
- The LWU's proposed conditions of approval.

7.3.11 Suggested conditions of approval

The minimum requirements for approval regarding ship-to-shore pump-out facilities are listed below. Additional conditions may be included, but none of the conditions shown may be deleted. The LWU must set out all of the conditions it intends to include in an approval for discharge when forwarding the application to DWE for concurrence.

Table 16: Approval Conditions for ship-to-shore pump-outs

Activity	Suggested Conditions (refer to Appendix E)
Septic wastes	1 to 11, 61 to 63.
Chemical toilets	1 to 11, 61 to 63.
Liquid Galley Wastes	1 to 11, 17, 30, 31, 61 to 63.

Note: *Where vessels are supplied with potable water from a public water supply special permission is required and appropriate backflow prevention is to be fitted to the on-shore distribution point.*

7.3.12 Caravan/motorhome/caravan park waste dump point

For dump point the following needs to be considered:

- bunding and other measures to exclude rainwater
- security arrangements to protect the integrity of the site
- the provision of freshwater for hosing down.

Consideration should be given to installing a waste dump point with provisions to accept either a hose connection from a vehicle and a manual cassette type cleaning situation.

7.3.13 Chemical toilet waste

Where formaldehyde based compounds are used in chemical toilets, the concentration of formaldehyde in the sewage entering the sewage treatment works should not exceed a value of 10 mg/L. Such products adversely affect the sewage treatment process and the environment.

Additives most frequently used are:

- *Formaldehyde*
- *Gluteraldehyde.*

It is understood that the use of formaldehyde is slowly being phased out, but some activities that previously generated this type of waste (and may still do) are:

- ship-to-shore pump-outs (refer 7.3.6 on page 104)
- caravans/motorhomes (refer 7.3.12 on page 109)
- portable chemical toilets.

Portable chemical toilet waste

Portable chemical toilet wastes are generated from activities associated with the collection and disposal of wastes from portable toilets, such as from building sites. The containers may be replaced individually or pumped out by a tanker and emptied when full at another location. In these situations a dump-out facility site (for cassette/container emptying) and/or KAM-LOK fitting on the discharge point (for tanker disposal) is required.

If such a point is proposed the following needs to be considered:

- bunding and other measures to exclude rainwater
- security arrangements to protect the integrity of the site
- the provision of freshwater for hosing down
- the provision of a dosing facility for chlorination, if odours occur
- a discharge metering system for volume charging purposes
- the proposed time and period of discharge.

Portable toilet waste may present a significant problem when large volumes of chemical toilet waste need to be disposed of during special public events, for example festivals, shows etc. Local organisers should advise the LWU of such proposed events well in advance to allow the LWU sufficient time to assess a proposal for acceptance of this waste. The application and the LWU assessment must be referred to DWE for concurrence.

7.3.14 Other types of waste

The waste from a macerator/grinder of human waste combined with a disposable product (such as a disposable bedpan, sanitary napkins and other solid products), is not to be disposed of (or in the case of grinder/macerators to be connected) to the sewerage system. Refer to page 171 of Appendix D and to the *NSW Code of Practice: Plumbing and Drainage, 2006*. Solid waste includes, but is not limited to, sanitary napkin, placenta, surgical waste, disposable nappy, mache bedpan and urine containers.

Therefore, the LWU should not accept any discharges from such devices into its sewerage system.

8 References

2007/08 NSW Water Supply and Sewerage Performance Monitoring Report, Department of Water and Energy (available at www.dwe.nsw.gov.au).

Australian Drinking Water Guidelines, Australian Government National Health and Medical Research Council/National Resource Management Ministerial Council, 2004.

Best Practice Guidelines for Waste Reception Facilities at Ports, Marinas and Boat Harbours in Australia and New Zealand, ANZECC and Australian Transport Council, 1997.

Best-Practice Management of Water Supply and Sewerage Guidelines, Department of Water and Energy, August 2007 (available at www.dwe.nsw.gov.au).

Biosolids Management for Country NSW, Department of Land and Water Conservation, 1997.

Department of Environment and Climate Change website (www.environment.nsw.gov.au).

National Wastewater Source Management Guideline, WSSA, July 2008
(available at www.wsaa.asn.au)

Principles of Trade Waste Management, short course, Centre for Wastewater Treatment, University of NSW, 1988.

Sydney Water website <http://www.sydneywater.com.au/>

Wastewater Treatment Operator Training Course Notes, Department of Water and Energy, 2004.

Useful internet sites

Site	Internet Address	Comments
Chemical Abstracts Service	www.cas.org/index.html	Information about Chemical Abstract Registry Numbers
Department of Water and Energy	www.dwe.nsw.gov.au	
Department of Environment and Climate Change	www.environment.nsw.gov.au	
Australian Safety and Compensation Council	www.ascc.gov.au	
Victorian Workcover Authority	www.workcover.vic.gov.au	
Water Services Association of Australia	www.wsaa.asn.au	
WorkCover NSW	www.workcover.nsw.gov.au	Publications/law and policy/codes of practice
NSW Water Authorities		
Hunter Water Corporation	www.hunterwater.com.au	
Sydney Water Corporation	www.sydneywater.com.au	
Australian Capital Territory		
ACTEW	www.actew.com.au	
Queensland Water Authorities		
Brisbane Water	www.brisbane.qld.gov.au	
Gold Coast Water	www.goldcoast.qld.gov.au	
Victorian Water Authorities		
Barwon Water	www.barwonwater.vic.gov.au	
City West Water Ltd	www.citywestwater.com.au	
Goulburn Valley Water	www.gvwater.vic.gov.au	
South East Water Ltd.	www.southeastwater.com.au	
Yarra Valley Water Ltd	www.yvw.com.au	
Tasmanian Water Authorities		
Glenorchy City Council	www.gcc.tas.gov.au	
Hobart City Council	www.hcc.tas.gov.au	
Launceston City Council	www.launceston.tas.gov.au	
Northern Territory		
NT Power and Water Corporation	www.nt.gov.au/pawa	
South Australia		
South Australian Water Corporation	www.sawater.com.au	
Western Australia		
Water Corporation WA	www.watercorporation.com.au	
New Zealand		
WaterCare Services Ltd.	www.watercare.co.nz	

Notice of Concurrence

Our ref: 0425272
Your ref: Trade Waste Policy
The General Manager
_____ Council

Attention: _____
17 May 2002

Dear Sir

**Notice of Concurrence for discharge of minor liquid trade wastes
Under Section 90(2) of the Local Government Act 1993**

I refer to my letter of 8 April 2001 regarding a proposal to issue all councils a notice of assumed concurrence for a range of minor liquid trade waste discharges.

As you are aware, councils are responsible for approving the discharge of liquid trade waste to their sewerage systems, under section 68 of the Local Government Act 1993. However, the regulations to the Act require that councils obtain the concurrence of the Director-General of the Department of Land and Water Conservation before providing this approval.

The Department recognises that all councils have the capability and competency to assess and approve certain minor liquid trade waste applications. A number of councils also have officers specifically trained and experienced in liquid trade waste management and can therefore effectively administer applications for larger dischargers.

In recognition of this, I am now issuing a Notice of Concurrence to all councils that have responsibility for the approval of liquid trade waste discharges to the sewerage system for those discharges listed in the attached Schedule to the Notice. This Notice is issued under section 90(2) of the Local Government Act 1993.

Please find enclosed a Notice of Concurrence for your council. Also enclosed are:

1. A Reply Notice, to be signed and returned to the Department of Land and Water Conservation within 28 days of the date of the notice.
2. A copy of the *Concurrence Guideline for Liquid Trade Waste Discharges to the Sewerage System* (January 2002), to be kept as a guide on all matters to do with concurrence. The Guideline gives a full description of the minor discharges that the Notice applies to.
3. An annual reporting proforma, to be filled in and sent to the Department once a year, detailing discharges approved with assumed concurrence for the calendar year.

The Department has in the past issued a Certificate of Concurrence for minor discharges to the sewerage system. The certificate will be superseded by the Notice of Concurrence when the Reply Notice is forwarded to the Department.

If you require any further information on assumed concurrence or the Concurrence Guideline, please do not hesitate to contact either Padmini Vitharana, Trade Waste Coordinator on 8281 7429⁺ or Mila Kanevsky, Trade Waste Officer, on 8281 7428⁺.

Yours sincerely

Bob Smith

Director-General

⁺ Contact officers and phone numbers have been updated.

Notice of Concurrence issued Pursuant to Section 90 of the Local Government Act 1993 To: _____ Council

In accordance with section 90(2) of the Local Government Act 1993 the Council may assume that my concurrence has been given in respect of a liquid trade waste approval granted by the Council, pursuant to section 90(1), for the liquid trade waste discharges listed in the attached schedule. Concurrence is conditional on Council:

Issuing the approval in accordance with the provisions set out in the document *Concurrence Guideline for Liquid Trade Waste Discharges to the Sewerage System (2002)* ('*Concurrence Guideline*') or its amendments[#] from time to time;

Forwarding to the Department of Land and Water Conservation a list of liquid trade waste discharges approved by the Council under assumed concurrence. A proforma is attached for your use;

Signing and returning the attached Reply Notice to the Department within 28 days of the date of the Notice of Concurrence.

In the event that Council does not comply with these conditions, concurrence is revoked.

Bob Smith
Director-General
Department of Land and Water Conservation
Dated: _____

[#] The 2002 Guideline has been superseded by the
Liquid Trade Waste Regulation Guidelines, DWE, April 2009.

Schedule of minor liquid trade waste discharges with assumed concurrence

Commercial retail food preparation activities	Other commercial activities
Bakery (retail)	Animal wash (pound, stables, racecourse, kennels, mobile animal wash and veterinary with no x-ray)
Bed and Breakfast (<10 persons)	Beautician
Bistro	Boiler blowdown
Boarding house/hostel kitchen	Car detailing
Butcher shop (retail)	Cooling tower
Café/coffee shop/coffee lounge	Craft activities (making of clay pottery, ceramics, cutting and polishing of gemstones or making of jewellery at clubs, cottage industries)
Canteen	Dental surgery/dental specialist
Cafeteria	Dental technician
Chicken/poultry shop (only fresh chickens/game sold)	Doctor's surgery, medical centre - plaster casts (no X-rays)
Chicken/poultry shop (retail BBQ/charcoal chicken)	Florist
Club (kitchen wastes)	Funeral parlour / morgue
Commercial kitchen/caterer	Hairdressing (includes barbers)
Community hall/civic centre	Jewellery shop
Day care centre	Laboratory (pathology/analytical)
Delicatessen	Laundry or laundromat (coin operated)
Doughnut shops	Lawnmower repairs
Fast food outlets (McDonalds, KFC, Burger King, Pizza Hut, Red Rooster, etc)	Mechanical repairs/workshop
Fish shop (retail – fresh and/or cooked)	Mobile cleaning units
Food caravan	Optical service
Fruit and vegetable shop (retail)	Pet shop (retail)
Function centre	Photographic tray work/manual development
Hotel	Plants retail (no nursery)
Ice cream parlour	School (Primary and secondary)
Juice bar	Stone working

Mixed business	Swimming pool/spa/hydrotherapy
Motel	Vehicle (car) washing (by hand/wand, automatic car wash / external truck wash or underbody/engine degrease only)
Nightclub	Venetian blind cleaning
Nursing home kitchen	Veterinary /animal kennels with X-ray
Nut shop	Waterless minilab
Patisserie	
Pie shop	
Pizza shop	
Restaurant	
Salad bar	
Sandwich shop	
School canteen	
Snack bar	
Supermarket (with butcher/ delicatessen/seafood or charcoal chickens)	
Take-away food shop	

Note: The list of activities in this table was updated in 2009

Notice of Reply⁺

Department of Water and Energy

Level 18

227 Elizabeth Street

SYDNEY NSW 2000

Attn: Manager, Water Utility Performance

**RE: REPLY NOTICE TO THE NOTICE OF CONCURRENCE FOR
LIQUID TRADE WASTE APPROVALS**

Council acknowledges receipt of the Notice of Concurrence issued by the Director-General, Department of Land and Water Conservation for those minor liquid trade waste discharges set out in the schedule to the Notice. Further, Council agrees to the conditions as stated in that Notice dated

Yours sincerely

General Manager

Name: _____

Council: _____

Date: _____

⁺ Address details have been updated.

Annual reporting of dischargers with Assumed Concurrence⁺ approved by Council

*One form to be completed for each STW

_____ Council

Period From _____ To _____

STW Name: _____

Name of the business		Street address	Type of Business	Pre-treatment equipment	Daily discharge quantity (kL)	Date of approval		Concurrence Classification
	If the business has changed ownership						If the business has changed ownership	
	Previous name						Previous date of approval	

Reserve capacities of STWs as at _____

_____ STW Hydraulic (EP) _____

Biological (EP) _____

⁺ Council should report all Classification A dischargers approved by Council. If Council has been authorised to assume concurrence for Classification B and S dischargers, all such dischargers approved under this authorisation should also be included.

*Please enter the above information in the NSW Performance Monitoring Database immediately after the end of each calendar year. Alternatively, the completed form may be faxed to 02 8281 7351.

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Liquid trade waste provisions in the Local Government Act and the Local Government (General) Regulation¹

Local Government Act 1993

59A	Ownership of water supply, sewerage and stormweater drainage works
60-65	Approval of the Minister and Powers of the Minister
68	What activities, generally, require the approval of the council?
72-74	Crown activities
75-91, 94-101, 103, 105-113	Making and determination of applications for approval
124	Orders
158-167	Adoption of local policies concerning approvals and orders
191-199	Entry on to land and other powers
495, 497-502	An overview of rates and charges
539-542	Making of rates and charges
565	Capital contributions instead of payment of special rates or charges
608-609	Fees
626-628	General offences
634-640	Water, sewerage and stormwater drainage offences

¹ Sections in the Local Government Act and Clauses in the Regulation relating to liquid trade waste discharges to sewer are **not limited** to those listed above. Councils are required to become familiar with all relevant provisions of the Act and the Regulation.

Local Government (General) Regulation 2005

3	Definitions
25	Applications for approvals
28, 30	Determination of applications for approvals
31-32	Conditions of approvals
77	Public notice of draft local approvals policies
84-87	Orders requiring or prohibiting the doing of things to or on premises
94-96	Orders requiring the preservation of healthy conditions
99	Information to be included in Orders
143	Inspection of pipes and drains and measurement of water and sewage
146	Connections to council's sewerage system
159	Prevention of waste and misuse of water
160	Misuse of water

SCHEDULE 1, Part 2

SCHEDULE 2, Parts 2-4

Note: The LWU should also be aware that there are provisions in other legislation such as the *Protection of the Environment Operations Act 1997* (POEO Act) and Regulations, the *Marine Pollution Act 1987* and *Marine Pollution Regulation 2006* etc. The following are two examples:

- *Protection of the Environment Operations Act 1997 – Section 120 – Prohibition of pollution of waters*
- *POEO (General) Regulation 1998 – Clause 55 – Exemption from water pollution offence for pollutants discharged into sewer.*

Local Government (General) Regulation 2005

Clause 25 Matters to accompany applications relating to discharge into sewers

An application for approval to discharge trade waste into a sewer under the control of a council or that connects with such a sewer must be accompanied by the information required by Table 1 to the Liquid Trade Waste Management Guidelines[#].

Clause 28 Approval to discharge waste into sewers: concurrence required

A council must not grant an approval under section 68 of the Act to discharge trade waste (whether treated or not) into a sewer of the council unless the Director-General of the Department of Energy, Utilities and Sustainability has concurred with the approval.

Note: Section 90 (2) of the Act permits any person or authority whose concurrence is required before an approval can be granted to give the council notice that the concurrence may be assumed (with such qualifications or conditions as are specified in the notice).

Clause 32 Disposal of trade waste

- (1) An approval to dispose of trade waste into a sewer of the council is subject to such conditions (if any) as the council specifies in the approval.
- (2) In imposing any such conditions, the council is to have regard to the matter set out in Table 5 to the Liquid Trade Waste Management Guidelines[#].

Clause 159 Prevention of waste and misuse of water

The owner, occupier or manager of premises to which water is supplied by the council must:

- (a) prevent waste of water by taking prompt action to repair leaking taps, pipes or fittings located on the premises, and
- (b) take any other action that is reasonable to prevent waste and misuse of water.

[#]“Liquid Trade Waste Management Guidelines” means the Guidelines of that name produced by the Department of Energy, Utilities and Sustainability in March 2005, as in force from time to time.

The 2005 Guidelines have been now superseded by *Liquid Trade Waste Regulation Guidelines*, April 2009.

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Liquid trade waste application forms

Contents

C1	Liquid trade waste application form	126
C2	Stand-alone commercial retail food preparation business application attachment sheet	137
C3	Mechanical repairs – application attachment sheet	139
C4	Laboratory – application attachment sheet	141
C5	Animal Wash – application attachment sheet	142
C6	Septic tank waste, pan waste, ship-to-shore pump-out waste application attachment sheet	143
	Site inspection form	145

Form C1 (Page 1) Liquid trade waste application form

_____ Council

This application form is for businesses that wish to discharge liquid trade waste to the sewerage system (Classification A, B, C or S). Please use pages 1 to 3 and sign page 10 for Concurrence Classification A. Use pages 1 to 3, 10 and Form C6 for applications in Concurrence Classification S. Complete all pages for Concurrence Classification B or C. Please include all details as requested. When completed, please lodge this form with the Council, along with attachments (as appropriate from Forms C2 to C6).

1. Business trading name: _____
2. Site address: No. _____ Street _____
 Town/Suburb _____ Postcode _____
 Property description: Lot _____ Section _____ DP _____
3. Property owner's name: _____ Telephone: BH _____
 AH _____
4. Property owner's address: _____
5. Applicant's name: _____ Telephone: BH _____
 (if different to the owner) AH _____
6. Applicant's address: _____
7. Occupier's name: _____ Telephone: BH _____
 (if different to the owner) AH _____
8. Normal hours of business:
 Monday to Friday: _____ to _____
 Saturday: _____ to _____
 Sunday: _____ to _____
9. Type of business:
 Commercial retail food preparation activities – Please fill out and attach Form C2
 Other commercial activities – Please fill out and attach as appropriate from Forms C3 to C5
10. Description of flow:
 Maximum rate of discharge to sewer _____ kL/h or L/s
 Maximum daily discharge to sewer _____ kL

Form C1 (Page 2)

11. Any water supply meter being installed? Yes / No

12. Existing/proposed equipment (grease arrestor, basket arrestor, cooling pit, etc.):

Type _____

Size/flow rate _____

13. Proposed cleaning schedule of pre-treatment equipment and names of contractors used:

14. Location of the sampling point: _____

15. Plans – application to be accompanied by two copies of plans showing:

- details and location of all processes, tanks, pits and apparatus associated with the generation of commercial waste
- details, location, capacity/dimensions, material of construction and lining of the proposed pre-treatment facilities
- details of pipes and floor drainage conveying the effluent
- stormwater drainage plan.

List of Contractors

Name	Licence No	Contact
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		

Form C1 (Page 3)

The following substances are prohibited from being discharged to the sewerage system:

- organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances
- organophosphorus pesticides and/or waste arising from the preparation of these substances
- any substances liable to produce noxious or poisonous vapours in the sewerage system
- organic solvents and mineral oil
- any flammable or explosive substances
- discharges from 'Bulk Fuel Depots'
- chromate from cooling towers
- natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
- rain, surface, seepage or subsoil water, unless specifically permitted
- solid matter
- any substance assessed as not suitable to be discharged to the sewerage system
- waste liquids that contain pollutants at concentrations which inhibit the sewage treatment process – refer *National Wastewater Source Management Guideline, July 2008, WSAA*
- any other substances listed in a relevant regulation.

Concurrence Classification B or C (Page 4)

The following pages are to be used by businesses that wish to discharge Concurrence Classification B or C liquid trade wastes to the sewerage system. Please include all details as requested (if insufficient space attach as clearly labelled appendices), and make sure you read the section on substances that must not be discharged to the sewerage system.

16. Type of business: _____

17. Name of processes generating liquid trade waste:

(a) _____

(b) _____

(c) _____

(d) _____

(e) _____

(f) _____

18. Type and Quantity of raw materials processed

19. Description of Waste:

- list of all expected pollutants including substances contained in wash down detergents, boiler and cooling water and other sources
- expected maximum and average concentrations of pollutants
- sample analysis results of the proposed waste.

Note: The sample analysis tests shall be carried out by a NATA approved laboratory with accreditation for analysis of the nominated pollutants in the application or a laboratory acceptable to DWE.

Acceptable means of sample analysis data collection:

- Sample analysis results from a similar existing process
- Collection of the proposed waste from a trial pre-treatment plant
- Stand alone pre-treatment - manufacturer's waste quality expectations
- Configured pre-treatment - consultant's calculations based on experience of a similar installation.

Attach details and supporting documentation of data collection method.

When detailing the nominated pollutants where there is no possibility of discharge to the sewerage system because none of the substance is stored or used at the premises, write "NIL".

<i>(the local water utility may add to this list as required)</i>			
Parameter	Acceptance Guideline Limits ⁺ mg/L	Average mg/L	Maximum mg/L
BOD ₅ and Suspended solids	Normally, approved at 300 mg/L each. Concentration up to 600mg/L and in some cases higher concentration for low mass loadings may be acceptable if the treatment works has sufficient capacity and odour will not be a problem.		
COD	Normally, not to exceed BOD ₅ by more than three times. This ratio is given as a guide only to prevent the discharge of non-biodegradable waste.		
Total dissolved solids	Up to 4000 mg/L may be accepted. The acceptance limit may vary depending on an effluent disposal option and is subject to a mass load limit.		
Temperature	Less than 38°C.		
pH	Within the range 7.0 to 9.0.		
Oil and grease	100 mg/L if the volume of the discharge does not exceed 10% of the design capacity of the treatment works, and 50 mg/L if the volume is greater than 10%.		
Detergents	All industrial detergents are to be biodegradable. A limit on the concentration of 50 mg/L (as MBAS) may be imposed on large liquid trade wastes.		
Colour	No visible colour when the waste is diluted to the equivalent dilution afforded by domestic sewage flow.		
Radioactive substances	The discharge must comply with the <i>Radiation Control Act 1990</i> .		

⁺ Council may vary the acceptance limits having regard to the discharge characteristics and capacity of its sewerage system.

Acceptance guidelines for inorganic compounds⁺

Parameter	Acceptance Guideline Limits mg/L	Average mg/L	Maximum mg/L
Ammonia (as N)	50		
Boron	5		
Bromine	5		
Chlorine	10		
Cyanide	1		
Fluoride	20		
Nitrogen (total Kjeldahl)	100		
Phosphorus	20		
Sulphate (SO ₄)	500		
Sulphide (as S)	1		
Sulphite (as SO ₃)	15		

⁺ Council may vary the acceptance limits having regard to the discharge characteristics and capacity of its sewerage system.

Acceptance guidelines for organic compounds⁺

Parameter	Acceptance Guideline Limits mg/L	Average mg/L	Maximum mg/L
Benzene	0.04		
Toluene	0.5		
Ethyl benzene	1		
Xylene	1		
Formaldehyde	30*		
* Acceptance of chemical toilet waste which contains formaldehyde will be assessed on the available dilution in the sewerage system.			
Phenolic compounds (except pentachlorophenol)	5		
Petroleum hydrocarbons (non-flammable)	30		
Pesticides (general)	0.1		
Pesticides (organophosphates)	Nil		
Pesticides (organochlorines)	Nil		
Polynuclear Aromatic Hydrocarbons (PAH)	5		

⁺ Council may vary the acceptance limits having regard to the discharge characteristics and capacity of its sewerage system.

Acceptance guideline for metals⁺

For small discharges, a daily mass load criteria may be used other than the concentration limit. An upper daily mass load can be applied to a large liquid trade waste discharge in addition to the concentration limit.

Parameter	Acceptance Guideline Limits mg/L	Allowed daily mass limit g/d	Average mg/L	Maximum mg/L
Aluminium	100	-		
Arsenic	1	2		
Cadmium	1	6		
Chromium *	3	15		
* Where hexavalent chromium (Cr6 ⁺) is present in the process water, pre-treatment will be required to reduce it to the trivalent state (Cr3 ⁺), prior to discharge into the sewer. Discharge of hexavalent chromium (Cr6 ⁺) from chromate compounds used as corrosion inhibitors in cooling towers is not permitted .				
Cobalt	5	15		
Copper	5	15		
Iron	100	-		
Lead	1	6		
Manganese	10	30		
Mercury	0.01	0.05		
Molybdenum	5	30		
Nickel	3	15		
Selenium	1	15		
Silver	2 [#]	6		
Tin	5	15		
Zinc	5	15		

⁺ Council may vary the acceptance limits having regard to the discharge characteristics and capacity of its sewerage system.

[#] This limit is applicable for large dischargers. The concentration of silver in the photoprocessing waste where a balancing tank is provided is not to exceed 5 mg/L.

20. Non sewerage system discharges/wastes

Details of management arrangement of waste streams/wastes that are not permitted or not intended to be discharged to the sewerage system.

21. Description of flow:

The maximum daily and instantaneous rate of discharge (kL/h or L/s) is set on the available capacity of the sewer. Large dischargers are required to provide a balancing tank to even out the load on the sewage treatment works.

Hours of days during which discharge will normally take place _____

Monday – Friday: am _____ pm _____

Saturday: am _____ pm _____

Sunday: am _____ pm _____

When are the peak periods of discharge during the day _____

Type of discharge:

- Batch flow
- Intermittent flow
- Continuous flow

22. Where the applicant considers there are special circumstances applicable to their discharge, these circumstances should be identified, eg:

- seasonal discharges
- large differences between average and maximum daily loads
- variations to flow, which avoid peak domestic flows, etc.
- retention of discharges for extended periods.

Comments _____

23. Open Areas (Please attach stormwater drainage plan for the site):

Does the proposed installation contain open areas that will drain to the sewerage system? Yes / No

If Yes give details:

Stormwater is prohibited from being discharged into the council's sewerage system. The capacity for such flows is not provided in the sewerage system. Therefore, council does not generally accept the discharge of stormwater to the sewerage system.

The discharge of limited quantities of first flush water from sealed liquid trade waste generating areas will be considered where roofing cannot be provided because of safety or other important considerations.

Please provide the following information:

- reasons why the area cannot be fully or partially roofed and bunded to exclude stormwater
- the dimensions and a plan of the area under consideration
- whether the open area is sealed
- the estimated volume of the stormwater discharge
- information on rain gauging
- information on a first-flush system if proposed
- measures proposed for diverting stormwater away from the liquid trade waste generating area
- report on other stormwater management options considered and why they are not feasible.

24. Water supply source:

- bore/groundwater/on-site dam/watercourse
- recycled/reuse water
- town water
- any water supply meter being installed.

Comments _____

25. Sampling point location _____

26. Flow measurement location and proposed flow measurement to sewer
Please attach details of flow measurement installed/proposed

27. Existing/proposed waste treatment and equipment:

Plans - application to be accompanied by 2 copies of plans showing:

- details and location of all processes, tanks, pits and apparatus associated with the generation of industrial waste
- details of the proposed liquid waste treatment processes
- details of pipes, floor drainage used to convey the effluent
- a full schematic layout of the proposed/existing waste pre-treatment facilities for liquid trade waste prior to discharge to the sewerage system
- flow diagram and hydraulic profile of proposed treatment apparatus

- capacity/dimensions, material of construction and lining, operation and maintenance of all pits, tanks, dosing systems, pumps, etc
- details of the integrity of the pH correction system (diversion system, recording, alarms – location, failsafe, tamperproof)
- Any additional details as requested by the local water utility.

28. Proposed cleaning schedule of pre-treatment equipment and contractor

Pre-treatment Equipment	Frequency (weeks)	Name of Contractor	Licence

29. Details of the chemicals to be used on site:

Substance	Qty	Storage liquid/solid	Location	Bunding

NOTE: Attach Material Safety Data Sheets prepared in accordance with the National Code of Practice [NOHSC: 2011] for chemicals to be used and are likely to be contained in the waste effluent

30. Any proposed plans for future expansion? Yes / No

If "Yes" give details on a separate attachment.

Form C1 (Page 10)

The applicant should be aware that approval of this application does not constitute a guarantee of any future approval of a variation to the approval. This will be dependent on the available capacity of the sewerage system at that time and any future approval must not be assumed.

However, alerting the Council to the applicant's future plans and proposals may assist the Council in planning future sewage management and/or infrastructure additions/modifications.

31. Supporting documentation:

Please attach any relevant supporting documentation eg.

1. Environmental Impact Statement
2. Consultant's report
3. DECC considerations/restrictions.

Signature of owner/s _____ Date / /

(Owner's authorisation to making the application is mandatory as per section 78, of the *Local Government Act 1993*)

Please note that the owner of the property will be billed for water supply, sewerage and liquid trade waste services provided and it is the owner's responsibility to pay such fees and charges within the period specified. The owner may arrange to recover such fees and charges through the lease arrangement between the owner and the occupier.

Signature of occupier/applicant _____ Date / /

Position in Company _____

Office Use Only

Application date received _____

Site visit conducted _____

Application _____ approved / refused

Issue of approval _____

Approval No _____

Commencement of discharge _____ Officer in charge _____

STW Details

_____ Sewage Treatment Works

_____ Design Capacity (EP)

_____ Actual Capacity (EP)

Form C2 (Page 1)

Stand-alone commercial retail food preparation business application attachment sheet

Please fill out this attachment sheet if your business is involved in commercial food preparation activities that discharge liquid trade waste to the sewerage system. In the table below, tick the 'name of process' that best describes what your business does, and write the number of seats or beds your business has (if any). In addition, please indicate if your premises contains the following:

potato peeling appliance/s – number of appliances _____

dishwasher/s – number of appliances _____

When finished, attach this sheet to the application form (Form C1).

Tick	Name of process	No. of seats or beds
	Bakery (only bread baked on site)	NIL
	Bakery (pies, sausage rolls, quiches, cakes cooked on premises)	
	Bakery (imported pies and sausage rolls)	
	Bakery (with coffee shop – eat in)	
	Bistro (no hot food cooked – sandwiches (coffee) only)	
	Bistro (hot food cooked and served)	
	Boarding house/hostel kitchen	
	Butcher – retail	NIL
	Café	
	Cafeteria	
	Canteen	
	Caterer	
	Club	
	Coffee shop/sandwich shop – no hot food cooked or served	
	Coffee shop – hot food cooked or served	
	Commercial kitchen/caterer	
	Community hall kitchen – tea and coffee only	
	Community hall kitchen – hot food cooked and served	
	Chicken – BBQ/charcoal	
	Chicken – retail fresh outlet with cutting and preparation of meat	
	Day care centre	NIL
	Delicatessen – no meat cooked on site – no hot food prepared or served	
	Delicatessen – hot food prepared or served	
	Doughnut shop	

Form C2 (Page 2)

Tick	Name of process	No. of seats or beds
	Fish shop – fresh (retail) no cooking on site	NIL
	Fish shop – cooking on site	
	Food caravan	NIL
	Fruit and vegetable market (retail)	NIL
	Function centre	
	Garbage bin cleaning – within commercial premises, ie. hotel/restaurant	NIL
	Hostel	
	Hotel bistro	
	Hotel restaurant	
	Hotel snack bar	
	Hot bread shop	
	Ice cream parlour	
	Ice cream parlour with hot food take-away	
	Juice bar	
	Loading dock – fruit and vegetable	NIL
	Mixed business (minimal hot food)	
	Motel kitchen/restaurant	
	Nightclub	
	Nursing home kitchen	
	Patisserie – croissants and muffins	
	Pie shop (with or without pastry)	
	Pizza home delivery/take-away only	NIL
	Pizza cooking/reheating (no preparation or washing up on site, pizza heated in retail container and sold for consumption off site).	
	Pizzeria	
	Pizza restaurant	
	Restaurant	
	Salad bar – no cooking	
	Salad bar – cooking	
	Sandwich bar/coffee lounge – no cooking	
	Sandwich bar/coffee lounge – cooking	
	Seafoods – no hot food cooking	
	Seafoods – hot food cooking	
	Supermarket – incorporating butcher	NIL
	Take-away – fish and chips, BBQ chicken, hamburgers	
	Take-away – no hot food	

Form C3 (Page 1)

Mechanical repairers application attachment sheet

Please fill out this attachment sheet if your business is involved in mechanical repair processes (and other services related to motorised equipment processes) that discharge liquid trade waste to the sewerage system. In the lists below, tick the 'business type' or 'processes' that best describe what your business does. Note that there is an additional list at the end for 'associated processes', eg. take-away food at a service station.

When finished, attached this sheet to the application form (Form C1).

Business Type

- Airport terminal
- Bus/coach depot
- Car detailer
- Car/truck dealership service centre
- Car importation premises (de-waxing only)
- Construction equipment maintenance (ie. earthmoving equipment and/or cranes)
- Equipment hire premises
- Fleet vehicle operations
- Forklift maintenance
- Garbage truck washing
- Lawnmower repairer
- Motorbike mechanical repairer
- Motor boat mechanical repairer
- Motor wrecker
- Service station
- Stand-alone mechanical workshop
- Train washing facility
- Transport depot

Other, please specify _____

Form C3 (Page 2)

Mechanical workshop

- Parts washing with water
- Floor washing
- Draining and flushing of radiator coolant (not permitted for discharge)
- Parts washing with solvents (not permitted for discharge)
- Radiator repairs
- Automobile dismantling (ie. motor wrecker)
- Cleaning of engine blocks and engine heads in chemical baths
- Engine/gearbox reconditioner (sent off site)
- Engine/gearbox reconditioner (carried out on site).

Repairing car bodies

- Panel beating
- Wet rubbing
- Spray painting.

Washing and detailing

- Tunnel type (external body only)
- Wand type (external body only)
- Washing by hand (external body only)
- Degreasing of engine and washing
- Internal washing of meat vans or truck underbodies
- External truck washing
- Internal washing of tankers
- Forecourt washing (service station)
- Open area washing (considered only under special circumstances. Applicant must supply reasons why roofing is not possible, and must include the details of a first flush system).

Associated Activities/Businesses

Some premises have associated processes generating liquid trade waste.

In addition to the above, does your premises have any of the following processes?

- Restaurant (number of seats?)
- Take-away food bar (number of seats?)
- Service station forecourt food caravan(s)
- Boiler blowdown (steam supply for internal washing of tankers)
- Chemical toilet disposal (for intercity coaches/buses)
- Other trade wastewater process (please specify).

Form C4

Laboratory application attachment sheet

Please fill out this attachment sheet if your business has a laboratory that discharges liquid trade waste to the sewerage system. In the list below, tick the 'business type' that best describes your business. When finished, attach this sheet to the application form (Form C1).

Business Type

- Agricultural research centre laboratory
- Agricultural research (herbicides) laboratory
- Analytical laboratory
- Animal health (parasitology) laboratory
- Autopsy laboratory
- Chemical (pesticides) laboratory
- Clinical laboratory
- Dental laboratory
- Film (movies) laboratory
- Hospital laboratory
- Nuclear medicine laboratory
- Pathology laboratory
- Pharmaceutical laboratory
- Photographic laboratory
- Police crime scene unit laboratory
- Business that uses radioisotope
- School domestic (home) science laboratory
- School science laboratory
- Soil testing laboratory
- Tertiary institution laboratory (please specify)
- Veterinary research laboratory
- Workplace laboratory
- X-ray laboratory (radiology)
- Other, please specify _____

Form C5

Animal wash application attachment sheet

Please fill out this form if your business involves animal washing processes that discharge liquid trade waste to the sewerage system. In the list below, tick the 'business type' that best describes what your business does, and also tick any 'associated processes' that are relevant to your business.

Business Type

- Mobile animal wash
- Dog pound
- Boarding kennels
- Stables
- Racecourse.

Does your business include any of the following associated activities/business types?

- X-ray facilities
- Pathology laboratory
- Autopsies performed
- Animal health (parasitology) laboratory
- Veterinary research laboratory
- Restaurant (< 5000 L grease arrestor)
- Conference facility that serves hot food (< 5000 L grease arrestor)
- Open areas (please indicate area size).

Details of disposal of animal droppings and/or litter

NOTE: Where full roofing is not provided the application must be referred to DWE for concurrence.

Form C6

Septic tank waste, pan waste, ship-to-shore pump-out waste application attachment sheet

This form is to be used by businesses that wish to discharge Concurrence Classification S liquid trade wastes to the sewerage system. Please include all details as requested (if insufficient space attach clearly labelled appendices), and make sure you read the section on substances that must not be discharged to the sewerage system.

A. Type of waste:

- Septic tank waste
 - ☐ Septic tank effluent
 - ☐ Septage
- Pan content waste
 - ☐ Caravan Park/Mobile homes
 - ☐ Portable Chemical toilet (building/event sites/bus/train)
- Pump-out from boat/marinas
 - ☐ Liquid galley waste
 - ☐ Toilet waste
 - ☐ Dock cleaning waste

B. Hours of days during which discharge will normally take place

Monday – Friday: am _____ pm _____

Saturday/Sunday: am _____ pm _____

C. Odour inhibiting and other chemicals used (Material Safety Data Sheets must be provided)

Name of chemical added _____

Dosage rate _____

D. Proposed method of waste volume measurement

E. Proposed method of discharge including plans and drawings if appropriate

F. Information on a disposal point, site plan and drawings if applicable

G. Open Areas *(Please attach stormwater drainage plan for the site):*

Does the proposed installation contain open areas that will drain to the sewerage system? Yes / No

If Yes give details: _____

Stormwater is prohibited from being discharged into the council's sewerage system. The capacity for such flows is not provided in the sewerage system. Therefore, council does not generally accept the discharge of stormwater to the sewerage system.

Prevention of stormwater ingress at the proposed dump point

H. Odour control measures if applicable

I. Measures to prevent grease trap waste being mixed with septic tank waste.

Grease trap waste is not permitted to be discharged to the sewerage system.

Please attach a statement that septic tank effluent will not be mixed with grease trap pump-out waste.

J. Security arrangements at the proposed disposal point, if applicable

(What measures will be in place to prevent unauthorised discharge of waste to the sewerage system)

K. For boat/marina facility

Number of vessels that may utilise the pump-out facility

☐ Commercial

☐ Private

Bilge water is not permitted to be discharged to the sewerage system.

Site Inspection Form

(Prior to using this form, please refer to section 3.12 on page 45 of the Liquid Trade Waste Regulation Guidelines)

LWU: _____

Property/Rate No. _____

Meter Readings:

	Current	Previous	
Fresh Water			
LTW Discharge			
Discharge Factor			

Gauging includes Domestic:- Y/N

No. of employees: _____

LWU Office _____

Company _____

Address _____

Date: _____

Duration

Start: _____

Time: _____

Process Involved: _____

Reason

- ☐ Initial Inspection
- ☐ Preliminary Investigative Sampling (new discharger)
- ☐ Routine Inspection
- ☐ Non-Compliance
- ☐ Pre-treatment Inspection
- ☐ Discharger Notification (accident, spill, breakdown)
- ☐ Pollution Inquiry Investigation
- ☐ Response to Notification from Public
- ☐ Meeting

Prior to Site Inspection

In order to conduct a valid site assessment in a conscientious and professional manner for liquid trade waste purposes some preliminary data collection is required prior to the site inspection:

- ☐ a copy of a schematic flow diagram that denotes sources and volumes of trade waste and arrangement for directional flow
- ☐ a copy of the relevant pages of the conditions of approval for discharge – for auditing purposes
- ☐ insert the last meter readings on this sheet (and field discharge observation sheet)
- ☐ insert date of last calibration of a discharge meter if applicable
- ☐ notes carry over issues from last meeting/inspection
- ☐ collect any educational material that maybe of use to the discharger and of mutual benefit in assisting outcomes
- ☐ results of the last auditing sample analysis (if available).

Name of Company: _____

Address: _____

Process: _____

Start Date	/	/	Start Time	am/pm
Finish Date	/	/	Finish Time	am/pm

Sampling Details:

- ☐ Audit Sampling
☐ Charging Purposes
☐ Follow-up Sample
☐ Investigation

Sample No.	Meter Readings
	Initial _____ kL
	Finish _____ kL
No. of bottles	Discharge Volume
	During Sampling
	_____ kL

Type of Sample:

- ☐ Grab Sample
☐ Profile sampling
☐ Composite Manual Time

Grabs per Bottle			
mls per Grab			
Interval between Grabs min./kL			

- ☐ Composite Manual Flow Proportional
☐ Composite Automatic Time Based
☐ Composite Automatic Flow Proportional

Sample Point _____

Time _____

Chemical Preservation _____

On-Site pH _____

On-Site Temperature _____

Observations: (Colour etc.) _____

Pollutants:

<input type="checkbox"/> BOD <input type="checkbox"/> COD <input type="checkbox"/> pH <input type="checkbox"/> MBAS <input type="checkbox"/> Sulphates <input type="checkbox"/> Sulphides <input type="checkbox"/> Sulphite <input type="checkbox"/> Chlorine <input type="checkbox"/> Bromine <input type="checkbox"/> Boron <input type="checkbox"/> Cyanide <input type="checkbox"/> Fluoride	<input type="checkbox"/> Metals Scan <input type="checkbox"/> Aluminium <input type="checkbox"/> Arsenic <input type="checkbox"/> Cadmium <input type="checkbox"/> Chromium <input type="checkbox"/> Cobalt <input type="checkbox"/> Copper <input type="checkbox"/> Iron <input type="checkbox"/> Lead <input type="checkbox"/> Manganese <input type="checkbox"/> Mercury <input type="checkbox"/> Molybdenum <input type="checkbox"/> Nickel <input type="checkbox"/> Selenium <input type="checkbox"/> Silver <input type="checkbox"/> Tin <input type="checkbox"/> Zinc	<input type="checkbox"/> Total Suspended Solids <input type="checkbox"/> Total Dissolved Solids <input type="checkbox"/> Total Oil and Grease <input type="checkbox"/> Total Phosphorus <input type="checkbox"/> Ammonia as Nitrogen <input type="checkbox"/> Total Kjeldahl Nitrogen <input type="checkbox"/> Total Petroleum Hydrocarbons <input type="checkbox"/> Polynuclear Aromatic Hydrocarbons <input type="checkbox"/> Chlorinated Phenolic Substances <input type="checkbox"/> Phenolic Substances <input type="checkbox"/> Formaldehyde <input type="checkbox"/> Organochlorine Pesticides <input type="checkbox"/> Organophosphorus Pesticides <input type="checkbox"/> Herbicides <input type="checkbox"/> PCBs
---	--	--

Meeting/Discussion Notes

Person/s in Attendance: _____

Position/s: _____

Location: _____

Date and Time: _____

Topic: _____

Due Diligence Considerations

Contingency Plan

Comments: _____

ACTIONS: _____

Pre-treatment inspection checklist

Note: The operation of some equipment cannot be checked adequately without effluent flow through the pre-treatment system. It is therefore important to first consider if the factory process is discharging waste to the pre-treatment system.

Inspection	Comments
<input type="checkbox"/> Water meter/s operational	
Business <ul style="list-style-type: none"> <input type="checkbox"/> Change of trading name <input type="checkbox"/> Change of management <input type="checkbox"/> Change of occupier <input type="checkbox"/> Change of product line <input type="checkbox"/> Change in production output <input type="checkbox"/> Seasonal issues 	
Operational Personnel <ul style="list-style-type: none"> <input type="checkbox"/> Trained operator on-duty <input type="checkbox"/> Sick/on leave <input type="checkbox"/> Trained replacement operator 	
<input type="checkbox"/> Logbooks audited for scheduled maintenance, breakdowns, clean-outs etc.	
Pre-Treatment On Bypass <ul style="list-style-type: none"> <input type="checkbox"/> To holding tank or other <input type="checkbox"/> Untreated to sewerage system 	
Equipment Pre-Treatment Collection pits, vessels <ul style="list-style-type: none"> <input type="checkbox"/> Removable basket in place <input type="checkbox"/> Fixed screen in place <input type="checkbox"/> Baffles, weirs, covers in place <input type="checkbox"/> Regular maintenance clean-out <input type="checkbox"/> Tanks and containers not leaking or overflowing <input type="checkbox"/> Flow recirculating 	
Monitoring System <ul style="list-style-type: none"> <input type="checkbox"/> Alarms (visual and audible to alert staff within sight and hearing of appropriate operator and operational) <input type="checkbox"/> Equipment gauges (switch gear and control assembly) <input type="checkbox"/> High and low level cut-in alarms for vessels <input type="checkbox"/> Stand-by pumps operational <input type="checkbox"/> Reagent tank levels <input type="checkbox"/> Dosing equipment operational <input type="checkbox"/> Specific components on bypass <input type="checkbox"/> Bunding satisfactory 	

<p>pH Correction System</p> <ul style="list-style-type: none"> • Manual Correction <ul style="list-style-type: none"> <input type="checkbox"/> Audit dosing procedure <input type="checkbox"/> Audit logbook records for number of batches and pH readings <input type="checkbox"/> Audit chemical testing equipment for shelf-life validity (papers and chemicals) • Automatic Correction <ul style="list-style-type: none"> <input type="checkbox"/> Dosing chemical levels satisfactory <input type="checkbox"/> Dosing operating satisfactorily <input type="checkbox"/> pH adjustment meter operational and reading correctly (test) <input type="checkbox"/> pH in range <input type="checkbox"/> pH sensor probes operational <input type="checkbox"/> Chart recorder operational <input type="checkbox"/> Previous charts checked for compliance <input type="checkbox"/> Diversion system checked – solenoid valve operational <input type="checkbox"/> Final pH probe operational <input type="checkbox"/> Regular maintenance of pH sensor probes (audit logbook) • Monitoring system <ul style="list-style-type: none"> <input type="checkbox"/> Alarms (visual and audible to alert staff within sight and hearing of appropriate operator and operational) <input type="checkbox"/> Equipment gauges (switch gear and control assembly) 	
<p>Discharge Flowmeter</p> <ul style="list-style-type: none"> • Flow sensor type: <ul style="list-style-type: none"> <input type="checkbox"/> Ultra-sonic <input type="checkbox"/> Electro-magnetic <input type="checkbox"/> Paddlewheel <input type="checkbox"/> Doppler • Flowmeter operation <ul style="list-style-type: none"> <input type="checkbox"/> Meter readout <input type="checkbox"/> L/s readout <input type="checkbox"/> Last Calibration Certificate Issued <input type="checkbox"/> Annual Calibration Due..... 	
<p>Open Areas</p> <ul style="list-style-type: none"> <input type="checkbox"/> Roofing <input type="checkbox"/> Bunding <input type="checkbox"/> Identification of additional stormwater ingress areas (loading docks and service areas) <input type="checkbox"/> First-Flush system operation and maintenance satisfactory 	

Hazardous Chemical Storage <ul style="list-style-type: none"> <input type="checkbox"/> Stored in isolated area <input type="checkbox"/> Roofed <input type="checkbox"/> Bunded with impervious seal 	
Cleaning Compounds <ul style="list-style-type: none"> <input type="checkbox"/> Bio-degradable <input type="checkbox"/> 'Quick-Break' detergents <input type="checkbox"/> Other – Material Safety Data Sheets required 	
Cross Contamination <ul style="list-style-type: none"> <input type="checkbox"/> Air breaks <input type="checkbox"/> Hoses in tanks <input type="checkbox"/> Cross connections 	
Ancilliary Processes <ul style="list-style-type: none"> • Factory Process <ul style="list-style-type: none"> <input type="checkbox"/> Collection sump screens <input type="checkbox"/> Dry sweep rather than hose • Boilers <ul style="list-style-type: none"> <input type="checkbox"/> Temperature <input type="checkbox"/> Chemicals • Cooling Towers <ul style="list-style-type: none"> <input type="checkbox"/> Nil chromate products <input type="checkbox"/> Chemicals • Refrigeration <ul style="list-style-type: none"> <input type="checkbox"/> Nil chromate products <input type="checkbox"/> Stormwater or Sewer? • Condensate <ul style="list-style-type: none"> <input type="checkbox"/> Oil and grease <input type="checkbox"/> Petroleum hydrocarbons • Canteen (re-heating, tea and coffee only) <ul style="list-style-type: none"> <input type="checkbox"/> N/a • Canteen (meal preparation) <ul style="list-style-type: none"> <input type="checkbox"/> Grease arrestor • Laboratory (quality control, analytical) <ul style="list-style-type: none"> <input type="checkbox"/> Neutralising pit • Laundry <ul style="list-style-type: none"> <input type="checkbox"/> Lint screens <input type="checkbox"/> Temperature (cooling pit) <input type="checkbox"/> pH Package and Printing <ul style="list-style-type: none"> <input type="checkbox"/> Inks and solvents <input type="checkbox"/> Silver bearing waste 	

Vehicle and Equipment <ul style="list-style-type: none"> • Washdown Area <ul style="list-style-type: none"> <input type="checkbox"/> Roofed <input type="checkbox"/> Bunded <input type="checkbox"/> Oil arrestor • Mechanical Workshop <ul style="list-style-type: none"> <input type="checkbox"/> Oil arrestor • Refuelling Areas <ul style="list-style-type: none"> <input type="checkbox"/> Not permitted for discharge (except in the case of a covered forecourt area) <input type="checkbox"/> Flammable liquids not permitted for discharge 	
Approval/ TW Services Agreement <ul style="list-style-type: none"> <input type="checkbox"/> Check that additional conditions are in compliance 	
Risk Management <ul style="list-style-type: none"> <input type="checkbox"/> Due diligence programme <input type="checkbox"/> Contingency plan 	
Ponds <ul style="list-style-type: none"> <input type="checkbox"/> Anaerobic <input type="checkbox"/> Aerobic <input type="checkbox"/> Solids build-up <input type="checkbox"/> Outlet baffle <input type="checkbox"/> Odour 	

Water meter and flow meter readings

Year Ending _____ December

Company: _____

Address: _____

Property/Rate No.: _____

Flow Sensor Type:

☐ Ultra-sonic

☐ Electro-magnetic

☐ Paddlewheel

☐ Doppler Type

☐ _____

Manufacturer: _____

Flow Rate Indicator/Discharge Integrator

Type: _____

Manufacturer: _____

Chart Recorder – Type: _____

Instrumentation Installed: _____ / _____ / _____

Last Calibration Certificate Issued: _____ / _____ / _____

Annual Calibration Due: _____ / _____ / _____

Authorised Calibration Agent: _____

Phone: _____

Fresh Water Meter/s: Location/s: _____

Fitted: _____

Size: _____

Discharge for Year: _____ kL (Average/day _____)

* Refer to Appendix G for further details

Notes:

¹ Trade waste discharge factor.² Sewer discharge factor.³ Number of days between meter recording.

⁴ Discharge factor estimated using 100L/d per person where employees shower daily eg. abattoir, food factory; otherwise use 50L/d per person.

⁵ Meter reading adjusted on the basis of 4 above.

Shaded area: Calculations by LWU office.

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2009 Model Policy for liquid trade waste regulation

Key amendments to the 2005 Model Policy

This model policy for liquid trade waste regulation updates the 2005 Model Policy for Discharge of Liquid Trade Waste to the Sewerage System. This appendix lists the key amendments to the 2005 policy, and then presents the 2009 Model Policy in full.

On 1st September 2005 the nine 1999/98 Local Government Regulations were replaced with the *Local Government (General) Regulation 2005* (Regulation). In July 2008, the Water Services Association of Australia (WSAA) released the *National Wastewater Source Management Guideline* (National Guideline). The 2009 Model Policy has been updated to incorporate changes in the Regulation and provisions of the National Guideline.

Definition of liquid trade waste

Liquid trade waste is defined in Clause 3 of the Regulation as:

“Liquid trade waste means all liquid waste other than sewage of a domestic nature.”

This definition ensures that all liquid wastes discharged into the sewerage system, other than domestic sewage, are classified as trade waste and need to be approved under section 68 of the *Local Government Act, 1993*. The Regulation also provides an amended definition of **Sewage of a Domestic Nature** and a definition of **Sewage Management Facility**. Under these definitions septic tank and pan waste are now trade waste.

Accordingly, the 2009 policy includes acceptance of septic tank and pan waste to the sewerage system. Councils which have already adopted their Liquid Trade Waste Policy or Policy for Acceptance of Septic Tank and Pan Waste to the Sewerage System based on the 2005 Regulation may continue to operate under those policies (refer to page 10 of the *Liquid Trade Waste Regulation Guidelines, 2009*). However, in order to align with the *National Framework for Wastewater Source Management*, all LWUs are required to adopt a policy based on the 2009 Model Policy in Appendix D by June 2011.

Amendments to Part 1 of the Policy

The *Table of Exemptions* has been amended by including 2 additional activities in Table 1 and deleting 1 activity, Dental Surgery. Councils may elect to exempt some or all the activities listed in this Table from the requirement to apply for a trade waste approval.

Amendments to Part 2 of the Policy

2.2 Discharge quality

Guideline limits in Table 2 have been amended in line with the recommended non-domestic wastewater acceptance criteria in the National Guideline.

2.3 Prohibited substances

Clause 6 of the repealed *Local Government (Water Services) Regulation 1999* which listed substances prohibited from being discharged into the sewerage system has not been included in the 2005 Regulation. Under the Regulation any discharge to the sewer (except for domestic waste) needs

to be approved and the conditions of approval include a list of prohibited substances. Substances that Council's policy must exclude from the discharge to the sewerage system are shown in Table 3 of the 2009 Model Policy.

Amendments to Part 3 of the Policy

3.1 NSW Framework for regulation of sewerage and trade waste

3.2 Alignment with the national framework for wastewater source management

Sections 3.1 and 3.2 have been added.

3.3 Application procedures

This section has been amended by including specific requirements for the information which needs to be provided in regard to the discharge of septic tank and pan waste to the sewerage system.

3.5 Concurrence of the Department of Water and Energy

The section has been amended by including Concurrence Classification S or septic tank and pan waste, and additional activities in Concurrence Classification A.

3.6 Liquid trade waste charging categories

This section has been amended by including a new charging Category 2S for septic tank and pan waste. In addition, a small number of activities have been transferred to a different charging category.

3.7 Liquid trade waste fees and charges

New sections indicating charges in regard to acceptance of stormwater (section 3.7.9) and septic tank and pan waste (section 3.7.10) to the sewerage system have been included. Information on non-compliance charges in regard to all Charging Categories has been consolidated in section 3.7.7.

3.7.5 Excess mass charges

The numerals "1.08" in equations 2 and 5 and "0.3" in equation 3 have been replaced with the coefficients "2C" and "K" respectively, where "C" is Council's charging rate in \$/kg for BOD₅ up to 600mg/L.

3.7.10 Responsibility for payment of fees and charges

This section has been amended by including charges for the acceptance of septic tank and pan waste to the sewerage system.

Attachment 2

This attachment has been amended by including the provisions in the *Local Government (General) Regulation 2005* in regard to acceptance of liquid trade waste into the sewerage system.

Notes to LWUs:

Notes throughout the text of the 2009 Model Policy that appear in italics and are shaded (eg. in section 3.7.1 on page 186) are provided to assist the LWU with additional options or explanations. Such notes should be deleted from the LWU's policy. Please ensure that references to pages in your LWU's policy are consistent with page numbering in the Council's policy document.

Procedures for developing and adopting Council's Trade Waste Policy are provided in section 3.9.3 on page 41 of the Guidelines. As noted in that section, Council needs to obtain DWE consent to its policy.

The 2009 Model Policy and Appendix C are available as Word documents to facilitate customising by each LWU.

2009 Model Policy for liquid trade waste regulation

Purpose of this policy

This policy sets out how council will regulate sewerage and trade waste discharges to its sewerage system in accordance with the NSW Framework for Regulation of Sewerage and Trade Waste (section 3.1 on page 176). The policy is concerned with the approval, monitoring and enforcement process for liquid trade wastes discharged to Council's sewerage system and the levying of commercial sewerage and liquid trade waste fees and charges. It has been developed to ensure the proper control of liquid trade waste and hence protection of public health, worker safety, the environment, and Council's sewerage system. The policy also promotes waste minimisation, water conservation, water recycling and biosolids reuse.

Sewerage systems are generally designed to cater for waste from domestic sources that are essentially of predictable strength and quality. Council **may** accept trade waste into its sewerage system as a **service** to businesses and industry.

Liquid trade wastes may exert much greater demands on sewerage systems than domestic sewage and, if uncontrolled, can pose serious problems to public health, worker safety, Council's sewerage system and the environment.

Impacts of poor liquid trade waste regulation include:

- Grease, oil, solid material, if not removed on-site, can cause sewer chokes and blockages and the discharge of untreated sewage to the environment.
- Strong waste may cause sewage odour problems and corrosion of sewer mains, pumping stations and sewage treatment works.

A person wishing to discharge liquid trade waste to the sewerage system must, under section 68 of the *Local Government Act 1993*, obtain prior approval from Council. Discharging liquid trade waste without an approval is an offence under section 626 of the Act.

The procedure for approval is governed by Chapter 7 of the *Local Government Act* and is subject to the *Local Government (General) Regulation 2005*.

Under clause 28 of the *Local Government (General) Regulation*, a council must not grant an approval under section 68 of the Act to discharge trade waste (whether treated or not) into a sewer of the council unless the Director-General of the Department of Water and Energy (DWE) has concurred with the approval.

Under section 90 (2) of the *Local Government Act*, the Director-General, DWE, may give the council notice that the concurrence may be assumed (with such qualifications or conditions as are specified in the notice).

Contents

Purpose of this policy	158
Glossary	161
What is liquid trade waste?.....	165
Objectives	166
Scope of this Policy	166
1 Part 1 – Exemptions	167
2 Part 2 – Criteria for approval to discharge liquid trade waste into council’s sewerage system	169
2.1 Factors for consideration	169
2.2 Discharge quality.....	170
2.3 Prohibited substances.....	170
2.4 Stormwater discharges from open areas.....	170
2.5 Food waste disposal units.....	171
2.6 Devices that macerate or pulverise waste	171
2.7 Use of additives in pre-treatment systems.....	171
3 Part 3 – Framework for regulation of liquid trade waste	176
3.1 The NSW framework for regulation of sewerage and trade waste	176
3.2 Alignment with the national framework for wastewater source management.....	177
3.3 Application Procedures	178
3.4 Approval of applications.....	179
3.5 Concurrence of the Department of Water and Energy	180
3.6 Liquid trade waste charging categories	183
3.7 Liquid trade waste fees and charges	186
3.7.1 Application fee	186
3.7.2 Annual trade waste fee	187
3.7.3 Re-inspection fee.....	187
3.7.4 Trade waste usage charge	187
3.7.5 Excess mass charges.....	188
3.7.6 Food waste disposal charge.....	189
3.7.7 Non-compliance charges	190
3.7.8 Non-compliance penalty	192

3.7.9 Discharge of stormwater to the sewerage system	192
3.7.10 Septic and pan waste disposal charge	192
3.7.11 Responsibility for payment of fees and charges.....	192
3.8 Monitoring	193
3.9 Liquid trade waste services agreement	194
3.10 Enforcement of approvals and agreements	195
3.11 Modification and revocation of approvals	195
3.12 Prevention of waste of water.....	195
3.13 Effluent improvement plans	195
3.14 Due diligence programs and contingency plans	196
Attachment 1	
Sample Liquid Trade Waste Services Agreement	197
Attachment 2	
Provisions in the <i>Local Government (General) Regulation 2005</i> in regard to acceptance of liquid trade waste into the sewerage system	209

Tables

Table 1: Exemptions	167
Table 2: Guideline limits for acceptance of liquid trade wastes into sewerage system.....	172
Table 3: Substances prohibited from being discharged into the sewerage system	175
Table 4: Liquid trade waste discharges with automatic assumed concurrence.....	181
Table 5: Deemed concentration of substances in domestic sewage.....	188
Table 6: Summary of trade waste fees and charges	193

Figures

Figure 1: Charging categories for trade waste	183
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Glossary

Assumed Concurrence: Council may apply to the Department of Water and Energy, (DWE) for authorisation to assume concurrence for Classification B or Classification S activities. If granted, Council will no longer need to forward such applications to DWE for concurrence.

Automatic Assumed Concurrence: Councils have been authorised to assume DWE concurrence for Classification A activities. Such applications may be approved by Council without forwarding the application to DWE for concurrence.

Bilge Water: minor amounts of water collecting in the bilge of a vessel from spray, rain, seepage, spillage and boat movements. Bilge water may be contaminated with oil, grease, petroleum products and saltwater.

Biochemical Oxygen Demand (BOD₅): The amount of oxygen utilised by micro-organisms in the process of decomposition of organic material in wastewater over a period of five days at 20°C. In practical terms, BOD is a measure of biodegradable organic content of the waste.

Biosolids: Primarily organic solid product produced by sewage processing. Until such solids are suitable for beneficial use, they are defined as wastewater solids or sewage sludge.

Bunding: Secondary containment provided for storage areas, particularly for materials with the propensity to cause environmental damage.

Chemical Oxygen Demand (COD): A measure of oxygen required to oxidise organic and inorganic matter in wastewater by a strong chemical oxidant. Wastewaters containing high levels of readily oxidised compounds have a high COD.

Chemical Toilet: Toilet in which wastes are deposited into a holding tank containing a deodorizing or other chemicals; wastes are stored and must be pumped out (and chemical recharged) periodically.

Commercial Kitchen/Caterer: For the purpose of these Guidelines, a commercial kitchen is a premise that is typically a stand-alone operation and prepares food for consumption off-site. These types of businesses typically cater to wedding functions, conferences, parties, etc. This definition would not apply to a food processing factory supplying pre-prepared meals to an airline company or similar.

Contingency Plan: A set of procedures for responding to an incident that will affect the quality of liquid trade waste discharged to the sewerage system. The plan also encompasses procedures to protect the environment from accidental and unauthorised discharges of liquid trade waste to the stormwater drainage system, and leaks and spillages from stored products and chemicals.

Director-General: Director-General means the Director-General of the Department of Water and Energy (DWE).

Due Diligence Program: A plan that identifies potential health and safety, environmental or other hazards (eg. spills, accidents or leaks) and appropriate corrective actions aimed at minimising or preventing the hazards.

DWE Concurrence is required before a council may approve an application for the discharge of liquid trade waste (including septic tank and pan waste) to the sewerage system. It is a requirement under section 90(1) of the Local Government Act and clause 28 of the *Local Government (General) Regulation 2005* that council obtain the written concurrence of the Director-General of the Department of Water and Energy (DWE) prior to approving such waste to be discharged to the council's sewerage system.

Effluent: The liquid discharged following a wastewater treatment process.

Effluent Improvement Plan (EIP): The document required to be submitted by a discharger who is not meeting the acceptance limits for discharge waste quality set down in Council's approval conditions and/or liquid trade waste agreement. The document sets out how the discharger will meet the acceptance limits for the discharge of liquid trade waste to the sewerage system within the agreed timeframe.

Galley Waste: In this Policy, a liquid waste from a kitchen or a food preparation area of a vessel; solid wastes are excluded.

Heavy Metals: Metals of high atomic weight which in high concentrations can exert a toxic effect and may accumulate in the environment and the food chain. Examples include mercury, chromium, cadmium, arsenic, nickel, lead and zinc.

Housekeeping: is a general term, which covers all waste minimisation activities connected with the way in which operations within the premises are carried out.

Industrial Discharges: Industrial liquid trade waste is defined as liquid waste generated by industrial or manufacturing processes.

Local Government Regulation: *Local Government (General) Regulation 2005* under the *Local Government Act 1993*.

Liquid Trade Waste: Liquid trade waste means all liquid waste other than sewage of a domestic nature.

Mandatory Concurrence: For the liquid waste in Classification C, councils will need to obtain concurrence from DWE for each discharger.

Methylene Blue Active Substances (MBAS): These are anionic surfactants (see Surfactants definition) and are called MBAS as their presence and concentration is detected by measuring the colour change in a standard solution of methylene blue dye.

Minimal Pre-treatment: For the purpose of this Policy includes sink strainers, basket arrestors for sink and floor waste, plaster arrestors and fixed or removable screens.

National Framework for Wastewater Source Management: refer to section 3.2

NSW Framework for Regulation of Sewerage and Trade Waste: refer to section 3.1

Open Area: Any unroofed process, storage, washing or transport area potentially contaminated with rainwater and substances which may adversely affect the sewerage system or the environment.

Pan: For the purpose of this Policy “pan” means any moveable receptacle kept in a closet and used for the reception of human waste.

pH: A measure of acidity or alkalinity of an aqueous solution, expressed as the logarithm of the reciprocal of the hydrogen ion (H^+) activity in moles per litre at a given temperature; pH 7 is neutral, below 7 is acidic and above 7 is alkaline.

Premises: Has the same meaning as defined in the Local Government Act Dictionary and includes any of the following:

- (a) a building of any description or any part of it and the appurtenances to it
- (b) land, whether built on or not
- (c) a shed or other structure
- (d) a tent
- (e) a swimming pool
- (f) a ship or vessel of any description (including a houseboat)
- (g) a van.

Prescribed Pre-treatment Equipment is defined as standard non-complex equipment used for pre-treatment of liquid trade waste, eg. a grease arrestor, an oil arrestor/separator, solids arrestor, cooling pit (refer to Table 7 of *Liquid Trade Waste Regulation Guidelines, 2009*).

Primary Measurement Device: A device such as a gauging pit, weir tank or flume installed in the liquid trade waste discharge line suitable for installation of instrumentation for flow measurement. In cases of commercial flows this can mean a removable section of pipe (in the fresh water supply to the trade waste area) and the installation of a check meter.

Septage: Material pumped out from a septic tank during desludging; contains partly decomposed scum, sludge and liquid.

Septic Tank: Wastewater treatment device that provides a preliminary form of treatment for wastewater, comprising sedimentation of settleable solids, flotation of oils and fats, and anaerobic digestion of sludge.

Septic Tank Effluent: The liquid discharged from a septic tank after treatment.

Sewage Management Facility: A human waste storage facility or a waste treatment device intended to process sewage and includes a drain connected to such a facility or device.

Sewage of Domestic Nature: Includes human faecal matter and urine and waste water associated with ordinary kitchen, laundry and ablution activities of a household, but does not include waste in or from a sewage management facility.

Sewerage System: The network of sewage collection, transportation, treatment and by-products (effluent and biosolids) management facilities.

Ship-to-Shore Pump-out: Liquid waste from a vessel that may be considered for disposal to the sewerage system. This includes on-board toilet wastes, galley wastes and dry dock cleaning waste from maintenance activities.

Sullage: Domestic wastewater excluding toilet waste.

Surfactants: The key active ingredient of detergents, soaps, emulsifiers, wetting agents and penetrants. Anionic surfactants react with a chemical called methylene blue to form a blue-chloroform-soluble complex; the intensity of colour is proportional to concentration.

Suspended Solids (SS): The insoluble solid matter suspended in wastewater that can be separated by laboratory filtration and is retained on a filter. Previously also referred to as non-filtrable residue (NFR).

Total Dissolved Solids (TDS): The total amount of dissolved material in the water.

Waste Minimisation: Procedures and processes implemented by industry and business to modify, change, alter or substitute work practices and products that will result in a reduction in the volume and/or strength of waste discharged to sewer.

What is liquid trade waste?

Liquid trade waste is defined in the *Local Government (General) Regulation 2005* as below:

Liquid trade waste means all liquid waste other than sewage of a domestic nature.

Liquid trade waste discharges to the sewerage system include liquid wastes from:

- business/commercial premises (eg. beautician, florist, hairdresser, hotel, motel, restaurant, butcher, service station, supermarket, dentist)
- community/public premises (including craft club, school, college, university, hospital and nursing home)
- industrial premises
- trade activities (eg. mobile carpet cleaner)
- any commercial activities carried out at a residential premises
- saleyards, racecourses and from stables and kennels that are not associated with domestic households
- septic tank waste, chemical toilet waste, waste from marine pump-out facilities and established sites for the discharge of pan content from mobile homes/caravans to the sewerage system.

While septic tank, pan and ship-to-shore pump-out waste are defined as trade waste, specific procedures need to be applied to their management as the waste is often transported from its source to the sewerage system. Accordingly, specific references to these wastes are provided in this policy where necessary.

Liquid trade waste excludes:

- toilet, hand wash basin*, shower and bath wastes derived from all the premises and activities mentioned above
- wastewater from residential toilets, kitchens, bathrooms or laundries (ie. domestic sewage)
- common use (non-residential) kitchen and laundry facilities in a caravan park
- residential swimming pool backwash.

* Used for personal hygiene only

Objectives

The objectives¹ of this policy are:

- to protect public health
- to protect the health and safety of Council employees
- to protect the environment from the discharge of waste that may have a detrimental effect
- to protect Council assets from damage
- to assist Council to meet its statutory obligations
- to provide an environmentally responsible liquid trade waste service to the non-residential sector
- to encourage waste minimisation and cleaner production in the commercial and industrial sectors
- to promote water conservation, water recycling and biosolids reuse
- to ensure compliance of liquid trade waste dischargers with Council's approved conditions
- to provide operational data on the volume and composition of industrial and commercial effluent to assist in the operation of the sewerage system and the design of augmentations or new sewerage systems
- to ensure commercial provision of services and full cost recovery through appropriate sewerage and liquid trade waste fees and charges.

Scope of this Policy

This policy comprises three parts:

- Part 1 specifies the circumstances in which a person is exempt from the necessity to apply for an approval to discharge liquid trade waste to Council's sewerage system
- Part 2 specifies the criteria which Council will take into consideration in determining whether to give or refuse a liquid trade waste approval
- Part 3 specifies the framework for regulation of liquid trade waste, including the NSW Framework for Regulation of Sewerage and Trade Waste, alignment with the *National Framework for Wastewater Source Management*, application procedures, liquid trade waste discharge categories, liquid trade waste services agreements, monitoring of liquid trade waste discharges, liquid trade waste fees and charges, modification or revocation of approvals, prevention of waste of water and contaminated stormwater discharges from open areas.

¹ The above objectives are consistent with the *National Framework for Wastewater Source Management* on page 22 of the *National Wastewater Source Management Guideline*, July 2008, Water Services Association of Australia (WSAA).

1 Part 1 – Exemptions

Council

Exemptions*

For obtaining approval of liquid trade waste discharge

Table 1: Exemptions

This table lists commercial business activities that the Director-General, DWE has consented to an exemption from the requirement to apply for approval for liquid trade waste discharge to the sewerage system. Each such business must meet the standard requirements specified below. An annual trade waste fee applies to each such discharger.	
Activity	Requirements
Beautician	Nil.
Bed and Breakfast (not more than 10 persons including proprietor)	Sink strainers in food preparation areas. Housekeeping practices (see Note 4).
Community hall (minimal hot food)	Sink strainers in food preparation areas. Housekeeping practices (see Note 4).
Day care centre (no hot food prepared)	Sink strainers in food preparation areas. Housekeeping practices (see Note 4). Nappies are not to be flushed into the toilet.
Delicatessen – no hot food prepared	Sink strainers in food preparation areas. Housekeeping practices (see Note 4).
Dental technician (no X-ray)	Plaster arrestor required.
Doctor's surgery (plaster casts, no X-ray)	Plaster arrestor required.
Dog/cat groomer/salon	Floor waste basket and sink strainer required (see Note 3). Animal litter and any waste disposal products may not be discharged to sewer. No organophosphorus pesticides may be discharged to sewer.
Florist	Floor waste basket and sink strainer required. No herbicides/pesticides may be discharged to sewer.
Fruit and vegetable – retail	Floor waste basket and sink strainer required (see Note 3).

* Council may elect to exclude some or all of the above activities from the need to seek Council's approval to discharge liquid trade waste to Council's sewerage system.

Activity	Requirements
Funeral parlour	Floor waste basket required. Formaldehyde is not to be discharged to the sewer.
Hairdressing	Floor waste basket and sink strainer (where available).
Jewellery shop <i>miniplate</i> <i>ultrasonic washing</i> <i>precious stone cutting</i>	Miniplate vessel to contain no more than 1.5 L of precious metal solution Nil If : < 1000 L/d plaster arrestor required > 1000 L/d general purpose pit required
Mixed business (minimal hot food)	Floor waste basket and sink strainer required (see Note 3). Housekeeping practices (see Note 4).
Mobile cleaning units carpet cleaning garbage bin washing	20 micron filtration system fitted to a mobile unit. Floor waste basket required. Discharge is via grease arrestor (if available).
Motel (no hot food prepared and no laundry facility)	Floor waste basket and sink strainer required (see Note 3). Housekeeping practices (see Note 4).
Nut shop	Floor waste basket and sink strainer required (see Note 3).
Optical service - retail	Solids settlement tank/pit required.
Pet shop – retail	Floor waste basket and sink strainer required (see Note 2).
Pizza reheating for home delivery	Housekeeping practices (see Note 4).
Sandwich shop, salad bar, juice bar, coffee shop (no hot food prepared)	Floor waste basket and sink strainer required (see Note 3). Housekeeping practices (see Note 4).
Venetian blind cleaning	Nil (see Note 2).

Notes:

- Where "required" is used it means as required by Council.
- If activity is conducted outdoors, the work area is to be roofed and bunded to prevent stormwater ingress into the sewerage system.
- All drainage from floors in food preparation areas is required to pass through a floor waste basket.
- Food preparation activities need to comply with sound housekeeping practices including:
 - Floor must be dry swept before washing.
 - Pre-wiping of all utensils, plates, bowls etc. to the scrap bin before washing up.
 - Use of a food waste disposal unit is not permitted.

2 Part 2 – Criteria for approval to discharge liquid trade waste into council's sewerage system

2.1 Factors for consideration

Council's decision to accept liquid trade waste into its sewerage system is on the basis of a preventive risk management framework for managing risks to the sewerage system within an integrated water cycle management² context. It will be based on the discharge meeting Council's requirements³. When determining an application to discharge liquid trade waste to the sewerage system, Council will consider the following factors:

- The potential for the liquid trade waste discharge to impact on public health
- The possible impacts the discharge may pose to the environment (land, water, air, noise, or nuisance factors)
- The potential impacts of the discharge on the health and safety of the Council's employees
- The possible impact of the discharge on Council's sewerage infrastructure or sewage treatment process
- The capability of the sewerage system (both transportation and treatment components) to accept the quality and quantity of the proposed liquid trade waste discharge
- The impact the liquid trade waste will have on the ability of the sewerage scheme to meet Department of Environment and Climate Change (DECC) licence requirements
- Compliance of the proposed liquid trade waste discharge with guideline limits in this policy⁴
- The potential impacts of the discharge on the quality of, and management practices for, effluent and biosolids produced from the sewage treatment process
- The adequacy of the pre-treatment process(es) to treat the liquid trade waste to a level acceptable for discharge to the sewerage system, including proposed safeguards if the pre-treatment system fails
- Whether appropriate safeguards are proposed to avoid the discharge of other, non-approved wastes to the sewerage system
- The adequacy of any chemical storage and handling facilities, and the proposed safeguards for preventing the discharge of chemicals to the sewerage system

² *Integrated Water Cycle Management Guidelines for NSW Local Water Utilities, DWE, October 2004.*

³ In considering options for waste management to drive resource efficiency, the following order of preference set out on page 6 of the *National Wastewater Source Management Guidelines, July 2008*, WSAA will be adopted:

- Avoidance
- Minimisation
- Re-use
- Recovery of energy
- Treatment
- Disposal

⁴ The quality of trade waste from some low risk commercial activities in Classification A will exceed guideline limits in Council's trade waste policy. As a higher level of pre-treatment is not cost-effective, such waste is acceptable if the discharger installs and properly operates and maintains the required pre-treatment equipment (refer to Table 4 on page 181 and Tables 7 to 9 of *Liquid Trade Waste Regulation Guidelines, 2009*). Similarly, septic and pan waste may exceed some guideline limits.

- Whether prohibited substances are proposed to be discharged
- The potential for stormwater entering the sewerage system and adequacy of proposed stormwater controls
- Waste minimisation and water conservation programs
- The adequacy of the proposed due diligence program and contingency plan, where required.

2.2 Discharge quality

Council has guideline limits for the acceptance of discharges, as set out in Table 2 on pages 172 to 174. Council may vary the guideline limits for a particular sewage treatment works. Where the guideline limits cannot be met, applicants are required to provide justification for exceeding the limits. Based on the type and the proposed contaminant levels, Council may refuse the application, or may approve it subject to an effluent improvement program, or other conditions being implemented.

2.3 Prohibited substances

Some substances are not suitable for discharge to the sewerage system. Table 3 on page 175 sets out those substances which must not be discharged to the sewerage system. Council may not grant approval for the discharge of these substances to the sewerage system unless it is specifically approved under section 68 of the Local Government Act.

2.4 Stormwater discharges from open areas

Stormwater is a prohibited discharge under this policy. The ingress of stormwater into the sewerage system can cause operational problems to the system and result in sewer overflows, as the sewerage system does not have the capacity for such flows. Therefore, Council does not generally accept the discharge of stormwater to the sewerage system.

However, it is recognised that it may not always be possible or practical to prevent all stormwater entering the sewerage system at some liquid trade waste premises. The discharge of limited quantities of first flush stormwater from sealed areas will be considered where roofing cannot be provided because of safety or other important considerations. The discharge from unsealed areas is not permitted.

Before the stormwater will be considered for discharge to the sewerage system, the applicant must provide the following information:

- reasons why the area cannot be fully or partially roofed and bunded to exclude stormwater
- the dimensions and a plan of the open area under consideration
- whether the open area is sealed
- the estimated volume of the stormwater discharge
- information on rain gauging
- where a first-flush system is proposed, details on how the stormwater will be diverted to the drainage system after the first flush is accepted (the first flush to be limited to first 10 mm of storm run off)

- measures proposed for diverting stormwater away from the liquid trade waste generating area
- report on other stormwater management options considered and why they are not feasible.

Note: Trade waste charges for the acceptance of stormwater to the sewerage system are indicated in section 3.7.9 on page 192.

2.5 Food waste disposal units

The use of food waste disposal units (also known as in-sinkerators, in-sink food waste disposers, or garbage grinders) is not permitted. Existing installations in hospitals and nursing homes may be permitted, provided that wastewater is discharged through an adequately sized grease arrestor. For existing premises, a food waste disposal charge will be levied based on the number of beds in the hospital or nursing home (refer to section 3.7.6 on page 189).

If the hospital or nursing home kitchen is refurbished, the food waste disposal unit must be removed.

2.6 Devices that macerate or pulverise waste

Macerators and any other similar devices that are used for pulverising of solid waste are not authorised to connect to Council's sewerage system (Refer *NSW Code of Practice: Plumbing and Drainage, 2006*). Solid waste includes, but is not limited to, sanitary napkin, placenta, surgical waste, disposable nappy, mache bedpan and urine containers.

Therefore Council will not accept any discharges from such devices to its sewerage system.

2.7 Use of additives in pre-treatment systems

Council does not allow solvents, enzymes, bioadditives, and odour control agents to be used in pre-treatment systems (except neutralising chemicals designated for the pre-treatment) except by specific written application and subsequent approval.

Table 2: Guideline limits for acceptance of liquid trade wastes into sewerage system

Parameter*	Limits [#]
General acceptance guideline limits	
Flow Rate	The maximum daily and instantaneous rate of discharge (kL/h or L/s) is set on the available capacity of the sewer. Large dischargers are required to provide a balancing tank to even out the load on the sewage treatment works.
BOD ₅ and Suspended Solids	Normally, approved at 300 mg/L each. Concentration up to 600mg/L and in some cases higher concentration for low mass loadings may be acceptable if the treatment works has sufficient capacity and odour will not be a problem.
COD	Normally, not to exceed BOD ₅ by more than three times. This ratio is given as a guide only to prevent the discharge of non-biodegradable waste.
Total Dissolved Solids	Up to 4000 mg/L may be accepted. However, the acceptance limit may be reduced depending on available effluent disposal options and will be subject to a mass load limit.
Temperature	Less than 38°C.
pH	Within the range 7.0 to 9.0.
Oil and Grease	100 mg/L if the volume of the discharge does not exceed 10% of the design capacity of the treatment works, and 50 mg/L if the volume is greater than 10%.
Detergents	All industrial detergents are to be biodegradable. A limit on the concentration of 50 mg/L (as MBAS) may be imposed on large liquid trade wastes.
Colour	No visible colour when the waste is diluted to the equivalent dilution afforded by domestic sewage flow.
Radioactive Substances	The discharge must comply with the <i>Radiation Control Act 1990</i> .

cont ...

* See Glossary for explanation of terms

[#] Refer to *National Wastewater Source Management Guideline, July 2008*, WSAA for recommended analytical methods

Table 2 (Cont.) – Guideline limits for acceptance of liquid trade wastes into sewerage system

Parameter	Maximum concentration (mg/L)
Acceptance guideline limits for inorganic compounds	
Ammonia (as N)	50
Boron	5
Bromine	5
Chlorine	10
Cyanide	1
Fluoride	20
Nitrogen (total Kjeldahl)	100
Phosphorus (total)	20
Sulphate (as SO ₄)	500
Sulphide (as S)	1
Sulphite (as SO ₃)	15
Acceptance guideline limits for organic compounds	
Benzene	0.04
Toluene	0.5
Ethylbenzene	1
Xylene	1
Formaldehyde	30
Phenolic compounds (except pentachlorophenol)	5
Petroleum hydrocarbons (non-flammable)*	30
Pesticides general (except organochlorine and organophosphorus)*	0.1
Polynuclear Aromatic Hydrocarbons (PAHs)	5

cont ...

* Refer to Table 3

Table 2 (Cont.) – Guideline limits for acceptance of liquid trade wastes into sewerage system

Parameter	Maximum concentration (mg/L)	Allowed daily mass limit (g/d)
Acceptance guideline limits for metals		
Aluminium	100	-
Arsenic	1	2
Cadmium	1	6
Chromium*	3	15
Cobalt	5	15
Copper	5	15
Iron	100	-
Lead	1	6
Manganese	10	30
Mercury	0.01	0.05
Molybdenum	5	30
Nickel	3	15
Selenium	1	15
Silver	2 [#]	6
Tin	5	15
Zinc	5	15
Total heavy metals excluding aluminium, iron and manganese	less than 30 mg/L and subject to total mass loading requirements	

* Where hexavalent chromium (Cr⁶⁺) is present in the process water, pre-treatment will be required to reduce it to the trivalent state (Cr³⁺), prior to discharge into the sewer. Discharge of hexavalent chromium (Cr⁶⁺) from chromate compounds used as corrosion inhibitors in cooling towers is not permitted.

[#] This limit is applicable to large dischargers. The concentration of silver in photoprocessing waste where a balancing tank is provided is not to exceed 5 mg/L.

Table 3: Substances prohibited from being discharged into the sewerage system

- organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances
- organophosphorus pesticides and/or waste arising from the preparation of these substances
- any substances liable to produce noxious or poisonous vapours in the sewerage system
- organic solvents and mineral oil
- any flammable or explosive substance
- discharges from 'Bulk Fuel Depots'
- chromate from cooling towers
- natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
- rain, surface, seepage or subsoil water, unless specifically permitted
- solid matter
- any substance assessed as not suitable to be discharged into the sewerage system
- waste that contains pollutants at concentrations which inhibit the sewage treatment process – refer *National Wastewater Source Management Guideline, July 2008*, WSAA
- any other substances listed in a relevant regulation.

3 Part 3 – Framework for regulation of liquid trade waste

3.1 The NSW framework for regulation of sewerage and trade waste

Due to the *Tragedy of the Commons*⁵ in the use of common pool resources, sound regulation of sewerage and trade waste requires implementation of **all** the following integrated measures.

1. Preparation and implementation of a sound trade waste regulation policy, assessment of each trade waste application and determination of appropriate conditions of approval. The conditions must be consistent with the LWU's *Integrated Water Cycle Management Strategy* and demand management plan. In addition, execution of a liquid trade waste services agreement is required for large dischargers to assure compliance.
2. Preparation and implementation of a sound *Development Servicing Plan*⁶, with commercial sewerage developer charges to ensure new development pays a fair share of the cost of the required infrastructure.
3. Full cost recovery with appropriate sewer usage charges⁷ and trade waste fees and charges⁸ in order to provide the necessary pricing signals to dischargers. These charges must include non-compliance trade waste usage charges and non-compliance excess mass charges in order to provide the necessary incentives for dischargers to consistently comply with their conditions of approval.
4. Monitoring, mentoring and coaching of dischargers in order to achieve cleaner production and assist them to comply with their conditions of approval.
5. Enforcement, including appropriate use of penalty notices under section 222 of the *Protection of the Environment Operations Act 1997*. Orders may also be issued and penalties imposed for offences under sections 626, 627 and 628 of the *Local Government Act 1993*.
6. Disconnection of a trade waste service in the event of persistent failure to comply with the LWU's conditions of approval.

Together, the above six measures comprise the NSW framework for regulation of sewerage and trade waste. The framework involves a preventive risk management approach, which has been developed to address the use of common pool resources by providing economic incentives for dischargers to minimise their waste and to consistently comply with their conditions of approval.

⁵ Refer to page 3 of *National Wastewater Source Management Guideline, July 2008*, WSAA. Thus, in the absence of appropriate controls and measures (such as conditions of approval, a sewer usage charge, a trade waste usage charge, a non-compliance trade waste usage charge, excess mass charges, non-compliance excess mass charges and penalty notices), it would be in the economic interest of each trade waste discharger to minimize their efforts and expenditure on control and pre-treatment of their trade waste before discharging it to the sewerage system. In the past, failure to implement these measures has caused multi-million dollar damage to sewerage networks, pumping stations and treatment works (refer to the examples shown on pages 30, 47 and 48 of the *Liquid Trade Waste Regulation Guidelines, 2009*).

⁶ In accordance with the *NSW Developer Charges Guidelines for Water Supply, Sewerage and Stormwater, 2002*.

⁷ In accordance with page 29 of the *NSW Water Supply, Sewerage and Trade Waste Pricing Guidelines, 2002*.

⁸ In accordance with Appendices D and I of the *Liquid Trade Waste Regulation Guidelines, 2009*.

3.2 Alignment with the national framework for wastewater source management

The NSW framework for regulation of sewerage and trade waste is outlined in section 3.1. The NSW framework is driven by the NSW Government's *Best-Practice Management of Water Supply of Sewerage Guidelines, 2007* and is consistent with that in the *National Framework for Wastewater Source Management*.⁹

In particular, under the *Best-Practice Management Guidelines* each LWU is required to achieve the following outcomes:

- Prepare and implement a 30-year Integrated Water Cycle Management Strategy, demand management plan, pay-for-use water supply pricing and community and customer involvement (Elements 1, 6, 8)
- Annual performance monitoring, including an annual triple bottom line (TBL) Performance Report and Action Plan to identify and address any areas of under-performance (Elements 5, 6, 9, 10, 11, 12)
- Achieve full cost recovery for water supply, sewerage and trade waste services and apply an appropriate non-residential sewer usage charge (Elements 3, 8)
- Prepare and implement a sound trade waste regulation policy and issue an appropriate approval to each trade waste discharger, including waste minimisation and cleaner production (Elements 1, 2, 3, 4, 7, 8)
- Appropriate trade waste fees and charges (including incentives to comply with LWU's approval conditions through non-compliance trade waste usage charges and non-compliance excess mass charges) (Elements 3, 8)
- Trade waste services agreement for large dischargers to assure compliance (Elements 3, 8)
- Appropriate training of LWU staff and monitoring, mentoring and coaching of trade waste dischargers (Elements 1, 4, 5, 7, 8)
- Enforcement, including appropriate use of penalty notices or orders (Elements 3, 8)

⁹ The following 12 elements of the *National Framework for Wastewater Source Management* are set out on page 22 of the *National Wastewater Source Management Guideline, July 2008*, WSAA:

COMMITMENT

1. Commitment to Wastewater Source Management

SYSTEM ANALYSIS and MANAGEMENT

2. Assessment of the Wastewater System
3. Preventive Measures for Wastewater Input Quality Management
4. Operational Procedures and Process Control
5. Verification of Wastewater Inputs Quality
6. Management of Incidents/Complaints and Emergencies

SUPPORTING REQUIREMENTS

7. Employee Awareness and Training
8. Customer and stakeholder involvement and awareness
9. System Validation and Research and Development
10. Documentation and Reporting

REVIEW

11. Evaluation and Audit
12. Review and Continual Improvement

- Disconnection of a trade waste service in the event of persistent failure to comply with the LWU's conditions of approval (Element 8).

3.3 Application Procedures

To obtain Council's approval to discharge liquid trade waste to Council's sewerage system, a discharger must lodge an application in writing. Application forms are available from Council. If a person wishes to discharge liquid trade waste to the sewerage system but is not the owner of the premises, the person must obtain the owner's consent to the application.

The applicant must provide the following information:

- site owner's full name, address, contact telephone number
- address of the business/industry where discharge to the sewerage system will occur
- name of contact person for the premises and telephone contact for the business/industry
- type of process/activity generating the liquid trade waste
- normal hours of business operation
- rate of discharge, including
 - the average per day, maximum per day and per hour, and
 - hours of the day during which discharge will take place
- characteristics of wastes, including
 - nature of source
 - expected maximum and average concentrations of pollutants

(Where sampling and testing are required to establish the quality of the liquid trade waste, the testing should be carried out in accordance with the procedures set out in the *Standard Methods for the Examination of Water and Wastewater* published by the American Public Health Association, American Water Works Association and Water Pollution Control Federation.)

- chemicals to be used – supply Material Safety Data Sheets
- details of any proposed pre-treatment facilities, location and site plan. Details should include:
 - pre-treatment process details
 - internal wastewater drainage
 - pump size
 - rising main size, length and profile
 - system operational characteristics
 - operational procedures
 - provisions for sampling and flow measurement, where required
 - proposed connection point to the sewerage system
- flow diagram and hydraulic profile of proposed liquid trade waste pre-treatment facilities
- maintenance schedule for pre-treatment equipment, including contractor's details
- stormwater drainage plan

- measures for prevention of stormwater ingress into the sewerage system
- location, nature and chemical composition of all substances stored/used on site
- justification for disposing of the waste into the sewerage system over other possible options (if any)
- methods of disposal for other wastes that are not discharged to the sewerage system
- any relevant environmental impact assessments
- any additional information as requested by Council.

The following information needs to be provided in regard to the discharge of septic tank and pan waste to the sewerage system:

- identification of the pump out service provider
- proposed method of discharge including plans and drawings if appropriate
- details of any proposed facilities for a disposal point, location and site plan (if applicable). Details should include the proposed connection point to the sewerage system
- security arrangements at the proposed disposal site (if applicable)
- the provision of freshwater for hosing down where needed
- bunding and measures to prevent the ingress of stormwater at the proposed dump point, if applicable
- the use of odour inhibiting or other chemicals, if any, and their dosage rates
- statement that septic effluent will not be mixed with septage or grease trap pump out, ie. dedicated tankers will be used for each type of waste
- for boat/marina facility – the type and number of vessels either moored at the marina and/or would utilise the pump-out facility on a regular basis:
 - private
 - commercial.

Council may, under section 86 of the Local Government Act, request an applicant to provide more information to enable it to determine the application.

3.4 Approval of applications

Where an application is approved, Council will notify the applicant as soon as practical of the approval and any conditions of the approval. The duration of the approval will be as stated in the approval. In cases where Council requires a discharger to enter into a liquid trade waste services agreement (refer to section 3.9 on page 194), Council will issue a deferred commencement approval under section 95 of the Local Government Act requesting the discharger to do so within the time specified in Council's letter. In such cases, the approval will not be operative until the agreement has been executed by the discharger.

An applicant may make a minor amendment or withdraw an application before it is approved by Council. An applicant may also apply to Council to renew or extend an approval, in accordance with section 107 of the Local Government Act.

If an application is refused, Council will notify the applicant of the grounds for refusal.

An approval to discharge liquid trade waste to Council's sewer is not transferable. A new application must be lodged and a new approval obtained if there is a change of the approval holder or the activity. Council must be notified of change of ownership and/or occupier in all cases, whether a new approval is required or not, to allow updating of records.

3.5 Concurrence of the Department of Water and Energy

If Council supports an application and has a notice stating that concurrence of the Director-General, Department of Water and Energy (DWE), can be assumed for the waste relevant to the application, Council will approve the application. Otherwise, Council will seek concurrence from DWE in accordance with the requirements of section 90(1) of the Local Government Act.

Liquid trade waste discharges are divided into four (4) classifications for the purpose of the concurrence process:

- Concurrence Classification A – liquid trade waste dischargers for which Council has been authorised to assume concurrence to the approval subject to certain requirements

As indicated in PART 1 on page 167 of the Model Policy, Council may elect to provide exemptions for some or all of the activities listed in Table 1.

- Concurrence Classification B – liquid trade waste dischargers whereby Council may apply to the Director-General, DWE for authorisation to assume concurrence to the approval subject to certain requirements
- Concurrence Classification S – the acceptance of septic tank, pan waste and ship-to-shore pump-out. Council may apply to the Director-General, DWE for authorisation to assume concurrence to the approval subject to certain conditions
- Concurrence Classification C – all other liquid trade waste dischargers that do not fall within Concurrence Classification A, B or S, and therefore require Council to apply to DWE for concurrence.

All councils have been authorised to assume concurrence for Concurrence Classification A liquid trade waste discharges. These are listed in Table 4 and Council will not need to seek DWE concurrence for approval of trade waste applications for these activities.

Table 4: Liquid trade waste discharges with automatic assumed concurrence

Commercial retail food preparation activities	Other commercial activities
Bakery (retail)	Animal wash (pound, stables, racecourse, kennels, mobile animal wash and veterinary with no X-ray)
Bed and Breakfast (<10 persons)	Beautician
Bistro	Boiler blowdown
Boarding house/hostel kitchen	Car detailing
Butcher shop (retail)	Cooling tower
Café/coffee shop/coffee lounge	Craft activities (making of clay pottery, ceramics, cutting and polishing of gemstones or making of jewellery at clubs, cottage industries)
Canteen	Dental surgery/dental specialist
Cafeteria	Dental technician
Chicken/poultry shop (only fresh chickens/game sold)	Doctor's surgery, medical centre - plaster casts (no X-rays)
Chicken/poultry shop (retail BBQ/charcoal chicken)	Florist
Club (kitchen wastes)	Funeral parlour, morgue
Commercial kitchen/caterer	Hairdressing (includes barbers)
Community hall/civic centre	Jewellery shop
Day care centre	Laboratory (pathology/analytical)
Delicatessen	Laundry or laundromat (coin operated)
Doughnut shop	Lawnmower repairs
Fast food outlet (McDonalds, KFC, Burger King, Pizza Hut, Red Rooster, etc.)	Mechanical repairs/workshop
Fish shop (retail – fresh and/or cooked)	Mobile cleaning units
Food caravan	Optical service
Fruit and vegetable shop (retail)	Pet shop (retail)
Function centre	Photographic tray work/manual development
Hotel	Plants retail (no nursery)
Ice cream parlour	School (Primary and Secondary)
Juice bar	Stone working
Mixed business	Swimming pool/spa/hydrotherapy

Motel	Vehicle washing (by hand/wand, automatic car wash, external truck wash or underbody/engine degrease only)
Nightclub	Venetian blind cleaning
Nursing home kitchen	Veterinary /animal kennels with X-ray
Nut shop	Waterless minilab
Patisserie	
Pie shop	
Pizza shop	
Restaurant	
Salad bar	
Sandwich shop	
School canteen	
Supermarket (with butcher/delicatessen/ seafood/or charcoal chickens)	
Take-away food outlet	

Notes:

The volume of liquid trade waste must not exceed 5 kL/d or 1000 kL/a except in the case of commercial retail food preparation activities, where up to 16 kL/d is included in this category. If the waste discharged to the sewer exceeds these volumes, the application must be treated as Concurrence Classification B. Discharges over 20 kL/d must be treated as Classification C.

3.6 Liquid trade waste charging categories

Four (4) classifications of liquid trade waste have been established for concurrence purposes, Classification A, B, C and S (refer section 3.5 on page 180). For trade waste charging purposes there are also four (4) charging categories, Category 1, 2, 2S and 3 (pages 184 and 185).

Figure 1 below shows that Classification A dischargers fall into Charging Category 1 or Category 2. Classification B dischargers fall into Charging Category 2, except for a few dischargers with low impact on the sewerage system which fall into Category 1. Classification S dischargers fall into Charging Category 2S. Classification C dischargers fall into Charging Category 3.

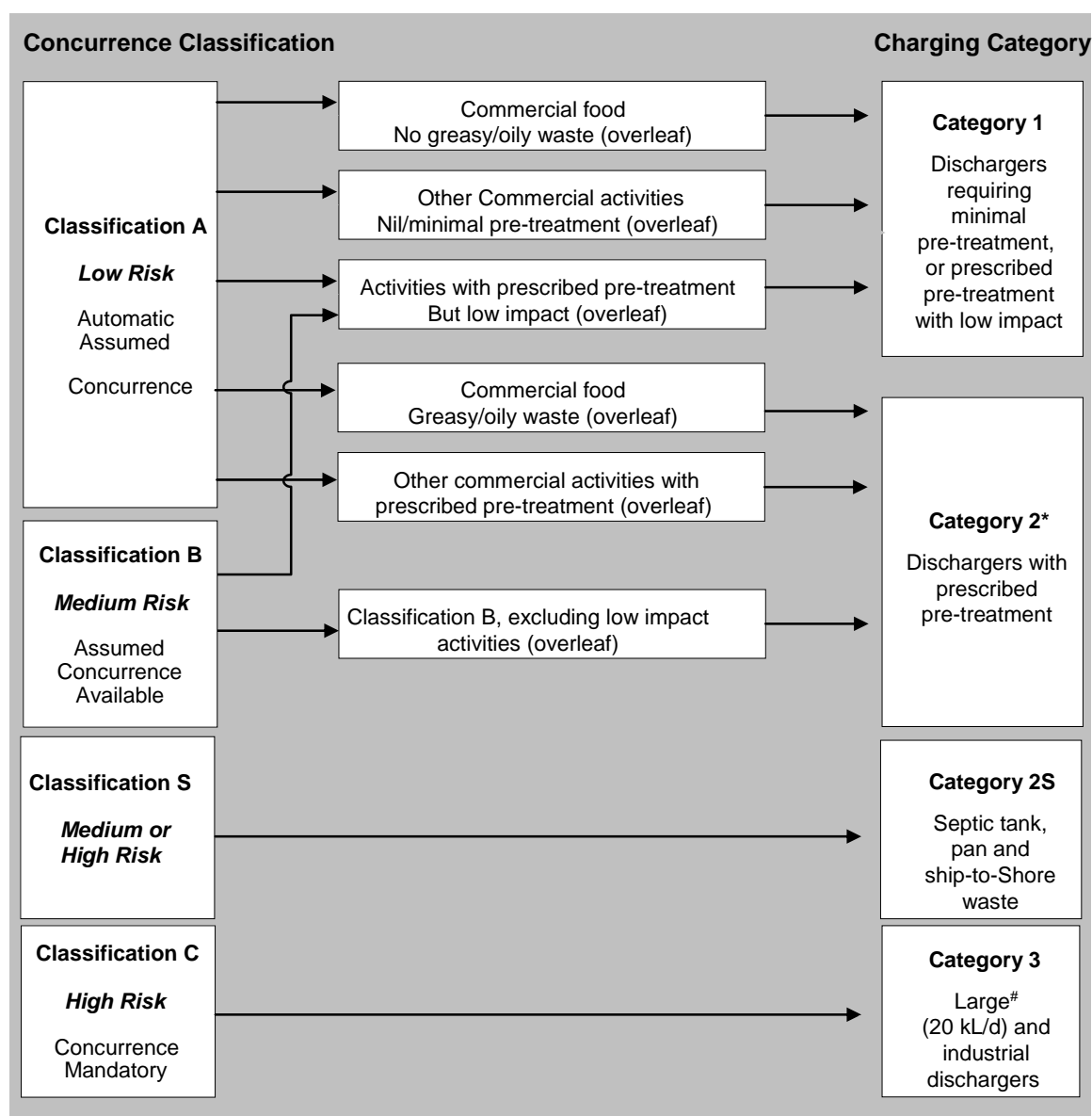


Figure 1: Charging categories for trade waste

* Also includes fish shop (fresh fish for retail)

[#] Except shopping complexes and institutions (hospital, educational facilities, etc.). These will be charged as Category 2 in accordance with activities carried out on the premises.

Category 1 Discharger

Category 1 liquid trade waste dischargers are those conducting an activity deemed by Council as requiring nil or only minimal pre-treatment equipment and whose effluent is well defined and of a relatively low risk to the sewerage system. In addition, Category 1 includes dischargers requiring prescribed pre-treatment but with low impact on the sewerage system.

Classification A activities – Commercial retail food preparation activities that do not generate an oily/greasy waste: bakery (only bread baked on-site), bistro (sandwiches, coffee only), café/coffee shop/coffee lounge, canteen, community hall (minimal food), day care centre, delicatessen, fruit and vegetable shop, hotel, ice cream parlour (take away only), juice bar, mixed business, motel, nightclub, nut shop, pizza cooking/reheating (no preparation or washing up on-site, pizza heated and sold for consumption off-site), potato peeling (small operation), sandwich shop/salad bar, take away food outlet.

Classification A activities – Other commercial activities: animal wash, beautician/hairdressing, crafts < 1000 L/d, dental surgery (plaster casts, no X-ray unless digital), doctor's surgery and medical centre (plaster casts, no X-ray), florist, funeral parlour, mobile cleaning units, morgue, jewellery shop, optical service (retail), pet shop, plants retail (no nursery), public swimming pool, photographic (tray work/manual development), venetian blind cleaning, veterinary (no X-ray).

Classification A or B activities – dischargers with prescribed pre-treatment with low impact on the sewerage system: boiler blowdown, cooling tower, industrial boilers, laboratory (analytical/pathology/tertiary institution), laundry, primary and secondary school¹⁰, vehicle washing.

Category 2 Discharger

Category 2 liquid trade waste dischargers are those conducting an activity deemed by Council as requiring a prescribed type of liquid trade waste pre-treatment equipment and whose effluent is well characterised.

Trade Waste dischargers with prescribed pre-treatment¹¹ include:

Classification A activities: Premises that **prepare and/or serve hot food or foods that generate an oily/greasy waste:** bakery (pies, sausage rolls, quiches, cakes, pastries with creams or custards), bistro, boarding house/hostel kitchen, butcher, café/coffee shop/coffee lounge, cafeteria, canteen, fast food outlet, chicken/poultry shop, club, community hall¹², commercial kitchen/caterer, nursing home, patisserie, supermarket, doughnut shop, fish shop (cooking on-site), function centre, hotel, ice cream parlour, motel, nightclub, pizza cooking, restaurant, sandwich shop/salad bar, take away food outlet.

Other commercial Classification A activities: car detailing, craft activities > 1000 L/d, dental surgery with X-ray, lawnmower repairs, mechanical workshop, stone working, veterinary (with X-ray), waterless mini-lab.

Classification B activities: auto dismantler, bus/coach depot, construction equipment maintenance and cleaning, equipment hire, maintenance and cleaning, glass cutting and grinding, graphic arts, hospital (with or without X-ray), medical centre (with X-ray), optical services (at medical or educational facilities, workshops), oyster processing – shucking, panel beating, photographic lab, radiator repairer, screen printing, service station forecourt, shopping complex, water wash mini-lab, X-ray radiologist.

Other Classification A activities: fish shop (fresh fish for retail).

¹⁰ If significant hot food preparation is carried out, Category 2 charges may be levied by Council.

¹¹ Excludes low impact activities, listed under Category 1.

¹² If the type and size of kitchen fixtures installed enable catering for large functions.

Category 2S Discharger

Category 2S dischargers are those conducting an activity of transporting and/or discharging septic tank or pan content waste into the sewerage system.

Trade waste dischargers include the following Classification S activities:

Classification S activities: bus/rail coaches/caravan/motor home/caravan park waste dump points, mooring/marina dump points, pan waste, portable chemical toilet waste, septage, septic tank effluent, ship-to-shore pump-outs (galley waste and toilet waste).

Category 3 Discharger (large or industrial waste dischargers)

Category 3 liquid trade waste dischargers are those conducting an activity which is of an industrial nature and/or which results in the discharge of large volumes (over 20 kL/d) of liquid trade waste to the sewerage system. Any Category 1 or 2 discharger whose volume exceeds 20 kL/d becomes a Category 3 discharger, except shopping complexes and institutions (eg. hospitals, educational facilities, correctional facilities, etc.)

Large trade waste dischargers and other Classification C activities include: abattoir, bakery (wholesale), brewery, cooling towers, cosmetics/perfumes manufacture, dairy processing (milk/cheese/yoghurt/ice cream etc.), food processing (cereals/cannery/condiments/ confectionary/edible oils/fats/essence/ flavours/fish/fruit juice/gelatine/honey/meat/pickles/ smallgoods/tea and coffee/vinegar/yeast manufacture etc.), fruit and vegetable processing, flour milling, glue manufacturer, egg processing, pet food processing, plants nursery (open areas), potato processing, poultry processing, saleyards, seafood processing, soft drink/cordial manufacture, starch manufacture, sugar refinery, tanker washing, tip leachate, transport depot/ terminal, water treatment backwash, wholesale meat processing, winery, wine/spirit bottling.

Dischargers of industrial waste include the following Classification C activities: acid pickling, adhesive/latex manufacture, agricultural and veterinary drugs, anodising, bitumen and tar, bottle washing, cardboard and carton manufacture, carpet manufacture, caustic degreasing, chemicals manufacture and repackaging, contaminated site treatment, cyanide hardening, detergent/soaps manufacture, drum washing, electroplating, engine gearbox reconditioning, extrusion and moulding (plastic/metal), feather washing, fellmonger, felt manufacture, fertilisers manufacture, fibreglass manufacture, filter cleaning, foundry, galvanising, glass manufacture, ink manufacture, laboratories (excluding those in Category 2), liquid wastewater treatment facility (grease trap receival depot and other pump-out waste depot), metal finishing, metal processing (refining/rumbling/ non-cyanide heat treatment/phosphating/ photo engraving/printed circuit etching/sheet metal fabrication etc.), mirrors manufacture, oil recycling (petrochemical) and refinery, paint stripping, paint manufacture, paper manufacture, pharmaceuticals manufacture, plaster manufacture, powder coating, printing (newspaper, lithographic), sandblasting, slipway, tannery, timber processing (joinery and furniture/plywood/hardwood), textile manufacture (wool dyeing/ spinning/scouring), truck washing (internal), waxes and polishes.

Phasing-in of charges

As indicated on page 24 of the *Best-Practice Management of Water Supply and Sewerage Guidelines, 2007*, the non-residential sewerage bills for customers facing a large increase as a result of implementing best-practice pricing are to be phased in over a period of five (5) years. Large increases in trade waste fees and charges may be phased in over a period of up to three (3) years.

3.7 Liquid trade waste fees and charges

Council provides sewerage and liquid trade waste services on a commercial basis, with full cost recovery through sewerage and liquid trade waste fees and charges. Council's proposed fees and charges are advertised annually for public comment in its draft Management Plan. In addition to the trade waste fees and charges described below, Council may elect to include any trade waste charges shown in Appendix I of the *Liquid Trade Waste Regulation Guidelines, 2009*.

Liquid trade waste discharged to the sewerage system from industrial, commercial or other non-residential customers can impose significant costs on sewage transport and treatment facilities. To recover these costs and to ensure removal of existing significant cross-subsidies from residential customers, in addition to a two-part tariff with an appropriate **sewer usage charge/kL** for non-residential sewerage, appropriate fees and charges are levied for liquid trade waste.

Council's liquid trade waste fees and charges may include:

- Application fee
- Annual trade waste fee
- Re-inspection fee
- Trade waste usage charge
- Septic tank and pan waste disposal charge
- Excess mass charges
- Food waste disposal charge
- Non-compliance trade waste usage charge
- Non-compliance excess mass charge and pH charge
- Non-compliance penalty.

3.7.1 Application fee

The application fee recovers the cost of administration and technical services provided by Council in processing applications for approval to discharge liquid trade waste to the sewerage system. The application fee will be allocated on the basis of the category into which the discharger is classified and reflects the complexity of processing the application. Application fees will be set annually by Council.

Note:

Council may expand this section by indicating whether it will charge application fees for the following:

- Renewal of an existing liquid trade waste approval
- Change of ownership if no changes are required to the conditions of an existing approval.

3.7.2 Annual trade waste fee

The purpose of this fee is to recover the cost incurred by Council for administration and the scheduled inspections each year to ensure a liquid trade waste discharger's ongoing compliance with the conditions of their approval.

As part of an inspection, Council or its agents may undertake monitoring of the liquid trade waste discharges from premises or business. Such monitoring may include but is not limited to, flow measurement and the sampling of the liquid trade waste. **Where more than one (1) instance*** of such monitoring is undertaken by Council, or its agents, in a financial year, the cost involved may be recovered from the discharger.

Annual liquid trade waste fees are determined on the basis of the category of the discharger and are proportionate to the complexity of their inspection and administration requirements. Annual trade waste fees will be set by Council. Where the discharger is required to pay for monitoring this will be charged on the basis of full cost recovery[#].

Notes:

* In view of the adverse impact of wastes with a high concentration of oil and grease on Council's sewage transportation system, Council should carry out inspections of commercial premises preparing hot food at least four (4) times per annum. If Council has a waste tracking system in place, an annual inspection prior to pump-out would be satisfactory. Also, if it is not practical for the LWU to carry out four inspections/annum, the LWU may inspect once or twice/annum and require the discharger to produce evidence that the pre-treatment equipment has been properly serviced between the inspections, eg. pump-out dockets, invoices from a service contractor, etc.

[#] The annual trade waste fee for Category 3 dischargers may be set on a case by case basis depending on the complexity of monitoring required (for charging purposes and other administrative requirements).

3.7.3 Re-inspection fee

Where non-compliance with the conditions of an approval has been detected and the discharger is required to address these issues, Council will undertake re-inspections to confirm that remedial action has been satisfactorily implemented. Council will impose a fee for each re-inspection. The re-inspection fee will be set annually by Council on the basis of full cost recovery. A re-inspection may include the monitoring of liquid trade waste discharges, the cost of which may be recovered from the discharger.

3.7.4 Trade waste usage charge

The trade waste usage charge is imposed to recover the additional cost of transporting and treating liquid trade waste from Category 2 dischargers.

Trade Waste Usage Charge (\$) = $Q \times \$1.38^*/\text{kL}$ (2007/08\$)

Where Q = Volume (kL) of liquid trade waste discharged to sewer.

* These charging rates are in 2007/08\$ and should be indexed on the basis of the Consumer Price Index for Sydney.

3.7.5 Excess mass charges

Excess mass charges will apply for substances discharged in excess of the deemed concentrations in domestic sewage shown in Table 5 below. For excess mass charge calculation, equation (1) below will be applied.

Table 5: Deemed concentration of substances in domestic sewage

Substance	Concentration (mg/L)
Biochemical Oxygen Demand (BOD ₅)	300
Suspended Solids	300
Total Oil and Grease	50
Ammonia (as Nitrogen)	35
Total Kjeldahl Nitrogen	50
Total Phosphorus	10
Total Dissolved Solids	1000
Sulphate (SO ₄)	50 [#]

[#] The concentration in the potable water supply to be used if it is higher than 50mg/L.

NB. Substances not listed above are deemed not to be present in domestic sewage.

$$\text{Liquid Trade Waste Excess Mass Charge (\$)} = \frac{(S - D) \times Q \times U}{1,000} \quad (1)$$

Where: S = Concentration (mg/L) of substance in sample.

D = Concentration (mg/L) of substance deemed to be present in domestic sewage.

Q = Volume (kL) of liquid trade waste discharged to the sewerage system.

U = Charging rate (\$/kg) for discharge of substance to the sewerage system.

Charging rates (U) used in equation (1) are as shown in Council's Annual Management Plan.

With regard to BOD, equation (1) applies for BOD₅ up to 600 mg/L.

Excess mass charges for BOD exceeding 600mg/L

If Council approves the acceptance limits for BOD₅ higher than 600mg/L, an exponential type equation will be used for calculation of the charging rate U_e (\$/kg) as shown in equation (2). Equation (2) provides a strong incentive for dischargers to reduce the strength of waste. In addition, equation (5) on page 191 will be used where the discharger has failed to meet their approved BOD limit on two (2) or more instances in a financial year.

U_e is the excess mass charging rate for BOD (\$/kg).

$$U_e = 2C \times \frac{(\text{Actual BOD} - 300\text{mg/L})}{600\text{mg/L}} \times 1.05 \frac{(\text{Actual BOD} - 600\text{mg/L})}{(600\text{mg/L})} \quad (2)$$

Where C = the charging rate (\$/kg) for BOD_5 600mg/L.

Actual BOD – the concentration of BOD_5 as measured in a sample

For example if $C = \$0.623/\text{kg}$, equation (2) would result in the following excess mass charging rates:

\$0.623/kg for BOD_5 600mg/L

\$1.96/kg for BOD_5 1200mg/L

\$5.05/kg for BOD_5 2400mg/L

The excess mass charge for BOD is calculated using equation (1):

$$\text{Excess Mass Charge for BOD (\$)} = \frac{(S - D) \times Q \times U_e}{1,000}$$

3.7.6 Food waste disposal charge¹³

Where Council has permitted the use of a food waste disposal unit for an existing hospital, nursing home or other eligible facility, the following additional food waste disposal charge will be payable annually.

$$\text{Food Waste Disposal Charge (\$)} = B \times UF$$

Where B = Number of beds in hospital or nursing home.

UF = Annual charging rate (\$/bed) for a food waste disposal unit at a hospital or nursing home.

Note: The recommended annual charging rate is \$23/bed (2007/08\$).

¹³ For existing installations only. New installations are not permitted.

3.7.7 Non-compliance charges

Category 1 and 2 Dischargers

If the discharger has not installed or maintained appropriate pre-treatment equipment, the following trade waste usage charges will be applied for the relevant billing period:

Category 1 Discharger - \$1.38*/kL (2007/08\$)

Category 2 Discharger - \$12.68*/kL (2007/08\$)

Category 3 Discharger

Non-compliance pH charge

Equation (3) is used for waste with pH being outside the approved range. This equation provides an incentive for dischargers to apply appropriate pH correction so their waste remains within the approved pH limits. Council may require industrial and large dischargers to install and permanently maintain a pH chart recorder or data logger as control of pH is critical to minimising odour and corrosion problems in the sewerage system.

Charging rate for pH where it is outside the approved range for the discharger =

$$K \times (\text{actual pH} - \text{approved pH})^{\#} \times 2^{(\text{actual pH} - \text{approved pH})^{\#}} \quad (3)$$

absolute value to be used.

K = pH coefficient = 0.346 (2007/08\$) and needs to be adjusted in accordance with changes in the CPI.

Example: Council has approved the pH range 8.0 to 9.0 for a large discharger generating high strength trade waste in order to prevent corrosion and odour problems in the sewerage system.

Case 1: pH measured 7.0

$$\text{Charging rate (\$/kL)} = 0.346 \times [7 - 8] \times 2^{[7 - 8]} = \$0.69/\text{kL}$$

Case 2: pH measured 11.0

$$\text{Charging rate (\$/kL)} = 0.346 \times [11 - 9] \times 2^{[11 - 9]} = \$2.77/\text{kL}$$

Non-compliance excess mass charges

Where a discharge quality fails to comply with the approved concentration limits of substances specified in Council's approval conditions (or the acceptance criterion listed in Council's trade waste policy), Council incurs additional costs in accepting and treating that waste. Council may also face problems with the effluent and biosolids management.

* These charging rates are in 2007/08\$ and should be indexed on the basis of the Consumer Price Index for Sydney.

In order to recover Council's costs, equation (4) shall apply for non-compliance excess mass charges, except for BOD where equation (5) shall apply.

$$\text{Non-compliance Excess Mass Charges (\$)} = \frac{(S - A) \times Q \times 2U}{1,000} + \frac{(S - D) \times Q \times U}{1,000} \quad (4)$$

Where:

S = Concentration (mg/L) of substance in sample.

A = Approved maximum concentration (mg/L) of pollutant as specified in Council's approval (or liquid trade waste policy).

Q = Volume (kL) of liquid trade waste discharged for the period of non-compliance.

U = Excess mass charging rate (\$/kg) for discharge of pollutant to sewerage system, as shown in Council's Annual Management Plan.

D = Concentration (mg/L) of substance deemed to be present in domestic sewage.

Non-compliance excess mass charges for BOD

If a discharger has failed to meet the approved maximum concentration of BOD on two or more instances in a financial year, the non-compliance excess mass charging rate for BOD U_n will be levied on the basis of equation (5):

U_n is the BOD non-compliance excess mass charging rate.

$$U_n = 2C \times \frac{(A - 300 \text{ mg/L})}{600 \text{ mg/L}} \times 1.05^{\frac{(A - 600 \text{ mg/L})}{600 \text{ mg/L}}} + 4C \times \frac{(\text{Actual BOD} - A)}{600 \text{ mg/L}} \times 1.05^{\frac{(\text{Actual BOD} - A)}{600 \text{ mg/L}}} \quad (5)$$

For example, if $C = \$0.623/\text{kg}$, BOD_5 actual (measured) level is 2400mg/L and the approved maximum concentration of BOD (A) is 1000mg/L , equation (5) would result in a non-compliance excess mass charging rate of $\$8.02/\text{kg}$.

Non-compliance Excess Mass Charge for BOD is calculated using equation (1):

$$\text{Non-compliance Excess Mass Charge (\$)} = \frac{(S - D) \times Q \times U_n}{1,000}$$

The non-compliance excess mass charges shown above are in lieu of the excess mass charges in section 3.7.5.

NB. Council will continue applying the above non-compliance excess mass charge until the quality of discharge complies with Council's approved quality (or the trade waste policy) limits, within the time frame determined by Council for remedying the problem. If the discharger fails to rectify the problem within this time frame, the discharger may be required to cease discharging liquid trade waste into Council's sewerage system and may also be required to pay a 'non-compliance penalty' as indicated in the following section.

3.7.8 Non-compliance penalty

The non-compliance penalty covers instances where Council may seek compensation for its costs relating to legal action, damage to infrastructure, incurred fines and other matters resulting from illegal, prohibited or unapproved liquid trade waste discharged to the sewerage system. Also included are fines under:

- *Protection of the Environment Operations Act 1997*, section 120(1) (Pollution of any waters by a discharger who fails to comply with the conditions of approval for discharge of liquid trade waste to sewer)
- *Local Government Act, 1993*, section 627 (Failure to comply with an approval), section 628 (Failure to comply with an order). Non-compliance penalties will be pursued by legal action.

3.7.9 Discharge of stormwater to the sewerage system

The discharge of stormwater, surface and subsoil waters to the sewerage system is prohibited under this policy. As indicated in section 2.4, the acceptance of first flush stormwater runoff may be permitted. A charge of \$12.68/kL (2007/08\$) will be applied to Category 3 dischargers in accordance with the non-compliance trade waste usage charge, if approval is granted to accept the above waters. Excess mass charges will be also applied in accordance with section 3.7.5.

3.7.10 Septic and pan waste disposal charge

This charge is imposed to recover the cost of accepting and treating septic tank and pan waste.

Septic tank and pan waste disposal charge (\$) = $Q \times S$

Where: Q = Volume (kL) of waste discharged to sewer.

S = Charging rate in \$/kL for septic tank effluent, septage or chemical toilet waste as indicated in Council's Annual Management Plan.*

3.7.11 Responsibility for payment of fees and charges

Property (land) owners are responsible for the payment of fees and charges for water supply, sewerage and liquid trade services provided by Council. This includes property owners of marina, caravan park, etc., if a dump point located at their premises is connected to the sewerage system. Where another party (lessee) leases premises any reimbursement of the lessor (property owner) for such fees and charges is a matter for the lessor and the lessee.

Council will charge a septic tank and pan waste disposal charge for services it provides to transporters of septic tank and pan waste tankered and discharged to the sewerage system.

* Appropriate charging rates for these wastes are provided in Appendix I. The charges are in 2007/08\$ and should be indexed on the basis of the Consumer Price Index.

Table 6: Summary of trade waste fees and charges¹⁴

CHARGING CATEGORY	APPLICATION FEE	ANNUAL NON-RESIDENTIAL SEWERAGE BILL WITH APPROPRIATE SEWER USAGE CHARGE/kL	ANNUAL TRADE WASTE FEE	RE-INSPECTION FEE (when required)	TRADE WASTE USAGE CHARGE/kL	SEPTIC WASTE DISPOSAL CHARGE	EXCESS MASS CHARGES/kg	NON-COMPLIANCE TRADE WASTE USAGE CHARGE/kL	NON-COMPLIANCE EXCESS MASS/kg and pH CHARGES/kL (if required)	NON-COMPLIANCE PENALTY (if required)
1	Yes ¹⁵	Yes	Yes	Yes	No	No	No	Yes ¹⁶	No	Yes
2	Yes	Yes	Yes	Yes	Yes	No	No	Yes ¹⁶	No	Yes
2S	Yes	Yes ¹⁷	Yes	Yes ¹⁷	No	Yes	No	No	No	Yes
3	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes

All dischargers of liquid trade waste to Council's sewerage system should be aware that they are subject to prosecution and imposition of fines under the *Local Government Act 1993* and the *Protection of the Environment (Operations) Act 1997* and Regulations. In addition to fines, Council may recover costs of damages and fines incurred by Council as a result of an illegal liquid trade waste discharge.

3.8 Monitoring

Council will carry out inspections of the premises of all liquid trade waste dischargers and their treatment facilities at least once per annum. Inspections of commercial premises preparing hot food may be carried out at least four (4) times per annum (refer to page 187 in section 3.7.2). Monitoring of the large and industrial dischargers is to be carried out as specified in the approval conditions.

The applicant may be required to monitor the liquid trade waste discharge as a condition of an approval or agreement. They may also be required to pay for any sampling and testing of liquid trade waste undertaken by Council.

For this purpose, an inspection/sampling point, where the waste can be inspected and sampled, will be specified in the approval and/or agreement. This point will normally be located after the pre-treatment facility. The discharger may need to install a suitable method of flow measurement.

¹⁴ In addition, a Food Waste Disposal Charge will apply where Council has approved the use of an existing food waste disposal unit for a hospital, nursing home or other eligible facility (refer to section 3.7.6 on page 189).

¹⁵ Not applicable for dischargers exempted in Table 1.

¹⁶ Non-compliance trade waste usage charge, if the discharger fails to install or properly maintain appropriate pre-treatment equipment:

Category 1 - \$1.38/kL (2007/08\$)

Category 2 - \$12.68/kL (2007/08\$)

¹⁷ Only applicable if the discharger has a dump point located at their premises which is connected to the sewerage system

Council may require the discharger to:

- install a permanent primary measurement device
- measure the volume and flow rate using the permanently installed flow measurement system (such as a flow metering system)
- install a flow measurement device on a temporary basis and obtain enough data to determine a basis for assessing the flow rate and volume
- provide a system which allows obtaining a flow weighted composite sample.

Testing of samples is to be undertaken by a NATA-registered or other laboratory recognised by DWE to ensure reliable and accurate results. Where the discharger is sampling the effluent, Council may randomly take duplicates to confirm the waste characteristics.

3.9 Liquid trade waste services agreement

In addition to its approval under the Local Government Act, Council may require certain dischargers, including those who wish to discharge liquid trade waste in large volumes (discharge >20 kL/d) or industrial waste (Concurrence Classification C discharges) or Classification S into its sewerage system to execute a liquid trade waste services agreement (refer to Attachment 1). The agreement will set out the conditions associated with the discharge and execution of the agreement will be a condition of the approval issued by Council (refer to section 3.4 on page 179). The conditions will be binding on the applicant and the Council. The agreement will be for a period of up to five (5) years. No discharge is to be made to Council's sewerage system until an agreement or an interim agreement has been executed.

Provision can be made in the agreement for (in addition to Council's approval conditions):

- additional conditions for discharge of liquid trade waste
- cancellation of the agreement and/or order to cease the discharge if the discharger is found to be in breach of the agreement or the liquid trade waste approval or, in the opinion of Council, the waste is adversely affecting the sewerage system or the environment
- entry by Council officers to inspect the liquid trade waste collection, treatment, monitoring and disposal systems
- the applicant to notify Council in advance of any changes that may affect the quality and quantity of the liquid trade waste
- the amount of bond/security to be lodged with Council prior to discharging to the sewerage system.

3.10 Enforcement of approvals and agreements

(see the attached sample agreement at Attachment 1 on page 197)

Any person who fails to obtain Council's approval to discharge liquid trade waste into the sewerage system, or fails to comply with the conditions of the approval, may be liable to a penalty as provided under the *Local Government Act 1993* (sections 626 to 628 and 634 to 639).

Polluting of any waters by a discharger of liquid trade waste who does not have a Council approval or who fails to comply with the conditions of the approval is an offence under section 120 (1) of the *Protection of the Environment Operations Act 1997*. In addition, under section 222 of this Act, Council may issue a penalty notice (ie. an on-the-spot fine) to such a discharger.

Any person who fails to comply with the terms or conditions of a liquid trade waste services agreement (ie. there is a breach of the agreement) will be required to indemnify the Council against any resulting claims, losses or expenses in accordance with section 9 of the agreement. Suspensions may also apply and may include a notice to cease the discharge.

3.11 Modification and revocation of approvals

Council reserves the right to modify or revoke an approval to discharge liquid trade waste to the sewerage system in any of the following circumstances:

- if the approval was obtained by fraud, misrepresentation or concealment of facts
- for any cause arising after the granting of the approval which, had it arisen before the approval was granted, would have caused the council not to have granted the approval
- for failure to comply with a requirement made by or under the *Local Government Act 1993* relating to a condition of the approval
- for failure to comply with a condition of the approval.

3.12 Prevention of waste of water

Water must be used efficiently and must be recycled where practicable. It is an offence under section 637 of the *Local Government Act 1993* and its Regulation (refer to Attachment 2) to waste or misuse water.

Dilution of trade waste with water from any non-process source including Council's water supply, bore water, groundwater and/or stormwater as a means of reducing pollutant concentration is therefore strictly prohibited.

3.13 Effluent improvement plans

Where the existing liquid trade waste discharged does not meet Council's requirements, the applicant may be required to submit an Effluent Improvement Plan setting out how Council's requirements will be met. The proposed plan must detail the methods/actions proposed to achieve the discharge limits and a timetable for implementation of the proposed actions. Such actions may include more intensive monitoring, improvements to work practices and/or pre-treatment facilities to improve the effluent quality and reliability.

3.14 Due diligence programs and contingency plans

For *Concurrence Classification A*, a discharger is not required to submit either a due diligence program or a contingency plan.

A discharger may be required to submit a due diligence program and a contingency plan for *Concurrence Classification B* or *Classification S* where it is considered that the discharge may pose a potential threat to the sewerage system. If required, a due diligence program and contingency plan must be submitted to Council within six (6) months and three (3) months respectively of receiving a liquid trade waste approval.

For *Concurrence Classification C*, a discharger may need to provide a due diligence program and contingency plan to Council within six (6) months and three (3) months respectively of receiving a liquid trade waste approval.

It should be noted that:

1. If the discharger has an accredited environmental management system in place, a due diligence program and contingency plan may not be required. However, proof of accreditation must be provided to Council with the application. The EMP may not include all necessary provisions in regard to trade waste. In such cases Council may require that a suitable due diligence program and contingency plan be developed and submitted to Council.
2. Where Council considers there is potential risk to the sewerage system from a discharge, it may request a due diligence program and contingency plan to be submitted prior to commencing the discharge.

Such plans do not need to be submitted to DWE. However, Council may forward them to DWE for comment if considered warranted. A copy of DWE's minimum requirements for due diligence programs and contingency plans can be found at Appendix H of the *Liquid Trade Waste Regulation Guidelines, 2009*.

Attachment 1

Sample Liquid Trade Waste Services Agreement
between [Council] and [Applicant]

Liquid Trade Waste Services Agreement

Between

1. The Council

and

2. The Applicant

Recitals

- A. The Council is the owner and operator of a sewerage system within the _____ area.
- B. The Applicant has made application to the Council to discharge liquid trade waste from the Premises into the Council's sewerage system.
- C. The application has been approved by the Council on certain conditions ("the Approval"), including the condition that the Council and the Applicant enter into this Agreement.
- D. The Director-General of the Department of Water and Energy has concurred in the Approval in accordance with clause 28 of the *Local Government (General) Regulation 2005*.
- E. The Approval does not operate until this Agreement has been executed by both parties.
- F. The parties enter this Agreement in consideration of the mutual promises contained herein.

Operative Part

1. Definitions and interpretation

1.1 In this Agreement, unless the context otherwise requires:

"Act" means the *Local Government Act 1993* (NSW).

"Annexure" means the annexure to this Agreement.

"Annual Management Plan" means the annual management plan of the Council, as adopted by the Council from time to time.

"Applicant" means the entity named as such in the Annexure.

"Approval" means the approval described in Recital C.

"Council" means the council named as such in the Annexure.

"Liquid Trade Waste Services" mean the making available by the Council of its sewerage system for connection to the Premises, for the purpose of discharge by the Applicant of its liquid trade waste.

"Premises" means the premises described in the Annexure.

1.2 Unless the context otherwise requires:

- (a) A reference to this Agreement is a reference to this Agreement, including the Annexure, as amended from time to time in accordance with its terms
- (b) A reference to the discharge of liquid trade waste means the discharge of liquid trade waste by the Applicant from the Premises to the Council's sewerage system
- (c) A reference to any legislation is a reference to such legislation as amended from time to time
- (d) Where the Applicant is comprised of more than one person, each obligation of the Applicant will bind those persons jointly and severally and will be enforceable against them jointly and severally.

2. Liquid Trade Waste Services

The Council will provide the Liquid Trade Waste Services to the Applicant on the terms of this Agreement.

3. Additional conditions for discharge of liquid trade waste

- 3.1 The Applicant may discharge liquid trade waste to the Council's sewerage system in accordance with the Approval and subject to this Agreement.
- 3.2 The Applicant must comply with all applicable Acts, regulations, by laws, proclamations and orders and with any lawful direction or order given by or for the Council or any other competent authority.
- 3.3 The Applicant must not discharge liquid trade waste contrary to this Agreement or the Approval or in any manner which may have an adverse effect on any person or property (including the sewerage system and the ecological system in the waters, land or area receiving sewage treatment works effluent or biosolids), or which may cause the Council to be in breach of any applicable Act, regulation, by law, proclamation or order or of any lawful direction given by or for any competent authority.
- 3.4 The Applicant must at its own cost monitor its discharges in accordance with the requirements set out in the Approval and must maintain records of such monitoring for inspection by the Council for such period as may be specified in the Approval.
- 3.5 The Council will carry out routine sampling and testing of the waste stream.
- 3.6 Where any flow-metering device is installed, the Applicant must at its own cost cause the device to be calibrated at least annually by a person or company approved by the Council. The Applicant must obtain a calibration certificate and provide a copy of the certificate to the Council within one month of receiving it.
- 3.7 If the Applicant is required to cease discharging liquid trade waste for any period, then the Applicant must cease discharging such waste for the period specified.

- 3.8 Where the Applicant ceases to discharge waste in the circumstances prescribed in clause 3.7, the Council may, at its discretion, elect to refund part of the annual trade waste fee on a pro rata basis, calculated according to the period of suspension.
- 3.9 If this Agreement is terminated, the Applicant must immediately cease to discharge liquid trade waste.

4. Fees and charges

- 4.1 In accordance with the section 560 of the *Local Government Act 1993*, Council will levy all water supply, sewerage and liquid trade waste fees and charges on the owner of the property.
- 4.2 In consideration of provision of the Liquid Trade Waste Services, the fees and charges as specified in the Council's Annual Management Plan and notified by Council to the owner and the Applicant must be paid to the Council, including fees for sampling and testing by Council in accordance with the Approval.
- 4.3 Fees and charges payable will include both non-residential sewerage charges and liquid trade waste fees and charges.
- 4.4 All monies payable to the Council must be paid within the time specified in the notice of charge.

5. Term

- 5.1 This Agreement will commence from the date it is signed on behalf of the Council, and will continue until the Applicant's Approval is revoked or the Applicant permanently ceases to discharge liquid trade waste pursuant to the Approval, whichever is the earlier. Upon such revocation or permanent cessation of the approved activity this Agreement shall automatically terminate by operation of this clause.
- 5.2 Termination of this Agreement is without prejudice to any accrued rights or obligations of either Party.

6. Powers of the Council

- 6.1 The Council may enter the Premises at a reasonable hour in the daytime or at any hour during which business is in progress or is usually carried on at the Premises for the purpose of conducting any inspection, examination, testing, monitoring or sampling to determine whether the Applicant is complying with the conditions of this Agreement.
- 6.2 The Applicant acknowledges that the Council has statutory powers available to it under the *Local Government Act 1993* and other Acts to issue orders and directions to the Applicant in relation to the discharge of liquid trade waste. The Applicant undertakes to comply with each such order or direction that may be notified by the Council to the Applicant within the time specified for compliance in that order or direction.
- 6.3 The Applicant releases the Council from any liability to the Applicant for any loss or damage due to the disruption of the Applicant's business arising out of the exercise of Council's rights pursuant to this clause.

7. Information supplied by the Applicant

- 7.1 The Applicant warrants that all information in its application for approval is true, complete and accurate to the best of its knowledge.
- 7.2 The Applicant must immediately notify the Council in writing of any error or omission in that information or any change to the information of which the Applicant becomes aware.
- 7.3 The Applicant must not provide any false or misleading information to the Council.

8. Indemnity

- 8.1 The Applicant indemnifies the Council from and against any claims, losses or expense (including legal costs on a solicitor and client basis) which the Council pays, suffers, incurs or is liable for as a result of:
 - (a) any unlawful, negligent, reckless or deliberately wrongful act or omission of the Applicant or its personnel or agents in connection with the discharge of liquid trade waste, including (without limitation) such acts or omissions which cause damage to property, personal injury or death
 - (b) a breach of this Agreement by the Applicant.
- 8.2 The Applicant's liability to indemnify the Council shall be reduced proportionally to the extent that any unlawful, negligent, reckless or deliberately wrongful act or omission of the Council caused or contributed to the liability or loss.

9. Insurance

The Applicant must effect and maintain for the term of this Agreement a public risk policy of insurance in the minimum of the sum specified in the Annexure and must, upon request by the Council, produce evidence of such insurance to the Council.

10. Bond

- 10.1 The Applicant must pay to the Council a bond in the sum specified in the Annexure.
- 10.2 The Council may at any time and without prior notice to the Applicant have recourse to the bond for the recovery of any sum due and owing by the Applicant to the Council.
- 10.3 Where the applicant fails to cease discharging trade waste as prescribed in clause 3.7, the Council may require the applicant to forfeit 50% of the bond.
- 10.4 The Council must return the bond to the Applicant, less any amount deducted by the Council under this clause, upon termination of this Agreement.

11. No assignment

The Applicant may not assign or otherwise transfer its rights and/or obligations under this Agreement.

12. Notices

12.1 A notice under this Agreement must be:

- (a) in writing, directed to the representative of the other party as specified in the Annexure
- (b) forwarded to the address, facsimile number or the email address of that representative as specified in the Annexure or the address last notified by the intended recipient to the sender.

12.2 A notice under this Agreement will be deemed to be served:

- (a) in the case of delivery in person - when delivered to the recipient's address for service and a signature received as evidence of delivery
- (b) in the case of delivery by post - within three business days of posting
- (c) in the case of delivery by facsimile – at the time of dispatch if the sender receives a transmission report which confirms that the facsimile was sent in its entirety to the facsimile number of the recipient
- (d) in the case of delivery by email, on receipt of confirmation by the recipient that the recipient has received the email.

12.3 Notwithstanding the preceding clause 12.2, if delivery or receipt of a communication is on a day which is not a business day in the place to which the communication is sent or is later than 5 pm (local time in that place) it will be deemed to have been duly given or made at 9 am (local time at that place) on the next business day in that place.

13. Variation

13.1 If the Applicant's Approval to discharge liquid trade waste from the Premises is varied, this Agreement shall be deemed to be varied in accordance with the variation made to that approval or to the fees, by operation of this clause.

13.2 In addition to automatic variation under clause 14.1, this Agreement may be varied by written agreement of the parties, provided that a variation to this Agreement that is inconsistent with:

- (a) the Approval, including rights granted under, and conditions attached to, the Approval
- (b) any applicable legislation; or
- (c) Council's Annual Management Plan in respect of applicable fees and charges, shall have no force or effect.

14. Severability

If any part of this Agreement is prohibited, void, voidable, illegal or unenforceable, then that part is severed from this Agreement but without affecting the continued operation, so far as possible, of the remainder of this Agreement.

15. Applicable law

15.1 This Agreement is governed by, and must be construed in accordance with, the laws in force in the State of New South Wales.

15.2 Each party submits to the exclusive jurisdiction of the courts exercising jurisdiction in the State of New South Wales and the courts of appeal there from.

16. Rights cumulative

The rights and remedies provided under this Agreement are in addition to, and not exclusive of, any other rights or remedies provided by law.

Executed as an agreement

Execution by the Council:

THE COMMON SEAL OF)
 was affixed this) (Corporate Seal)
day of 20.....)
 in the presence of:)
)
 General Manager) [signature of General Manager]
 and)
)
 [print name of witness])

Executed by the Applicant (corporate entity):

.....

 [signature of witness]

The COMMON SEAL of.....)
PTY LIMITED)
 was affixed thisday of)
20..... in the)
 presence of:)
)
 [name of Director]) [signature of Director]
)
 [name of Director/Secretary]) [signature of Director/Secretary]
)

Executed by the Applicant (individual):

Signed by:

[name of Applicant]

)

[signature of Applicant]

)

This.....day of.....20.....

)

)

in the presence of:

)

[signature of witness]

.....

[print name of witness]

Annexure

A. The Council

1. Full Name of Council _____
2. ABN _____
3. Address _____

4. Telephone _____
5. Emergency Contact _____
Telephone _____

B. The Applicant

1. Full Name of Applicant _____
2. ABN _____
3. Business or Trading Name _____
4. Address _____

5. Telephone _____
6. Emergency Contact _____
Telephone _____

C. The Premises

1. Lot and DP Number: Lot(S) _____ DP _____
2. Location _____

3. Description _____
4. Nature of Business _____

D. Notices

- Applicant's Representative _____
- Postal Address _____

- Facsimile _____
- Email _____
- Council's Representative _____

Postal address _____

Facsimile _____

Email address _____

E. PUBLIC LIABILITY INSURANCE

Minimum cover: \$ _____

F. BOND \$ _____

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Attachment 2

Provisions in the *Local Government (General) Regulation 2005* in regard to acceptance of liquid trade waste into the sewerage system

Clause 25 Matters to accompany applications relating to discharge into sewers

An application for approval to discharge trade waste into a sewer under the control of a Council or that connects with such a sewer must be accompanied by the information required by Table 1 to the Liquid Trade Waste Management Guidelines[#].

Clause 28 Approval to discharge waste into sewers: concurrence required

A council must not grant an approval under section 68 of the Act to discharge trade waste (whether treated or not) into a sewer of the council unless the Director-General of the Department of Energy, Utilities and Sustainability* has concurred with the approval.

Note: Section 90 (2) of the Act permits any person or authority whose concurrence is required before an approval can be granted to give the council notice that the concurrence may be assumed (with such qualifications or conditions as are specified in the notice).

Clause 32 Disposal of trade waste

- (1) An approval to dispose of trade waste into a sewer of the council is subject to such conditions (if any) as the council specifies in the approval.
- (2) In imposing any such conditions, the council is to have regard to the matter set out in Table 5 to the Liquid Trade Waste Management Guidelines[#].

Clause 159 Prevention of waste and misuse of water

The owner, occupier or manager of premises to which water is supplied by the council must:

- (a) prevent waste of water by taking prompt action to repair leaking taps, pipes or fittings located on the premises
- (b) take any other action that is reasonable to prevent waste and misuse of water.

[#] "Liquid Trade Waste Management Guidelines" means the Guidelines of that name produced by the Department of Energy, Utilities and Sustainability in March 2005, as in force from time to time. The 2005 Guidelines have now been superseded by *Liquid Trade Waste Regulation Guidelines, April 2009*.

* From 23 April 2007 a reference to the Department of Energy, Utilities and Sustainability is to be construed as a reference to the Department of Water and Energy.

General conditions of approval

Name and business address of Applicant: _____

Type of Business: _____

..... (The Applicant) has applied to Council to discharge certain waste from the premises to Council's sewerage system. Council has granted approval subject to the conditions set out below:

1. a. The Applicant must comply with all applicable Acts, regulations, by laws, proclamations and orders and with any lawful direction or orders given by or for the Council or any other competent authority.

(Reason: Requirement to comply with all applicable government legislation)

- b. The work that will be carried out under the General Conditions of Approval shall be implemented and operated in compliance with the NSW OH&S Act 2000 and OH&S Regulation 2001 and the *NSW Code of Practice (Plumbing and Drainage)*, *Australian Standards National Plumbing and Drainage Code AS3500, Part 2, Sanitary Plumbing and Sanitary Drainage* and Council requirements.

(Reason: Government requirement for compliance with applicable standards and legislation)

- c. If a liquid trade waste agreement is applicable to this approval then this approval will commence from the date a liquid trade waste agreement is signed.

(Reason: Requirement for legal considerations)

- d. Term of the Approval

Commencement date _____

Duration _____

This approval has a duration period as specified above except where the approval is terminated by the Council or the applicant. Conditions may however be varied during this period.

(Reason: Pursuant to section 103 of the Local Government Act)

- e. Hours during which discharge is permitted:

Monday to Friday _____ to _____

Saturday _____ to _____

Sunday _____ to _____

(Reason: DWE and Council requirement to ensure acceptance capacity of the sewerage system and for auditing purposes)

2. The maximum daily discharge shall not exceedkL/d
 The expected average daily discharge..... kL/d
 The maximum instantaneous discharge rate shall not exceed L/s or L/h.
(Reason: Requirement pursuant to Clause 32 of the Local Government (General) Regulation 2005)
3. The pH of the liquid trade waste shall be maintained within the range of 7.0 to 9.0 at all times.
(Reason: Extremes of pH can adversely affect biological treatment processes and may cause the release of toxic gases in sewer. Low pH causes corrosion of sewer structures)
4. The temperature of the liquid trade waste shall not exceed 38°C at any time.
(Reason: DWE and Council requirement for protection of the sewerage system and safety of workers)
5. Detergent, if used, shall be biodegradable
(Reason: Protection of the environment and to ensure treatability of the waste)
Note to Council:
 The following requirement may be added for large and industrial trade waste dischargers where appropriate:
"The concentration of detergents shall not exceed 50 mg/L (as MBAS)".
6. The composition of the liquid trade waste shall comply with that approved. A new application shall be made if the quantity and/or quality of the liquid trade waste are to be varied.
(Reason: Requirement pursuant to Clause 32 of the Local Government (General) Regulation 2005)
7. The equipment for the treatment of the liquid trade waste is to be kept clean and maintained in an efficient condition to the satisfaction of the Council and must not be modified without the approval in writing of the Council.
(Reason: DWE and Council requirement to ensure compliance with the conditions of approval)
8. An inspection point suitable for taking representative samples shall be provided immediately prior to the point where the liquid trade waste enters the sewerage system and/or mixes with domestic sewage from the premises.
(Reason: DWE and Council requirement to permit sampling and compliance auditing of liquid trade waste)
9. If, in the opinion of the Council, the liquid trade waste being discharged does not comply with the conditions contained herewith or is adversely affecting the performance of the sewage treatment plant, the sewerage system, or the ecological system in the waters, land or area receiving sewage treatment works effluent, the company shall forthwith, on receipt of notice in writing from Council to this effect, take remedial action by modifying the characteristics of the liquid trade waste, reducing the amount of the liquid trade waste or ceasing to discharge the liquid trade waste as directed by notice from Council.
(Reason: DWE and Council requirement for compliance with the conditions of approval, protection of the sewerage system and the environment)

10. Except as already provided for by the rest of the conditions contained in this letter, the following substances shall not be included in the liquid trade waste:
- organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances
 - organophosphorus pesticides and/or waste arising from the preparation of these substances
 - any substances liable to produce noxious or poisonous vapours in the sewerage system
 - organic solvents and mineral oil
 - any flammable or explosive substances
 - discharges from 'Bulk Fuel Depots'
 - chromate from cooling towers
 - natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
 - rain, surface, seepage or subsoil water, unless specifically permitted
 - solid matter
 - any substance assessed as not suitable to be discharged to the sewerage system
 - waste liquids that contain pollutants at concentrations which inhibit the sewage treatment process – refer *National Wastewater Source Management Guideline, July 2008, WSAA*
 - any other substances listed in a relevant regulation.

(Reason: Statutory provision in Local Government Act Section 638 and DWE and Council requirement for protection of the sewerage system, safety of workers and the environment)

11. All liquid trade waste pre-treatment systems and any substance which could adversely affect the sewerage system, the environment or safety of people must be contained in bunded areas so that any leaks, spillages, and/or overflows cannot drain by gravity to the sewerage and/or stormwater systems. Wastewater collected within the bunded area shall not be directly discharged into the sewerage and/or stormwater systems. Wastewater, leaks and spillages from a bunded pre-treatment equipment area shall be pumped back to the head of the pre-treatment system.

(Reason: DWE and Council requirement for protection of the sewerage system and safety of workers and pursuant to Section 89 (3a) of the Local Government Act 1993 for protection of the environment)

12. Spills and leaks should be cleaned up using dry cleaning methods.

(Reason: DWE and Council requirement for protection and prevention of overloading of the sewerage system, safety of workers and pursuant to Section 89 (3a) of the Local Government Act 1993 for protection of the environment)

13. Measures shall be taken to prevent the contamination and ingress of stormwater into the sewerage system. Areas where stormwater may become contaminated should be bunded and roofed over.

(Reason: DWE and Council requirement to prevent overflows and overloading of the sewerage system)

14. Floors are to be dry swept prior to washing or hosing.
(Reason: DWE and Council requirement to limit pollutant loading on the sewerage system)
15. Utensils, plates, bowls, etc. are to be scraped into a waste bin and dry wiped with paper towel prior to washing to minimise the amount of waste discharged to the sewerage system.
(Reason: DWE and Council requirement to limit pollutant loading on the sewerage system)
16. The concentration of total oil and grease shall not exceed 100 mg/L at any time.
(Reason: DWE and Council requirement to prevent sewer blockages)
Note to Council: *The limit of 100 mg/L is applicable, if the volume of the discharge does not exceed 10% of the design capacity of the sewage treatment works, and 50 mg/L if the volume is greater than 10%. This may not be applicable if a Council has adopted lower limits in its Local Approvals Policy.*
17. All liquid trade waste shall pass through a grease arrestor with a minimum capacity of 1000 L or equivalent (if the number of seats is equal to or less than 69).
(Reason: DWE and Council requirement to install pre-treatment system of sufficient capacity for the reduction of oil and grease levels in liquid trade waste)
Note to Council: *Refer to Appendix F, Table 2 – ‘Determination of grease arrestor size’ if the number of seats is greater than 69 and/or a dish washer/s (and/or a food waste disposal unit in the case of a hospital/nursing home) is installed at the site.*
18. All liquid trade waste shall pass through screens or a basket waste arrestor (where appropriate) before being discharged to the sewerage system.
(Reason: DWE and Council requirement to limit loading on the sewerage system and pre-treatment system, if installed)
19. All liquid trade waste shall pass through a dilution pit before being discharged into the sewerage system. The pit shall be accessible for sampling.
(Reason: DWE and Council requirement to neutralise liquid waste and/or lower pollutant concentrations by mixing before discharge to the sewerage system)
20. All liquid trade waste shall pass through a general-purpose pit with a minimum capacity of 1000 L before being discharged into the sewerage system.
(Reason: DWE and Council requirement to limit loading on the sewerage system)
21. All liquid trade waste shall pass through a neutralising pit before being discharged into the sewerage system.
(Reason: DWE and Council requirement to neutralise liquid waste and/or lower pollutant concentrations by mixing before discharge to the sewerage system)
22. The liquid trade waste is required to pass through a grease arrestor servicing the kitchen area.
(Reason: DWE and Council requirement to limit loading on the sewerage system and prevent sewer blockages)
23. All liquid trade waste shall pass through a solid settlement pit with a minimum capacity of one (1) hour detention time (1000 L), before discharge into the sewerage system.
(Reason: DWE and Council requirement to prevent the discharge of settleable solids to the sewerage system)

24. All liquid trade waste shall pass through a baffled settlement tank with a minimum of one (1) hour detention time, before being discharged into the sewerage system.
(Reason: DWE and Council requirement to minimise suspended and settleable solids carry-over to the sewerage system)
25. The wastewater shall pass through a cooling pit before being discharged into the sewerage system. The pit shall be sized to cool down the wastewater to 38°C or less.
(Reason: DWE and Council requirement for protection of the sewerage system and safety of workers)
26. The liquid trade waste shall pass through the plaster arrestor before being discharged into the sewerage system.
(Reason: DWE and Council requirement to prevent solids build-up and blockages in the sewerage system)
27. All liquid trade waste shall pass through a collection well (minimum capacity 300 L or if Service Station Covered Forecourt area 750 L). A non-emulsifying pump with suction inlet at least 300 mm above the bottom of the collection well shall be used to pump the waste to an approved oil arrestor such as a coalescing plate interceptor, vertical gravity separator or a hydrocyclone separation system with an oil collection container and sludge withdrawal system. The oil arrestor/interceptor shall be sized according to the influent flow rate (nominal size 1000 L/h). The pre-treatment plant shall be within a bunded area that shall drain back to the pump well.
(Reason: DWE and Council requirement to ensure maximum effectiveness of the oil arrestor and protection of the environment)
Note to Council: Select an applicable size of a collection well and the type of an oil arrestor and delete other size/types.
28. Food waste disposal units are not allowed to be installed.
(Reason: DWE and Council requirement to limit loading on the sewerage system)
29. If the nature of the business changes to hot food preparation and/or cooking or the business is sold, the Council is required to be informed in order to review the pre-treatment assessment.
(Reason: DWE and Council requirement to comply with the conditions of approval)
30. The grease arrestor shall be maintained regularly. Initial pump-out frequency to be set at every thirteen (13) weeks and may be reviewed, at anytime by the Council due to operational considerations.
(Reason: DWE and Council requirement to ensure maximum effectiveness of the pre-treatment system)
31. Discrete oil is not permitted to be discharged into the grease arrestor.
(Reason: DWE and Council requirement to limit pollutant loading on the sewerage system)
32. The discharge of dry cleaning fluid into the sewer is not permitted. Any floor drain must be protected by bunding to prevent dry cleaning fluid entering the sewerage system.
(Reason: DWE and Council requirement to protect the sewerage system, worker health and safety and the environment)
33. The use of products containing chromate is not permitted.
(Reason: DWE and Council requirement to protect the sewerage system and the environment)

34. The silver bearing waste shall be removed from the premises and not be discharged to the sewerage system.
(Reason: DWE and Council requirement to limit metal discharges to the sewerage system and to protect aquatic environment)
35. The silver bearing waste shall be treated in a silver recovery unit.
(Reason: DWE and Council requirement to limit metal discharges to the sewerage system and to protect aquatic environment)
36. The concentration of silver in the effluent from the silver recovery unit shall not exceed 50 mg/L.
(Reason: DWE and Council requirement to limit metal discharges to the sewerage system and to protect aquatic environment)
37. Solid wastes such as, but not limited to, hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, or any paper and plastic items of a disposable nature, or any human tissues is prohibited from discharge to the sewerage system.
(Reason: DWE and Council requirement to prevent sewer blockages and protect worker health and safety)
38. Autopsy tables shall be drained through a flushing floor waste gully provided with an air break in the water supply. The gully shall be fitted with a removable stainless steel strainer installed at the drainage outlet to collect hair and solids.
(Reason: Pursuant to Section 124 of Local Government Act 1993, Part 4, Schedule 2 of the Local Government (General) Regulation 2005 and compliance with Plumbing and Drainage Code AS 3500 Section 11.6)
39. Where a funeral parlour prepares a cadaver for presentation a due diligence program for the prevention of formaldehyde discharge to sewer is to be submitted to the Council within three (3) months of the Council's approval.
(Reason: DWE and Council requirement to protect the sewerage system)
40. Floor drain in the body preparation room should be fitted with removable screens so as to prevent the discharge of any solid material into the sewerage system.
(Reason: Pursuant to Section 124 of the Local Government Act 1993 and Part 4, Schedule 2 of the Local Government (General) Regulation 2005)
41. Miniplater – no plating vessel to contain more than 1.5 litres of precious metal solution.
(Reason: DWE and COUNCIL requirement to minimise impact of toxic substances on the sewerage system)
42. Concentrated solutions shall not be discharged to the sewerage system. Only rinse water used for washing up equipment is permitted for discharge.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
43. Concentrated acids, caustic and other corrosive chemicals shall not be discharged to the sewerage system.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
44. Chemical solutions containing small quantities of concentrated acids, caustic or corrosive chemicals shall be neutralised before discharge to the sewerage system.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)

45. The pH of the liquid trade waste shall be checked and corrected, if necessary, before discharge to the sewerage system. The pH shall be recorded and records shall be kept.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
46. The discharge of liquid trade waste from the laboratory sinks (or washing areas) shall be followed by flushing with liberal quantities of water.
(Reason: DWE and Council requirement to protect the sewerage system)
47. Solvents shall be collected and removed by a contractor, and not be disposed of into the sewerage system.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
48. Chemical and oil storage containers shall be contained in a roofed and bunded area with either the bund having the capacity to retain 110% of the largest container or other acceptable means of containment that prevents flow to the sewerage system/environment in case of accident, leakage or spills.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
49. Infectious wastes shall be sterilised by autoclaving before being discharged into the sewerage system.
(Reason: DWE and Council requirement to protect worker health and safety)
50. Biohazardous waste shall be disposed in accordance with NSW Health Department regulations.
(Reason: DWE and Council requirement to comply with applicable government legislation)
51. Lint screens to be provided (washing machine internal screens are acceptable).
(Reason: DWE and Council requirement to prevent blockages in the sewerage system)
52. Recommended maintenance schedule for the pre-treatment devices shall be submitted to the Council prior to commencement of the discharge into the sewerage system.
(Reason: DWE and Council requirement to ensure maximum effectiveness of the pre-treatment system)
53. Spent coolant, kerosene and other solvents shall not be discharged into the sewerage system.
(Reason: DWE and Council requirement to prevent discharge of toxic substances into the sewer)
54. Only 'Quick Break' detergents shall be used in the washing operation.
(Reason: DWE and Council requirement to ensure maximum effectiveness of the pre-treatment system)
55. Measures shall be taken to prevent spillage of chemicals, oil, diesel, and any other product used. Any spillage, if occurring, shall be recovered/removed by using dry cleaning methods and not be discharged into the sewerage system.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
56. Wastewater from spray booth area shall not be discharged into the sewerage system.
(Reason: DWE and Council requirement to prevent discharge of toxic substances into the sewer)
57. The baffled tank is to be cleaned at least every 2 months.
(Reason: DWE and Council requirement to ensure maximum effectiveness of the pre-treatment system)

58. Oil-based material and solvents (turps and lacquer thinners) shall not be discharged into the sewerage system.
(Reason: DWE and Council requirement to prevent discharge of toxic substances into the sewer)
59. Paint brushes shall be wiped with rags before being washed.
(Reason: DWE and Council requirement to limit pollutant loading to the sewerage system)
60. A contingency plan and a due diligence program are to be submitted to Council within three (3) months and six (6) months respectively of commencement of the approval from Council.
(Reason: DWE and Council requirement to ensure that adequate contingency measures are in place to address potentially hazardous situation)
61. A suitable method of restricting the flow rate to the figure stated in condition 2 shall be provided by the applicant.
(Reason: DWE and Council requirement to prevent overflows and overloading of the sewerage system)
62. Flow measurement of the total discharge shall be provided and the daily flow shall be recorded.
(Reason: Requirement for due diligence, compliance auditing, monitoring and sampling purposes)
63. The discharge of the waste is to be carried out
< Council to select from the following or add to it as necessary >
 - a. between the hours ofam and pm (*each day*) or
(Monday to).
 - Or
 - b. over 24 hours (*each day*) or (Monday to).
 - And/or
 - c. except during wet weather.
And/or
 - d. and where rain events occur stormwater shall be contained on-site for at least an hour after the cessation of rain prior to discharge.
And/or
 - e. under the supervision of a Council employee (preferably Council to *insert peak flow times*).
(Reason: DWE and Council requirement, if necessary, to prevent odours and/or overloading of the sewerage system. Requirement to protect the integrity of the waste and security of the site)

The following conditions are provided to assist Councils in drafting conditions of approval for Classification B and C liquid trade waste dischargers.

64. The BOD₅ concentration shall not exceed 300 mg/L at any time.
(Reason: DWE and Council requirement to limit loading on the sewerage system)
65. The suspended solids concentration shall not exceed 300 mg/L at any time.
(Reason: DWE and Council requirement to limit loading on the sewerage system)
66. The Chemical Oxygen Demand (COD) shall not exceed the BOD₅ concentration by more than 3 times.
(Reason: DWE and Council requirement to prevent the discharge of non-biodegradable waste and to ensure treatability of the proposed liquid trade waste)
67. The concentration of Total Dissolved Solids shall not exceed 4000 mg/L.
Note to Council: The acceptance limit may vary depending on an effluent disposal option and is subject to a mass load limit.
(Reason: Requirement for effluent management options (reduces the opportunity for reuse) and protection of the receiving aquatic environment)
68. No visible colour when the waste is diluted to the equivalent dilution afforded by domestic sewage flow.
(Reason: Aesthetic impairment of receiving water. Impairment of light penetration through receiving water, affecting aquatic processes)
69. The concentration of Ammonia (as N) shall not exceed 50 mg/L at any time.
(Reason: Requirement for protection of the sewerage system and worker health and safety)
70. The concentration of Total Kjeldahl Nitrogen (TKN) shall not exceed 100 mg/L at any time.
(Reason: Requirement for protection of the sewerage system and the environment)
71. The concentration of the following substances shall not exceed:
< Council to select from the following or add to it as necessary >
 - a. Boron 5 mg/L
(Reason: Requirement for protection of the environment, may restrict effluent reuse)
 - b. Bromine 5 mg/L
(Reason: Requirement for protection of worker health and safety, may form toxic gas in sewers)
 - c. Chlorine 10 mg/L
(Reason: Requirement for protection of worker health and safety, may cause corrosion of sewer structures)
 - d. Fluoride 20 mg/L
(Reason: Toxic in high concentrations)
 - e. Total Phosphorus as (P) 20 mg/L
(Reason: Requirement for protection of the environment)
 - f. Cyanide 1 mg/L
(Reason: Requirement for protection of worker health and safety, the sewerage system and the environment)

g. Sulphide	1 mg/L	<i>(Reason: Requirement for protection of the sewerage system and worker health and safety)</i>
h. Sulphites	15 mg/L	<i>(Reason: Requirement for protection of the sewerage system and worker health and safety)</i>
i. Sulphate (as SO ₄)	500 mg/L	<i>(Reason: Requirement for protection of the sewerage system and worker health and safety)</i>
j. Benzene	0.04 mg/L	<i>(Reason: Protection of worker health and safety, the sewerage system and the receiving aquatic environment)</i>
k. Toluene	0.5 mg/L	<i>(Reason: Protection of worker health and safety, the sewerage system and the receiving aquatic environment)</i>
l. Ethyl benzene	1 mg/L	<i>(Reason: Protection of worker health and safety, the sewerage system and the receiving aquatic environment)</i>
m. Xylene	1 mg/L	<i>(Reason: Protection of worker health and safety, the sewerage system and the receiving aquatic environment)</i>
n. Formaldehyde	30 mg/L	<i>(Reason: Requirement for protection of worker health and safety, the sewerage system and the receiving aquatic environment)</i>
o. Petroleum Hydrocarbons (non-flammable)	30 mg/L	<i>(Reason: Requirement for protection of worker health and safety, the sewerage system and the receiving aquatic environment)</i>
p. Phenolic substances	5 mg/L	<i>(Reason: Protection of the sewerage system and the receiving aquatic environment)</i>
q. Polynuclear Aromatic Hydrocarbons	5 mg/L	<i>(Reason: Protection of the sewerage system and the environment)</i>
r. Pesticides (general)	0.1 mg/L	<i>(Reason: Protection of the sewerage system and the environment)</i>
s. Organophosphorus pesticides	Nil	<i>(Reason: Protection of the sewerage system and the environment)</i>
t. Organochlorines	Nil	<i>(Reason: Protection of the sewerage system and the environment)</i>

72. The concentrations of metals shall not exceed:

<Council to select from the following or add to it as necessary>

Aluminium	100 mg/L	<i>(Reason: Increases sedimentation within the sewerage system and may cause blockages)</i>
Arsenic	1mg/L	<i>(Reason: Protection of sewage treatment processes, the receiving aquatic environment and restrict beneficial reuse of biosolids and/or effluent)</i>
Cadmium	1 mg/L	<i>(Reason: Protection of sewage treatment processes, the receiving aquatic environment and restrict beneficial reuse of biosolids and/or effluent)</i>

Cobalt	5 mg/L	<i>(Reason: Protection of the receiving aquatic environment and restricts effluent reuse)</i>
Copper	5 mg/L	<i>(Reason: Protection of sewage treatment processes, the receiving aquatic environment and restrict beneficial reuse of biosolids and/or effluent)</i>
Chromium (total)	3 mg/L	<i>(Reason: Protection of sewage treatment processes, the receiving aquatic environment and restrict beneficial reuse of biosolids and/or effluent)</i>
Iron	100 mg/L	<i>(Reason: Increases sedimentation within the sewerage system and may cause blockages)</i>
Lead	1 mg/L	<i>(Reason: Protection of sewage treatment processes, the receiving aquatic environment and restrict beneficial reuse of biosolids and/or effluent)</i>
Manganese	10 mg/L	<i>(Reason: Protection of the receiving aquatic environment)</i>
Mercury	0.01 mg/L	<i>(Reason: Protection of sewage treatment processes, the receiving aquatic environment and restrict beneficial reuse of biosolids and/or effluent)</i>
Molybdenum	5 mg/L	<i>(Reason: Protection of the receiving aquatic environment)</i>
Nickel	3 mg/L	<i>(Reason: Protection of sewage treatment processes, the receiving aquatic environment and restrict beneficial reuse of biosolids and/or effluent)</i>
Selenium	1 mg/L	<i>(Reason: Protection of sewage treatment processes, the receiving aquatic environment and restrict beneficial reuse of biosolids and/or effluent)</i>
Silver	2 mg/L	<i>(Reason: Protection of sewage treatment processes and the receiving aquatic environment)</i>
Tin	5 mg/L	<i>(Reason: Protection of the receiving aquatic environment)</i>
Zinc	5 mg/L	<i>(Reason: Protection of sewage treatment processes, the receiving aquatic environment and restrict beneficial reuse of biosolids and/or effluent)</i>

73. Representative samples of the effluent shall be collected

< Council to select from the following or add to it as necessary>

(from each batch) or (everykL) or (everydays) for discharge and tested with respect to

<delete insignificant pollutants where necessary>-

pH	Boron	Aluminium
Temperature	Bromine	Arsenic
MBAS	Chlorine	Cadmium
Colour	Fluoride	Cobalt
BOD ₅	Cyanide	Copper
Total Suspended Solids	Organophosphate Pesticides	Chromium (total)
Total Oil and Greases	Organochlorine Pesticides	Iron
COD	General Pesticides	Lead
Total Dissolved Solids	Formaldehyde	Manganese
Ammonia as Nitrogen	Petroleum Hydrocarbons	Mercury
Total Kjeldahl Nitrogen	Phenolic Substances	Molybdenum
Total Phosphorus (as P)	Polynuclear Aromatic Hydrocarbons	Nickel
Sulphides	Polychlorinated Biphenyls	Selenium
Sulphite	Chlorinated Phenolic Substances	Silver
Sulphate	Benzene, Toluene, Ethyl benzene, Xylene	Tin
		Zinc

(Reason: Requirement pursuant to Section 89 (3a) of the Local Government Act 1993 and Council requirement for protection of the environment, worker health and safety and to ensure treatability of the waste)

Note to Council: Testing of trade waste samples for COD only can be permitted where a COD to BOD₅ ratio is proven to be consistent. The ratio should be established during the six (6) month testing period and further confirmed as required.

74. The discharge of radioactive substances must comply with the *Radiation Control Act 1990*.
(Reason: DWE and Council requirement to comply with applicable government legislation)
75. The site shall be attended at all times while the waste is pumping to the sewerage system.
(Reason: Requirement for due diligence to protect the integrity of the sewerage system)
76. The sample analysis tests shall be carried out only by laboratories that hold National Association of Testing Authorities (NATA) registration for the class of test(s) or specific test(s) specified in trade waste approval or a laboratory acceptable to DWE. Tests shall be carried out by using analytical methods indicated in *National Wastewater Source Management*

Guideline, July 2008, WSAA. The results of the chemical analysis shall be forwarded to the Council for review as soon as available from the laboratory. The analysis records are to be retained by the discharger for the specified period of...

(Reason: DWE and Council requirement to ensure the integrity of any sampling analysis results are not compromised and due diligence concerns are satisfied)

77. Where discharge of stormwater to the sewerage system is approved (via pre-treatment), if a rain event occurs during the discharge period, flow diversion or detention may be required (dependent on the sewerage system capacity) to prevent discharge of the waste. Discharge is to cease for at least an hour after the cessation of rain.

(Reason: DWE and Council requirement to prevent overflows and overloading of the sewerage system)

78. The first flush shall be limited to first 10 mm of storm run-off from the sealed and bunded area. The first flush run-off shall be collected in the holding tank. This water shall not be discharged to the sewerage system sooner than one (1) hour after the cessation of rain.

(Reason: DWE and Council requirement to prevent overloading of the sewerage system, but in some situations limited volume may be accepted under special circumstances)

79. The discharge of radiator coolant containing ethylene glycol is not permitted.

(Reason: DWE and Council requirement to prevent discharge of toxic substances into the sewer)

80. Fluids from all parts washers, irrelevant of chemicals used (ie. acid, caustic, solvent, kerosene), are required to be removed for approved disposal by a licensed contractor and not directed towards the pre-treatment system or direct discharge to the sewerage system or the stormwater system.

(Reason: DWE and Council requirement to prevent discharge of toxic substances into the sewer)

81. The discharge rate shall not exceed 2 L/s.

(Reason: Requirement pursuant to Clause 32 of the Local Government (General) Regulation 2005)

82. The filter backwash water shall be collected in a holding tank and then be discharged into the sewerage system at a controlled rate.

(Reason: DWE and Council requirement to prevent overflows and overloading of the sewerage system)

83. Solids settled at the bottom of the holding tank should be removed for off-site disposal and not discharged into the sewerage system.

(Reason: DWE and Council requirement to limit loading on the sewerage system)

84. The discharge shall be limited to low flow periods in the sewer, particularly when draining the pool for maintenance purposes.

(Reason: DWE and Council requirement to prevent overflows and overloading of the sewerage system)

85. The discharger should notify the Council in advance, prior to commencement of draining the pool and agree with the Council the timetable for emptying. The discharger should not undertake this type of activity during wet weather.

(Reason: DWE and Council requirement to prevent overflows and overloading of the sewerage system)

86. The discharger is required to provide the Council in advance with the details of cleaning compounds, if any, (including brand name, quantity and MSDS where appropriate) which

- intends to use for cleaning of pool surfaces during pool maintenance.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
87. The wastewater arising from cleaning of pool surfaces by using strong detergents or acids shall be not be discharged into the sewerage system.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
88. Only water resulting from the washing of utensils used in the preparation of 1080, Pindone and Warfarin bait shall be discharged into the sewerage system after pre-treatment. Wastewater arising from preparation of Bromakil baits or any other poison baits is not permitted to be discharged into the sewerage system.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
89. Liberal quantities of water shall be used for flushing during and after discharge.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
90. The concentration of the following substances in the dilution tank shall not exceed:
- | | | |
|----------------------|-----|------|
| Sodium fluoroacetate | 1.0 | mg/L |
| Pindone | 0.1 | mg/L |
| Warfarin | 0.1 | mg/L |
- (Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)*
91. Representative samples of the effluent shall be collected every twelve (12) months of the discharge and tested with respect to Sodium fluoroacetate, Pindone and Warfarin.
(Reason: Requirement pursuant to Clause 89 (3a) Local Government Act 1993 protection of the environment, worker health and safety and to ensure treatability of the waste)
92. The discharger is required to notify the Council in advance prior to the discharge, on each occasion.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
93. The hand wash basin in the bait preparation room should also be connected to the dilution pit in order to provide adequate dilution.
(Reason: DWE and Council requirement to protect the sewerage system and worker health and safety)
94. All liquid trade waste shall pass through a multi-stage pit/tank with re-use of water pumped from last compartment for wetting and washing.
(Reason: DWE and Council requirement to limit loading on the sewerage system)
95. Cleaning of the pit/tank is to be carried out before the thickness of the settled solids material exceeds 200 mm.
(Reason: DWE and Council requirement to ensure maximum effectiveness of the pre-treatment system)
96. On each occasion before starting the pump, the collection pit must be checked for petrol. If petrol is detected in the pit, the pump must not be started. The pit contents shall then be disposed of to an appropriate waste disposal facility and must not be discharged to the sewerage system.
(Reason: DWE and Council requirement to protect the sewerage system, worker health and safety and the environment)

97. Animal droppings, litter and any waste disposal products shall not be disposed off to the sewerage system.
(Reason: DWE and Council requirement to limit loading on the sewerage system and prevent sewer blockages)
98. Animal waste disposal units are not allowed to be connected to the sewerage system.
(Reason: DWE and Council requirement to limit loading on the sewerage system)
99. Wastes shall not be diluted with fresh water to achieve compliance with the acceptance criteria except with the expressed permission of the Council due to special circumstances.
(Reason: Requirement pursuant to Clauses 159 and 160 of the Local Government (General) Regulation 2005)
100. Sludge resulting from treatment of the waste shall be removed from the premises by a licensed contractor.
(Reason: DWE and Council requirement to protect the sewerage system and DECC requirement for waste disposal)
101. An electronic rain gauge shall be installed to cease discharges for at least an hour after the cessation of rain events.
(Reason: Requirement pursuant to Clause 32 of the Local Government (General) Regulation 2005 and to protect the sewerage system from hydraulic overloading)
102. The usage of organo tributyl tin products is not permitted.
(Reason: DWE and Council requirement to protect the sewerage system, public and worker health and safety and the environment)
103. Permitted times of usage of a slipway:
a. when the collection strip drain is above the tidal range; and
b. only during dry weather (maintenance operations are not permitted during wet weather).
(Reason: DWE and Council requirement to protect the sewerage system and the environment)
104. Slipway area shall be kept clean all the time when it is not in use.
(Reason: DWE and Council requirement to prevent discharge of toxic substances to the environment)
105. Following high pressure water blasting of the vessels the slipway shall be swept down and allowed to dry before the application of any primer or paint.
(Reason: DWE and Council requirement to prevent discharge of toxic substances into the sewer and the environment)
106. In the event of any paint spillage on the slipway the inlet to the holding tank shall be capped and the paint cleaned up using a dry cleaning method. Any paint residue shall be allowed to dry before any wet cleaning activities are undertaken on the slipway.
(Reason: DWE and Council requirement to protect the sewerage system, public and worker health and safety and the environment)
107. Engine or machinery degreasing is not permitted to take place on the slipway or hardstand area. All such activity is to take place off-site at a facility approved to conduct such work.
(Reason: DWE and Council requirement to protect the sewerage system, public and worker health and safety and the environment)

108. The discharge of the waste shall not occur until test results specified in Condition 73 satisfy the acceptance criteria.
(Reason: DWE and Council requirement to comply with the conditions of approval)
109. Bilge water is not permitted into the sewerage system.
(Reason: DWE and Council requirement to protect the sewerage system and the environment)
110. **<Council to select this option for septic tank sludge or state an alternative>**
Septage (septic tank sludge) shall be discharged directly into a sludge lagoon.
(Reason: Requirement to protect the sewage treatment processes)
111. **<Council to select this option if septic tank effluent discharge is proposed>**
The discharge of septic tank effluent shall be to the inlet of the Sewage Treatment Works (or prior such as an immediate upstream pumping station). The discharge shall be required to have a minimum rate of dilution of 1:5 (septic/fresh sewage).
(Reason: DWE and Council requirement to protect the sewerage system and public amenity)
112. If odours occur due to the discharge, measures should be taken to rectify this problem.
(Reason: DWE and Council requirement to protect health of public and workers, public amenity and compliance with DECC licence in regard to air emissions)
113. Grease trap pump-out or other wastes shall not be discharged with the waste into the sewerage system. To prevent contamination of the septic tank waste or accidental discharge of grease trap waste or other wastes into the sewerage system, a road tanker should be preferably dedicated to septic tank service only. If this is impractical, the road tanker is required to be washed out after the grease trap waste or other wastes are disposed off to the appropriate disposal facilities.
(Reason: Requirement to prevent dumping of unauthorised wastes into the sewerage system)
114. A log book shall be kept detailing the following items:
 - the day, date and time of discharge
 - volume discharged
 - contractor name (and vehicle number if appropriate)
 - pH reading
 - whether odour problems occurred and contingency measures taken
 - periodical sample analysis results, when conductedThe log book is to be made available to a Council and DWE officer upon request.
(Reason: DWE and the Council requirement to protect the sewerage system, environment and health and safety of workers)
115. The activity conducted by the Applicant would generally require the installation of a grease arrestor minimum capacity **<council to insert the capacity of the required grease arrestor>** or equivalent, however, in this case approval to a **<council to insert the capacity of the existing grease arrestor>** arrestor has been granted due to **<council to insert the reason for exception>**.
(Reason: Council requirement to limit pollutant loading to the sewerage system)

116. If the type or size of a food preparation activity differs from that indicated by the Applicant in the request for exception, then an appropriately sized grease arrestor may be required to be installed.
(Reason: Council requirement to limit pollutant loading to the sewerage system)
117. The grease arrestor shall be maintained regularly. Initial pump-out frequency to be set at every **<council to insert 4 or 8 weeks as appropriate>** and may be reviewed, at anytime by the Council.
(Reason: Council requirement to ensure maximum effectiveness of the pre-treatment system)
118. The exception applies only to the nominated existing Applicant and is not transferable.
(Reason: Council requirement to limit pollutant loading to the sewerage system)
119. If renovations/refurbishment are carried out then an appropriately sized grease arrestor will be required to be installed.
(Reason: Council requirement to limit pollutant loading to the sewerage system)
120. The activity conducted by the Applicant would generally require the installation of a grease arrestor minimum capacity **<council to insert the capacity of the required grease arrestor>** or equivalent, however, in this case exception from installing a grease arrestor has been granted due to **<council to insert the reason for exception>**.
(Reason: Council requirement to limit pollutant loading to the sewerage system)

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Overview of common methods of liquid trade waste pre-treatment

Contents

Overview of common methods of liquid trade waste pre-treatment.....	235
1 Introduction.....	235
2 Effects of untreated trade waste on the sewerage system	235
3 Trade waste pre-treatment equipment	238
3.1 Types of pre-treatment equipment.....	238
3.2 General installation requirements for trade waste pre-treatment equipment	239
3.2.1 Electrical equipment used in treating liquid trade waste	239
3.2.2 Methods of containment	240
4 Minimum treatment requirements for liquid trade waste	241
5 Screens	248
5.1 Dry basket arrestor.....	248
5.1.1 Application	248
5.2 Dry basket arrestor in sinks	248
5.3 Existing premises without dry basket arrestors	249
5.4 Rotary screens.....	249
5.5 Rotary inclined drum screen	249
6 Grease arrestors	252
6.1 Conventional grease arrestors.....	252
6.1.1 Grease arrestor “Sydney Water” design.....	252
6.1.2 Sizing of a grease arrestor	252
6.1.3 Maintenance of a grease arrestor.....	259
6.1.4 Measurement of solids and grease retention	259
6.2 Modular grease trap (MGT)	261
6.2.1 Maintenance of the MGT	261
6.3 Grease extractor	261
6.4 Retrofitting existing grease arrestors.....	262
6.5 Under-sink pump unit.....	262
6.6 Oil and fat interceptor.....	262
7 Oil separators	263
7.1 General	263
7.1.1 Cleaning compounds	263

7.1.2	Pumps.....	263
7.2	Coalescing plate interceptor/separator (CPI/CPS)	264
7.2.1	Pumps.....	264
7.2.2	Maintenance of a coalescing plate interceptor/separator.....	264
7.3	Hydrocyclone separation system (HSS)	265
7.3.1	Pumps.....	265
7.3.2	Maintenance of a hydrocyclone separator.....	265
7.4	Vertical gravity separator	266
7.4.1	Skimmers	266
7.4.2	Pumps.....	266
7.4.3	Maintenance of a vertical gravity separator.....	266
7.5	Discharge from service station covered forecourt areas	267
8	Stormwater contamination.....	269
8.1	Roofing of liquid trade waste generating areas	269
8.2	Methods of exclusion of stormwater	270
8.2.1	Separation	270
8.2.2	Bunding.....	270
8.2.3	Collection drains	270
8.2.4	Diversion drains	270
8.2.5	Speed humps.....	270
8.3	Open areas	271
8.3.1	Installation requirements.....	272
8.3.2	How first-flush system works	272
9	Housekeeping practices for kitchen and oily waste	274
9.1	Kitchen type waste:.....	274
9.2	Workshops, garages, service stations etc:	274
10	Waste tracking systems	275
10.1	Wastesafe system.....	275
10.2	WasteTrack™	276
10.3	LWU waste tracking systems.....	277
10.3.1	Electronic tracking system.....	277
10.3.2	Manual tracking system.....	277

11	Cooling pits.....	278
12	Photographic waste.....	279
13	pH correction	281
	Definition	281
13.1	Alternatives to chemical addition	281
13.1.1	Control by mixing wastes.....	281
13.2	Practical problems of neutralisation.....	281
13.3	pH correction system	282
13.3.1	Batch treatment	282
13.3.2	Continuous flows	282
14	Sampling and flow measurement.....	284
14.1	Sampling point	284
14.2	Dye test.....	285
14.3	Flow measurement.....	285
14.3.1	Small dischargers	285
14.3.2	Other dischargers	285
14.4	Flow measurement instrumentation.....	286
14.4.1	Inflow measurement	286
14.4.2	Outflow (discharge) measurement	287
15	Liquid trade waste plumbing and drainage connection guidelines	288

Tables

Table 1:	Minimum treatment of liquid trade waste for various services	241
Table 2:	Determination of a grease arrestor size.....	256
Table 3:	Sizing of balancing tank for photographic waste	280

Figures

Figure 1:	Floor basket arrestor	250
Figure 2:	Floor drain basket arrestor	251
Figure 3:	Floor drain basket arrestor	251
Figure 4:	Grease arrestor standard design	254
Figure 5:	Grease arrestor "Sydney Water" design	255
Figure 6:	Boat type grease arrestor – calculation sheet	258
Figure 7:	Grease and sediment gauge.....	260
Figure 8:	Oil and fat interceptor – schematic arrangement.....	262
Figure 9:	System schematic for service station wastewater control	268
Figure 10:	Roofing of trade waste areas	269
Figure 11:	First flush collection and stormwater bypass system.....	273
Figure 12:	Photographic waste – flow diagram.....	279
Figure 13:	Schematic of pH – correction system	283
Figure 14:	Schematic arrangement of sewer by-pass system	284
Figure 15:	Preferable drainage layout relative levels	289
Figure 16:	Liquid trade waste plant installation drainage connection	290
Figure 17:	Liquid trade waste plant installation sanitary plumbing connection	291
Figure 18:	Laundromat – typical installation ground floor drainage connection.....	292
Figure 19:	Laundromat – typical installation sanitary plumbing connection.....	293
Figure 20:	Venting of grease arrestor	294
Figure 21:	Dry basket arrestor with removable basket	295
Figure 22:	Arrestor/neutraliser inside treatment room	296
Figure 23:	Arrestor/neutraliser outside treatment room	297
Figure 24:	Grease arrestor within multi-storey building	298
Figure 25:	Venting of grease arrestor chambers alternative mechanical ventilation	299

Figure 26: Venting of grease arrestor chambers	300
Figure 27: Undersink pumpout unit rising main connection	301
Figure 28: Commercial swimming pool backwash to sewer	302

Overview of common methods of liquid trade waste pre-treatment

1 Introduction

Sewerage systems are generally designed to safely transport and treat domestic sewage. Provided that there is available capacity in the sewerage system, the LWU may accept the waste generated by commercial and industrial activities into the sewerage system as a service to business and industry.

The decision to accept liquid trade waste to the sewerage system will be based on the discharge meeting the LWU's requirements.

This appendix provides information on minimum pre-treatment requirements for the acceptance of liquid trade waste to the sewerage system. It also provides information on:

- Potential problems caused by untreated trade waste
- Types of pre-treatment equipment, installation and maintenance requirements
- Housekeeping practices and waste management
- Trade waste plumbing and drainage connection.

Mention of trade names, commercial products and/or supplier names in this appendix has been included for the purpose of assisting LWUs to identify suitable technology. This does not constitute endorsement or a recommendation for use by the Department of Water and Energy.

Other documents relevant to liquid trade waste regulation are *2009 Model Policy for Liquid Trade Waste Regulation* (see Appendix D on page 155), developed by the Department of Water and Energy and the Council's Liquid Trade Waste Regulation Policy.

2 Effects of untreated trade waste on the sewerage system

Uncontrolled discharge of liquid trade waste into the sewerage system can cause serious problems to the sewerage infrastructure, environment and health and safety of workers and public. These potential problems are indicated below.

High BOD

- may accelerate the generation of sulphides in sewer mains and consequently odours and corrosion problems
- may overload treatment units at the sewage treatment works
- may cause non-compliance with the STW licence conditions.

Suspended solids

- cause blockages and sewage overflows in the drains of commercial and industrial properties
- form deposits in the sewer reducing its capacity and can lead to overflow conditions
- accumulate in wet wells and pumping stations resulting in increased maintenance
- can deteriorate mechanical equipment (pumps and valves) by abrasion
- overload treatment units at the sewage treatment works.

Grease and oil

- cause overflows in the drains of commercial and industrial properties
- cause the formation of deposits of greasy solids in the sewage transportation system thereby reducing its capacity. These deposits can lead to the breakaway of accumulated grease at times of high or very low flow
- accumulate in wet wells and pumping stations and cause blockages and failure of the pumps
- deposit in bends of the sewer and cause restrictions and blockages
- accumulate on screens at treatment facilities causing blockages
- reduce the efficiency of sewage treatment processes
- may cause non-compliance of the STW effluent with licence conditions
- form an oily film in the receiving water.

Low or high pH

- may injure people working in and around the sewerage system
- may cause corrosion of the sewer structure
- may upset biological treatment processes at the STW
- may cause the release of toxic gas; hydrogen sulphide in case of low pH and ammonia in case of high pH.

High temperature

- encourages volatile materials to be driven off from the sewage into the atmosphere
- increases the rates of reaction within sewer mains resulting in consumption of oxygen and high levels of noxious gases increasing odours
- promotes anaerobic conditions in sewer mains, as the solubility of oxygen decreases with the increase of temperature
- may cause damage to sewers including loss of strength of plastic components.

Heavy metals

- may inhibit sewage treatment processes
- accumulate in biosolids and therefore limit its beneficial reuse
- metal residuals discharged with the sewage effluent may pollute the environment, accumulate in marine organisms and move up the food chain.

Nutrients

This term is used for substances necessary for the growth and reproduction of organisms, namely, nitrogen and phosphorus.

- a small increase in levels of nutrients can cause nuisance algal growth in river systems. Algae consume the oxygen in water ways and therefore threaten fish and plant life. Some algae, like blue green algal bloom, can be toxic to humans and animals
- high levels of nitrogen as ammonia may cause unsafe conditions in sewer mains and pumping stations

- increase the operation and maintenance costs of the sewage treatment works.

Sulphur compounds

- sulphites consume oxygen and may cause anaerobic conditions
- sulphates can be reduced to sulphides
- sulphides can cause odour and corrosion problems in sewers
- sulphides may result in the release of hydrogen sulphide gas and affect the safety of workers.

Detergents

- toxic to aquatic organisms
- may cause foaming problems in sewers and sewage treatment works.

Flammable substances

- can cause fires and explosions in the sewerage system.

Cyanide

- toxic to living organisms
- may produce toxic gas in the sewer.

Phenolic substances

- may inhibit sewage treatment processes.

Chlorinated solvents

- may inhibit sewage treatment processes
- are toxic to people working in and around the sewerage system.

Pesticides

- may inhibit sewage treatment processes
- may pass unchanged through the sewage treatment works and adversely affect the environment
- limit the beneficial reuse of the STW effluent and biosolids
- organochlorine pesticides are persistent in the environment and accumulate in living organisms.

3 Trade waste pre-treatment equipment

3.1 Types of pre-treatment equipment

Amalgam separator

This device removes the amalgam produced as a result of dental procedures. It can be either fitted to the cuspidor or installed at a central location to serve a few dental chairs.

Coalescing plate interceptor/separator (CPI/CPS)

The separator uses a gravity process to remove non-emulsified oil and solids from wastewater. It contains a pack of plates that enhances the gravity separation process. “Quick Break” detergents and non-emulsifying pumps should be used with this equipment.

Cooling pit/tank

A pit or tank used to cool wastewater to 38°C or less prior to discharge to the sewer.

Dilution pit/tank

A pit or tank used to balance high strength discharge “peaks”. Mixing of slightly acidic and alkaline wastes may bring the pH to a level acceptable for discharge to sewer.

Dry basket arrestor

A pit or tank fitted with a fixed screen and removable mesh basket to capture large solids and fibrous material (eg. lint, fish scales). There are also dry basket arrestors in floor drains with a fixed screen fitted to a floor and a removable basket arrestors fitted to a sink.

General purpose/solids settlement pit

A general purpose pit or tank that allows solids to sink and grease/oil float, thereby removing them from wastewater.

Grease arrestor

An above ground tank or in-ground pit that allows kitchen wastewater to cool and grease to separate from the wastewater.

Grease extractor

A grease extractor is a tank with an effluent filter on the outlet pipe-work of the tank.

Hydrocyclone separation system

This system uses centrifugal force to separate grease/oils from wastewater.

Modular grease trap (MGT)

This is a modular system of connecting units for oil/grease separation. A surge control device must be fitted in the last module.

Oil and fat interceptor

This is a device installed upstream of a grease arrestor in order to intercept large volumes of oil, grease and fat.

Plaster arrestor

An arrestor for capturing the plaster used in medical procedures.

Silver recovery unit

This unit recovers silver from photographic solutions by either electrolytic or chemical processes.

Vertical gravity separator (VGS)

A separator that uses a vertical cylinder design containing a continuous truncated conical spiral pack to separate non-emulsified oils and solids from wastewater.

Under-sink pump unit

Under-sink pump unit comprises a small volume tank and a pump that transfers the collected kitchen wastewater to a grease trap.

3.2 General installation requirements for trade waste pre-treatment equipment

The liquid trade waste pre-treatment equipment must be installed in accordance with the relevant Regulations, *NSW Code of Practice Plumbing and Drainage 2006*, the *National Plumbing and Drainage Code - Australian Standard 3500*, the Local Water Utility's (LWU's) requirements and the manufacturer's guidelines. The pipes and connecting fittings must also comply with these codes and standards. The plumbing and drainage work must be carried out by a licenced plumber.

3.2.1 Electrical equipment used in treating liquid trade waste

Flammable Class 3 liquids (see Australian Dangerous Goods Code), such as petrol, kerosene or other solvents, are potentially dangerous in the workplace. Although these substances must not be discharged to the sewerage system, there is the potential for them to be present or situated near trade waste treatment facilities.

Where a process has flammable liquids present, all electrical equipment within a defined area must be of special construction to avoid a dangerous situation occurring. A discharger must check that the electrically operated pump and other electrical devices have the correct electrical rating for a particular installation. All work must be carried out by a licenced electrical contractor.

3.2.2 Methods of containment

Roofing of liquid trade waste generating areas

When a liquid trade waste generating or pre-treatment process does not fully occur within a building, suitable roofing must be provided to prevent the ingress of stormwater to the sewerage system (refer to section 8 on page 269).

Bunding

A bund is defined by AS 4452B 1997 as an impervious embankment of earth, or a wall of brick, stone, concrete or other suitable material, which may form part or all of the perimeter of a compound that provides a barrier to retain liquid.

All liquid trade waste pre-treatment systems and any substance which could adversely affect the sewerage system, the environment or safety of people must be contained in bunded areas, so that any leaks, spillages, and/or overflows cannot be directly discharged into the sewerage and/or stormwater systems. Leaks, spillages and overflows from a bunded pre-treatment equipment area must be pumped back to the head of the pre-treatment system.

The net capacity of a bund should be sufficient to contain a 110% of the largest container, this is to provide an additional allowance for stormwater. Allowance should be also made for the capacity displaced by other tanks within the bunded area. If the material is stored in drums (or other small containers), the bunded area must contain at least 25% of the total volume of the stored products.

For the storage of any flammable materials, NSW Fire Brigades recommends that the capacity be increased to 133% of the capacity of the largest tank to allow for the capture of fire water.

Wall-type bunds at tank storages should be from 0.5 m to 1.5 m high, depending on the required containment capacity and the distance to the tank - the closer the wall to the tank, the higher the wall has to be.

A collection sump must be provided in the bund floor for the isolation and removal of liquids. All pipework should go over the wall rather than through the wall. There should be no drain valves located on the bund, as they can be accidentally or intentionally left open to drain.

For other requirements in regard to bunding refer to the Department of Environment and Climate Change (DECC) document *Storing and Handling Liquids: Environmental Protection – Participants Manual*, 1997 available on the DECC internet site.

Speed Humps

These are similar to the devices used on roadways where it is desirable to reduce speed. In this case, it is used to contain spills and to segregate potentially contaminated areas from clean areas without impeding traffic flow, etc. If bunding is to be driven over, it has to comply with AS 2890:1 for speed humps. This has an application around such areas as fuelling facilities or truck unloading areas, particularly at storage tanks and 'remote fill' points. A pit with a valve is incorporated into the system to isolate contaminated flows for pumping out and disposal to an appropriate waste disposal facility.

Speed humps can also be used as a form of containment where relatively small spills are likely to occur or where a more substantial structure is not practicable.

4 Minimum treatment requirements for liquid trade waste

Table 1: Minimum treatment of liquid trade waste for various activities

Activity	Characteristics of Waste	Minimum Pre-Treatment Required
Automotive/Engineering		
<ul style="list-style-type: none"> Auto dismantler Bus/Coach depot wash bay area Car detailing Mechanical workshop Service stations (workshop only) Vehicle washing (commercial- manual cleaning) Vehicle washing (automatic robots) self service Vehicle washing (including engine degreasing) 	<p>Oil, Grease, Suspended Solids, Petroleum Hydrocarbons, Metals, Solvents, Detergents</p> <p>Kerosene</p>	<p>Dry basket arrestor. Collection pit minimum capacity 300L. An oil interceptor/separator, sized accordingly (Note 1).</p> <p>Kerosene and solvents, if used, are not permitted into the sewer.</p> <p>Reuse of wash water</p>
<ul style="list-style-type: none"> Equipment hire company Construction Equipment maintenance Truck wash (external only) 	Oil, Grease, Suspended Solids Detergent, Kerosene	Dry basket arrestor. A general purpose pit or a solids settlement pit minimum size 1000L, an oil interceptor/separator, sized accordingly (Note 1). Kerosene is not permitted into the sewer.
Engine/gearbox reconditioning parts washing	Oil, Grease, Suspended Solids, Detergents, Kerosene, Lead	<p>Dry basket arrestor. Collection pit minimum capacity 300L. An oil interceptor/separator, sized accordingly (Note 1).</p> <p>Kerosene is not permitted into the sewer. Acid cracking, pH correction facility may be required.</p>
Panel beater/spray painting	Oil, Grease, Suspended Solids	<p>Dry basket arrestor. Collection pit minimum capacity 300L. An oil interceptor/separator sized accordingly (Note 1).</p> <p>Discharge from a spray booth area is not permitted. Paint solvents, thinners are not permitted into the sewer.</p>
Radiator repair	Suspended Solids, pH, Metals	<p>Solids settlement pit. Metal removal and pH adjustment may be required before discharge to sewer.</p> <ul style="list-style-type: none"> Capture the radiator fluid in a tray or container before removing the radiator from the vehicle. Where possible, re-use radiator fluid, otherwise capture and store it for off-site removal by a DECC licenced contractor. Floor must be bunded to prevent spillage draining to sewer.

Activity	Characteristics of Waste	Minimum Pre-Treatment Required
<ul style="list-style-type: none"> Service stations covered forecourt Bus/Coach depot refuelling bay 	Oil, Grease, Petroleum Hydrocarbons	<p>Dry basket arrestor. A pump well (minimum size 750L) with:</p> <ul style="list-style-type: none"> A sloping bottom and an expanded grill inspection aperture in a chequer plate lid. A high level alarm switch fitted with alarm signal to service station console. Manual start switch with a low level stop switch. <p>An oil interceptor/separator sized accordingly (Note 1).</p>
Food Service Industry		
Barbequing process	BOD, Suspended Solids, Grease	<p>Grease arrestor, for steam oven or gas vat minimum capacity 2000L, otherwise 1000L minimum capacity (Note 2).</p> <p>Sink screens and dry basket arrestor in floor drains in food preparation and handling areas.</p> <ul style="list-style-type: none"> The fat and oil generated by barbequing processes and discrete oil must be collected for recycling and must not drain directly to a grease trap or to the sewer. Only the washwater can drain to the sewer via the grease trap. For steam oven or gas vat an oil and fat interceptor must be installed upstream a grease arrestor. Place a container under the fat outlet of cooking equipment to collect fat produced over the production day. The fat must be placed in containers for collection by DECC authorised oil and fat recyclers.
<ul style="list-style-type: none"> Bakery - hot bread, no meat or dairy products cooked on site Kitchen waste - no hot food prepared and/or no oily/greasy waste generated Fruit and vegetable market (retail) Supermarket with fruit/vegetables section 	BOD, Suspended Solids	<p>Sink screens and dry basket arrestor in floor drains in food preparation and handling areas.</p>
<ul style="list-style-type: none"> Butcher retail Supermarket incorporating butcher, seafood sections 	BOD, Suspended Solids, Grease	<p>Grease arrestor, minimum capacity 1000L (Note 2). All drainage from sinks and floors in food preparation and handling areas to pass through dry basket arrestors.</p>
Butcher wholesale	BOD, Suspended Solids, Grease	<p>Grease arrestor with the capacity equivalent to the volume of wastewater discharged in one hour at maximum flow. Minimum capacity 1,000L.</p> <p>All drainage from sinks and floor in food</p>

Activity	Characteristics of Waste	Minimum Pre-Treatment Required
		preparation and handling areas to pass through dry basket arrestors.
Commercial Kitchen/Caterer	BOD, Suspended Solids, Grease	Grease arrestor size related to size of operation, minimum capacity 1000L (Note 2). Sink screens and dry basket arrestor in floor drains in food preparation and handling areas.
<ul style="list-style-type: none"> Bakery cooking meat and dairy products on site Chicken (fresh) retail only Kitchen waste – hot food prepared and/or oily greasy waste is generated 	BOD, Suspended Solids, Grease	Grease arrestor sized accordingly to flow rate, minimum capacity 1000L (Note 2). Sink screens and dry basket arrestor in floor drains in food preparation and handling areas.
Fast food outlets (eg. KFC, McDonalds, Red Rooster, Pizza Hut)	BOD, Suspended Solids, Grease	Grease arrestor minimum capacity 1500L. Sink screens and dry basket arrestor in floor drains in food preparation and handling areas.
Fish - fresh (retail) no cooking on site and not including large operations such as Fish Co-op	BOD, Suspended Solids, Grease	Sink screens and dry basket arrestor in floor drains in food preparation and handling areas.
Fish shop cooking on-site	BOD, Suspended Solids, Grease	Grease arrestor minimum capacity 1000L. All drainage from sinks and floor in food preparation and handling areas to pass through dry basket arrestors.
Kitchen waste – Wok burner – wet process	BOD, Suspended Solids, Grease, large volumes of hot water.	Grease arrestor sized accordingly to a flow rate, minimum capacity 1500L. Sink screens and dry basket arrestor in floor drains in food preparation and handling areas. Water saving practices need to be implemented.
Oyster processing (shucking)	Grit, Suspended Solids	Dry basket arrestor, solids settlement pit, minimum capacity 1000L.
Potato peeling (small operation)	BOD, Suspended Solids	Peeling machine with built-in screens. Wastewater from potato processing areas must drain through a basket trap with a removable basket and fixed screen. Avoid discharge through a grease arrestor.
Medical Services		
Dental surgery <ul style="list-style-type: none"> dental chairs plaster casts X-Rays (non-digital) 	Amalgam Silver Suspended Solids Silver, Ammonia, Thiosulphate, Sulphite	Amalgam separator. Plaster arrestor. Refer to Photographic waste in this Table.
Dental technician plaster casts	Suspended Solids	Plaster Arrestor

<p>Doctors surgery</p> <p>Medical centre</p> <ul style="list-style-type: none"> • plaster casts • X-Ray (non-digital) 	<p>Suspended Solids</p> <p>Silver, Ammonia, Thiosulphate, Sulphite</p>	<p>Plaster Arrestor.</p> <p>Refer to Photographic waste in this Table.</p>
<p>Hospital/Nursing homes</p> <ul style="list-style-type: none"> • solid waste • food waste disposal units • Contaminated/infectious waste <p>For other sources of waste, eg. kitchen, X-ray various laboratories, laundry, plaster casts refer to relevant clauses in this Table.</p>	<p>BOD, Suspended Solids, Grease, high temperature</p>	<p>Discharge of solid waste and waste from devices that macerate or pulverise solid waste to the sewer is prohibited.</p> <p>The installation of food waste disposal units are not permitted. Existing installations in hospitals may be allowed provided the wastewater is discharged through an adequately sized grease trap.</p> <p>Waste should be sterilised by autoclaving before discharge.</p>

Other services		
Animal wash <ul style="list-style-type: none"> • Dog groomers • Kennels • Pet shop (retail) 	Suspended Solids	Sink screens and dry basket arrestor in floor drains. Animal faeces, litter and any waste disposal products should not be discharged to the sewer. Animal waste disposal units are not permitted to be connected to sewer.
Carpet cleaning mobile units	BOD, Suspended Solids, Grease	20 micron or smaller filtration system fitted to a mobile unit.
Crafts – ceramic, pottery, gem stones, jewellery (eg hobby clubs, schools, cottage industries, tertiary institutions). Flow: <ul style="list-style-type: none"> • <200L/d • 200 L to 1000 L/d • > 1000 L/d 	Suspended Solids	No pre-treatment. Plaster arrestor. General purpose pit, minimum capacity 1000L.
Dry Cleaning	Solvents	Dry cleaning solvents are not permitted into the sewer.
Florist	Suspended Solids	Sink screens and dry basket arrestor in floor drains.
Funeral parlour <ul style="list-style-type: none"> • morgue • autopsy table 	Suspended Solids	Dry basket arrestor in floor drains. Screens at the table drainage outlet.
Garbage bin cleaning <ul style="list-style-type: none"> • hotels/restaurants/shopping centres • mobile garage bin washing 	Suspended Solids, Grease	Fixed screen over floor waste. If there is a grease arrestor installed, waste to pass through the arrestor.
Glass cutting (non-optical services)	Suspended Solids	Solids settlement pit, minimum 2 hours detention at the maximum flow rate. Cleaning of the pit before thickness of settled material exceeds 200mm.
Hairdressing salon		Sink strainers (where available) and dry basket arrestor for floor waste.
Laboratory School	Chemicals	Balancing pit/tank minimum capacity 600L
Laboratory chemical related including tertiary institutions	Chemicals	Balancing pit/tank sized according to a flow rate, minimum capacity 600L. pH correction may be required.
Laboratory pathology including autopsy, hospital	Chemicals	Balancing pit/tank sized according to a flow rate, minimum capacity 600L. pH correction may be required.
Contaminated/infectious waste		Waste should be sterilised by autoclaving before discharge.

Laundry (coin operated)	Lint, high temperature	Lint screens, (washing machine internal screens acceptable). Cooling pit capacity calculated to reduce wastewater temperature to below 38°C.
Laundry commercial or industrial	Lint, high temperature	As above. pH correction may be required.
Optical services (grinding of glass and plastic)	Suspended Solids	Baffled settlement tank, minimum 1 hour detention, to be easily accessible for cleaning.
Shopping centre (including food preparation)		Refer to relevant types of business. For sizing of grease arrestor see Note 2.
<ul style="list-style-type: none"> Swimming pool municipal Hydrotherapy pool 	Suspended Solids Chlorine	Backwash is accepted into the sewer through a holding tank. The waste to be discharged to sewer at a control flow rate. The discharge to be limited to low flow periods in the sewer particularly when draining the pool for maintenance.
School <ul style="list-style-type: none"> canteen, home science photographic and science laboratory 		Refer to Food Service Industry section in this table. Balancing tanks can be combined, if activities are comparable (eg. laboratories) and sized to give a flow retention capacity of 1 hour. Also refer to Table 12 on page 81.
Tertiary Institutions		Refer to a relevant activity in this Table.
Veterinary premises <ul style="list-style-type: none"> X-ray (non-digital) 	Suspended Solids Silver, Ammonia, Thiosulphate, Sulphite	Sink screens and dry basket arrestor in floor drains. Animal faeces, litter and any waste disposal products should not be discharged to the sewer. Animal waste disposal units are not permitted to be connected to sewer. Animal waste should be collected and not discharged to the sewer. Refer to Photographic waste in this table
Photographic waste		
Photographic processing and developing including X-Ray (non-digital)	Silver, Ammonia, Thiosulphate, Sulphite	Balancing pit/tank, silver recovery unit for silver bearing waste (Note 3) or remove all silver bearing waste from the premises by a DECC authorised transporter.
Screen Printing	Suspended Solids Petroleum Hydrocarbons, Solvents, Grease, BOD, Silver, Ammonia, Thiosulphate, Sulphite, Volatile Halocarbons	Pre-treatment equipment is required for the pre-cleaning of new screens, stencil development, cleaning and reclamation. Suitable types include a settling tank or pit, a coalescing plate separator, or other approved products. Minimum size to equal the actual volume from 1 hour of washing. Solvents, if used in a stencil cleaning process for ink removal, are not permitted to be discharged to sewer. The waste must be disposed off-site. Non-digital photographic processes: silver bearing waste should be treated in a SRU unit or be transported off site by a DECC authorised transporter.

<i>Miscellaneous</i>		
Boiler blowdown	Total Dissolved Solids, high temperature	Cooling pit/tank to reduce wastewater temperature to less than 38° C. If the volume is less than three times the maximum blowdown volume, cooling calculations are to be provided by the applicant.
Comfort cooling tower bleed off	Corrosion inhibitors, biocides	No treatment. The use of products containing chromate is not permitted.

Notes:

- 1 An oil interceptor/separator should be of an approved type such as a coalescing plate interceptor, a vertical gravity separator or a hydrocyclone separation system sized accordingly to the influent flow rate. Nominal size is 1000 L/h. Only "Quick-Break" detergents should be used. Refer to section 7 on page 263 for installation requirements and other information on this equipment.

Wash area is to be roofed, bunded and graded to exclude stormwater. In some instances, where roofing is impractical, a first flush system may be permitted - refer to Section 8.3 on page 271.

- 2 A grease arrestor should be of an approved type and sized accordingly to the influent flow rate. Approved types include a conventional boat type arrestor, standard design or "Sydney Water" design, or a modular grease trap. Nominal size is 1000L. A grease extractor may be used in some small installations. Refer to section 6 on page 252 for information on the above types of arrestors, installation requirements and determination of the appropriate size.
The use of bacterial, enzyme or odour-controlling agents in grease arrestors is prohibited unless specifically approved by the LWU with the concurrence from DWE.
- 3 The discharger of photographic waste must comply with the Photographic Industry Uniform Regulation for the Environment (PURE) Code of Practice. Refer to Section 12 on page 279 for balancing pit sizes and other details.
- 4 Where a reference is made to an approved type of pre-treatment equipment, Sydney Water and/or WSAA authorisation is acceptable. If a proposal to discharge liquid trade waste into the sewer includes an alternative type of pre-treatment equipment, the LWU should refer such application to DWE for concurrence.
- 5 It is recommended that advice from a trade waste consultant should be sought in regard to trade waste activities either not listed in the above table and/or involving a discharge volume of over 20 kL/d.

5 Screens

The first step in pre-treatment is usually screening. Screens are an essential part and basic pre-treatment requirement of preventing blockages, equipment failures and cost reduction of subsequent treatment stages.

A screen is used to retain or remove suspended or floating objects in wastewater. The screen has openings that are generally uniform in size and removes objects larger than the openings. A screen may consist of bars, rods, wires, gratings, wire mesh or perforated plates. Screens having openings of 3mm or greater are usually classified as coarse screens and those with openings less than 3mm as fine screens.

The wide variety of screens reflects the range of applications and the different mechanisms required to keep them free of solids. They can include internal lint screens for washing machines and flat screens that are cleaned by brushing or hosing through to rotary or bar screens that are either mechanically or manually cleaned.

5.1 Dry basket arrestor

This is a pit or tank fitted with a fixed screen and a removable mesh basket. The fixed screen ensures that if the operator neglects to re-install the basket, a failsafe mechanism is in place to continue to capture gross solids.

There are also baskets available with a “shut-off” valve that automatically stops the flow stream through the waste outlet as soon as the basket is removed.

5.1.1 Application

Food preparation areas

A removable dry basket arrestor with a fixed screen must be fitted to all floor wastes in the food preparation and handling. There must also be a fixed screen over all floor waste gullies. The basket arrestor should be removed, scraped and cleaned regularly to ensure that the unit is operating properly.

Oily Waste Areas

A dry basket arrestor or screen must be fitted to all floor wastes that drain to the sewerage system to strain out gross solids such as rags, packaging, nuts and bolts. The basket arrestor should be removed, scraped and cleaned regularly.

Two examples of removable dry basket arrestors with fixed screens are depicted at Figure 1 on page 250.

5.2 Dry basket arrestor in sinks

This is a dry basket arrestor fitted in a sink with a fixed screen and a removable mesh basket. The arrestor captures solids and fibrous material from the wastewater. Screened wastewater may then pass through further pre-treatment equipment such as a grease trap prior to discharge to the sewer. There are arrestors with a mechanism that does not allow flow to the sewer when the basket is removed.

5.3 Existing premises without dry basket arrestors

For existing premises without basket arrestors there are units available on the market that can be retrofitted into the existing pipe work. Examples of two types of these units are displayed in Figures 2 and 3 on page 251.

5.4 Rotary screens

These include externally and internally fed screens. With an internally fed screen, which is a preferred system for trade waste, wastewater enters the centre of the drum and there is passed through the screen into a discharge channel. Solids are removed from the screen surface by cleaning brushes or a water spray. Screened material is usually washed from the screen with a high pressure spray into a discharge trough.

5.5 Rotary inclined drum screen

As the screen rotates, the solids roll on the face of the screening cylinder and are intercepted by the diverter flights. The diverter flights are mounted spirally, with the spiral pointing to the discharge end of the cylinder. Solids are directed up the inclined drum screen surface until they reach and drop off of the discharge end of the cylinder. Solids can drop off into a container, conveyor chute or solids dewatering device for further processing to reduce the water content.

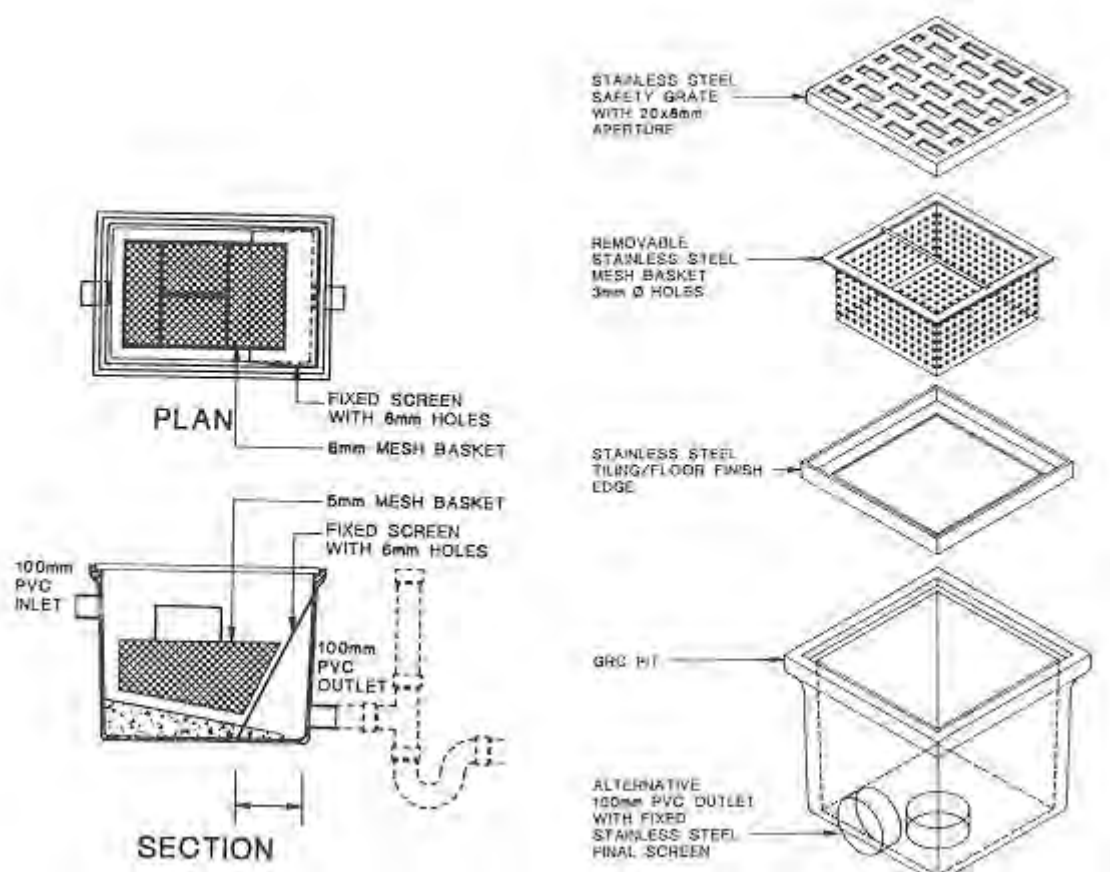


Figure 1: Floor basket arrestor
(Diagrams Courtesy Mascot Engineering group)

Examples of Floor Drain Basket Arrestors for Existing Premises

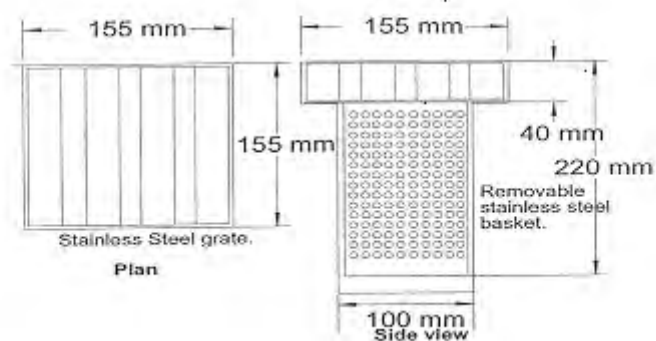


Figure 2: Floor drain basket arrestor
(Diagram courtesy of Halgan P/L)



(Picture courtesy of Stainless Metal Craft P/L)

Figure 3: Floor drain basket arrestor
(Picture courtesy of Stainless Metal Craft P/L)

6 Grease arrestors

6.1 Conventional grease arrestors

Two types of conventional grease arrestors are available on the market: the standard design and the 'Sydney Water' design (see Figure 4 on page 254 and Figure 5 on page 255). Both designs are at present acceptable for most installations. However, it would be necessary to provide a "Sydney Water" design arrestor for kitchens where a food waste disposal unit is permitted (in the existing hospitals and nursing homes) to prevent discharge of large quantities of solids to sewer.

As noted in section 4.3.2 on page 63 with a properly operated and maintained grease arrestor, restaurant and take-away food businesses may generate liquid trade waste with up to 3000mg/L BOD.

6.1.1 Grease arrestor "Sydney Water" design

This design is a modified version of the boat-shaped grease arrestor and it has the following advantages:

- ease of service as the covers have been modified to provide better access for removal of solids and oil and grease
- the outlet has been raised, so the solids are captured and then are pumped out rather than being discharged to the sewer.

The disadvantage of the arrestor is that odours can develop because of accumulation of solids at the bottom. This can be solved by the increased frequency of cleaning. As far as the installation is concerned, particular attention should be paid to venting to avoid odour problems.

6.1.2 Sizing of a grease arrestor

The minimum capacity for a conventional grease arrestor is 1000 L. This assumes that a hot water tap turned fully on will deliver 0.3 L/s or 1000 L/h. Therefore, a volume of 1000 L should enable one hour detention time within the grease arrestor for cooling, which is considered a sufficient period for breaking the emulsified grease and oil from the hot water solution.

Fast food outlets such as McDonalds, Red Roosters, KFC etc. require grease arrestors with a minimum capacity of 1500L. Barbequing process (steam oven or gas vat) requires a grease arrestor minimum capacity of 2000L. Also, there are some processes that generate high volumes of wastewater. These will be required to install a grease trap sized according to the influent flow rate (refer also to Item 1 on the facing page).

Grease extractors with a capacity less than 1000 L are acceptable in some situations, provided that the performance of such arrestor is equivalent to that of the conventional arrestor. Council needs to consult DWE in regard to suitability of a grease extractor for the proposed application prior to giving approval.

The following methods can be used to calculate the size of a grease arrestor:

1. Establish the number of seats, rooms or beds present and refer to Table 2 'Determining grease arrestor size'. The table indicates the **minimum** recommended size of the grease arrestor.

In this table, the minimum size of a grease arrestor for food serving premises, eg. café, restaurant, etc., is based on a number of seats and an assumption of three meals/seat served per day. The LWU may require that the capacity of the grease arrestor be increased for activities generating very greasy waste, high flow rate or having a very high turnover.

It should be noted that a larger arrestor will enable a lower pump-out frequency and/or reduce the risk of having to pay \$12.68/kL (2007/08\$) trade waste usage charge for failure to properly maintain pre-treatment equipment.

2. Where no seats are present, but it is possible to establish the maximum number of meals prepared, the size can be estimated by allowing 5 L per meal, plus 250 L for each dishwashing cycle and adding a 20% safety factor to the total volume.
3. For an existing business the water meter readings could be used as a guide. The arrestor should be sized according to the influent flow rate to allow at least one (1) hour detention time.
4. In the absence of the above information add the capacity of all sinks, tubs and other fixtures (eg. dishwashers) plus three (3) times the capacity of all hot water heating units.

The capacity of the existing boat shape grease arrestor, if unknown, can be estimated as shown in calculation sheet on page 258 (refer Figure 6).

PRECAST GREASE ARRESTOR (STANDARD DESIGN)

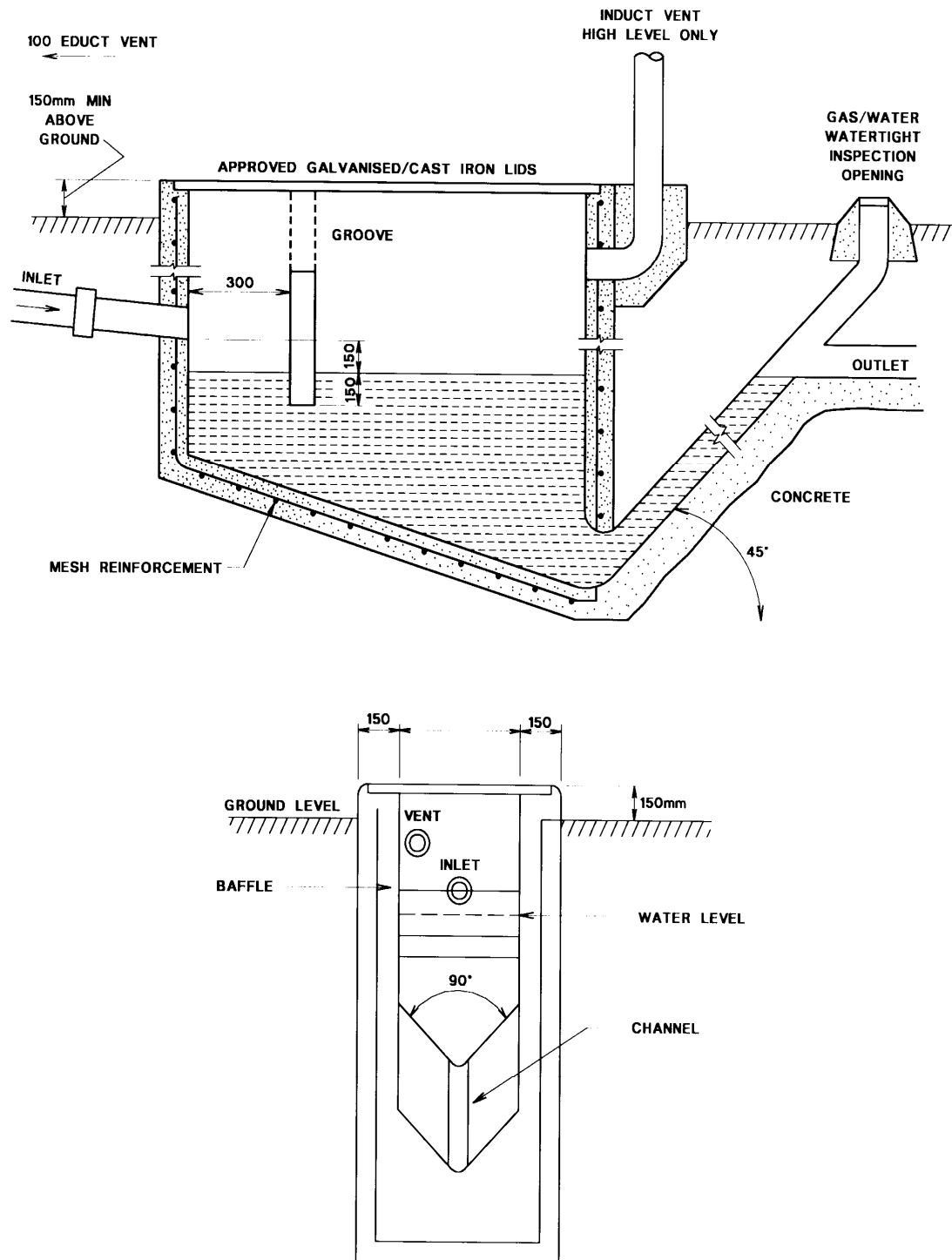


Figure 4: Grease arrestor standard design

For installation and venting requirements refer to drawings
Figures 20 and 24 to 27

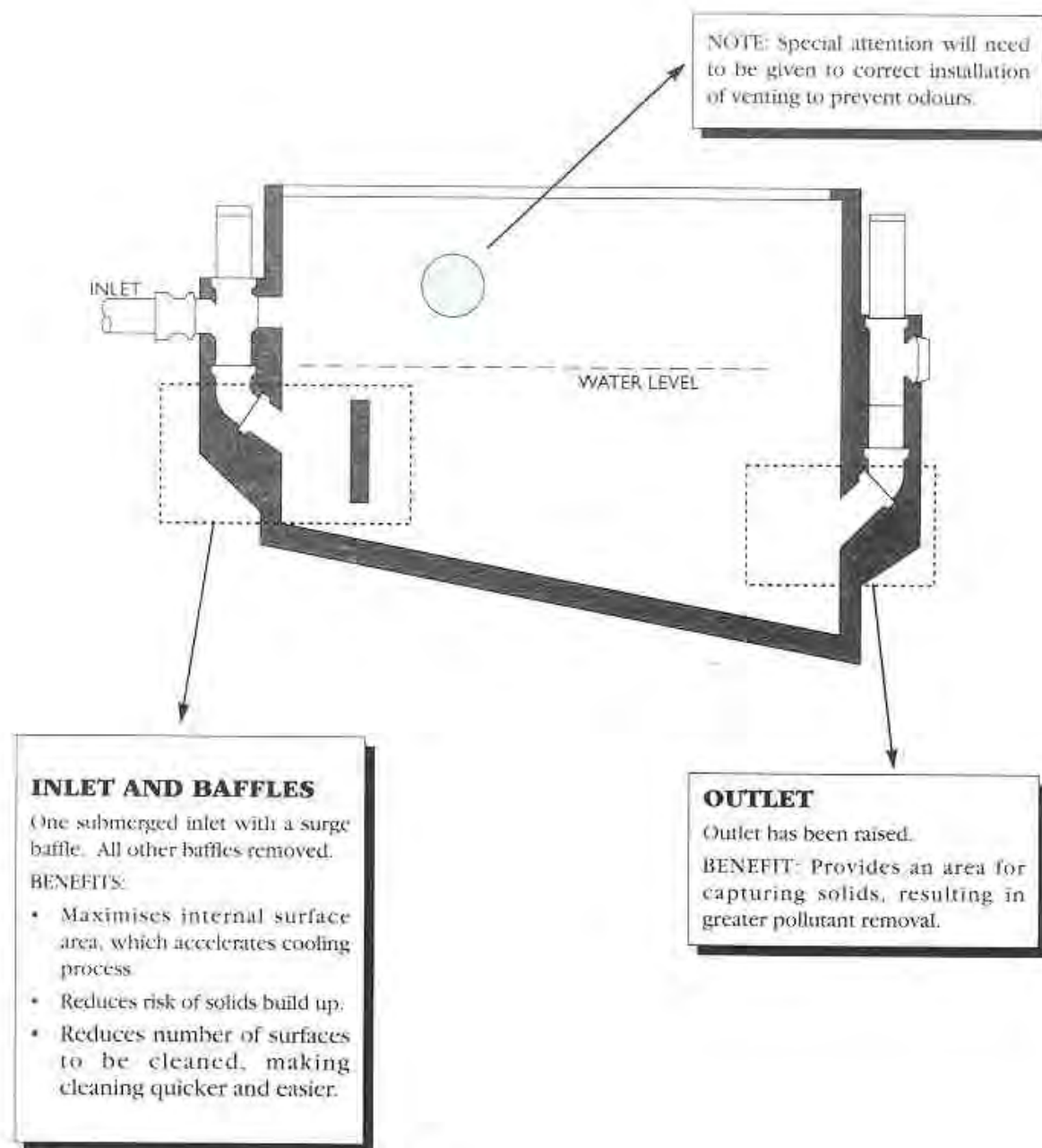


Figure 5: Grease arrestor “Sydney Water” design

Table 2: Determination of a grease arrestor size

Type of business	Minimum size
Cafe, canteen, restaurant, club, function centre, hotel (hot food preparation)¹ <ul style="list-style-type: none"> discharge up to 1100 L/d, typically up to 69 seats discharge up to 3200 L/d, typically up to 70-199 seats discharge up to 6400 L/d, typically up to 200-399 seats discharge up to 9600 L/d, typically up to 400-599 seats discharge up to 12,800 L/d, typically up to 600-799 seats discharge up to 16,000 L/d, typically up to 800-1000 seats. 	1000 L 1500 L 2000 L 3000 L 4000 L 5000 L
Fast Food Outlets <i>Burger King, KFC, McDonalds, Red Rooster, Pizza Hut, etc.</i>	1500 L
Barbequing Process <ul style="list-style-type: none"> rotisserie, charcoal BBQ, hot plate steam oven, gas vat 	1000 L 2000 L
Restaurant, food outlets with a Wok Burner <i>(applicable where large volumes of water are discharged)</i> Sized according to a flow rate	1500 L
Motel: room service provided <ul style="list-style-type: none"> up to 50 rooms up to 100 rooms up to 200 rooms up to 300 rooms. 	1000 L 1500 L 2000 L 3000 L
Hospital, hostel, nursing home² <i>If no food waste disposal unit is installed:</i> <ul style="list-style-type: none"> discharge up to 1100 L/d, typically up to 69 beds discharge up to 3200 L/d, typically up to 70-199 beds discharge up to 6400 L/d, typically up to 200-399 beds discharge up to 9600 L/d, typically up to 400-599 beds discharge up to 12,800 L/d, typically up to 600-799 beds discharge up to 16,000 L/d, typically up to 800-1000 beds. <i>If a food disposal unit is installed, the size of grease arrestors would have to be increased as follows:</i> <ul style="list-style-type: none"> discharge up to 1100 L/d, typically up to 55 beds discharge up to 3200 L/d, typically up to 56-159 beds discharge up to 6400 L/d, typically up to 160-319 beds discharge up to 9600 L/d, typically up to 320-479 beds discharge up to 12,800 L/d, typically up to 480-639 beds discharge up to 16,000 L/d, typically up to 640-800 beds. 	1000 L 1500 L 2000 L 3000 L 4000 L 5000 L 1000 L 1500 L 2000 L 3000 L 4000 L 5000 L

Type of business	Minimum size
<p>Shopping centres and food halls</p> <p>Where common grease arrestors are to be installed, the capacity of the arrestor should be at least 60% of the estimated capacity for the shops if they were to stand alone.</p> <p><i>Example: Shopping centre with four stand-alone businesses</i></p> <p>Take-away food Butcher shop Cafeteria (50 seats) KFC Total</p> <p>The total capacity of the grease traps to service these businesses at a shopping centre must not be less than 60% of 4500 L, i.e. 2700 L. This capacity can be provided by one 3000 L arrestor or by a combination of smaller-size units. Premises will have to be grouped to drain to separate grease arrestors. Care should be taken when grouping shops so that the capacity of the arrestor is sufficient for a certain group but will also allow for future additional food businesses.</p>	<p>1000 L 1000 L 1000 L 1500 L 4500 L</p> <p>Size required 3000 L</p>

Notes

- 1 The size of the grease arrestor is based on the assumption of 3 meals/seat/day.
- 2 The use of a kitchen waste disposal unit (garbage grinder) may be permitted only in the existing hospitals or nursing homes. These units are not allowed in other commercial kitchens unless permitted by the LWU under special circumstances.

BOAT - TYPE GREASE ARRESTOR - CALCULATION SHEET

A	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	mm	LENGTH (Inside Dimension)
B	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	mm	WIDTH (Inside Dimension)
C	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	mm	DEPTH (From top water level to bottom of V - Shallow end)
D	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	mm	DEPTH (to bottom of V - Deep end)

A*	<input type="text"/>	m	x	B*	<input type="text"/>	m	=	<input type="text"/>	÷	2	=	<input type="text"/>
C	<input type="text"/>	mm										
	+			B	<input type="text"/>	mm	÷	2	=	<input type="text"/>		
D	<input type="text"/>	mm										
=	<input type="text"/>											
-	<input type="text"/>											
=	<input type="text"/>		x	<input type="text"/>		=	<input type="text"/>		LITRES			

* Dimension for these two spaces to be in METRES. All other dimensions in MILLIMETRES.

Figure 6: Boat type grease arrestor – calculation sheet

Diagram courtesy of Sydney Water

6.1.3 Maintenance of a grease arrestor

A grease arrestor represents a significant investment in liquid trade waste pre-treatment. The waste it retains (grease and food solids) is the mass of pollutants prevented from entering the sewerage system over the time span between each complete cleanout. Failure to service it correctly, or at the required frequency, or failure to dispose of the waste properly, is a waste of resources and effort as well as a direct contribution to environmental degradation.

Pre-treatment equipment becomes progressively less efficient as grease, oil and sludge accumulate. The equipment requires regular cleaning to prevent blockages, odour problems, health hazards and compliance with the conditions of approval.

A grease arrestor must be pumped out completely and the internal surfaces scraped and/or hosed off during the pump-out operation. Initially the pump-out frequency is set at every 13 weeks. This may need to be adjusted by the LWU after a grease arrestor has been in operation for a period of time.

The arrestor needs to be pumped-out when the surface layer of fat and oil exceeds 10% and/or the sludge layer at any point on the bottom exceeds 20% of the total depth of the arrestor. Pump-out must also be carried out if the thickness of the combined surface and sludge layers exceeds 25% of the total depth of the arrestor. The waste must be removed by the DECC authorised contractor to the appropriate waste disposal facility.

It should be highlighted to the discharger that a lighter load on the grease trap can reduce cleaning frequency and maintenance costs. This can be achieved by careful housekeeping (refer to section 9 on page 274). Waste cooking oil and fats are prohibited from being poured down the drain and should be collected for separate disposal such as recycling.

6.1.4 Measurement of solids and grease retention

The most appropriate way for trade waste officers to ascertain the depth of the solids and grease layer build-up in the arrestor is to use a measuring device such as Grease and Sediment Gauge or a Sludge Judge. A Grease Sediment Gauge is shown in Figure 7 on page 260. This particular model has a ball valve installed at the bottom inlet with a cable attached to effect closing of the valve for withdrawal of the unit.

For boat shaped arrestors, measurements are to be made at the outlet end. For grease arrestor with full depth baffles, measurements can be taken immediately upstream of the baffle (on the inlet side). The device has to be slowly inserted into a grease arrestor. After withdrawing it, allow at least 1 minute settling time before assessing the depth of surface and sludge layers.

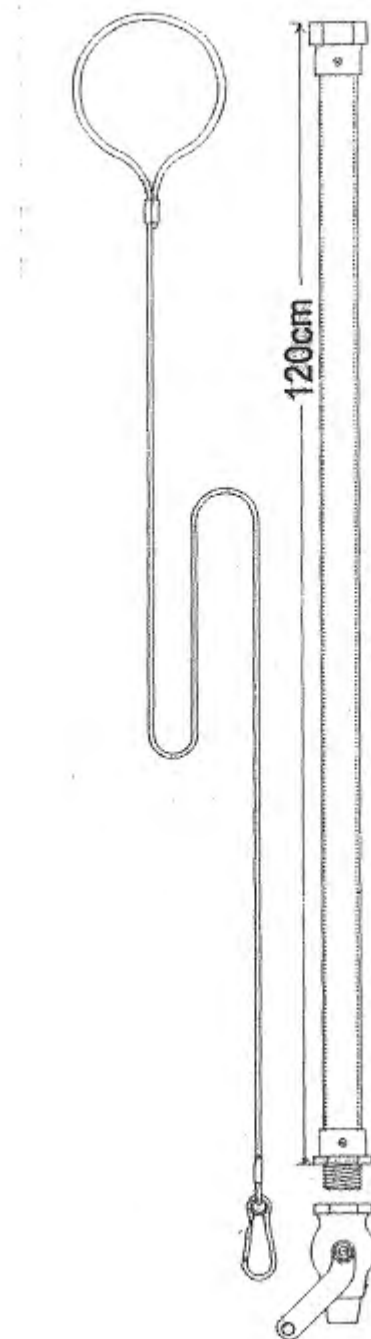


Figure 7: Grease and sediment gauge

Diagram courtesy of Wastewater Monitors Australia

6.2 Modular grease trap (MGT)

This is a system of connecting chamber units designed to separate oil, grease and settleable solids. When sludge and oil/grease separate and build up in the first chamber, the particles will overflow to the next one. A surge control device (SCD) is fitted into the last chamber to stabilize high surges and promote even flow and quality of the effluent. The SCD plates trap and deflect the suspended particles back into the pre-treatment chamber. The trap can be modified to allow for longer retention time by adding chambers. Connecting configurations should not be less than 1000 L or exceed 5000 L.

6.2.1 Maintenance of the MGT

The equipment supplier or consultant should produce the maintenance schedule for the customer on a site-specific basis. Maintenance should be performed every 8 to 13 weeks as follows:

- the arrestor should be pump-out completely
- internal surfaces be hosed down
- a surge control device should be back flushed through an outlet inspection opening and hosed down to remove accumulated soft particles.

6.3 Grease extractor

A grease extractor is a tank with either an effluent filter or a surge control device on the outlet pipe work. It can be used for small operations and at premises where conventional grease arrestors cannot be installed due to space limitations.

The filter allows high hydraulic flows while grease and suspended solids accumulate on the filter plates. Maintenance of this grease extractor involves replacing of the filter cartridge with a clean filter. The used cartridge has to be cleaned out by a licenced contractor. Failure to service this arrestor will eventually result in shut down of the effluent stream, and not in the increased quantities of grease and solids discharged into the sewer. The maintenance schedule is site specific, generally between 8 to 13 weeks.

A grease extractor with a SCD unit is designed to stabilise high hydraulic surges. The unit comprises packed plates which will trap grease and suspended solids and deflect them back into the pre-treatment vessel. Maintenance includes pumping out and hosing internal surfaces of the extractor and SCD unit.

Note: Consult DWE in regard to suitability of a grease extractor for the proposed application prior to giving approval.

6.4 Retrofitting existing grease arrestors

A surge control device (SCD) can be used to retrofit an undersized grease arrestor. The SCD is submerged in the pre-treatment vessel chamber and may improve the performance of the existing arrestor by smoothing out the flow surges. It also causes a slight backpressure within the chamber. The backpressure stabilises surges and promotes separation of heavy and lighter particles within the chamber. The SCD is fitted to an outlet pipe and cannot be tampered with.

6.5 Under-sink pump unit

There are some situations where it may be necessary to install an under-sink pump unit, such as space requirements or building design that does not allow a grease trap to drain to the sewer by gravity. An under-sink pump unit consists of a tank that should not contain more than 40 L of kitchen wastewater. A pump located within the tank delivers this wastewater to a grease trap. The unit should be cleaned at the same time as the grease trap is serviced.

6.6 Oil and fat interceptor

This device is installed upstream of a grease arrestor in order to intercept oil, fat and grease generated in large amounts by food preparation activities, such as barbequing or fast food outlets. Wastewater is discharged through a removable strainer basket into a grease, oil and fat recovery chamber. Fat and oil rise to the surface and are skimmed to a collection container for recycling. Wastewater is directed to a grease arrestor (refer to Figure 8). The interceptor significantly reduces the volume of oil and grease entering the arrestor, thus improving its efficiency and may reduce the frequency of grease arrestor pump outs.

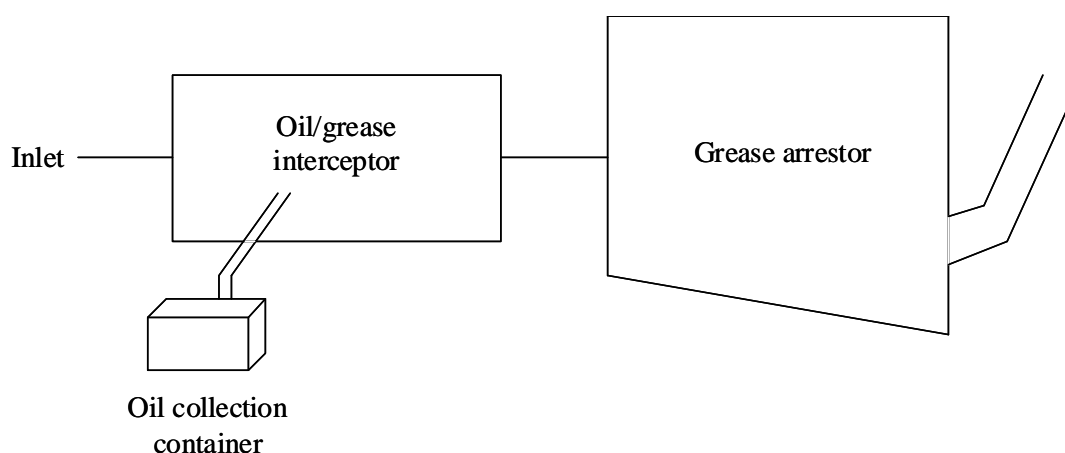


Figure 8: Oil and fat interceptor – schematic arrangement

7 Oil separators

Oily wastes (liquid wastewater containing residues of petroleum products) must be treated in an oil separation system before discharge into the sewer. The oil separation system includes coalescing plate interceptors/separators, vertical gravity separators and hydrocyclone separation systems.

For existing dischargers with inadequate pre-treatment refer to section 3.8.2 on page 39.

7.1 General

7.1.1 Cleaning compounds

Only “Quick Break” detergents should be used. “Quick Break” detergents allow oil/water emulsion to break, so that the oil separator removes the oil.

Since the advent of “Quick Break” detergents, many chemical companies have labelled their products as “Quick-Break” when in fact they are not. The criterion is that the emulsion should break completely and wastewater should separate into an oily and aqueous layer within 20 to 30 minutes.

The user should ensure that the supplied detergent is of a ‘Quick Break’ type. It should be verified on site specific basis that, while using a particular detergent, the emulsion breaks and the final liquid trade waste discharge meets guidelines limits for oil and grease.

The use of degreaser spray cans is prohibited as it results in the increased concentration of aromatic hydrocarbons in the waste.

7.1.2 Pumps

A pump transferring wastewater from a collection pit to an oil interceptor should be of non-emulsifying type with a suction inlet at least 300 mm above the bottom of the collection pit. It is important that only a pump authorised by the supplier of an oil separation system be used.

7.2 Coalescing plate interceptor/separator (CPI/CPS)

A coalescing plate separator uses the difference in specific gravity to separate free (non-emulsified) oil and solids from water. The pack of plates is placed across the direction of flow to assist this process. Flow through the plates is laminar to achieve optimum separation of oil from the water phase. The plates are inclined at 45 to 60 degree to the horizontal, so that solid particles caught by the plates are discharged into a sludge hopper. The oil collects on the surface where it is skimmed off by the oil skimmers into the waste oil tank. The plate packs are modular and are easily removed for cleaning.

Some manufacturers supply plate packs for upgrading of existing pre-treatment facilities.

Coalescing plate interceptor should be sized accordingly to the influent flow rate. Nominal size is 1000 L/h.

7.2.1 Pumps

Only non-emulsifying pumps, such as an electrically driven diaphragm pump (at less than forty cycles per minute) or a positive displacement helical rotor pump under 400 RPM may be used to pump the waste to an interceptor.

7.2.2 Maintenance of a coalescing plate interceptor/separator

The equipment supplier or consultant to the applicant should provide the Clean-Out Schedule to their customer/client on a site specific basis. The schedule should include:

- The maximum instantaneous flow rate which the CPI/CPS should be expected to handle
- The type of pump pumping the waste through the separator eg. diaphragm, model number, and the pump capacity.

The most suitable period between maintenance is highly dependent upon the quality of the influent. An initial maintenance should be performed in accordance with the supplier's recommendation and adjusted, if necessary, to meet the approved effluent limits.

Maintenance should include:

- draining of the sludge hopper
- draining of the waste oil vessel
- washing of filter bags if fitted
- removing and/or hosing plate packs if applicable with high pressure water
- total pump out and cleaning of the hopper
- removal of sludge from the bottom hopper.

7.3 Hydrocyclone separation system (HSS)

The system is based on centrifugal forces separating immiscible, insoluble liquid-liquid mixtures. Oily water is drawn off the top of a pit via a floating skimmer and is pumped into a hydrocyclone unit. Centrifugal force drives oil to the centre of the hydrocyclone vortex and oil is removed via a small hole in the end wall of the unit. It is then directed to either an in-ground oil storage tank, a separate compartment in the pit or a drum.

This oil storage container has a large settling time and the separated oil floats to the top. Excess water is drained from the bottom of the container back to the pit. The treated water can be returned back to the pit and recycled through the hydrocyclone separator until it reaches an acceptable limits.

A hydrocyclone separator should be sized accordingly to the influent flow rate. The nominal size is 1000 L/h. An influent pit is used to allow sediments to settle. Skimmers should draw wastewater from the surface of the liquid in the influent pit. The equipment supplier/consultant should set an appropriate recycle time to achieve an acceptable effluent quality.

7.3.1 Pumps

Only non-emulsifying pumps, such as an air-driven double action diaphragm, may be used with the hydrocyclone separator.

7.3.2 Maintenance of a hydrocyclone separator

The equipment supplier or consultant to the customer should produce the maintenance schedule for the customer on a site specific basis. The schedule should include:

- the maximum instantaneous flow rate
- the type of pump to be used with the hydrocyclone (eg. diaphragm) and its rate
- the programmed recycle time
- oil skimmer type.

Maintenance should include:

- total pump out and cleaning of the influent pit
- cleaning of the floating suction device and filter screen
- emptying and cleaning of the line filter
- cleaning of the “reject orifice”
- cleaning and checking of the pump level control devices
- removing debris from level probes and the strainer basket
- collected oil should be pumped out when the oil level approaches the full mark or during routine pit cleanouts by using the DECC licenced contractor.

7.4 Vertical gravity separator

A vertical gravity separator (VGS) operates by controlling fluid velocity and pressure allowing high density contaminants to fall into a sludge retaining area and oil droplets to rise.

As liquid enters the VGS through the inlet leg, it flows up through a low pressure zone in the middle of a multi-leaved, spiral, inverted V shaped baffle known as a Spiral Pack (SPAK). Free oil and impurities float to the surface and overflow into a “Slops Tank”. This central low pressure zone creates a flow up through the centre and down the inside of the main body.

As the fluid flows down the sides, due to numerous directional changes non-emulsified impurities fall out of suspension and are drawn to the low pressure core. Heavy contaminants fall into a sludge holding area at the base where they are regularly “drained off” through a valve. Low density impurities move to the centre and rise to the surface, overflowing into the “Slops Tank”. Treated effluent flows from the “Cleaned Water Outlet”.

The VGS should be sized according to the wastewater flow rate. Sizes available are from 1000 to 3000 L/h.

7.4.1 Skimmers

Wastewater should be collected in a pit and then pumped to the top of the VGS. To facilitate the removal of oil floating on the surface of the pit a fixed or floating skimmer should be included as part of the system. This ensures a clean pit at all times and eliminates the build up of odour from oxidised oil in the pit.

7.4.2 Pumps

Diaphragm or Progressive Cavity pumps are used with the VGS to minimise emulsification of oily wastewater.

7.4.3 Maintenance of a vertical gravity separator

The equipment supplier or consultant to the customer should produce the maintenance schedule for the customer on a site specific basis. The schedule should include:

- The maximum instantaneous flow rate.
- The type of pump to be used with the VGS (eg. diaphragm) and its rate.
- Oil skimmer type, if applicable.

The spiral pack (SPAK) shall be inspected as recommended by the equipment supplier and must be replaced, if any swelling or cracking occurred.

Maintenance should include the following procedures:

- total pump out and cleaning of the influent pit
- breaking of surface sludge encrustation build-up at the top of the unit by rotating SPAK
- removal of sludge attached to the continuous spiral pack
- removal of sludge from the bottom of the unit
- cleaning of strainer and removal of debris
- inspecting oil, sludge and water outlets for blockages
- maintaining a pump according to manufacturer's recommendations.

7.5 Discharge from service station covered forecourt areas

Discharges of wastewater and run-off from service station refuelling areas may be permitted, provided the following pre-treatment requirements are adhered to. The forecourt area is to be swept prior to washing and cleaning compounds are to be compatible with the wastewater pre-treatment system.

The forecourt area must be roofed and graded to exclude rainwater. Wastewater must drain into a collection well. The collection well should have minimum capacity of 750L, a sloping bottom, an expanded grill inspection aperture in the chequer-plate lid and a high level indicator fitted with an alarm switch.

A pump transferring the waste to an oil interceptor/ separator should have a manual start switch with a low level stop. The pit must be checked for petrol and the pump is not to be started if petrol is detected in the pit. In this case, the pit content must be pumped out and disposed of to an appropriate waste disposal facility and not be discharged to the sewerage system.

Wastewater must be treated in an oil interceptor/separator system sized according to the influent flow rate. An oil separator with an oil collection container and sludge withdrawal system should be located within a bunded and roofed area. The sludge and pre-treatment plant bund area should drain back to the collection pit. Schematic arrangement for service station wastewater control is shown in Figure 9.

System Schematic for Service Station Wastewater Control from Workshops and/or Covered Forecourt Areas (New Installations and/or Major Refurbishments)

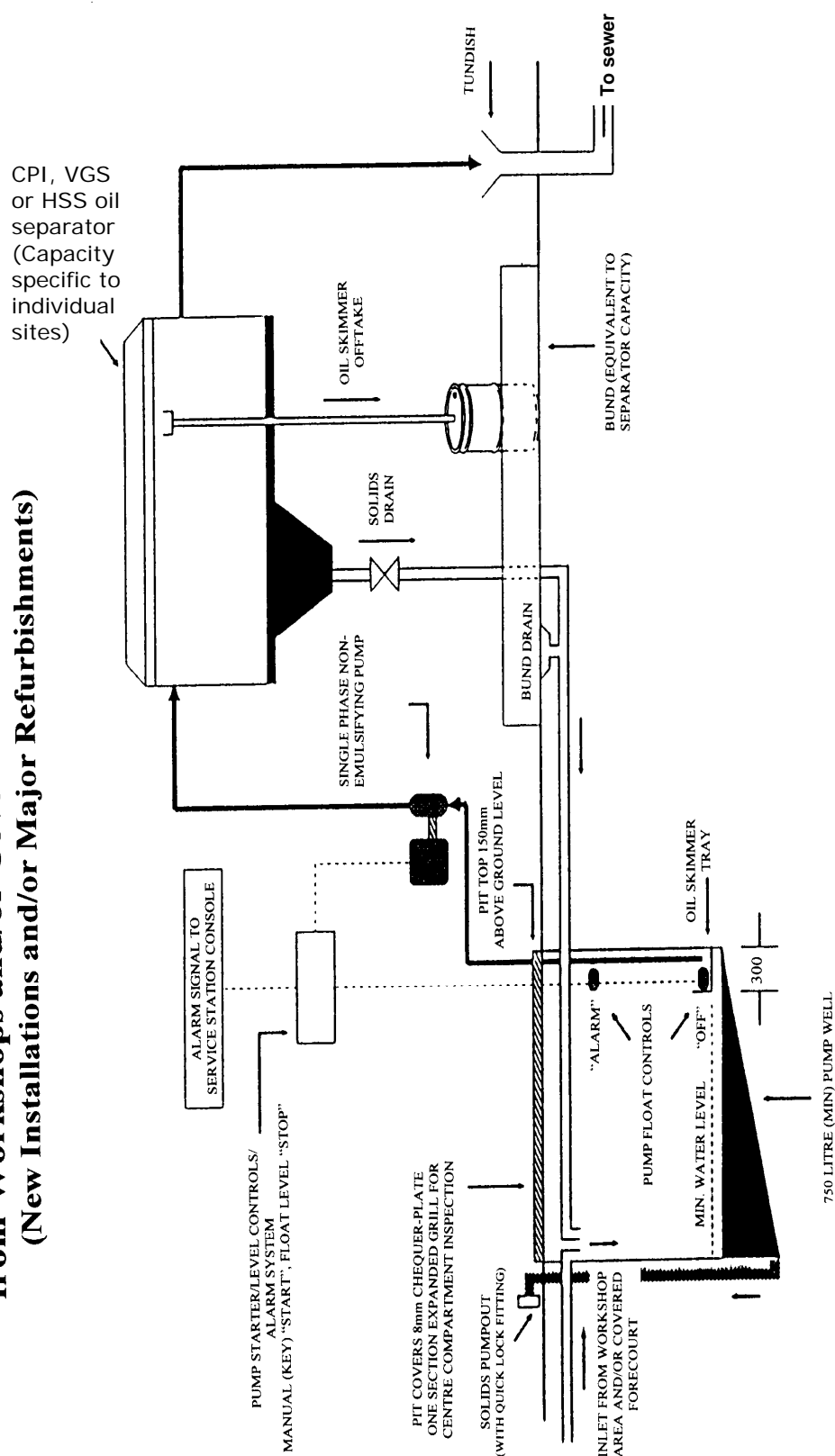


Figure 9: System schematic for service station wastewater control

8 Stormwater contamination

8.1 Roofing of liquid trade waste generating areas

As mentioned in section 3.2.2 on page 240, an area where trade waste activities are carried out or pre-treatment equipment is installed must be roofed to prevent the ingress of rainwater to the sewerage system. For a structure where one or more sides are open to the weather, 10 degrees from the vertical of overhang of the roofing is the minimum acceptable cover.

To ensure that no surface stormwater can flow onto the liquid trade waste generating process area a bund at least 150 mm high or speed hump 75 mm high around the area is necessary. On the upper side of the area a stormwater drain alone is not adequate as stormwater will often flow over the grate and enter the area. The overall surface water flow across the site has to be considered and the height of the bund/speed hump may have to be increased to prevent stormwater flow onto the process area.

This design might allow rainwater to blow under the roof. The roof should overhang by an amount not less than that shown in Figure 10 below (this is not to imply that the roofing must be slanted at 10 degrees to horizontal).

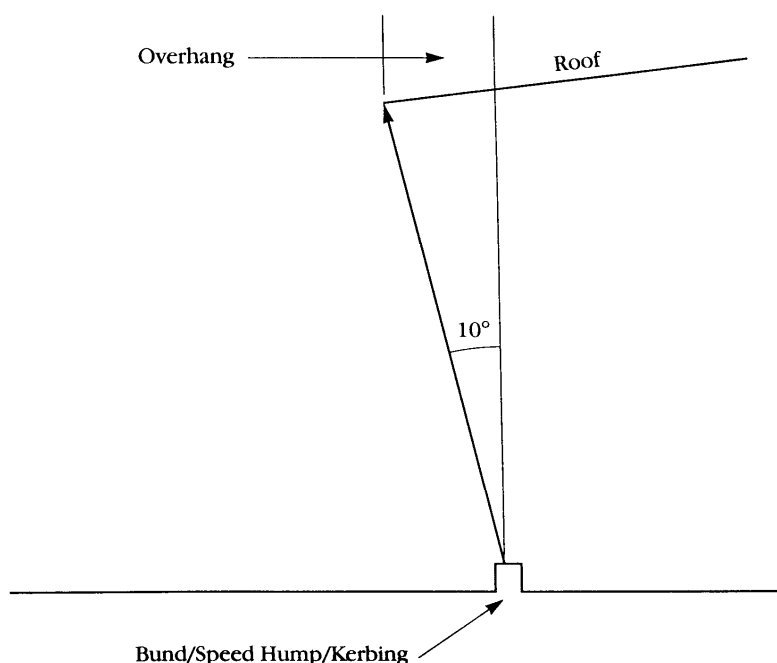


Figure 10: Roofing of trade waste areas

8.2 Methods of exclusion of stormwater

From a waste management point of view, the prevention of storm water contamination is the preferred solution. Areas that are likely to be contaminated should be bunded and roofed over. Spillage of chemicals, products, etc. should be recovered or cleaned by dry methods, so either system, sewerage or stormwater drainage, is not contaminated.

8.2.1 Separation

Segregation of dirty and clean areas is imperative for good waste management. Areas that are likely to become contaminated are those areas where activities such as storage, handling or transferring of liquid or solid materials occurs. It is essential that “dirty” areas be separated from “clean” areas to minimise pollution and the volume of wastes to be treated.

Segregating clean and contaminated areas can be achieved by selective changes in surface gradients, the use of ‘speed humps’ or by the use of diversion and collection drains.

8.2.2 Bunding

The bund is designed to contain spillages and leaks from liquids used, stored or processed above-ground, and to facilitate clean-up operations. As well as being used to prevent pollution of the receiving environment, bunds are also often used for fire protection, product recovery and process isolation (refer to section 3.2.2 on page 240).

8.2.3 Collection drains

Collection drains should be constructed to ensure ease of inspection and cleaning. The gates should be easily removed and the pit should be wide enough, so that accumulated solids can be easily removed.

8.2.4 Diversion drains

Diversion drains such as “spoon drains” can be successfully used to divert stormwater away from contaminated areas, minimising the volume of water over the contaminated area.

8.2.5 Speed humps

Speed humps can be used to segregate potentially contaminated area from clean areas and as a form of containment where relatively small spills are likely to occur or a more substantial structure is not practicable.

8.3 Open areas

Some liquid trade waste generators are submitting applications to accept a first flush storm water into a trade waste pre-treatment facility and then to the sewerage system.

Groundwater and stormwater are prohibited from being discharged into the sewerage system. The capacity for such flows is not provided in the sewerage system. Therefore, LWUs do not generally accept the discharge of first flush storm water into the sewerage system.

Acceptance of limited quantities of first flush water from liquid trade waste areas may be considered only if roofing cannot be provided because of safety or other important considerations. This could only be accepted in special circumstances and would be decided in each individual case. The proposed area must be sealed. The discharge from the unsealed area is not allowed. The first flush water has to be collected in a holding tank, treated in accordance with licence conditions, and discharged at a controlled rate after the rain has stopped. The area must be kept clean and should be hosed down after each use.

The following information needs to be provided to consider the acceptance of first flush stormwater run-off to the sewerage system:

- Reasons why the area cannot be roofed
- The size of the open area requested for consideration of first flush to the sewerage system
- Whether the area is sealed
- The estimated volume of the first flush in m³
- Information on rain gauging and stormwater diversion to the drainage system after the first flush is accepted.

8.3.1 Installation requirements

It is generally required that all open area must be raised or contained by a bund. Also, it must have controls incorporated into the design to ensure that only the predetermined volume of stormwater is discharged into the sewerage system.

Schematic layout of a first flush system is shown in Figure 11.

The capacity of pit “C” (to top water level) should be equal to the volume of stormwater collected in a catchment of the open area (in m²) covered to a depth of 10 mm. The contents of pit “C” should be pumped to the sewer via pre-treatment facility. The pump from pit “C” should be electronically interlocked to an external control device to ensure that the pumped discharge ceases during wet weather.

Examples of external control devices:

- A flow switch fitted on a dedicated water supply to the washing system that will allow the pump to operate only whilst the washing system is in use. The washing system must not be used during wet weather.
- A rainfall gauging device set to isolate the power supply to the sewer discharge pump after pre-determined level of rainfall has been registered. Alternatively, a manual activation of the pump would be acceptable for small installations. Washing shall not be carried out and the pump shall not be activated when it is raining.

8.3.2 How first-flush system works

When it rains, run-off generated in the contaminated area should be directed to the first-flush collection pit via a silt arrestor. Once the pit is full, any excess stormwater run-off will then be diverted to the stormwater system via the by-pass drain.

When the rain has stopped, the pit should be cleaned out and made ready to collect any spillages that may occur in the “dirty” catchment area. It is important that during periods of dry weather the pit be maintained at the minimum designed capacity.

Stormwater collected in the pit should be directed to trade waste treatment facilities. The first flush run-off must not be pumped to the sewerage system sooner than one (1) hour after the cessation of rain.

Any wastes collected in the system such as sediments or oil should be disposed of in the same manner as wastes from pre-treatment facilities.

FIRST FLUSH COLLECTION AND STORMWATER BYPASS SYSTEM SCHEMATIC LAYOUT ONLY

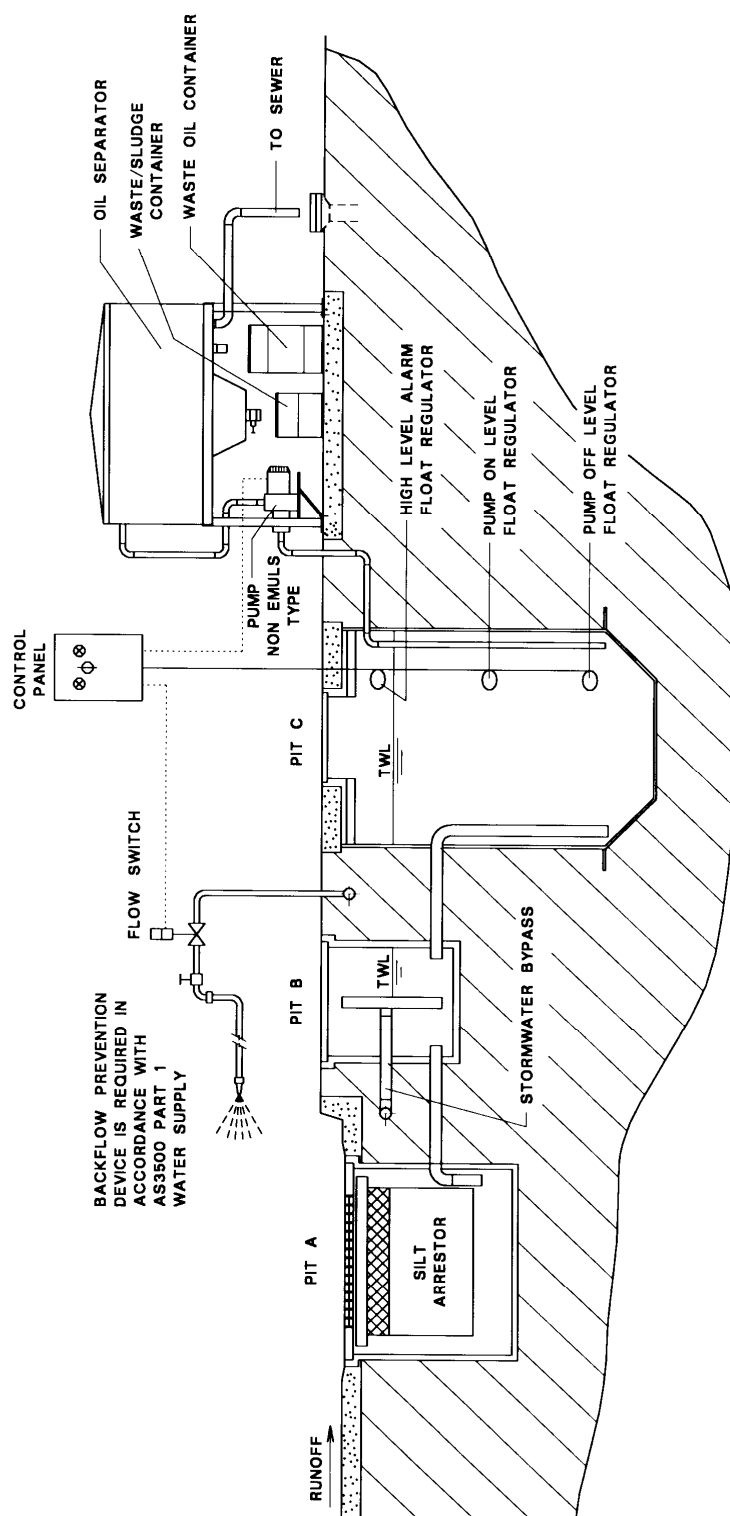


Figure 11: First flush collection and stormwater bypass system

9 Housekeeping practices for kitchen and oily waste

The cleaning frequency of a treatment facility is governed by the quantity of accumulated waste, it is therefore in management's interest to ensure minimal waste is disposed into the facility. The following housekeeping tips may be helpful in training staff and achieving better results from a treatment facility.

If these suggestions are followed, the pump out frequency can be reduced, blockages in drains may be avoided and money can be saved. The correct management of liquid trade waste and proper maintenance of treatment facilities will result in a cleaner environment.

9.1 Kitchen type waste

- Use water sparingly, efficiently and recycle whenever possible
- Use aluminium foil to collect grease and oil spills around stoves, fryers etc
- Use minimal grease and oil for cooking
- Use detergent sparingly
- Place screens on sink drains to keep solids from washing down the drain
- Scrape cooking utensils and plates before washing
- Place a container under the outlet of cooking vats used in BBQ, charcoal, rotisserie appliances to collect fat.
- Ensure the dishwasher is full each time it is used
- Rinse dishes in a plugged sink rather than under running tap
- Use a broom or mop for washing floors, not the hose
- Do not put coffee grounds or tea leaves down the sink
- Collect oil and grease and dispose of separately by the DECC authorised oil and fat recycler
- Store fresh and used oil and cleaning chemicals in an area where any spillage cannot drain into the sewerage system.

9.2 Workshops, garages, service stations etc

- Ensure that the wash area is covered and bunded to secure all wastewater. Connect all drains to pre-treatment facilities
- Forecourt area must be roofed and graded to exclude stormwater
- Dry sweeping/cleaning before hosing
- Use water sparingly. Install fine spray nozzles on a spray system to reduce water consumption
- Use high pressure hoses or hoses with trigger nozzles for washing
- Keep the 'wet area' to a minimum
- Reuse wash water whenever possible
- Reduce the amount of detergents used

- Use “Quick Break” detergents that are certified for performance by the supplier. This will help remove grease in the pre-treatment stage and can also reduce the level of petroleum hydrocarbons
- Use cleaning products that have the pH of 7-10. Metals can dissolve if the pH of waste is higher or lower. In this form they are very difficult to remove without expensive pre-treatment and can cause damage to the environment
- Use drip trays to catch oil. Plug any parts that tend to leak
- If parts are washed in a solvent cleaning bath, it should be done in a bunded area, so solvent can be collected and disposed of separately
- Ensure that kerosene, petrol and solvents are not discharged into the sewer even in small quantities. Drain parts over the solvent bath before hosing down
- Drain oil and fluids from engines, gear boxes and other parts, before dismantling into storage containers. Do not discharge oil into the sewer
- Do not discharge caustic bath and rinse into the sewerage system
- Do not use caustic as a cleaner. This raises the pH of the waste
- Store oil, solvents, cleaning chemicals in a bunded area not connected to the sewerage system. Arrange for collection of oils, grease and solvents for recycling by a DECC licenced contractor.

10 Waste tracking systems

To ensure adequate maintenance and de-sludging of grease traps and to prevent illegal dumping of the pump-out waste to the sewerage system or the environment, the LWU need to implement a waste tracking system. The available waste tracking systems are discussed below.

10.1 Wastesafe system

This system was developed by Sydney Water in conjunction with the NSW EPA (now DECC). The system uses a bar coding system to control the collection, transport and disposal of grease trap waste.

Under the Wastesafe system each company with a grease trap is issued with a booklet of bar-coded dockets. The dockets show how often the waste must be removed from the grease trap and are used to keep track of the pump out waste.

Grease waste pump-out contractors are issued with bar-coded vehicle identification cards. When licenced contractors empty the grease trap, they collect a bar-coded docket from a trade waste discharger and hand in this docket together with the bar-coded vehicle card at a waste disposal facility where all bar-codes are swiped in a special reader.

Each service event is registered by a transaction manager and links to a database. The volume of waste delivered by the tanker is measured and then checked whether it is matched to the volumes on dockets collected from individual dischargers.

The Wastesafe computer automatically checks that grease arrestors were serviced in accordance with the schedule and that all the waste was delivered to a waste disposal facility. A report on compliance with the required cleaning schedule and on irregularities, if there are any, is provided to the Water Authority.

The system has been now developed to include a hand held scanner, “palm pilot”, which will be used by a transporter to read barcodes permanently fixed to a grease arrestor.

The Wastesafe system is currently managed by Agenda Systems. Agenda Systems also offers “Wastelink” - its own range of waste management, monitoring and tracking system products which can be used by Local Water Utilities.

More information is available at website: www.agendasystems.com.au/wastemanagement

10.2 WasteTrack™

This is an electronic waste tracking service developed by GPS Online Limited originally for Queensland State Development and Environmental Protection Agency. WasteTrack™ combines Global Positioning System (GPS) satellite locating, wireless data communications and database technologies to provide complete monitoring of waste collection and transport.

A transporter vehicle is fitted with an automated tracking and operations monitoring device and sensors to detect load and/or unload events. The monitoring unit records locations where waste loading and unloading occurs. This information would then allow the LWU officer to analyse the movements of the transporter and establish whether the liquid waste is picked up from an approved liquid waste discharger and unloaded at an appropriate facility and that different wastes are not mixed (eg. septic tank effluent and grease trap pump-outs).

Data from the vehicles is uploaded automatically by a wireless link to the WasteWatch™ Centre which processes the information looking for exceptions. The centre is managed by the company and users manage their own data and events. WasteTrack™ provides a trade waste management database including information on generators’ and transporters’ activities, generates reports on compliance, overdue collections and alarm events, if any. The system can be expanded to include any other pump-out waste, eg. septic tank waste.

Further information can be obtained from GPS Online Solutions on 1300 665504.

10.3 LWU waste tracking systems

Some LWUs are operating their own waste tracking system, either manual or electronic.

10.3.1 Electronic tracking system

Liquid waste transport contractors are pre-issued with bar-coded personal identification cards and customer identification cards. These cards are scanned and the waste is measured at the sewage treatment works after each delivery. The contractor then electronically sends the delivery information directly to the Liquid Trade Waste Officer's desktop computer for instant processing. Septic tank and pan waste can be recorded similarly.

10.3.2 Manual tracking system

This is a multi-docket waste system and it usually involves a book of multi-coloured or numerically coded dockets supplied to either licenced waste transporters or to waste generators.

The multi-docket system relies on three parties completing their sections of the same docket: a waste generator, a waste transporter and a waste receiver. The docket book is provided to a transporter who gives one copy to a waste generator after servicing the facility. The transporter records date and volume of pump-out waste. The waste transporter submits duplicate and triplicate sections of the docket at a receival facility and either the contractor or the receiver sends it to the LWU. Some LWUs require that an output valve be locked, so the waste cannot be unloaded outside the receival facility. Provisions should be made at the receival facility for measurement and recording the volume of waste delivered by the transporter.

This system relies upon the waste generator, the waste transporter and the operator of a licenced waste receival facility all completing their sections of the docket and submitting their respective parts to the LWU. The LWU officer then has to match the differently coloured or numerically coded copies of multiply dockets and determine that the waste was collected and transported to a licenced receival facility. A computer program can be used for data matching and checking compliance with the required schedule.

11 Cooling pits

A cooling pit is required to be installed where a trade waste discharge is likely to exceed 38°C, eg. laundry, boiler blow down, autoclave units, etc. Incoming hot waste is cooled down by mixing with cool wastewater already in the pit and retained there until the temperature reaches the acceptable level. The size of the pit should be sufficient to allow the temperature to drop and can be determined by the following formula:

$$V = V_H + V_H \times F \qquad F = \frac{T_H - T_A}{T_A - T_C}$$

Where,

V = the minimum volume of the pit below the water level

V_H = estimated maximum volume of hot water discharged at one time

F = the estimated factor

T_H = maximum temperature of hot water discharged into the pit

T_C = assumed temperature of cold water in the pit, say 20°C

T_A = temperature of waste allowed into the sewer, eg. 38°C.

12 Photographic waste

The photographic Industry Uniform Regulations for the Environment (PURE) must be followed.

Dischargers of photographic wastes (using non-digital photographic process) have a choice of either having all rich silver bearing waste transported from site and only discharge rinse and sink waters, or discharge all waste to sewer. In each case the appropriate treatment will apply.

A balancing tank/pit is required for all photographic waste except for waterless minilab and small applications as shown in Table 3 on page 280. The minimum size of the balancing tank/pit is as shown in this Table. Wastewater from the silver recovery unit and from the film processor unit plus the sink waste from the processing area should be connected to the balancing tank. The tank should be accessible for sampling and the silver level in the dilution tank should not exceed 5 mg/L.

The diagram (refer Figure 12) details the flow direction.

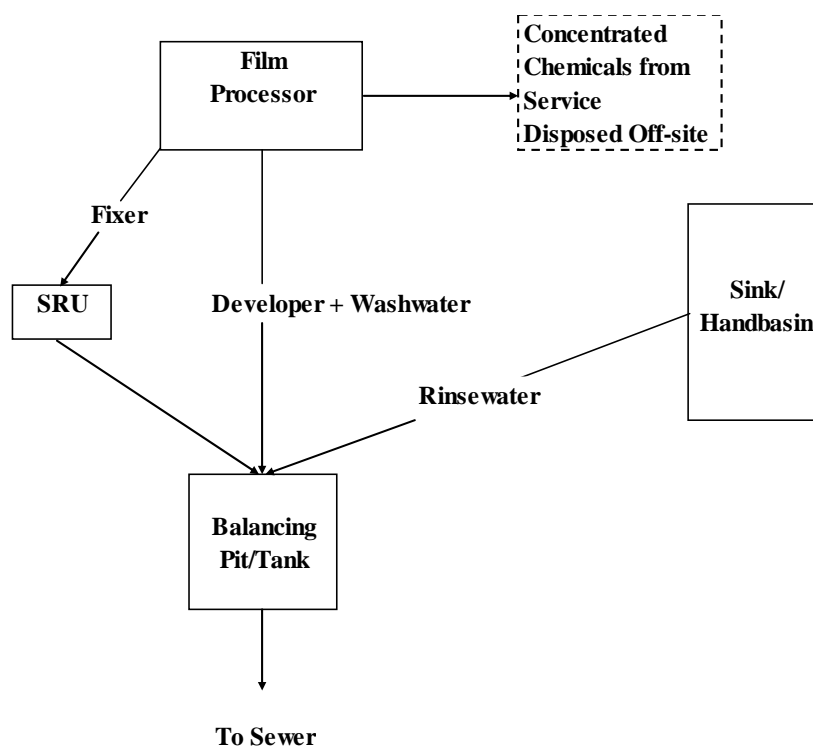


Figure 12: Photographic waste – flow diagram

All silver bearing waste transported from the site must be treated in a silver recovery system. The unit should have a PURE registration number. The effluent from a silver recovery unit should not contain more than 50 mg/L of silver. The supplier of the silver recovery system should provide a written guarantee of the system with regard to the 50 mg/L requirement. The unit should be maintained and serviced in accordance with warranty conditions.

The concentrated chemicals collected at the time of servicing the processor must not be discharged to the sewerage system. They should be collected and disposed of off-site to an appropriate disposal facility.

This requirement does not apply to secondary schools. It is recognised that operating a silver recovery unit successfully is not practical at the school environment. Storage of waste for off-site pre-treatment and disposal is not recommended due to risks associated with handling highly corrosive liquids.

Where all “spent” solutions are transported from site, the waste generator should provide the written evidence to the LWU. The waste should be removed by a DECC authorised transporter. Wash water is only to be used when film or paper is being processed. Chromium based system cleaners are not permitted.

Wastewater should not come in contact with copper pipes. Drainage of photographic wastes to copper pipes will only be permitted after the owner of the property acknowledges in writing an awareness of the risks to the drainage system and accepts them.

Table 3: Sizing of balancing tank for photographic waste

Type of Process	Size
Waterless minilab	n/a
Water wash minilab	100 L
Photographic Lab	200 L
X-ray (Hospital)	200 L
X-ray (Medical centre)	100 L
X-ray (Radiologist)	200 L
X-ray (Dental)	n/a
X-ray (Veterinary)	n/a
Graphics arts large	200 L
Graphics arts small	50 L
Tray work/manual development	n/a
Secondary schools	General Purpose or Balancing Pit
In other cases a minimum of 1 hour detention should be used.	

* If provided for other waste stream, eg. laboratory, otherwise a balancing pit is not required.

13 pH correction

Definition

pH stands for "potential for Hydrogen". This is a term used to express the acidic or alkaline condition of a solution and is defined as a negative logarithm of the concentration of hydrogen ion in the solution.

The scale runs from 0 to 14, with 7 being neutral (the pH of pure water at 25°C). Alkaline solutions have a pH above 7 and acidic solutions a pH below 7.

The pH correction of liquid trade waste remains one of the most important pollution control measures. The effect of acidic and alkaline waste on the sewerage system was discussed in section 2 on page 236. Therefore, the pH correction of acidic or alkaline waste to within the acceptable range is a step often required before discharge into the sewer.

It should be noted that charges will be applied if trade waste is discharged with the pH outside of the approved range (refer to section 3.7.7 on page 190 of Appendix D).

There are some other reasons for adjusting the pH of wastewater, such as:

- precipitation of metals contained in the waste stream to meet the acceptance limits for discharge to the sewer
- carrying out biological treatment of waste on-site as biological processes are adversely affected by the pH outside the range of 6 to 9.

13.1 Alternatives to chemical addition

13.1.1 Control by mixing wastes

In some situations alternative arrangements to the installation of a pH correction system may be acceptable.

pH can be controlled by holding a portion of the waste stream with the pH outside the required range in a separate tank and transferring it at a controlled rate to a balancing tank/pit that holds waste within the acceptable range. This procedure will be effective if there are only occasional excursions outside the specified pH range. pH may be also controlled by mixing acidic and alkaline process waste streams. This process requires sufficient equalization capacity to achieve the required neutralization. In practice, a pH correction system involving chemical dosing would be required in most cases to control the liquid trade waste discharge within the acceptable range.

13.2 Practical problems of neutralisation

In order to neutralise a solution it is necessary to add a base or acid to achieve an acceptable pH value for discharge. The pH control is complicated due to a logarithmic function of concentration, this means that a solution having a pH value of 4 is having 10 times more hydrogen ions than a solution with the pH of 5. For example, adding a certain amount of base to an acidic solution having pH of 3 will increase pH to 4. Only about one tenth of the first amount of base is needed to bring this solution to pH of 5 and only one-hundredth to achieve pH of 6.

At high and low pH values, large amounts of base (or acid) are needed to move the pH value. Near pH of 7 very small amounts will move the pH rapidly. To obtain precise pH control a very sensitive control system is required. If this sensitivity is unavailable, a significant overshoot in the control of pH may occur.

Additional problems occur when the wastewater is highly variable in regard to pH and/or flow. The neutralisation system should then compensate for these fluctuations. A pH control system can be either manual or automatic operation. The above discussion explains why manual addition can be time consuming and ineffective.

It is necessary in many cases to provide a dual control system in order to achieve accurate neutralisation. The first unit with large addition volumes should raise the pH value to, perhaps, pH 4 and a subsequent unit adding smaller amounts of alkaline reagent to achieve the pH within the specified range. Another alternative is to provide a large attenuation tank to balance over or under reagent addition.

13.3 pH correction system

pH correction is normally carried out in a tank or a pit with provisions for mixing. A pH control system basically measures the pH of the solution and controls the addition of a neutralising agent on demand to maintain the effluent within acceptable pH limits.

pH correction can be achieved either in a batch or in a continuous flow through a system. As a rule, trade waste pre-treatment plants where volumes and flow rates are high use continuous flow proportional systems.

13.3.1 Batch treatment

This is an acceptable pH correction method in situations where flow is irregular and relatively low. Wastewater is collected and treated in a neutralization tank that has provisions for reagents dosing, adequate mixing and pH testing. After settling and checking the pH the supernatant liquor is discharged to the sewerage system, sediments are removed and the tank is ready for a next wastewater batch.

A logbook should be maintained of the pH and the times of discharge along with any other relevant information, such as malfunctions of the system, any corrective actions and any other matter that the LWU may require.

13.3.2 Continuous flows

Monitoring

Continuous systems should have separate pH sensor probes for control of dosing reagents and for the final discharge to sewer. These systems should provide a continuous record of the pH of the effluent discharged to the sewerage system. Schematic arrangement of a pH-correction system is provided in Figure 13 on the facing page.

Integrity and safeguards

Considering a serious damage that acidic or alkaline waste can cause to the sewerage system, environment and health and safety of workers, a pH-correction system should be designed with appropriate safeguards in place.

The pH system requires a regular maintenance and calibration schedule. As pH sensor probes are particularly prone to clogging and failing, they need to be cleaned and calibrated regularly and should be fully replaced from time to time, the frequency should be specifically determined for each site.

A pH-correction system should incorporate an alarm system to alert the operator of any malfunction or the pH being outside the range permitted for discharge. Ideally, it should have an audible alarm and flashing light located in the area where it can be noticeable at all times.

Any automatic system should have the facility incorporated into the system to bypass the sewer if the pH is out of range. This can be achieved by a number of options:

By a solenoid valve that cuts off the flow to sewer (refer Figure 14 overleaf) to:

- recirculate the flow back to the correction tank to readjust the pH
- divert the flow to a holding tank for subsequent correction
- stop the flow completely
- By recycling and reuse
- By cartage off-site.

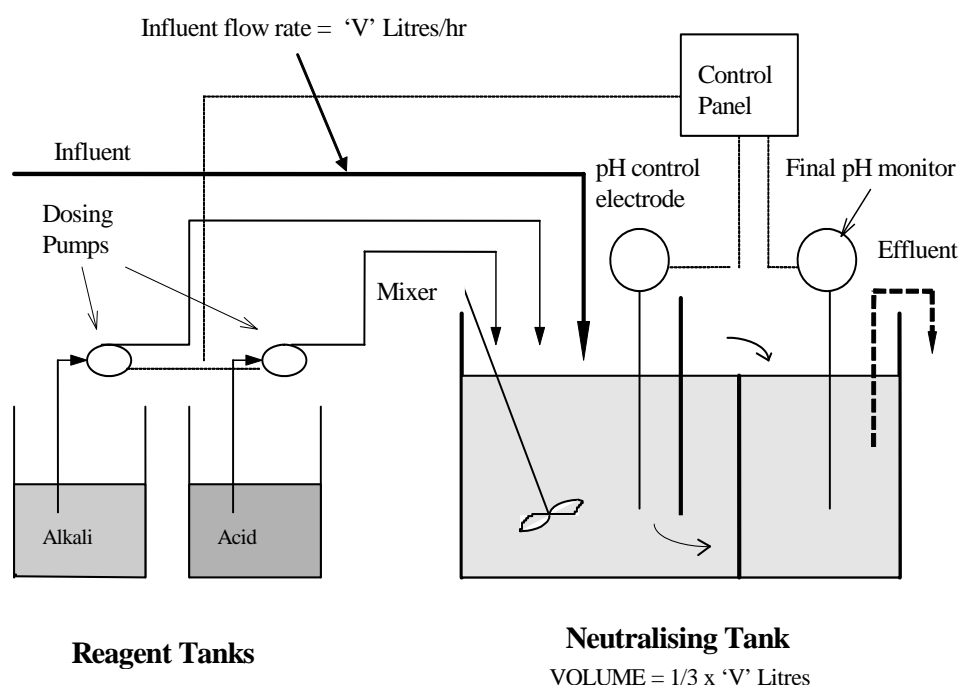


Figure 13: Schematic of pH – correction system

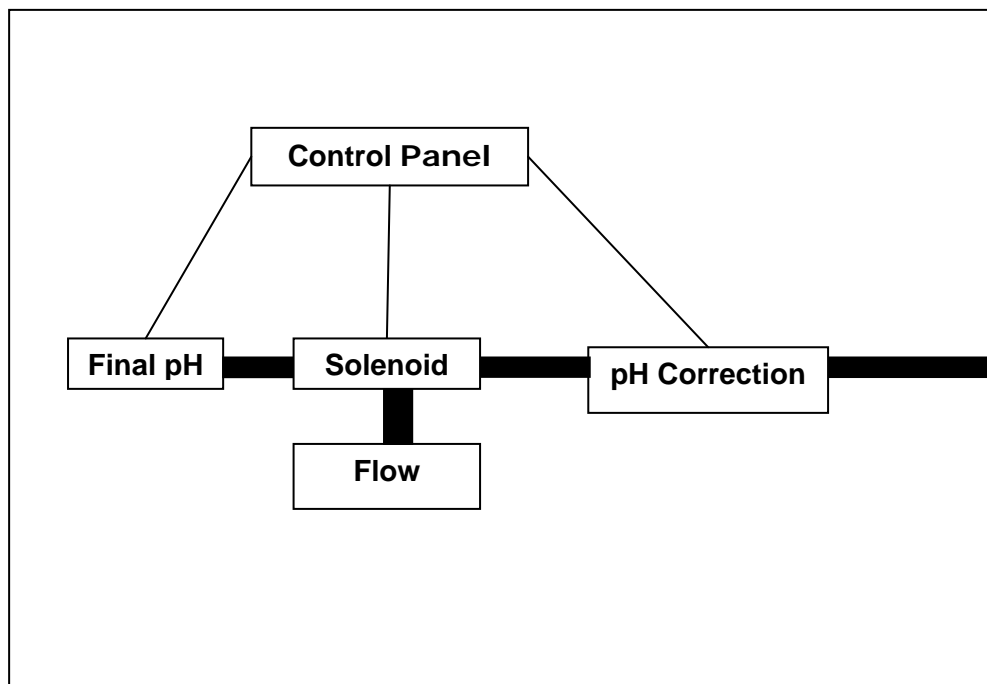


Figure 14: Schematic arrangement of sewer by-pass system

14 Sampling and flow measurement

14.1 Sampling point

An accessible sampling point should normally be provided at a point immediately after pre-treatment facilities. Alternative sampling points, for example at the point of sewer connection, may be specified and agreed to by the Local Water Utility and the discharger. However, it should be at a location that excludes domestic wastewater generated on the premises. It is important to ensure that the sample is representative of the discharge to reduce the risk of obtaining misleading information which may consequently result in incorrect charges or other actions applied to a discharger.

If a site has a few sources of trade waste, eg. X-Ray and kitchen waste in a hospital, it is preferable to have separate sampling points, as the waste is tested for different parameters. The sampling point for combined waste can be accepted, provided domestic sewage is excluded.

A sampling point should ideally be selected immediately downstream of a major change in direction, at a point where the flow is well mixed, so that the sample will be representative of the actual discharge. It should not be located at a position such as a long horizontal run where it is possible for the flow to separate into layers.

The sewer inspection box at the sampling point should be a minimum of 150 mm in diameter and appropriately sealed, eg. with a rubber ring and screws.

Grab sampling can be achieved by using a wide mouthed plastic sampling jar of about 1 litre capacity securely strapped to the end of a wooden pole, alternatively, a dipper with a nylon cord attached can be lowered into the waste. Care should be taken not to scrape the walls of tanks, gauging pits, etc. and dislodge unrepresentative matter into the sample.

The LWU may require a discharger to install a system that allows to obtain a flow weighted composite sample.

14.2 Dye test

There may be instances where the LWU officer and/or the discharger may need to ascertain, whether specific waste streams or processes are actually connected to the liquid trade waste pre-treatment system and not directly discharging to the sewerage or the stormwater system. In these situations a fluorescent dye, such as Rhodamine-B (also known as fluorescein) is added to the pipework of concern or pre-treatment unit and examined for evidence of dye appearance.

In cases where the waste with the added fluorescent dye is discharged to the sewerage system, the receiving STW should be notified, so it would not be misinterpreted as illegal trade waste dump.

14.3 Flow measurement

14.3.1 Small dischargers

Where the daily discharge is up to 5 kL per day, flow measurement is generally not required. An appropriate discharge factor can be used to estimate the volume of waste from the metered water usage based on relevant information (refer to Appendix G on page 303).

In the case of premises where water is drawn from the town water supply for irrigation purposes, eg. a golf club, a check meter may need to be installed on the water supply line to the irrigation area. This meter should be read in conjunction with the main water meter to determine a percentage factor. This determination should be conducted over a timeframe that accounts for any seasonal or production variations.

14.3.2 Other dischargers

The LWU may require the discharger to:

- measure the volume and flow rate using the flow measurement system permanently installed
- install a flow measurement device on a temporary basis and obtain enough data to determine a factor for assessing the flow rate and volume.

The discharger should provide an approved primary measurement device and instrumentation to record an instantaneous flow rate (litres per second) and total volume (kL) on a continuous basis of the liquid trade waste discharge to the sewerage system where:

- i. the liquid trade waste discharge is not wholly generated by water obtained from the town water supply
- ii. a consistent relationship between water consumption and liquid trade waste discharge cannot be determined

- iii. restrictions have been imposed on either the instantaneous rate, the volume, or times of discharge
- iv. a condition of the approval/trade waste service agreement is that the discharger obtain flow proportional samples of the liquid trade waste discharge.

Where the conditions above (i to iv) do not apply, the LWU may install instrumentation on a temporary basis to establish a discharge factor. The LWU can re-check this discharge factor at intervals determined by the patterns of flow and the industrial process.

To exercise this option, the discharger should provide a primary measurement device (such as a gauging pit with a weir or flume fitted, an above-ground flume, an above-ground weir tank or an in-line flowmeter pipe fitting) and a suitable 240 volt AC power point.

Where a flow measurement system is permanently installed the following should be considered:

- A certificate of calibration should be submitted to the LWU at intervals of not more than 12 months for the flow measurement instrumentation to insure satisfactory accuracy
- All flow measuring equipment requires regular (usually daily) inspection and checking for cleanliness and zero drift
- The primary measurement device and instrumentation should, within practical limitations, be installed in a location that excludes the domestic wastewater generated on site
- Water meters are not suitable for liquid trade waste discharge because they are constructed of different materials and corrode in industrial effluent
- The use of Positive Displacement Flowmeters should be discouraged, especially in industries where suspended solids are very high and often lumpy, eg. in the food industry.

14.4 Flow measurement instrumentation

14.4.1 Inflow measurement

Water supply meters

For businesses in the commercial and industrial sector, fresh water meters used for charging purposes for incoming water can be also utilised for:

- testing for leaks within a site
- establishing a sewer discharge factor
- establishing a discharge factor for the liquid trade waste component only (refer to Appendix G).

Check meters

These types of meters can also be used as check meters (on incoming water supplies) at various points within an industry site to establish a discharge factor applied to the property fresh water meter or to assess the flow discharged to the sewerage system.

This type of procedure is limited to a number of situations depending on access to the water pipes and the configuration (exclude domestic supply), but is generally useful for:

- lawn bowls/golf clubs/landscaped areas (if not bore water) where a large amount of water is used in irrigation and not discharged to the sewerage system
- establishing water usage in cooling systems and boilers where the majority of water is evaporated and not discharged to the sewerage system
- establishing water used in product within a factory, such as, water used to top up spring water containers, soft drink manufacture.

14.4.2 Outflow (discharge) measurement

Electromagnetic flow meters

The principle of the meter is illustrated by the generation of an electro magnetic voltage in a wire moving in a magnetic field. If the wire is replaced by an aqueous liquid, then the voltage can be picked up by two electrodes in the wall of the pipe. The voltage will depend on the flow velocity. The meter is intended for use in a full pipe installation and is not affected by lumps, fibrous materials or high suspended solids concentrations. However, it may be affected by grease in the flowing liquid depositing on the surface of the electrodes.

Ultrasonic flow meters

The operation of these units is based on ultrasonic reflection. The meter computes the transit time and uses the speed of sound in air to calculate the liquid level or flow rate. These flow meters can be used:

- i. In closed pipes where measurement can be made from outside the pipe. In this instance, the sound waves are reflected from particles, bubbles etc in the flowing liquid. The change in sound frequency caused by the movement of particles in the liquid is detected and converted to velocity of the flowing fluid. The equipment can be arranged to operate without contact with the fluid or without any penetration of the pipework. This is a 'Doppler' flowmeter.
- ii. In open-channel where the meter measures flow rate with a primary measuring device (weir or flume) or other open-channel flow arrangement where there is a known relationship between liquid level and flow rate. The ultrasonic level sensor mounts directly over the flow stream. The flow meter measures level by transmitting an ultrasonic pulse towards the liquid surface and then measuring the time it takes for the echo to return. The flow meter electronically converts the level reading into a flow rate. The flow meter also provides flow-related output signals that can be used for:
 - giving signal to a sampler to take flow-proportional samples
 - transmitting level and flow data to an external device on a serial communication loop.

Ultrasonic flow meters can give incorrect readings if there is a high residue of foaming in the waste stream, that builds up in an open channel gauging pit. The ultrasonic waves tend to bounce off the foam thereby giving a false high reading.

Inappropriate location of a flow sensor relative to a primary device (weir or flume) and/or to the maximum flow level are common reasons for incorrect measurement.

Paddle/rotor/turbine flow meters

Paddle meters consist of a paddle wheel which rotates in a channel as the liquid flows through it. The faster the liquid flows, the faster the paddle rotates.

Turbine/Rotor Flowmeter are similar to paddle meters except that they are full pipe flow measurement in a waste stream. Flow causes the rotor to spin and induces electrical pulses in the coil, that are transmitted to the flow conversion module for recording and display. These units are not suitable for wastewater containing fibrous matter (eg. paper mill effluent, laundry waste, textile manufacturing etc.).

Positive displacement flow meters

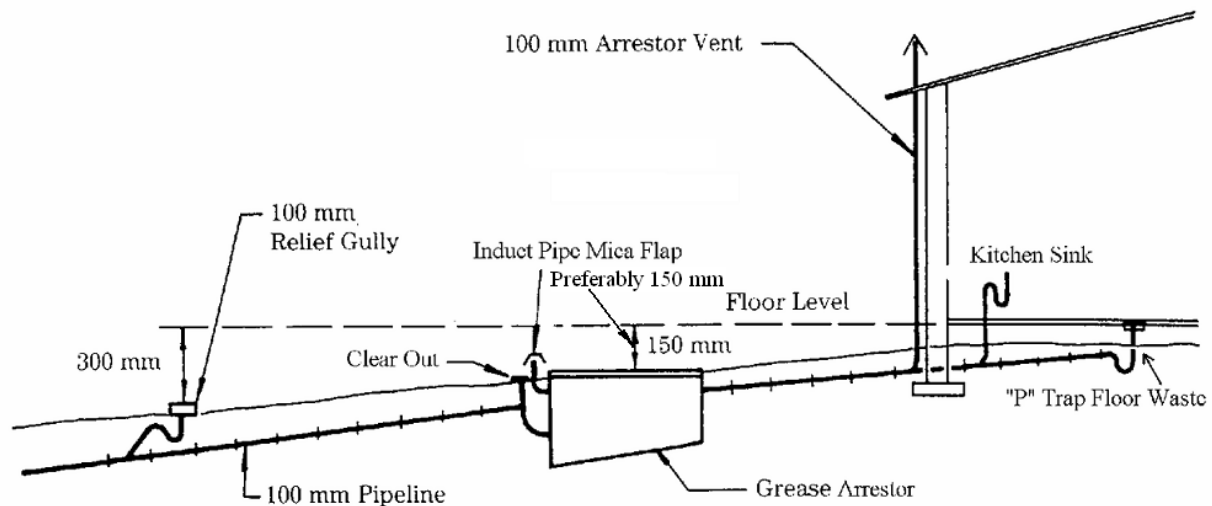
Positive displacement flowmeter repeatedly entrap fluid to measure its flow. Entrapment is usually accomplished using rotating parts that form moving seals between each other and/or the flowmeter body. In most designs, the rotating parts have tight tolerances, so these seals can prevent fluid from going through the flowmeter without being measured (slippage). When more fluid is flowing, the rotating parts turn proportionally faster. The electronic transmitter processes the signal generated by the rotation to determine the flow of the fluid. The flowmeter should have a mechanical register that show the total flow on a local display.

Damaging the sealing surfaces by abrasive or dirty fluids will increase slippage and degrade measurement accuracy. Gas bubbles need to be removed from liquid flow streams when using positive displacement flowmeter, as flow measurement will appear to be higher than the actual flow. For these reasons positive displacement meters are not suitable in trade waste applications where such conditions are present.

15 Liquid trade waste plumbing and drainage connection guidelines

Trade waste pre-treatment equipment must be installed in compliance with the Plumbing and Drainage Code of Practice.

The following Figures 15 to 28 are to be used as a guide only and do not override the provisions of the *NSW Code of Practice Plumbing and Drainage 2006*, *Australian Standards National Plumbing and Drainage Code AS3500, Part 2, Sanitary Plumbing and Sanitary Drainage* and Local Authority requirements.



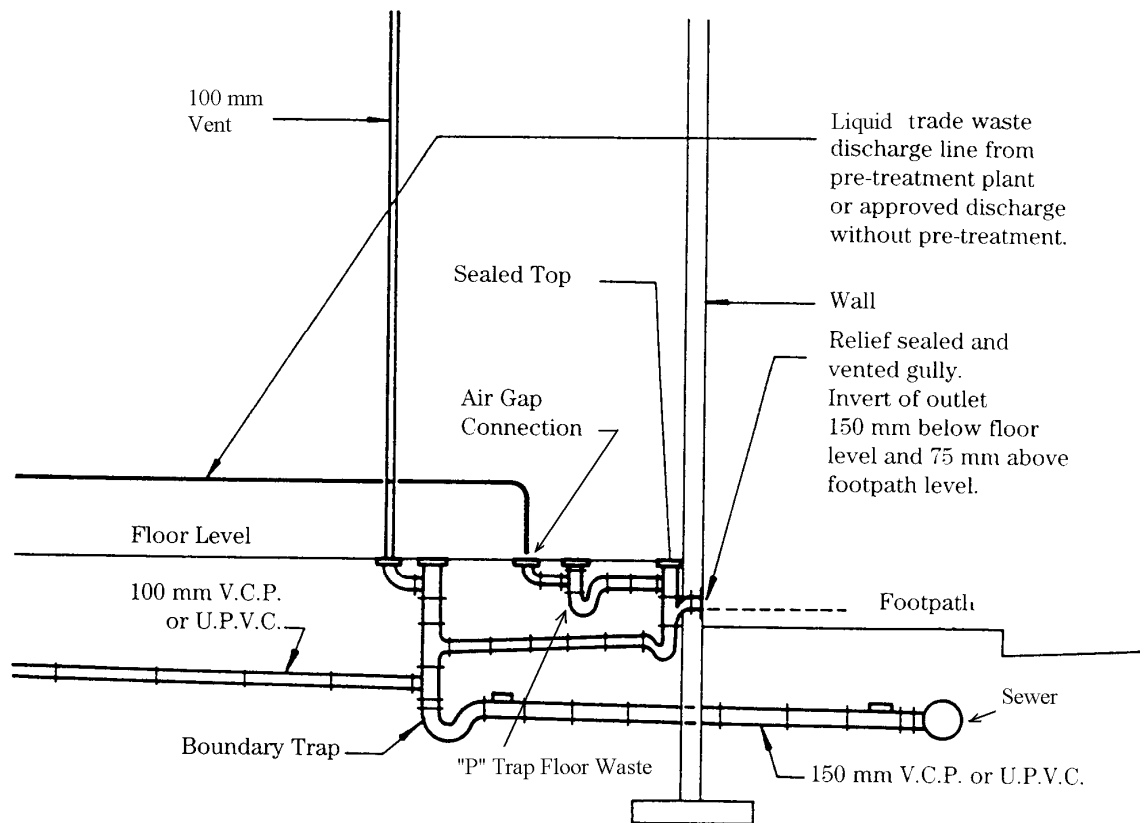
A gully is required in addition to the Grease Arrestor. The Grease Arrestor is not to be used as a relief overflow point.

A reflux valve may be required to protect the internal fixtures if: (a) the difference in levels between the overflow level of the lowest fixture and the top of the relief gully is less than 150 mm. (b) the soffit requirements in relation to sewer cannot be met. Refer New South Wales Code of Practice Plumbing & Drainage Rule NSW 4.2.1.

Gully Heights - A.S. /NZS 3500 Part 2
Clause 4.6.6

Figure 15: Grease trap installation relative levels

Preferable drainage layout

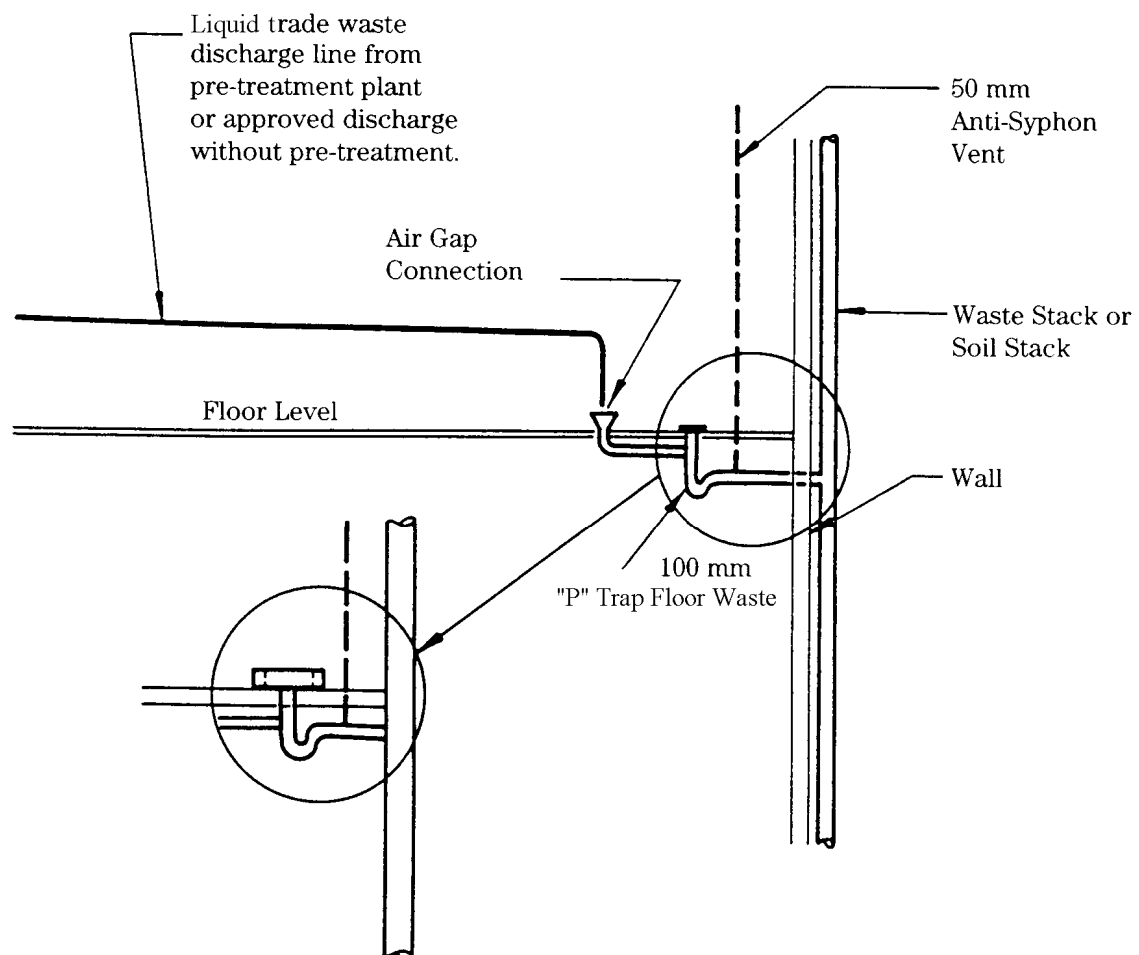


Drainage Connection

A.S./NZS 3500, Part 2
Clause 4.6.6

Figure 16: Liquid trade waste plant installation drainage connection

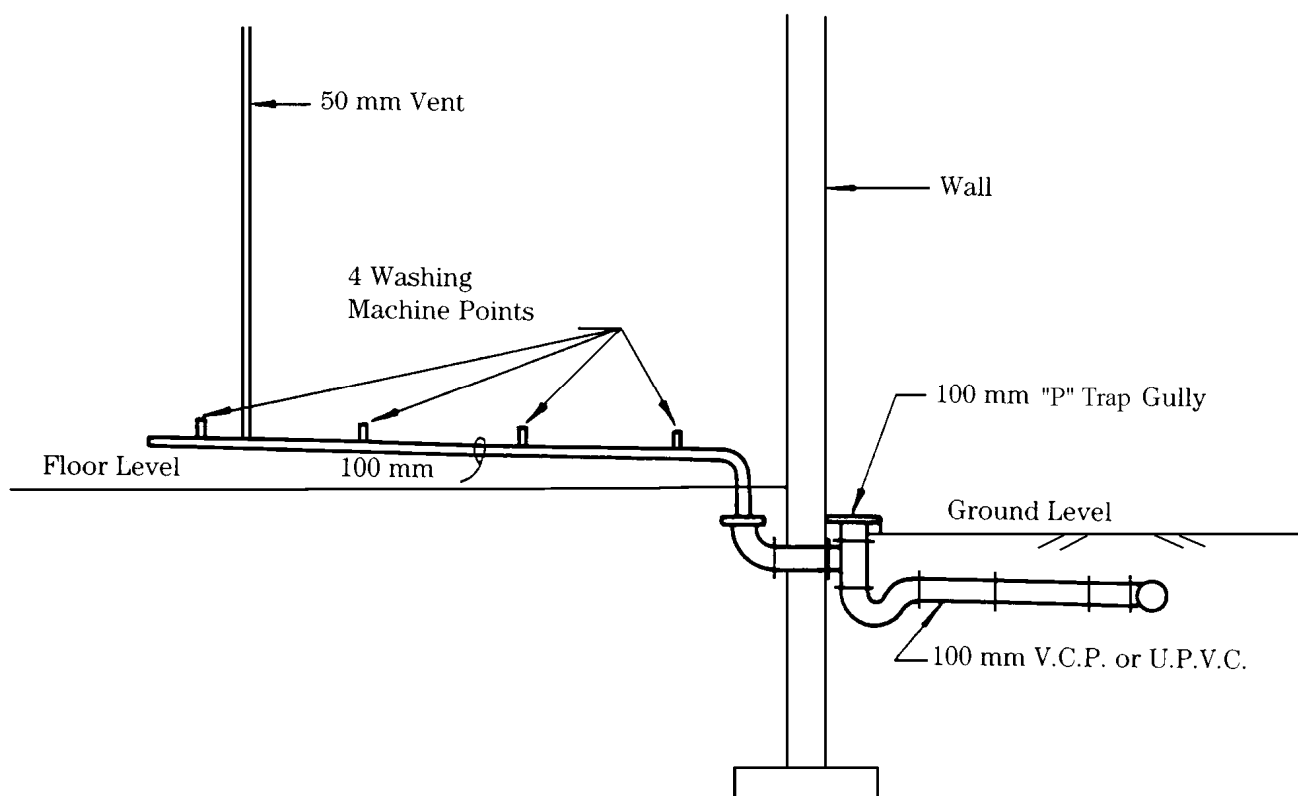
Not suitable for a Laundromat installation



Sanitary Plumbing Connection – A.S./NZS 3500, Part 2
Clause 4.6.5

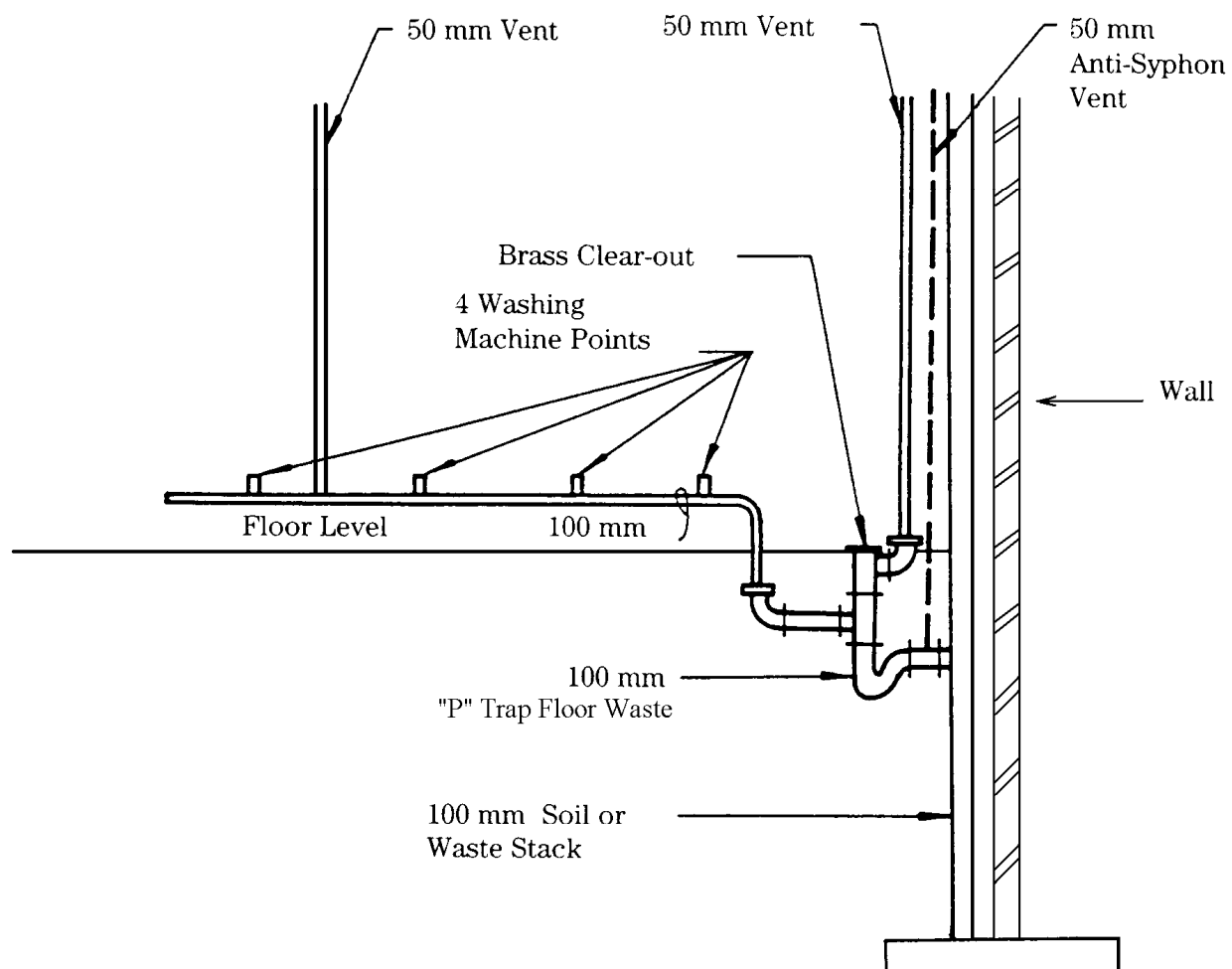
Figure 17: Liquid trade waste plant installation sanitary plumbing connection

Not suitable for a Laundromat installation



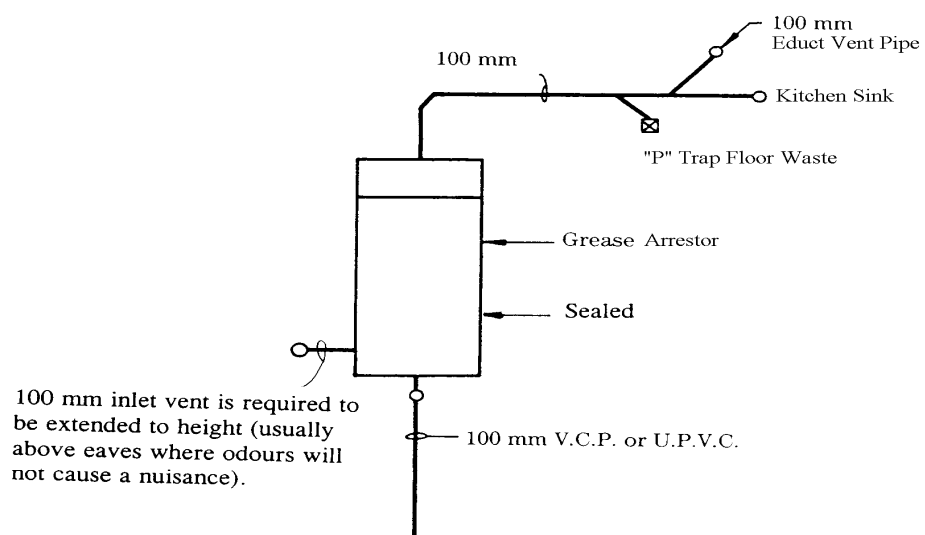
If wastewater temperature exceeds 38°C a cooling pit is required.

Figure 18: Laundromat – typical installation ground floor drainage connection



If wastewater temperature exceeds 38°C a cooling pit is required.

Figure 19: Laundromat – typical installation sanitary plumbing connection



Note: Copper pipes shall not be used to convey grease or vent grease arrestors

Figure 20: Venting of grease arrester

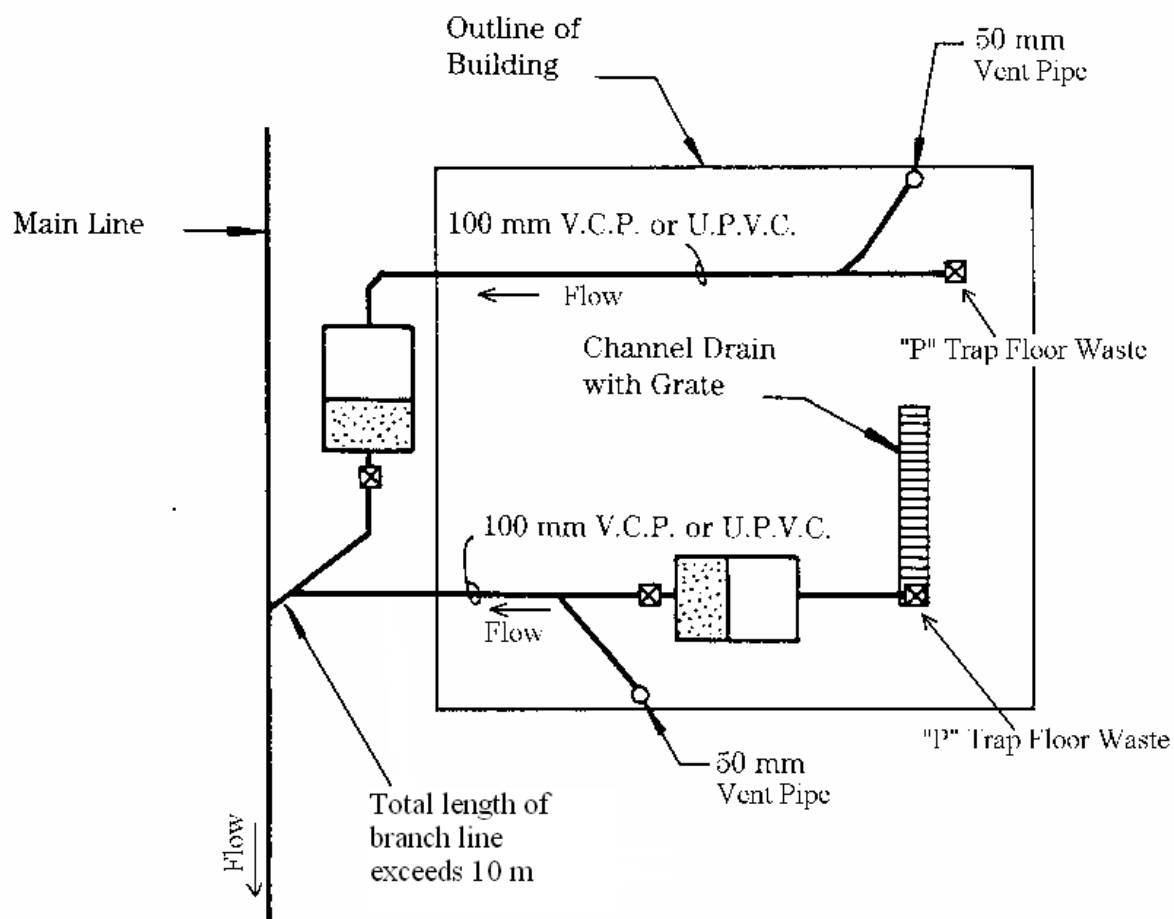
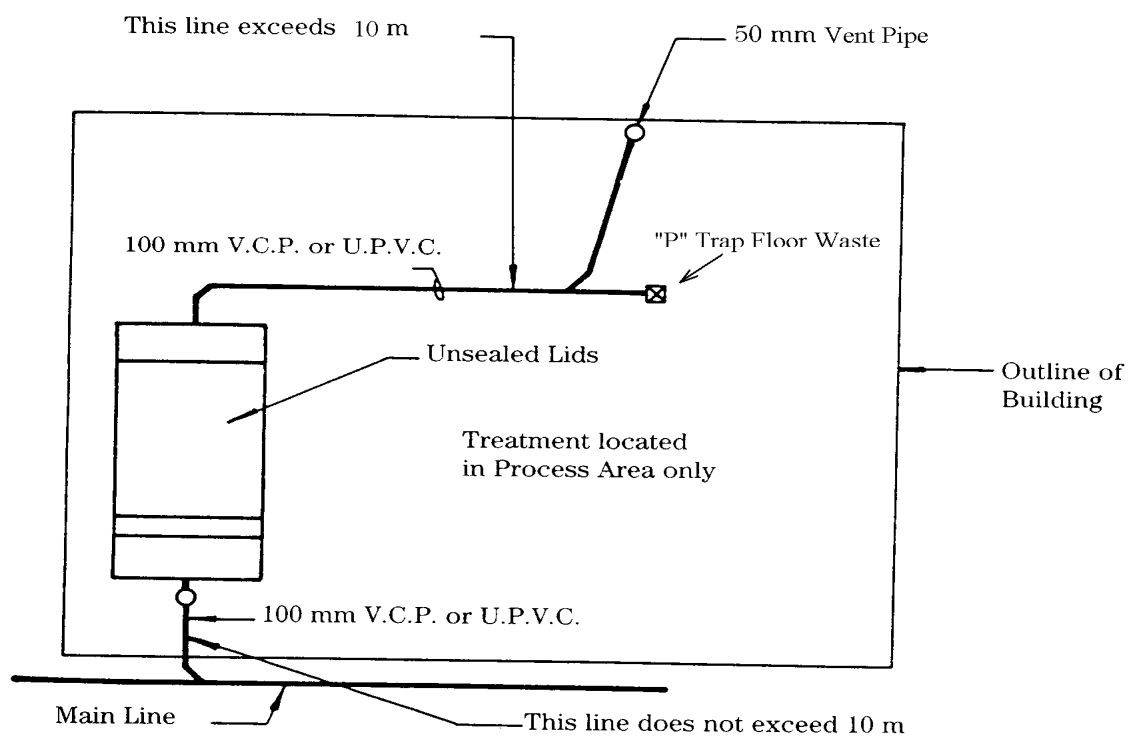
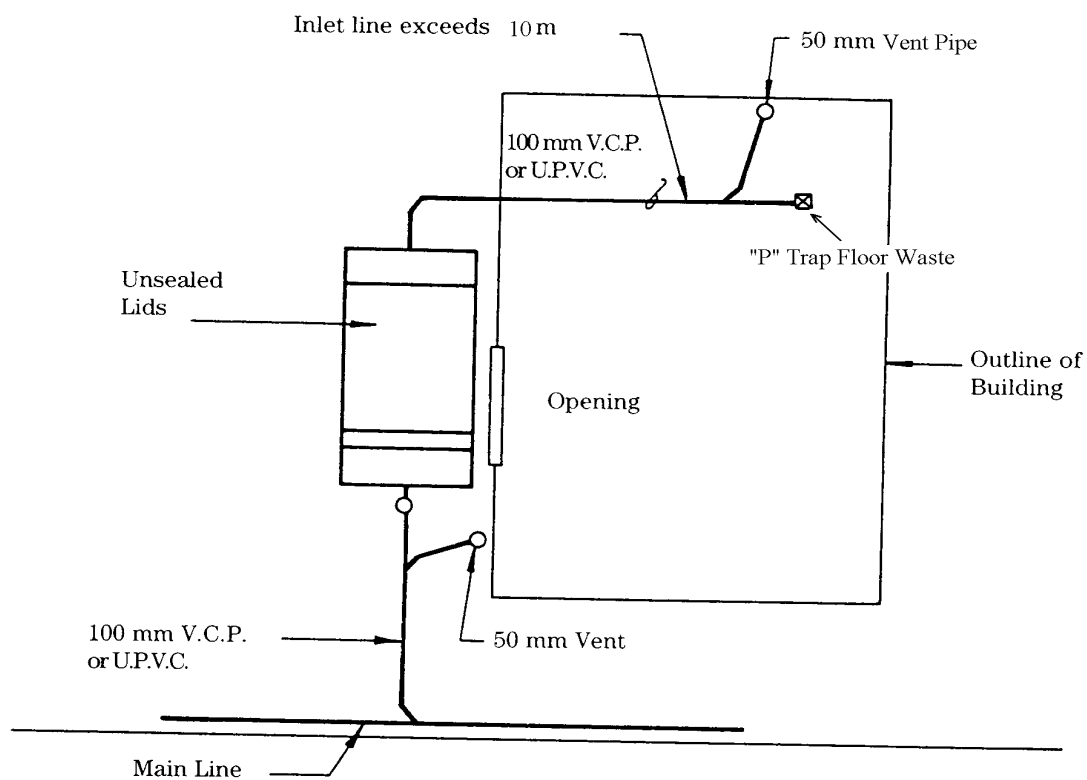


Figure 21: Dry basket arrestor with removable basket



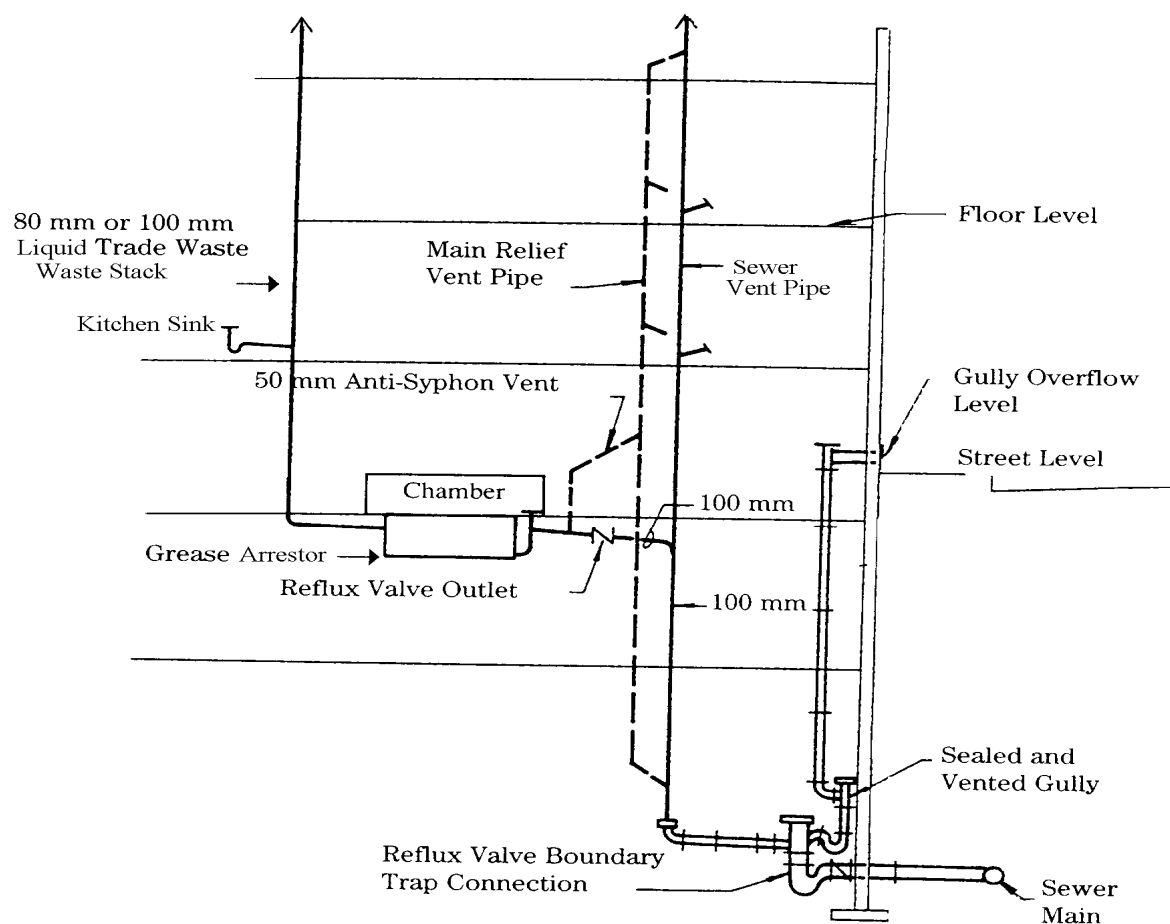
Arrestor/Neutraliser: Not to contain noxious or toxic wastes.

Figure 22: Arrestor/neutraliser inside treatment room



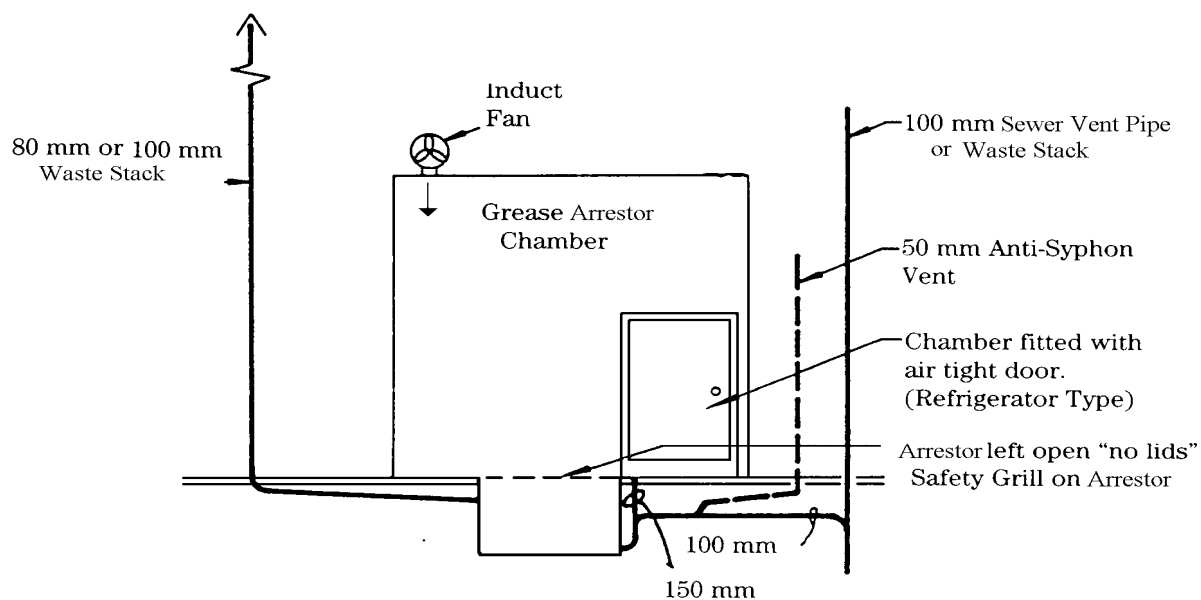
Arrestor / Neutraliser: Not to contain noxious or toxic wastes.

Figure 23: Arrestor/neutraliser outside treatment room



Note: Copper pipes shall not be used to convey Grease or vent Grease Arrestor

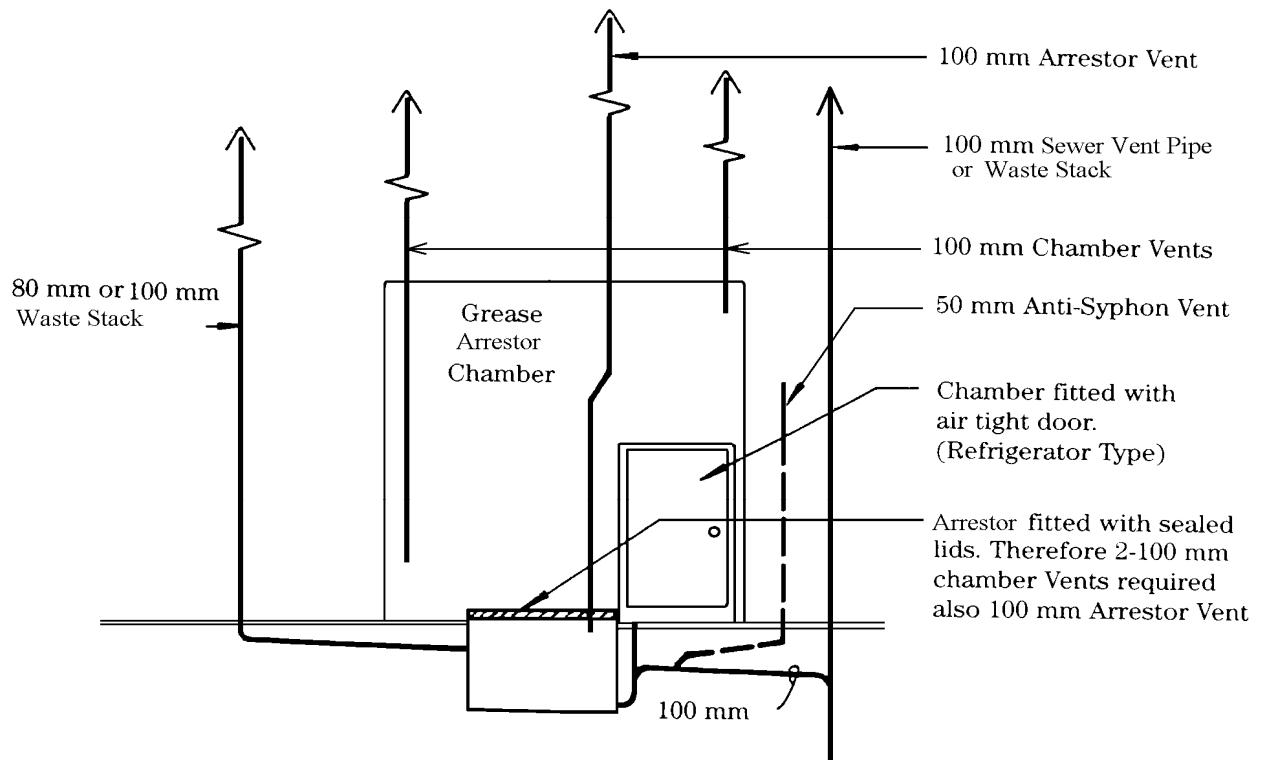
Figure 24: Grease arrestor within multi-storey building



Notes:

1. Chamber Vents may be omitted if mechanical ventilation of chamber is provided.
2. Arrestors are not permitted to be installed in areas where food is prepared except in compliance with NSW Health requirements
3. Copper pipes shall not be used to convey Grease or vent Grease Arrestor

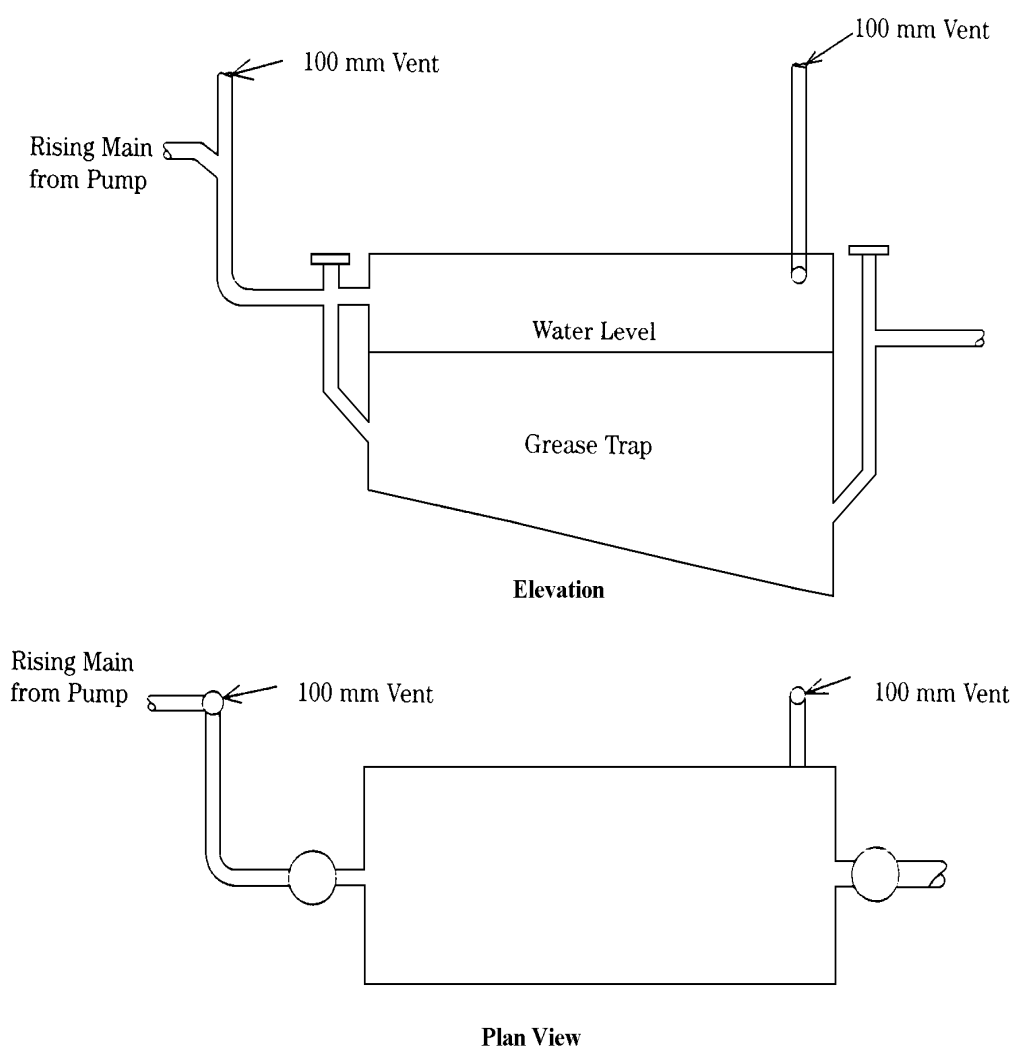
Figure 25: Venting of grease arrestor chambers: alternative mechanical ventilation



Notes:

1. Chamber Vents may be omitted if mechanical ventilation of chamber is provided.
2. Copper pipes shall not be used to convey Grease or vent Grease Arrestor

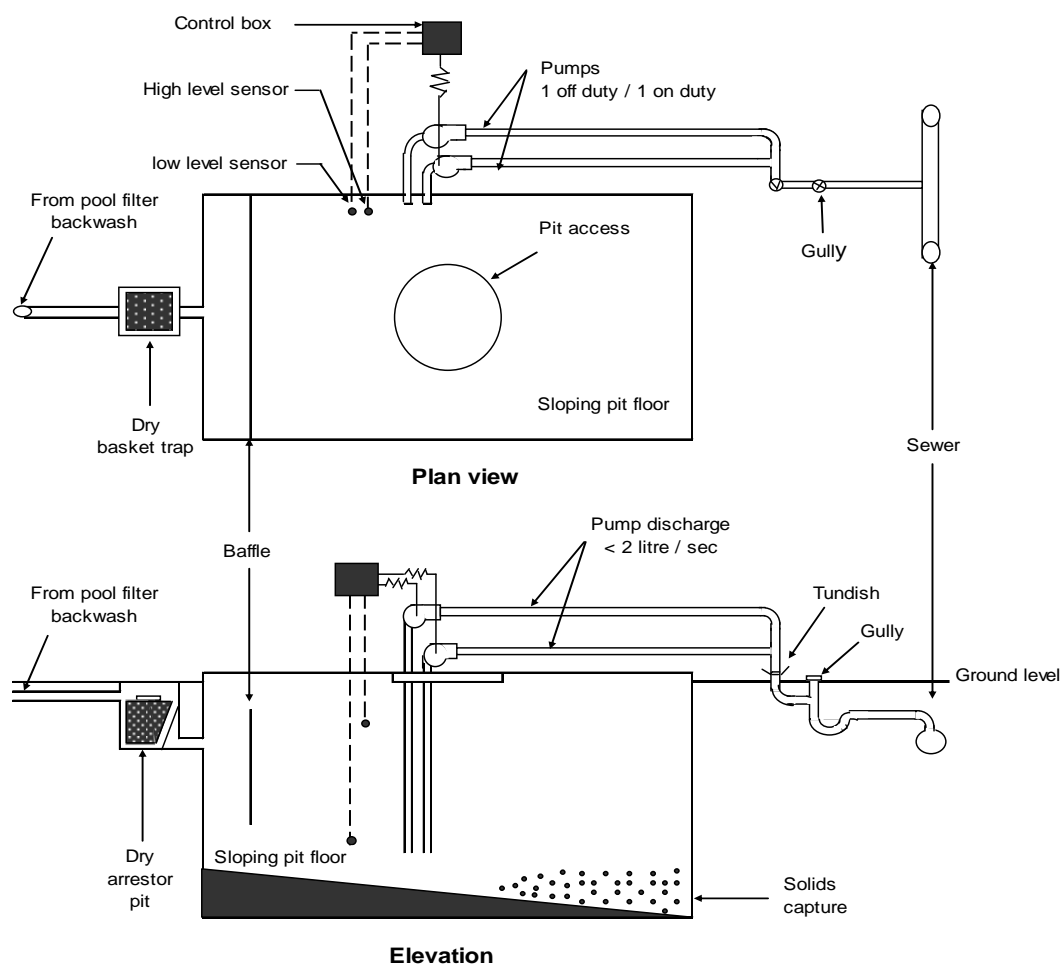
Figure 26: Venting of grease arrestor chambers



Notes:

1. Not permitted to be installed in areas where food is prepared except in compliance with NSW Health requirements
2. All openings are to be gas tight
3. Provisions are to be made for safe and hygienic cleaning
4. Copper pipes shall not be used to convey Grease or vent Grease Arrestor

Figure 27: Undersink pumpout unit rising main connection



- Pit volume to be 115% of maximum volume
- Beneficial re-use of backwash water to be considered

Figure 28: Commercial swimming pool backwash to sewer

Discharge factors

A discharge factor represents the percentage of the metered water consumption, which is discharged to the sewerage system from a non-residential property. There are two types of discharge factors:

- Sewer (SDF); and
- Liquid Trade Waste (TWDF).

Sewer discharge factor

The sewer discharge factor is the ratio of all wastewater discharged from a premises to the sewerage system to the total water consumption expressed as a percentage.

$$SDF = \left(\frac{\text{Domestic} + \text{Trade Waste}}{\text{Total Water Consumption}} \right) \times 100$$

This factor also includes liquid that has not been acquired from the town water supply and is discharged to the sewerage system such as:

- a stormwater first flush system
- bore water
- imported water or product eg. beer in kegs to a hotel or club
- water generated by some industrial processes, eg. condensate produced from evaporation process.

Trade waste discharge factor

The trade waste discharge factor is the ratio of the volume of liquid trade waste discharged into the sewerage system to the total water consumption expressed as a percentage.

$$TWDF = \left(\frac{\text{Liquid Trade Waste}}{\text{Total Water Consumption}} \right) \times 100$$

Notes:

1. Where Open Area first flush systems discharge to the sewerage system, a discharge volume needs to be determined using a flow meter or an hours-run meter on the discharge pump.
2. When calculating sewer usage volumes, a rough estimate of the domestic flow may be made by allowing 100 L/d per person for a business where employees shower daily at the premises; otherwise use 50 L/d per person.

The following methods may be used to determine sewer and liquid trade waste discharge factors:

- Assume 100% of water obtained from the town water supply and/or bore water is discharged to the sewerage system (Figure 1 on page 315 shows how to read a water meter)
- Use of standard sewer discharge factors for certain activity applied to the fresh water meter (refer to Table 1 on page 306)
- Estimation for water consumed in product from a customer's production figures or other available data
- Water balance assessment using calculations of water usage not discharged to the sewerage system, eg. used for garden watering
- Use of check meters on the water supply lines of the relevant areas that do not discharge to the sewerage system
- A negotiated or agreed discharge factor
- Measurement of the actual flow to the sewerage system.

Note: Where the daily discharge is up to 5 kL/d, flow measurement is generally not warranted. An appropriate discharge factor can be used to estimate the volume of waste from the metered water usage.

The following points should be considered when calculating a discharge factor:

- cooling tower evaporation loss
- boiler evaporation loss
- landscape watering
- water used in product, such as, water used to top up water containers, soft drink manufacture
- water that is recycled within the premises
- imported water or product eg. beer in kegs to a hotel or club; bottle/container recycling where residue is remaining in bottle/container
- first flush stormwater run-off where approved
- seasonal variations
- water used for other purposes, eg. tanker spraying for dust suppression
- make-up water used in processes and lost due to evaporation
- water retained on site.

The LWU's Trade Waste Officer (TWO) needs to make an assessment as to the most appropriate method of calculation to employ based on information on the process, wastewater connections, times of discharge, flow patterns, flow meter location, sampling location.

For a range of processes, standard discharge factors have been established for typical businesses (refer Table 1 on page 306). The figures shown in this table are the percentage applied to the potable water meter reading to estimate the discharge volume for the type of discharge factor required. This table provides the recommended values for various activities. For activities not specified in this table a discharge factor for a similar activity can be applied. The LWU may modify these values as necessary.

The discharge factors nominated for the various activities are for the basic industry process type. For example, the nominated discharge factor for a 'Hotel' is based on the premises importing the product and only serving beverages and washing up glasses, floors and cleaning spills in the cellar. The SDF should be reduced if such premises provide meals and/or accommodation.

It is important when making an assessment to consider other relevant factors. Thus many small commercial premises, such as a bakery, butcher, fish shop, hairdresser, veterinary, etc. have residential premises attached. In such cases, an allowance should be made for garden watering and other water uses in a residential part of the joined premises. The LWU may apply its residential SDF for houses, typically about 70%, if there is a garden on such premises, or for flats, units where there is no garden. The trade waste discharge factor should be then reduced proportionally.

Also, if a commercial premises in any category has a garden, eg. hotel, motel, restaurant, a SDF used can be reduced by about 10% compared to a similar business without a garden.

To assist LWUs in establishing site specific discharge factors, typical allowances for household water usage are provided in Table 2 on page 308.

Sewer and trade waste discharge factors may vary for wet and dry climatic conditions. In wet colder climatic conditions most of the water is discharged into the sewer as the outdoor use is at its lowest. Water usage is higher in a dry hot climate, but the sewer discharge factor would be lower due to the increased outdoor use and higher evaporation rates. The difference could account up to 30%.

However, the impact is site-specific, and assessments should be made taking into consideration the size of the outdoor area and the type of activities. Water check meters that can be installed to gauge water usage at the various points of a site are very useful in such situations.

Table 1 – Sewer and trade waste discharge factor

<i>Discharger</i>	<i>Discharge Factor</i>	
	<i>Sewer</i>	<i>Trade Waste</i>
Bakery	95	25
with a residence attached ¹	70	18
Bed and Breakfast/Guesthouse (max. 10 persons)	75	N/A ²
Boarding House	90	20
Butcher	95	90
with a residence attached ¹	70	65
Cakes/Patisserie	95	50
Car Detailing	95	90
Car Wash	75	70 ⁵
Caravan Park (with commercial kitchen)	75	15
Caravan Park (no commercial kitchen)	75	N/A ²
Chicken/poultry shop (retail fresh, no cooking)	95	90
Charcoal Chicken	95	80
Club	95	30
Cold store	7	N/A ²
Community hall (minimal food only)	95	N/A ²
Correctional Centre	90	Note 6
Craft/Stonemason	95	80
Day Care Centre	95	N/A ²
Delicatessen, mixed business (no hot food)	95	N/A ²
with a residence attached ¹	70	
Dental Surgery with X-ray	95	80
with a residence attached ¹	70	60
Fresh Fish Outlet	95	90
Hairdresser	95	N/A ²
High School	95	25 ⁵
Hospital	95	30
Hostel	90	20
Hotel	100	25
Joinery	95	10
KFC, Red Rooster	95	80

Laundry	95	92 ⁵
Marina	90	70
McDonalds Restaurant, Burger King, Pizza Hut	95	62
Mechanical Workshop ³	95	70
Mechanical workshop with car yard	85	70
Medical Centre	95	25 ⁵
Motels small (breakfast only, no hot food)	90	N/A ²
Motel (hot food prepared)	90	20
Nursing Home	90	30
Office Building	95	N/A
Optical Service	95	N/A ²
Panel Beating/Spray Painting	95	70
Primary School	95	10 ⁵
Printer	95	85
Restaurant ⁴	95	50
Self Storage	90	N/A
Service Station	90	70
Shopping Centre	85	30
Supermarket	95	70
Swimming Pool (commercial)	85	N/A ²
Take Away Food	95	50
Technical College or University	95	Note 6
Vehicle Wash: Robo, Clean and Go, Gerni Type	95	90 ⁵
Veterinary (no X-ray), Kennels, Animal wash	80	N/A ²

Notes:

¹ If a residence is attached, that has garden watering, the residential SDF should be applied.

² A trade waste usage charge is not applicable for this activity.

³ Includes lawn mower repairer, equipment hire.

⁴ Includes café, canteen, bistro, etc.

⁵ A trade waste usage charge applies if appropriate pre-treatment equipment has not been installed or has not been properly operated or maintained.

⁶ A discharge factor to be applied on the basis of the relevant activity, eg. food preparation/service, mechanical workshop, optical services, etc.

Table 2 – Typical household water usage

Activity	Water Usage
Automatic washing machine	73 - 250 L/load
Car washing with a hose	100 - 300 L
Dishwasher	20 - 60 L/wash
Dish washing by hand	20 L/wash up
Hand basin	5 L/d
Shower	40 – 250 L
Toilet*	3 L/6 L/flush

* Old model toilets (pre-1990) may be up to 12 L/flush

Water meter and flow meter readings sheet

The water meter and flow meter readings sheet provided on page 153 of Appendix C is a useful tool for determining discharge factors or for auditing to ascertain that a discharge meter, if installed, is operating correctly.

The shaded area on the sheet is for entering calculated data where the gauging facility includes the domestic component (employees). It should be noted when calculating this data that **working days** should be used, not the number of calendar days in the billing period.

The following case studies are examples provided to assist the TWO in identifying an appropriate approach. Sketches of the layout for each of Examples A, B and C are provided on page 314.

Dye testing is very useful in assisting the Trade Waste Officer and discharger in establishing pipe-work connections (refer to Appendix F on page 285).

Case studies

Example A: As shown in the sketch on page 314, the premises has a discharge flow meter that measures the total volume of waste discharged into the sewer including a liquid trade waste component and a domestic component. The number of employees is 100; these shower daily at the premises. The number of working days in the billing period is 24. Meter readings for this period are shown in Table 3 (rows 1 and 2).

SDF Calculation

As the discharge meter measures the total volume discharged to sewer, the discharge factor is calculated as follows (refer to Table 3 on the facing page, row 2):

$$SDF = \frac{\text{Output Volume}}{\text{Input Volume}} = \frac{720}{820} = 88\%$$

Table 3 – Calculation of discharge factors

		Discharge						Consumption				Gauging Includes Domestic: Y/N No. Employees: 100			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	Date	Time	Integrator Reading	Discharge (kL)	L/s	Average kL/day	T/W D/F %	Water Meter Readings	Total Cons. (kL)	Average kL/d	SDF %	Days	Remarks and Initials	DF Estimated	Meter Reading Adjusted
Example A															
1	26/7/04	13:00	500 800					31 100							
2	26/8/04	13:00	501 520	720	2	30		31 920	820	34	88	24	240 kL 480 kL	59	501280
Example B															
3	26/7/04	12:00	22 306					31 100							
4	26/8/04	12:00	22 786	480	2	20	65	31 844	744	31		24	240 kL 720 kL	97	

TWDF calculation

For calculation of TWDF an allowance should be made for the domestic component. The domestic component for 100 employees for this period is:

$$100 \text{ (employees)} \times 100 \text{ L/d per person} \times 24 \text{ (days)} = 240,000 \text{ L.}$$

$$\text{Trade waste component} = 720 - 240 = 480 \text{ kL}$$

Therefore,

$$TWDF = \frac{480}{820} = 59\%$$

In this case Column N (shaded area) is used for entering the estimated TWDF. Column O is used for entering a calculated meter reading.

Example B: As shown in the sketch on page 314, the premises has a discharge flow meter that measures the liquid trade waste component only and therefore a SDF needs to be calculated. The number of employees and working days in the period is the same as in Example A. Meter readings for this example are shown in Table 3 on the previous page, rows 3 and 4.

SDF Calculation

The domestic component for the period is 240,000 L (refer to Column M).

Sewer usage component is calculated by adding the domestic component to the trade waste discharge volume (Column M plus Column D):

$$240 \text{ kL} + 480 \text{ kL} = 720 \text{ kL.}$$

Therefore,

$$SDF = \frac{720}{744} = 97\%$$

TWDF Calculation

As in this example the premises has a discharge flow meter installed for the liquid trade waste only, calculation of a TWDF is as follows (Table 3, Column G):

$$TWDF = \frac{\text{Output Volume}}{\text{Input Volume}} = \frac{480}{744} = 65\%$$

Example C: strata title complex

This example explains options where a complex of shop units is Strata Titled and only one town water meter services the complex. Refer to the sketch on page 314.

The following approaches need to be considered:

- Apply 95% SDF to the town water meter with the Strata Title owners to divide the invoice as appropriate. Alternatively, consider how the existing invoice for water consumption is divided between occupants
- Installation of separate town water meters for each unit and applying the appropriate SDF (and TWDF where relevant) to each meter
- Install check meters to the relevant liquid trade waste dischargers.

Allow 50 L/d per person for shops not discharging liquid trade waste and apply Industry Standard (refer Table 1) to liquid trade waste dischargers. Then calculate the percentage applied to the water meter for each Strata Title unit. The longer the timeframe between meter readings the more accurate the data as fluctuations are smoothed out. For this approach the following example is given.

SDF Calculation

The Strata Title complex is comprised of the following:

Table 4

No.	Shop	Industry Standard	No.	Shop	Employees
1	Butcher	95%	6	Dress	2
2	Restaurant	95%	7	Pots and Pans	3
3	Fish shop	95%	8	Newspaper	2
4	KFC	95%	9	Hardware	2
5	Dental Surgery	95%	10	Shoe Shop	3

Assume for a billing period that the above shopping complex has:

- a water consumption of 330 000 L
- the period between meter readings is 30 days
- all shops are trading seven (7) days a week.

Shops not discharging liquid trade waste

For the shops 6-10 a SDF is calculated using the total consumption figure for the complex and 50L/d per person allowance (refer to Table 5 on the facing page, Column K). The total usage for the Shops 6-10 for the 30 day period is 18 000 L (Column J).

Liquid trade waste dischargers

For the shops 1-5 the Industry Standard SDF (refer to Table 1 on page 306) is used (Column A).

Deduct the estimated 30 day consumption by shops 6-10 from the total volume to give the liquid trade waste dischargers consumption.

$$330\,000 - 18\,000 = 312\,000\text{ L}$$

The Industry Standard SDF has been calculated as a percentage applied to a dedicated water meter for the specific industry. In calculating the SDF for specific premises it is necessary to calculate the value of 1% for these shops before applying the Industry Standard.

$$1\% = \frac{\text{Total Volume}}{\text{No of shops} \times 100} = \frac{312,000}{5 \times 100} = 624\text{L}$$

Then calculate the sewer usage volume for each premise using the Industry Standard SDF multiplied by the calculated 1% (624 L). This figure is used as the basis for calculating the specific SDF for each trade waste discharger in the shopping complex.

For example, Shop 1: $95 \times 624 = 59\,280\text{ L}$

$$\text{The Specific SDF for shop 1} = \left(\frac{59,280}{330,000} \right) = 18\% (\text{Table 5 column C})$$

TWDF calculation

To calculate the TWDF for shops 1-5 applied to this meter the Industry Standard TWDF (refer to Table 1) is used (refer to Table 5 Column D). Multiplying the Industry Standard TWDF by the 1% (624 L), already calculated above for the SDF, will give the calculated trade waste volume (refer to Table 5 Column E).

eg. Shop 1: $90 \times 624\text{ L} = 56\,160\text{ L}$

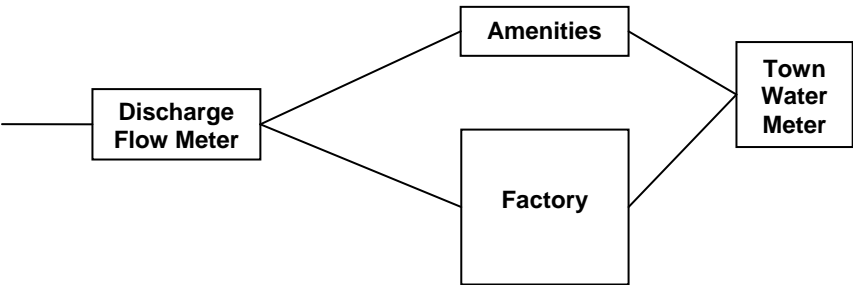
The specific TWDF for each liquid trade waste unit (Table 5 Column F).

$$\text{eg. Shop 1} = \frac{56,160}{330,000} = 17\%$$

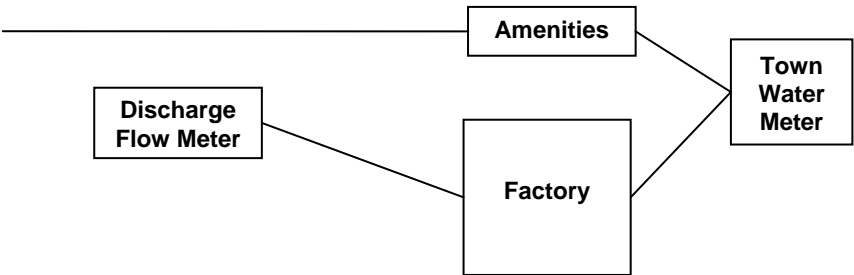
Table 5 – Calculation of discharge factors for strata title shopping complex

Shop No.	Industry Standard SDF ¹ %	Calculated Usage L/period	Applied SDF %	Industry Standard TWDF ² %	Calculated Usage L/period	Applied TWDF %	Shop No.	Number of Employees	Daily Usage L/d	Calculated Usage L/period	Applied SDF ³ %
	A	B	C	D	E	F	G	H	I	J	K
1	95	59 280	18	90	56 160	17	6	2	100	3000	0.9
2	95	59 280	18	50	31 200	9	7	3	150	4500	1.4
3	95	59 280	18	90	56 160	17	8	2	100	3000	0.9
4	95	59 280	18	80	49 920	15	9	2	100	3000	0.9
5	95	59 280	18	80	49 920	15	10	3	150	4500	1.4
Total		296 400	90		243 360	73	Total			18 000	5.5

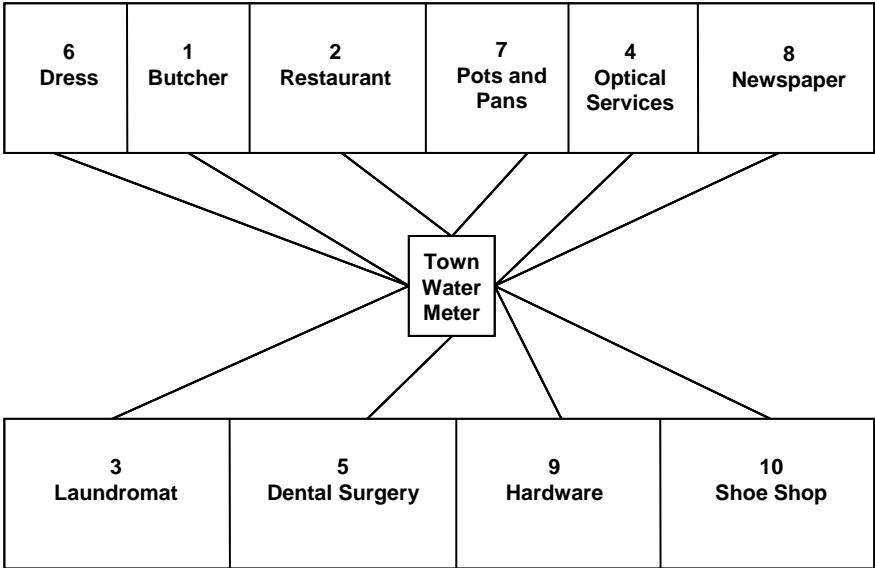
Notes:¹ Sewer discharge factor.² Trade waste discharge factor.³ Discharge factor estimated using 50L/person/d.



Example A



Example B



Example C

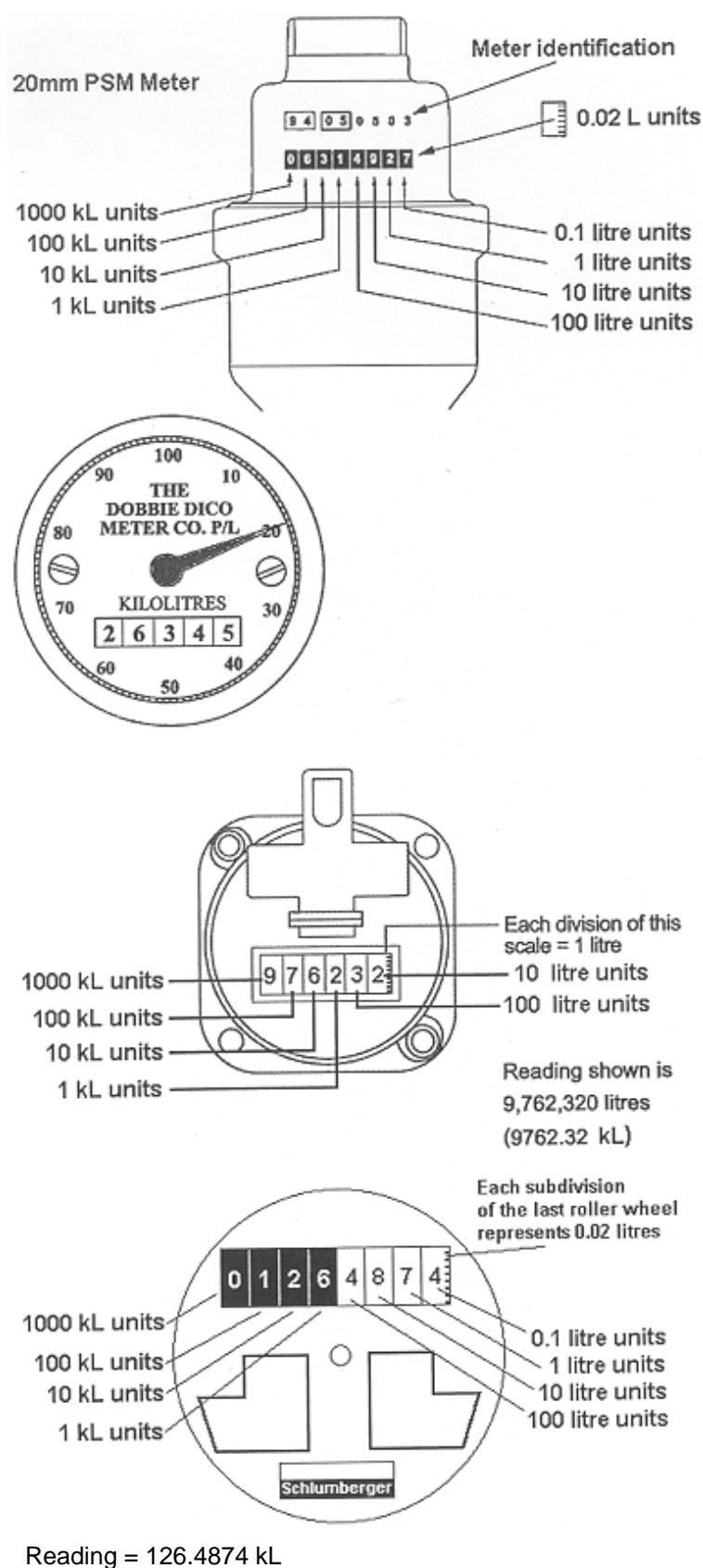


Figure 1: How to Read a Water Supply Meter

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Due diligence program, contingency plan and effluent improvement plan

General

Businesses discharging liquid trade waste to the sewerage system that are assessed as having the potential for a high risk to the sewerage system and/or the environment, or fall into Concurrence Classification C, must have a due diligence program and contingency plan.

The above dischargers need to submit a due diligence program and a contingency plan with any new application or variations to their approval, as a condition of their approval. This does not apply to low and medium risk liquid trade waste (Classification A and B) unless special circumstances prevail or additional conditions are imposed.

These plans are normally submitted to the LWU within three (3) months, for a contingency plan, and six (6) months for a due diligence program, from the commencement of the discharge or approval of the variation. However, in instances that pose a potential threat to the sewerage system these plans are required to be submitted as early as possible. It is not necessary for the LWU to forward these plans to the DWE, unless the LWU wishes to obtain an advice or comment from the DWE.

If a business has an Environmental Management Plan (EMP) in place, such as an accredited ISO* 14001 program, it may not be necessary to provide these documents as the EMP would normally be sufficient to acknowledge the company's environmental due diligence.

The EMP may not include all necessary provisions in regard to trade waste. In such cases the DWE may require that the due diligence program and the contingency plan be developed and submitted to the LWU.

The following sets out the recommended minimum requirements to be included in a due diligence program and contingency plan.

***ISO 14001:** *An international Standard which specifies a management system to control the environmental issues surrounding a business. The system requires the organisation to produce an environmental policy, identify its major environmental effects and all environmental legislation applicable to the organisation; and in the light of this information, produce a series of environmental objectives and targets, and a management program for achieving these.*

Due diligence program

Due diligence means that companies and/or individuals shall take all 'reasonable' precautions to prevent accidental and/or intentional discharges that are not authorised or may adversely impact on the sewerage system and/or the environment. To exercise due diligence, a discharger must implement a plan to identify possible potential hazards and carry out the appropriate corrective action to prevent accidents or discharges of unauthorised trade waste arising from these hazards. Due diligence is the level of judgement, care, prudence, determination, and activity that could be 'reasonably' expected under particular circumstances.

In order to ensure reasonable care and due diligence it will at least be necessary to establish the following:

- supervision of the system at all appropriate levels
- periodic inspection of key parts of the system
- involvement by managers and other officers, including review of relevant reports
- instruction of relevant line management in the setting up of the system
- reporting to management of the operation and effectiveness of the system and demonstrated ability to react immediately if the system has failed
- reporting structure for issues of non-compliance, or any concerns raised by regulatory authorities
- training of officers in environmental compliance
- compliance with environmental laws.

A company's liquid trade waste due diligence program should incorporate but not be limited to the following:

- identifying potential or hazardous situations (asking 'What if this or that happens?', 'What action will be taken?' What, Where, How, When for all situations:- Predict, Prepare, and Practice)
- a staff training and awareness program
- environmental audit procedures
- ensuring that liquid trade waste discharged to the sewerage system complies with the conditions of approval
- ensuring there is no discharge of stormwater to the sewerage system
- a treatment plant maintenance schedule
- a flow meter totaliser capable of retaining its reading in the event of a power failure
- ensuring the pH correction system, if provided, cannot be tampered with
- plant operator training
- standby procedures, including relief plant operator training
- OH&S training
- accountability and final destination of any waste disposal program;
- effective solids and liquid waste disposal procedures

- a logbook (accessible to LWU) detailing maintenance and cleaning operations noting date, time and person making entry.

Contingency plan

A contingency plan is a set of procedures for responding to an incident that will affect the quality of liquid trade waste discharged to the sewerage system. The plan also encompasses procedures to protect the environment from accidental and unauthorised discharges to the stormwater drainage system from liquid trade waste discharges, and leaks and spillages from stored products and chemicals.

All dischargers should develop, maintain and update as necessary a contingency plan for responding to situations which may arise infrequently at their premises but will pose a threat to the environment or the sewerage system if allowed to occur without an adequately formulated response plan.

A company's contingency plan should incorporate but not be limited to the following:

- visual and audible alarms located in the area where it can be observed
- preventing overflows to the sewerage system in the event of an emergency
- a logbook (accessible to the LWU) noting anything to do with incident, including date, time, remedial action, other relevant facts and person making entry
- emergency procedures for:
 - an accident (nominated control officer and procedure plans),
 - a spill (clean-up procedures),
- a breakdown (may be necessary to carry stand-by equipment and spare parts such as pumps if these items are vital for the continuous effective operation of the pre-treatment system),
- a power failure or disruption (if this occurs, it is unacceptable to discharge untreated liquid trade waste)
- overloading or underloading of wastewater treatment systems
- temporary unavailability of trained wastewater operators
- temporary loss of access to wastewater disposal areas
- storm, fire, floods
- alternative waste disposal procedures and/or an emergency storage if any of the above incidents occur.
- a list of emergency contacts in priority order including phone numbers in an accessible location (business hours and after hours):
 - internal contacts
 - external organisations contacts (DECC, council, fire brigade, etc).

Having a contingency plan in place, and following it when such an incident or situation arises, enables better responses to incidents which may cause or threaten to cause harm to the sewerage system, the environment and worker or public health and safety.

Effluent improvement plan

In instances where the liquid trade waste discharging from industrial premises to the sewerage system does not meet the LWU's acceptance limits, improvements to the quality of liquid trade waste will be required. Applicants will need to submit a comprehensive Effluent Improvement Plan setting out how the acceptance standards and/or other approval conditions will be met.

Industrial Effluent Improvement Plan must include the following:

- A series of steps, each no longer than three (3) months, which detail the methods, proposed to improve the quality/quantity of the liquid trade waste discharge
- Any incremental improvements expected in the quality/quantity of the liquid trade waste discharge
- The outcomes expected with respect to time frames and liquid trade waste quality/quantity
- Reporting milestones for each step in the Effluent Improvement Plan
- A Management Plan outlining the nature (solid or liquid, containing chemical, food or metal residues) and mass (tonnes per annum) of waste substances expected to be produced as a consequence of the Effluent Improvement Plan and the method/s proposed for the reuse, recycling, or disposal of these substances
- The EIP should not extend past a twelve (12) month time frame, with the following as an example of major steps:
 - three (3) months dedicated to a study and investigation of options
 - three (3) months dedicated to obtaining approvals from the local water utility
 - three (3) months for installation
 - three (3) months dedicated to training of staff and commissioning.

Criteria for effluent improvement plan

To assist LWUs to assess the validity of a proposal, the Effluent Improvement Plan must meet the following criteria:

- It must address the nature and the mass of waste substances that will be generated and the method/s proposed for reuse, recycling, or disposal of these substances
- It must be clear and concise
- No incremental step within the Program is to exceed six (6) months in duration
- Any incremental improvements in the quality and/or quantity of the discharge to the sewerage system must be documented
- The guaranteed outcomes at the end of the program must be documented
- It should avoid using unspecific words such as 'may', 'expected' and 'should'
- The program needs to be definitive but not overly optimistic in terms of times or outcomes
- The program should not be limited to the proposed time frame and efforts should be made to complete the program ahead of schedule, if possible.

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Liquid trade waste fees and charges

Local Water Utilities (LWUs) may adopt the following liquid trade waste fees and charges. These fees and charges are based on 2002/03 charges for Sydney Water Corporation and for Hunter Water Corporation approved by the NSW Independent Pricing and Regulatory Tribunal (IPART) and have been adjusted in accordance with the change in the Consumer Price Index (CPI) for 2007/08.

LWUs should index these charges annually on the basis of change in the CPI for Sydney in the preceding 12 months to December. Where indicated by an asterisk (*), an LWU may elect to calculate the relevant fees and charges for its sewerage and liquid trade waste system.

2007/08 Trade waste fees and usage charges

Annual Trade Waste Fee	
Category 1 Discharger	\$74*
Category 2 Discharger	\$148*
Large Discharger	\$496*
Industrial Discharger	\$148 - 496*
Re-inspection Fee	\$69*
Trade Waste Usage Charges	
Category 1 Discharger with appropriate equipment [#]	Nil
Category 1 Discharger without appropriate pre-treatment	\$1.38/kL
Category 2 Discharger with [#] appropriate pre-treatment	\$1.38/kL
Category 2 Discharger without appropriate pre-treatment	\$12.68/kL
Food Waste Disposal Charge	\$23*/bed
Non-compliance pH charge	
Value of coefficient K in equation 3 of Liquid Trade Waste Policy	0.346

* LWUs have the option of levying these fees and charges (indexed by CPI) or calculating appropriate values for their system.

[#] Only applies to liquid trade waste dischargers with appropriately sized and/or maintained pre-treatment facilities.

2007/08 Excess mass charges

Substance	Price/kg
Aluminium	62c
Ammonia* (as N)	\$1.84
Arsenic	\$62.26
Barium	\$31.13
Biochemical oxygen demand* (BOD)	62.3c
Boron	62.3c
Bromine	\$12.45
Cadmium	\$288
Chloride	No charge
Chlorinated hydrocarbons	\$31.13
Chlorinated phenolics	\$1,245
Chlorine	\$1.27
Chromium	\$20.75
Cobalt	\$12.68
Copper	\$12.68
Cyanide	\$62.26
Fluoride	\$3.11
Formaldehyde	\$1.27
Oil and Grease* (Total O&G)	\$1.12
Herbicides/defoliant	\$623
Iron	\$1.27
Lead	\$31.13
Lithium	\$6.23
Manganese	\$6.23
Mercaptans	\$62.26
Mercury	\$2,075
Methylene blue active substances (MBAS)	62.3c
Molybdenum	62.3c
Nickel	\$20.75
Nitrogen* (Total Kjeldahl Nitrogen – Ammonia) as N	16.1c
Organoarsenic compounds	\$623
Pesticides general (excludes organochlorines and organophosphates)	\$623
Petroleum hydrocarbons (non-flammable)	\$2.08

Substance	Price/kg
Phenolic compounds (non-chlorinated)	\$6.23
Phosphorous* (Total P)	\$1.27
Polynuclear aromatic hydrocarbons	\$12.68
Selenium	\$43.81
Silver	\$1.15
Sulphate* (SO ₄)	13c
Sulphide	\$1.27
Sulphite	\$1.38
Suspended Solids* (SS)	80c
Thiosulphate	22c
Tin	\$6.23
Total dissolved solids* (TDS)	5c
Uranium	\$6.23
Zinc	\$12.68

* LWUs have the option of either levying these charges (indexed by CPI) for pollutants for large trade waste dischargers and for dischargers of industrial waste or calculating appropriate charges for their sewerage and trade waste system. These charges apply for all wastes exceeding the concentration of pollutants in domestic sewage.

2007/08 Charges for tankered waste*

Type of waste	Fees in \$/kL
Chemical Toilet	\$ 13.84/kL
Septic Tank Waste	
• Effluent	\$ 1.84/kL
• Septage	\$ 18.45/kL

* LWUs have the option of either levying the above charges (indexed by CPI) for tankered waste or calculating appropriate charges for their sewerage system.

Index

- Additives in pre-treatment systems, 171
- Adopting a trade waste regulation policy, 41
- Agreement for liquid trade waste services, 9, 27, 35, 37, **42**, 44, **197**
 - Amalgam separator, ix, **238**, 243
- Animal wash activities, 56, **66**, 184
 - application attachment sheet for, 142
- Annual reporting of dischargers with assumed concurrence approved by council, 119
- Application for trade waste approval, 125
 - forms, 125
 - by the Crown, 23, **34**, 37
 - procedures, 178
 - who can make the application, 23
- Approval of trade waste discharge
 - approval process, **19**, 21, 60, 179
 - Concurrence Classification A, 13, **59**
 - Concurrence Classification B, 16, **89**
 - Concurrence Classification C, 16, **97**
 - Concurrence Classification S, 17, **98**
 - Crown applications, 34
 - deferred commencement of, 37
 - enforcement of, 10, 12, **43**, 195
 - failure to comply, 10, **43**, 176, 192, 195
 - failure to obtain, 43
 - five steps of, 20
 - general conditions of, 211
 - modification of, 195
 - revoking of, 44
 - term of, 37
 - validity of existing approval, 23
- Assessing the application, 24
 - information to be provided to DWE, 35
 - factors to consider, 24, **26**, 169
- Assumed concurrence, x, 5, **16**, 85
 - trade waste discharges with, 116, 181
 - annual reporting, 119
- Auto dismantler, 86, 184, **241**
- Automatic assumed concurrence, x, 5, **13**, 49, 113, 180

- Bakery, 51, 137, 184, **242**, **243**
- Barbequing processes, **63**, 242, 252, 256
- Beautician, 56, **72**, 167, 184
- Best-practice management, 1, **9**, 10, **11**, 41, **177**, 185
- Bilge water, x, 104, **105**
- Biochemical oxygen demand (BOD), x, 27, 188, **189**, 191
 - effect of high BOD, 235
- Biosolids, x, 26, **166**, 169
- Biosolids reuse, 1, **166**
- Blocked pump station, 47
- Blocked sewer, 48
- Boat pump-out, 104
- Boiler blowdown, 56, **66**, 184, 247

- Bunding, x, 93, 98, 109, 110, 179, **240**, 268, 270
- Bus/coach depot, 86, 184, **241**, **242**
- Butcher, 51, 112, 184, **242**

- Car detailing, 56, 65, **68**, 184, 241
- Caravan/motorhome/caravan park waste dump point, **100**, 185
- Carpet cleaning, 51, **78**, 181, 184, 245
- Categories - see Charging categories
- Category1 trade waste dischargers, 184
- Category 2 trade waste dischargers, 184
- Category 2S trade waste dischargers, 185
- Category 3 trade waste dischargers, 185
- Charges, also see Fees and charges
 - developer, 9
 - excess mass, 186, **188**, **189**, 193, 323
 - food waste disposal, 186, **189**, 193, 323
 - non-compliance, **190**, 193
 - non-compliance Categories 1 and 2, 190, 193
 - non-compliance BOD, 191
 - non-compliance excess mass, 186, **190**, 193
 - non-compliance pH, 186, **190**, 193, 323
 - non-compliance penalty, 186, **192**, 193
 - phasing in, 185
 - septic tank and pan waste disposal, 193, 326
 - sewer access, 193
 - sewer usage, 186, 193
 - trade waste usage, **187**, 193, 323
- Charging Categories, 5, **183**, 193
- Check meters, **286**, 304, 311
- Chemical oxygen demand (COD), x, **27**
- Chemical toilet waste, x, 97, 106, **110**, 185
- Chicken retail, 52, 63, 184, **242**, **243**
- Chicken, duck and meat barbequing facilities, 52, 63, **242**, 256
- Chlorinated solvents, 237
- Classifications - see Concurrence Classifications
- Coalescing plate interceptor/separator (CPI/CPS), 238, **264**
- Commercial kitchen/caterer, x, **52**, 184, **243**
- Commercial retail food preparation activities, 51, **61**
- Concurrence Classifications, 5, **13**, 180, 183
- Concurrence Classification A, 5, 13, **49**
 - activities in, **51**, **56**, 65
 - summary, 13
- Concurrence Classification B, 5, 16, **85**
 - activities in, 86
 - requirements for assumed concurrence, 87
 - summary, 16
- Concurrence Classification C, 5, 16, **91**
 - activities in, 92
 - summary, 16

- Concurrence Classification S – acceptance of
 - septic tank and pan waste, 5, 17, **97**
 - activities in, 97
 - summary, 17
- Concurrence of the Department of Water and Energy, xi, 5, 7, **123**, 180
- Notice of Concurrence, 115
- seeking concurrence, 35
- when DWE concurrence required, **17**, 50, 85, 91, 98
- Conditions of approval, 211
 - Concurrence Classification A, 51, 56
 - septic tank waste, 102
 - ship-to-shore waste, 109
- Construction equipment, 86, 184, **241**
- Contaminated/infectious waste, 244, 245
- Contingency Plan, xi, 26, 33, 91, 170, 196, 317, **319**
- Cooling pit/tank, 238, **278**
- Cooling towers, 56, **69**, 184, 247
- Covered forecourt areas, 75, 83, 86, 184, 242, **267**
- Craft activities, 56, **69**, 184, 245
- Crown trade waste applications,
 - approval process, 34
 - school, 80
- Cyanide, **28**, 237
- Decommissioning of on-site sewerage systems, 102
- Dental surgery/dental technician/dental specialist, 56, **70**, 167, 184, 243
- Detergents, xiv, 30, 27, 237, 247, **263**, 274
- Developer charges - see Charges
- Dilution pit/tank, 238
- Discharge factor, 303
 - calculation for strata title shopping complex, 311
 - sewer, **303**, **306**, 308, 311
 - trade waste, **303**, **306**, 310, 312
- Disconnecting a trade waste service, 12, **45**, 176, 178
- Doctor's surgery/medical centre, 56, **71**, 167, 184, 244
- Domestic sewage, **xiii**, 4
 - deemed concentration of substances, 188
- Dry basket arrestor, 238, **248**, 250
 - for existing premises, 249, **251**
- Dry cleaning, **74**, 85
- Due diligence, xi, 196, 317, **318**
- Dump point, **98**, 100, 109, 185
 - caravan/motorhome/caravan park, 109
- Effect of high strength and low pH waste on structures, **30**, 236
- Effects of untreated trade waste on the sewerage system, 235
- Effluent Improvement Plan, xi, 195, **320**
- Enforcement, 10, 12, **43**, 195
- Engine/gearbox reconditioning, 92, 185, **241**
- Entry onto premises, 48
- Environmental Management Plan, 317
- Equipment hire, 86, 189, **241**
- Exceptions, 38
 - assumed concurrence for, 88
 - grease arrestor, 38
 - oily waste pits, 39
 - requirements, 39
- Exemptions, 16, 41, 50, 85, **167**
- Failure
 - to comply with approval, **43**, 176, 178, 192, 195
 - to obtain approval, 43
- Fast food outlets, 52, **63**, 184, 243, 256
- Fees
 - annual trade waste, 186, **187**, 323
 - application, 186
 - re-inspection, 186, **187**, 323
- Fees and charges, **186**, 200, 323
 - responsibility for payment, 192
 - summary, 192
- First flush stormwater, **170**, 192, **271**, 276
 - collection, 271
 - system, 271, 273
- Fish shop, **52**, 183, 184, 243
- Flammable substances, **31**, 237
- Floor basket arrestor, **248**, 250
 - for existing premises, 251
- Florist, 56, 65, **71**, 167, 184, 245
- Flow measurement, 25, 33, 98, 105, **285**
 - Flow meter
 - electromagnetic, 287
 - paddle/rotor/turbine, 288
 - positive displacement, 288
 - ultrasonic, 287
- Food preparation
 - activities, **51**, 61
 - greasy/oily wastes generated, 63
 - no greasy/oily wastes generated, 61
- Food preparation business - application
 - attachment sheet, 137
- Food waste disposal units, 62, 168, **171**, 189
- Fruit and vegetable shop, **52**, 167, 184
- Funeral parlour, 56, **71**, 168, 184, 245
- Galley waste, xi, 104, **105**, 109, 185
- Garbage bin cleaning, **55**, **57**, 78, 168, 184
- General purpose/solids settlement pit, 49, **238**
- Glass cutting, 86, 184, **245**
- Grease arrestor, 49, **238**
 - 'Sydney Water' Design, 252, 255
 - conventional, **252**, 254
 - grease extractor, 261
 - installation requirements, 239
 - maintenance, 259
 - modular grease trap, 261
 - retrofitting, 262

- sizing, 252, **256**
- venting of, 294, 298, 299, 300, 301
- Greasy/oily wastes, 48, **63**
- Guideline limits for acceptance of trade waste, 26, **27**, 49, 170, 172

- Hairdressing, 57, **72**, 168, 184, 245
- High risk liquid trade waste, 3, 16, **91**
- High temperature, 236
- Hospital/nursing homes, 53, 86, 171, **244**
- Housekeeping, xi, 38, 167, **274**
 - kitchen waste, 274
 - oily waste, 274
- Hose connections for ship-to-shore
 - pump-outs, 106
- Hydrocyclone separation system (HSS), 238, **265**
- Hydrotherapy, 57, **82**, 246

- Ice-cream parlours, **53**, 62, 184
- Industrial discharges, xi, **185**
- Inflow measurement, 286
- Information requirements for trade waste
 - applications, 25
 - for Concurrence Classification A, 35, **59**
 - for Concurrence Classification B, 36, **89**
 - for Concurrence Classification C, 36, **91**, 94
 - for Concurrence Classification S, 36, **98**, 109
 - LWU needs to check, 59, 89, 93
 - LWU needs to provide to DWE, 90, 94
- Inspection, **45**, 46, 187
 - checklist, 148
 - form, 145
 - initial, 45
 - re-inspection, 47
 - routine, 46
- ISO 14001, xii, **317**

- Jewellery shop, 57, **72**, 168, 184

- Laboratory, 57, **73**, 86
 - analytical, **73**, 184
 - application attachment sheet, 141
 - chemical, 73, **245**
 - pathology, **73**, 184, 245
 - school, **81**, 245
- Large dischargers, 185
- Large fast food outlet, xii
- Laundry or laundromat, 57, **74**, 184, 246
 - typical installation, 292, 293
- Lawnmower repairs, **57**, 74, 184
- Legal responsibilities, 7, 19
- Legislation, 6, **7**, 121
- Limits for acceptance – see Guideline limits for acceptance
- Liquid trade waste
 - definition, xii, **4**
 - plumbing and drainage connection, 288
- Local Approvals Policy, xii, **40**, 41
- Local Government (General) Regulation, xii, **7**
 - provisions in regard to trade waste, 122
- Local Government Act 1993 – provisions in regard to trade waste, 7, 34, 35, 43, 44, **121**
- Low risk liquid trade waste, 2, 5, 13, **49**

- Macerators, 110, **171**
- Marina, 97, **104**, 109, 185
- Mandatory concurrence, 5, **16**, 91
- Material Safety Data Sheets, xii, **24**, 25
- Mechanical repairs, 57, **75**, 184, 241
 - application attachment sheet, 139
- Medical centre, 56, 71, 86, 184, **244**
- Medium risk liquid trade waste, 3, 16, **85**
- Mentoring of dischargers, 10, 12
- Metals, **29**, 236
- Minimum treatment requirements, 51, 56, **241**
- Mobile cleaning units, 57, **78**, 168, 184, 245
- Model liquid trade waste policy, 158
 - developing policy, 40
- Modular grease trap (MGT), 239, **261**
- Monitoring, 10, 45, 47, **193**
- Morgue, **71**, 184, 245

- Nightsoil, xii, 97
- Notice of concurrence, 113
- NSW framework for regulation of sewerage and trade waste, 1, **9**
- NSW Performance Monitoring Database, 119
- Nutrients, 236

- Oil and fat interceptor, 63, 239, 242, **262**
- Oil separators, 263
 - coalescing plate interceptor/separator, 238, **264**
 - hydrocyclone separation system, 238, **265**
 - vertical gravity separator, 239, **266**
- Open area, xii, 14, 85, **170**, 271
- Optical service, 57, **78**, 168, 184, 246
- Orders, 43
 - giving orders, 43
- Oyster processing, 85, 86, 184, **243**

- Pan waste, 97, 143, 185
- Panel beater/spray painting, 85, 86, 184, **241**
- Pesticides, 28, **31**, 237
- Pet shop, 57, **79**, 168, 184, 245
- pH, 25, **27**, **30**, 93, 101, 274
 - charges for pH outside the approved range, 186, **190**, 193
 - definition, **xiii**, 281
 - effects of high and low pH, 236
- pH Correction, 281
 - schematic, **283**, 284
 - system, **282**, 283

- Photographic waste, 57, 79, 246, **279**
 - flow diagram, 279
 - sizing of balancing tank, 280

- Plants (retail), 57, **80**, 184
- Plaster arrestor, 49, **239**
- Plumbing, 22, 46, **239**, 288
- Plumbing and drainage connection, 288
- POEO (General) Regulation 1998, 43
- POEO Act, 6, **43**
 - penalties under, **43**, 192, 195
- Potato peeling, 55, **162**, 184, 243
- Powers to disconnect a trade waste service, 45
- Prescribed pre-treatment equipment, xiii, 5, 13, 38, **49**, 85, 184
- Pre-treatment equipment,
 - installation requirements, **239**, 288
 - types, 49, **238**
- Pre-treatment requirements for Concurrence Classification A, 51, 56
 - commercial retail food preparation activities, **51**, 61
 - other activities, **56**, 65
- Prevention of waste and misuse of water, **45**, 123, 195
- Prohibited substances, **31**, 155

- Radiator repair, 86, 185, **241**
- Recycling, 1, 166
- Refusal of trade waste application, 19, 32, **37**, 179
- Re-inspections, 48
- Roofing of trade waste areas, 98, 170, 240, **269**, 271
- Routine site inspections, 46

- Sampling, 33, 46, 90, 94, **193**
 - sampling point, 25, 46, 193, **284**
- School, 54, 57, **80**, 184, 245, 246
- Screen printing, 185, **246**
- Screens, 61, **248**, 274
 - rotary inclined drum, 249
 - rotary, 249
- Septage, xiii, 97, **100**, 185
- Septic tank, xiii, 97, 179, **192**
 - decommissioning, 102
- Septic tank effluent, xiii, 97, **98**, 185
 - receival station, 102, 103
- Septic tank and pan waste – application
 - attachment sheet, 143
- Service station, 86, 184, 242, **267**, 268
- Sewage management facility, xiii
- Sewage of domestic nature, xiii
- Sewer discharge factor - see Discharge factor
- Sewer usage charge - see Charges
- Ship-to-shore pump-outs, xiv, 97, **104**, 107, 108, 109, 185
 - hose connecting, 106
- Shopping centre, 86, 184, **246**, 257
- Sink and floor wastes, **61**, 274
- Silver recovery unit, 239, **279**
- Site inspections, **45**, 193

- Spa, 57, **82**, 246
- Speed humps, 270
- Stone working, 57, **81**, 184
- Stormwater, 14, 25, 26, 31, 85, 93, 104, **170**, **269**
 - bunding, x, 93, 98, 109, 110, 179, **240**, 270
 - collection drains, 270
 - contamination of, 269
 - discharge to the sewerage system, 25, 93, 104, **170**
 - diversion drains, 270
 - first flush run-off, **170**, 192, 271, 272
 - methods of exclusion, 270
 - open areas, xii, 14, 85, 170, **271**,
 - separation, 270
 - speed humps, **240**, 270
- Storage of oil and chemicals, 26, 64, **240**, 274
- Sulphur compounds, 28, **237**
- Supermarket, 54
- Surfactants, xiv, 27
- Suspended solids (SS), xiv, 27, 188, **235**
- Swimming pool/spa/hydrotherapy, 57, **82**, 184, 246

- Term of an approval, 37
- Tertiary institutions, 85, 184, **246**
- Total dissolved solids (TDS), xiv, **27**, 188
- Trade waste - see Liquid trade waste
- Trade waste services agreement - see Agreement for liquid trade waste services
- Trade waste discharge factor - see Discharge factor
- Trade waste policy - see Model liquid trade waste policy
- Trade waste usage charge - see Charges
- Treatment requirements for liquid trade waste - see Pre-treatment requirements
- Truck wash, 58, **83**, 92, 185, 241

- Under-sink pump unit, 239, **262**

- Vehicle (car) washing, 58, **83**, 184, 241
- Venetian blind cleaning, 58, **84**, 168, 184
- Vertical gravity separator (VGS), 49, 239, **266**
- Veterinary surgery, 58, **84**, 184

- Waste minimisation, xiv, 3, 11, 26, **166**, 170
- Waste tracking systems, 275
- Water recycling, 1, 7, **166**
- Water supply meters, **286**, 315
- Waterless minilab, 57, **79**, 184, 279, 280
- Wok burner, 63, **243**, 256

- X-ray waste, 56, 86, 184, 246, **279**