

MOUNT BARKER DISTRICT COUNCIL

LOCAL ACCEPTANCE CRITERIA FOR DISCHARGES TO COMMUNITY WASTEWATER MANAGEMENT SYSTEM (CWMS)

TABLE 1 *General acceptance criteria*

PARAMETER	GUIDANCE VALUE	COMMENTS
Colour	Not noticeable after 100 dilutions	Colour can impact aesthetic appeal, adversely affect the lagoon treatment process or render the water unsuitable for sale to reclaimed water users.
**BOD ₅ (Biological Oxygen Demand)	200 - 600mg/L OR UDML 530g – 1.8Kg/day	<ul style="list-style-type: none"> - Overloads treatment Plants - Increases odours and corrosion in pipes
COD (Chemical Oxygen Demand)	<600 mg/L	Same as for BOD ₅ .
TOC (Total Organic Carbon)	<1200mg/L	Same as for BOD ₅ .
TDS (Total Dissolved Solids)	<1000mg/L	High TDS can: <ul style="list-style-type: none"> - Upset biological treatment process. - Limits reuse potential of treated water.
**SS (Suspended Solids)	200 - 600mg/L OR UDML 530g – 1.6Kg/day	High SS can: <ul style="list-style-type: none"> - Cause blockages in the system - Overload the treatment process - Creates anaerobic conditions under accumulated sludges, aggravating corrosion
Temperature	<38°C	Higher Temperatures: <ul style="list-style-type: none"> - Cause increased damage to CWMS infrastructure; - Liquefies & solubilises grease; - Promote the release of gases such as H₂S and NH₃; - Can adversely affect the safety of operations and maintenance personnel; - Accelerates chemical & biological conditions
pH	6-10	Extremes of pH can: <ul style="list-style-type: none"> - Adversely affect biological treatment processes; - Adversely affect the safety of operations and maintenance personnel; - Cause corrosion of CWMS infrastructure; - Increase the potential for the release of toxic gases such as H₂S and HCN.

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TABLE 1 (cont.) *General acceptance criteria*

PARAMETER	GUIDANCE VALUE	COMMENTS
Gross Solids	< 20MM	Gross solids can cause sewer blockages. The non faecal gross solids shall have a maximum linear dimension of < 20mm and a quiescent settling velocity of < 3m/hr.
Grease and Oil (Total)	<100 mg/L	Grease and oil can: <ul style="list-style-type: none"> - Cause system blockages; - Adversely effect the treatment processes; - Impair the aesthetics of the receiving water
MBAS (Methylene blue active substances)	<500 mg/L	MBAS is a measure of anionic surfactants. High MBAS can: <ul style="list-style-type: none"> - Adversely affect the efficiency of activated sludge plants; - Impair the aesthetics of receiving waters
**Ammonia plus Ammonical ion (measured as N)	60-97.5 mg/L OR UDML 162-263g/day	High Ammonia may: <ul style="list-style-type: none"> - Adversely affect the safety of operations and maintenance personnel; - Significantly contribute to the nutrient load discharged to the receiving environment. Higher temperatures and low pH can enhance these effects. Values can be subject to localised pH and temperature conditions.
Kjeldahl Nitrogen (TKN)	<150 mg/L	Kjeldahl Nitrogen is a measure of certain nitrogen species (and does not include nitrate or nitrite) in the waste stream. High Kjeldahl Nitrogen may significantly contribute to the nutrient loading of the final effluent.
**Total Phosphorous (as P)	10-30 mg/L OR UDML 27-83 g/day	High phosphorous may significantly contribute to the nutrient loading of the final effluent.
Sulphate (measured as SO ₄)	<1500 mg/L	High sulphate will contribute to the potential for the generation of sulphides and mercaptans in the wastewater leading to an odour problem. They can also damage the sewer structures.

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TABLE 1 (Cont.) *General acceptance criteria*

PARAMETER	GUIDANCE VALUE	COMMENTS
Sulphite (measured as SO ₂)	<15 mg/L	The strong reducing properties of sulphites increase the potential for anaerobic conditions to form because the process removes oxygen. The reactions are pH and temperature dependent. Release of SO ₂ gas could pose an occupational health and safety risk to maintenance staff.
Chlorine (measured as Cl ₂)	<5 mg/L	High chlorine concentrations can: <ul style="list-style-type: none">- Adversely affect the safety of operations personnel;- Cause corrosion of system infrastructure.
Aluminium	<100 mg/L	Aluminium compounds, particularly in the presence of calcium salts, have the potential to precipitate as a scale that can cause a system blockage.
Iron	<100 mg/L	Iron salts can precipitate creating a potential for system blockage. High concentrations of ferric iron can also cause problems with colour.
Manganese	<10 mg/L	Manganese concentrations need to be limited to that which the plant can tolerate and extent of the water reuse.

UDML= Upper Daily Mass Load. The Upper Daily Mass Load may be applied in circumstances involving small volumes of wastewater or for very large waste generators. It provides limits for the total loading permitted per day instead of mg/L.

** Denotes additional charges apply where concentrations fall within the specified range. No additional charge applies to concentrations below the lower value and concentrations above the upper value are not accepted.

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TABLE 2 *Specific Acceptance Guidelines for metals* – The lower daily mass load assumes at least a 3000L/day flow, and if unknown, the concentration that is non-inhibitory to sludge reuse.

Metal	Concentration Value (mg/L)*	Lower Mass Daily Load (mg/day)	Upper Mass Daily Load (g/day)
Arsenic	5	15	
Cadmium	2	6	2.3
Chromium, Total	20	75**	
Chromium, Hexavalent	10		
Cobalt	10	30	
Copper	10	75	54.6
Lead	10	30	28
Mercury	0.05	0.15	
Nickel	10	30	
Selenium	5	15	
Silver	5	15	
Tin	10	30	
Zinc		2	45

* The concentration value is applied when the mass loading of the wastewater falls between the Lower Daily Mass Load Limit and Upper Daily Mass Load.

The Upper Daily Mass Load is dependent upon the entire load and size of the treatment plant and is determined from the number of businesses discharging the pollutant.

**If the Chromium level is less than the lower daily mass load, the Chromium must be in the trivalent form (III).

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TABLE 3 *Specific acceptance guidelines (organic compounds)*

PARAMETER	GUIDANCE VALUE	COMMENTS
Formaldehyde (Methanal)	<50 mg/L	Formaldehyde can cause occupational health and safety hazards to maintenance staff.
Halogenated aliphatic compounds	<5 mg/L	Halogenated aliphatic compounds include carbon tetrachloride, methylene chloride, chloroform, trichloroethylene, and trichloroethane etc. These compounds: <ul style="list-style-type: none">- Are relatively stable in both the environment and treatment processes;- May adversely affect the treatment process. Therefore they may limit the reuse potential of the reclaimed water.
Pentachlorophenol	<5 mg/L	Pentachlorophenol can: <ul style="list-style-type: none">- Adversely affect biological treatment processes;- Accumulate in fish and is phytotoxic (kills plants);- Cause final effluent water to be unsuitable for reuse.
Petroleum Hydrocarbons	<30 mg/L	Petroleum hydrocarbons: <ul style="list-style-type: none">- May cause occupational health and safety hazards;- Render the final effluent unsuitable for discharge (15mg/L of used petroleum products can leave an oily sheen on surface waters)
Phenolic compounds	<100 mg/L	Phenolic compounds are often used for their disinfectant properties, and can adversely affect the biological treatment process.
Polynuclear Aromatic Hydrocarbons (PAH)	<5 mg/L	PAH are typified by benz (a) pyrene. They can: <ul style="list-style-type: none">- Persistent in the environment and treatment processes;- Be highly carcinogenic;- Render the final effluent water unusable for reuse.

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PARAMETER	GUIDANCE VALUE	COMMENTS
Pesticides-insecticides herbicides fungicides etc. and associated metabolites.	1mg/L	Total pesticides should not exceed 1mg/L.
In particular, limits for organochlorine pesticides:		
- Aldrin	0.001mg/L	
- Chlordane	0.006mg/L	
- DDT	0.003mg/L	
- Dieldrin	0.001mg/L	
- Heptachlor	0.003mg/L	
- Lindane	0.100 mg/L	
In particular, the limits for organophosphate pesticides shall not exceed	0.1mg/L	Azinphos-ethyl, coumaphos, demeton, dichlorvos, dimethoate, disulfoton, fenitrothion, malathion, methamidophos, mevinphos, omethoate, oxydemeton-methyl, parathion, triazophos, trichlorform

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TABLE 4 *Specific acceptance guidelines (inorganic compounds).*

PARAMETER	GUIDANCE VALUE	COMMENTS
Boron	<25 mg B/L	Boron is not removed by usual treatment processes and can render reclaimed water unsuitable for reuse – particularly for food crops.
Bromine	<10mg Br ₂ /L	High Bromine concentrations can: <ul style="list-style-type: none">- Damage CWMS infrastructure;- Release gas under certain conditions causing OH&S hazards.
Cyanide	<5 mg CN ⁻ /L	Under certain conditions cyanide may be released as a gas causing OH&S hazards.
Fluoride	<30 mg F/L	Fluoride is not removed by usual treatment processes and can render reclaimed water unsuitable for reuse.
Sulphide	<5 mg S ²⁻ /L	Sulphides can: <ul style="list-style-type: none">- Cause corrosion to CWMS infrastructure;- Cause generation of odours and sewer gases causing OH&S hazards.

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LOCAL ACCEPTANCE CRITERIA FOR DISCHARGES TO COMMUNITY WASTEWATER MANAGEMENT SYSTEM (CWMS)

General Prohibitions

- 1) No user shall introduce or cause to be introduced into the Community Wastewater Management System (CWMS) any pollutant or wastewater that cannot be treated and passes through the system or causes interference.
- 2) No intractable waste shall be discharged into the CWMS.
- 3) No hazardous waste shall be discharged to CWMS and in particular those substances that:
 - Persist or are highly toxic
 - Pass through the treatment plant
 - Are deleterious to the CWMS, employees or the public
 - Inhibit the treatment process
- 4) No solid or viscous substances in quantities of such size as to be capable of causing obstruction to the flow, including but not limited to:
 - Animal matter, offal
 - Dust ashes or cinders
 - Grease, oil
 - House refuse
 - Rubbish, garbage
 - Soil, mud, sand, gravel
 - Solid matter
 - Vegetable or fruit parings
 - Wool, hair
- 5) No substance that could:
 - Cause damage to the CWMS infrastructure including the collection, treatment and disposal mechanisms;
 - Endanger public health, safety or amenity;
 - Cause harm to the health of operators or other associated personnel of the system;
 - Impair the quality of the final effluent;shall be permitted to discharge to the CWMS.
- 6) Any stormwater, including roof catchment waters and rainwater tank overflows, ground surface and subsurface drainage or seepage waters are prohibited and shall not be discharged to the CWMS.

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LOCAL ACCEPTANCE CRITERIA FOR DISCHARGES TO COMMUNITY WASTEWATER MANAGEMENT SYSTEM (CWMS)

Specific Prohibitions

1) Flammable and/or explosive substances

The wastewater must not exceed 10% of the lower explosive limit at 25°C or,

Any petrol, other inflammable or explosive substances, whether solid, liquid or gaseous shall not be introduced into the CWMS.

2) Genetically Modified Organisms

A “Dealing” with genetically modified organisms (GMO) will require a licence from the Gene Technology Regulator unless the “dealing” is exempt, a notifiable low risk dealing, or on the GMO register. This provision also applies to the Relevant Authority as the operator of the CWMS—especially where the reclaimed water is discharged to the environment or used on food crops.

3) Medical & Infectious Wastes

Pathological, infectious and cytotoxic wastes shall not be discharged into the CWMS. This includes solid wastes from any hospital, clinic, surgery, laboratory, or any other medical or veterinary facility to the CWMS, including but not limited to: Hypodermic needles, syringes, instruments, utensils, swabs, dressings, bandages, paper and plastic items of a disposable nature or any noticeable portion of human or animal anatomy.

4) Persistent Organic Compounds (0.002mg/L)

Many organic compounds can persist in the environment for a long time and accumulate in the tissues of plants and animals. The maximum concentration of any of the substances listed below shall 0.002mg/L, particularly if the water is intended for reuse.

Halogenated aromatic hydrocarbons

Polychlorinated biphenyls

Polybromated biphenyls

5) Radioactive Substances

Discharge of radioactive substances must comply with standards and regulations specified for control of radioactive substances. In particular the Radiation Protection and Control Act 1982; Part IV, Division IV of the Ionising Radiation Regulations 1985 and any other Act or Regulation must be adhered to. If the water is reclaimed, special attention is required for those radionuclides that can be absorbed and concentrated by plants and animals. These include strontium, caesium, barium, iodine, calcium, chromium, potassium, ruthenium, zirconium and zinc.

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Restricted Substances

The following restricted substances are those that are permitted to be discharged into the CWMS under authorisation from the Council and subject to conditions of discharge. They include:

- Any backflush waters from a spa/pool in excess of 680 litres;
- Any pressure relief valve or safety release valve from a hot water service, or boiler, or pressure vessel;
- Any process wastewater or any process wash down waters from within a premises except as otherwise determined by the relevant authority under the Code Of Practice for general management of Communal Waste Control Systems Receiving Trade waste Discharges.
- Any substance in excess of the Acceptance criteria set out in tables 2,3 & 4.
- Any backwash waters from water softeners.