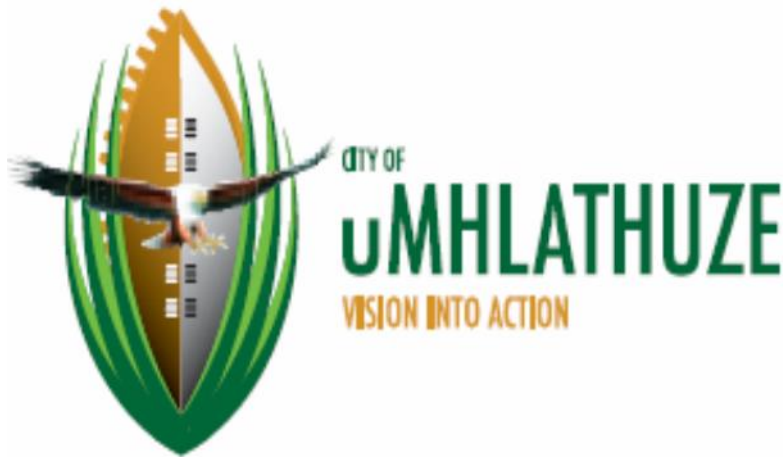


# POLICY DOCUMENT

## TRADE EFFLUENT MANAGEMENT POLICY



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## **TRADE EFFLUENT MANAGEMENT** **POLICY**

### **1. PURPOSE**

To ensure adherence of trade/industrial effluent discharged into the Municipal sewer system in accordance with Section 86 (1) and Section 88 (1) of the Water Services Bylaws:

*Section 86 (1) “An authorised official may, subject to such conditions as the authorised official may specify, accept sewage for disposal delivered to the Municipality’s facilities by road haulage.”*

*Section 88(1) “No person shall discharge or cause or permit to be discharged into the sewage disposal system, unless he or she has made an application to the Municipality to authorise the discharge and the application has been accepted, provided also, that any discharge is subject to any conditions that may have been imposed by the Municipality and in accordance with the written permission of an authorised official.”*

### **2. BACKGROUND**

The Sewage Disposal System in the City of uMhlatuze has been developed in response to requirements to protect public health and minimize the environmental impact of wastewater discharges. Over time, the industrial and commercial base of the city has expanded and industrial effluent from these activities has been accepted into the Sewerage System as a service to business.

The operation and performance of municipal wastewater treatment works and the resultant final treated effluent and waste discharge is fully dependent on:

- a) the nature of the activities in the wastewater treatment works catchment area
- b) the proportions of domestic and industrial effluents in the inflow

- c) the overall volume of effluent received; and
- d) the concentration of the effluent received

Industrial Effluent may:

- a) create risks to the health and safety of the general public or those working on Sewerage and Wastewater Treatment Systems;
- b) damage the fabric or performance of Sewerage and Wastewater Treatment Systems;
- c) cause significant environmental impacts;
- d) limit the options for the Disposal of Recycled Water and Biosolids; and
- e) lead to unduly high costs for the municipality.

The overall objective of this policy is to solve the problem of excessive water pollution. In attaining this objective several other objectives would be achieved, namely; efficient resource utilisation, cost recovery for activities related to pollution abatement and damage reparations, discouraging of excessive pollution and promotion of sustainable water use. A properly implemented and managed Trade Effluent Management System (TEMS) would encourage desirable activities from wastewater dischargers, namely abatement of pollution at source, recycling of waste streams and wastewater, re-use of water, water conservation and return of water to its source.

### 3. DEFINITIONS

**“applicant”** means any person seeking authorization;

**"approved"** means approved by the Municipality in writing, whether by resolution of the Council or by an authorised official and “approval” has a corresponding meaning;.

**"authorised official"** means a person in the employ of the Municipality, authorised as an official by the Municipality, or if the Municipality has appointed a service provider, an employee of such service provider, authorised by it as an official and

acting within the scope of the powers, functions and duties assigned to that service provider by the Municipality.

**"charges"** means the rate, charge, tariff, flat rate or subsidy, determined by the Municipal Council and applicable to the service in question;

**"consumer"** means -

- a) any person who occupies premises to whom, and in respect of which premises, the Municipality-
  - (i) has agreed to provide water supply services;
  - (ii) is providing water supply services; or
  - (iii) has entered into an agreement with the Municipality for the provision of water supply services to or on any premises;
- b) the owner of any premises to which the Municipality is providing water supply services;
- c) where water supply services are provided through a single connection to a number of accommodation units or consumers or occupiers, the person to whom the Municipality agreed to provide such water supply services; and
- d) any end-user who receives water supply services from the Municipality or other water supply services institution

**"connecting sewer"** means a pipe owned by the Municipality and installed by it for the purpose of conveying sewage from a drainage installation on any premises, to a sewer beyond the boundary of those premises, or within a servitude area, or within an area covered by a way-leave document or other type of agreement;

**"council"** means uMhlathuze Municipality,

**"drain"** means that portion of the drainage installation that conveys sewage within any premises

**"industrial effluent"** means any liquid, whether or not containing matter in solution or suspension, which is given off in the course of or as a result of any trade, manufacturing, mining, chemical or other industrial process or in any laboratory, or in the course of research, or agricultural activity, and includes any liquid or effluent emanating from the use of water, other than standard domestic effluent or storm water, and trade effluent bears the same meaning;

**"manhole"** means a chamber of a depth greater than 750mm and of such dimension that allows the entry of a person into such a chamber for the purposes of providing access to a pipe;

**"municipal area"** means the area placed under the control or jurisdiction of council.

**"notice"** means "public notice", a "compliance notice", or other written communication between the Municipality and any person of individual written notice for information purposes;

**"policy"** means permit management permit.

**"pollution"** means the introduction by a person of any substance, whether directly or indirectly, into the water supply system, a water installation or a water resource, that may make the water harmful to health or the environment, or impair its quality for the use for which it is intended

**"permit holder"** means a person who has obtained the written permission of an authorised official to discharge or cause or permit to discharge industrial effluent into the sewage disposal system.

**"person"** means any natural person, local government body or like authority, a company incorporated under any law, a body of persons whether incorporated or not, a statutory body, public utility body, voluntary association or trust;

“**sewage**” means waste water, industrial effluent, standard domestic effluent and other liquid waste, either separately or in combination, but shall not include storm water;

“**sewage disposal system**” means the structures, valves, pipes, pumps, meters or other appurtenances used in the conveyance through the sewer reticulation system and treatment at the treatment works under control of the Municipality and which may be used by it in connection with the disposal of sewage, and shall include the sea outfall pipeline;

“**sewer**” means any pipe or conduit which is the property of or is vested in the Municipality and which may be used for the conveyance of sewage from the connecting sewer and shall not include a drain (as defined);

#### **4. ACRONYMS**

“**LIMS**” means Laboratory Information Management System

“**WQM**” means Water Quality Management

“**TOC**” means Technical Operations Centre

#### **5. LEGISLATIVE REFERENCE**

“**National Water Act**” means the National Water Act, 1998, (Act No. 36 of 1998);

“**NEMA**” means the National Environmental Management Act, 1998 (Act No. 107 of 1998);

“**WSB**” means Water Service By-laws

## **6. APPLYING FOR AUTHORISATION TO DISCHARGE INDUSTRIAL EFFLUENT**

This procedure details the process to be followed when applying for an industrial effluent discharge permit for various industries within the City of uMhlathuze area of operation in accordance with **section 88** of the Water Services By-laws. The provision of permits ensures effective water quality management within the specified area.

### **6.1. Permit Application**

- a) The application is an important document in the authorisation process. The applicant will be requested to provide information about the proposed discharge and for details of the business making the application;
- b) Applicant launches a permit application, through web based application or by manually completing the prescribed form (**Annexure B**);
- c) The applicant must pay the prescribed application fee as per Section 88(3) of the Water Services Bylaws.
- d) No person may make a false statement or furnish false information to the Municipality, an authorised official or an employee of the Municipality or falsify a document that has been issued in terms of the Water Services By-laws and will be enforced in accordance section 119 of the Water Services By-laws;
- e) Within seven (7) days after the submission of the application the authorised official will either accept or reject the application, based on its completeness.

### **6.2. Evaluation of Application**

- a) Once a complete application has been submitted, the authorized official is required to assess the application and notify the applicant of the outcome within sixty (60) days of its receipt;
- b) Site inspection must be conducted by an authorised official in consultation with applicant;



- c) A sample of the industrial effluent to be discharged must be taken by the authorised official in consultation with the applicant to determine quality against Schedule B or C of the Water Services By-laws;
- d) Sample testing will be conducted at an ISO 17025 accredited laboratory or a laboratory that is participating in a recognised proficiency testing scheme;
- e) When considering an application the authorised official will assess it against the requirements of the Water Services By-laws and in doing so must be aware of the municipality's responsibilities under any other legislation;
- f) The authorised official should pay particular attention to legal obligations to protect staff and others under health and safety legislation, to protect and maintain the Sewage Disposal System and to safeguard the environment;
- g) If application is denied, a conditional review notice will be issued and the applicant will be given thirty (30) days from the date of issue to make representation to the authorized official for reconsideration;
- h) If the application is approved, a notice will be issued with the following minimum details:
  - i. applicant details
  - ii. particulars of the authorisation related to the Water Services By-laws
  - iii. duration of the authorisation
  - iv. if applicable, any conditions
- i) The authorised official will furnish the Financial Services Department with all relevant data, to ensure that the permit holder is liable to be billed as per the prescribed tariff of charges for the discharge of industrial effluent.

### **6.3. Compliance with Authorisations**

- a) The Water Services By-laws require authorised officials to assess whether permit holders are complying with the conditions of their authorisations at least annually and to consider a wide range of information in their assessment;
- b) The purpose of the compliance assessment process is to ensure that permit holders are managing the risks associated with the industrial effluent discharge effectively.

## 6.4. Managing non-compliance

- a) The municipality will review the annual compliance and incident reports from Sewage Disposal System and develop an overview of compliance issues. The municipality will use its overview to inform the sector and drive improvement in the level of compliance;
- b) The municipality will implement the following interventions to ensure compliance to the Water Services By-laws:
  - i. **planned infrastructure quality monitoring** - The authorized official must implement a planned infrastructure monitoring programme to ensure compliance with quality requirements of the Water Services By-laws;
  - ii. **unplanned inspections** - The authorized official must conduct random inspections at industries, to identify industries that are illegally discharging industrial effluent; and
  - iii. **online instrumentation** - The authorized official must continually check the online monitoring system/telemetry to check for those consumers that are illegally discharging industrial effluent.
- c) Any persons found non-compliant with the requirements of the Water Services By-laws will be guilty of an offence and liable in terms of section 119 of the water Services By-laws;
- d) Notwithstanding (c) above, said persons will also be required to comply with section 88(1) of the Water Services By-laws.

## 7. APPLYING FOR AUTHORISATION FOR ACCEPTANCE OF SEWAGE DELIVERED BY ROAD HAULAGE

This procedure details the process to be followed when applying for an industrial effluent discharge permit for acceptance of sewage delivered by road haulage to a municipal facility within the City of uMhlathuze area of operation in accordance with

**section 86** of the Water Services By-laws. The provision of permits ensures effective water quality management within the specified area.

### **7.1. Permit Application**

- a) The application forms an integral part of the authorisation process. The applicant will be asked to provide information about the proposed discharge and for details of the business making the application;
- b) The applicant must pay the prescribed application fee as per Section 88(3) of the Water Services Bylaws;
- c) Applicant launches a permit application, through web based application or by manually completing the prescribed form (**Annexure B**);
- d) No person may make a false statement or furnish false information to the Municipality, an authorised official or an employee of the Municipality or falsify a document that has been issued in terms of the Water Services By-laws and will be enforced in accordance section 119 of the Water Services By-laws;
- e) Within seven (7) days after the submission of the application the authorised official will either accept or reject the application, based on its completeness.

### **7.2. Evaluation of Application**

- a) Once a complete application has been submitted, the authorized official is required to assess the application and notify the applicant of the outcome within sixty (60) days of its receipt;
- b) A sample of the industrial effluent to be discharged at the facility must be taken by the authorised official in consultation with the applicant to determine quality against Schedule B or C of the Water Services By-laws;
- c) Sample testing will be conducted at an ISO 17025 accredited laboratory or a laboratory that is participating in a recognised proficiency testing scheme;
- d) When considering an application the authorised official will assess it against the requirements of the Water Services By-laws and in doing so must be aware of the municipality's responsibilities under any other legislation;

- e) The authorised official should pay particular attention to legal obligations to protect staff and others under health and safety legislation, to protect and maintain the Sewage Disposal System and to safeguard the environment;
- f) If application is denied a conditional review notice will be issued and the consumer will be given thirty (30) days from the date of issue to make representation to the authorized official for reconsideration;
- g) If the application is approved, a notice will be issued with the following minimum details:
  - i. applicant details
  - ii. particulars of the authorisation related to the Water Services By-laws
  - iii. duration of the authorization
  - iv. if applicable, any conditions
- h) The authorized official will furnish the Financial Services Department with all relevant data, to ensure that the permit holder is liable to be billed as per the prescribed tariff of charges for the discharge of industrial effluent.

## **8. IMPROVEMENT NOTICES AND TERMINATION OF A PERMIT**

- a) An improvement notice may be served at any time and may require immediate action to resolve a breach of authorisation. The notice must be served in writing and fulfil the requirements of the Water Services By-laws;
- b) A termination notice can be issued if an improvement notice has been breached or if urgent action is required to protect health and safety or safeguard the environment;
- c) A termination notice requires a permit holder to surrender their authorization and stop discharging Trade Effluent to the Sewage Disposal System. The notice must be served in writing 30 days before the notice comes into effect unless urgent action is required to protect health and safety or safeguard the environment.

## **9. QUALITY OF SERVICE**

- a) The municipality must implement an efficient document control procedure in alignment with the requirements of ISO 9001
- b) The authorized official must adhere to correct sampling methods and procedures as prescribed by the laboratory.

### **9.1. Credibility of trade effluent quality data**

- a) The laboratory must be ISO 17025 accredited; or
- b) Certificate of Accreditation for applicable methods or Z-scores results (z-scores must be  $\geq -2$  &  $\leq 2$  are acceptable) in a recognised Proficiency Testing Scheme for chemical, physical and microbiological determinants. Alternatively, the laboratory may present information on intra-lab quality assurance schemes.

## 10. PAYMENT OF SERVICE

### 10.1. Basic Administrative Charge

This charge is intended to cover the administration costs of the permit application. These costs include water quality monitoring and the provision of financial and customer services.

### 10.2. Load-Based Charge

This charge is based on the waste load discharged with respect to both volume and concentration. The level of charges will be of such magnitude as to provide an incentive to the discharger to minimise the waste load of the effluent prior to discharge.

#### 10.2.1. Industrial Effluent Discharge Formula (Section 88 Permit Holders)

The additional industrial effluent charge for the disposal of high-strength sewage as stipulated in section 88 of the Water Services Bylaw—shall be determined in accordance with the following formula:

$$T_c = Qct \left\{ 0.6 \left( \frac{COD_c - COD_d}{COD_d} \right) + 0.25 \left( \frac{P_c - P_d}{P_d} \right) + 0.15 \left( \frac{N_c - N_d}{N_d} \right) \right\}$$

Where:

- $T_c$  = extraordinary treatment cost to consumer
- $Qc$  = wastewater volume discharged by consumer in kilolitres
- $t$  = unit treatment cost of waste water in rand per kilolitre
- total chemical oxygen demand (COD) of waste water discharged by consumer in milligrams per litre and is inclusive of both the biodegradable and non-biodegradable portion of the COD
- $COD_c$  = consumer in milligrams per litre and is inclusive of both the biodegradable and non-biodegradable portion of the COD
- $COD_d$  = total COD of domestic waste water in milligrams per litre
- $P_c$  = Orthophosphates concentration of waste water discharged by

- consumer in milligrams per litre
- $P_d$  = Orthophosphates concentration of domestic waste water in milligrams per litre of
- $N_c$  = Ammonia concentration of waste water discharged by consumer in milligrams of nitrogen per litre
- $N_d$  = Ammonia concentration of domestic waste water in milligrams of nitrogen per litre

Constituent	Value
$COD_d$	300mg/ ℓ
$P_d$	10mg/ℓ
$N_d$	25 mg/ℓ

a) Wastewater volume discharged ( $Q_c$ ) to be determined as follows:

$$Q_c = (T_v - T_a) * (100\% - P_a)$$

Where:

- $Q_c$  = wastewater volume discharged by consumer in kilolitres
- $T_v$  = Total volume of incoming water, inclusive of any other source of water, in kilolitre
- $T_a$  = Total allowable allowance of 120 litres per employee monthly
- $P_a$  = Total volume water utilised during the industrial process expressed as a percentage of  $T_v$

**Note for section 86 authorisations:**

$Q_c$  = Total volume discharged at a municipal facility

- b) Samples to taken twice (2) monthly from permit holders for testing over a three (3) month duration against the quality parameters
- c) Results for the individual parameters i.e.  $COD_c$ ,  $P_c$  and  $N_c$  to be averaged over a three (3) month duration

- d) Planned inspections to be conducted once (1) in a three (3) monthly cycle to validate  $T_a$  and  $P_a$
- e) The authorized official will submit to the Financial Services Department with all relevant data, to ensure that the permit holder is liable to be billed as per the prescribed tariff of charges for the discharge of industrial effluent.
- f) The data in (e) above will be provided within a three (3) months cycle for review.

### 10.2.2. Industrial Effluent Discharge Formula (Section 86 Permit Holders)

The additional industrial effluent charge for the disposal of high-strength sewage as stipulated in section 86 of the Water Services Bylaw shall be determined in accordance with the following formula:

$$T_c = Qct \left\{ 0.6 \left( \frac{COD_c - COD_d}{COD_d} \right) + 0.4 \left( \frac{SS_c - SS_d}{SS_d} \right) \right\}$$

Where:

- $T_c$  = extraordinary treatment cost to consumer
- $Qc$  = wastewater volume discharged by consumer in kilolitres
- $t$  = unit treatment cost of waste water in rand per kilolitre
- $COD_c$  = total chemical oxygen demand (COD) of waste water discharged by consumer in milligrams per litre and is inclusive of both the biodegradable and non-biodegradable portion of the COD
- $COD_d$  = total COD of domestic waste water in milligrams per litre
- $SS_c$  = Settleable Solids concentration of waste water discharged by consumer in millilitres per litre
- $SS_d$  = Settleable Solids concentration of domestic waste water in millilitres per litre of

Constituent	Value
$COD_d$	300mg/ ℓ



$SS_d$                       10ml/l

a) Wastewater volume discharged ( $Q_c$ ) to be determined as follows:

$$Q_c = (T_v - T_a) * (100\% - P_a)$$

Where:

- $Q_c$      =   wastewater volume discharged by consumer in kilolitres
- $T_v$      =   Total volume of incoming water, inclusive of any other source of water,  
              in kilolitre
- $T_a$      =   Total allowable allowance of 120 litres per employee monthly
- $P_a$      =   Total volume water utilised during the industrial process expressed as a  
              percentage of  $T_v$

**Note for section 86 authorisations:**

$Q_c$  = Total volume discharged at a municipal facility

- b) Samples to taken twice (2) monthly from permit holders for testing over a three (3) month duration against the quality parameters
- c) Results for the individual parameters i.e.  $COD_c$  and  $SS_c$  to be averaged over a three (3) month duration
- d) Planned inspections to be conducted once (1) in a three (3) monthly cycle to validate  $T_a$  and  $P_a$
- e) The authorized official will submit to the Financial Services Department with all relevant data, to ensure that the permit holder liable is billed as per the prescribed tariff of charges for the discharge of industrial effluent.

**10.3. Deterrent Charge**

Penalties for the exceeding of the prescribed limits shall be determined by the Municipality from time to time in accordance with the Section 119 of the Water Services By-laws

## 10.4. Tariff Charge

The tariff charge is over and above the basic sewage charges.

## 11. INCONSISTENCY WITH OTHER COUNCIL POLICY

In the event of any inconsistency between any provision of this policy, and any other Council policy, this policy prevails.

Review no	Review date	Report no	Next review	Notes