

aj amesh 12/2/06
9-0-06

**GUIDELINES FOR PREPARATION OF APPLICATION FOR WASTEWATER
TREATMENT PLANTS**

WASTEWATER MANAGEMENT AUTHORITY

DECEMBER 2006



GUIDELINES FOR PREPARATION OF APPLICATION FOR WASTEWATER TREATMENT PLANTS

For any Project which shall generate domestic or industrial wastewater requiring appropriate treatment by means of a wastewater treatment plant, the Promoter shall submit a Design Report to the Wastewater Management Authority for the purpose of obtaining the required approval.

The Design Report shall be prepared and endorsed by either a Registered Professional Civil Engineer, a Process Engineer or a wastewater expert specialized and experienced in the design and construction of wastewater treatment plants. The Design Report shall include the information listed below. However the Wastewater Management Authority reserves the right to request any other additional information necessary for processing of the application and granting of the approval.

1.0 Project Brief

The Project Brief shall contain a true and fair statement and description of the undertaking as proposed to be carried out by the proponent requiring a clearance from the WMA, and shall include:

1.1 Name and Address of Enterprise

The Registered Name of the Enterprise and its postal address.

1.2 Contact Person

A Contact Person responsible to provide further details on the application.

1.3 Design Consultant

The name, address, telephone no. and qualifications of the Design Consultant who prepared the Design Report.

1.4 Location of site

A comprehensive location and site plan, with known landmarks as reference points and showing any environmentally sensitive area (e.g. surface water bodies, wetlands, and boreholes), should be submitted. The distance of the proposed development from such sensitive area, as well as from nearest residential areas and other existing industries, should also be indicated.



1.5 General description of activity

The activities to be carried out within the development shall be clearly defined as well as the principle, concept and purpose of the undertaking.

1.6 Permanent and Transient Population

The maximum permanent and transient population (employees, staff, guests, members of public) expected on a daily basis shall be submitted. In case of restaurants, hotels and undertakings having kitchens, the total number of dishes to be prepared on a daily basis shall be given.

1.7 Days and hours of production

The days and hours of production should be stated.

1.8 Total extent of land occupied by undertaking

Total area of land to be occupied by the undertaking should be stated.

1.9 Total area occupied by buildings

Total area to be occupied by buildings should be stated.

1.10 Available non-occupied space

The total area that will remain unoccupied after implementation of the project should be stated.

2.0 Raw materials, chemicals and water consumption

2.1 Nature of raw materials

The description and monthly quantities of raw materials expected to be used in the production process should be submitted. If environmentally objectionable materials will be used in the production, these shall be accounted for.

2.2 Description of the different stages of industrial process

The different stages of the production process should be clearly defined and illustrated by means of a flow diagram.

2.3 Finished Products

The names and expected monthly quantity of the finished products should be stated.

2.4 Source of water used

The source of water that will be used should be stated.

2.5 Water Consumption



The expected daily water consumption data should be provided.

The design flows for premises other than residential developments shall be as follows:

INSTITUTION / PREMISES	WATER CONSUMPTION (per day)
Schools	65 litres per pupil and staff
Pensionat, Homes	200 litres per occupant
Cinema, Theatre	10 litres per seat
Hospitals and the like	600 litres per patient and staff
Factories and the like	100 litres per person
Restaurants and the like	30 litres per maximum number of meals served
Hotels	400 litres per room

The Designer may use other design flows derived from existing similar facilities but should substantiate the flows with relevant data.

2.7 List of different chemicals used and monthly consumption

The names and monthly quantities of chemicals to be used in the production process should be submitted. If environmentally objectionable chemicals will be used in the production, these shall be accounted for.

2.8 Expected future short term or medium terms increase in production

In case the Enterprise has plans for short or medium term expansion, this should be clearly described.

3.0 Wastewater production, treatment and disposal

3.1 Domestic Wastewater

The expected volume and proposed mode of disposal of domestic wastewater should be stated.

3.2 Industrial Wastewater

- Anticipated daily industrial wastewater quantities shall be provided. Any diurnal or seasonal variation in the water consumed and industrial wastewater generated shall be indicated in the form of well labelled graphical representations.



- All sources of wastewater, domestic, industrial or wash water, should be clearly identified and quantified

The physical, chemical and biological characteristics of the raw wastewater generated from each source should be clearly defined. Any expected variations in the quality of the raw industrial wastewater should be indicated. The parameters to be included shall be as per the Fourth Schedule of the Wastewater (Standards for the discharge of industrial effluent into a wastewater system) Regulations 2004.

3.3 Treatment Technology and Mode of Disposal

The Designer shall indicate the wastewater treatment technology adopted, the relevant environmental standard to which the effluent shall be treated and the final mode of disposal of the treated effluent.

3.4 Primary treatment

The Designer shall investigate, provide for and/or substantiate:

- (i) an equalization tank is required before the inlet works.
- (ii) screening, sedimentation tank, grease trap and any other form of primary treatment is required.

3.5 Treatment process

(a) Preferred technology

The Designer shall indicate the existing treatment technologies available for achieving the required effluent standard and shall substantiate his choice for the preferred treatment process in terms of land requirements, Capital and Operation & Maintenance costs, and any other considerations. Treatment technologies investigated shall include, activated sludge systems, RBC systems, anaerobic technologies, DAF systems, physico-chemical treatment, pond systems and wetlands.

(b) Process Design

The Designer shall submit an in-depth design report, giving all the details and description of the secondary and tertiary treatment processes, including a process flow diagram and sizing of the individual treatment units. All technical information required to allow a proper assessment of the process design shall be submitted. The Design Report shall contain detailed drawings of plant layout plan, with relevant sections, flow process diagram and hydraulic profile.

A site layout plan showing positions and labelling of all buildings, other structures and relative position of the wastewater treatment plant shall be included.

A sewer network layout, showing position of all wastewater outlets, sewer pipes and manholes up to connection to the treatment plant and longitudinal profiles for all sewer stretches shall be submitted. The longitudinal profile should include cumulative chainage



