



**METRO**

**WASTEWATER MANAGEMENT**

POLICY GUIDELINES  
ON  
WATER SUPPLY AND  
SANITATION PROVISION  
TO COMMUNITIES

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# DURBAN METROPOLITAN COUNCIL

## WASTEWATER MANAGEMENT DEPARTMENT

### POLICY GUIDELINES

#### WATER SUPPLY AND SANITATION PROVISION TO COMMUNITIES

##### 1.0 General Comments

Any water supply and sanitation provision for residential communities must be:-

1.1 An affordable solution to consumer and service provider,

1.2 A sustainable solution

- Limit to cross subsidy proportion
- Capable of being maintained
- Acceptable to community
- Parity with other customers,

1.3 An environmentally satisfactory solution

- Pollution Prevention
- Healthy Residential Area
- Compliance with Water Act (DWAF approvals),

1.4 Within Economic capability to be undertaken by Council,

1.5 A joint solution for “domestic water cycle”,

##### 2.0 Options Available

In the Durban Metropolitan area there are a number of existing water supply systems. In due course there will be only three water supply systems available viz. 1) Basic - 200Ptank on the ground, 2) Intermediate - semi pressure and 3) Conventional full pressure.

For each of these an appropriate sanitation system is recommended.

2.1 Basic Water Provision (up to 200Pd)	
ACCEPTABLE	NOT ACCEPTABLE
1. V.I.P. (Ventilated Improved, Pit Latrines) - Provided access for emptying available and soakaway for sullage water provided.	1. Night Soil pail
2. Approved on-site disposal system	2. Waterborne sanitation
3. Chemical toilets (expensive)	3. Simple pit latrine (odours flies etc.)

## 2.2 Intermediate Water Provision - Semi Pressure

ACCEPTABLE	NOT ACCEPTABLE
i) <u>On Site Systems</u>	
1. Septic Tanks provided adequate soakaway capacity available (see guidelines for soakaways). For example with 400ℓ/d consumption, more than 200 m <sup>2</sup> undeveloped plot size is to be available and soil conditions and topography suitable.	3. VIP or approved on-site disposal system unless full soakaway provided. (See guidelines for soakaways) (Guideline / Policy Document No. 6).
2. Conservancy Tanks acceptable with minimum capacity of 7000ℓ or 7 days retention, whichever is greater or refer to SABS 0400-1990, PP10.4, Table 1 or consult professional engineer for flow assessment. Very expensive to owner to use due to high operating costs plus potential access problems.	4. Chemical Toilets unless soakaway as V.I.P. (expensive)
	5. Night Soil Pails.
ii) <u>Off Site Systems</u>	
A) Conventional sewerage systems to	
1. Conventional treatment works	3. Stabilisation Ponds Not acceptable as final effluent not to general standard as enforced by DWA&F. Other design and operation problems are  1) Area of land required 2) Construction difficulties due to Durban topography restraints 3) Preventing unauthorised access in Urban areas - security fencing etc. 4) Odour problems.
2. Package Plants (expensive to operate compared to i) above and major security concerns (pumping stations currently being vandalised)). (Has to be justified by applicant in terms of Guidelines for Developers in respect of Provision of Sewer Connections to Sub-divisions (Guideline / Policy Document No. 1)).	4. Reed beds require post chlorination and larger areas of land than ordinary stabilization pond. Operational problems seen as:  1) Inadequate areas of suitable land for larger communities 2) Construction difficulties 3) Security control. 4) Operational technology not fully finalised.
B) Interceptor tank with small bore reticulation system (final operational costs unlikely to be less than conventional sewerage systems due to necessity to empty interceptor tanks. - Acceptable in principle but has to be justified economically by applicant) Sewage Conveyed to	

<p>1) Conventional treatment works or package plant (see comments above)</p>	<p>2) Maturation pond system - similar concerns as for stabilisation ponds but with less odour. Final effluent quality probably acceptable if chlorinated</p> <p>3) Reed Beds - See previous comments A) 4).</p>
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**2.3 Water Conventional Provision - Full pressure**

<p>i) On site systems</p>	
<p style="text-align: center;">ACCEPTABLE</p>	<p style="text-align: center;">NOT ACCEPTABLE</p>
<p>1) Septic Tanks - Acceptable provided adequate soakaway capacity available (see guidelines for soakaways). Minimum site area of 300 m<sup>2</sup> (excluding Dwelling) needed for 600P/d water consumption.</p> <p>2) Conservancy Tanks acceptable with minimum capacity of 7000 Por 7 days retention, whichever is greater or refer to SABS 0400-1990, PP10.4, Table 1 or consult professional engineer for flow assessment. Very expensive to owner to use due to high operating costs plus potential access problems.</p>	<p>2) VIP</p> <p>3) Chemical toilets</p> <p>4) Night Soil Pails</p>
<p>ii) Off Site Systems</p>	
<p>a) Conventional sewerage acceptable (see comments under 2 ii) A)</p> <p>b) Interceptor Tanks with small bore (see comments under 2 ii) B)</p>	

3.0 Costs - It is absolutely essential that the final likely charges to individual households are made known to potential customers and agreement obtained that such charges are acceptable. As an example the following broad charges are based on 1998/99 costs assuming R 1,65/kPsewage user charge and are indicative only.

	Basic Low Press (Grnd Tank)	Intermediate Semi-Press (Roof Tank)	Full Press (From Reticul. System)
Water Supply	200P/d	Say 400 - 600 P/d	Say 700 P/d
Sanitation System	See 2.1	See 2.2	See 2.3
Monthly Water Charges:			
Fixed charge	-	-	R 18.00
Water consumption	-	R 10.56- R 21.12	R 37.95
Monthly Sewerage Charges on a user charge basis (For servicing and treating and based on 70% of water consumption)	R 6.93	R 13.86 - R 20.79	R 24.26
Total monthly charge (Excl. VAT)	R 6.93	R 24.42 - R 41.91	R 80.21

## CONCLUSION

The above guidelines have been established so as to ensure sustainable, healthy living conditions.

For each potential development discussions must be held at an early stage with the Water and Wastewater Management Departments before proceeding with finalisation of firm proposals.

The provision of connecting trunk mains and reticulation to the development will be carried out in terms of the Metropolitan Council's policies as laid down from time to time.

