

## NORMS - UNDERGROUND SEWERAGE SCHEME

Recommendation and guide lines prescribed in the manual on sewage and sewage treatment, MoUD,  
GOI, December 1973.

The norms by Technical Standing Committee

SL. NO.	DESCRIPTION	DECISION OF THE TECHNICAL STANDING COMMITTEE
	<b>CRITERIA</b>	
1	<b>Design Period</b>	
	Base year	5 years from the concept year, comprising of 2 years for formulation & Sanction of proposals 2½ years for implementation 6 months for effecting House Service Connection and commissioning of the system
	Intermediate Design Period	15 years from Base year
	Ultimate design Period	30 years from Base year
2	<b>Population</b>	Least value method (Note : A comparison may be made with the population figures assumed for water supply projects)
3	<b>Water Supply</b>	120 lpcd in case of Municipal Towns 135lpcd in case of Corporation (CPHEEO )
4	<b>Sewage flow (Qty)</b>	80% water supply + infiltration (Minimum 100 lpcd including infiltration)
5	<b>Design period</b>	
	Collection System	30 Years
	Pumping Station	30 Years
	Pumping machinery	15 Years
	Sewage Treatment	<p>➤Where ever land is easily available, Waste stabilization ponds system may be designed for 30 years requirement.</p> <p>➤Where ever, land is not available, other technical options may be analyzed for limited design periods modular basis etc. duly taking into a/c comparative cost economics on installation &amp; O&amp;M of the various proposals.</p> <p>➤The final decision on Technology and design period can be taken by the Local Body, based on the financial capability and technical ability effective O &amp; M.</p>

6	<b>Collection System</b>	120 lpcd in case of Municipal Towns
		135lpcd in case of Corporation (CPHEEO )
	a. Type of materials (Gravity sewers)	(a) Based on size
		up to 300mm- Stone Ware
		Beyond 300mm RCC/CI/DI/PSC
		(b) Based on depth of excavation
gravity sewers-Stone ware pipes/ RCC pipes up to 3.5mts depth		
(c) For depth more than 3.5mts. CI/DI pipes may preferable		
b.	Minimum size of pipe	150 mm
c.	D/d ratio	0.8
d.	Peak Factor	Zone wise contributory population basis may be adopted
		up to 20,000 - 3.00
		20000 to 50000 - 2.50
		500000 to 750000 - 2.25
		above 750000 - 2.00
e.	For Present / Ultimate flow	0.6m/sec for present peak flow
		0.8m/sec for ultimate peak flow
f.	Minimum depth of Pipeline (cover)	i) 1.00m for street sewers
		ii)0.4m with encasing in respect of HSCs up to property limit
g.	Maximum depth of cutting (restricted)	i) 6 mts. preferably
		ii) May be designed for lesser depth incase of coastal areas
h.	Bedding	As per CPHEEO norms
i.	House Service Connection	i) 6 Nos. / Man hole in case of developed areas
		ii) Incase of closely built houses in the old parts of the town, Y or T connection may be made up to a common inspection chamber & then connected to the manhole
7	<b>Manholes</b>	
a.	Type	i) Rectangular upto 2.5mts depth
		ii) Circular above 2.50mts.depth
		iii) Top of manholes to be of RCC for 0.3mts . height at top and cover slab is to be R.C.C
		iv) Raft slab for circular manhole may be provided depending upon the prevailing soil conditions & uplift pressure considerations
b.	Steps/Footrest	i) FRP
		ii) PVC encapsulated
		iii) CI steps can also be used.
c.	Plastering for	i) Inside 1:3 cement plaster 20mm thick

	manhole	ii) outside 1:5 Cement Plaster 12mm thick
d.	Ventilating shaft	Can be provided judiciously as per field requirement at 500 mts C/c @ where ever felt necessary
8	<b>Pumping Stations</b>	
a.	Components of Pumping station	Grit well Screen well Wet well (Suction Well)
b.	Type of Pumpsets	Submersible
c.	Capacity of Pumpsets	2 DWF- 1 No. 1 DWF - 2 Nos. ( with 50 % stand bye)
9	Pumping Main	
a.	Pumping main (Material)	(i)PSC made up of Sulphate Resistant cement (or) CI/DI pipes with appropriate lining may be used.
b.	Size of main	Most economical size for 30 years design period
c.	Velocity in pumping main	➤0.6 m/sec for present peak flow ➤The same should be checked for inter mediate peak flows at 1.2 m/sec. ➤The same should also be checked for ultimate peak flows, so as to be less than 2.2 m/sec.
9	General	➤for projects proposed to be posed under NRCD, guide lines suggested by NRCD may be followed as a special case. ➤For other design criteria / Para meters not covered , guide lines given in CPHEEO manual can be adopted.

## Resource mobilization

**1.WSPF:** GoTN grant component released through WSPF for NRCD projects.

**2.JNNURM:** For corporation Madurai & Coimbatore with a funding pattern of GOI 50%, GOTN 20% & ULB 30% (for a population of 10 lakhs to 40 lakhs, as per 2001 census)

**3. UIDSSMT:** Covers all towns (Corporation, Municipalities & Town Panchayats) with a funding pattern as detailed below. Subject to approval by State level selection Committee and approved by GOI 80%,GOTN 10%, nodal Agency (ULB contribution) 10%

**4. GOTN Funded Schemes**

GOTN provide funds for Town Panchayats

GOTN share 80%

Local body/Public contribution 20%

**5. TNUDP III : Grant 30% subject to maximum of Rs.10.00 Crores.  
Loan 40% ULB / PC 30% (Varies on viability of  
project)**

**6. Tariff and Deposit:  
Stepped tariff and Deposit for HSC based on  
usage – Domestic / Commercial fixed on viability of  
project**