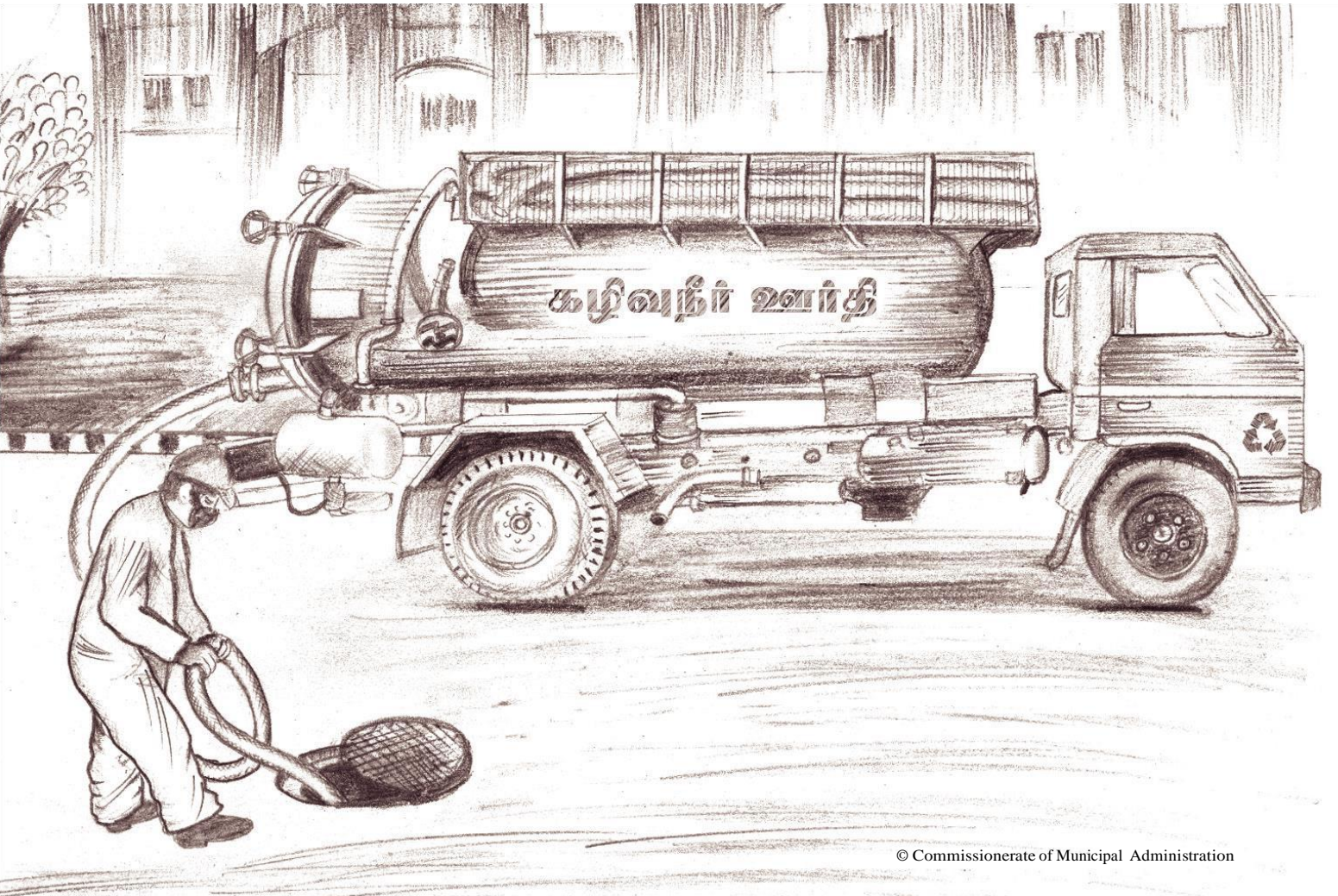




Operative Guidelines for **Septage** **Management** for Local Bodies in Tamil Nadu





Glossary of Terms

CMA	Commissionerate of Municipal Administration
CMWSSB	Chennai Metropolitan Water Supply and Sewerage Board
GIS	Geographical Information System
IEC	Information, Education and Communication
KfW	Kreditanstalt für Wiederaufbau
KL	Kilo Litre
MIS	Management Information System
MLD	Million Liters per Day
NRCP	National River Conservation Programme
NTADCL	New Tiruppur Area Development Corporation Limited
STP	Sewerage Treatment Plant
TNUDP	Tamil Nadu Urban Development Project
TP	Town Panchayat
UGSS	Underground Sewerage System
ULB	Urban Local Body / Urban Local Bodies
VP	Village Panchayat

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1. Introduction

Partially treated sewage that is stored in a septic tank is commonly called as Septage. It includes liquids, solids (sludge), as well as fats, oils and grease (scum) that accumulate in septic tanks over time. Septage management includes the process of design, collection, safe treatment & disposal of septage. A comprehensive program that regulates periodic septic tank cleaning, as well as septage transport, treatment, re-use, and disposal is important in the context of our rapidly urbanizing economies.

1.1 Current Scenario in Tamil Nadu

Tamil Nadu is one of the most urbanized states in India with around 48.45% (Census 2011) of the population living in urban areas. In terms of Septage Management, Tamil Nadu has accorded priority (Vision 2023) to the implementation of Underground Sewerage Scheme (UGSS) and waste water treatment plants are being established across local bodies in order to provide better sanitation facilities.

There are 12 Corporations, 124 Municipalities, 528 Town Panchayats and 12,808 Panchayats functioning in the state. The implementation of UGSS in erstwhile Chennai Corporation is cent percent covered and out of the 42 ULBs annexed in the process of expansion, only few towns are having sewerage system and others are in proposal stage. With respect to other Municipalities and Corporations, implementation of UGSS scheme is underway in 41 ULB's with financial assistance from Government of India, World Bank assisted TNUDP-III, German Bank assisted KfW, NRCP & NTADCL. Out of 41 ULBs, UGSS has been completed in 35 ULBs so far with limited coverage. Another 34 UGSS schemes have been announced of which work is in progress.

The ULB wise capacity of the STPs and the present flow received at STPs is given in the following table.

Table: ULB Wise Capacity of STP's, Present Flow and Percent Utilization

Table -1 ULB Wise Capacity of Working STPs, Present Flow and Percent Utilization								
SL	Name of the ULB	Year of Commissioning	Capacity (in MLD)	Technology	Inflow (in MLD)	% of Utilization	HSC on Dec. 31, 2015	HSC on Dec 31, 2016
1	Chennai	-	649.00	ASP	530.00	82	5,18,243	5,75,826
2	Chinnamanur	2012	4.00	ASP	2.40	60	3,905	5,369
3	Coimbatore (2)	2010	110.00	SBR	27.00	25	27,850	31,750
4	Cuddalore	2016	12.25	ASP	0.80	7	0	1,763
5	Dharmapuri	2013	4.86	ASP	1.01	21	1,061	1,864
6	Dindigul	2012	13.65	ASP	1.30	10	2,858	4,353
7	Kanchipuram	2012	14.70	WSP	13.50	92	18,557	19,230
8	Karur	2007	15.00	EAP	6.50	43	6,502	8,246
9	Kumbakonam	2009	17.00	ASP	14.00	82	17,653	18,821
10	Krishnagiri	2016	9.00	ASP	0.10	1	0	58
11	Madurai (2)	2011	170.70	SBR	40.00	23	1,45,082	1,61,670
12	Maraimalai Nagar	2010	2.02	EAP	1.80	89	4,519	4,582
13	Mayiladuthurai	2007	8.50	WSP	4.80	56	9,568	10,635
14	Mamallapuram	2016	2.34	ASP	0.45	19	0	163
15	Namakkal	2012	5.00	ASP	5.00	100	7,618	8,915
16	Nagapattinam (2)	2016	12.59	ASP	0.70	6	0	711
17	Orathanadu	2016	1.50	ASP	0.28	19	0	676
18	Pallavapuram *	2011	0.00	ASP	10.58	0	21,020	24,411
19	Perambalur	2013	4.20	ASP	2.50	60	9,169	9,529
20	Pudukottai	2016	10.62	ASP	0.50	5	0	2,223
21	Ramanathapuram	2013	7.00	ASP	3.40	49	5,352	7,222
22	Thanjavur	2007	28.05	ASP	13.00	46	19,727	23,023
23	Thiruvannamalai	2013	8.76	ASP	2.25	26	3,462	4,653
24	Theni-Allinagaram	2015	12.05	ASP	1.00	8	638	3,708
25	Tiruvallur	2016	6.20	MBBR	0.30	5	0	1,042
26	Tiruvavur	2014	6.92	ASP	1.90	27	3,579	4,771
27	Tirunelveli	2007	24.20	WSP	11.00	45	23,487	24,632
28	Tiruppur	2008	15.00	EAP	8.00	53	15,140	15,391
29	Thiruchendur	2016	3.90	ASP	0.03	0.72	0	100
30	Trichirapalli	2007	58.00	WSP	56.00	97	44,414	49,414
31	Udgamandalam	2000	5.00	ASP	3.50	70	15,074	15,642
32	Udumalaipet	2016	7.81	ASP	1.15	15	0	3,921
33	Vellore	2015	10.28	ASP	0.85	8	0	2,829
34	Virudhunagar	2016	7.65	ASP	0.31	4	0	1,011
35	Viluppuram	2014	12.50	ASP	3.20	26	3,300	4,274
	TOTAL		1280.25		769.11	60	9,27,778	10,52,428

- (linked with CMWSSB STP)



1.2 The Need for Decentralized Septage Management System in Tamil Nadu

Even as cities create more underground sewerage infrastructure, the septic tank often remains an integral component of the sewerage scheme. So far, only about 35% of Tamil Nadu's urban population is covered by UGSS. Many local bodies do not have the capacity to create and manage assets for treatment of liquid waste as these involve large investment and long gestation periods. On the other side, there are reports of underutilization of existing STPs, and disposal of untreated waste into fresh water bodies. As per Census 2011, 55% of the population continues to dispose waste into septic tanks, many of which are not designed properly, and hence sewage does not get treated effectively resulting in fecal contamination.

Presently many institutions, commercial establishments, high rise buildings and households let sewage water into storm water drains illegally and regulators are unable to make these offenders to comply. In areas un-served by sewer systems, there is dumping of sewage collected in underground tanks into water bodies in and around cities. Sewage Tankers may dump the sewage at the closest point from where it was collected.

There is an urgent need for framing guidelines for regulation of collection, provision for treatment and safe disposal of septage. This document details the entire septage management guidelines.

2. Operative Guidelines for Local Bodies for effective implementation of Septage Management

Septage Management for the local bodies includes both residential and non-residential / commercial waste (excluding industrial waste). These Operative Guidelines seek to empower the local bodies with knowledge, procedures and facilities for effective septage management.

The key elements of Septage Management are:

- I. Design and Construction of Septic Tanks
- II. Septic Tank Pumping & De-Sludging
- III. Septage Transportation
- IV. Treatment & Septage Disposal
- V. Fees/Charges for Collection, Transportation and Treatment
- VI. Information, Education and Communication
- VII. Record-keeping and Reporting (MIS)

35 clusters of Local Bodies have been identified based on the existing location of STPs. The local bodies have been grouped in such a way that all collections points are situated approximately 18-20 kms of radius of the designated STP. The designated STPs and ULB clusters have been given in Annexure 2. These clusters should be revised after establishing new STPs.

The Operative Guidelines for each of these key elements are as follows.

I. Design and Construction of Septic Tanks

- a. Evaluate existing septic tank designs and other storage/treatment systems and modify (in case of variation) based on design given in **Annexure 1.**



- b. Issue notice to owners of septic tanks that do not meet the standard septic tank design under Tamil Nadu Public Health Act, 1939
- c. Identify insanitary latrines¹ and convert them to sanitary latrines for safe collection and disposal of waste

II. Pumping and De-Sludging

- a. Conduct Periodic and routine De-Sludging based on capacity of septic tank.
- b. Collection system for cluster Local Bodies: Wherever sewage is currently discharged into fresh water or storm water drains, Local Bodies should ensure proper collection (transportation) system, and treatment of septage at the nearest STP and safe disposal.

III. Septage Transportation

- a. Local body clusters have been identified for treatment of collected septage at earmarked STP locations. All Septage Transportation Vehicles should be directed to transport septage to their designated STP as given in **Annexure 2**.
- b. Only certified and licensed Septage Operators to de-sludge and transport waste to the designated STP. The operators should be selected in accordance with The Tamil Nadu Transparency in Tenders Act, 1998, as per the terms and conditions detailed in **Annexure 3** and **Annexure 4**.
- c. Septage Transportation Vehicle Operators involved in the process of collection, treatment and disposal of sewage should be well trained and equipped with protective safety gears, uniforms, tools and proper vacuum trucks, to ensure safe handling of sewage. The rules under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 provide for a comprehensive list of safety gear that should be used.

¹ Insanitary Latrines in households are those where night soil is removed by human, serviced by animals or/ and night soil is disposed into open drain or pit into which the excreta is discharged or flushed out, before the excreta fully decomposes.

IV. Treatment & Final Disposal

- a. **Design of Decantation Facility:** Decantation facility should be designed based on expected volumes of septage generated in local body clusters with adequate capacity for the next five years based on urbanization trend in the cluster. Design for a typical Septage Receiving / Decanting Facility is provided in the **Annexure 7**.

- b. **Quality Check:** Input quality of the collected septage should be tested at the decant facility for presence of any metal or traces of industrial waste.

The septage receiving facility should be operational during working hours and a responsible person should be appointed in the facility to ensure that no industrial waste is unloaded through these facilities.

V. Information, Education and Communication

- a. **IEC for Municipal Staff:** Municipal Commissioners, Engineers, Sanitary Inspectors, Health Officers, and Sanitary Workers should be well trained in safe septage management and its best practices. This involves regular training sessions on safe collection, treatment and disposal. Information regarding standard septic tank design, the need for periodic inspection and De-Sludging of sewage, design of a decant facility, tender details for engaging licensed operators, etc. should be disseminated widely to achieve a safe septage management system. Training should also be provided on safety standards. In this regard, CMWSSB and CMA will design the course material and draft a calendar for training to ensure complete coverage before December 2014.

- b. **IEC for Residents:** Members of Resident Welfare Associations, community organizers, self help groups and the general public should be sensitized periodically regarding the need for a sound septage management system. The health hazards associated with improper collection and treatment of waste, and the ill-effects of sewage discharge into fresh water/storm water drains should be clearly explained to the residents. CMA will produce sample IEC material and also draft a campaign for residents.



- c. **IEC for Septage Operators /Private Vendors:** Local Bodies should ensure all safety norms are clearly explained to the septage operators. Private Operators and Transporters should be well trained in safe collection and transportation of sewage including vehicle design, process of de-sludging, safety gears and safe disposal at the nearest STP. CMWSSB and CMA will draft tentative training calendar for septage operators / private vendors.

VI. Fees/Charges for De-sludging, Transportation and Treatment

- a. Fees for De-sludging to be collected from residents by the certified / licensed tanker operators.
- b. Transport charges should be determined based on market rates while ensuring that residents are not exploited by the tanker operators.
- c. For treatment, the on-going rate of Rs. 150-200 may be charged for 9000 litres of waste collected

Periodic revision for the charges to be effected based on changes in costs involved.

VII. Record Keeping and Reporting through MIS

- a. **Management Information Systems (MIS)**
- ◆ Information related to septage generation from residents and commercial establishments needs to be collected by the Local Bodies.
 - ◆ Household level details of insanitary latrines, identification of septic tank location, Operator in-charge for each location, Vehicle Details, Name & Location of STP earmarked for disposal of septage, and decant facility details should be duly collected by all Local Bodies.
- b. **Geographical Information System (GIS):** GIS can be used to be plan the route of septage vehicles and tracking these for regular record keeping. Public Grievance Redressal to also form part of local bodies' record keeping. Helpline numbers to be also shared with residents.

3. Deliverables for the Local Bodies

Table: Activities to be undertaken by Urban Local Bodies for Septage Management

Key Elements of Septage Management	Objectives and Outcomes	Activity to be undertaken by Local Bodies	Time Frame	Means of Verification
1. Design and Construction of Septic Tanks	To ensure all septic tanks are constructed as per standard design and all insanitary latrines are converted to sanitary ones.	◆ Evaluate existing septic tank designs and other storage/ treatment systems and identify cases where septic tank is not constructed as per design.	2 months	Records at Local Body of all septic tanks
		◆ Initial evaluation may be outsourced		
		◆ Modify septic tank (in case of variation) based on design given in Annexure 1	3 months	Submit correction report to Municipal Commissioner
	To ensure that proper design is submitted at time of building plan approval process.	◆ Issue notice for septic tanks that do not meet the standard septic tank design as per Tamil Nadu Public Health Act, 1939 .	1 month	Record of notice issued
		◆ Identify insanitary latrines and convert to sanitary latrines for safe collection and disposal of waste	2 months	Record of all insanitary latrines and progress of conversion



Key Elements of Septage Management	Objectives and Outcomes	Activity to be undertaken by Local Bodies	Time Frame	Means of Verification
2. Pumping and De-Sludging	Periodic and safe collection of all sewage generated in the Local Body by residential and commercial establishments	<ul style="list-style-type: none"> ◆ Identify locations where sewage is getting mixed with water bodies or storm water drains and organize collection at designated points. ◆ Create facility to collect sullage water 	1 month	Survey sheet as per Annexure 5 to be maintained along with progress report.

Key Elements of Septage Management	Objectives and Outcomes	Activity to be undertaken by Local Bodies	Time Frame	Means of Verification
3. Septage Transportation	Safe transportation of sewage by licensed septage operators in vacuum trucks and safety gears for all staff	<ul style="list-style-type: none"> ◆ Call for Expression of Interest ◆ Grant licenses (renewable after 6 months) for transporting sewage on rate contract basis based on permit licenses given in the Annexure 3 & 4. ◆ Payments to be made directly to the Operator. ◆ Regional Transport Offices may be contacted for gaining information on vehicles registered 	3 months	Tender details, details of selected septage operators
		<ul style="list-style-type: none"> ◆ Ensure proper vacuum trucks are transporting sewage with staff adequately equipped with safety gears and other protective equipment 	3 months	Vehicle details to be kept with the local bodies
		<ul style="list-style-type: none"> ◆ Ensure collection efficiency is increased by 10% of the collectable sullage in every 6 months compared to latest figures reported by Local Bodies. . 	Every 6 months	Maintain records for proof of increase
		<ul style="list-style-type: none"> ◆ As per the clusters given in Annexure 2, organize efficient routes to the designated STPs or Septage Receiving Facility 	3 months	- Records of routes - Use GIS platform as next phase



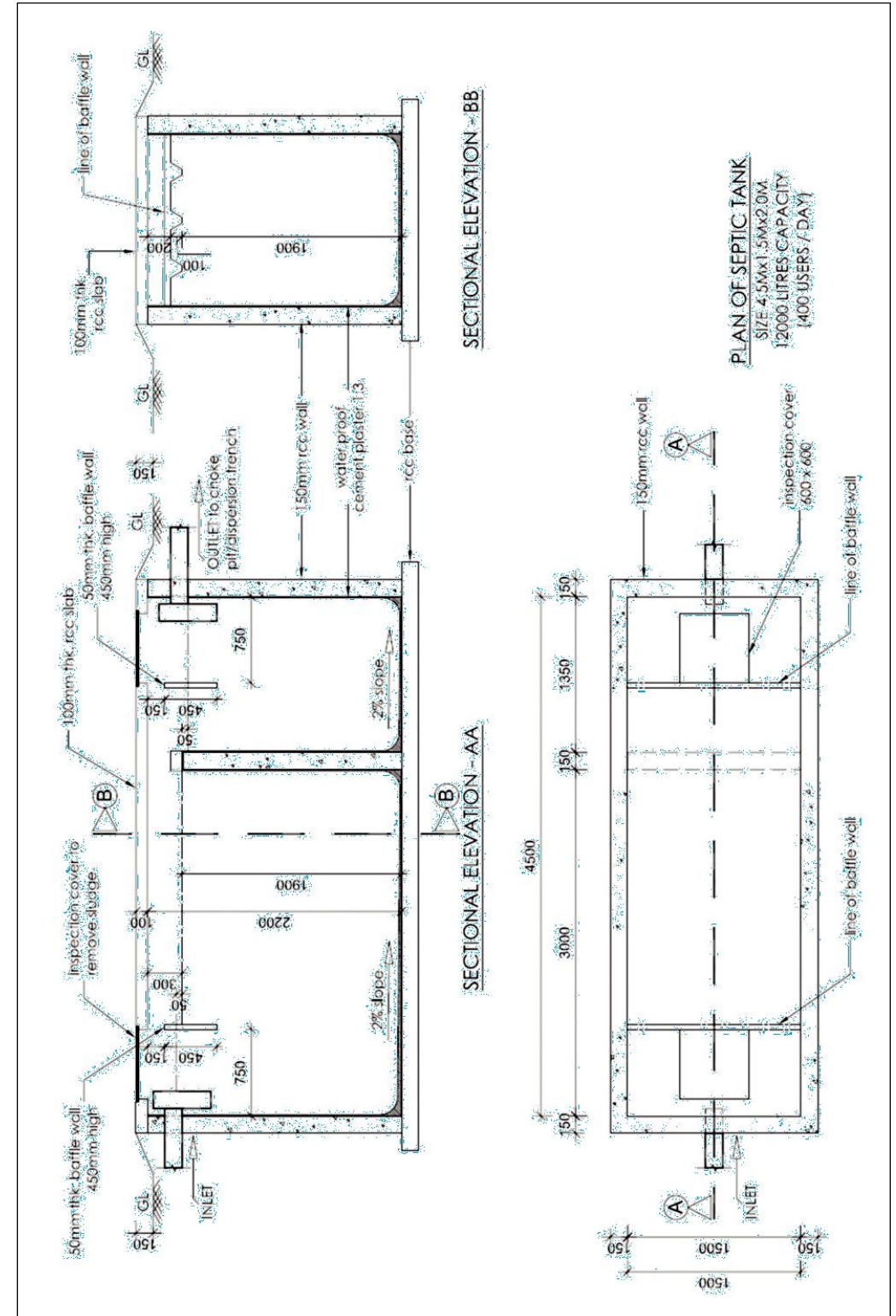
Key Elements of Septage Management	Objectives and Outcomes	Activity to be undertaken by Local Bodies	Time Frame	Means of Verification
4. Treatment and Final Disposal	Ensure construction of Decanting Facility / Sewage Receiving Facility at all the STPs. Ensure Safe Treatment of Sewage. Hours of operation of decanting facility to be Working Hours. Ensure Increase in Capacity Utilized.	<ul style="list-style-type: none"> ◆ Design of Decant Facility should be from the approved list as per CPHEEO norms. ◆ Completion of Construction 	3 months	Maintain record of each facility and indicate clearly whether it meets prescribed standards
		<ul style="list-style-type: none"> ◆ Input quality of sewage to be tested to ensure source of collected sewage is residential or commercial establishment and not industrial sources. Tests may be carried out at the Laboratories maintained within the STP 	Every 3 months	Submit test reports periodically
		<ul style="list-style-type: none"> ◆ Increase utilization of STP by 10% every 6 months until the STP is utilized to its full capacity. 	Every 6 months	Maintain records for increase
		<ul style="list-style-type: none"> ◆ Outsource monitoring and record keeping. 	6 months	

Key Elements of Septage Management	Objectives and Outcomes	Activity to be undertaken by Local Bodies	Time Frame	Means of Verification
5. IEC Activity	All stakeholders in the septage management system including residents, civic bodies, personnel handling sewage, municipal officials to be given periodical training on safe and best practices in septage management. The importance of safe collection, treatment and disposal of sewage and the health hazards resulting from improper sewage treatment should be explained clearly to all.	<ul style="list-style-type: none"> ◆ Ensure one training session every 3 months to Local Body staff on safe collection, treatment and disposal. Information regarding standard septic tank design, design of a decant facility, tender details for engaging licensed septage operators, etc. should be disseminated widely to achieve a safe septage management system. CMA to arrange for the training 	2 Months	Certification by TNIUS.
		<ul style="list-style-type: none"> ◆ Ensure monthly engagement with Residents including Resident Welfare Associations, community organizers, self- help groups. ◆ The general public should be sensitized regarding the need for a sound septage management system. The health hazards should be clearly explained to the residents ◆ Residents should also be informed about the standard designs for septic tanks. . 	2 Months	Photographs and Video of the campaign.
		<ul style="list-style-type: none"> ◆ Local Bodies to organize orientation session for Septage Operators / Private Vendors: Local Bodies should ensure all safety norms are clearly explained to the operators. Private Operators should be well trained in safe collection and transportation of sewage including vehicle design, process of de-Sludging, safety gears and safe disposal at the nearest STP. 	2 months	Photograph and video of the orientation sessions. TNIUS may perform this activity. Standard templates / Videos may be produced for this activity



Key Elements of Septage Management	Objectives and Outcomes	Activity to be undertaken by Local Bodies	Time Frame	Means of Verification
6. Record Keeping		♦ Local Bodies to have proper records and registers of licensed operators, septic tank locations, De-Sludging activities, household level details, etc.	1 month	Records and registers

Sample Septic Tank Design





Annexure 1 Septic Tank Design

Depending on the geography, soil condition, water seepage capacity of the soil the design should be prepared and approved by the Local Bodies. Proper septic tank design consists of the following factors:

- ◆ Sized properly with appropriate sludge detention time, volume and hydraulic retention time²
- ◆ Proper inlet and outlet structures
- ◆ At least one baffle separating the tank into multiple compartments
- ◆ Water tight
- ◆ Access port for each compartment that allows for inspection and pumping

Table: Recommended sizes of Septic Tank upto 20 users

No. of Users	Length(M)	Breadth(M)	Liquid Depth (Cleaning interval of)	
			2 Years	3 Years
5	1.50	0.75	1.00	1.05
10	2.00	0.90	1.00	1.40
15	2.00	0.90	1.30	2.00
20	2.30	1.10	1.30	1.80
50	5.00	2.00	1.00	1.24
100	7.50	2.65	1.00	1.24
150	10.00	3.00	1.00	1.24
200	12.00	3.30	1.00	1.24
300	15.00	4.00	1.00	1.24

Notes

1. A provision of 300 mm should be made for free board.
2. The sizes of septic tank are based on certain assumption on peak discharges, as estimated in IS: 2470 (Part -1) - 1985 and while choosing the size of septic tank exact calculations shall be made.
3. For population over 100, the tank may be divided into independent parallel chambers of maintenance and cleaning.

Source: CPHEEO manual on sewerage and Sewage treatment (Second Edition)

² Hydraulic retention time is the volume of the aeration tank divided by the influent flow-rate. HRT is usually expressed in hours (or sometimes days).

Annexure 2 Clusters

Table: Existing STP's and Nearby Town Panchayats and Panchayat Union

S. No.	Name of the Municipality	Nearest Town Panchayats	Panchayat Unions
1	Chennai Corporation (7 No's)	Minjur, Thiruinravur, Thirumazisai, Naravarikumppam, Thiruneermalai, Chitlapakkam	
2	Chinnamanur	Kuchanur, Markeyenkottai	Chinnamanur
3	Coimbatore	Sarkar Samakulam, Vedapatty, Perur, Vellalur, Irugur	Periyanaickenpalayam, Sarkarsamakulam, Thondamuthur, Sular
4	Cuddalore	Melpattambakkam	
5	Dharmapuri	Papparapatti	Dharmapuri
6	Dindigul	Thadikombu, Agaram	Dindigul, Athoor, Reddiarchattiram, Shanarpatti, Vedasandur, Vadamadurai
7	Kancheepuram	Walajabad	Kancheepuram, Walajabad, Uthiramerur
8	Karur	Puliyur	Karur, Thanthoni
9	Kumbakonam	Thirunageswaram, Swamimalai, Dharasuram	Kumbakonam
10	Krishnagiri	Cauvery pattinam Bargur	Sapanipatty, Kariyamanangalam Paiyur, Orappum
11	Madurai	Paravai	Madurai East, Madurai West, Thiruparankundram
12	Maraimalinagar	N.Guduvancherry	Kattankolattur
13	Myladuthurai	Kuthalam, Vaitheeswarankoil	Mayiladuthurai, Kuthalam, Sembanarkoil
14	Mamallapuram	Thiruporur	
15	Namakkal	Sendamangalam	Elaichipalayam, Erumaipatti, Mohanur, Namakkal, Puduchatram, Paramathi, Senthamangalam



S. No.	Name of the Municipality	Nearest Town Panchayats	Panchayat Unions
16	Nagapattinam(2Nos)	Thittacheri	Paravai, North Poigainallur, South Poigainallur, Sikkal, Keelvellore
17	Orathanadu		Orathanadu
18	Pallavaram	Thiruneermalai, Peerkankarani, Perungulathur, Chitlapakkam	St. Thomas Mount
19	Perambalur	Kurumbalur	Perambalur
20	Pudukottai	Alangudi, Arimalam, Annavasal	Vamban, Thiruvarangulam, Kovilur, Thirukattalai, Kathiyavayal, Perunchunai, Madhiyanallur, Namanasamudhram
21	Ramanathapuram	Nil	Ramanathapuram
22	Thanjavur	Thiruvaiyaru, Vallam	Thanjavur, Thiruvaiyaru, Ammapettai, Thiruvaidaimarudur, Papanasam
23	Thiruvannamalai	Nil	Tiruvannamalai, Thuringapuram, Thandrapet
24	Theni-Allinagaram	Palani Chetty Patty	
25	Tiruvallur	Thiruniravur	
26	Tiruvarur	Peralam, Nanilam, Kodavasal, Koradacheri	Thandalai, Ammaiappan, Mugunthanur, Urkudi, Kidarangkondan, Andipandal, Ganganacheri, Vandampalayam
27	Tirunelveli	Sankar Nagar, Naranamalpuram, Melasheval, Gopalamudram	Palayamkottai
28	Tiruppur	Thirumurganpoondi	Uthukuli, Avinashi, Palladam, Pongalur, Tiruppur
29	Thiruchendur	Arumuganeri, Athur, Udankudi, Sathankulam	
30	Trichy	Kuthapur	Andanallur, Manikandam, Thiruverambur, Manachanallur
31	Udagamandalam	Kethi, Jagathala	Udagamandalam
32	Udumalaipet	Madathukulam	
33	Vellore	Thiruvalam, Pallikonda, Pennathur	
34	Virudhunagar	Malankinar, Kariapatti	
35	Viluppuram	Valavanur, Vikravandi, Thiruvannainallur	

Annexure 3

Sample Septage Operator Permit

Septage Operator Permit for XXX Municipality

In accordance with all the terms and conditions of the XXX Corporation / Municipality's Rates, Rules and Regulations, the special permit conditions Government of Tamil Nadu, permission is hereby granted to:

Name of Permittee: _____
: _____

For the disposal of septage from domestic septic tank or commercial holding Tank at the _____ STP.

This Permit is based on information provided in the Septage Operator Permit Application which constitute the Septage Management Hauled Permit.

This Permit is effective for the period set forth below, may be suspended or revoked for Permit Condition Non Compliance and is not transferable. The original permit shall be kept on file in the Permittee's office. A copy of this Permit shall be carried in every registered vehicle used by the permittee.

Effective Date : _____

Permit is liable to be cancelled in case of violations of any Acts, Rules and Regulations relating to the operation of Septage System or in cases of safety protocols not being adhered to or in case of non permitted disposals.



Annexure 4

Collection and Transport Records

Sample Form to be filled by Operator / Transporter of Septage

i. Identification of Waste

- a) Volume : _____
b) Type : Septic Tank / Others
c) Source : Residential / Commercial / Restaurant /
Portable Toilet / Others (Please Specify)

ii. Details of Waste Generator

- a) Name : _____
b) Phone Number : _____
c) Address : _____
d) Pin : _____

The undersigned being duly authorized does hereby certifies the accuracy of the source and type of septage collected and transported.

Date: _____ Signature: _____

iii. Details of Transporter / Operator

- a) Company Name : _____
b) Permit # : _____
c) Vehicle License # : _____
d) Pump out date : _____

The above described wastewater was picked up and hauled by me to the disposal facility name below and was discharged. I certify that the foregoing is true and correct:

- e) Signature of authorized agent and title : _____

Acceptance by _____ Municipality's authorized STP

The above operator delivered the described wastewater to this disposal facility and it was accepted.

Disposal date : _____

Amount Collected from Operator : _____

Signature of Authorized signatory and title : _____

Note : Subject to the terms and conditions of _____ municipality.



Annexure 5

Sample Survey for Identifying Locations of Sullage Water

This survey may be carried over a period of 7 days to observe the general trend of sullage water being discarded in the open.

Municipality / Corporation Name : _____

Location Details : _____

Approximate Quantity of Sullage : _____

Date: _____ / 2014 / Monday : KL

Date: _____ / 2014 / Tuesday : KL

Date: _____ / 2014 / Wednesday : KL

Date: _____ / 2014 / Thursday : KL

Date: _____ / 2014 / Friday : KL

Date: _____ / 2014 / Saturday : KL

Date: _____ / 2014 / Sunday : KL

Average Sullage Generated Per Day :
(Sum of the above divided by 7)

Comment on the Method
of Observation : _____

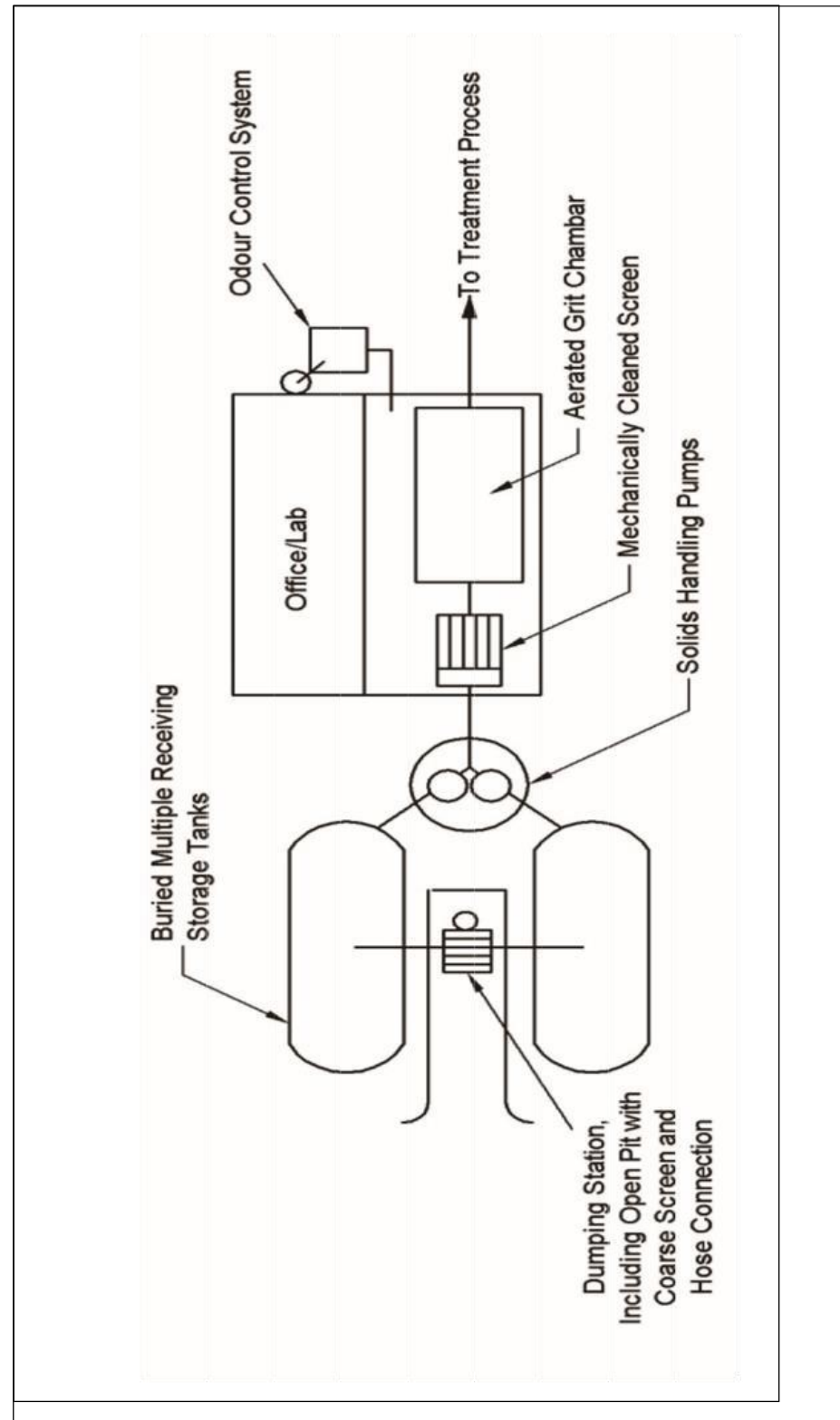
Annexure 6

Sample House Hold Survey for Identifying Septic Tanks, etc.

This is a sample plan for a household survey that can be conducted for Septic Tanks. This form may be considered by ULBs and may be expanded to add new fields.

Municipality / Corporation Name	
Property Details	
[These details can be readily obtained from the Property Tax Register of the ULB]	
No. of Bedrooms in the Household	
Actual Number of People Living in the Household	
Does the Household have a Water Connection	
Septic Tank Details	
Capacity as Per Plan [Can be gained from the ULB records]	
Actual Capacity	
Location of Septic Tank	
Front of House Entrance / Back of House	
Can a Septic Tank Cleaning Truck easily reach the tank outlet	
Cleaning Frequency Every 6 months / Every Year / Every 2 Years / Never	
Who is contacted to provide Septic Tank Cleaning Services? (Name of Agent / Tank Operator, etc.)	
Is waste water let out in the open (Yes / No)	

Sample Septage Receiving Facility



4. The Draft Septage Management Bye-Laws

For Municipal Corporation / Municipality / Town Panchayat of *[please insert name of the relevant ULB]*

In exercise of powers conferred by Section 306 sub-section 5 (e) and sub-section 6 of the Tamil Nadu District Municipalities Act, 1920 (Tamil Nadu Act V of 1920) read with the Tamil Nadu District Municipalities (Amendment) Act, 1930 (Tamil Nadu Act X of 1930), the Council of Municipal Corporation / Municipality/Town Panchayat of *[please insert name of the relevant ULB]* hereby makes the following bye-laws to regulate the construction and maintenance of latrines and septic tanks associated to such latrines in the buildings situated within the jurisdictional limits of the *[please insert name of the relevant ULB]*, collection, transportation and disposal of septage generated there from, namely -<<*separate paras to be inserted for Corporations / TP & Municipalities as the case may be*>>

1. Short title, commencement and applicability

- i. These bye-laws shall be called the Septage Management Bye-laws for the Municipality / Municipal Corporation / Town Panchayat of *[please insert name of the relevant ULB]*.
- ii. These bye-laws shall come into force upon being notified and published in the gazette of the district of *[please insert the name of the relevant district]* or such other date as may be specifically notified.
- iii. These byes-laws upon coming into force shall apply to all buildings consisting of bathrooms, wash areas/latrines and/or urinal situated in the jurisdictional limits of the Municipality / Municipal Corporation /Town Panchayat of *[please insert name of the relevant ULB]*, whether used for residential or commercial purposes..



2. Definitions

In these bye-laws unless the context otherwise requires the terms stated below shall have the meaning ascribed to them herein:

- i. “Appellate Body” shall mean the body consisting and notified from time to time in relation to these bye-laws³.
- ii. “Authority” shall mean and include the Municipality /Municipal Corporation /Town Panchayat or such department as may be notified from time to time for the purpose of implementation of these bye-laws.
- iii. “Operator” shall mean such persons, company or corporation selected by the ULB through a competitive bidding process conducted as per the Tamil Nadu Transparency in Tenders Act, 1998 and which shall be granted the license to collect and transport Septage.
- iv. “Sanitary Latrine” shall mean the type and design of latrine and urinal connected to a Septic Tank or Underground Sewerage System, each of which shall be constructed as per the design specifications and guidelines issued by the ULB.
- v. “Insanitary Latrine” shall mean Latrines where night soil is removed by human, serviced by animals or/and night soil is disposed into open drain or pit into which the excreta is discharged or flushed out, before the excreta fully decomposes.
- vi. “Septage” shall mean the sludge accumulated in a Septic Tank and consisting of settled solid matter in semi-solid condition, which is a mixture of solids and water deposited on the bottom of Septic Tanks containing significant levels of grease, grit, hair, debris and pathogenic micro-organisms, grey water/domestic dirty water generated from wash basins, kitchen and bathrooms and faecal sludge generated from latrines etc.

³ The Appellate Body shall normally comprise of the Chairman / Mayor, the Commissioner of the ULB and one Councillor to be jointly nominated by the Chairman / Mayor and the Commissioner.

- vii. “Septic Tank” shall mean an underground tank that treats wastewater by a combination of solids settling and anaerobic digestion, constructed as per the design specifications and guidelines issued by the ULB.
- viii. “Specified Vehicles” shall mean the vacuum trucks or such other vehicles equipped with motorized pumps and storage tank owned by the ULB or Operator, of such design specification as may be approved from time to time by the ULB, for emptying and transporting Septage from Septic Tanks.
- ix. “Owner / Occupier” shall include a person who owns or occupies or rents a building or part of it located within the ULB limits.
- x. “Treatment Facility” shall mean a treatment plant of the design specifications and guidelines issued by the ULB from time to time, owned by the ULB or a third party agency acting on behalf of the ULB, capable of the treatment and disposal of Septage.
- xi. “ULB” shall mean the Municipal Corporation/ Municipality / Town Panchayat of *[please insert name of the relevant ULB]*.

3. Reformative measures and Compliances by Owner or the Occupier

The Owner or Occupier of a building or part of it located in the ULB Limits shall from the date of these bye-laws coming into force be liable to perform the following obligations:

- i. shall within the time specified in the notice issued by the Authority as per these bye-laws, discontinue the usage of insanitary latrines in such building and also close all outlets to common drains or open plot/land or water bodies located nearby and construct, operate and maintain only Sanitary Latrines in the buildings owned or used by him;
- ii. duly inform the officials of the Authority prior to the filling up of the Septic Tanks and ensure that the Septic Tanks are maintained in a proper manner so as to ensure that the Septage does not overflow;



- iii. allow the officials of the Authority inspection at reasonable times with prior notice.
- iv. engage only authorised Operators for the collection and transportation of Septage from their building.
- v. pay the fees and charges as notified by the Authority for the collection of Septage

4. Administrative measures and Enforcement of Bye-laws

The Authority shall from the date of these bye-laws coming into force have the right to perform the following functions:

- i. undertake the survey and inspection of buildings located within the ULB Limits and issue certificate of compliance to buildings which are in compliance with these bye-laws;
- ii. issue notices to Owners or Occupiers of buildings which are non-compliant to these bye-laws;
- iii. implement and supervise the compliance of the bye-laws;
- iv. conduct information, education and communication campaign with respect to awareness of Septage management;
- v. conduct competitive bidding for selecting, issuing license to Operators and publish the names of such licensed Operators;
- vi. direct, regulate and supervise the collection, transportation and disposal of Septage at the Treatment Facility;
- vii. inspect and regulate the quality and maintenance of the Specified Vehicles;
- viii. direct, regulate and supervise the day-to-day operations of the Treatment Facility;
- ix. inspect the quality of Septage being collected and transported to the Treatment Facility;
- x. undertake investigations and levy penalties on Owners, Occupiers or Operators found to be in violation of these bye-laws.

5. Appointment and Operation by Operators

- i. The Authority shall within a reasonable time period from the date of these bye-laws coming into force, conduct competitive bidding for the selection of Operators.
- ii. Upon selection of the successful bidder issue license as per the format attached in Annexure to these bye-laws.
- iii. The Operators shall be responsible for maintaining and operating Specified Vehicles and associated equipment, if any, as per the guidelines issued by the Authority from time to time.
- iv. The Operators shall be responsible for the collection and transportation of Septage from buildings as per the performance standards to be determined and the instructions issued by the Authority from time to time.
- v. The Operators shall comply with the provisions governing the license and shall not transport industrial or mixed industrial waste of any nature whatsoever.
- vi. The Operators shall comply with all the local legislations and maintain all permits and approvals required for the performance of its activities permitted under the license.
- vii. The Operators shall employ only trained personnel and provide all necessary protective gear to such personnel while performing the collection and transportation of Septage.
- viii. The Operators shall employ adequate number of personnel so as to ensure that the collection and transportation of Septage is performed as per the performance standards notified by the Authority from time to time.
- ix. The Operators shall at all times ensure compliance with the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 and rules.



- x. The Operators shall perform all such protective activities as instructed by the Authority during the occurrence of an accident.
- xi. The Operators shall be responsible for the safe disposal of the Septage at locations notified by the Authority.
- xii. The Operators shall charge fees as notified by the Authority for the collection of Septage.

6. Penalties for Violation of Bye-laws

The Authority shall take cognizance of any violation of these bye-laws and take the following actions:

- i. in case of the Owner or Occupier, the Authority shall issue show cause notice and have the right to levy penalties of up to Rs. 5000 for each violation or such other amount as may be notified from time to time. In case the Owner is in continuous violation of these bye-laws the Authority shall have the right to levy penalties not exceeding Rs. 25,000.
- ii. in case of the Operator, the Authority shall issue show cause notice and have the right to levy penalties of up to Rs. 50,000 for each violation or such other amount as may be notified from time to time. In case the operator is in continuous violation of these bye-laws the Authority shall have the right to levy penalties not exceeding Rs. 2,00,000.
- iii. in case the Operator is in violation of para 5 sub-paras (v) and (ix) the Authority shall issue show cause notice and also have the right to cancel the license issued to the operator.

7. Appeals

- i. The ULB shall within a reasonable time period from the date of these bye-laws coming into force constitute an Appellate Body and issue necessary notifications.
- ii. The Owner, Occupier or the Operators shall have the right to appeal to the Appellate Body against a show cause notice issued by the Authority, within 30 days of the receipt of such show cause notice.
- iii. The Appellate Body shall commence hearing an appeal within 15 days of it being filed.
- iv. The Authority, Owner and the Operators shall be liable to comply with the decisions made by such Appellate Body

8. Power to remove difficulties

If any difficulty arises in giving effect to these bye-laws, the Council of Municipal Corporation / Municipality / Town Panchayat of *[please insert name of the relevant ULB]* may by order, to be published in the gazette of the district of *[please insert the name of the relevant district]*, amend these bye-laws to remove the difficulties.

9. Saving

In case any of these bye-laws are inconsistent with any of the provisions of the Tamil Nadu District Municipalities Act, 1920 (Tamil Nadu Act V of 1920), such provisions of the Tamil Nadu District Municipalities Act, 1920 (Tamil Nadu Act V of 1920) or its subsequent amendments shall prevail over these bye-laws, while all other bye-laws shall remain effective.

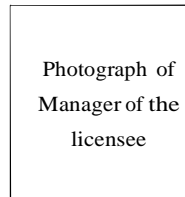


Annexure to The Draft Septage Management Bye-Laws

[place holder for logo of the concerned ULB]

Municipal Corporation / Municipality / Town Panchayat of
[please insert the name of the relevant ULB]

LICENSE



License no : [_____]

Issuing Authority : [Insert designation and address of the concerned officer]

License holder : [Insert name and address of the collection agent]

Validity of license : _____

Details of Specified Vehicles : _____

Activities permitted : _____

This license is hereby granted to the license holder named above for performing the activities stated herein above, to be performed as per the Septage Management Bye-laws for the Municipal Corporation of [please insert name of the relevant ULB] and any amendments made there under. This license shall be subject to the compliance by the license holder of the conditions stated overleaf.

Signature and Seal of Issuing Authority

Conditions of license

- i. The licensee shall comply with the provisions of the Septage Management Bye-laws for the Municipal Corporation / Municipality / Town Panchayat of [please insert name of the relevant ULB].
- ii. The licensee shall perform the activities in manner so as to achieve the performance standards and directions issued by the Issuing Authority.
- iii. The licensee shall comply with all the local legislations as may be applicable from time to time to the activities being performed under this license.
- iv. The licensee shall maintain the Specified Vehicles in good and workable condition so as to avoid any accidents.
- v. The licensee shall employ only trained personnel for performing the licensed activities and provide protective gears to all such personnel.
- vi. This license is not valid for the collection of industrial waste of any nature whatsoever.
- vii. The Issuing Authority reserves its right to vary any of the conditions of this license or impose further conditions from time to time during the validity of this license.
- viii. The Operator is required to maintain adequate and correct records of collection, transportation and disposal of septage as required by the ULB.
- ix. The licensee shall levy fees and charges stated below for the licensed activities:

Sl. No	Licensed Activity	Fees and charges



Abstract

Septage Management - Operative Guidelines for Septage Management for Urban and Rural Local Bodies in Tamil Nadu - Approved - Orders - Issued.

Municipal Administration & Water Supply (MA. 3) Department

G.O.(Ms) No. 106.

Dated : 01.09.2014

Read:

**From the Commissioner for" Municipal Administration Letter
Roc. No. 47718/2013/UGSS-2, dated 31.07.2014.**

ORDER

1. Sanitation is one of the important works of the Urban Local Bodies. However due to absence of Under Ground Sewerage Scheme in many of the Local Bodies in the State, untreated sewage and waste is disposed on unscientifically, resulting in large scale population and environmental degradation. Vision 2023 of the Hon'ble Chief Minister envisages to ensure that all have access to safe sanitation including open defecation free and garbage free environment which includes the implementation of underground sewerage scheme and waste water Treatment Plants across local bodies in order to provide better sanitation facilities.
2. The Commissioner of Municipal Administration, in his letter read above, has stated that adequate attention needs to be given to septic tank design, operation and even to collection of sewage from their tanks, their transportation and processing and he has prepared a draft Operative Guidelines on Septage Management, which can regulate periodical cleaning of septic tanks, Transport, Treatment, Re-use and scientific disposal.
3. The Commissioner of Municipal Administration has requested the Government to issue orders to implement the Operative Guidelines for Septage Management in Urban and Rural Local Bodies in Tamil Nadu.
4. The Government, after careful examination of the above proposal, approve the Operative Guidelines for Septage Management in Urban Local Bodies and Rural Local Bodies in Tamil Nadu. The Operative Guidelines for Septage Management is annexed to this order.
5. The Principal Secretary/Commissioner, Corporation of Chennai, Commissioner of Municipal Administration, Director of Town Panchayats and the Director of Rural Development & Panchayat Raj are requested to strictly follow the above guidelines and communicate the guidelines to the concerned officials under their control.

(By Order of the Governor)

**K. PHANINDRA REDDY,
PRINCIPAL SECRETARY TO GOVERNMENT**

To

The Principal Secretary/Commissioner, Corporation of Chennai,
Chennai - 3 (with enclosure)

The Commissioner of Municipal Administration,
Chennai - 5 (with enclosure)

The Director of Town Panchayats,
Chennai - 108 (with enclosure)

The Director of Rural Development & Panchayat Raj,
Chennai - 15 (with enclosure)

The Principal Secretary to Government, Rural Development & Panchayat Raj Department,
Chennai - 9 (with enclosure)

The Principal Secretary to Government, Agriculture Department,
Chennai - 9 (with enclosure)

The Secretary to Government, Health & Family Welfare Department,
Chennai - 9 (with enclosure)

The Principal Secretary to Government, Transport Department,
Chennai - 9 (with enclosure)

The Managing Director, Tamil Nadu Water Supply & Drainage Board,
Chennai - 5 (with enclosure)

The Managing Director, Chennai Metro Water Supply & Sewage Board,
Chennai - 2 (with enclosure)

The Chairman & Managing Director, Tamil Nadu Urban
Infrastructure Financial Services Limited,
Chennai - 17 (with enclosure)

The Chairman & Managing Director, Tamil Nadu Urban Finance &
Infrastructure Development Corporation Limited,
Chennai - 35 (with enclosure)

Copy to

The Senior Personal Assistant to Hon'ble Minister (MA, RD, Law, Cts. & Pri.),
Chennai - 9 (with enclosure)

The Municipal Administration & Water Supply
(MA.II/MA-IV/MC-1/MC-II/MC-VI/MW/WS.I/WS.II/WS.III/
WS.IV/TP.II/OP.II) Department,
Chennai - 9 (with enclosure)

Stock File/Spare Copies.

II Forwarded By Order//

SECTION OFFICER