

PROFORMA FOR SUBMITTING INFORMATION ON SOLID WASTE MANAGEMENT

Name of City/Town:	Bhiwandi	District:	Thane
Name of Municipal Body:	Bhiwandi Nizampur City Municipal corporation	Division:	Konkan
Address:		State:	Maharashtra
Telephone:	5331747	Fax:	
Email:		Website:	

<ul style="list-style-type: none"> • DEMOGRAPHY 		
.1	Name of Officer In-Charge	-
.2	Area of Municipal Corporation /Council (Please provide map showing legal limits of municipal body) (km ²)	26
.3	No. of wards / zones	28
.4	Total population (as per 1991 census)	3,78,000
.5	Total population (as per 2001 census)	5,98,000
.6	Population	
	<ul style="list-style-type: none"> • Urban 	
	<ul style="list-style-type: none"> • Slums & Urban poor 	2,60,000
.1	Floating population	2,00,000
.2	Total no. of household	68,000
.3	Average maximum temperature (°C)	-
.4	Average minimum temperature (°C)	-
.5	Average yearly maximum rainfall (mm)	-
.6	Average maximum humidity	-
.7	Average minimum humidity	-
.8	Average depth of water table	-
.9	Altitude (<i>i.e.</i> mean sea level)	-

- **GENERATION OF MUNICIPAL SOLID WASTE**

.1 Total MSW generation (MT/day) 320

.2 MSW generation (gms/capita/day) per person 400

.3 Of the total MSW generated

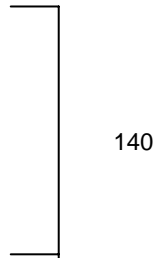
- Quantity of domestic MSW (MT/day) 180

- Quantity of commercial MSW (MT/day)

- Quantity of industrial (non-toxic and non-hazardous) waste (MT/day)

- Quantity of waste from markets (MT/day)

- Quantity of waste from hotels and restaurants (MT/day)



.1 Composition of MSW (Attach separate sheet)

- Physical characteristics

- Biodegradable (%)

- Paper (%) 6.32

- Plastic (%) 0.56

- Glass (%) 0.76

- Metal (%) -

- Inert, ash, debris (%) -

- Rags (%) 14.97

- Stone (%) -

- Rubber / Tyre (%) -

- Coconut shell (%) -

- Chemical characteristics

- Carbon (%) 21.70

- Nitrogen (%)

- Phosphorous as P₂O₅ (%) -

- Potassium as K₂O (%) 0.55

- C/N ratio 0.46

- Calorific value (kCal/kg) 626.80

- Density of MSW (kg/m³) -

- Moisture content (%) 13.10

•	SWEEPING	
.1	Total length of roads (with or without footpath) (km)	342.396
	• Total length of cement-concrete roads (km)	-
	• Total length of asphalted roads (km)	161.22
	• Total length of Kutchha roads (km)	1.546
.1	Total no. of sweepers employed	-
	• Departmental	-
	• Contracted	-
.1	Working hours of sweepers	-
.2	Norms of sweeping (e.g. one sweeper per ... population, or one sweeper per ... sq. m. area, or one sweeper per ... RMT road)	One sweeper per 500 population
.3	Sweeping carried out at a location by	-
.4	Sweeping waste is put in a...	-
.5	Frequency of sweeping	-
.6	Total no. of wheel barrows provided	200
.7	Total no. of containerised handcarts provided	-
.8	Total capacity of wheel barrow (kg)	10 kgs
.9	No. of containers and its capacity in kg	-
.10	Type of broom provided	Hand cart Bamboo basket
.11	Any other equipment provided (e.g. spade, shovel, tikow)	-
.12	Protective gear provided (e.g. leather hand gloves, gumboots, mask)	500 long towns, 2000 short, Kate, Pali, Fawde, Ghamaly, Tikav
•	COLLECTION, STORAGE AND TRANSPORTATION	
.1	Area covered for collection of MSW	26
.2	No. of households covered	68,000
.3	No. of households covered under door-to-door collection (bell ringing)	Started house to house collection
.4	Is the collection carried out by municipal authority or private contractor or NGO?	Municipal corporation
.5	Is the segregation is carried out at source? If no, what steps have been taken?	No segregation waste collected in Mixed form -
.6	Total quantity collected (MT/day)	300

.7	MSW collected in mixed form (MT/day)	-
.8	MSW collected in segregated form (MT/day)	-
.9	Whether littering is prohibited by the municipality?	-
.10	Whether litterbins are provided?	-
.11	Frequency of waste collection	-
.12	Is waste collected every day <i>i.e.</i> 7 days a week and 365 days a year?	Yes
	If no, give details	-
.13	Total number, type, size, and capacity of storage bins / container / trailers provided	-
.14	Whether the bins are open or closed?	-
.15	Whether all bins are attended/cleaned daily? <i>(i.e.</i> 7 days a week and 365 days a year)	-
	If no, mention details	-
.16	Whether the lifting of waste from the bins is manual or mechanical?	Manual / Loader

.17 Vehicle details					
Dumper placer (with 4.5 m ³ / 8 m ³ containers)					
Open truck					
Open truck with tipping					
Tractor-trailer without tipping					
Auto rickshaw with or without tipping					
Tricycle with or without tipping					
Any other type (please mention)					

.18 Collection details								
Type of vehicle	No. of vehicles used	No. of shifts	Capacity (MT)	No. of trips/ shift	Distance travelled / shift	Quantity of MSW carried / shift (MT)	Quantity of MSW carried out / day (MT)	No. of workers / vehicle
Compactor (mobile)	3	-	7	-	-	-	-	-
Dumper placer (with 2.5 m ³ containers)	3	-	1.5	4	15 km	18	-	-
Dumper placer (with 4.5 m ³ / 7 m ³ containers)	-	-	-	-	-	-	-	-
Open truck	-	-	-	-	-	-	-	-
Open truck with tipping	28	-	3.5	2	6	196	-	-
Tractor-trailer with tipping	-	-	-	-	-	-	-	-
Tractor-trailer without tipping	-	-	-	-	-	-	-	-
Auto rickshaw with/ without tipping	-	-	-	-	-	-	-	-
Tricycle with/without tipping	-	-	-	-	-	-	-	-
Refused Collector	3	-	8	3	15 km	72	-	-
Total								
.19	If the vehicles are open to atmosphere, are they covered with temporary plastic sheet?			Yes/No				
● COLLECTION SYSTEM								
.1	Approximate MSW collected (MT)			300				
	○ Household (urban)			40				

	o Slums	56
	o Street sweeping	20
	o Shops & commercial establishments	140
	o Markets	15
	o Hotels, restaurants, eating housesGardens, parks, fairs	3
	o Slaughter houses	1.5
	o Building sites (debris, earth, etc.)	40
.2	No. of premises / establishments	
	o Households	-
	o Shops, commercial establishments	-
	o Slums, households, population	-
	o Vegetable and fruit markets	-
	o Fish and meat markets	-
	o Hawkers	-
.3	No. of hotels, restaurants, eating houses	-
	o Grade / class I	-
	o Grade / class II	-
	o Grade / class III	-
	o No. of star hotels	-
.4	Guesthouses	-
.5	Marriage halls	-
.6	Hostels	-
.7	Cinema halls	-
.8	Theatres	-
.9	Stables and no. of animals	-
.10	Hospitals/ clinics/ nursing homes Total no. of beds	-
.11	Parks, gardens, recreation places like lakes, amusement parks	-
.12	Building sites (under construction)	-
.13	Slaughter houses	-

•	PROCESSING AND DISPOSAL OF MSW	
.1	Total quantity of MSW processed (MT/day)	-
.2	Technology / technologies adopted	-
o	Composting (MT/day)	Proposed to compost 200 TDP of waste
o	Vermiculture (MT/day)	NIL
o	Pelletisation (MT/day)	-
o	Waste to energy (MT/day)	-
.3	Composting	-
	Compost produced (MT/year)	-
	Is it done mechanically?	-
	Is it the compost sold?	-
	If yes, the quantity sold (MT/year)	-
•	Total revenue generated (Rupees/year)	-
.1	Vermi-composting	-
	Vermi-compost produced (MT/day)	-
	Is the vermi-compost sold?	-
	If yes, the quantity sold (MT/year)	-
•	Total revenue generated (Rupees/year)	-
.1	Pelletisation	-
	Pellets produced (MT/day)	-
	Are the pellets sold?	-
	If yes, the quantity sold (MT/year)	-
•	Total revenue generated (Rupees/year)	-
.1	Waste to energy	-
•	Energy produced (MW/MT/day)	-
	Incineration	-
	Pyrolysis	-
	Bio-methanation	-
	Any other (Please mention)	-
•	Revenue generated (Rupees/year)	NIL
.1	Dumping grounds/landfill sites	300 MT

- MSW disposed off by open dumping (MT/day) [mixed/inert] -
- MSW disposed off by controlled dumping (MT/day) [mixed/inert] -
- MSW disposed off by sanitary landfill (MT/day) [mixed/inert] -
- No. of dumping grounds/ landfill sites -
- Whether municipality legally owns them? -
- Area of each dumping ground/ landfill site Area about 20 hectare acres

Landfill site new is at Khati Municipal land about 8 km outside the corporation limit

- Whether the area will be sufficient for next 25 years -
- If no, then what steps have been taken to acquire land? -
- Distance (in km) of dumping ground / landfill site from ... 8
 - Habitation -
 - Drinking water source -
 - Religious or monument places -
- Distance from airport or airbase -
- Has it been designed scientifically -
- Has the existing dumping ground been upgraded as required by MSW Rules, 2000 -
- If no, what steps have been taken (provide details) -

.1 Whether the following facilities are provided -

- Weighbridge -
- Fencing -
- Approach roads/ internal roads -
- Lighting facility No
- Site office with monitoring equipment -
- Managerial staff and manpower -
- Covering material used daily as per Rules 2000 Garbage is buried in 0.5 mt depth and soil is spread layer after 30 days.
- Is it available in sufficient quantity? -

•	Gas venting arrangement	Not available
•	Leachate collection system	Provision not made
•	INSTITUTIONAL ARRANGEMENTS	
.1	SWM services provided in the city/town by	-
.2	Total no. of Supervisory Staff provided (e.g. Health officer/ Assistant Health officer/ Chief Sanitary Inspector/ sanitary Inspector/ Sanitary Supervisors, etc.)	33
.3	Total no. of sweepers/ Pourakarmikas/ labourers/ Mukadam/ Jathedars/ Daffedars, etc.	2470
.4	Organisational structure	-
•	PRIVATISATION	
.1	Whether any of the following service is privatised?	
•	Sweeping	No
•	Door-to-door collection	No
•	Community collection	No
•	Transportation	No
•	Processing of MAW	No
•	Sanitary landfilling	No
	If yes, provide details	-
	If no, whether any future plans for privatisation	Finalised the project for conversion of waste to manual
•	Details of NGO/ CBO/ Residential groups involved in any schemes/ projects initiated by municipal body in SWM/ clean city program	-
•	COST IMPLICATIONS IN SWM	
.1	Expenditure (in Rupees/Year)	

	• Total cost of SWM services under various heads	
	• Establishment including salaries, uniforms, <i>etc</i>	14,00,30,000
	• Tools, equipment, and consumables including disinfectant	50,00,000
	• Operation and maintenance of garbage vehicles including fuel, oil, spare parts, tyres, batteries, <i>etc</i>	56,00,000
	• Hiring charges for contractors' vehicle & machinery, bulldozers, JCBs, <i>etc</i>	30,00,000
	• Other miscellaneous expenses	20,00,000
.1	The above total cost in terms of following activities (Rupees/Year)	-
	• Sweeping cost	14,00,30,000
	• Collection cost	1,36,00,000
	• Transportation cost	-
	• Processing cost	-
	• Disposal / sanitary landfill cost	20,000
.1	Cost recovery	
	• Tipping fee or trade refuse charges (Rupees/Year)	Nil
	• Revenue generation (by sale of compost, vermi-compost, energy/ gas, <i>etc.</i> (Rupees/Year)	-
	• Annual expenditure for SWM services	15.50 crores
	Cost of SWM services in Rupees per capita per year	193.7
	Cost of SWM services in Rupees per tonne of MSW	1414.5
	• OTHER FACILITIES	
.1	What facilities are provided for the following?	-

• Biomedical waste (hospital medical Waste)	There are 64 hospitals & 650 clinics. The corporation has proposed a separate BMW management system on BOLT basis
• Diary related activities	Nil
• Slaughter house and unauthorised slaughtering	Project for slaughter house is in progress
• Construction, demolition, debris and silt	Progress
• Encroachments on footpaths, in parks	-
• How many slums have been identified and whether there are provided with sanitation facilities?	-
• Is there any enforcement wing for taking renal actions?	-
Recovery of administrative charges	-
Fines under Municipal/Police Act	-
Recourse to Municipal Act bye-laws	-
• Whether any cases are registered and settled during last three years?	-
No. of cases registered during last three years	-
No. of cases settled during last three years	-
Total recovery during last three years	-
• SPECIAL/ UNIQUE SCHEMES OR INITIATIVES¹	
.1 Recycling schemes for plastic, PET bottles	-
.2 Encouraging community activity such as ALM ² formation	-
.3 Encouraging people's participation by building-wise or building complex-wise waste segregation and processing of organic waste by vermi-composting or composting	-
.4 Training needs for sanitary workers on health and safety issue	-
.5 Development of tools and implements	-
.6 Please provide list of potential NGO for implementing any of the initiatives (any association registered with municipal body/	-

¹ Details of schemes can be provided on a separate sheet

² Advance Locality Management

unregistered local area management)

- **AWARENESS**

- .1 Are you aware of the various notifications of the Ministry of Environment and Forests, Government of India -
- Municipal Solid Waste (Management and Handling) Rules, 2000 -
- Recycled Plastics Manufacture and Usage Rules, 1999 -
- Biomedical Waste (Management and Handling) Rules, 1998 -
- Coastal Regulatory Zones Rules, 1991 (amended up to 2002) -

Place: Mumbai

Date: 21-01-2005

Signature of the Municipal Commissioner /
The Health Officer/ The Chief Engineer (SWM)

Stamp

Note: Please provide small note on the geographical and historical background of the city, tourist places, monuments, pilgrimage places, main industrial areas, industries, GNP, GDP, Airport, Airbase, main events and main people of national and international importance, *etc.*