

<i>Name of the Urban Local Body</i>	:	<i>Bijapur</i>
<i>Type of Municipal Body</i>	:	<i>City Municipal Council</i>
<i>Population (2001)</i>	:	<i>2,53,307</i>
<i>Population (2005)</i>	:	<i>2,79,793</i>
<i>Area</i>	:	<i>78.33 sq. km</i>
<i>Location</i>	:	<i>Belgaum division,</i>
<i>Number of wards</i>	:	<i>35</i>
<i>Number of houses</i>	:	<i>56098</i>
<i>Total Road Length</i>	:	<i>313 Km</i>
<i>Waste generated</i>	:	<i>109 tonnes per day</i>

Data used for the Action Plan is valid as on: 04th August 2005

1. Introduction

Bijapur city , the head quarter of the district , located in Belgaum division is one of the 36 NIRMALA NAGARA towns selected under NKUIDP, for the up gradations in SWM practices, in the first phase. The city has a population of about 279793 with a decadal growth of 33.6%. The city has also increased in area with the inclusion of new areas in to municipal limits.

Bijapur, the pride of deccan is located on an arid plateau between the Krishna and Bhima rivers . There are 4 natural valleys in town , which ultimately meet at a water course running at a distance of about 1 km north of the town. There are dominating features such as hills , rivers etc in the immediate surrounding of the city.

The city is recognized as a tourism place, famous for its historical monuments like Gol-Gumbaz , having world famous whispering gallery.

2. Objectives

1. To consolidate the information on the existing system of solid waste management.
2. To detail the action plan for solid waste management in conformity with the state policy on solid waste management and the MSW rules 2000.
3. To provide a document which would be used for immediate procurement of equipment and services for implementation of the solid waste management system and provide a baseline for all future plans for solid waste management for the city.

3. Project Methodology

- 1 An initial plan was prepared based on the standards proposed in the state policy of SWM.
- 2 Identification of the disposal site has been carried out and the site got authorized by KSPCB.
- 3 The supporting data has been collected based on the DPR by the consultants.

4. Profile of Bijapur city

Year of formation of the Municipal Body:

1	8	5	4
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Type of City or town :
Tourist (Historical)

Table : 1



Area spread	78.33 Sq.Km
Population(Present)	279793 Number
Connectivity	Road: Solapur - 101 km Road : Belgaum - 220 km Road: Bangalore - 530 km Road: Hyderabad - 420 km Rail: Solapur - 100 km Rail: Bagalkot - 80 km
Growth potential	--More institutions have been established recently. -- conservation aspect of the ancient monuments have given a beautiful outlook to the city. -- having 33% avg decadal growth in population.
Main tourist spot	1) Gol gumbaz 2) Jamia masjid 3) Ibrahim roja 4) Mulk-e-maidan 5) Uppali bruz 6) Bara kaman 7) Gagan mahal
Annual Rainfall	510 mm (avg)
Temperature	Min 20 °C ; Max 43 °C

Table 2 :
Ward details

Ward no.	Households	Population	Area (km ²)	Population Density (no./ km ²)		Ward no.	Households	Population	Area(km ²)	Population Density (no./ km ²)
1	3269	16048	7.11	2257		19	1171	5855	0.76	7703
2	867	4335	3.96	1094		20	1770	8850	0.70	12642
3	2855	14275	0.91	15686		21	1636	8180	2.50	3272
4	1290	6450	6.55	985		22	1554	7770	3.50	2220
5	2193	10965	1.70	6450		23	1397	6985	0.77	9071
6	1474	7370	1.52	4848		24	1554	7770	0.79	9835
7	1120	5600	0.60	9333		25	1358	6790	0.83	8180
8	1106	5530	0.69	8014		26	1173	5865	0.77	7616
9	1772	8860	0.70	12657		27	759	3795	0.88	4312
10	625	3125	0.70	4464		28	1376	6880	0.63	10920
11	2264	11320	1.12	10107		29	2435	12175	4.98	2444
12	2000	10000	5.58	1792		30	1587	7935	0.84	9446
13	944	4620	1.01	4574		31	617	3085	0.69	4471
14	1927	9635	1.06	9089		32	637	3185	0.64	4976
15	1535	7675	3.55	2161		33	1225	6125	1.09	5619
16	2377	11885	6.08	1954		34	1520	7600	0.63	12063
17	2850	14250	3.40	4191		35	1146	5530	10.38	532
18	2715	13475	0.71	18978		To tal	56098	279793	78.33	

There are 35 wards in the city , which are grouped in to 10 divisions .
The details are as follows :

Table 2 a : contd .,

Division	Wards	Division	wards
1	1,2, 3, 4, 5, 6	6	17,18,19,20,21
2	7, 8	7	22,23,24,25,26,27
3	10, 11, 12	8	28,29,30
4	9, part of 10 and 11	9	part of 27,31,32
5	13,14,15,16	10	33,34,35

Division no.	Population (a)	households		Shop	Choultry	Hotel	Industry	Meat Shop	Hospital and Clinics	Temple	Drain length (Km)	Road length in km	market		Dustbins		
		Houses that can pay	LIG & slums										vegetable	nonvegetable	A	B	C
Total	279793	35844	20254	4854	32	314	106	111	270	137	63	313.0	9	2	95	82	142
1	59443	8383	3551	418	1	42	04	15	51	16	6	75.6	1	--	08	12	20
2	11130	1718	508	169	2	12	--	04	15	05	2	8.0	1	--	08	07	04
3	22125	2000	2016	270	2	25	--	03	30	15	9	30.0	1	--	15	08	12
4	14180	2800	72	838	7	37	--	--	13	11	1	7.5	--	--	08	06	03
5	30815	3260	2902	1068	4	86	102	17	29	11	8	32.9	4	1	7	06	20
6	50610	6250	4142	465	4	23	--	15	40	25	7	39.9	--	--	11	12	21
7	38975	5880	2015	537	5	45	--	17	50	20	12	40.5	1	--	12	12	24
8	26990	3186	2211	180	3	12	--	8	12	15	8	28.0	--	--	11	05	10
9	6270	700	713	634	2	15	--	25	20	10	3	15.4	1	1	7	5	20
10	19255	1567	2124	275	2	17	--	07	10	9	5	34.0	--	--	8	9	8

Table 3: List of declared and undeclared slums in the ULB

Sl no.	Nameoftheslum (ward no.)	Type	Population	Households	DB	Staff	PC
1	Kudampurgalli (1)	I	4339	712	36	2	1
2	Arkeri oni (1)	D	967	212	10		
3	Kumbaroni (1)	I	658	261	13		
4	Gyangbowdi Nr. Gen.hospital (1)	I	2850	537	27	2	1
5	Gavali galli (1)	I	2617	418	21		
5	Shahapuragasi (1)	I	3000	565	29	2	1
6	Janvekartatte (2)	I	2000	308	15		
7	Venkataramangalli (3)	D	2983	506	25	2	1
8	Alvimasjid (3)	D	1193	203	10		
9	Nr. Gachinakatti shop (3)	D	1200	112	6		
10	Minimadara oni (3)	D	2915	493	25	2	1
11	Bombalagasi (3)	I	6000	514	26		
12	Rangeemasjid (5)	D	535	78	4	2	1
13	Near veterinary hospital (5)	D	869	165	8		
14	Near sericulture office (5)	D	2500	325	16		
15	Near railway station (5)	D	1139	227	11		
16	Leprocy colony (6)	I	500	107	5		
17	Sunagaragalli (shahapet) (5)	I	3121	623	31		
18	Gollara oni indi road (5)	D	1216	323	16		
19	Near yallamma temple (5)	I	2500	325	16		
20	Konchikoravaraoni (6)	D	532	89	5	2	1
21	Pailwangalli (6)	D	966	182	10		
22	Jadaragalli (6)	D	1163	112	6		
23	Pashapur Road (6)	D	168	24	2		
24	Hariyala galli (6)	I	750	125	6		
25	Gachinamahal (6)	I	1047	138	7		

26	Allpur oni	(6)	I	8000	2089	104	6	3
27	Near spinning mill	(5)	I	1200	200	10		
28	Rambhapur	(6)	I	350	54	3		
29	Indra nagar	(6)	I	1500	319	16	2	1
30	Rajaputh galli	(6)	D	1789	217	15		
31	Peti bowdi	(6)	D	2056	348	17		
32	Ibrhimpur harijankeri	(6)	I	1000	169	9	1	1
33	Nagar bowdi	(7)	I	2500	319	16	2	1
34	Badikaman	(7)	D	627	63	3		
35	Republic school	(7)	I	500	69	4		
36	Nagoor thota	(7)	I	2000	219	11		
37	Pasari Kaman	(7)	I	1000	118	6		
38	Marati vidyalay	(7)	I	1000	221	11		
39	TS Nagar	(8)	I	1373	332	17		
40	Nisaarmaddi	(8)	I	600	159	8	2	1
41	Kaadigramodyog	(8)	I	539	177	9		
42	Langabazar	(8)	I	1760	220	11		
43	Kajanagar	(8)	I	2500	323	16		
44	Tazbowdi	(9)	D	1314	234	12	2	1
45	Jodgumbaz	(9)	D	1173	176	9		
46	Habibnagar	(10)	I	1000	217	11		
47	Shasthrinagar	(10)	I	1000	222	11		
48	Mujavar lane	(10)	I	1000	230	12		
49	Jorapur galli	(10)	D	5431	836	42		
50	Gaddal tippi	(10)	I	5000	537	17	1	1
51	Kalebagh	(10)	I	574	168	9		
	Total			94514	16000	795	34	18

5. Population Growth and Density

(city map showing the population distribution is attached)

Total Area of the city or town : 78.33 Sq. km
 Total population residing in the city : 279793 no's
 Floating population : 10000 no's

Rapid urbanization , establishment of various institutions like, Ayurvedic college , medical and engineering colleges, Science , arts, commerce colleges, establishment of industries like cooperative spinning mill , conservation aspect of historical monuments , inclusion of new areas in to the municipal limits lead to the population growth in the ULB.

Table 4: Population growth in the ULB

Census year	Population (numbers) (a)	Area (sq.Km) (b)	GrossDensity (Persons /sq.Km) (a/b)
1981	147313	41.74	3529
1991	193131	75.36	2563
2001	253507	78.33	3236
2005	279793	78.33	3378
2011	311701	--	--
2014	328443	--	--

6. Socio Economic characteristic

Bijapur is well recognized as tourist place. The foundations of the historic city were laid during the reign of Chalukyan dynasty of Kalyani between 10th and 11th century. They called it VIJAYAPURA , the city of victory, from which its name comes Bijapura. Bijapur has seen the administration of AllaudinKilji , Bahamani kings of of Bidar in 1347, Adilshaahi Sulthans in 1487, and Aurangazeb, the mughal emperor in 1686.

During Adilshahi period, Bijapur experienced a great burst of architectural activity resulting in the construction of over 50 mosques, 20 tombs and number of palaces like world famous Gol-Gumbaz, Ibrahim-Roja, Jamia-masjid, gaganmahal etc.,

Institutions like sainik school , Aurvedic college, arts,science, commerce, engineering,medical colleges, Mahila universities have been established recentrly.

With the establishment of co-operative spinning mill, other industries Bijapur is growing as a trading centre also.

Table 5: Land use pattern (land use map demarcating water bodies, commercial area, industrial area, residential, institutional, public and semi public areas, road etc is attached.)

House holds	56098
Industries	106
Choultries	30
Temples	150
Slums	Declared : 21 Undeclared : 30

7. Credibility Building phase of Nirmala Nagara Yojane

Under Credibility building phase of Nirmala Nagara Yojane,

- Number of Awareness programme conducted for schools: 15
- Number of Awareness programme conducted for general community: 10

A 24 hour help line is available in the CMC with a telephone facility. (Ph: 222474) A complaint register is maintained in the CMC to have a record of all the complaints received by the public. The help line staff receives and records the complaint and inform to the concerned sanitary staff who take immediate action. The time duration in which the complaint will be attended varies from one hour to five hours depending on the number of complaints.

Among 7 sanitary inspectors and nine supervisors only 3 are provided with wireless sets. Because of this sometimes communication with the concerned staff will be delayed.

Table 6: Number of groups identified under SJSRY Scheme.



NGOs	RWA	Stree Shakthi	TCG	RGYSS	Any other
08	35	350	38	35	30 NHC

8. Present scenario of Solid Waste Management Status

The Major components of Solid Waste Management are:

1. Type of waste generated
2. Participation of stakeholders
3. Source Segregation
4. Primary Collection
5. Secondary Storage
6. Secondary Transportation
7. Processing and Disposal
8. Problems faced by the CMC

8.1 Total quantity of waste generated in a day 91 tonnes per day
 Composition of waste generated:
 Type of waste Organic Waste : 62 tonnes per day
 Inorganic Waste : 22 tonnes per day
 generated Recyclables : 07 tonnes per day

Trip sheet



days	V1	V2	V3	V4	V5	V6	V7	V8	V9
Sun	2	1	1	1	1	1	1	2	2
Mon	3	2	2	2	2	3	2	3	2
Tue	2	2	3	3	3	2	3	2	2
Wed	3	2	2	2	2	2	2	2	2
Thu	2	3	2	2	3	2	2	2	2
Fri	2	1	1	1	1	1	1	1	2
Sat	2	2	2	2	2	2	2	2	2

V1-V8 represents eight vehicles. On Sunday & Friday PK,s will be having half day leave. So on these days except V1 (tipper) , other vehicles do only one trip.
 On an average each vehicle do 2 trips a day.
 Quantity of waste transported per trip varies between 3.0 to 4.0 tonn

8.1.1 Estimation of waste generation (in TPD)

Source	No.	Waste generated. (qty in TPD)	Wet waste to be collected in secondary containers (in TPD)
House holds	56098	74.00	51.20
Commercial	4854	05.00	00.50
Markets	9	08.00	08.00
Hotels : small	289	02.30	01.50
big	25	01.50	01.00
Hospitals	270	00.10	-----
Mutton shop	111	00.10	-----
	Total	91.00*	62.20

* The quantification excludes construction waste which amounts to about 08 TPD & Street Sweeping waste about 10 TPD (approximately)

8.1.2 waste generation theoretically (in TPD)

population	Generation g/capita	Total TPD
279793	325	91

8.2 Participation of stakeholders & their Performance

Total number of wards : 35 number
 Total number of divisions : 10 number
 Number of wards outsourced : 05 number
 Number of wards managed by the ULB : 05 number
 SWM Activities that is outsourced are : Street sweeping and garbage transportation to the dumping yard.
 Performance of the contractor: performance of the contractor is not satisfactory. As the ULB has not paid contractors bill for about last 5 months, the protesting of labours for the salary is common phenomenon on 15th of every month
 No. workers under contractor : 140 ; No. of workers allotted per ward for, Street sweeping : 10-40 number depending on the ward area and population .
 Primary collection of waste: not yet practiced
 Storage : 10 number ; Treatment : not in practice
 Disposal : 04 number

8.3 Segregation

Segregation of the waste is not in practice

8.4 Primary collection

The present mode of waste collection is through street sweeping and collection from community bins. The major part of the city being densely populated with slum and low income groups and market / commercial areas most of the staff is deployed for the sweeping of A type roads (majority of them are having width of < 40 ft) In the slums as people are having the habit of throwing the waste including cooking rejects at their doorsteps, these roads need daily sweeping. Because of such public habits, problems due to stray animals such as pigs has also increased. The dustbins in the slums will be seen overflowing in spite of their daily clearance ,some even with a clearing frequency of twice a day. In ward no.1, 3 each households are visited for the initiation of door to door collection through RWA's and found that few of them showed interest with the condition that ULB has to provide vehicles free of cost..
 As ULB has no system for the collection of waste from restaurants / choultries the wastes are taken for cattle feeding.

8.4.1 Community Bin System for Primary collection of Waste

The community bin system is employed for the collection of waste in the whole of the city. The bins of circular concrete type and rectangular masonry type are being used for the collection of waste, which are cleared as per the need. For example in market areas few points are cleared twice a day , few are on daily basis and few are cleared as and when they get filled.

Recently after appointing an NGO for IEC activities few residential areas are showing the sign of coming forward for door to door collection through RWA formation

Total number of community bins located in the city **229** .

Type A : 95 no's

Type B : 82 no's

Type C : 142 no's

8.4.2 Street sweeping

**Table 8:
Street sweeping
schedule attached.**

The core of the city namely the wards 7,8,9,10,11,28,31,32 being market areas and major part of ward 6, part of wards 3,6,9,11,14,18,19,30,33 are being slums these areas have been swept daily basis. Only few of the extensions are being swept twice a week and majority of the extensions are being swept once a week

8.4.3 Desilting of Roadside drains

Frequency of desilting the road side drains : on demand basis

Frequency of desilting major storm water drains: -- do --

1. Sewers : 90 kms

Process adopted of desilting : manual

2. Major storm water drains : 63kms

Process adopted of desilting : manual

3. Roadside drains with sewageflow : 5 kms

Process adopted of desilting : manual

The desilting waste from the drains is disposed off in open dumping along with the garbage at the dumping site.

8.4.4 Secondary storage

There are no secondary storage containers. The waste from community bins is directly carried to the dumping site by the CMC's and contractor's vehicles

8.4.5 Transportation

Quantity of waste transported per day 60 Tonnes Per Day.

Types of vehicular fleet available with the ULB:

1. Tractor trailer:

a. Number : 08 number

b. Carrying capacity : 3 -- 4 tonnes

c. Condition of the vehicle : good

2. Tipper

a. Number : 01 number

b. Carrying capacity : 4.5 tonnes

c. Condition of the vehicle : not good

No. of trips each vehicles does to the disposal site : 2 .

There are total 8 vehicles 4 owned by the CMC(3 tractors and 1 tipper) and 5 tractors on contract basis taken from SHG's. The CMC vehicles have raised sides with uncovered tops with carrying capacity of 3.5 to 4.5 tonnes. The waste from the bins is loaded manually to the vehicle by 4 loaders. The tipper is in pathetic condition and requires frequent repairs and maintenance. Farmers around the city also transports an average of 5-6 trips of waste to use as compost. Totally an average of 50 – 60 tonnes of the waste is transported from the city.

8.4.6 Processing and Disposal of waste

As there is no segregation at the source level , the municipal solid waste gets mixed with the street sweeping / desiltation waste at the time of transportation to the dumping site. Presently the waste is not being processed and is being dumped at the site owned by the CMC , situated on Indi road, S.no. 138/ 139, for which the authorization from the KSPCB is obtained for composting and land filling. The estimation for the construction of compound wall, guard house , installation of weighbridge is completed . The other developmental works are yet to start. For the treatment of biomedical waste 3 acres of land has been provided to Karnataka Private Medical Establishments association.

8.4.7 Problems faced by the CMC

The problems faced by the CMC while executing the current solid waste management system are :

1. Lack of manpower and infrastructure
2. Lack of awareness among the community
3. Lack of public interest and support
4. Lack of planning
5. Staff requires proper training on solid waste handling

Gap Analysis for Bijapur City			
Action	MSW Rules 2000	Present Status of SWM	Proposed SWM
Segregation	Organizing awareness programmes Promoting recycling or reuse of segregated materials Phased programme to ensure community participation in waste segregation	Segregation is not followed	- segregation of waste in to wet, dry/ recyclables & household hazardous wastes - conducting awareness programmes every month familiarizing people about the solid waste management system adopted in their ULB - Training programme for retrievers regarding importance of segregation, proper handling of waste and its hazards due to improper handling - Littering of waste to be banned - Levying fine who doesn't follow segregation - Houses should be levied fine for throwing garbage in open space - Conducting awareness programmes for schools, colleges and institutions
Primary collection	Door to door waste collection. Slums, bulk generators, agricultural waste should have separate collection system. MSW should not mix with hospital and industrial waste No burning of waste Recycling biodegradable waste	Through community bins Street sweeping in major part of the city	- Door to door collection system - programmatic street sweeping - Separate collection system for bulk generators and construction waste - User charges will be levied households for, commercial establishments and other waste generators as per the directions of UDD.
Secondary storage	Adequate number of covered storage bins Colorization of the bins: Bio-degradable wastes - green Recyclable wastes - white Other wastes - black. Avoid manual handling of waste	No secondary storage system	- Closed metal secondary storage containers of 3 m ³ and 4.5 m ³ - Automatic loading of containers so as to minimize manual handling
Transportation	Covered transportation vehicles Avoid multiple handling of waste No open dumping Regular clearance frequency	By 1—tipper and 7—tractors with raised sides Uncovered transportation	- Twin container dumper placer for transportation - Hygienic transportation to processing/ land filling site
Processing:	Recycling of biodegradable wastes Inerts for landfill	No processing is being followed	- Composting of wet waste - Recycling of reusable - Inerts to land fill
Disposal	Sanitary landfill	Open dumping	Sanitary land fill
Financial arrangement		Expenditure under SWM is not maintained separately.	Expenditure under SWM head should be maintained separately
Institutional arrangement		monitoring by health section of ULB	Monitoring and management by ward committees, RWA's, SHG's which in turn by ULB.

Overview of the Proposed Action Plan

Activity	Proposed Action Plan	ULBs role	Private Sector Partnership
Creating awareness among the community and training to the SHGs	Lead NGO has to be identified for awareness creation	Providing necessary materials for the awareness creation	IEC activity is being outsourced to Jayanthigram women's and children's welfare association
Street Sweeping and clearance of dry waste and clearance of litterbins	All A type roads and 48 km of b type roads in divisions 1 & 3 will be outsourced for street sweeping Total Road length: 106 kms A : 58 B : 48	All C & D type roads and B type roads in divisions 2,4,5,6,7,8,9,10 will be maintained by ULB. Total road length: 207 kms B : 86 C : 98 D : 23	Street sweeping ,collection of garbage from community bins, transportation of construction debris (lump sum rate contract) -- doc. 5
Door to door waste collection in residential area	Wet waste will be collected daily and dry waste twice a week zone wise manner Auto tippers required : 09 no. Ttricycle required : 90 no. Pushcarts required : 14 no.	Monitoring of RWA / SHG.	RWA 's and SHG 'g Will be given the responsibility of door to door collection in improved layouts.
Waste collection in bulk generating area	The waste collection from bulk generators will be outsourced.	Monitoring of RWA / SHG.	SHG or service provider will do collection under the supervision of ULB.
Waste collection in slum area	Waste collection in slum areas will be done by ULB Number of Pushcarts required: 18	slum areas and LIG areas in wards 5, 6,7,8 will be handled by ULB. Number of households : 20254	

Secondary storage container	Total number of secondary storage containers required: 3 m ³ : 31 no's. 4.5 m ³ : 31 no's. As within the fort wall region, population density is high & in the extensions population density is very less , interval between the containers varies accordingly.	Secondary containers will be procured by ULB	Not Applicable
Transportation of waste	Number of dumper placer required: 05 no. No. of tractor trailer required: nil	The CMC is already having 3 tractor trailers. The dumper placers will be procured by ULB.	Operation and maintenance of dumper placers has to be outsourced.
Landfill unit	Composting of the wet organic waste and land filling the rejectables. Area required for compost unit 20 Acres Area required for landfill unit: 15 Acres	Monitoring the activities of the operator	Construction and operation of processing and landfill site has to be outsourced
Procurement tender for Equipments			Equipment purchase documents. Doc.11

1. Formation of Management and monitoring Committee for Primary Collection in residential areas

a) Involving Self Help Groups (SHGs)

As per the state policy SHG 's should be involved for door to door waste collection in residential and commercial areas. 50% of the amount for purchasing a primary collection vehicle will be pooled in by the CMC and the rest 50% has to be filled by the SHG; for which a bank loan at subsidized rates will be provided with the help of CMC. The group has to repay the loan with in 5 years from the amount collected as a user fee from each household / shop.

b) Involving Resident Welfare Association (RWA)

Number of RWA functioning in the city or town none.

Residents in extension areas are being motivated for the formation of RWA's and few are coming forward to undertake door to door collection. Few sthree shakthi groups are also coming forward and door to door collection in extension area will be done by RWA's and SHG's. In chalukya nagar, Adarsha nagar, KHB colony , Kanakadasa layout, SHG's & NGO's are coming forward to do door to door collection.

2. Conducting Awareness among the community

General Community : conducting awareness programmes related to waste minimization, reduction, reuse and recycle concept.

Awareness on segregation of waste in to wet and dry

Schools : Recycling of waste especially plastics ; utilization of waste for composting.

Institutions : Awareness on segregation of waste in to wet ,dry And hazardous.

Health Staff: Training of health staff regarding handling , transporting, processing, disposal of waste; SWM-2000 rules and specifications.

3. Segregation

The waste has to be segregated into two types:

Wet waste: food waste, decomposable waste, other organic waste etc.

Dry waste includes recyclables: paper, plastics, rubber, wood, other inorganic waste etc.

The phase wise programs to attain segregation are given in the instruction sheet.

4. Primary collection

The primary waste collection is to be taken under two heads:

1. Street sweeping
2. Door to door waste collection

Table 9: Classification of waste generators and primary collection strategy.



As per the SWM State Policy, Auto tippers and tricycles or pushcarts should be in 25:75 proportionate.

Sl.	Waste generator	Number	Primary waste collection strategy
1	Residential households		
a	Households that can pay the user charge	35844	Door to door collection by means of auto tipper / tricycle
b	Lowincome households which cannot pay the user fee	4254	Waste collection using bring system by CMC staff.
c	Slum households	16000	Waste collection by means of community bin /bring system by CMC staff.
2	Small waste generators		
a	Small Hotels/ restaurants	289	By primary collection by the collection group of the concerned area.
b	Commercial establishment	4848	By primary collection by the collection group of the concerned area.
3	Bulk generators		
a	Hotels, choultries and high rise building	Hotels: 25 Choultries: 32	By primary collection by the collection group of the concerned area.
4	Road side waste generators		
a	road sides cleaning	(Not applicable)	By means of street sweeping by the operator of the package.
b	Debris clearance	(Not applicable)	By means of street sweeping by the operator of the package .
c	Dead animals	(Not applicable)	By task force.
d	Litter from road	(Not applicable)	By means of street sweeping by the operator of the package .
e	Open space cleaning	(Not applicable)	By task force
5	Waste generators not covered by the CMC		
a	Institutions and companies		In institutins cleaning is being done occasionally by task force
b	Hospitals	35	By Karnataka private medical establishments association
c	Industries	106	By industries association.

4.1 Street Sweeping details

As per state policy, one worker should sweep 1 km of road length irrespective of its width.

Definition of Street Sweeping:

Street Sweeping will include:

- Cleaning of silt accumulation along kerbs, mesh and shoulder drain.
- Sweeping of roads, streets and path
- Uprooting of vegetation
- Cleaning open drains
- Clearance of litterbins

Classify the city or town into following zones for street sweeping:

A type Roads: Roads that requires daily sweeping

Total road length to be swept under type A: 58 kms

B Type Roads: Roads that requires twice a week sweeping

Total road length to be swept under Type B: 134 kms

C Type Roads: Roads that requires once a week sweeping

Total road length to be swept under Type C: 98kms

D Type Roads: Roads that requires once in fortnight sweeping

Total road length to be swept under Type D : 23kms

Table no 10: Zone Wise Street sweeping and roadside drain cleaning frequency as per the State Policy.

Zones	Street sweeping frequency	DAYS						
		Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	Once a day	A	A	A	A	A	A	A
2	Twice a week							
3	Once a week	AC						
4	Once in fortnight							

AC – Area Cleaning as a task work

Table 11: Distribution of sewers in the City Municipal Council

Frequency of cleaning	Drain length to be cleaned (in Kms)
Cleaned along with the street sweeping schedule (Road side drain with or without sewage flow)	32
Once a year (to be outsourced) (Huge Sewers and storm water drains)	30

Total road length to be managed by the ULB 105kms
Type B : 86 ; C : 98 ; D: 23

Total road length to be outsourced: 208 kms
Type A: 58 ; B : 48

Requirement of workers :

A Type Roads:

Total road length to be covered under Zone 1: 58 kms
No. of workers required @1000 m = 58

B Type Roads *:

Total road length to be covered under Zone 2: 134 kms
No. of workers required @1000m = $134/6 = \underline{46}$

C Type Roads *:

Total road length to be covered under Zone 3: 98.kms
No. of workers required @1000m = $98/6 = \underline{16}$

D Type Roads *:

Total road length to be covered under Zone 3: 23kms
No. of workers required @1000m = $23/14 = \underline{2}$

Note: one day of the week will be reserved for Gang Work.

Total workers requirement = 122

Road length covered by ULB

C type road : 98 km
D type road : 23 km
B type road : 86 km (divisions 2,4,5,6,7,8,9,10)

Workers required : 47

Road length covered by ULB

A type road : 58 km
B type road : 48 km (divisions 1,3)

Workers required : 75

Table 12: package wise road distribution



management	Scope of work	Zone	Road length (kms)	Staff required	Drain length (kms)
PSP	Street sweeping, road side drain cleaning, removal of road side vegetation, transportation of waste from the ward.	A	58	75	35
		B	48		
		Total	106		
ULB	Street sweeping, road side drain cleaning, removal of road side vegetation, transportation of waste from the ward	B	86	47	14
		C	98		
		D	23		
		Total	207		

Note: package wise details consisting, of Road length, width and Street sweeping schedule along with the city map showing the respective package area is attached.

4.2 Equipments for street sweeping

Table 13: Equipments to be procured by the ULB for street sweeping.



Sno	Type of tools	Annual requirement of equipments			
		Actual (a)	Extra stock (b)	Frequency of replacement	Total (a) + (b)
1	Long handled broom	188	19	Once in 3 months	207
2	Metal scraper and tray	94	9	Once in 6 months	103
3	Plastic Basket (Gamela)	47	5	Once in year	52
4	Pushcarts	24	Nil	Once in 5 years	24

4.3 Door to door waste collection

Number of households in the city,

Slum & LIG households : 20254 .no.

Non-slum households : 35844 no.

Table 14: Boundaries demarcating the clusters for door to door waste collection by the SHGs.



Zones	Number of households/ commercial shops
	Households that can pay
Zone 1* (*Areas where DTDC can be done through Auto Tipper)	9000
Zone 2 ** (** Areas where DTDC can be done through pushcart)	5260
Zone 3*** (*** Areas where DTDC can be done through tricycles)	21584

Note: This does not include Construction and Hospital Waste. Classify the whole city areas, which can be served by the auto tipper or pushcart or tricycle. Include all legal and illegal properties, declared and undeclared slums

4.3.1 Non slum

Number of households to be served by the Auto tipper = 9100

Number of auto tippers required = 9.

Total number of SHGs available = 350.

a. Auto Tipper

Number of SHGs required to manage the door to door waste collection using auto tipper = 9

As per the SWM state policy, an auto tipper can serve 800 to 1000 households per day.

b. Tricycle

Number of households to be served by the tricycle = 21584

Number of tricycle required = $(21584 / 240) = 90$.

No. of SHG's required : 22

Management system: Waste collection using tricycles will be managed by SHG's. Which in turn will be monitored by the CMC.

c. push carts

No. of houses covered : 2260

Number of push carts required = $(2260/160) = 14$.

No. of SHG's required : 3

Management through ULB

c. bring system

Number of house holds covered : 3240

No. of dustbins required = $3240/20 = 162$

Dustbins will be cleared during the removal of street sweeping waste.

4.3.2 Slum/BPL Bring in system – using HDPE bins

No. of households to be served by bring in system: 20254 .

No. of HDPE bins required = number of households/ 20
= $(20254/20) = 1012$

Carrying capacity = 40 lits (approximate can carry 15 kgs of waste)

Number of push carts required = No. of households/1080
= $20054/1080 = 18$

Number of Pks/workers required = (number of households to be served / 1080) * 2 = $(20540/1080 * 2) = 36$ workers

As per the SWM state policy, 2 PKs to be deployed for a normative area of about 1080 households.

One HDPE bin has to be placed for every 20 households.

4.4 Collection Plan

Using Auto tipper : The vehicle will stop at every 50 m distance.

The helper accompanied with the vehicle will collect the wet waste and dry waste and put in to the respective compartment.

Using tricycle : The tricycle will stop at every 50 m distance . the helper will take the segregated waste from each house and put in to the respective bins.

Using pushcart : one person will keep moving the vehicle, other one will collect the wet and dry waste from each house and put in to respective dust bins in the cart.

Using bring in system: The person will keep moving the vehicle and stops at every 50 m distance with the sound of ringing bell / horn. The residents will put the segregated waste in to the dustbins.

Wet waste:

Wet waste will be collected from the source(households/hotels/ choultries) on daily basis from 6:30 am up to 10:30am by means of door to door collection/ bring system/ community bin system.

Dry or inorganic waste from house holds will be collected in separate containers and in commercial areas by auto tipper from 8:00 am up to 10:00 am on daily basis.

Dry Waste including recyclables

Dry waste including recyclables will be collected from residential areas once in a week at a fixed schedule. Recyclables if any will be separated and sold, other inerts will go for land filling.

Table 16: chart showing the collection plan for segregated Waste.

(Divide each command area in 7 zones. On each day of the week, Primary collection vehicle will collect dry waste from each zone in a cycle manner)

Type of waste	Frequency of Collection						
	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Wet waste from residential area 6:30 am to 10:30 am							
Dry waste from area including residential and commercial area 1:30 pm to 4:30 pm	Z 1	Z 2	Z 3	Z 4	Z 5	Z 6	Z 7
waste collection from the bulk generators 5:30 am to 6: 30 am							

Table 16: Door to door waste collection plan in an

SNo	Details of collection activity in residential areas in morning time for 6 hours	Assuming 8 hrs operation		
		Auto tipper	Tricycle	Pushcart
1	Total time available per day including one hour break i.e. 6	330 Min	330 min	330 min
2	Number of houses to be covered in a day	1000	240	160
3	Carrying capacity of the collection vehicle per trip	500 – 600 kgs	80 -100 Kgs	40-50 kgs
4	Number of houses that can be covered per trip	500 houses	80 houses	40 houses
5	Number of trips per day per vehicle	2 trips	3 trips	4 trips
6	Time required per trip for up and down of collection vehicle to transfer the waste	15 min	20 min	25 min
7	Total time needed for transferring the waste in a day	30 min	60 min	100 min
8	Time required for door to door collection in day	300 min	270 min	230 min
9	Time required for collection of waste from each household	3 min for 10 households	9 min for 10 households	14 min for 10 households
10	Time required for each trip including up and down to the secondary storage container	2 hr 45 min	1 hr 35 min	1 hour
11	Pourakarmikas required per vehicle	1 worker	1 worker	1 worker
Morning from 5:30 am to 6:30 am, the vehicles have to collect the wet waste from the bulk generators.				
Afternoon from 1:30 pm to 4:30 pm, the vehicles will collect dry waste from the both residential and commercial area in a zone wise manner.				

area

Table 17: Ward wise distribution of primary collection vehicle

SNo.	Command area	No. of households	Vehicles deployed		
			AT	TC	PC
1	Adarshanagar, Banjaracolony (E), Gurupadeshwaranagar	1000	1		
2	Banjaracolony (w), K.C.Nagar, Sreenagar	800		3	
3	Ashram , Neelanagar, Mallikarjun nagar, PNT quarts	1100	1		
4	Gachinakatticolony, Pragathinagar, Kalyannagar	965		4	
5	KHBcolony, Rajendranagar, Bankcolony	1000	1		
6	Ayyappanagar, Treasurycolony, Kulkarnilayout, Nimbargilayout, Narasimhacolony, DTI	500		2	
7	Darga, Afzalpurakke	900		3	
8	Bairavnagar, Freedomfighterscolony, Buthada colony, Lidkarcolony, Basavnagar, Akashvani	950	1		
9	Shapuragasi, beedigalli, gavaligalli*	1100			1
10	Bavasaanagar, Shakthnagar	1200		4	
11	Policehead Qrts	500		2	
12	Gyangbowdi, Shindecolony, Jayanagarcolony	975		4	
13	Sangameshwaracolony, KSRTC colony, Nehrunagar	1000		4	
14	Hoogaarthota	400		2	
15	Navigalli, Bangargalli, Hiremattoni, Mallianaoni, Munjannigalli, NavadagiTota*	1000		4	2-4
16	Kanakadaasalayout, Pulikeshinagar, Ganeshnagar	500			
17	Keerthinagar, SR colony, KKcolony, Viveknagar(E)	1000	1		
18	Jalanagar, Viveknagar(W)	1000	1		
19	Ibrahimpur, laxminagar, venkateshnagar, Vajrahanumaannagar	1000		4	
20	Rajajinagar, Ramnagar, Navraspurcolony	1000	1		
21	KSRTC colony, Raghavendracolony	200		1	
22	Vidyanagar, Murankeri, Shantinikethan	1000		4	
23	Kamaankhanbazarroad, Astapelbunglow, Bagaythgalli*	1000		2	5-7
24	Haveligalli, Kaadigramodyog, Sakaafroja, Alikroja, Hallilayout	1000		4	
25	Navbagh, Suhaagmantap, Judgebunglow,	1000		4	
26	Tazbowdiroad, Jamkanegalli, Fortwallroad, Godbolemala, AjrekarChala, Mirdegsalli	1000		4	
27	Ward 2*	1250		4	8-9
28	AzadRoad, RammandirRoad, SS Road, Mahaaveer Road	1000	1		
29	MGRoad, Nehrumarket, Shastrimarket, JainMandirRoad	1000	1		
30	IndiRoad, KabrajiBazarRoad, BukarimasjidRoad, BarakamanMarket, GurukulRoad, Bangarimatt	1000		4	
31	Matpathigalli	600		3	10
32	Inamdarcolony, AnandHospital, VijayacollegeRoad, BLDERoad	1000		4	
33	Shahapet area, Sunagaragalli, CMC colony*	300			11-12
34	Ganeshnagar, Kaaviplot, HaashimpeerdargaRoad, Gyanilayout, Madhuvan	1000		4	

35	Deshpandecolony,Divatagerigalli,Sundaeshwara temple	1000		3	
36	Asar road, Badikaman	550		2	
37	Subashcolony,Chapparbandgalli,Julygalli	500		2	
38	JMRoad, Shaikcolony*	1000			13
39	Gandhinagar,Indl area	250		1	
40	ButhnalThanda	500		2	
41	Yogapur,Hamalacolony,Rambhapur,* Muneshwarabadaavane,	1000			14
42	Kalebagh, BaraakotriThanda	500		2	
43	Ward-6,petibowdi,HousingBoard	800		4	
	Total		9	90	14

* DTDC through ULBs

4.4.1 Waste

Collection from bulk generators	Number of hotels	=	25	no's.
	Number of hostels	=	10	no's
	Number of commercial complex	=	25	no's
	Number of Kalyana Mantapas	=	32	no's

4.4.2 Waste collection from Kalyana Mantapa

Waste from kalyana mantapas will be collected by the operator of primary collection of the respective area. The authorities of the kalyanamantapas will inform the ULB about functions in advance. who in turn will inform the collectiongroup. The waste will be collected in the evening between 3:00pm -5:00pm.

4.4.3 Waste Collection from High Raise Buildings

The authorities of the hostels, institutions and high rise buildings will be convinced to process the wet waste on their own. Wherever this is not possible, the collection group will do the waste collection as per the prescheduled time.

4.4.4 Waste collection from resorts and hotels

The authorities of the hostels, institutions and high rise buildings will be convinced to process the wet waste on their own. Wherever this is not possible, the collection group will do the waste collection as per the prescheduled time.

4.4.5 Collection of construction waste and dead animals

Construction waste will be collected by the operator of the respective area for street sweeping as per the directions of CMC officer. Who will be informed in advance by the generator of the construction waste. The generator of the waste will be charged for this service on per trip basis. The operator will remove the waste within 3days of receiving information from the CMC officer.

4.4.6 Waste collection commercial complex

In major commercial areas like kirana bazar, Saraf bazar, Shasthri market, Indi road, KC market, office road, MG road, TSTarea, Azad road where the waste generated has major composition as inorganic, combustible dry waste it will be collected by the CMC or SHG between 8:30 am -- 12:30 pm.

5. Secondary Storage

As per SWM State Policy, Carrying capacity of the various secondary storage containers are;
 3 m³ - 1.2 tonnes
 4.5 m³ – 1.8 tonnes

These containers should be placed in 25:75 ratios

Source	No.	Wet waste to be collected in secondary containers (in TPD)
House holds	56098	51.20
Commercial	4854	00.50
Markets	9	08.00
Hotels: small	289	01.50
big	25	01.00
	Total	62.20

Total quantity of waste generated = 93 tonnes per day

Total quantity of wet waste generated in the city = 62 tonnes

Total wet waste to be collected in secondary storage containers =
 62.00

With 25% excess, wet waste =78 .00 tonnes(say x)

Total number of containers required for wet waste storage =

$78 / 1.5 = 52$ (say Y)

Total no.of 4.5 m³ & 3m³containers required for wet waste storage =

$Y / 2 = 52 / 2 = 26$ each

Replacement containers :

3 m³ : 5 ; 4.5 m³ : 5

Total number of containers required:

i) 3 m³ : 31 ii) 4.5 m³ : 31

Table 18: Coverage area for each secondary storage bin

Container no.	Location	households	shops	capacity m ³
1	Adarshanagar, IDSMT complex	1300	25	4.5
2	Banjaara cross	1000	30	3.0
3	KHB colony park	1050	30	3.0
4	BLDE compound	1250	30	4.5
5	rahamathulla masjid,shakti nagar	1300	25	4.5
6	KSRTC compound, near water tank	1300	50	4.5
7	Gyang bowdi	1075	40	3.0
8	Near SP office	1300	25	4.5
9	Solajur naka, Darga road	1000	35	3.0
10	dargaNear jain mandir	1075	20	3.0
11	Bairav nagar	1150	50	3.0
12	Sainik School gate	1200	50	4.5
13	Athani road , navigalli cross	1250	125	3.0
14	Police head qrts gate	1200	100	4.5
15	Babaleshwar naka	1350	100	4.5
16	Shahapur agasi gate	1200	75	3.0
17	MR hotel	600	600	3.0
18	Kori chowk	1250	275	4.5
19	Near amir talkies	1100	150	3.0
20	Keerti nagar, Near park	1250	45	4.5
21	Zendakatte	1100	65	3.0
22	Jalanagar, water tank	1350	150	4.5
23	Mangooli road, Nr Ayurved college	1000	45	3.0
24	Bagalkot cross, astapei bunglow	1100	150	3.0
25	Bagalkot road, next to SP office	1000	35	3.0
26	Venkatesh nagar,laxmi temple road	1200	32	4.5
27	Vajrahanuman nagar, railway gate	1100	35	3.0
28	Sindagi road ,near bridge	1370	45	4.5
29	Near pearl hotel	1350	45	4.5
30	Near court complex, bagalkot road	1000	55	3.0
31	Gyarage dust bin	1300	50	4.5
32	Urdu school 4	1000	40	4.5
33	Meenaakshi chowk	900	200	3.0
34	Taz bowdi	1250	75	4.5
35	Shahapet circle	1250	75	4.5
36	Near sericulture office	1000	125	3.0
37	Pragathi nagar	1000	45	3.0
38	Gachinakatti colony	1300	25	4.5
39	Lingad road	980	20	3.0
40	Apmc market	1400	30	4.5
41	Inamdar colony	1200	35	4.5
42	Near arcot darga	1200	20	4.5
43	Behind darbar school	1050	05	3.0
44	Nehru market	--	market	4.5
45	Bara Kaman compound	150	--	3.0
46	Upplibruz	900	250	3.0
47	Ashram	1000	10	4.5
48	Kanakadaa layout	1000	15	3.0
49	Ayyappa nagar. Near ring road	1000	10	3.0
50	Nav bagh road	900	250	4.5
51	Near gadekar printers	1000	200	4.5
52	Near B.D.O. Quarters	1000	10	3.0

5.3 Placement of Litterbins

As per the State Policy for SWM, 40 lit capacity litterbins can be placed in the commercial areas. Places where littering is too high, 170 lit capacity litterbins can be placed.

The litter bins will be placed at the commercial complexes and on the commercial roads at an interval of 100 – 500 m as per requirement.

The waste from litter bins can be emptied in to a basket by tilting it.

The litter bins will be fixed on an axis with fixed supports on concrete platform. As the litter bins are meant for dry inert waste they can be carried directly to the low lying area.

Total number of litterbins (87.5 ltr) to be procured by the ULB = 50.

* purchased by CMC fund.

Table 19: location and number of litterbins required in the city or town.

Locations	Number of litterbins of capacity	Clearance method	Distance between the litterbins (m)
	87.5 ltr		
Near temples	08	During street sweeping	Each temple
Shopping complex	08	During street sweeping	One at each entrance
Commercial streets	10	During street sweeping	100 m
Tourist places	5	During street sweeping	Each place
Bus stops	4	During street sweeping	>500m
Gov. institutes	5	During street sweeping	Each institute
Public places	5	During street sweeping	as per requirement
Total	45		

6. Transportation of waste

As per MSW Rules 2000, the waste in secondary storage containers is proposed to transport using twin container dumper Placer, to the processing units or to the final disposal, depending upon the type of waste. A twin dumper placer can transport 2 numbers of 3 m³ or 4.5 m³ containers or in combination. It can handle a live load of over 4000 Kg and 6000 Kg. This vehicle will start with two empty containers of both 3 m³ or 4.5 m³ container or in combination and shall place the empty containers properly in the secondary storage points with shutters open for use and lift the filled containers which in turn will be transported to land fill site having an area of 33.5 acres located at Indi Road , Mahalbagayath R .S. N. 138 & 139.

Total number of containers to be carried: 3 m³ : 26no's

4.5 m³: 26 no's

Number of trip a dumper placer can do in a day= 5 trips/ day

(As per the field experience, i.e. distance to be traveled by each vehicle till the landfill site)

For cities above one lakh population:

Number of containers cleared / vehicle = 2

Number of trips done by secondary transportation vehicles = 5

Number of containers cleared / trip = 5* 2 =10

Number of dumper placers required = 52/ 10 = 5

Requirement of workers for the transportation of waste:

One driver and one cleaner with each dumper placer.

Management: Wet waste should be carried to the compost pit built with in the landfill site. Dry waste collected by the auto tippers should be transferred to the tractors, which will further carry it to the landfill site. These tractors should cover its top with the tarpaulin to avoid littering.

A dumper placer can clear two containers of wet waste from two locations per trip. The processing and land filling site having 30 acres of land is at a distance of 5 km from the centre of the city.

Dry waste collected by the auto tipper will be transferred to the tractor which in turn will be transported to the recycling area, from where inerts after segregation will be taken to land fill site having an area of 33.5 acres located at Indi Road , Mahalbagayath R .S. N. 138 & 139.

As per SWM State Policy, dumper placers are proposed for cities with more than a lakh population. Tractor drawn trailers are been proposed for towns and cities with less than a lakh population.

One dumper placer can carry two 3 m³, 4.5 m³ or both in combination.

One tractor drawn trailer can carry only one 3 or 4.5 m³ container.

Table 20: Transport plan for vehicles



Vehicles	Type of Waste carried	Number of containers cleared	No of Trips / Day	Requirement Of Workers	
Dumper placer					
DP 1	Wet waste	10	5	1+1	
DP 2	Wet waste	10	5	1+1	
DP 3	Wet waste	10	5	1+1	
DP 4	Wet waste	10	5	1+1	
DP 5	Wet waste	12	6	1+1	
Total vehicles required	Dumper Placer : 05 numbers				
Existing ULB's vehicular fleet					
Type of Vehicle	Vehicle Number	Owner	Works doing presently	Works allotted as per the proposed Action Plan	Requirement of workers
Tractor	KA 28 T 6162	CMC	Transporting waste from community bins	Task force	4+1
Tractor	KA 28 A 3961	CMC	--do--	Removing waste from street sweeping	4+1
Tractor	KA 28 A 3144	CMC	--do--	--do--	4+1
Tipper	KA 28 5216	CMC	--do--	collection of waste from villages in the outskirts of the city.	4+1
Water tanker	KA 28 G 5007	CMC	Water supply & public urinal cleaning	Water supply & public urinal cleaning	1+1
Night-soil tank	KA 28 5215	CMC	Night soil removal	Night soil removal	1+1

7. Processing of waste

The waste is segregated into wet and dry waste including recyclables.

7.1 Organic waste

The best way of processing organic waste is by composting. Composting is a biological process of decomposition carried out under controlled conditions of ventilation, temperature, moisture and organisms in the waste themselves that convert waste into humus-like material by acting on the organic portion of the solid waste.

Vermi compost is another type of composting produced using Earthworms. The biodegradable waste will be partially decomposed for a period of 3 weeks and the material is then shifted to vermin pits for consumption by Earthworms. The casting of the Earthworm is the final product i.e. vermin-compost, rich in micronutrients, enzymes etc. KCDC (Hosur Road) is the major composting unit functioning very efficiently in Bangalore.

For the processing of biodegradable wet waste in to compost, & land filling of inerts the CMC, Bijapur has identified 30 acres of land in the municipal limit 5 km away from the city. The wet and dry waste should be transported to this site. Karnataka Compost Development Corporation is giving the technical support and guidance for the construction and maintenance of landfill cum compost unit.

7.2 Inorganic waste

The inorganic waste should be transported for scientific landfill site. The waste collector will deposit the recyclables at the identified spots from where the contractor will pick up the useful material. Only the refuse is transported to the landfill site under the present clearance of the street sweeping system.

Table 21: Various types of recyclables present in the waste.



Sno.	Type of Recyclable	Type of Waste
1	Unbroken bottles	Glass
2	Ferrous and non ferrous components	Metals
3	Plastics sheet, piping, and plastic bags, cans and bottles.	Plastics
4	Newspapers, and packaging covers like milk covers etc and cardboard.	Paper/cardboard
5	Old tyres, and shoes	Rubber/leathers
6	Wooden logs, woody waste from garden.	Wood

Management:

The processing unit construction and development will be outsourced on BOT basis and the designing will be done by the KCDC.

Details of Processing/land filling site:

The land is situated on the border line of municipal limit, on Indi Road, 1.0 km from the NH 13. The site has access from the indi road. No extra development of road is required. It has an area of 33.5 Acres in the Mahalbagayath Sno. 138 and 139, in which 3 acres has been allotted for Biomedical waste management.

8. Disposal of waste

Wet waste:

As per the MSW -2000 rule, the wet waste , which is biodegradable is processed to obtain compost by mechanical composting or vermin composting. KCDC will provide the technical assistance and will be operated by privatesector participation on BOT basis.

Dry Waste:

Dry waste which is inert is disposed by landfilling at the landfill site as per MSW -2000 specifications. Land fill site will be operated by private sector participation on BOT basis.

Recyclables:

Recyclables obtained from the segregation will be sold to the private parties which in turn will be recycled using suitable process.

Silt from drains:

Waste from desilting of drains, Street Sweeping, Constructional Waste will be used for filling low lying areas or as soil cover in land filling.

List of low lying areas: 1. Ashram road (opp. BLDE)

2 . Maddinakani (Indi Road)

3. Jathgara kani (Indi Road)

4. Fortwall (kandaka)

5. Shikara kana kani

6. Vishalanagar kani

Agricultural Waste:

As this waste contains vegetation , it is processed to get compost.

ble 22: Activity chart for

SWM in a day.

Activities	5.30 to 6.30	6.30 to 7.00	7.00 to 9.00	9.00 to 10.00	10.00 to 11.00	12.00 to 1.00	1.00 to 3.00	3.00 to 4.00	4.00 to 5.00	5.00 to 6.30
Street Sweeping	■	■	■	■			■	■	■	
Door to Door Collection from Residents		■	■	■	■			■	■	
Collection from Bulk Generators	■						■			
Transportation of wet waste		■	■	■	■	■	■	■	■	
Transportation of street sweeping waste		■	■	■	■			■	■	
Collection and transportation of constructional waste						■	■			
Cleaning of drains	■	■	■	■			■	■	■	
Processing and Disposal				■	■	■	■	■	■	■

9. Institutional Arrangement

Table 23: ULB's present manpower working as SWM staff in the ULB.



Present staff for SWM	Number (Permanent)	Number (contract)
Workers	161	140
Drivers	02	08
Cleaners	--	--
Supervisors	09	--
Inspector	07	--
Engineer	---	01

Table 24: ULB's manpower deployment for the proposed SWM plan.

Sector	Proposed deployment of the Sanitary Staff in RRN CMC						
	Workers	Cleaners	Driver	Supervisor	Senior Health Inspector	Junior Health Inspectors	Environmental Engineer
Total	161	--	--	9	3	3	1
Absenteesm (7 %)	11						
Door to door collection	42	-	-	3	1	1	1
*Task work 1 (peons , oldage etc)	20						
Task work 2** water supply UGD Public toilet / urinal Spraying insectisides	04 10 06 08	--	--	3	1	1	
Task force for SWM (encroachment, open area, park cleaning, dead animal, emergency)	09	--	--				
Street sweeping	47	--	--				
Transportation of secondary storage bins	--			3	1	1	
Transportation of street sweeping waste	04						

Note: The above given details are of ULB's staff

* At present about 10 PK's were deployed as peons in office , Deputy commissioner's residence, commissioner's residence, DUDC office etc & more than 10 in their retiring age.

** As UGD system in the city was designed in 70's to meet the requirements of 1.9 lakh people, on an average of 10 to 20 UGD complaints will be received in a day, which are to be attended on emergency basis.

In slums outsourcing of public toilets is not sustainable & they are far from each other single PK can clean maximum 2 toilets a day, plus near by urinals.

Four PK's appointed on compensation basis were deployed for water supply from the beginning redeployment under SWM wing will not give expected efficiency.

9.1 Organizational Structure (SWM)

Every day Mustering of the PK's will be done by sanitary supervisors under the supervision of health inspectors in turn by environmental engineer. Street sweeping will be done as per the schedule. The complaints regarding UGD, miscellaneous ,from help line will be conveyed to concerned staff and deployment of UGD team will be done accordingly. The daily report of supervisors, inspectors will be submitted to Environmental engineer in turn to the commissioner.

9.2 Monitoring of operation

Flow chart showing the hierarchy of solid waste management division.

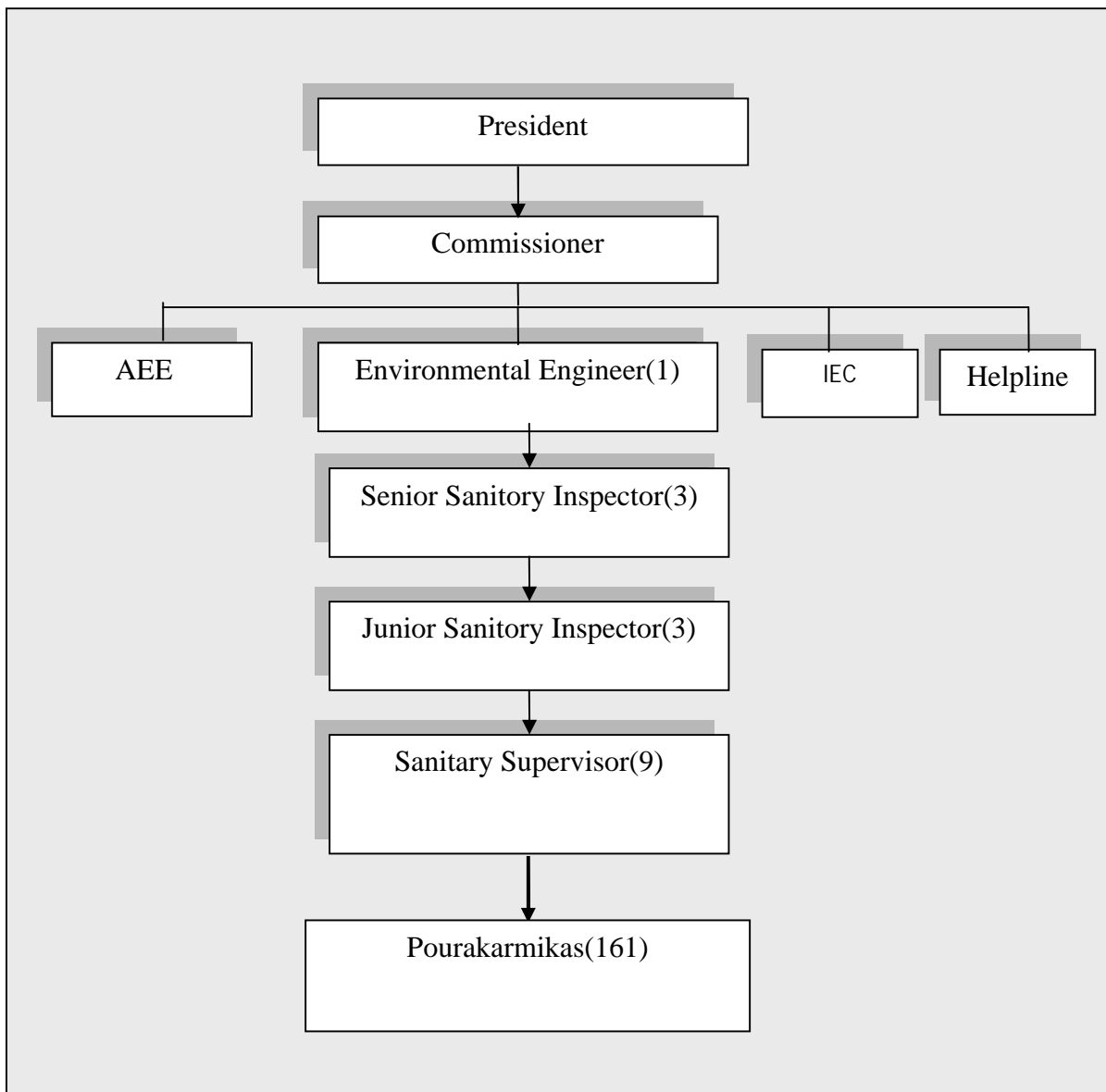


Table 25: Allocation of work for the supervising staff.



SWM Staff in charge	Role
Health Officer	Supervision of the overall SWM activity
Environmental Engineer --- 01 number	Supervising the overall SWM activity
Health Inspectors: 06 numbers	
Health Inspector 2	Supervising the daily waste collection, street sweeping and transportation operation of SWM in wards – 1 , 9 & 10
Health Inspector 1	Supervising the daily waste collection, street sweeping and transportation operation of SWM in wards – 2 , 3 & 4
Health Inspector 2	Supervising the daily waste collection, street sweeping and transportation operation of SWM in wards – 5, 6 & 7
Health Inspector 1	Supervising the daily waste collection, street sweeping and transportation operation of SWM in wards – 8
Supervisor: 09numbers	
Supervisor (each)	Monitoring the activities of PK's.

9.3 Working schedule of workers

Street Sweeping: 6: 00 am to 9:30 am and 1:30 pm to 5: pm

Door to door waste collection: 6:30 am to 10:30am

Transportation of waste: 6:30 am to 4:30 pm

At Landfill site; 9:00am to 6:00pm

Arrangement of holidays for ULB's SWM staff:

For primary collection: For every 6 vehicle 1 pair of staff working on each vehicle on each day for which the regular staff will have the holiday.

For transportation and landfill unit: The staff will be deployed so that each staff will get a holiday.

Common holidays for all the sectors: No common holiday for all the sectors.

10. Financial Arrangement

The financial requirements are proposed to be worked under two components.

1. Capital cost
2. Recurring cost

Table 26: Briefing the annual expenditure of the ULB from past 3 years for SWM.

Particulars	2002 -2003		2003-2004		2004-2005	
	Provision (Rupees)	Expenditure (Rupees)	Provision (Rupees)	Expenditure (Rupees)	Provision (Rupees)	Expenditure (Rupees)
Dustbins and pushcarts (repairs and purchasing)	75000	75000	225000	225000	650475	650475
Equipments	281397	281397	445383	445383	272969	272969
Construction and Desiltation of drains	1616550	1616550	1850482	1850482	1758279	1758279
Repair of the existing vehicles	37197	37197	50000	50000	50000	50000
Salary for SWM staff	16136238	16136238	13667866	13667866	22322981	22322981
Pensionary contribution	712208	712208	637137	637137	542695	542695
insurance and fuel(for all the vehicles)	376455	376455	949791	949791	880203	880203
Miscellaneous	24000	24000	30000	30000	30000	30000
Total	19259045	19259045	20855659	20855659	26507602	26507602

Average recurring cost born by

the ULB from past 3 years

= Rs. 22207435.00

10.1 estimation of capital cost for proposed action plan

Sno	Particulars	Quantity	Rate (in Rs)	Amount (in Rs)
A	Street sweeping			
	Pushcart	24	5000	120000
	Sub Total			120000
B	Primary collection			
1	Auto tipper (CMC)			
1.2	Auto tipper (SHGs)	9	2,10,000	1890000
2	Pushcarts (CMC)	14	6,500	91000
2.2	Pushcart (SHGs)			--
3	Tricycles (CMC)			
3.2	Tricycle (SHGs)	90	14,702	1323180
	Sub Total			3304180
B.1	Litterbins			
1	Litter bins of 87.5 lit	45	3320	149400
	Sub Total			149400
C	Secondary storage			
3	Containers of 3 cubic meter capacity	31	35,000	1035000
4	Containers of 4.5 cubic meter capacity	31	40,000	1240000
5	Construction of PCC platform, for placing containers on it	52	7500	390000
	Sub Total			2665000
D	Transportation			
1	Twin container Dumper Placer	5	850000	4250000
E	Processing and disposal		To be Tendered out on BOT basis	
	Sub Total			4250000
	Grand Total			10488580

Table 28: The estimated capital cost.



10.2 Estimates of annual recurring cost for Bijapur CMC

SNo	Particulars	Amount (in Rs) per month	Amount per year
1	Salaries of the SWM staff including PF	1327977	15935724
2	Maintenance of secondary storage, litterbins and PCC slab		50000
3	Maintenance of dumper placers@Rs.1000.00	5000.00	60000
4	Maintenance of the existing tractors @Rs.750.00	3000.00	36000
5	Conducting meetings and awareness programme	24000.00	288000
6	Uniforms for workers @ the rate of 500Rs for 161workers	-	80500
7	Fuel charge	50000.00	600000
8	Contract charges for All the packages for Street sweeping	185050.00	2220600
9	Tipping cost at landfill site @ Rs 250 per ton of waste	250*91	22750
10	Cost of treatment and landfill site @ Rs. 400 per ton of waste	400*91	36400
Street sweeping			
11	Long handle brooms with 3 months once replacement	207* 148.00	--
12	Metal scraper with 6 months once replacement	103* 150.00	--
13	Metal tray with 6 month once replacement	103* 100.00	--
14	Gloves with 4 month once replacement	155* 40.00	--
15	Baskets with one year once replacement	52* 200.00	--
Total			19402960
16	Miscellaneous say 5%		970148
Grand Total			20373108

Table 27: The proposed annual recurring cost of SWM for the ULB.

Percentage savings : Average recurring cost - annual recurring cost

: Rs. 22207435.00 - Rs. 20373108.00

: 8.2%

11. Collection of User Charges

Collection of user charges as fixed by the GO: UDD 23TCT 2004 Bangalore dtd. 06.01.2005 is approved in the council dated 17/06/05. Resolution No.: 224(5)

Sl.No.	Waste Generator	User Charges
1	Residential a) < 1000 Sq.Ft. b) > 1000 Sq.Ft.	Rs. 10 Rs. 15
2	Commercial a) < 1000 Sq.Ft. b) > 1000 Sq.Ft.	Rs. 30 Rs. 75
3	Industrial a) < 1000 Sq.Ft. b) > 1000 Sq.Ft.	Rs. 75 Rs. 100
4	Hotels, * Choultries and Nursing Homes a) < 10,000 Sq. Ft. b) > 10,000 Sq. Ft	Rs. 250 Rs. 300

* Additional charges of Rs. 200/- will be collected for each Marriage & Reception.

£ÀUÀgÀ ÀsÉ PÁAiÀiÁð®AiÀÄ, «eÁYÀCgÀ

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C. £ÀA.	vÁdå GvÁàzÀPÀgÀ «ªÀgÀ	«¹ÛÄtð	PÀµÀx zÀgÀ (gÀÆ.UÀ¼À°è YÀæw wAUÀ½UÉ)
1	UÀæ°À §¼ÀPÉ	1000 ZÀ.Cr VAvÀ PÀrªÉÄ 1000 ZÀ.Cr VAvÀ °ÉZÀÄÑ	10-00 15-00
2	ªÁtÁdå	1000 ZÀ.Cr VAvÀ PÀrªÉÄ 1000 ZÀ.Cr VAvÀ °ÉZÀÄÑ	30-00 75-00
3	PÉÛUÁjPÉ	1000 ZÀ.Cr VAvÀ PÀrªÉÄ 1000 ZÀ.Cr VAvÀ °ÉZÀÄÑ	75-00 100-00

4	°ÉÆÃmÉ®, PÀ- Áât ªÄÄIÏÀ, £À¹ðAUr°ÉÆÃªÄÄ*	10000 ZÀ.Cr VAvÀ PÀrªÉÄ 10000 ZÀ.Cr VAvÀ °ÉZÄÄÑ	250-00 300-00
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STREET SWEEPING SHEDULE

ªÄ.£ÄÄ.1

C.£ ÄÄ	NtÄÄiÄÄ °É,ÄgÄÄ	GzÄÝ «ÄÄ	CUÄ ® Cr	Staff	sun	mon	tue	wed	thu	fri	sat
1	PÉ.J.ï.Cgï.n.¹. PÄ®ª	2000	40	Pk _{1,2}		B			B		
2	dÄiÄÄ£ÄUÄgÄ PÄ®ª	1000	40	Pk ₁			B			B	
3	UÄâAUÄªÄr	1500	40	Pk ₁				B			B
4	DzÄ±Äð£ÄUÄgÄ	6000	40	Pk ₃₋₈			B			B	
5	!&n PÄélgÄiªÄÄ°èPÄdÄð£Ä £ÄUÄgÄ	3000	40	Pk ₃₋₅		B			B		
6	§ÄeÄgÄ £ÄUÄgÄ, PÉ.¹.£ÄUÄgÄ	6000	40	Pk ₃₋₈			B			B	
7	CÏsAd®ÏACgÄ Lpéi	2000	30	Pk ₉₋₁₀		C					
8	SÄeÄC«ÄÄ£Ä zÄUÄð	2000	30	Pk ₉₋₁₀			C				
9	MÉægÄhÄj PÄ®ª CaiÄÄªÏÄ £ÄUÄgÄ	3000	40	Pk ₉₋₁₀				C			
10	ªÄiÁgÄÄw £ÄUÄgÄ	2000	40	Pk _{9,10}					C		
11	ªÄ§gÄV-ÉÄOmï	2000	40	Pk _{9,10}						C	
12	ZÄ®ÄPÄª £ÄUÄgÄ	3000	40	Pk ₆₋₈		B			B		
13	ÄzÄªÄ £ÄUÄgÄ	1500	40	Pk _{8,10}				B			B
14	PÉ.JZi.©. PÄ®ª	3750	40	Pk ₁₉				B			B
15	ªÄÆvÄ£Ä¼Ä vÄÄqÄ	1550	25	Pk ₂₀			D				
16	UÄªÄiÄ,ÄU PÄ®ª	1250	40	Pk ₁₈							C
17	UÄªÄ½ UÄè	600	25	Pk ₁₆		B			B		
18	ÏÄmÉÄ® UÄè	750	20	Pk ₁₇		B			B		
19	ªÄ¼É PÄÄªÄgÄ	2000	20	Pk _{15,16}			B			B	

20	UÅãAUÄ"ÁªAr, UÉÆAzÁ½ UÄ°è	1500	20	PK _{15, 16}	B				B		
21	ªÄÄÄ" ÄèªÄÄ¹Äç, ÉÆÄ" ÄªÄÇgÄ £ÁPÄ ªÄäUÄgÄ NtÄ	1000	20	PK ₁₇			B			B	
22	J, i.!. C!üÄ, Ä »AzÉ UÉÆ@ègÄ NtÄ	1000	20	PK ₁₅				B			B
23	±Ä°ÄªÄÇgÄ CUA¹-ªÄÄÄ" Äè ªÄÄ¹ÄçªÄgÉUÉ, ÄÄçUÄ¼ÄÄ	600	20	PK _{12, 13}	B				B		
24	ÉÆÄ" ÄªÄÇgÄ £ÁPÄ- PÄ" Ä@ UÄ°è ªÄÄgÄUÄªÄÄä£Ä UÄÄr	600	20	PK _{12, 13}	B				B		
25	eÉÄr UÄ°è CUA, ÄgÄ NtÄ	1000	20	PK ₁₆				B			B
26	qÉÆÄgÄUÄ°è PÄ" Ä@UÄ°è	1000	20	PK ₁₇				B			B
27	ªÄj£Ä mÄÄPÄªÄPÄð±ÄªÄ	600	50	PK ₁₄	A	A	A	A	A	A	A
28	ªeÄªÄÄÄçY£Ä zÄUÄð L, i ªÄÄPÄÖj	500	25	PK ₁₂				B			B
29	PÄÄÄ" ÄgÄ UÄ°è E£ÄªÄÄzÄgÄ nÄZÄgÄ ªÄÄ£É AiÄÄ¼ÄªÄÉÄÄ° QgÄtÄ CAUÄr	600	20	PK ₁₃				B			B
30	UÅãAUÄ"ÁªAr gÄ, ÉÜ, ªÉÇÄ°, Ä PÄè" i çÄ" i zÄgÄ °ÉÆÄmÉÄ@	600	40	PK ₁₂				B			B
31	UÄÄçü±Ä" É, dAiÄÄ£ÄUÄgÄ, £ÄAiÄÄPÄ °Ä¹äi" i	600	40	PK ₁₂				B			B
32	ªÄÄÄdÄ£ÄxÄ £ÄUÄgÄ	1500	40	PK ₁₈							C
33	ZÄ@ÄPÄªÄ £ÄUÄgÄ	1000	40	PK ₁₁	B				B		
34	²æÄ£ÄUÄgÄ	1000	40	PK ₁₁			B			B	
35	gÄeÉÄAzÄæ PÄ@ª	1000	40	PK ₁₁				B			B
36	ªÉÇÄ° ÄªÄ ÄwUÄÉ°Ä	1000	25	PK ₁₈					C		
37	ªÉÇÄ° ÄªÄ ÄwUÄÉ°Ä	1000	25	PK ₁₈						C	
38	D@PÄÄÄmÉ £ÄUÄgÄ	1000	40	PK ₂₃				C			
39	£É°ÄgÄÄ £ÄUÄgÄ	1000	40	PK ₂₃			C				
40	ÄAUÄªÉÄÄ±ÄégÄ PÄ@ª	1500	40	PK ₂₃	C						
41	±ÄAw£ÄUÄgÄ	1500	40	PK ₂₃							C
42	ÉÆÄ" ÄªÄÆgÄªÄÄÄRä gÄ, ÉÜ	1000	60	PK ₂₁	A	A	A	A	A	A	A
43	CxÄtÄªÄÄÄRä gÄ, ÉÜ	1000	50	PK ₂₂	A	A	A	A	A	A	A

Table 2

C.No.	Name of the Site	Capacity (Tons)	Current Status	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	Site 1	260	40	Pk ₁ A	A	A	A	A	A	A
2	Site 2	100	25	Pk ₅			B			B
3	Site 3	100	25	Pk ₅			B			B
4	Site 4	50	10	Pk ₅			B			B
5	Site 5	150	20	Pk ₁ A	A	A	A	A	A	A
6	Site 6	300	60	Pk ₁ A	A	A	A	A	A	A
7	Site 7	100	10	Pk ₅			B			B
8	Site 8	300	20	Pk ₅			B			B
9	Site 9	100	15	Pk ₅			B			B
10	Site 10	120	15	Pk ₅			B			B

	zÀ ^a ASÁÉÉ ,AAç									
11	^{2a} Áf §@UÁqÉ ,AAç ^a ÁÁoÀ ,AAç	170	15	Pk ₅			B			B
12	^{2a} Áf,ÁPÁð@AÁZÁ G ^Á Á ^o ÁÁgÁd PÁæ,ï	200	50		Pk ₁ A	A	A	A	A	A
13	^{2a} Áf ±Á ⁻ É	140	80	Pk ₅		B			B	
14	^a ÁÁ ^o PA ^a ÉÁÉZÁÉÁ ,AAç	50	15	Pk ₅		B			B	
15	¥É/ÉÁ ^o ,Á PÁélgÁi	100	20	Pk ₅		B			B	
16	,ÁPÁðj ^a ÁÁgÁp PÁ.UÁA. ^a ÁÁ> ±Á ⁻ É	120	30	Pk ₅		B			B	
17	feÁ ^a ÁiÁvÁ ±Á ⁻ É	120	30	Pk ₅		B			B	
18	@.r.E. ,É/É,ÉÉn ^a ÁÁ ^o Á«zÁÁ@ÁiÁÁ	120	70	Pk ₅		B			B	
19	ZÁAzÁ ⁻ Á ^a Ár zÁ ^a ASÁÉÉ	120	40		Pk ₄ A	A	A	A	A	A
20	ZÁAzÁ ⁻ Á« GzÁÁð ±Á ⁻ É	100	15	Pk ₅		B			B	
21	eÁÉÁ ^a ÉÁPÁgÁ vÁmÉÖ §ÁiÁÁ@Á	100	10	Pk ₅			B			B
23	^o Á½É «oÉ/ÉÁ ⁻ Á UÁÁr ,AAç	100	25	Pk ₅			B			B
24	¥ÁÁqÉ QgÁtÁ CAUÁr-ÁAzÁ ² gÁ½Á±ÉnÖ	160	20	Pk ₅			B			B
25	² gÁ½Á±ÉnÖ, ¥ÁgÁ ² ,AAç qsÁ ⁻ ÁAiÁÁvÁ UÁ ^o è EvÁgÉ	375	20	Pk ₅			B			B
26	G ^Á Á ^o Á §ÁgÁÁdAÁZÁ vÉ/ÉÁ¥ÁÁ ^a ÉÁÉZÁÉÁ	200	40		Pk ₄ A	A	A	A	A	A
27	gÁ ^a ÁÁ ¥Áæ,ÁZÁ ,AAç	100	25	Pk ₅			B			B
28	vÉ/ÉÁ¥Á ^a ÉÁÉZÁÉÁ PÁæ,ÁAÁZÁ ±Á ^o Á¥Á/ÉgÁ CUÁ ¹	300	30		Pk ₄ A	A	A	A	A	A
29	«Á@ÉÁ ⁻ ÁgÁAÁZÁ vÁ ^a ÁgÁv @ ^o ØAUï	550	40	Pk ₂ A		A	A	A	A	A
30	vÁ ^a ÁgÁv ^a ÁÁÉÉ-ÁAzÁ ±Á ^o Á¥ÁÁgÁ CUÁ ¹	450	40	Pk ₂ A		A	A	A	A	A
32	ZÁAzÁ ⁻ Á ^a Ár-ÁAzÁ G ^Á Á ^o ÁÁgÁÁdÁ ^a ÁgÉUÉ	200	40		Pk ₃ A	A	A	A	A	A
33	ZÁAzÁ ⁻ Á ^a Ár zÁ ^a ASÁÉÉ ,AAç-ÁAzÁ ² gÁ½Á±ÉnÖ ,AAç ^a ÁgÉUÉ	120	20	Pk ₆			B			B
34	dÁŠV ,AAç	150	20	Pk ₆			B			B
35	G ^Á Á ^o ÁÁgÁÁdAÁZÁ DeÁZÁ gÁ,ÉU ^a ÁgÉUÉ	360	40	Pk ₃ A		A	A	A	A	A
36	^a ÁiÁPÉði ,AAç	230	20	Pk ₃ A		A	A	A	A	A
37	^o Á½É PÁÁÁ ⁻ ÁgÁ NtÁ-ÁAzÁ @zÁj zÁ ^a ASÁÉÉ ^a ÁgÉUÉ ,AAçUÁ½ÁÁ	650	25	Pk ₆			B			B
38	«Á@ÉÁ ⁻ ÁgÁAÁZÁ n.J,ï.n. & væÁÉï ^o É/ÉÁmÉÁ@ ,AAç	130	30		Pk ₃ A	A	A	A	A	A
39	«Á@ÉÁ ⁻ ÁgÁAÁZÁ ÉÁ ^a ÁzÁv ^a ÁÁÉÉ ^a ÁgÉUÉ (PÁAUÁæ,ï DiüÁ,ÁAÁZÁ J ^a Áï.f. gÁ ÉU)	100	30	Pk ₆			B			B
40	FzÁUÁ gÁ,ÉU	160	40	Pk ₆			B			B
41	ÉÁ ^a ÁzÁv ,AAç ^a ÁÁ ¹ Áç »AçÉÁ ,AAç PÁÁÁ ⁻ ÁgÁ UÁ ^o è	170	20	Pk ₆			B			B
42	,ÁAUÁ ^o ÁPÁgÁ ^a ÁÁÉÉ-ÁAzÁ @.r.f. ,É/É,ÉÉn±Á ⁻ É	120	15	Pk ₆			B			B

ಅ.ಁ.ಁ. 3											
C.ಁ. A.	NtÄAiÄÄ °É, ÄgÄÄ	GzÄÝ «ÄÄ	CUÄ ® Cr		Sun	Mon	Tue	Wed	Thu	Fri	sat
1	CPÄiÄÄÄ°ÄzÉÄ« gÄ, ÉÜ vÄ½PÉÆÄn ÄÄÆÉ §¼ÄUÄÄÄÆgÄ ÄÄÆÉ	350	50	Pk ₈		B			B		
2	CPÄiÄÄÄ°ÄzÉÄ« G¶ÄgÄ, ÉÜUÄ¼ÄÄ	680	40	Pk ₈		B			B		
3	5ÉÄÄ. ±Ä- É JqÄUÄqÉ G¶ÄgÄ, ÉÜUÄ¼ÄÄ	450	40	Pk ₉			B			B	
A	J.ï.J.ï.gÉÆÄqÄ, CA§° zÄÄSÄÆÉ PÉÆÄmÉUÉÆÄqÉ	480	60	Pk ₁	A	A	A	A	A	A	A
5	gÉÄµÉä, ÄÄç-vÄ½PÉÆÄn ÄÄÆÉ ±ÉIUÄgÄ ÄÄÆÉ	150	20	Pk ₉			B			B	
6	ÄÄÄçYÉÄrtÄ, ÄÄç, ÄÄgÄ¶ÄÄgÄ ÄÄÆÉ PÉÆÄ¼ÄPÄgÄ ÄÄÆÉ	150	40	Pk ₉			B			B	
7	ÄÄÄçYÉÄrtÄ, ÄÄç PÉÆ¼ÄPÄgÄ ÄÄÆÉ ¶ÉÄn ÄÄÆÉ	150	30	Pk ₉			B			B	
8	ÄÄÄçYÉÄrÄ, ÄÄç ÄÄÄçYÉÄrÄ EÉÄÄÄzÄgÄ PÄ- ÉÆÄÄ	250	30	Pk ₉				B			B
9	EÉÄÄÄzÄgÄ PÄÄÄ gÄ, ÉÜ ±ÉIUÄgÄ ÄÄÆÉ, Äé«Ä D-Ä-ï «Ä-ï	510	40	Pk ₉				B			B
10	UÄÄgÄÄPÄÄ® gÄ, ÉÜ UÄÄ- Ä§	290	60	Pk ₁	A	A	A	A	A	A	A
11	EÄr gÄ, ÉÜ PÉÆgÄ½ ÄÄÆÉ EÄr gÄ, ÉÜ ÄÄEvÄÜ	270	60	Pk ₉				B			B
12	EÄr gÄ, ÉÜ ÄÄEvÄÜ "ÉÆÄ"Ä¼Ä CUÄ¹	700	60	Pk ₂	A	A	A	A	A	A	A
13	"ÉÆÄ§¼Ä CUÄ¹ §® gÄ, ÉÜ "ÉÆÄ§¼Ä CUÄ¹ ¶ÄÄÄqÄ°ÄPÄ vÉÆÄi	240	40	Pk ₇		B			B		
14	"ÉÆÄ§¼Ä CUÄ¹ G¶ÄgÄ, ÉÜ ¶ÄÄÄqÄ°ÄPÄ vÉÆÄi "ÄUÄ®PÉÆÄi ÄÄÆÉ	200	15	Pk ₇		B			B		
15	"ÉÆÄ§¼Ä CUÄ¹ G¶ÄgÄ, ÉÜ ,ÄPÄðj GzÄÄð ±Ä- É gÄd¶ÄÇvÄ NtÄ	200	20	Pk ₇		B			B		
16	JiJA¹ gÄd¶ÄÇvÄ NtÄ gÄ, ÉÜ JiJA¹ UÉÄi	250	30	Pk ₇		B			B		
17	JiJA¹ G¶ÄgÄ, ÉÜ »iB½i ÄÄÆÉ wÄÄj ÄÄÆÉ	250	20	Pk ₁₀				B			B
18	JiJA¹ G¶ÄgÄ, ÉÜ G¼ÄiUÄrØ ÄÄÆÉ ¶ÄnÄ® ÄÄÆÉ	250	20	Pk ₁₀			B			B	
19	JiJA¹ G¶ÄgÄ, ÉÜ GiÄÉÄ ÄÄÆÉ CPÄiÄÄÄ°ÄzÉÄ« ÄÄÆÉ	400	30	Pk ₁₀			B			B	
20	«ÄÄÄÄzÄgÄ NtÄ ZÉzsÄj ÄÄÆÉ ¶ÄnÄ® ÄÄÆÉ	100	40	Pk ₁₀			B			B	
21	EÄr gÄ, ÉÜ GPÄi° ÄÄÆÉ J.Ç.¶ÄnÄ® ÄÄÆÉ	100	30	Pk ₁₀			B			B	
22	EÉÄÄÄzÄgÄ PÄÄÄ ÄiÄÄqÄæ«Ä ÄÄÆÉ CtÄÄiÄÄ¶ÄÄ ÄÄÆÉ	100	40	Pk ₁₀			B			B	
23	G¶ÄgÄ, ÉÜ ,ÄAUÄr ÄÄÆÉ	100	30	Pk ₁₀			B			B	

	ΕΑΑΙΑΑΑΑΘ "Α-Α ΖΑΑΣΑΞΕ									
24	ΓΨΑγΑ, Εΰ, ΑΑ- ΑΣΕ ΑΑΑΑΕΑΒ ΕΕΑαζΑγΑ ΑΑΑΞΕ	100	40	Pk ₁₀			B			B
25	ΓΨΑγΑ, Εΰ, ΑΑ- ΑΣΕ ΑΑΑΞΕ ±Α©άΑγΑ ΕΕΑαζΑγΑ ΑΑΑΞΕ	100	40	Pk ₁₀			B			B
26	UΑaN£ΑΡAnO PΑ@α	3000	30	Pk _{11,12}	C					
27	«zAâ£ΑUΑgΑ ΨAæUΑw £ΑUΑgΑ	2000	30	Pk _{11,12}	C					
28	αΑ- Α£ΑUΑgΑ L±ΑέAiΑΑδ£ΑUΑgΑ	2000	30	Pk _{11,12}		C				
29	nAZA, Aδ PΑ@α	1500	30	Pk _{11,12}			C			
30	D±AæαΑΑ ΨAzAααAw §qAαAuÉ	1500	30	Pk _{11,12}				C		
31	D£ΑAzA PΑ- Aât £ΑUΑgΑ	1500	30	Pk _{11,12}					C	
32	αΑΑοΑΨAwUΑ°è CA-Α-Α-ΑUΑAr	700	30	Pk ₁₃			B			B
33	UΑaN£ΑαΑΑοΑ ΑΑΑΞΕ	500	30	Pk ₁₃			B			B
34	αΕΑΡΑlgΑαΑΑ£Α UΑAr	1000	30	Pk ₁₃	B			B		
35	D¼A « αΑΑ'Αç	1000	30	Pk ₁₃		B			B	
36	gΑαΑΑαΑΑΑçgΑ zsΑgΑαΑqΑPÀgΑ αΑΑΞΕ	500	30	Pk ₁₄			B			B
37	αΑΑ°Α «ΑgΑ PΑ@α, ±ΑgAt £ΑUΑgΑ	2000	30	Pk ₁₄					C	
38	αΑΑ°èPAdAð£Α £ΑUΑgΑ, D±AæαΑΑ gΑ, Εΰ	1000	30	Pk ₁₄				C		
39	αΑΑARà gΑ, Εΰ	4000	50	Pk _{3,4,5,6}	A	A	A	A	A	A

αÁ.ξÁÁ. 4

C.ξÁÁ.	NtÁAiÁÁ °É, ÁgÁÁ	GzÁY «ÁÁ	CUÁ® Cr	Sun	Mon	Tue	Wed	Thu	Fri	sat
1	UÁÁçüZÉPÁçAzÁ ¹zÉÝÁ±ÁégÁ zÉÁªÁ, ÁÜξÁ (J,İ.J,İ.gÉÆÁçÁ)	600	50	Pk ₁	A	A	A	A	A	A
2	UÁÁçüZÉPÁçAzÁ DeÁzÁ gÁ, ÉÛ «Á@ξÁªÁgÁ	600	40	Pk ₂	A	A	A	A	A	A
3	gÁªÁÁªÁÁÁçgÁ gÁ, ÉÛ C«ÁÁgÁ mÁQAd UÁÁgÁÁPÁÁ® gÁ, ÉÛ	600	40	Pk ₃	A	A	A	A	A	A
4	°ÉqÉªÁgÁ ZÉPÁçAzÁ ºªÁ°Á- Á - Áqİ° °ÁUÁÆ gÁªÁÁªÁÁÁçgÁ	600	40	Pk ₄	A	A	A	A	A	A
5	gÁªÁÁªÁÁÁçgÁ UÁÁr ªÁÁÁÁçξÁ gÁ, ÉÛ °ÁUÁÆ ¹zÉÝÁ±ÁégÁ UÁÁr »AçξÁ ÁÁçUÁ¼ÁÁ	600	30	Pk ₆			B			B
6	gÁªÁÁªÁÁÁçgÁ UÁÁr ªÁÁÁÁçξÁ gÁ, ÉÛ °ÁUÁÆ ¹zÉÝÁ±ÁégÁ UÁÁr »AçξÁ ÁÁçUÁ¼ÁÁ	600	30	Pk ₆			B			B
7	ÁPÁÏsÁ ŒÁgÁ ZÉPÁçAzÁ JuÉÚCAUÁr, ÁÁçüUÁ¼ÁÁ ξÁªÁzÁV ºÁÁξÉªÁgÉUÉ	600	30	Pk ₅	A	A	A	A	A	A
8	«Á@ξÁªÁgÁçAzÁ (Œ, ÁªÉÁ, ÁégÁ gÁ, ÉÛ) ºÁAV zÁªÁSÁξÉ	450	40	Pk ₆	A	A	A	A	A	A
9	bÉÆÁmÁ D, ÁgÁçAzÁ QgÁuÁ ŒÁgÁ EAr gÁ, ÉÛ	400	40	Pk ₅	A	A	A	A	A	A
10	UÉ½UÁgÁ UÁ°è-ÁAzÁ ªÁÁªÁªÁÁçgÁ gÁ, ÉÛ PÉÆÁj ZÉPÁªÁgÉUÉ	450	40	Pk ₅	A	A	A	A	A	A
11	¹zÉÝÁ±ÁégÁ UÁÁr-ÁAzÁ J,İ.J,İ, ºÁÁPÁ gÁ, ÉÛ PÉÆÁj ZÉPÁªÁgÉUÉ	300	40	Pk ₄	A	A	A	A	A	A
12	ξÉªÁgÁÆªÁÁgÁÁPÁmÉÖ ºÁAV zÁªÁSÁξÉ, ÁÁç	300	40	Pk ₆		B			B	

Table 5.5

C.No	Name of the Area	Area (Sq. M)	Population	Cr.	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	Uthappa Zepa CA Eeqig Zepa	500	50	Pk ₁	A	A	A	A	A	A	A
2	dhanva shega eEAzA aAiAPEdi	600	40	Pk ₂	A	A	A	A	A	A	A
3	SAEA±AegA AgAPAaAiEA gA, EU	700	35	Pk ₃	A	A	A	A	A	A	A
4	J.T.J.i. aAiAPEdi EA gAE aAiAPEdi aAAAzE	1000	30	Pk _{4,6}	A	A	A	A	A	A	A
5	aAqAd 5 EvAgE aAiAPEdi eAUa	700	30	Pk ₅	A	A	A	A	A	A	A
6	EvAgE, AAcuUA¼AA	1000		Pk ₁₀			B			B	
7	SAUaj aAAoA gA, EU	1000	25	Pk _{1,2}	A	A	A	A	A	A	A
8	CA Eeqig Zepa---A gEA- Ée, ÉOA±AEA @æqAO	1500	60	Pk _{4,6}	A	A	A	A	A	A	A
9	gEA- Ée, ÉOA±AEi gA, EU	1000	40	Pk ₇	B			C		B	
10	EAR gA, EU- AAzA, AAdAiAAUAç EAUAUAÉAI AAçUA¼AA	1000	20	Pk ₇		B			B		
11	AAtUAgA NtA, CAgigA gA, EU GAgAgA aAAÉE, AAçUUA¼AA	1000	25	Pk ₇			B				B
12	PA « AEI, Uaa- EAoi aAAzsAA±AA EA oEAEmEA® AAçUUA¼AA aAApAAzAAUA gA, J.T.DAi.1 DiUA, A D®EA® aAAÉAgEUÉ	3000	40	Pk ₈		B	B	B	B	B	B
13	EOAI AAAPA PAA 1AzAV EAAPA±AAUA¼AA EAqE	4000	40	Pk _{9,10}		C					

	αΑΑΞΕ									
14	EAqA1OçAiAA- i- ÉAOI	2000	40	Pk9,10			C			
15	ÉOÄ±ÄÆÄ "ÄâPA gÄ,ÉÜ EAr gÄ,ÉÜ-ÄAzÄ	2000	50	Pk9,10			C			
16	gÄÄAVÆÄ αÄÄ'Äç °ÄwÜgÄ	1000	40	Pk9,10					C	
17	AiÉÆÄUÄ±ÄÇgÄ	2500	30	Pk9,10					D	
18	°ÄÄAiÄ® PÄ®α	2000	30	Pk9,10					D	
19	αÄÄÄÆÉÄ±ÄégÄ §qÄ°ÄuÉ	1500	40	Pk9,10						D
20	EAr KjAiÄiÄ	2000	50	Pk9,10						D
21	αÄÄÄRä gÄ,ÉÜ	2000	--	Pk11,12	A	A	A	A	A	A

αÄ.ÆÄÄ. 6

C.Æ ÄÄ.	NtÄAiÄÄ °É, ÄgÄÄ	GzÄY «ÄÄ	CUÄ ® Cr	Sun	Mon	Tue	Wed	Thu	Fri	sat
1	gÄÄÄ"sÄ±ÄÄgÄ αÄÄÄRä & G±ÄgÄ,ÉÜ ÉÜ	280	50	Pk12			D			
2	G±Ä gÄ,ÉÜUÄ¼ÄÄ	2200	30	Pk2,3	A	A	A	A	A	A
3	C- Äè±ÄÇgÄ vÄAqÄ gÄÄ"sÄ±ÄÇgÄ PÄæ,ï	600	60	Pk12			D			
4	C- Äè±ÄÇgÄ vÄAqÄ PÄæ,ï	400	60	Pk10,11			C			
5	C- Äè±ÄÇgÄ vÄAqÄ G±ÄgÄ,ÉÜ	2400	30	Pk10,11			C			
6	¹AzÄV gÉÆÄqÄ ©æÄei	540	60	Pk10,11			C			
7	C- Äè±ÄÇgÄ NtÄ CA"sÉqÄìgÄ "sÄÄÄÆÄ	1200	30	Pk10,11			C			
8	C- Äè±ÄÇgÄ NtÄÄ gÄÄ±ÄÄgÄ gÄ,ÉÜ	1800	30	Pk10,11				C		
9	CAPÄ®V- ÉAOI	300	30	Pk9			B			B
10	UÉÆÄ®UÄÄ°ÄÄÄi gÉÆÄqÄ	700	60	Pk1	A	A	A	A	A	A
11	UÉÆÄ®UÄÄ°ÄÄÄi °ÄQÄ°ÄÄ ZÉPÄ	320	40	Pk1	A	A	A	A	A	A
12	°ÄQÄ°ÄÄ ZÉPÄ gÄHÄÄqÄPÄnÖ	400	35	Pk12	A	A	A	A	A	A
13	±ÉÉ®°ÄÆÄ UÄ°è	1800	35	Pk4,5			B			B
14	±ÉÄn-ÄÄÄr	800	30	Pk4,5			B			B
15	±ÄÄÄqÄ§,ÄÄÉÄ±ÄégÄ JjAiÄiÄ ±Ä- ÉÆÄÄ.3	1200	30	Pk4,5			B			B

16	- ,AzAgA- aAAUA¼AaAr aAAÉÉ	1200	30	Pk _{8,9}			B			B
17	,AA~sA, A PA~ ÉÆ± G¶AgA, ÉUUA¼AA	4000	30	Pk _{4,5}	B			B		
18	¶AAAVa~ É G¶AgA, ÉUUA¼AA	1600	30	Pk _{6,7}		B			B	
20	aAAÉAUAE½ gÉÆÁqA QAwÉAUAgA PÆæ, i	300	60	Pk _{6,7}	B				B	
21	¶AA®PÉÁ² ÉAUAgA §, ÁaÉ±ÁégA °ÉÉ, ÁÆi®	1800	40	Pk _{6,7}	B				B	
22	¶AA®PÉÁ² ÉAUAgA ®, Áëj QA® aAAÉÉ	1800	40	Pk _{6,7}		B			B	
23	¶AA®PÉÁ² ÉAUAgA PAA¶OUÉ aAAÉÉ	250	40	Pk ₇			B			B
24	¶AA®PÉÁ² ÉAUAgA G¶A gA, ÉUUA¼AA	390	40	Pk ₇			B			B
25	aAAÉAUAE½ gÉÆÁqA gAhÄ.i.PÆæ, i	360	60	Pk ₁₂					D	
26	aAAÉAUAE½ gÉÆÁqA ©.1JaÄi. DiüÄ, i	300	40	Pk ₁₂					D	
27	aAAÉAUAE½ gÉÆÁqA E~Áæ»A¶ACgA	200	60	Pk ₇			B			B
28	PÆAPAZA, A §qAaAuÉ §qAaAuÉ §, i, ÁO¶sA	500	40	Pk ₁₂					D	
29	PÆAPAZA, A §qAaAuÉ gAA~sA¶AAgA JPAiAeÉÄDiüÄ, A	1300	40	Pk _{6,7}			B			B
30	PÆAPAZA, A §qAaAuÉ ±AjÆÄ mAQ °AwÜgA EgAAaA G¶AgA, É	2000	40	Pk _{2,3}	A	A	A	A	A	A
32	PÆAPAZA, A §qAaAuÉ UAAgAA°AUÉ±ÁégA UAÄr aÉAAÉÄ gÉÆÁqA, G¶AgA, ÉUUA¼AA	280	40	Pk ₇			B			B
33	PÆAPAZA, A §qAaAuÉ °ÄÉaAAAvA mEA¶A~ i aÉAAÉÄ gÉÆÁqA, G¶AgA, ÉU	300	40	Pk ₇			B			B
34	PÆAPAZA, A §qAaAuÉ §, i, ÁO¶A aÉAAÉÄ gÉÆÁqA, G¶AgA, ÉU	1800	40	Pk _{8,9}	B				B	
35	PÆAPAZA, A §qAaAuÉ G¶A gA, ÉU	1800	40	Pk _{8,9}			B			B
36	aAdæ°AÉAAaAiÁÉÄÉAUAgA, aÉAPAmÉ±Á ÉAUAgA ®Që-äÄÉAUAgA	4000	40	Pk _{10,11}						C
37	UAuÉ±ÁÉAUAgA UAAgAA¶AzÉ±ÁégA ÉAUAgA	2000	40	Pk _{10,11}						C

aA.ÉAA. 7

C.É AA.	NtAAiAA °É, AgAA	GzAY «ÄÄ	CUA ® Cr	Sun	Mon	Tue	Wed	Thu	Fri
1	CA~ÉÄqAlgA ZÉPA	1300	40	Pk ₁	A	A	A	A	A
2	r.1. DiüÄ, A »AçÉÄ gÉÆÁqA	390	40	Pk ₄	A	A	A	A	A
3	r.1. DiüÄ, A D°AgAt	2000	50	Pk _{2,3}	A	A	A	A	A
4	n¶AAöä, AA~ ÁUÉÄ ZÉPA	600	25	Pk ₄	A	A	A	A	A
5	~AUA®PÉÆÄi gÉÆÁqA	1600	40	Pk _{5,8}	A	A	A	A	A
6	aAAÉAUAE½ gÉÆÁqA	1200	40	Pk _{6,8}	A	A	A	A	A

7	d@£AUÁgÁ	1200	40	Pk _{7,8}	A	A	A	A	A	A
8	gÉÁ- ÉéUÉÁI gÉÆÁqÁ	1000	40	Pk ₁₆				C		
9	QÁwð£AUÁgÁ	2000	30	Pk _{16,17}		C				
10	PÉ.PÉ. £AUÁgÁ	2000	35	Pk _{16,17}			C			
12	«zÁâ£AUÁgÁ	1200	40	Pk ₄			B			B
13	UÁÁ- ÁªÁÁ°ÁÁ, ÉÁ£Á UÁ°è	700	40	Pk ₁₈		B			B	
14	ªÁÁ£AUÁÆ½ gÉÆÁqÁ	1500	35	Pk ₁₈				B		
15	UÁÁ- ÁªÁÁ°ÁÁ, ÉÁ£Á UÁ°è	1000	40	Pk ₁₁		B			B	
16	RªÁiÁ£ÁSÁ£Á §eÁgÁ	1700	35	Pk _{13,14}			B			B
17	«zÁâ£AUÁgÁ GªÁgÁ, ÉÚUÁ¼ÁÁ	1450	35	Pk ₁₁				B		
18	DAiÁÁÁªÉÁZÁ PÁ- ÉÁd gÉÆÁqÁ	700	40	Pk ₁₈				B		
19	ªÁÁÁgÁtPÉÁj NtÁ	1040	40	Pk ₁₂		B			B	
20	dÁªÁiÁªªÁÁªÁ gÉÆÁqÁ	600	40	Pk ₁₂			B			B
21	zsÁ£ÁªÁAvÁj D, ÁàvÉæ	700	40	Pk ₁₂			B			B
22	gÁdªÁÇvÁ NtÁ	500	30	Pk ₁₂				B		
23	r.1. §AUÁ- É »Aç£Á gÉÆÁqÁ	700	30	Pk ₁₂				B		
24	D, ÁgÁ NtÁ	500	30	Pk _{13,14}		B			B	
25	D, ÁgÁ NtÁ GªÁgÁ, ÉÚUÁ¼ÁÁ	1000	30	Pk _{13,14}		B			B	
26	, ÉÖÁ±Á£Á gÉÆÁqÁ	1150	60	Pk _{9,19}	A	A	A	A	A	A
27	§rPÁªÁiÁ£Á gÉÆÁqÁ	660	50	Pk _{13,14}				B		
28	GÁÁPÁªAUÁZÁ ±Á- É	500	50	Pk _{13,14}				B		
29	ªÁÁÁ£ÁªÁªÁn zÁªÁSÁ£É	600	50	Pk ₁₅				B		
30	çªÁIUÉÁj gÉÆÁqÁ	1200	40	Pk _{15,19}		B			B	
31	£AUÁgÁªÁªr PÁª (PÁÁªÁgÁ NtÁ)	1250	40	Pk _{15,19}			B			B
32	PÁªÁAvÁ °ÉÆÁmÉÁ®	800	40	Pk _{13,14}				B		
33	ªÉÇÁ°, Á, ÉÖÁ±Á£Á gÉÆÁqÁ	750	40	Pk ₁₈			B			B
34	ªsÁUÁiÁAvÁ UÁ°è	600	40	Pk ₁₅				B		
35	J, i. Dg, i. PÁª	1500	40	Pk _{16,17}					C	
36	zÁÁgÁªÁgÁ °ÉÉ, ÁÆi®	120	40	Pk ₁₀	A	A	A	A	A	A
37	d@£AUÁgÁ	2000	40	Pk _{16,17}						C
38	«ªÉÁPÁ£AUÁgÁ	2000	40	Pk _{16,17}						

ªÁ.£ÁÁ. 8

C.£Á A.	NtÁiÁÁ °É, ÁgÁÁ	GzÁÝ «ÁÁ	CUÁ ® Cr		Sun	mon	tue	wed	thu	fri	sat
1	§, ÁªÁq, ÁPÁð® ªÁUÁ®PÉÆÁI PÁæ, i	410	60	Pk ₁	A	A	A	A	A	A	A
4	zÁçæªÁªÁªÁªÁ (ªÁç£Á gÁ, ÉÚ) ®AUÁgÁ§eÁgÁ, eÉÆÁªÁqÁªÁnÖ	450	30	Pk ₁	A	A	A	A	A	A	A
5	zÁçæªÁªÁªÁªÁ »Aç£Á - ÁdÁ	250	30	Pk ₂	A	A	A	A	A	A	A

	UAAei											
6	AAUAç AAzAc gAAEAA² zAAASAEÉ	100	20	Pk ₁	A	A	A	A	A	A	A	A
7	AA°AUÀ °AAAI¶À PAAiAiAð@AiAA SAcæ UAæ°EÆAzÉÆâAUÀ	200	30	Pk ₂	A	A	A	A	A	A	A	A
8	EAUA ¶Aw PÁ EÆA - l.r.eÉ. °EE, AÆi®	300	30	Pk ₂	A	A	A	A	A	A	A	A
9	°AAEA° UA°e SAcæUAæ°EÆAzÉÆâAUÀ AUÀ@PEÆAI gÀ, ÉU	200	20	Pk ₂	A	A	A	A	A	A	A	A
10	JA.JA. AUAAEA °AALE AAçUA¼AA gEÆAdLÀZAgÀ AALE	200	20	Pk ₃	A	A	A	A	A	A	A	A
11	AA±ALEA PEAPÉAqÀ AAgÀdPAgÀ °AALE	250	30	Pk ₃	A	A	A	A	A	A	A	A
12	AA±ALEi 2, AAçUA¼AA - UAiAiAPAAgÀ °AALE	100	25	Pk ₃	A	A	A	A	A	A	A	A
13	SAf PEAS@ DiüA, i, APA¶sÀ gEÆAeÀ gÀ, ÉU	200	30	Pk ₃	A	A	A	A	A	A	A	A
14	2, AAçUA¼AA, ÉAj (qAl EFAAZAgÀ °AALE)	100	30	Pk ₃	A	A	A	A	A	A	A	A
15	CxAtÀ UA°e zAcæAA¹Ac AAAAçEA gÀ, ÉU EÆAgA°E i 2, AAçUA¼AA ÉAj)	200	25	Pk ₃	A	A	A	A	A	A	A	A
16	UAâgÉAd PAAAg¼É SAc UAæ°EÆAzÉÆâAUÀ APAd i	300	30	Pk ₄	A	A	A	A	A	A	A	A
17	SAcæ UAæ°EÆAzAAUA PAAZAEgÀ AAç °AALEA CAUAR EAUA¶A°e °AALE	125	20	Pk ₄	A	A	A	A	A	A	A	A
18	SAcæ UAæ°EÆAzÉÆâAUÀ @æqAOAZA PAAAg¼É AgEUÉ PÀ, AUÉAj Pæ, AAgEUÉ	100	60	Pk ₄	A	A	A	A	A	A	A	A
20	PA, AUÉAj eEÆAr PAAAg¼AA QgAtÀ CAUAR gÀ, ÉU °ALEAAiALEA AAAcgÀ	125	30	Pk ₄	A	A	A	A	A	A	A	A
21	°ALEAAiALEA AAAcgÀ - PAAqÉ AALE, AAç, PÀ, AUÉAj M¼AUAgÉ ¶AcAj AALE -AAAEgÀ PÁ EÆA Pæ, i	370	25	Pk ₄	A	A	A	A	A	A	A	A
22												
23	PA, AUÉAj AAARà gÀ, ÉU - AAAEgÀ PÁ EÆA	150	30	Pk ₅	A	A	A	A	A	A	A	A
24	AAAEgÀ PÁ EÆA AUÀ@PEÆAI gÀ, ÉU PA, AUÉAj Pæ, i EÆAgA°E i ¶AnA@ AALE	200	30	Pk ₅	A	A	A	A	A	A	A	A
25	SA, AAEUAgÀ AUÀ@PEÆAI gÀ, ÉU @Qe÷AAUAR PA, AUÉAj Pæ, A @Qe÷AA	650	30	Pk ₈			B				B	

	ªÁÁÁçgÁ aPÁI ÁAçUÁ¼ÁÁ °Á£ÁÁªÁiÁ£ÁªÁÁÁçgÁ ¥Á°mÉQBPi °Á ÉÖ- i PÉA¥ÉAqÁ PÉÆÁmÉ UÉÆÁqÉ §ç										
27	§, i , ÁÖ-áAqÁ «Á±Á£i PÁA¥ÉAqÁªÁÈvÁÛ £ÁªÁ"sÁUÁ PÁæ, Á	300	30	Pk ₅	A	A	A	A	A	A	A
28	£ÁªÁ"sÁUÁ PÁæ, i - vÁd"ÁªÁr gÁ, ÉÛ	350	20	Pk ₅	A	A	A	A	A	A	A
29	ªÁÁ£ÁUÁÆ½ªÁÉÁ§gÁ D:üÁ, Á GzÁÁð, Á- É £ÁÁ.4	250	25	Pk ₆	A	A	A	A	A	A	A
30	"ÁÁ£ÁªÁÁ£É, ÁAç ¢Áj£Á mÁªÁPÁªÁÁ£ÁUÁÆ½ ªÁÁ£É, ÁAçªÁÁ£ÁUÁÆ½ ªÁÁ£ÉªÁÁÁAç£Á gÁ, ÉÛ ªÁÁ¹Áç	175	20	Pk ₁₀			B			B	
31	GzÁÁð ±Á- É £ÁÁ.4 ªÉÆÁ«Á£ÁªÉÁ§gÁªÁÁ£É gÁ, ÉÛ ¥ÉÇÁ°, i aAZÁªÁÁ£É ÁAç, ÉÁj	400	25	Pk ₈		B				B	
32	SÁç UÁæªÉÆÁzÉÆªÁUÁ ªÁÈvÁÛ, ÉÁj C°PÁ gÉÆÁeÁ ªÁÁ¹Áç C°PÁ gÉÆÁeÁ ªÁÁ¹Áç, ÁAç ¥ÁvÁæPÁvÁð ªÁÁ£É	300	40	Pk ₈		B				B	
33	ZÉPÉi §mÉÖªÁÁ£É - ª, ÁgÁªÁÁrØ PÉÆÁmÉ UÉÆÁqÉªÁgÉUÉªÁÁi£Á CAUÁr, eÁVÁgÁzÁgÁ ªÁÁ£É,ªÁÁ¹ÁçªÁgÉUÉ	550	40	Pk ₁₀		B				B	
34	dqÁÖ §ÁUÁ- É £ÁªÁ"sÁUÁ ¹PÁá§ ±Á- ÉªÁÁÁAç£Á gÁ, ÉÛ, °Á«ÁÁzÁ £ÁUÁgÁ Á°ÁgÁªÁÁzÁªÁÉ °Á®, ÁAç - ªÁÁÁRágÁ, ÉÛªÁÁÁ¹U¥sÁ ªÁÁ£É °ÉÆ, ÁªÁÁ¹Áç, °Á«ÁÁzÁ £ÁUÁgÁ, ¹PÁá§ ±Á- É gÁ, ÉÛ, ÁAç	450	40	Pk ₈			B			B	
35	vÁd"ÁªÁrªÁÁÁRá gÁ, ÉÛ SÁeÁ£ÁUÁgÁªÁgÉUÉ	100	25	Pk ₇	A	A	A	A	A	A	A
36	GzÁÁð PÁ£ÁBqÁ ±Á- É SÁeÁ£ÁUÁgÁ	150	20	Pk ₇	A	A	A	A	A	A	A
37	vÁd"ÁªÁrªÁÁÁAç£Á ªÉÁÉzÁ£Á	600	60	Pk ₆	A	A	A	A	A	A	A
38	eÉÆÁqÁUÁªªÁÁi zÁUÁð ªÉÁÉzÁ£Á dqÁÖ §ÁUÁ- É	700	40	Pk ₇	A	A	A	A	A	A	A
39	SÁeÁ£ÁUÁgÁ, ÁAWÁzÁ D:üÁ, ÁªAzÁ, ÁAzÁ- i "ÁªÁr	400	40	Pk ₁₀							C
40	gÁeÁf£ÁUÁgÁ	3000	40	Pk _{8, 9, 10}				C			
41	gÁªÁÁ£ÁUÁgÁ	3000	40	Pk _{8, 9, 10}						C	
42	"ÁgÁPÉÆÁlj vÁAqÁ	1100	40	Pk ₁₀	D						
43	gÁWÁªÉÁzÁæ PÁ®ª	2000	40	Pk _{8, 9}							C

44	£ÁªÁgÁ, ÁªÁÁgÁ PÁ®ª	1000	40	Pk ₉	D						
45	PÉ.J, i.Dgì.n.¹. PÁ®ª	1000		Pk ₈	D						

ªÁ.£ÁÁ. 9

sl. no.	NtÁÁiÁÁ °É, ÁgÁÁ	GzÁY «ÁÁ	CU Á® Cr		Sun	mon	tue	wed	thu	Fri	sat
1	ªÁfªÁÉvÁÚ ¢AzÁ UÁÁ¢üZÉPÁ	800	50	Pk ₉	A	A	A	A	A	A	A
2	UÁÁ¢üZÉPÁ¢AzÁ §, ÁªÉÁ±ÁégÁªÁÉvÁÚ	500	50	Pk ₄	A	A	A	A	A	A	A
3	§, ÁªÉÁ±ÁégÁªÁÉvÁÚ¢AzÁ nªÁÁöª ZÉPÁ	500	60	Pk ₄	A	A	A	A	A	A	A
4	®Qè-ªÁ C®APÁgÁ avÁæªÁÁÁ¢gÁ gÁ, ÉÚUÁ¼ÁÁ	600	40	Pk ₁₁			B			B	
5	nªÁÁöª ZÉPÁ¢AzÁ §, i, ÁÖ-ªÁqÁ UÉÁI & PÉ.¹.ªÁÁPÉðI	1000	40	Pk ₁	A	A	A	A	A	A	A
6	nªÁÁöª ZÉPÁ¢AzÁ UÁÁ¢üZÉPÁ	600	40	Pk ₂	A	A	A	A	A	A	A
7	§, ÁªÁqÁªAzÁ eÉÆÁqÁUÁÁªÁÁái & UÁqÁV, ÁÁ¢	1500	50	Pk _{2, 3}	A	A	A	A	A	A	A
8	eÉÆÁqÁUÁÁªÁÁái¢AzÁ vÁdªÁÁr	500	40	Pk ₁₀		B			B		
9	§AzÉÁ£ÁªÁd PÁmÉÖ-ªAzÁ «ÁÁ£ÁQè ZÉPÁ dªÁÁSÁ£É UÁ°è	600	30	Pk ₁₀		B			B		
10	«ÁÁ£ÁQè ZÉPÁ¢AzÁ w®PÁ gÁ, ÉÚ GªÁÁfð zªÁÁSÁ£É gÁ, ÉÚ PÁjUÈqÁgÁ zªÁÁSÁ£É ÁÁ¢	1000	40	Pk ₁₀			B			B	
11	«ÁÁ£ÁQè ZÉPÁ¢AzÁ «ÁZÉð UÁ°è CdgÉÁPÁgÁ ZÁ¼Á °Á£ÁªªÁÁÁvÁ zÉÁªÁgÁUÁÁªÁÁgÉUÉ	1000	30	Pk ₁₀				B			B
12	±EnÖZÉPÁ¢AzÁªÁfªÁÉvÁÚ	300	40	Pk ₈		B			B		
13	±ªÁÁ£ÁUÁgÁ PÉÆÁmÉUÉÆÁqÉ gÁ, ÉÚ	1000	30	Pk ₈			B			B	
14	UÉÆÁqÁªÁÉªÁªÁi¼Á, eÉÆÁªªÁÁ£É-ªAzÁ DzÁ±Áð qÉÉj gÁ, ÉÚ	750	30	Pk ₈		B			B		
15	«ÁÁ£ÁQè ZÉPÁ¢AzÁ °ÉÉ, ÁÆI® PÁèª	1000	30	Pk ₅	A	A	A	A	A	A	A
16	CAªÁqÁIgÁªÁÉvÁÚ r.¹. DªÁ, Á §½¹ PÉÆÁqÁª n.¹. ZÉPÁ	2000		Pk _{6, 7}	A	A	A	A	A	A	A
17	SÁeÁ£ÁUÁgÁ	1000		Pk ₈				B			B

α.ξ.Α. 10											
C.ξ.Α.	Nt.Α.Ι.Α.Α °Ε, Α.γ.Α.Α	GzAY «Α.Α	CUA® Cr	Sun	mon	tue	wed	thu	fri	sat	
1	§§- Ε.Α.±.Α.έ.γ.Α. Ε.Α.Ρ.Α. Ε.Α.α. »Α.γ.Ε.Α.Ε.Α.Ε.Α. («. Α.φ.Α.Α.ν.Ε. α.Α.Α.ξ.Ε., φ.Α.Α.υ.Ε.Ρ.Α.γ.Α. α.Α.Α.ξ.Ε., §.t.Ρ.Α.γ.Α. U.Α.°è .Α.Α.ϕ.ü.U.Α.¼.Α.Α.)	2000	30	Pk _{1,5} A	A	A	A	A	A	A	
2	Ε.Α.α. »Α. γ.Ε.Α.Ε.Α.Ε.Α.Ε.Α.Ι.-U.Ε.Α.Ε.Α.ζ.Α.α.Α.γ. C.v.Α.Ú.γ.Α. α.Α.Α.ξ.Ε. Ρ.Ε. J. i. D. g. i. n. 1. r. φ. Ε. Ç. M.¼.Α. .Α.Α.ϕ.ü.U.Α.¼.Α.Α.	2000	30	Pk _{6,7}		B			B		
3	U.Ε.Α.Ε.Α.ζ.Α.α.Α.γ. α.Α.γ.ξ.Α. m.Α.α.Α.Ρ.Α. 2α.Α.φ	1000	50	Pk ₂ A	A	A	A	A	A	A	
4	2α.Α.φ α.Α.Ε.ν.Α.Ú. Ρ.Ε.Α.Ε.Α. m.Ε. U.Ε.Α.Ε.Α.γ.Ε. γ.Α. Ε.Ú. §§- Ε.Α.±.Α.έ.γ.Α. Ε.Α.Ρ.Α. °Α.¼.Ε. z.Α.α.Α.Σ.Α.ξ.Ε. »Α.Α.ϕ.Ε.Α. .Α.Α.ϕ.ü.U.Α.¼.Α.Α.	1000	30	Pk ₁₀	B			B			
5	§§- Ε.Α.±.Α.έ.γ.Α. Ε.Α.Ρ.Α. «d.φ.Α.Α. φ.Α.ν.Α.® α.Α.Α.ξ.Ε.α.Α.γ.Ε.Ú.Ε. α.Α.Α.Α.ε.Α.α.Α.γ.Α. α.Α.Α.Α.ϕ. Ü.Α.ϕ.ü.U.Α.¼.Α.Α. (Ε.Α.Ρ.Α. d.α.Α.Α.Ρ.Α. r. γ.Α. Ε.Ú)	2500	30	Pk _{8,9}			B			B	
7	Ε.Α.α. »Α.γ.Ε.Α.Ε.Α.Ε.Α. °Α.Α.Ε.Ú.Α.γ.Α. v.Ε.Α.Ε.Α.Ι	1000	25	Pk ₃	A	A	A	A	A	A	
8	±.Α.¹.Ú.ϕ.Ε.Α.Ú.Α.γ.Α., °Α.®.Α.Σ.Ε.Α.Ú.Α.γ.Α. d.Ε.Α.β.ν.Α. M.¼.Α.ν.Ε.Α. γ.Α. Ε.Ú.Ú.Α.¼.Α.Α.	1500	30	Pk _{8,9}	B			B			
9	Ε.Α.α.Ε.Α.Ú.Α.°è, v.Ε.Α.Ε.γ.Α. «Ε.Α.Ρ.Α., (- Α.®. , Α.Σ. z.Ε.Α.α.Α.γ.Α.Ú.Α.Α. r. d.α.Α.Α.Ρ.Α. r. γ.Α. Ε.Ú)	500	25	Pk _{8,9}		B			B		
10	±.Α. - Ε. Ε.Α.Α. 9 α.Α.Α.γ.Α.Ú.Α.α.Α.Α.ä U.Α.Α. r. ±.Α. - Ε. Ε.Α.Α. 90 °Ε. i. Ρ.Α.έ.Ι.δ.γ.Α.)	1500	25	Pk _{8,9}		B			B		
11	U.Α.τ.φ.Α.ω. Z.Ε.Ρ.Α., U.Α.ζ.Α.Υ.®. - Α. « , α.Α.Α.Α.Α. d. t. Α.Ú.Ú.Α.°è Ev.Α.γ.Ε.	1500	25	Pk _{6,7}			B			B	
12	Ε.Α.α. »Α.γ.Ε.Α.Ε.Α.Ε.Α., α.Α.Α.Α.ε.Α.α.Α.γ.Α.α.Α.Α.ϕ. Ü.Α.ϕ.ü.U.Α.¼.Α.Α., Ε.Α.α.Α.ζ.Α.ν. v.Ε.Α.Ε.Α.Ι	2000	25	Pk _{6,7}	B			B			

	AAçüUÄ¼ÄÄ									
14	E"Áæ»A gÉÆÄeÁ gÄ,ÉÜ °ÉÆ,Ä zÄªÁSÁÉÉªÄgÉÜÉ °ÄÆUÄgÄ gÄ,ÉÜ »AçÉÄ NtÄ E"Áæ»A gÉÆÄeÄªÉÆÄw UÄÄÄsd	1000	25	Pk ₄						D
15	ªÉÆÄwUÄÄÄsd °ÉÆ,Ä §qÄªÄuÉ	2000	25	Pk ₄	D					
16	°ÄÆUÄgÄ vÉÆÄI gÄ,ÉÜ °ÉÆ,Ä §qÄªÄuÉ	2000	25	Pk ₄						
17	"sÉÉgÄªÄ ÉÄUÄgÄ, "sÄÆvÄqÄ PÄ©ª, °qÄPÄgĭ PÄ©ª, ÄévÄAvÄæ:ª AiÉÆÄzÄgÄ PÄ©ª	2000	25	Pk ₄		D				
18	§, ÄªÄÉÄUÄgÄ (¹« ĩ D, ÄävÉæ »AçÉÄ "ÄdÄ)	1000	25	Pk ₄						D
19	PÉd©V vÄÄqÄ	1000	25	Pk ₄			D			
20	PÄ-ÉÄ"sÄUÄ	1000	25	Pk ₄				D		

Environmental Engineer Jagadeesha S.R	Commissioner R.G.Biradar
Signature	Signature with Seal

Final Copies Resubmitted by

Environmental Engineer M.H. Gajokosh	Commissioner L. Sonnégouda
Signature	Signature with Seal

