

Standard Operating Procedure
(SOP)

FOR

Door to Door Collection of Segregated Municipal Solid Waste in



Tajganj Zone, Agra

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Submitted by



ARVA ASSOCIATES

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Introduction

Arva Associates

ARVA Associates is a company engaged and working towards the clean India initiatives. ARVA Associates is aimed to provide the integrated Solid waste management to the various ULBs and with this aims company is continuously striving to eradicate the municipal waste problems through various projects of DTDC or by converting the organic waste to compost or Bio CNG or by recycling all the waste plastic into paver blocks and oil or converting waste into energy.

Few of the processes is conceived and protected under Intellectual Property Rights act .

We are one of the reputed company having ISO: 9001 & 14001 along with OHSAS 18001:2007 in Solid & Liquid waste management and committed towards creating a quality waste collection, transportation, processing & recycling program to assist the Organizations in treating their waste in a scientific & safe manner.

Our well planned & executed methodologies have also allowed us to successfully customers with services in a more streamlined manner. Further, for achieving Smother business operations, we have Segregated our operations under various department like data Analysis and Managements, Research and Field work, Professionals handling these departments ensure that every task is performed as per the requirement of our Clients Apart from our clear as well as flexible methodologies, we are also well equipped with latest facilities that allow us to correctly execute our work procedures.

“Door to Door Collection of MSW” means and includes solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non-residential wastes, except industrial and C&D waste collected from the source of generation and transfer to the processing facility without touching ground in any case in the area Tajganj zone under Agra Nagar Nigam.

Solid Waste management is fast coming to be recognized as priority area requiring intervention, if life in urban areas is to be sustained and improved. The menace of municipal solid waste/garbage and slaughter house waste is increasing everyday on account of growing population, limitations of existing infrastructure and technologies for its management. In this light, Arva Associates Jhansi has been engaged into municipal solid waste management in the city for the following services.

Scope of Work

- 1- Door to Door collection of Municipal Solid Waste within the allotted zone i.e.Tajganj
- 2- Information, Education, Communication (IEC) for Segregation and storage of Domestic Hazardous waste
- 3- User charge collection from the service area and deposition in the account of Agra NagarNigam

Execution Plan

1- Primary (Door to Door) Collection of Municipal SolidWaste

The Methodology for door to door collection: following are the vehicles which shall be deployed for door to door collection according to roads/streets and density of the area. The capacity of the vehicle to cover house hold & commercial properties as below...

- 1- Mini Tipper: Approximately Average coverage of 1200 to 1500 properties
- 2- Auto Tipper: Approximately average coverage of 900 to 1200 properties
- 3- Tricycle: with Eight detachable bins of 60 ltrs approximately coverage of 250 to 300properties



*Mini Tipper(1Cum*2)*



Auto Tipper(1.5CuM)



Tricycle with 8 DetachableBins

- *Time of primary operations shall be in Summer season from 06:00 hrs in the morning till 14:00 hrs. Some special and commercial collection shall be completed from 14:00 hrs to 22:00 hrs as and when desired and in winter season from 7.00 hrs to 15.00 hrs in first shift, from 16.00 hrs to 21.00 hrs in second shift as and when required.*
- *Door to Door collection shall be completed by 80% of total residential Properties using Mini tipper fitted with two hopper of 1 CuM each and auto tipper with 1.5 Cum fitted hopper to collect segregated waste & 20% of total residential properties by tricycle with 8*

detached 60 Ltrs bin system for narrow and inner streets of the city.

- *Commercial wastes under shop to shop collection shall be catered by Mini tipper fitted with 2.0 Cu.M two hopper of 1 CuM each to collect segregated waste*
- *Each vehicle for residential area will be having one driver & one helper only for collection of segregated waste.*
- *Each vehicle for commercial area will be having one driver & Two helper for shop to shop collection*
- *A route chart of each vehicle shall be prepared, freeze and fixed to each vehicle, which bound to concern driver and helper for timely collection of waste*
- *Swachhta Music on each vehicle and whistle to each tricycle shall be fitted to intimate the users for giving their segregated stored waste*
- *All the vehicles deployed for door to door collection shall be equipped with GPS system which shall be monitored with a control room specially built for the purpose. The control room equipped for real time and resource management.*
- *Monitoring of timely collection and trips according to route chart will be recorded through GPS system everyday*
- *An complaint redressal system shall be developed by providing a customer care number which shall be flashed in each document like UCC receipt banners etc. to resolve the complaints within the stipulated time*
- *An dedicated employee will be deployed for the customer complain handling and redressal system to ensure the timely and effective services*
- *One Supervisor in each ward called as **ward supervisor** will be deployed for implement, execution and monitoring the timely and effective services, who will be in touch with the concern sanitary inspector/ward official/Parshad for effectively implementation and instant resolution of any issue*

Ward Wise Vehicle & Manpower deployment Plan

Arva Associates														
Deployment Plan for Door to Door Collection in Tajganj Zone Agra														
			Asset Deployment Plan			Manpower Deployment Plan			Manpower Relievers		Total Manpower			
Sr No	Ward No	Nos of House Hold & Commercial Properties	Nos of Mini Tipper	Nos of Auto Tipper	Nos of Tricycles	Nos of Helper	Nos of Drivers	Nos of Supervisor	Nos of Helper	Nos of Drivers	Nos of Helper	Nos of Drivers	Nos of Supervisors	UCC Collector
1	2	5730	1	2	5	10	1	1	1	0	11	1	1	2
2	4	3813	1	1	3	6	1	1	1	0	7	1	1	1
3	5	5481	1	2	5	10	1	1	1	0	11	1	1	2
4	15	3681	1	1	3	6	1	1	1	0	7	1	1	1
5	19	3198	1	1	2	5	1	1	1	0	6	1	1	1
6	33	3055	1	1	1	4	1	1	1	0	5	1	1	1
7	36	4478	1	2	2	7	1	1	1	0	8	1	1	1
8	44	3927	1	1	3	6	1	1	1	0	7	1	1	1
9	57	5133	1	2	4	9	1	1	1	0	10	1	1	2
10	62	2908	1	1	1	4	1	1	1	0	5	1	1	1
11	70	3367	1	1	2	5	1	1	1	0	6	1	1	1
12	72	5372	1	2	5	10	1	1	1	0	11	1	1	2
13	78	3872	1	1	3	6	1	1	1	0	7	1	1	1
14	88	2564	1	1	0	3	1	1	1	0	4	1	1	1
15	97	5772	1	2	5	10	1	1	1	0	11	1	1	2
16	98	4530	1	2	2	7	1	1	1	0	8	1	1	2

2- IEC Activities for Awareness for segregation atsource

- *Banners/Hoardings for awareness: Banners of Swachhta for awareness shall be displayed in all the public places subject to the availability of place to be allotted by Nagar NigamAgra*
- *One special vehicle (e rickshaw) equipped with all promotional equipment's like banners, pamphlets & announcement etc. which will be covering approximately 250 house hold properties visited daily on random basis in each war, in the campaign users shall be aware educate for segregation of waste and storage of domestic hazardous waste generated within the premise,*

- In this process we are planning to achieve 100% segregation as separate storage of Dry waste (Blue), Wet waste (Green) & Domestic Hazardous waste (Red) and to achieve minimum two wards every month is the target.

3- User charge collection from the service area and deposition in the account of Agra Nagar Nigam

- Monthly user charges as per notification of rates, notified by Agra Nagar Nigam shall be collected and deposited in the bank account of Agra Nagar Nigam.
- Monthly list of defaulters (who are not paying user charges or not giving garbage) shall be submitted to the authority for penalization and support

Ward wise User Charge Potential as per Rate List

Sr No	Ward No	Total Nos of Properties	Total UCC Projection (Rs)
1	2	5730	401100
2	4	3813	266910
3	5	5481	383670
4	15	3681	257670
5	19	3198	223860
6	33	3055	213850
7	36	4478	313460
8	44	3927	274890
9	57	5133	359310
10	62	2908	203560
11	70	3367	235690
12	72	5372	376040
13	78	3872	271040
14	88	2564	179480
15	97	5772	404040
16	98	4530	317100
	Total	66881	4681670

Quarterly Projected User Charge Target to be achieved

Sr. No.	Name of Activities	May-19	June-19	July-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20
1.	User Charge Collection	40%	40%	40%	40%	40%	70%	70%	80%	100%	100%

4- Control Room and implementation of Smart System for Monitoring of daily operations

- Control room will be set up in the office premises of Arva Associates in Agra from where the movement of vehicles can be monitored,
- A Customer care number will be provided under complain redressal system to provide proper services and feedback of these services.
- Efficient training to the workers as drivers & helper for their scope of work for the execution of project shall be provided to make the project successful
- Smart Attendance based on Mobile App for the monitoring of daily attendance of workers will be used for monitoring of manpower
- GPS devices shall be installed to each mechanized vehicle for the monitoring of daily movement

Month wise Achievement Plan for Source Segregation of MSW

Sr No	NameofActivities	April 19	May 19	June 19	July 19	Aug 19	Sep 19	Oct 19	Nov 19	Dec 19
1-	IEC for Source Segregation and Storage of MSW	10%	20%	30%	40%	50%	65%	80%	90%	100%
2	Ward Numbers to be developed for 100% source segregation	44 78	15 88	97 04	05 62	02 98	19 33	36 57	70 72	

Required Support to achieve the above target of UCC

- 1- Ward ZSO/CSFI/SFI to support in achieving 100% services and 100 % source segregation& User Charge Collection.
- 2- All the workers of municipal corporation and their relatives to be penalized for involving in D2D activities and user charge collection..
- 3- Above monthly target of user charge may be achieved only after the strong support to be provided by ANN (authority) by penalizing to the defaulters within one week as per the defaulters list to be submitted by agency.
- 4- Regular street sweeping and drain cleaningby ANN is required to get the 100% collection of MSW and user charge as well.
- 5- Street bins(CP AND DP BINS) to be removed which are placed in residential areas as per plan finalized to achieve the targets.