



KOCHI MUNICIPAL CORPORATION

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BEFORE THE HONB'LE NGT (SZ), Chennai

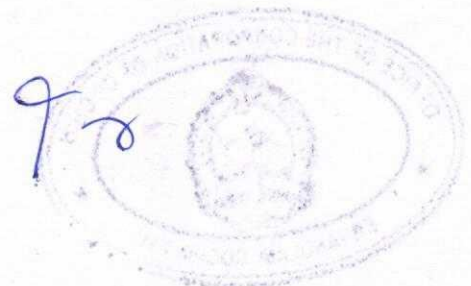
OA.442/2013, OA.20/2017, OA.276/2017 & OA.7/2021

Progress & Action taken report of Solid waste management issues, Illegal dumping at Alexander Parambithara Bridge and near Kannangattu Bridge – Reg.

Kochi Municipal Corporation has taken the following actions/activities for the solid waste management issues at Brahmapuram and illegal waste dumping at Alexander Parambithara bridge and Kannangattu bridge Areas.

1) ACTION TAKEN FOR LEGACY WASTE REMEDIATION

Corporation is now facing some problem related with Legacy wastes which accumulated in Brahmapuram Plant. For attaining optimum solution for treating the legacy waste, biomining procedure was adopted. And the responsibility of biomining was entrusted to M/s Zonta Infratech Pvt. Ltd. by tender (tender process was done by Kerala State Industrial Development Corporation). As per the drone survey done by NIT, Calicut total quantity of Legacy waste was assessed as 559103m³, which is spread over an area of approximate 40.25 acre of land. For calculating the volume of legacy waste, this 40.25 acres of land was divided into seven sectors and volume analysis is carried out at each sector separately. By adopting Bio mining, about 80% of land can be recovered/reclaimed. For monitoring Biomining project, a technical committee was constituted as per the direction of the Government and Committee approved the work implementation plan submitted by M/s Zonta Infratech Pvt. Ltd. Biomining commenced on 20.01.2022 and mobilization advance of Rs.7,15,74,684/- for work was released on 05.02.2022. Consent to Operate for Biomining was issued from Pollution control board on 17-05-2022 and is valid up to 30-04-2023. So far Sector 4, 5, 6 and 7 was completed that is about (25% of work) and 10 acres area of land is almost cleared. About 30 tonnes of RDF is dispatched to Dalmia



cement and remaining RDF to be stored and stacked in site. Bailing procedure commenced in site and about 30m³ of RDF bailed. Due to incessant rain shower the biomining procedure has been delayed and now it is in progress and is expected to be completed within in the stipulated time (06/2023).

Implementation Schedule showing the completion of the project Attached.

2) ACTION TAKEN TO CONSENT TO USE SEPTAGE TREATMENT PLANT FOR LEACHATE TREATMENT

Leachate oozing out of windrow compost plant is collected into a leachate collection tank having a capacity of 130m³, through a network of connected drain. Collected leachate is now transported and daily about 20KLD-25KLD of it is treated at Corporation owned 0.1 MLD Septage treatment plant, which is full functional at Brahmapuram, since 23-02-2022. Consent for Integrated treatment of Septage and leachate was issued from Pollution Control Board on 23-07-2022 and has operational validity up to 30-04-2027. ***Treated water quality standards are within permissible limit of Kerala State Pollution Control Board.***

3) ACTION TAKEN FOR NEW WINDROW COMPOST PLANT

The Structural designing of proposed integrated Municipal waste treatment plant for windrow composting plant has been completed and got vetted by Govt. Engineering College, Thrissur. The total area of the proposed plant is about 13,500m² and having a capacity to handle about 300TPD of biodegradable wastes. Esteem Developers submitted the draft DPR for an amount of Rs.52 crore for the construction of new windrow compost plant and the Council Meeting held on 15-06-2022 has decided to send it for government approval and accordingly sent to the Government.

4) ACTION TAKEN FOR NEW LEACHATE TREATMENT PLANT:

Corporation has entrusted M/s Ultratech Environmental Consultancy and Laboratory to prepare DPR for the construction of a **new Leachate Treatment Plant**. Inception report has been submitted by this consultancy and was sent to Suchitwa mission for vetting the same. As part of vetting the report, Suchitwa Mission conducted a technical committee meeting on 05/08/2022 at 10.30am. Decision of technical committee meeting was following.

1. The process flow cannot be approved since the BFBR technology cannot be accepted without the details of practical performance studies. As per the Manual on Municipal Solid Waste Management, the processes for leachate treatment can be biological (aeration, ASP, Nitrification/Denitrification), Chemical (oxidation, neutralisation) or physical (airstirring, activated absorption, ultra filtration etc.). The reason for adopting an altogether different process has to be substantiated. In order to solve the same, a



high rate anaerobic bio digester has been suggested.

2. The possibility of treating the leachate in the proposed septage treatment plant is also not being explored. Even though treatment of septage and leachate together is possible, but in future can create choking of the plant .So separate treatment is best method to adopt.

By clarifying above queries M/s. Ultratech has resubmitted the revised inception report to Suchitwa Mission on 27/9/2022. A technical committee was conducted by Suchitwa Mission on 16-11-2022, minutes of the meeting is awaiting.

5) ACTION TAKEN FOR WASTE TO ENERGY PLANT:

To implement Waste to Energy project (WtE), Corporation has transferred 20 acres of land at Brahmapuram to KSIDC by a registered lease deed on 09/11/2021. About 500 TPD WtE Plant is proposed by KSIDC in this land. M/s Zonta Infratech Pvt. Ltd. is selected as a bidder for the project. Intimation for signing concessionaire agreement has been received from government and necessary steps have been taken for Council approval and the decision will be taken without any delay.

6) ACTION TAKEN FOR NEW SEPTAGE TREATMENT PLANT:

Proposed SeTP is of 2MLD capacity, for 50 ULB as a part of urban agglomeration (1corporation+9municipalities + 40 grama panchayath) and planned in an area of appx. 3.5 acres of land. Inception report was presented before Kochi Municipal Corporation and PCB, which was approved and vetted by Suchitwa mission. Suchitwa mission conducted a technical committee meeting on 05/08/2022 at 10.30 am for brief presentation of the technology. Decision of technical committee meeting was following.

- 1) The process flow cannot be approved since the BFBR technology cannot be accepted without the details of practical performance studies. In order to solve the same, a high rate anaerobic bio digester has been suggested.
- 2) The comments of a Traffic and Transportation expert on the viability of 800 vehicles plying to and from different parts to Brahmapuram to be obtained. Accordingly a letter was sent by contractor to NATPAC about their outlook for the viability of transport.
- 3) The capacity of the plant is to be reworked taking into consideration the proposals for future by KWA and LSGs for STPs and FSTPs with funding from different sources. All factors were taken to consideration and accordingly capacity of plant was fixed.

By clarifying above queries M/s Ultratech has resubmitted the revised inception report to Suchitwa Mission on 27/9/2022. A technical committee was conducted by Suchitwa Mission on 16-11-2022, minutes of the meeting is awaiting.



7) SOLID WASTE MANAGEMENT CELL

Approximate waste generated in Kochi Municipal Corporation area is calculated to be 230 to 250 tonnes per day of which 160 to 180 tonnes is wet waste and 70 to 80 tonnes is dry waste. Corporation is also receiving average 30 to 40 tonnes of wet waste from 7 other local bodies. Likely the total solid waste reaching at Brahmapuram is estimated to be 260 to 290 tonnes per day. In order to avoid taking all the wastes to Brahmapuram, we have constructed and started functioning 3 Material Collection Facility Centres for dry waste and one Resource Recovery Facility Centre at Brahmapuram.

We have also formulated a team named as 'Green Army' for primary collection from household level and the total number of team members is 739 (formal and informal workers). Besides, a solid waste management cell has been formed exclusively for monitoring waste management activities and the cell is functioning at Corporation office. Also a site manager as well as a team of health personnel and engineering wing is also functioning at Brahmapuram for entire supervision and streamlining of activities.

The Biodegradable waste received at Brahmapuram on daily basis is approximately 190 to 210 tonnes and is being treated by windrow composting method and converted to fertilizer. The existing windrow compost plant having a capacity of 250TPD. Even though the windrow compost plant is in dilapidated condition, we have still able to handle the whole waste generated daily. Due to the sinking of infrastructure, the windrow compost plant's efficiency is coming down. To solve this issue, a new project has been taken up at the cost of Rs.79.28 Lakhs for the maintenance of an existing shed adjacent to the existing plant. As per CPCB guidelines the calculated volume of windrow compost plant is appx. 1296m³, which is greater capacity than the actual volume (1190m³) of biodegradable waste reaching at Brahmapuram. Hence by completing the maintenance of existing shed the quantity of biodegradable waste reaching at Brahmapuram will be manageable for Kochi Corporation.

Kochi Municipal Corporation already have 3 MCFs and 1 RRF for carrying out management of non biodegradable waste. Out of 70-80 TPD non biodegradable waste collected, approximately 2TPD are transferred to 3 MCF Centres and the remaining are transferred to RRF Centre at Brahmapuram where mechanized sorting machine and allied equipments are deployed for proper segregation and recycling of non degradable waste collected. The entire process is being carried out by M/s Bharath Traders on contract basis and an average of 20-25TPD recyclable plastic materials is being removed by the contracting agency itself. Additional steps have also been proposed for the strengthening and widening of RRF plant at Brahmapuram.

8) ACTION TAKEN AGAINST ILLEGAL AND UNAUTHORISED WASTE DUMPING AT ALEXANDER PARAMBITHARA BRIDGE AND KANNANGATTU BRIDGE AREA

It may be brought into consideration that mandatory steps have been taken from Corporation



to prevent illegal dumping in the above mentioned areas. The biodegradable and non-biodegradable wastes illegally dumped near and surroundings of Alexander Parambithara bridge and Kannangattu bridge have been cleared. Night and day patrolling of health squad has been enforced and strict actions are taken against those who contravene the rule and undergo unauthorised dumping by way of imposing fine and initiation of other legal steps and also be informed that more than 2000 raids have been conducted and more than Rs.27 Lakhs have been imposed as fine for littering of wastes. The wastes dumped in the above mentioned areas near Alexander Parambithara bridge and Kannangattu bridge has been cleared and strict monitoring is done on daily basis. Major area adjacent to above mentioned road & bridge belongs to Cochin Port. It is the responsibility of Port Trust to keep the area clean and waste free. In this regard Corporation has issued several notices intimating the Port Trust to take urgent action and to prevent illegal dumping of waste at above mentioned areas. The Police have also been informed of this illegal dumping for taking legal actions.

Corporation is doing all the possible efforts to mitigate and solve all the issues related to waste management and will ensure completion of biomining before 06/2023 and all other construction and maintenance works except waste to energy plant possibly by 12/2023.




SECRETARY

KOCHI MUNICIPAL CORPORATION

ANNEXURE-X
IMPLEMENTATION SCHEDULE
REHABILITATION OF MUNICIPAL SOLID WASTE DUMPSITE AT BRAHMAPURAM

Sl NO.	Month	Jan-22	Feb-22	March-22	April-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	June-23
1.00 BIO-MINING (5,51,903 Cum)																			
a	Procurement and installation of machineries																		
b	Stabilisation of waste																		
2.00	Processing of waste + disposal of Good Earth+ shifting of rejects to capping area.																		
c	Processing of 55,000 Cum of waste																		
d	Processing of 70,000 Cum of waste																		
e	Processing of 70,000 Cum of waste																		
f	Processing of 70,000 Cum of waste																		
g	Processing of 70,000 Cum of waste																		
h	Processing of 70,000 Cum of waste																		
i	Processing of 70,000 Cum of waste																		
j	Processing of 77,000 Cum of waste																		
3.00 LANDFILL-CAPPING																			
3.01	Waste Reorganisation & Compaction of Waste.																		
a	Preparation of Foot print area for Capping site																		
b	Shifting of waste to the Capping Site																		
c	Formation of Slopes and compaction of waste																		
3.02	Procurement of Liner materials including HDPE liner, geonet and non-woven geo-textile																		
a	Laying of Gas drainage System																		
b	Laying of non-woven Geo-textile																		
c	Laying of HDPE Liner																		
d	Laying of Geonet																		
d	Laying of non-woven Geo-textile																		
e	Laying of vegetative soil layer & Doob Grass																		
f	Construction of storm water drainage system & retaining wall																		
g	Construction of gas venting system																		
h	Peripheral Road all round capping site																		
4.00	HANDING OVER																		
a	Handing over																		

MONSOON PERIOD



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