

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

O.A. NO. 199 of 2021 (SZ)

IN THE MATTER OF:

Sri. Shankar Narayanan Bala Krishnan,
Telangana and Ors

...Applicant(s)

Versus

State of Telangana and Ors

...Respondents(s)

I N D E X

S.No	Particulars	Page No.
1	Report filed on behalf of Respondent No.6	1-12
2	Annexure I - Copy of the letter addressed to Central Pollution Control Board communicating factual data	13-14
3	Annexure II - Copy of the request letter addressed to Central Pollution Control Board along with action plans	15-38
4	Annexure III - Copy of the letter addressed to Environment Protection Training & Research Institute	39
5	Annexure IV - Copy of the letter addressed to Telangana Pollution Control Board	40-41
6	Annexure V - Copy of letter submitting the required information to Pollution Control Board for according CFE for Dundigal P&D site	42
7	Annexure VI - Copy of letter addressed to the District Collector Sangareddy	43-44
8	Annexure VII - Copy of letter addressed to the Metropolitan Commissioner, Hyderabad Metropolitan Development Authority	45-46

S.No	Particulars	Page No.
9	Annexure VIII - Copy of DO letter addressed to the District Collector, Sangareddy	47-48
10	Annexure IX - Copy of DO letter addressed to the District Collector, Yadadri Bhuvanagiri	49-51
11	Annexure X - Copy of the letter received from Environment Protection Training & Research Institute on sorting facilities	52-82
12	Annexure XI- Copy of the letter received from Environment Protection Training & Research Institute on extraction borewells	83-101

Place: Hyderabad

Date: 28.01.2025


Counsel for Respondent No-6

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

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O.A. NO. 199 of 2021 (SZ)

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Sri. Shankar Narayanan Bala Krishnan,

Telangana and Ors

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And Ors

...Respondents(s)

REPORT FILED ON BEHALF OF RESPONDENT NO.6

I, K. Ilambarthi, IAS, S/o R. Kunjithapatham, age about 45 years, Occ: Commissioner, Greater Hyderabad Municipal Corporation, R/o. Hyderabad, do hereby solemnly swear and state on oath as follows:

1. It is respectfully submitted that, I am working as Commissioner of Greater Hyderabad Municipal Corporation (GHMC), Hyderabad. As such, I am well acquainted with the facts of the case. Further, I am deposing this report based on the records available with the Respondent Corporation and in view of the orders dated 15.07.2024, 27.09.2024 and 16.12.2024 of the Hon'ble National Green Tribunal, Southern Zone in OA No. 199 of 2021 and the recommendations in the report filed by the Central Pollution Control Board dated 26.09.2024.


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2. Placing on record the details of all the earlier status reports filed by the 6th Respondent before the Hon'ble National Green Tribunal, Southern Zone, Chennai.

- i. Report filed by the 6th Respondent, dated 07.10.2021
- ii. Report filed by the 6th Respondent, dated 07.12.2021
- iii. Report filed by the 6th Respondent, dated 05.03.2022
- iv. Report filed by the 6th Respondent, dated 29.03.2022
- v. Additional Report filed by the 6th Respondent, dated 25.08.2022
- vi. Reply memo filed by the 6th Respondent, dated 25.08.2022
- vii. Status report filed by the 6th Respondent, dated 23.11.2022
- viii. Report filed by the 6th Respondent, dated 17.12.2022
- ix. Report filed by the 6th Respondent, dated 08.03.2023
- x. Report filed by the 6th Respondent, dated 04.08.2023
- xi. Report filed by the 6th Respondent, dated 21.11.2023
- xii. Report filed by the 6th Respondent, dated 18.04.2024
- xiii. Report filed by the 6th Respondent, dated 12.07.2024

3. In compliance to the directions of the Hon'ble NGT at para no 12 of the order dated 15.07.2024 directing the Chairperson, CPCB to convene a meeting with the concerned experts along with GHMC Officials and come up with appropriate solutions, a series of video conferences were conducted by the Member Secretary, Central Pollution Control Board (CPCB) on 23.08.2024 & 27.08.2024 and by the Chairman, Central Pollution Control Board on 28.08.2024 and 29.08.2024. During the discussion, GHMC has reported to CPCB that there was mistake in certain facts in the report filed by it on 14.07.2024 before the Hon'ble NGT. A letter communicating the factual data was submitted to Member Secretary, CPCB on 24.08.2024 (**Copy enclosed as Annexure I**) wherein against the remarks in the report that "only 3540 TPD (43.7%) of the total


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received waste 8100 TPD is fully utilized and the remaining 4560 TPD (56.3%) of semi-processed waste (2760 TPD of +70 mm fraction and 1800 TPD of -70 mm fraction) accumulates in the HIMSWM Project premises. Additionally, 1390 TPD of rejects is generated during processing of 2000 TPD of -70 mm fraction in the composting facility which is disposed of the Sanitary landfill (SLF) located in HIMSWM Project" it was clarified that entire MSW of 8100 tons per day (TPD) received at Jawaharnagar is processed completely without leaving anything left unprocessed. The process followed is - mechanical segregation of 8100 TPD waste received results into 3800 TPD of organic fraction (-70 mm) which goes for conversion into Compost, 2340 TPD of inorganic material (+70 mm) is utilized as Refuse Derived Fuel for producing electric power in waste to energy (WTE) plants operating at Jawaharnagar (24 MW phase I) and Dundigal (14.5 MW) (including part of it sent to cement plants & recycling plants). Remaining RDF of about 1960 TPD is stored for future utilization in the 24 MW Phase II WTE plant under construction which is expected to commission by March 2025. An action plan was also submitted to CPCB regarding the disposal of RDF that is stored in the site. Subsequently, a joint inspection was conducted by Officials of Telangana Pollution Control Board (TGPCB) and GHMC on 29.08.2024 for evaluating the above clarifications submitted by GHMC.

4. It is respectfully submitted that, following is the summary of the deliberations made during these (04) Video Conferences conducted by the Central Pollution Control Board:

- i. GHMC has submitted (03) action plans viz., (i) action plan for operationalization of new decentralized MSW processing facilities (for fresh waste management), (ii) action plan for disposal of legacy leachate and (iii) action plan for disposal of RDF stored for want of


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disposal (through 24 MW Waste to Energy project - Phase II under construction and by stabilization of off-take by Cement plants).

- ii. In respect of the ground water contamination, GHMC has submitted that it is open to adopt any measures recommended by the CPCB in consultation with the ground water experts for containment of any further ground water contamination as alleged. The declining trend in unfavourable water parameters in certain monitoring bore-wells due to the 2000 kLD MVRE plant operational since 2020 which has treated 6,50,000 kilo litres of the estimated 8,50,000 kilo litres of legacy leachate was also highlighted.
- iii. Telangana Pollution Control Board has proposed for continuous monitoring of ground water through third party experts. GHMC agreed to bear the associated cost.
- iv. One of the main reasons for filing OA No 199 was the odour problem faced by the citizens from fresh waste and legacy leachate and both are being addressed by GHMC due to which the locals are satisfied. Their demand for diversion of MSW to (03) other alternate sites is also being pursued rigorously by GHMC with the Government of Telangana.
- v. GHMC also submitted that opening the already scientifically capped dumpsite will further aggravate the problems of odor nuisance and also the leachate generation. The local habitants are already complaining about odour nuisance due to fresh waste management and the same may lead to disruption in the operations of the fresh waste processing facility due to possible agitations by locals due to increased smell issues.
- vi. Therefore, CPCB was requested to consider GHMC's request for retaining the existing scientific capping of legacy dumpsite until completion of ongoing active decomposition stage as reported in IIT Bombay report and also by considering the measures taken by

B. N. S.
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ut
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GHMC in preventing negative environmental impact through dedicated facility for treatment of legacy leachate and capturing 100% of the methane gas from the capped landfill.

A letter summarising the details of the VC including action plans of GHMC and the requests made to CPCB to consider retaining the existing scientific capping until completion of the ongoing active decomposition stage was submitted to the Chairperson, CPCB on 31.08.2024 (**Copy enclosed as Annexure II**). As on date, no further communication was received from CPCB.

5. It is to respectfully submit that, following is the progress in the commitments of GHMC as per the action plan submitted to CPCB:
- i. Legacy Leachate management: As on the date of submission of the action plan to CPCB, 650 million litres (ML) out of estimated 850 ML of legacy leachate was treated and disposed. The same reached to 815 ML by 22nd Jan' 2025 which is about 96% of the total estimated quantity of legacy leachate impounded in the site.
 - ii. Decentralized MSW processing facilities:
 - a. Dundigal: On 30.08.2024, GHMC through the Concessionaire has applied to the Telangana Pollution Control Board (TGPCB) for Consent to Establish (CFE) an MSW processing plant at Dundigal with raw MSW intake capacity of 4,000 TPD. However, the TGPCB has rejected the same. GHMC addressed a letter to Environment Protection Training & Research Institute (**Copy enclosed as Annexure III**) who is the Independent Engineer for the Project to submit a detailed report on the issue including the proposed technology for taking up the matter with TGPCB. Also, GHMC addressed a letter to Telangana State Pollution Control Board (**Copy**


Superintending Engineer
Solid Waste Management
Greater Hyderabad Municipal Corporation


Commissioner
Greater Hyderabad Municipal Corporation

enclosed as Annexure IV) communicating briefly the details of the advanced technology which is going to be implemented at the proposed MSW processing plant at Dundigal and requested to consider granting the consent for establishment. Further, in response to the rejection of CFE application by TGPCB citing non-submission of certain technical information, the required information was submitted to TGPCB on 23.01.2025(**Copy enclosed as Annexure V**).

- b. Pyaranagar: GHMC has been engaged continuously in talks with local inhabitants to convince them for laying of approach road to the site by demonstrating how the proposed technology at Pyaranagar advanced and different from the existing one at Jawahar Nagar and that there will be no smell issues as no open operations are carried out. With the support of Hon'ble Health Minister some of the local leaders have convinced and the efforts are on to start the work. Subsequently, a letter was addressed to the District Collector, Sangareddy requesting to provide necessary support to GHMC for commencing the work of laying approach road and subsequently commence construction of the MSW Processing facility. (**Copy enclosed as Annexure VI**).
- c. Lakdaram: As the originally proposed land was subsequently handed over to Hyderabad Metropolitan Development Authority (HMDA), a letter was addressed to the Metropolitan Commissioner, HMDA for alienation of about 100 acres to GHMC (**Copy enclosed as Annexure VII**). Further, a reminder DO letter was addressed to the District Collector on 16.12.2024 requesting to allot the Govt land (**Copy enclosed as Annexure VIII**). These are in continuation to the earlier requests of GHMC to the concerned District Collector. Reply is awaited.


Superintending Engineer
Solid Waste Management
Greater Hyderabad Municipal Corporation


Commissioner
Greater Hyderabad Municipal Corporation

d. Malkapur: With respect to 200 acres of land parcel identified at Sy.No.617 Malkapur(V), Chotuppal(M), Yadadri Bhuvanagiri (D) for establishing MSW Treatment & Disposal facility for which a letter was addressed to the concerned District Collector, it has come to the notice of GHMC from the concerned Revenue Officials that only acres 75-30 gts of land is available but it is not feasible to allot for MSW management. Subsequently, a DO letter was addressed to the District Collector communicating details of lands nearby Malkapur and requesting to allot the available land for establishing MSW processing facility **(Copy enclosed as Annexure IX)**. Reply is awaited.

6. It is respectfully submitted that the Central Pollution Control Board recommended certain action points based on the deliberation with experts and submitted them before the Hon'ble NGT (SZ) in its report dated 26.09.2024. The summary of the recommendations along with compliance of GHMC is submitted below:

i. **Comment of CPCB:**

Remediation of capped waste as well as ground & surface water: IIT Roorkee, National Institute of Hydrology, Central Ground Water Board and National Geophysical Research Institutes shall carry out a study within (02) months time, regarding various aspects & possibility of remediation of the capped site including assessment of extent & trend of contamination of soil, ground water and surface water bodies. Thereafter, a DPR shall be prepared within (06) months delineating the actions/ activities with timelines for remediation of GHMC's dumpsite including remedial measures for waste, contaminated water bodies & soil, in-line with the findings of


Superintending Engineer
Solid Waste Management
Greater Hyderabad Municipal Corporation


Commissioner
Greater Hyderabad Municipal Corporation

the feasibility report. GHMC shall provide all the required assistance to IIT Roorkee and other Institutions in preparation of the feasibility report. Based on the DPR, GHMC shall prepare an action plan for implementation of various actions/ activities outlined in the DPR. A monitoring Committee headed by the Principal Secretary, Department of Environment, Government of Telangana shall monitor the implementation of action plan and also identify funds for implementing the activities. Further, Telangana State Pollution Control Board (TGPCB) in consultation with Central Ground Water Board shall prepare a comprehensive ground & surface water quality monitoring plan for TGPCB to conduct regular monitoring.

Compliance by GHMC:

GHMC has not received any directions from CPCB in respect of feasibility study report and DPR.

ii. **Comment of CPCB:**

Development of adequate Solid Waste processing Capacity: The Integrated Solid Waste Management facility at Jawaharnagar is not adequate for processing/ utilizing entire received waste (8100 TPD) from Hyderabad city. GHMC shall develop adequate solid waste processing capacity to manage the waste being handled at the site. GHMC shall submit a time bound action plan for development of these facilities. Action points related to disposal of 67.17 Lakh tons of waste stored in its premises shall also be included in the Action Plan.


Superintending Engineer
Solid Waste Management
Greater Hyderabad Municipal Corporation


Commissioner
Greater Hyderabad Municipal Corporation

Compliance by GHMC:

GHMC action plan for disposal of RDF stockpiled in the site is as submitted below:

- a. GHMC vide its letter dated 30.08.2024 (**Copy enclosed as Annexure-II**) has submitted the action plan along with progress of work regarding disposal of the stored RDF to CPCB wherein it was proposed to set up (05) RDF manufacturing units of 1000 TPD capacity each similar to the one already established at Jawaharnagar (operational from Aug'2024).
- b. These plants were proposed to be established at the identified alternate processing sites within next (05) years to Channelize RDF for co-processing in (33) cement plants present within 300 km distance from GHMC.
- c. Subsequently, (04) locations viz., Deepthisri Nagar, Khaitlapur, Jagadgirigutta & Patancheru Transfer Stations were identified by the Concessionaire for installing RDF processing units.
- d. GHMC has requested Environment Protection Training & Research Institute (EPTRI) to examine the proposal of the Concessionaire for installing decentralized RDF processing units.
- e. EPTRI on 12.12.2024 granted permission to proceed with the establishment of proposed decentralized sorting stations at three transfer stations viz., Deepthisri Nagar, Khaitlapur, Jagadgirigutta under 1st phase (**Copy enclosed as Annexure-X**).

7. Further, it is respectfully submitted that in compliance to the orders dated 27.09.2024 of this Tribunal with a direction to increase the capacity of the leachate wells, following is the action taken by


 Superintending Engineer
 Solid Waste Management
 Greater Hyderabad Municipal Corporation


 Commissioner
 Greater Hyderabad Municipal Corporation

GHMC through the Concessionaire under the guidance of Environment Protection Training & Research Institute:

- i. (07) extraction bore wells of 6.5 inch diameter were dug to a depth ranging from 60 to 120 feet along the northwest to northeast periphery of the capped site based on hydro-geological assessments and anticipated flow paths of leachate accumulation beneath the capped site.
- ii. Submersible pumps are installed at the borewell to facilitate collection and monitoring the liquid from extraction bore wells. Continuous flow of liquid is not observed and pumping of liquid from the bore well is being done twice daily till the quantity of liquid in the bore is emptied. The extracted liquid is being treated at the existing leachate treatment plant. Bore-well wise volume and parameters of the extracted liquid are being documented.
- iii. Following are the observations and recommendations of Environment Protection Training & Research Institute submitted in the interim progress report dated 21.01.2025 **(Copy enclosed as Annexure-XI):**


Observations:

- a) The sampled liquid indicated high contamination levels which may be due to proximity to legacy contamination zone
- b) Limited self catchment capacities are reducing the duration of continuous extraction.

Recommendations:

- a) Implement uniform extraction schedules for improved efficiency.


Superintending Engineer
Solid Waste Management
Greater Hyderabad Municipal Corporation


Commissioner
Greater Hyderabad Municipal Corporation

- b) Conduct periodic water quality assessment to optimize operations including 3rd party assessment
 - c) Explore drilling additional bore-wells to enhance efficiency and environmental protection
- iv. Further, ETPRI has submitted that comprehensive evaluation of leachate flow rates, quality parameters and extraction efficiency is in progress. Depending on the findings, additional bore wells may be drilled or existing systems optimized to enhance leachate extraction and minimize environmental impact. Further, a detailed report consolidating all the findings, along with long- term recommendations will be submitted upon completion of this phase.
- v. Subsequent to receipt of the detailed report and recommendations from EPTRI, GHMC shall take necessary action on implementing the recommendations.


Submission:

For the aforementioned facts and circumstances, it is therefore prayed that this Hon'ble Tribunal may be pleased to close OA No. 199 of 2021 and pass such other order or orders as this Hon'ble Tribunal deems fit and proper in the circumstances of the case and thereby render Justice.

Sworn and signed on this the

28th day of January, 2025 at Hyderabad


Superintending Engineer
Solid Waste Management
Greater Hyderabad Municipal Corporation


RESPONDENT 6
Commissioner
Greater Hyderabad Municipal Corporation

VERIFICATION

I, K. Ilambarthi, IAS, S/o R. Kunjithapatham, age about 45 years, Occ: Commissioner, Greater Hyderabad Municipal Corporation, R/o Hyderabad, do hereby declare that the contents made in the above paragraphs are true and correct to the best of my knowledge and based on records available with Respondent Corporation and I believe the same to be true and correct. Hence verified on this the ~~28th~~ day of January' 2025.



Respondent-6
Commissioner
Greater Hyderabad Municipal Corporation



From
The Commissioner,
Greater Hyderabad Municipal Corporation,
1st floor, CC Complex,
Lower Tank Bund Road,
Hyderabad.

To
The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
New Delhi- 110032

Lr.No. SWM/0049/2021/AE-2(SWM)-HO

dt: 24.08.2024

Sir,

Sub	: GHMC - OA No. 199 of 2021 in Hon'ble NGT (SZ) - Report filed by CPCB dated 14.07,2024 before NGT - Certain mistake of facts were noticed by GHMC - Request for necessary correction - Reg.
Ref	: VC dated 23.08.2024 at 3 pm conducted by MS, CPCB with Expert Committee, GHMC & TGPCB

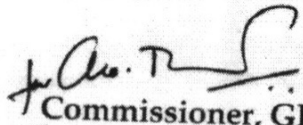
With reference to the directions of the Member Secretary, CPCB in the VC at reference cited above to submit a request for correction of mistakes of facts in the report dated 14.07.2024 filed by the CPCB before the Hon'ble NGT (SZ) in the subject matter of OA No.199 of 2021 brought to the notice by the Executive Engineer, SWM, GHMC in the above VC, necessary corrections required are herewith submitted:

Sl.No.	Para in CPCB report	Para to be corrected as
1.	Pg. No 3 Clause 2.2 (iii) ...unscientific open dump of about 12 Lakh Mt of solid wasteunscientific open dump of about 120 Lakh Mt of solid waste
2.	Pg. No 4 Clause 2.2 (iv) (e) ..Gas handling,concentration and bottling plant capacity is 750KL of methane per day.	..Compressed Bio-Gas plant capacity is 5 TPD of methane.
3.	Pg. No 4 Clause 2.2 (iv) In the flow diagram ... WTE Plant 1200 TPD Storing as RDF 2760 TPD	WTE Plant 2340 TPD Storing as RDF 1960 TPD
4.	Pg. No 4 Clause 2.2 (vi) ..RDF per day at present is about 1540 TPD and remaining 2760 TPD is stored...	..RDF per day at present is about 2340 TPD and remaining 1960 TPD is stored... (1200 TPD in existing 24 MW WTE at Jawaharnagar, 800 TPD existing 14.50 MW WTE in Dundigal+340 TPD offtake by cement Industry)
5.	Pg. No 6 Clause 2.2 (viii) ...Further, 3100 TPD of -70 mm fraction is processed in the Compost plant. However, the	Further, 3800 TPD of -70 mm fraction is processed in the Compost plant. The compost plant processing capacity is 4,000 TPD. Hence, there is no dearth of the

Sl.No.	Para in CPCB report	Para to be corrected as
	compost plant processing capacity is only 2000 TPD. Hence, the remaining 1800 TPD of -70mm fraction is stored in HIMSWM Project. In view of above, only 3540 TPD (43.7%) of the total received waste 8100 TPD is fully utilized and the remaining 4560 TPD (56.3%) of semi-processed waste (2760 TPD of +70 mm fraction and 1800 TPD of -70 mm fraction) accumulates....	processing capacity of -70mm fraction. In view of above, 6140 TPD (75.8%) of the total received waste of 8100 TPD is fully utilized and the remaining 1960 TPD (24.2%) of semi-processed waste (1960 TPD of +70 mm fraction only) accumulates....
6.	Pg. No 7 Clause 2.3.1 (c) Fresh waste being dried for a period of ten days in the composting plant area, prior to trommelling on an unlined area.	Fresh waste being dried for a period of seven days in the composting plant area, prior to trommelling on lined area (Steel-Fibre Reinforced Concrete (SFRC) concrete of 170mm thick which is impermeable).
7.	Pg. No 8 Clause 2.3.2 (c) Fresh waste is being dried for a period of ten days in the composting plant area, prior to trommelling on an unlined area. This area is, however, not lined and there is no proper provision for collection of leachate from this area.	Fresh waste is being dried for a period of seven days in the composting plant area, prior to trommelling on lined area (Steel-Fibre Reinforced Concrete (SFRC) concrete of 170mm thick which is impermeable). There is proper network of drains for collection of leachate from this area.
8.	Pg. No 9 Clause 2.2.3 (a) ...The LTP consists of pre-treatment units with RO followed by Multiple Effect Evaporator (MEE) system. The RO permeate is used for green belt development whereas condensate from MEE is partly utilized in ash quenching of WTE plant, while the rest is disposed in natural storm water drain....	Clause 2.3.3 (a) ...The LTP consists of pre-treatment units with RO followed by Multiple Effect Evaporator (MEE) followed by Agitated Thin Film Drier (ATFD) system. The RO permeate is used for green belt development whereas condensate from MEE is fully utilized in bottom ash quenching of WTE plant....

Hence, the Member Secretary, CPCB is requested to consider the above facts submitted by the GHMC and see that the mistakes of facts stand corrected at the time of filing of the next report before the Hon'ble NGT (SZ) in OA No.199 of 2021.

Yours faithfully,


Commissioner, GHMC

Copy to the Member Secretary, TGPCB with a request to validate the above information and report to CPCB by 27.08.2024 as required by CPCB.

Annexure II

HYDERABAD
ON MISSION TOMORROW

GREATER HYDERABAD MUNICIPAL CORPORATION

Municipal Complex, Lower Tankbund Road, Hyderabad – 500 063



From
The Commissioner,
Greater Hyderabad Municipal Corporation,
1st floor, CC Complex,
Lower Tank Bund Road,
Hyderabad.

To
The Hon'ble Chairman,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
New Delhi- 110032

Lr.No. SWM /0195/2021/AE-1(SWM)HO/1

Dt: 31.08.2024

Respected Sir,

- Sub : GHMC - SWM - Capped legacy dumpsite at Jawahar Nagar - OA No. 199 of 2021 in Hon'ble NGT (SZ) - Request for retaining the scientific capping until the ongoing active decomposition phase is completed - GHMC stand on biomining - Submitted - Reg.
- Ref : 1.VC by Hon'ble Chairman, CPCB with Expert Members, GHMC & TGPCB, 29.08.2024
2.VC by Hon'ble Chairman, CPCB with Expert Members, GHMC & TGPCB, 28.08.2024
3.VC by MS, CPCB with Expert Members, GHMC & TGPCB, Dt.27.08.2024
4.VC by MS, CPCB with Expert Members, GHMC & TGPCB, Dt.23.08.2024
5.CFE application dt.31.08.2024 for Dundigal Processing & Disposal facility, UID No.LRG0200547138645.

Anent the directions of the Hon'ble Chairman, CPCB in the video conference at references 1st and 2nd cited above, it is humbly submitted that GHMC is open to follow the advice of the CPCB in the matter as held by the Hon'ble NGT, Principal Bench, New Delhi in the directions at Para 30 of the orders dated 29.09.2022 that "...As the Tribunal has earlier held, such capping is not permissible. It is not clear whether CPCB guidelines have been looked into before capping in the present case and whether such capping has prejudiced the environment irreversibly. We direct CPCB to examine this aspect in consultation with the concerned Experts and determine whether capping can be retained and if not what further course of action is to be taken for protection of environment. The State is expected to follow the

advice of the CPCB in the matter, subject to any grievance against such advice being raised before the Tribunal...."

In this regard, GHMC submits further that a view may be taken by CPCB duly considering the following submissions of GHMC:

1. After the GHMC has consulted the CPCB for technical guidance on bio-mining of capped legacy dumpsite a letter was communicated to GHMC advising to get technical guidance from other Municipal Corporations which have successfully implemented bio-mining work in legacy waste dump site. As there was no municipality with such experience or expertise, the GHMC engaged the technical expert services of Indian Institute of Technology, Bombay at Mumbai.
2. Technical team under the guidance of Dr. D.N. Singh who is the D.L. Shah Chair Professor for Innovation in the Department of Civil Engineering, IITB have conducted various geophysical investigations (Multichannel Analysis of Surface Waves (MASW) and Electrical Resistivity Tomography (ERT)) on the capped legacy dumpsite at Jawaharnagar at different locations from 15.04,2022 and submitted 1st (interim) report dated July 2022.
3. Meanwhile, in compliance to the directions of the Hon'ble NGT, Principal Bench, New Delhi in the directions at Para 30 of the orders dated 29.09.2022, the CPCB has constituted an Expert Committee of 10 members have deliberated on the subject matter through VC on 30.12.2022 and thereafter visited the site on 1-2 September 2023 after which an interim report was filed before Hon'ble NGT(SZ) in OA No.199 of 2021. As such, the Expert Committee opinion is yet to be finalized.
4. Meanwhile, the IITB has submitted 2nd (interim) report dated February 2023, 3rd (interim) report dated 05.03.2023 and final report dated 05.07.2023 with reasoning for arriving at conclusions that are reproduced as under :

- MASW results indicate the presence of saturated and loosely compacted MSW up to greater depths, which confirms the presence of MSW that is yet to stabilize.
- ERT results indicate the presence of low-resistivity pockets in the MSW, which can be attributed to the presence of saturated or moist MSW (read the yet-to-decompose waste).
- The segregation of DMSW samples indicates the dominance of plastics and fine fractions (<10 mm) of the waste matrix up to ≈40 % (each) by weight.
- The organic matter (up to 35%) and moisture content (>100%) of the fine fraction are high, which indicates its potential to decompose in the long run.
- The specific gravity of the fine fractions is around 2.30, which makes it an unpreferred, if not unsuitable, material for structural filling purposes.
- As observed during the sampling process and testing of DMWS, the leachate, foam generation, and landfill gas emission indicates the ongoing active decomposition of MSW in JLH (Jawaharnagar Landfill Hyderabad). Hence, biomining at this point in time is not recommended.
- Though the calorific value of most samples of coarse fractions is above >1500 kCal/kg, their ash content is as high as 60%, which is not permissible to use as refuse-derived fuel in industries.
- Higher Na⁺ concentration in fine fractions would result in sodic soil formation when applied as a soil amending agent for agricultural applications.
- Higher TOC, TN and S concentrations in leachate generated from fine fractions indicate their potential for degradation even when

present in landfills. Hence, it is suggested to treat the leachates generated from JLH appropriately.

- Based on the present state of the decomposed MSW and foam observed during borehole drilling, it can be concluded that the waste is yet to decompose. Hence, the JLH is not ready for biomining.

As such, from the above conclusions it may kindly be noted that there is a continued generation of the landfill gas, samples drawn from the core of the dump showing the process of degradation being in progress and hazardous risk of potential gas and leachate leakage during any attempt for biomining the site and resultant risk to men, material and property. The scale will be unprecedented and risk mitigation for booming a capped dump site that is demonstratively active is an impenetrable risk to safety in the vicinity.

Hence, GHMC requests and reiterates that the capped legacy dumpsite is not yet ready for biomining and shall not be opened for biomining at this point of time.

5. Further, during the consultation meeting with Expert Members along with newly included Ground Water experts through VC by Member Secretary, CPCB dated 23.08.2024 and 27.08.2024 and thereafter in the VC by the Chairman, CPCB dated 28.08.2024 and 29.08.2024, GHMC has also submitted three (3) action plans viz., (i) action plan for operationalization of decentralized MSW processing facilities (for fresh waste management), (ii) action plan for disposal of legacy leachate and (iii) action plan for disposal of stored RDF for want of disposal into the Waste to Energy project of 24 MW under construction as well as through off take by Cement manufacturing industries. In this regard, it is to update that the Concessionaire has submitted application dt.31.08.2024 for Consent for Establishment (CFE) vide reference 5th cited from TGPCB with a proposal for handling 4000 TPD of raw MSW. All these 3 action plans along with treatment details of fresh waste are herewith annexed I to IV for your kind perusal.

6. Further, in respect of the ground water contamination, GHMC has submitted in above deliberations that it is open to adopt any measures recommended by the CPCB in consultation with the ground water experts in respect of containment of further ground water contamination considering the fact that though the declining trends in the ground water contamination were supposed to be visible post completion of capping during 2020-21, the same was not as expected for the reason that there was about 8,50,000 kilo litres of legacy leachate impounded in the ponds adjacent to the dumpsite for a long time. However, a declining trend could be noticed from some of the monitoring bore wells. Whereas, now that 6,50,000 kilo litres of impounded legacy leachate was already treated through MVRE plant of 2,000 kL per day capacity established with a project cost of Rs.251 Cr and the balance quantity is also expected to be cleared in next 6 months considerable improvement can be noticed thereafter. Further, the scope of work of the above project is to continue the treatment and restoration process until rejuvenation of Malkaram lake and maintaining it during the project completion period of 14 years. As the stabilization of ground water parameters shall take reasonably longer times, it is humbly submitted that, GHMC is open to bear all the costs associated there with proposed continuous monitoring through 3rd party expert as to be engaged by the TGPCB as proposed in the VC dated 28.09.2024. GHMC is also open to adopt any other ground water contamination containment measures including but not limited to providing extraction wells as to be recommended by the ground water experts as discussed in the VC meetings above.

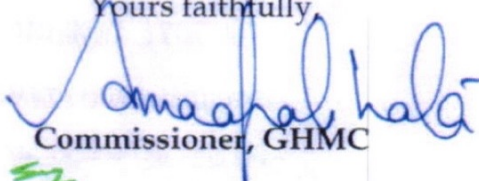

7. It is further submitted that, one of the main reason for filing of OA No.199 of 2021 in Hon'ble NGT(SZ) was odor problems faced by the citizen from fresh waste management and legacy leachate impounded adjacent to the capped dumpsite. As both above problems are being successfully addressed, by taking necessary precautions for odor mitigation and treatment and disposal of legacy leachate with which the local inhabitants are satisfied but however are insisting for diversion of MSW to 3 other sites - which matter

also being pursued by GHMC actively with the Government of Telangana. In such situation, if the already capped dumpsite is now opened - in the present situation (while active decomposition is taking place in the dumpsite) it may aggravate the odour nuisance leading to the agitations by nearby habitations which might disrupt the fresh waste processing facility established in the same site (in the reclaimed land).

8. GHMC is also open to the proposal of the CPCB for engaging any other expert institution on behalf of CPCB to study the conditions of the capped dumpsite and its readiness for biomining, if necessary

Hence, the Chairman, CPCB is requested to consider the request of GHMC for retaining the existing scientific capping of the legacy dumpsite until the ongoing active decomposition stage (as reported by the studies of IIT Bombay) is completed and considering the measures taken by GHMC for preventing environmental impact due to legacy leachate by establishing appropriate treatment methodology and also that GHMC is open to solicit the opinion of the experts on ground water for appropriate recommendations and implementable solutions to prevent further contamination of ground water and other environmental impacts, if any.

Encl: Annexure I-IV

Yours faithfully

Commissioner, GHMC


Copy to the Member Secretary, TGPCB for information

Annexure I

Action plan on establishing decentralized MSW processing facilities

A. (02) alternate sites have been realized at Dundigal and Pyaranagar:

a) **Dundigal-** Land to an extent of 85 acres - 03 guntas at Gandimaisamma Dundigal (M), Medchal Malkajiri (D) was handed over to GHMC.

Action plan:

- CFE application was made for Form-1, Part C5 vide TG-ipass Common Application Form UID No: LRG0200547138645, dt:30.08.2024 for establishing a 4000 TPD capacity waste processing facility of which 2000 TPD capacity shall commence its operations within (01) year's time.

b) **Pyaranagar** - Land to an extent of 150 acres at Pyaranagar (V), Gummadidala - Sangareddy (D) was handed over to GHMC.

Action plan:

- GHMC is already in talks with the local inhabitants to convince them in not to object setting up of the MSW processing plant by demonstrating the advanced technology that is proposed at Pyaranagar and showcasing how in a concealed manner & without smell the operations are carried out.
- MSW Processing facility of 2000 TPD capacity shall be established within (01) year's time. Subsequently, the capacity of the plant shall be enhanced to 4000 TPD. Consent for Establishment of the plant with the said capacity is already taken from the Telangana State Pollution Control Board for establishing, Biogas plant, WTE plant, RDF plant and Plastic waste recycling plant.
- CFE granted by TGPCB is enclosed.

GHMC shall establish Biomethanation technology (dry digestion) offered by European technology providers so as to carry out entire processing in closed environment within closed shed with air recirculation after cleaning in bio filters so as to avoid odor complaints.

B. (02) additional alternate sites have also been identified :

- Lakdaram -100 acres (sy no 747): Letter has been addressed to the concerned authority on 20.08.2024 to hand over advanced possession of 100 acres of land for setting up MSW Processing facility.
- Malkapur - 200 acres (sy no 617): Letter has been addressed to the concerned authority on 22.05.2024 to identify and alienate about 200 acres of land for setting up MSW Processing facility.

Action plan:

GHMC shall establish MSW processing facilities within (01) of the site being handed over to GHMC from the concerned authorities.


Commissioner
 Greater Hyderabad Municipal Corporation

Annexure II

Action plan for legacy leachate management

The leachate generated from the legacy dumpsite at Jawaharnagar has accumulated in the Malkaram tank very adjacent to the dumpsite. Further, overflow of leachate was contained by creating artificial ponds for impounding the legacy leachate.

A. Measures taken earlier:

- To contain the overflow situation, partial treatment using mobile R.O system of 2000 kLD capacity was initiated in Oct 2017. R.O capacity was increased to 4000 kLD subsequently and continued till April'2021. Diluted leachate with storm water accumulated in Malkaram tank was treated (11.67 Lakh kL) during this period to see that no incidence of overflow takes place.
- Diversion channel made with Rs.4.35 Cr for storm water diversion from upstream lakes entering into Malkaram tank.
- Storm water drain network developed for diversion of rain water from capped dumpsite from entering into Malkaram Tank.

B. Measures in place now:

- A comprehensive solution through "Treatment & Disposal of legacy leachate until Restoration & Stabilization of ponds adjacent to IMSWM plant at Jawaharnagar" project for Restotation and stabilization of Malkaram and also treatment of legacy leachate impounded in artificial lagoons for reclaiming the land.
- 2000 kLD capacity Mechanical Vapour Recompression Evaporation plant is operationsal with partial capacity from 15.07.2022 and full capacity from 21.10.2022 to treat the estimated 849.78 ML of leachate.
- About 650 ML of leagacy leachate is already treated and the condensate with parameters in compliance to SWM Rules 2016 was disposed.

C. Action Plan:

- The remaining quantity of legacy leachate in the ponds shall be treated within (06) months time which might also have substantial improvement of ground water parameters.
- GHMC is also open to adopt any ground water contamination containment measures including but not limited to providing extraction wells to be recommended by CPCB.

Amrpal Singh
Commissioner

Greater Hyderabad Municipal Corporation

57

Annexure III

Action plan for disposal of scientifically stored RDF

Certain issues like delayed approval for establishing Waste to Energy plant (envisaged in 2012 by approval accorded in 2017) and limited off take from cement industries the RDF generated from processing the MSW since 2012 was being stored scientifically in the facility itself.

A. Present scenario:

- Total 38.5 MW WTE capacity is operational @ 24 MW capacity WTE at Jawaharnagar since August' 2020 and 14.5 MW capacity WTE at Dundigal since March' 2024 consuming about 2000 TPD of RDF as fuel.
- The RDF off take by cement plants has increased from 6 TPD during 2012- 2015 to 340 TPD. Presently, (09) cement plants mentioned below are procuring RDF for co-processing:

- 1.ACC
- 2.Ambuja
- 3.HWMP- Haz
- 4.Orient
- 5.JSW
- 6.India Cements
- 7.Ultratech
- 8.Maha cement
9. Green caron

- A 1000 TPD capacity RDF manufacturing facility has been set up as part of MoU with "My Home Cements" for utilization of this RDF. This facility shall impart value addition to the RDF increasing its off take prospective.

B. Action Plan:

- Proposed to set up (05) more RDF manufacturing units of 1000 TPD capacity each at alternate processing sites within next (05) years to channelize RDF for co-processing in (33) cement plants present within 300 km distance from GHMC (List of targeted Cement plants is attached).

- Additional WTE plants of cumulative capacity of 78.5 MW shall be established. Following is the brief progress of the envisaged plants:

Location	Capacity (MW)	Remarks
Jawaharnagar (Phase II)	24	Under construction. Expected to commence operations from Dec'2024.
Yacharam, SVGPPL- Project	14	Approval for enhancement of capacity from 12 MW to 14 MW under consideration of the Govt for the reason of technical and financial viability.
Bibinagar, RDF project	11	Restructuring of the company after its financial crisis has been done and it is in the process of restarting the operations of the plant .
Pyaranagar	15	At the new alternate site for MSW processing. Shall be established within (02) years
Dundigal	14.5	At the new alternate site for MSW processing. Shall be established within (02) years
Total	78	

List of targeted Cement plants

S.No	Cement Plant	Location	State	distance
1	Penna Cement Industries Ltd-Tandur	Tandur	Telangana	136
2	Cement Corporation of India Ltd	Tandur	Telangana	140
3	The India Cements Ltd- Visaka Cement	Tandur	Telangana	152
4	Cement Corporation of India Ltd	Kurkunta	Karnataka	182
5	Penna Cement Industries Ltd-Ganeshpahad	Ganeshpahad	Telangana	182
6	Kesoram Cement- Vasavadatta	Sedam	Karnataka	183
7	Deccan Cement Ltd	Janpahad	Telangana	185
8	The India Cements Ltd- Raasi Cement	Wadapally	Telangana	185
9	Bhavya Cement Private Ltd	Dachepally	Andhra Pradesh	193
10	Jaypee Cement- Durga Cement Works	Dachepalli	Andhra Pradesh	193
11	The K.C.P. Ltd.- Macherla	Macherla	Andhra Pradesh	194
12	Kesoram Cement- Basant Nagar	Basant Nagar	Telangana	197
13	UltraTech- Rajashree Cement Works	Malkhed	Karnataka	200
14	MPL Cement and Sponge Pvt Ltd	Redlakunta	Telangana	200
15	Sagar Cements Ltd	Mattam Palli	Telangana	206
16	Hemadri Cement Ltd	Jaggayyapet	Andhra Pradesh	208
17	My Home Industries Pvt Ltd	Mella Chervu	Telangana	210
18	Rain Cements Ltd	Mellacheruvu	Telangana	210
19	NCL Industries Ltd (Simhapuri Cement Plant)	Mattapalli	Telangana	212
20	Sri Chakra Cements Ltd	Karempudi	Andhra Pradesh	217
21	The K.C.P. Ltd- Muktyala	Mukteswarapuram	Andhra Pradesh	219
22	ACC Limited - New Wadi Cement Works	Wadi	Karnataka	219
23	Anjani Portland Cement Ltd	Chinthala Palem	Telangana	221
24	Madras Cements Ltd- Jayanthipuram	Jayanthipuram	Andhra Pradesh	224

S.No	Cement Plant	Location	State	distance
25	Mancherial Cement Ltd	Mancherial	Andhra Pradesh	234
26	Mancherial Cement Ltd	Mancherial	Telangana	234
27	Kalaburgi Cement Pvt Ltd	Kalaburgi	Telangana	247
28	Chettinad Cement	Kallur	Karnataka	251
29	Kakatiya Cement & Sugar Industries Ltd	Peruvancha	Telangana	258
30	Orient Cement- Devapur	Devapur	Telangana	260
31	Kakatiya Cement & Sugar Industries Ltd	Peruvancha	Telangana	262
32	Zuari Cement Ltd.- Sri Vishnu Cement	Guntur	Andhra Pradesh	280
33	Cement Corporation of India Ltd - Adilabad	Tirupally	Telangana	300


Commissioner
Greater Hyderabad Municipal Corporation
31

Annexure IV

Brief details on Management of Daily Generated Municipal Solid Waste in GHMC

GHMC is scientifically managing its daily generated MSW right from primary collection & transportation utilizing closed Autos (Swachh Auto Tippers), Secondary collections using Refuse compactor vehicles/ mini tippers with tarpaulin sheets, tertiary transportation through hermetically sealed containers, mechanized & decentralized transferstations and scientific processing and disposal. The processing of MSW has started from Feb'2012.

In the realized alternate sites for MSW processing facilities & other yet to be realized sites, GHMC is planning for closed processing thereby achieving closed operations from end to end (collection to disposal).

Present scenario of Day to Day management of fresh MSW:

A. Primary and Secondary collection & transportation:

The MSW collected door to door from individual households, bulk garbage generators like function halls, hotels & restaurants, gated communities, commercial establishments, litter bins is transported to various Transfer Stations and Secondary Collection & Transfer Points (SCTPs) established within GHMC area through 4500 no's of "Swachh Auto Tippers" (SATs), Refuse Compactor Vehicles, Mini tippers etc.



SAT in primary collection & transportation of MSW



Mini tipper in secondary collection & transportation of MSW

B. Tertiary Transportation:

MSW collected and transported to Transfer Stations and SCTPs is transferred into higher capacity hermetically sealed containers coupled with Hook loader vehicles and transported to the MSW treatment and disposal facility at Jawaharnagar, Medchal Malkajgiri (D).



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2021/05/25 15:46 Hyderabad, Telangana



Secondary Collection & Transfer Points (SCTPs): GHMC established small capacity decentralized structures named as SCTPs in all zones, built in an area of ~ 100 Sqm and designated for mechanized operations in compliance to SWM Rules 2016

Advantages

- a. Compliant with SWM Rules 2016.
- b. Designed for segregated collection of waste at source.
- c. Decentralized operations therefore increasing collection efficiency by improving turnaround time and reducing distance travelled by collection vehicles.
- d. Reduce carbon foot print
- e. Reduction of Secondary Storage bins and garbage vulnerable points on Streets
- f. Minimum manual handling of waste
- g. No Odour and leachate spillage.



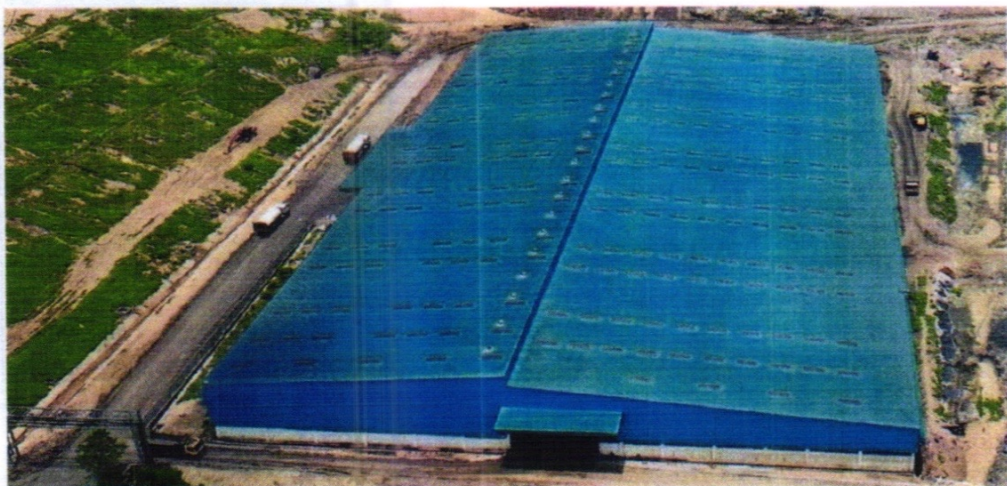


C. Treatment & Disposal of MSW

Treatment & Disposal (T&D) of MSW at Jawaharnagar Integrated MSW T&D facility started from 18.02.2012 and 100% of the waste collected from GHMC area and also certain surrounding gram-panchayaths, municipalities, municipal corporations, cantonment board etc is being treated and scientifically disposed.

Following are the key activities carried out at this integrated MSW facility:

- i. Weighbridge Plaza: The vehicles carrying MSW collected from GHMC & other surrounding local bodies pass through weighbridge while entering and coming out of the facility to note down the weight of MSW transported. The system is completely automated using RFID technology.
- ii. Tipping Floor: Vehicles entering the facility unload the MSW at the Tipping floor allow the MSW to leave its moisture content to avoid clogging of machinery during pre-sorting machinery. The leachate is collected in separate leachate network drains.



Closed Tipping floor in Pre-sorting 3

iii. Pre-sorting: The MSW from the tipping floor is transported to the pre-sorting area for processing at shaft-less rotary screens called trommels (with 70mm diameter holes) for mechanical segregation of the waste into organic & inorganic fractions. The undersized material i.e., less than 70 mm in size which is predominantly compostable material is moved to the composting area. Rest of the material which is predominantly inorganic fraction will pass through a magnetic separator for separation of ferrous material and is considered as Refuse Derived Fuel (RDF).



Pre-sorting area

iv. Composting Section: Aerobic Composting followed by sequential screening is done to process the organic fraction of the MSW. Spraying with EM culture (Effective Micro-organisms), weekly turning operations, course & fine screening and packing is its main components.



Windrows in closed PEB shed



Screening of organic material



Packing of compost

- v. Refuse Derived Fuel (RDF) Section: The RDF obtained from pre-sorting is sent to the 24 MW Waste to Energy (WTE) Plant operational at the site. Based on requirement from other consumers of RDF such as cement industries,. A 1000 TPD RDF manufacturing unit is made operational recently for adding value to RDF for better off take by cement plants. Excess RDF is scientifically stored at site for future use in upcoming WTE plants.



RDF manufacturing unit

- vi. Waste to Energy: The segregated combustible fraction (Refuse Derived Fuel-RDF) of about 2000 tons per day is used as fuel in the 24 MW Waste to Energy Plant established at Jawaharnagar and 14.5 MW capacity MW WTE at Dundigal.

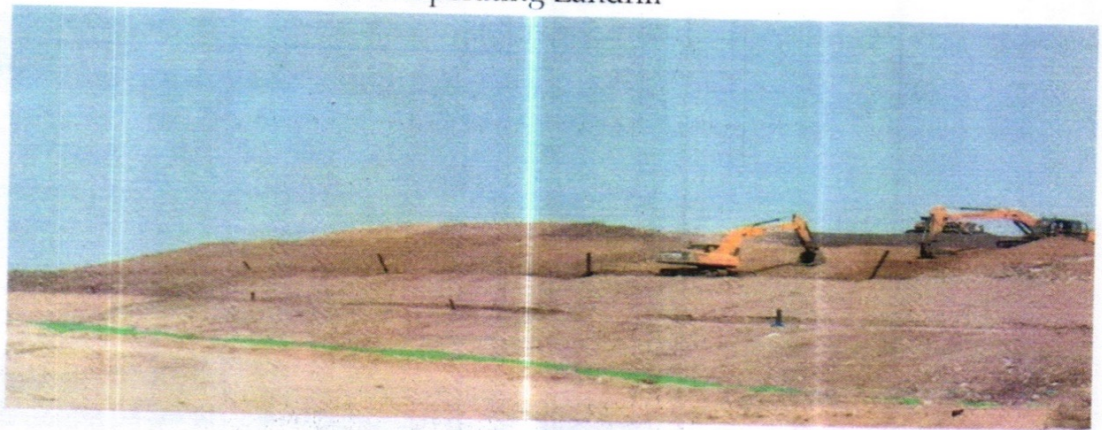


WTE plant

- vii. Scientific/ Sanitary Landfill: The rejects/ inerts of the treatment process are disposed in scientific landfill. This landfill is constructed as per SWM Rules 2016 and CPHEEO manual. Further, leachate collection & landfill gas collection network is also provided for the landfill.

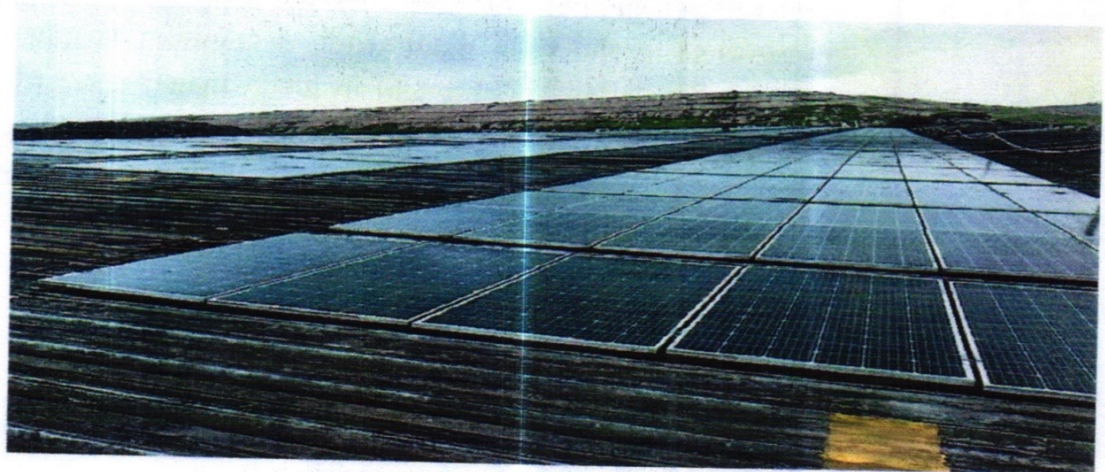


Operating Landfill



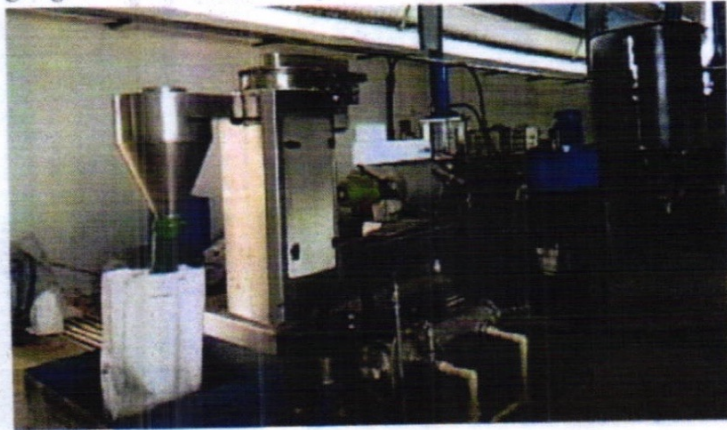
Soil cover on landfill

- viii. 1 MW Roof Top Solar Energy Plant: A 1 MW Solar Energy Plant is established at the facility for making effective utilization of the roof tops of the pre-sorting area sheds. The electricity generated through these solar panels is for captive usage.



1MW solar energy plant

- ix. Plastic Waste Recycling Facility: 20 TPD Plastic Waste recycling facility established in 2013 is operational at this integrated facility. The recyclable plastics are segregated, washed and processed into waste disposal bags.



Extruder - Recycled Granules Making Process



Granules after recycling the plastic material

- x. Compressed Biogas plant: To utilize the landfill gas generated from the capped legacy waste dump, a 650 cum per hour input capacity CBG plant is operational since October 2021. The gas generated from the capped site is transported to the CBG plant using a common header line and after processing, it is bottled and sold to Bhagyanagar Gas Ltd under SATAT scheme. In view of limited off take, recently a gas engine has been installed to utilize the purified landfill gas for generating power required to run the RDF manufacturing unit.



CBG plant



Transportation of the CBG



Gas engine

- xi. Waste Water Complex: The leachate generated during the waste treatment process i.e., from tipping floor, pre-sorting area, compost area, RDF storage, sanitary landfill, MSW pit of WTE etc is collected at the common leachate collection sumps. The leachate is then pre treated at the 1000 kLD capacity plant established in the site. Subsequently, the pre-treated leachate is treated in the 600 kLD Stage I- Reverse Osmosis (RO) system followed by

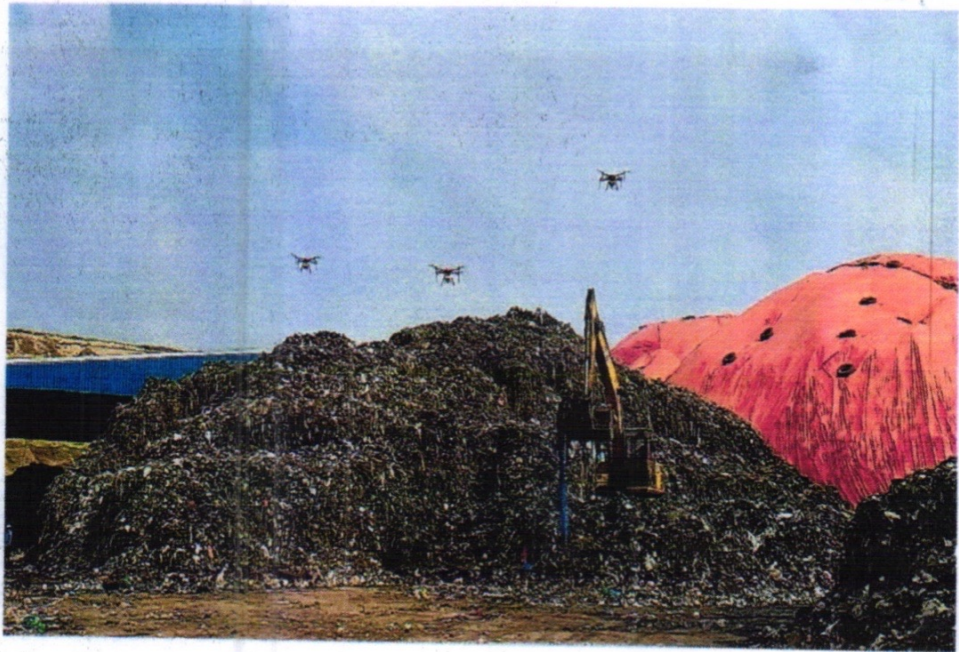
500 kLD Stage II RO system. The rejects from the RO process are treated at the 150 kLD Multi Effect Evaporator (MEE) and subsequently in the 45 kLD Agitated Thin Film Drier (ATFD) system. The permeate from RO is used to maintain greenery at the site and the condensate from MEE-ATFD is used for bottom ash quenching. The reject which is in the form of solid is mixed with RDF and utilized as fuel in the Waste to Energy Plant instead of disposing in the scientific landfill.



Waste Water Complex: Pre-treatment, RO shed, MEE-ATFD system (left to right)



Permeate used for watering green cover on top of capped dump



- e. Spraying of bio-enzyme for odor neutralization through Truck mounted fog cannon at open windrows, tipping floor, RDF storage etc.
- f. Fixed Misting system is erected around the entire periphery and inside working areas such as pre-sorting area, tipping floor, composting shed, monsoon shed leachate storage ponds etc. for odor mitigation.



- g. GI sheets are placed around the periphery of working areas to prevent suspended particles from dispersing into atmosphere.

Amaahala
Commissioner
Greater Hyderabad Municipal Corporation



From
The Executive Engineer (SWM),
Greater Hyderabad Municipal Corporation,
4th floor, CC Complex,
Lower Tank Bund Road, Hyderabad.

To
The I/c ESD,
Environment Protection Training &
Research Institute (EPTRI),
91/4, Gachibowli, Hyd - 500 032

Lr. No.SWM/0176/2015/EE-SWM

Dated : 19.11.2024

Sub : GHMC - SWM - IMSWM Project - Integrated MSW facility at Dundigal -
Rejection of CFE application of HIMSW - For submission of report - Req. - Reg.

Ref : Lr.No. HiMSW/GHMC/2024-25/2591, Dated:12.11.2024

It is brought to your notice that, the Concessionaire vide reference cited has informed that the application for Consent for Establishment (CFE) for the proposed MSW Processing facility at Dundigal has been not considered by the Telangana Pollution Control Board due to proximity to residential areas (High rise buildings) & educational institutions apart from falling within 280 m distance from Outer Ring Road (ORR) as per certain GO of Telangana State regarding establishment of a new industry at-least 1.0 km away from ORR in Hyderabad. Further, it was informed that the Member Secretary, TGPCB proposes to arrange a discussion with Officials of MAUD Dept & GHMC to address the concerns and explore alternative solutions to ensure the project can move forward effectively.

In this regard, EPTRI is requested to submit within a week's time, a detailed report on the subject along with details of the technology planned at the proposed MSW processing plant at Dundigal and the necessity of establishing an alternate MSW processing facility so as to enable GHMC take further necessary action.


19/11/24
Executive Engineer (SWM)
GHMC

Copy submitted for kind favour of information to

1. The Additional Commissioner, Sanitation, GHMC
2. The Superintending Engineer (SWM), GHMC

Copy to the Project Head, M/s HIMSW



From
The Additional Commissioner (San),
Greater Hyderabad Municipal Corporation,
4th floor, CC Complex,
Lower Tank Bund Road, Hyderabad.

To
The Chief Environmental Engineer,
Telangana Pollution Control Board,
Paryavaran Bhavan,
Sanathnagar, Hyderabad.

Lr.No.SWM/0122/2024/AE-1(SWM)HO

Dated: 13.12.2024

Sir,

Sub: GHMC - SWM - IMSWM Project - Establishing Integrated MSW processing facility at Dundigal - Rejection of CFE application by TGPCB - Requested for taking necessary action for giving CFE - Reg.

Ref: 1. CFE application with UID No LRG0200547138645
2. Status of application as per TG-ipass portal
3. Lr.No. HiMSW/GHMC/2024-25/2591, Dated:12.11.2024

It is to bring to your notice that vide reference 1st cited, M/s Hyderabad Integrated MSW Limited who is the Concessionaire for the Integrated Municipal Solid Waste Management Project of GHMC has applied to Telangana Pollution Control Board for issuing Consent to Establish a Municipal Solid Waste processing facility at survey no 684, Dundigal (V), Dundigal Gandimaisamma (M), Medchal Malkajgiri (D). Whereas, the status of the application as per TG-ipass portal (vide reference 2nd cited) is being shown as rejected.

Further, the Concessionaire vide reference 3rd cited has communicated that the primary reason for rejection is that the proposed facility's proximity to residential areas (high rise buildings), educational institutions and that it falls under 280 m distance from Outer Ring Road (ORR) as against a certain GO of Telangana on establishing new industry at-least 1.0 km away from ORR.

In this regard, the following details are brought to your notice:

- GHMC commenced operation of the Solid Waste Management Processing & Disposal (P&D) facility at Jawaharnagar from Feb'2012 through M/s Hyderabad Integrated MSW Ltd (SPV of Re-Sustainability Ltd) who is the Concessionaire for the Integrated Municipal Solid Waste Management Project of GHMC. The processing capacity of the site was initially 2000 Tons per day (TPD).
- Though it was envisaged to set up decentralized MSW processing & disposal facilities at Choutuppal, Lakdaram, Patancheruvu and any other places, the same were not realized. Therefore, the processing capacity at Jawaharnagar had to be enhanced progressively and is presently 8000 TPD.
- The burden of the incremental quantity of MSW received at the lone Processing & Disposal facility at Jawaharnagar is due to non realization of other sites, delay in permission for setting Waste to Energy Plant, no off-take under other MSW projects, receipt of MSW from surrounding ULBs

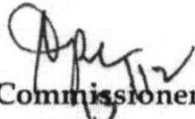
(41)

etc and has led to exhaustion of land at Jawaharnagar for carrying out day-to day MSW processing operations.

- d. As part of OA 199 of 2021, the Hon'ble National Green Tribunal, Southern Zone is continuously monitoring the progress of establishing decentralized MSW processing facilities. TGPSC is also a Respondent in the said case.

Further, it is to submit that the technology proposed to be implemented at this Dundigal site is a complete under-shed operating mechanism wherein the waste is not exposed to open atmosphere. The MSW is received inside a concrete pit which is then retrieved on a need basis for composting, bio-methanation, waste to energy and plastic recycling. Also, the site for establishing the proposed MSW processing facility is beside the already existing common Treatment, Storage and Disposal Facility (TSDF) for Hazardous waste management which has a landfill and a 14.5 MW capacity RDF based Waste to Energy plant.

In view of the above, it is requested to take immediate necessary action in issuing Consent to Establish the MSW processing facility at Dundigal in view of the urgency primarily due to the immediate necessity to set up the said facility due to shortage of land at the existing MSW processing & disposal facility at Jawaharnagar.

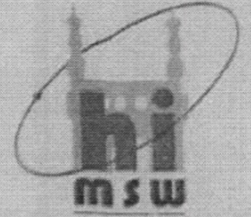

Additional Commissioner (San)
GHMC

Copy submitted for kind favour of information to:

1. The Commissioner, GHMC
2. The Director General, EPTRI

Copy to the Project Head, M/s HIMSW for information.

o/c



Lr.No. HIMSW/TGPCB/2024-25/2632

Dated: 23/01/2025

To,

The Senior Environmental Engineer
 Telangana State Pollution Control Board
 Paryavaran Bhavan, All Industrial Area
 Sanathnagar
 Hyderabad - 500 018

Sub : Submission of information related to the Dundigal P&D Site Consent for Establishment (CFE) Application - Reg.

Ref : 1. Order No.TGPCB/SWM/MDCCL-5387266/HO/2024, dated 26.10.2024
 2. Notice letter SWM/0122/2024/AE-1(SWM)HO dated 3rd Jan 2025 from Executive Engineer (SWM), GHMC

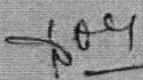
Dear Sir,

With reference to the above subject, please find enclosed below information related to Dundigal P&D - CFE Application.

- 1) Reply Note to the points raised by TGPCB
- 2) Technical Report - Annexure - I
- 3) Master Layout - Annexure - II
- 4) Leachate Treatment Plant Plan - Annexure - III
- 5) Sewerage Treatment Plant Plan - Annexure - IV
- 6) Land Documents from GHMC - Annexure - V
- 7) Supporting Drawings - Annexure - VI

Thanking You

Yours Sincerely,
 For Hyderabad integrated MSW Limited


 Authorized Signatory

CC: The Executive Engineer (SWM), GHMC, Hyderabad





GREATER HYDERABAD MUNICIPAL CORPORATION

CC Complex, Tank bund Road, Lower Tank bund, Hyderabad – 500 063



From
The Commissioner,
Greater Hyderabad Municipal Corporation,
CC Complex, Lower Tankbund road,
Hyderabad 500063.

To
The Collector & District Magistrate,
Sangareddy District Collectorate,
Integrated Collectorate Complex,
Sangareddy District.

Lr.No. 594/AC(H&S)/EE(SWM)/2015

Dated 18 .01.2025

Madam,

Sub : GHMC – Solid Waste Management – Alternate Municipal Solid Waste (MSW) Processing facility at Pyranagar (V), Sangareddy (D) – 152 acres of land parcel handed over to GHMC – Formation of approach road to the site – Protest from public - Request for necessary support from 24.01.2025 – Reg.

- Ref : 1. Lr. No. CMO/ Addl secy/19/2014, dt.24.06.2014 received from the Addl. Secy to the Hon'ble Chief Minister.
2. Alienation proposal submitted by GHMC
3. Panchnama dated 31.10.2015
4. Lr no. 594/EE(SWM)/AC(H&S)/GHMC/2018-19 dt: 19.07.2018
5. T/o Lr No. 594/AC(H&S)/EE(SWM)/2015 dt:17.05.2022
6. T/o. Lr no. 594/AC(H&S)/EE(SWM)/2015 -217 dt: 18.09.2024

It is to inform that the Government land measuring 152.00 acres was handed to Greater Hyderabad Municipal Corporation (GHMC) on 31.10.2015 after panchanama by the Tahsildar, Jinnaram (now Gummadidala Mandal) for the purpose of establishing Solid Waste Management Treatment and Disposal facility.

Brief history of the subject matter is as below:

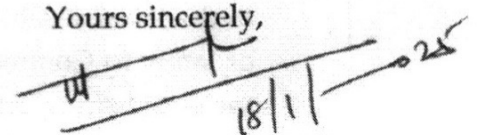
- i. In compliance to the instructions issued during the meeting in the chambers of the Hon'ble Chief Minister (minutes at reference 1st cited) on handing over of lands to Commissioner, GHMC and Metropolitan Commissioner, HMDA for establishing scientific landfills, GHMC submitted alienation proposal for handing over of 152 acres of government land at Pyranagar(V), Jinnaram (M) of the then Medak (D) (now Sangareddy (D)) vide reference 2nd cited.
- ii. Subsequently, pending alienation, the said land was handed over to GHMC vide panchnama at reference 3rd cited and GHMC vide DO letter at reference 4th cited has requested to expedite the alienation of the said vacant government land in favour of GHMC on priority basis.

- iii. The Hon'ble National Green Tribunal (NGT) has directed to establish alternate MSW processing & disposal facilities to avoid burden on Jawahar Nagar MSW processing & disposal facility and is monitoring the progress of the same through O.A.No.199 of 2021 (SZ).
- iv. Due to unavailability of approach road to the site, GHMC requested the Forest Department to divert 0.6228 Ha of forest land to GHMC for laying of approach road for which all approvals have been accorded.
- v. Vide reference 5th cited, GHMC has authorized M/s Hyderabad Integrated MSW Ltd, the Concessionaire of the project to immediately commence the construction work of MSW treatment and disposal facility including laying of approach road.

Whereas, despite several efforts made by GHMC in convincing the local public and public representatives that the new MSW management facility will be constructed completely in an enclosed environment to produce biogas, compost and energy without any negative environmental impact - adopting state of the art European technology without visibility of waste in the open - some of the public protests are preventing GHMC from going ahead in laying of approach road to the site.

Further, the Superintendent of Police, Medak- Sangareddy was requested vide reference 6th cited to provide police protection with onsite camp starting from 20.09.2024. However, the work of laying approach road could not be taken up.

In this regard, it is now scheduled to positively commence the work of laying approach road from 24.01.2025 and hence you are requested to provide support by taking appropriate arrangements which shall be continued/ discontinued on need basis, to enable GHMC commence the work of laying approach road from 24.01.2025 and subsequently take up the works of establishing the MSW processing facility.

Yours sincerely,

18/11/25
Commissioner, GHMC

Copy submitted to the Superintendent of Police, Medak-Sangareddy Rd, Habeeb Nagar, Sangareddy, Telangana - 502001.

Copy for taking necessary action to:

- 1. The Project Head, M/s HIMSW
- 2. The I/c ESD , EPTRI



From
The Commissioner,
Greater Hyderabad Municipal Corporation,
1st Floor, CC Complex,
Lower Tankbund Road,
Hyderabad.

To
The Metropolitan Commissioner,
Hyderabad Metropolitan Development
Authority (HMDA),
Swarna Jayanti Complex, Sanjeeva Reddy
Nagar, Srinivasa Nagar, Ameerpet,
Hyderabad-500038.

Lr.No. SWM/0002/2022/AE-1(SWM)HO

dt: 03.10.2024

Sir,

Sub: GHMC - SWM - Requirement of land for scientific Processing and Disposal of Municipal Solid Waste in different directions of Hyderabad City - Allotment of Govt. land to an extent of 100 acres in Sy No 738 of Lakdaram Village, Patancheru Mandal, Sangareddy District for complying the SWM Rules, 2016 - Req- Reg

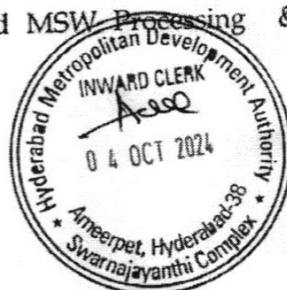
Ref: 1. This office Lr No.594/ AC(H&S)/EE(SWM)/GHMC/2014, Dt: 19-06-2018
2.This office Lr No. 594/SE(SWM)/GHMC/2018 Dt: 21-06-2018
3. Lr. No 594/ AC(H&S)/EE(SWM)/GHMC/2014, Dt: 04-11-2019
4. Lr No 2145/RSP/Lands/2007-Medak-(D), Dt: 14-02-2020
5. Lr. No 594/ AC(H&S)/EE(SWM)/GHMC/2014(2), Dt: 08-05-2020
6. Lr.No. SWM/0002/2022/ AE-1(SWM)HO ,dt: 19.08.2024

Kind attention is invited to the subject and references 1st to 5th cited.

It is to bring to your notice that a letter was communicated to you vide reference 6th cited, in that the survey no was wrongly mentioned as 747 instead of 738 in this connection, the details are once again submitted as follows:

Since 2012, GHMC is scientifically processing and disposing the MSW generated in the city at its only available site located in Jawharnagar (V) Kapra (M), Medchal - Malkajiri (D) for the purpose. The sites in other (3) corners of the city could not be materialized as contemplated in the Integrated Municipal Solid Waste Management plan of GHMC.

Presently, 7441 Tons per day (TPD) of Municipal Solid Waste (MSW) generated within GHMC limits and about 700 TPD generated by few surrounding ULBs is being sent to the Integrated MSW Processing & Disposal (P&D) facility established at



Jawaharnagar. As the quantity of MSW generated in the city is increasing day by day it is becoming difficult to handle the entire city waste at only Integrated MSW P&D facility established at Jawaharnagar.

Further, the Hon'ble NGT, New Delhi vide its order dated 07.12.2017 in OA No. 780 of 2017 directed the State of Telangana to identify waste landfill site (alternate sites for establishing decentralized MSW processing and disposal facilities in the entire state and to ensure that MSW is deposited in such sites strictly in accordance with the Solid Waste Management Rules'2016 and submit compliance.

In this connection, a request letter vide ref 5th cited was addressed to the Principal Secretary to Government, MA&UD Dept in respect of alienation of the Govt land to extent of Ac 100 in Sy No 738 located at Lakdaram (V), Patancheru (M) as proposed by the District Collector, Sangareddy for establishing Processing & Disposal facility as per SWM Rules 2016.

Further, Hon'ble NGT, Chennai vide orders issued from time to time in OA No 199 of 2021 insisting for realisation of alternate sites for establishing decentralized MSW processing and disposal facilities around GHMC.

In this regard, it is requested to initiate necessary steps for alienation to an extent of about 100 acres of land in the possession of HMDA at Sy No 738, Lakdaram(V), Patancheru(M) Sangareddy (D) for advance possession of the same to GHMC for setting up MSW processing & disposal facility at the earliest. The details of the land parcel so identified may be communicated to GHMC for submission of alienation proposals.

// This may please be treated as most important //

Yours faithfully,

[Handwritten Signature]
Commissioner GHMC

Copy submitted to the Principal Secretary, MA&UD, GoTG.



**Dr. K. ILAMBARITHI, IAS.,
COMMISSIONER**



**GREATER HYDERABAD
MUNICIPAL CORPORATION**

D.O.No. SWM/0002/2022/AE-1(SWM)HO/1 dt: 16 .12.2024

Dear

Valluri Kaanthi.

Sub: GHMC - Solid Waste Management - Requirement of land in the Northwest direction to the city of Hyderabad for Scientific Processing and Disposal of Municipal Solid Waste- Compliance with SWM Rules, 2016 and the Hon'ble NGT directions - Request for allotment of Govt land to an extent of 100 acres in & around Lakdaram (V), Patancheru (M), Sangareddy (D) - Reg.

Ref: Commissioner, GHMC Lr. No 594/ AC(H&S)/EE(SWM)/GHMC/2014(2), Dt: 08-05-2020

GHMC is scientifically processing and disposing the Municipal Solid Waste (MSW) generated in the city at its only available site located in Jawaharnagar (V) Kapra (M), Medchal-Malkajgiri (D) since 2012. The sites in other corners of the city could not be materialized till date as contemplated in the Integrated Municipal Solid Waste Management project of GHMC.

Presently, Jawaharnagar MSW Processing & Disposal (P&D) facility is handling MSW of 7648 Tons per Day (TPD) generated within GHMC limits and about 885 TPD from various surrounding ULBs. As the quantity of MSW generated in the city is increasing day by day, it is becoming difficult to handle the entire city's waste at the only P&D facility established at Jawaharnagar.

Further, the Hon'ble NGT, New Delhi vide its order dated 07.12.2017 in OA No. 780 of 2017 directed the State of Telangana to identify waste landfill sites (alternate sites) for establishing decentralized MSW processing and disposal facilities in the entire state and to ensure that MSW is deposited in such sites strictly in accordance with the Solid Waste Management Rules 2016 and submit compliance.

In this connection, a request letter was addressed vide reference cited to the Principal Secretary to Government, MA&UD Dept for alienation of the Govt land to an extent of Ac 100 in Sy No 738 located at Lakdaram (V), Patancheru (M) as proposed by the District Collector, Sangareddy.

It may be noted further that the Hon'ble NGT (SZ), Chennai vide orders issued from time to time in OA No 199 of 2021 is insisting for realization of alternate sites for establishing decentralized MSW processing and disposal facilities around




GHMC. Further, as per Rule 12 of SWM Rules 2016 - Duties of District Magistrate or District Collector - The District Magistrate or District Collector shall, -

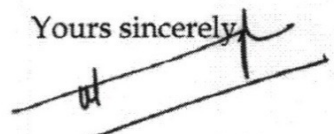
- (a) facilitate identification and allocation of suitable land as per clause (f) of rules 11 for setting up solid waste processing and disposal facilities to local authorities in his district in close coordination with the Secretary-in-charge of State Urban Development Department within one year from the date of notification of these rules;
- (b) review the performance of local bodies, at least once in a quarter on waste segregation, processing, treatment and disposal and take corrective measures in consultation with the Commissioner or Director of Municipal Administration or Director of local bodies and Secretary-in-charge of the State Urban Development

Hence, you are requested to allot government land to an extent of 100 acres in Sy.No.738 or at any other area around Lakdaram (V) Patancheru(M) Sangareddy (D) to GHMC including for setting up MSW Processing & Disposal facility duly handing over advance possession and furnish details of the land to enable GHMC submit land alienation proposals.

//This may please be treated as most important//

With regards,

with best wishes 

Yours sincerely

(Dr.K.Ilambarithi)

To
The Collector & District Magistrate,
District Collectorate,
Integrated Collectorate Complex,
Sangareddy District

Copy submitted to the Principal Secretary, MA&UD, GoTG.

**M.K.ILAMBARITHI, IAS.,
COMMISSIONER**



**GREATER HYDERABAD
MUNICIPAL CORPORATION**

D.O.No. SWM/0002/2022/AE-1(SWM)HO/1 dt: 16.12.2024

Dear *Hannartha Rao garu,*

Sub: GHMC - SWM - Requirement of land in the Eastern direction to the city of Hyderabad for Scientific Processing and Disposal of Municipal Solid Waste - Compliance with SWM Rules, 2016 and the Hon'ble NGT directions - Request for allotment of Govt lands at Sy.No.617-Malkapur (V)-Choutuppall (M), Sy.No.80AA- Jalalpur (V)-Bhoodan Pochampally (M), Sy.No. 343- Mariyala (V)-B.Ramaram (M), Sy.No.72-Turkapally (V)- Turkapally (M), Sy.No. 74/1-Konapur (V)-Turkapally (M) to GHMC - Reg.

- Ref: 1. Commissioner, GHMC DO Lr No 594/EE(SWM)/ AC(H&S)/GHMC/2018-19, dt: 19-07-2018
2. Commissioner, GHMC Lr.No. SWM/0002/2022/ AE-1(SWM)HO,dt: 22.05.2024

GHMC is scientifically processing and disposing the Municipal Solid Waste (MSW) generated in the city at its only available site located in Jawaharnagar (V) Kapra (M), Medchal-Malkajgiri (D) since 2012. The sites in other corners of the city could not be materialized till date as contemplated in the Integrated Municipal Solid Waste Management project of GHMC.

Presently, Jawaharnagar P&D facility is handling MSW of 7648 Tons per Day (TPD) generated within GHMC limits and about 885 TPD from various surrounding ULBs. As the quantity of MSW generated in the city is increasing day by day it is becoming difficult to handle the entire city waste at the only P&D facility established at Jawaharnagar.

Further, the Hon'ble NGT, New Delhi vide its order dated 07.12.2017 in OA No. 780 of 2017 directed the State of Telangana to identify waste landfill sites (alternate sites) for establishing decentralized MSW processing and disposal facilities in the entire state and to ensure that MSW is deposited in such sites strictly in accordance with the Solid Waste Management Rules 2016 and submit compliance.

In this connection, a request letter was addressed vide reference 1st cited to the Collector and District Magistrate, Yadadri Bhuvanagiri (D) for alienation of the following vacant Government lands to GHMC which were identified for setting up MSW processing & disposal facilities:



Sl. No.	Mandal/ Village	Sy.No.	Extent in Acs-Gts.
1	Bhoodan Pochampally / Jalalpur	80 AA	110-00
2	B.Ramaram / Mariyala	343	65-00
3	Choutuppall / Malkapur	617	723-00
4	Turkapally / Turkapally	72	150-00
5	Konapur/ Turkapally	74/1	50-00

Further, a letter was addressed to the Collector and District Magistrate, Yadadri Bhuvanagiri (D) vide reference 2nd cited to identify an extent of about 200 acres of land as per SWM Rules 2016 at Sy.No.617 near Malkapur (V), Choutuppall (M) Yadadri Bhuvanagiri (D) for advance possession of the same to GHMC for setting up MSW processing & disposal facility and submit the details of the land to GHMC for submission of alienation proposal by GHMC and the same is awaited.

It may be noted further that the Hon'ble NGT, Chennai vide orders issued from time to time in OA No 199 of 2021 insisting for realization of alternate sites for establishing decentralized MSW processing and disposal facilities around GHMC. Further, as per Rule 12 of SWM Rules 2016 - Duties of District Magistrate or District Collector- The District Magistrate or District Collector shall, -

- (a) facilitate identification and allocation of suitable land as per clause (f) of rules 11 for setting up solid waste processing and disposal facilities to local authorities in his district in close coordination with the Secretary-in-charge of State Urban Development Department within one year from the date of notification of these rules;
- (b) review the performance of local bodies, at least once in a quarter on waste segregation, processing, treatment and disposal and take corrective measures in consultation with the Commissioner or Director of Municipal Administration or Director of local bodies and secretary-in-charge of the State Urban Development

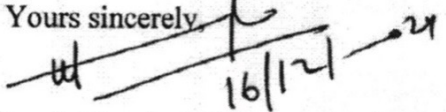
(51)

Hence, you are requested to allot available government lands at Sy.No.617- Malkapur (V)-Choutuppall (M), Sy.No.80AA- Jalalpur (V)- Pochampally (M), Sy.No. 343- Mariyala (V)-B.Ramaram, Sy.No.72-Turkapally (V)- Turkapally (M), Sy.No. 74/1-Konapur (V)-Turkappally (M) to GHMC for setting up MSW processing & disposal facility duly handing over the advance possession at the earliest and furnish details to enable GHMC submit land alienation proposals.

with regards

//This may please be treated as most urgent//

Yours sincerely


16/12/21

(Dr.K.Ilambarithi)

To

The District Collector and Magistrate,
Yadadri Bhuvanagiri (D),
Integrated District Offices Complex,
Raigiri (V), Bhongiri (M),
Yadadri Bhuvanagiri District .

Copy submitted to the Principal Secretary, MA&UD, GoTG.

A.Leelavathi, M.Sc,M.Tech.
Environment Scientist &
ESD I/c

To

The Additional Commissioner (SWM),
Greater Hyderabad Municipal Corporation
4th Floor, Head Office, Tank Band Road,
Hyderabad – 500 063



Lr.No.EPTRI/ESD/GHMC/2024-25/940/Dt:12-12-2024

Sir,

Sub: GHMC – SWM – Request from Concessionaire for Installation of Sorting Stations at Existing Transfer Stations/SCTPs – Submission of Remarks – Reg.

- Ref: 1. Lr.No.SWIM/0083/SWM/GHMC/Dated: 05-11-2024
2. Lr.No.EPTRI/ESD/GHMC/2024-25/859/Dated: 21-11-2024
3. Lr.No.HIMSW/GHMC/24-25/2602/Dated: 06.12.2024

EPTRI received the required documents along with drawings and detailed equipments pertaining to sorting stations proposed at TS/SCTPs from the concessionaire vide ref. 3rd cited. EPTRI examined the details received and found that Concessionaire has proposed to establish sorting stations at Kaithlapur, Jagadgirigutta, Deepthisrinagar.

As there is no availability of other alternative facility in GHMC area and the quantity of waste received to the Jawaharnagar T&D facility is more than 8000 TPD, establishing sorting stations at existing transfer stations in GHMC area is a necessary step towards sustainable waste management where source segregation of municipal solid waste (MSW) is not effectively practiced. This initiative ensures compliance with **SWM Rules, 2016**, particularly Rules 15, 19, and 04, while addressing the challenges posed by mixed waste collection.

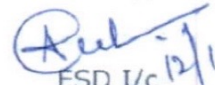
Considering the above, it is suggested that sorting stations may be established at three existing transfer stations proposed by the Concessionaire on a pilot basis to facilitate secondary segregation and resource recovery, subject to the following terms and conditions. Detailed observations and remarks by the Independent Engineer (I.E.) are enclosed.

53

The key Terms and Conditions of the I.E are as follows:

1. HIMSW must ensure that all waste is handled within a covered shed at all times. Waste should be cleared and processed daily to avoid accumulation. The site must maintain a ground zero balance with no residual waste left on the ground by 10 pm every day.
2. Advanced fixed misting systems should be installed to control odour effectively.
3. Leachate generated must be collected and treated in compliance with regulatory standards to prevent environmental harm and verify the possibilities of establishing the portable / Cluster based leachate treatment plants.
4. Monitor the operational performance of sorting stations and, based on outcomes, scale up the initiative to additional transfer stations.
5. Integrate advanced technologies such as RFID, IoT, SCADA, and CCTV for real-time monitoring, efficiency enhancement, and data-driven decision-making.
6. Maintain comprehensive records of operational and functional aspects, including challenges, resolutions, and performance metrics.
7. Ensure that monthly reports detailing the progress, issues, and outcomes are submitted to GHMC and EPTRI without fail.
8. If RDF is sold directly to the cement plants, bypassing the Dundigal WtE plant, the applicable tipping fee and monitoring procedures to be discussed and finalized.

Yours faithfully,


ESD I/c 12/12/2024.

Encl: a/a

Copy to: M/s. Hyderabad Integrated Municipal Solid Waste Management, Survey No.173, Jawahar Nagar Dump site, CRPF Road, Near Army Dental College, Jawahar Nagar Grampanchayat village, Shamirpet Mandal, Hyderabad-500087.

Comprehensive Report on Allowing Sorting Stations for Segregating Fresh Waste into Dry and Wet Fractions at Three Existing Transfer Stations

1.0 Introduction

In the current context of Greater Hyderabad Municipal Corporation (GHMC), where **source segregation** of municipal solid waste (MSW) is not effectively practiced, the establishment of sorting stations at transfer stations become a critical intervention. These sorting stations will serve as **secondary segregation points**, ensuring compliance with the **Solid Waste Management (SWM) Rules, 2016**, enhancing resource recovery, minimizing landfill dependency, and supporting sustainable waste management practices.

Below note provides detailed justification for allowing sorting stations at transfer stations, supported by provisions of the SWM Rules, 2016.

2.0 Objective

The primary objectives of implementing sorting stations at existing transfer stations are:

1. To segregate mixed MSW into **dry** and **wet fractions** based on mechanical segregation.
2. To recover recyclables and **Segregated Combustible Fraction (SCF)** from the dry fraction for energy generation.
3. To minimize the load on centralized processing facilities like Jawahar Nagar and reduce landfill dependency.
4. To ensure compliance with the **SWM Rules, 2016**.

3.0 Justification Based on SWM Rules, 2016

1. Rule 15 (Duties of Local Authorities):

- Local authorities shall ensure segregation of waste into biodegradable, non-biodegradable, and domestic hazardous waste.
 - **Relevance:** Sorting stations compensate for the lack of source segregation by enabling secondary segregation at transfer stations, ensuring compliance with this clause.

- Local authorities shall facilitate processing of segregated waste for resource recovery and reducing waste directed to landfills.
 - **Relevance:** Sorting stations allow recovery of recyclables and SCF from mixed waste, reducing the volume sent to landfills.

2. Rule 19 (Criteria for Waste Processing and Disposal Facilities):

- Waste processing facilities must ensure that segregated waste is treated and processed to recover material.
 - **Relevance:** Sorting stations, as part of the processing chain, recover dry and wet fractions, enabling the efficient use of waste as a resource.

3. Rule 04 (Duties of Waste Generators):

- Generators shall segregate waste into three streams: biodegradable, non-biodegradable, and domestic hazardous waste.
 - **Relevance:** Sorting stations serve as a backup measure to fulfill segregation requirements when compliance by generators is low.

4.0 Role of Sorting Stations

1. **Secondary Segregation:** Sorting stations will ensure dry and wet fractions are segregated from mixed waste collected from households and establishments.
2. **Resource Recovery:**
 - **Dry Waste:** Recyclables will be diverted to Material Recovery Facilities (MRFs), and high-calorific-value waste will be processed into Segregated Combustible Fraction (SCF) for Waste-to-Energy (WtE) plants (Dundigal).
 - **Wet Waste:** Organic waste will be diverted to composting or biogas plants for the recovery of organic manure and Bio-CNG as an energy source (P&D facility, JN). Once the Pyara Nagar site is established, the same will be sent Pyara Nagar.

- 3. **Reduction in Landfill Dependency:** The recovery of valuable materials, sorting stations will minimize the amount of waste transported to processing facility, aligning with SWM objectives.

5.0 Proposed Implementation Plan

1. Infrastructure Setup:

- Equip transfer stations with conveyors, mechanical separators, and manual sorting platforms to process mixed waste effectively.

2. Decentralized Processing Units:

- Co-locate MRFs and SCF pre-processing units at transfer stations.
- Ensure SCF is transported to WtE plants, reducing landfill dependency.

3. Operational Capacity Building:

- Train staff and deploy additional workforce to manage sorting stations efficiently.

4. Monitoring and Reporting:

- Integrate technologies like **RFID**, **IoT**, and **CCTV** for real-time monitoring and reporting of sorting activities.

5. Commercial:

- HIMSW shall, at its own cost, install the required infrastructure for Sorting Stations to segregate fresh waste into dry and wet fractions.
- HIMSW shall install a Weighbridge at the Dundigal Waste-to-Energy Plant and ensure its integration with the centralized server.
- Weighbridge activities shall be continuously monitored using CCTV cameras.
- HIMSW shall not claim any additional costs beyond the regular tipping fee payable for the tonnage received at the Dundigal Waste-to-Energy Plant, as measured at the Dundigal Weighbridge.

6.0 Project Overview

Planned Locations and Handling Capacity:

Sl. No.	Location / Zone	Avg. waste Handling (TPD)	Dry (TPD)	Wet (TPD)	Recyclables (TPD)
1.	TS - DeepthiSri Nagar	1,194	561	597	36
2.	TS - Khaitalapur	710	334	355	21
3.	TS - JagadgiriGutta	400	188	200	12

The proposed locations are shown below on Google Maps.

Site 01: Deepthi Sri Nagar (Serilingampally Zone)

Lat / long: 17°30'35.30"N, 78°20'47.70"E



Site 02 :Khaitalapur(Kukatpally Zone)

Lat / long: 17°27'52.45"N, 78°23'34.27"E



Site 03 :JagadgiriGutta(Kukatpally Zone)

Lat / long: 17°30'9.80"N, 78°25'57.30"E



7.0 Technical & Civil Engineering Considerations

1. Layout and Design:

- Dedicated areas for waste reception, sorting, storage, and equipment operation.
- Space for vehicular movement and, safety clearances.

2. Moisture and Organic Management:

- Drying and biological treatment to reduce moisture levels, improving RDF quality.

8.0 Expected Outcomes

1. Enhanced compliance with SWM Rules, particularly segregation and resource recovery.
2. Reduced transportation and processing loads on centralized facilities.
3. Improved efficiency of WtE plants through a consistent supply of quality RDF.
4. Minimized environmental impacts by reducing landfill use.

9.0 Conclusion

Establishing sorting stations at existing transfer stations in Hyderabad is a necessary step towards sustainable waste management. This initiative ensures compliance with **SWM Rules, 2016**, particularly Rules 15, 19, and 04, while addressing the challenges posed by mixed waste collection.

Enclosures:

1. **Annexure - 1:** Mass Balance.
2. **Annexure - 2:** Detailed Plans for Sorting Stations.
3. **Annexure - 3:** Drawings and Layouts.
4. **Annexure - 4:** Equipment Specifications for Sorting Stations.
5. **Annexure- 5:** Civil Engineering Design and Pre-Processing Specifications.

Paul
12/12/2024.

Annexure - I

1. Mass balance:

Sl. No.	Location	TS/ SCTP	Zone	Avg. Ton/Day	Sorting Station			One Way Distance in Kms		
					Recyclables 3%	>70mm (Dry) Dundigal	<70mm (Wet) Pyara Nagar	TS to JN	TS to Dundigal	TS to Pyara Nagar
1	Khaitilapur	TS	Kukatpally	710	21	334	355	38	24	35
2	Jagadgirigutta	SCTP	Kukatpally	400	12	188	200	51	19	29
3	Deepti Sri Nagar	TS	Serilingampally	1194	36	561	597	51	18	31
				2304	69	1083	1152	47	20	32

Sl. No.	Description	UoM	Qty.
1	Average Tonnage carting to Jawahar Nagar per day	MT	8000
2	Segregated Wet Waste going to Pyara Nagar from Sorting Station	MT	1152
3	Segregated Dry waste going to Dundigal from Sorting Station	MT	1083
4	Recyclables recovered from Sorting Station	MT	69

1. Details of sorting station at Transfer Station:

Sl. No.	Location	PROPOSED PREPROCESSING CAPACITY (TPD)	TOTAL COST in Crores	Pit size (L*B*D)	Pit Volume (cum)	Capacity (Ton)	Daily Waste (TPD)	Recyclables		Preprocessing	
								Dundigul 3%	Dundigul >70mm (Dry)	Dundigul <70mm (Wet)	Pyaranagar
1	Khaitalapur	500	4.47	15*6*6.3	567.0	284	710	21	334	355	
2	Jagadgingutta	400	2.78	12*7.1*5.5	468.6	234	400	12	188	200	
3	Deeptisrinagar	700	4.02	45*7*3.3	1039.5	520	1194	36	561	597	
	Total:	1600	11.27		2075.1	1038	2304	69	1083	1152	

1. Drawings List:

Sl. No.	Document no.	Title
1.	Khaitalapur Transfer Station	
1.1	RESL/HIMSW/GHMC/TS11/KHAITALAPUR/GA/055	Master Layout
1.2	RESL/HIMSW/GHMC/TS11/KHAITALAPUR/GA/05A	Sections
1.3	RESL/HIMSW/GHMC/TS11/KHAITALAPUR/GA/055B	GA of Waste Collection Pit
1.4	RESL/HIMSW/GHMC/TS11/KHAITALAPUR/GA/055C	Reinforcement details of Waste Collection Pit
1.5	RESL/HIMSW/GHMC/TS11/KHAITALAPUR/GA/055D	Reinforcement details of Waste Collection Pit
1.6	RESL/HIMSW/GHMC/TS11/KHAITALAPUR/GA/055E	Typical Details of Waste Collection Pit
2	Deepthi Srinagar Transfer Station	
2.1	RESL/HIMSW/GHMC/TS09/DEEPTHSRINAGAR/01	Master Layout
2.2	RESL/HIMSW/GHMC/TS09/DEEPTHSRINAGAR/03	Setting Out Plan
2.3	RESL/HIMSW/GHMC/TS09/DEEPTHSRINAGAR/08	GA of Waste Collection Pit Plan & Section
2.4	RESL/HIMSW/GHMC/TS09/DEEPTHSRINAGAR/08A	GA of Waste Collection Pit Roof Sheet Plan
2.5	RESL/HIMSW/GHMC/TS09/DEEPTHSRINAGAR/08B	Waste Collection Pit Footing & Pedestal C/P
2.6	RESL/HIMSW/GHMC/TS09/DEEPTHSRINAGAR/08C	Waste Collection Pit Raft Reinforcement Details
2.7	RESL/HIMSW/GHMC/TS09/DEEPTHSRINAGAR/08D	Typical Details of Waste Collection Pit
2.8	RESL/HIMSW/GHMC/TS09/DEEPTHSRINAGAR/08E	Waste Collection Pit Section Y2 & Y3
2.9	RESL/HIMSW/GHMC/TS09/DEEPTHSRINAGAR/08F	Waste Collection Pit Section X2 & Y4
3	Jagadgiri Gutta (HMT Pipe Line) Transfer Station	
3.1	RESL/HIMSW/GHMC/TS12/HMTPIPELINE/01	Master layout static compactor shed with Waste receiving pit and trommels
3.2	RESL/HIMSW/GHMC/TS12/HMTPIPELINE/03	Setting Out Plan static compactor shed with Waste receiving pit and trommels
3.3	RESL/HIMSW/GHMC/TS12/HMTPIPELINE/08	Upper level unloading platform
3.4	RESL/HIMSW/GHMC/TS12/HMTPIPELINE/08A	Sections of waste receiving pit and trommels
3.5	RESL/HIMSW/GHMC/TS12/HMTPIPELINE/08B	Waste Reception, Organic & RDF pit Raft & Pedestal Reinforcement details
3.6	RESL/HIMSW/GHMC/TS12/HMTPIPELINE/08C	Waste Reception, Organic & RDF pit Pedestal C/S & Typical Details
3.7	RESL/HIMSW/GHMC/TS12/HMTPIPELINE/08D	Waste reception, Organic & RDF Pit C/S Details

KEY PLAN
SOUTH EAST



PROPOSED 40'-0" WIDE ROAD

EXISTING ROAD

5000 WIDE ROAD

Drain

INSPECTION POINT

LABOUR CAMP

CONVEYOR

CONVEYOR

CONVEYOR

BLASTIC SEPARATOR

BLASTIC SEPARATOR

BLASTIC SEPARATOR

LOWER LEVEL

Temple

Temple

MASTER LAYOUT
SCALE - 1:500

N 1932960

N 1932960

N 1932960

SYMBOLS / ABBREVIATIONS :

- 1. CL CENTER LINE
- 2. EL ELEVATION
- 3. FFL FINISHED FLOOR LEVEL
- 4. FGL FORMED GROUND LEVEL
- 5. NGL NATURAL GROUND LEVEL
- 6. RTL ROAD TOP LEVEL (CRUST)
- 7. THK THICK
- 8. PCC PLAN CEMENT CONCRETE
- 9. RCC REINFORCED CEMENT CONCRETE
- 10. M METER
- 11. SQM SQUARE METER
- 12. M/C MATERIAL OF CONSTRUCTION
- 13. I INVERT LEVEL
- 14. MH MANHOLE

GENERAL NOTES:

- 1. ALL DIMENSIONS IN MILLIMETERS, UNLESS & OTHERWISE IN METERS.
- 2. THE COORDINATES MENTIONED IN THE DRAWING AS TO BE USED FOR THE CONSTRUCTION OF THE PROJECT ARE TO BE TAKEN AS THE BASIS FOR THE CONSTRUCTION OF THE PROJECT.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 4. ALL DIMENSIONS SHALL BE BROUGHT TO THE NOTICE OF THE CONTRACTOR PRIOR TO COMMENCING WORK.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.
- 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES (ELECTRICITY, WATER, TELEPHONE, ETC.) LOCATED WITHIN THE PROJECT AREA.

REVISION BY DATE
 01. MOD. AS PER DESIGNED CHANGES 18.10.2024

INDEPENDENT ENGINEER (IE)
 ENVIRONMENT PROTECTION TRAINING
 AND RESEARCH CENTER (E-PRC),
 HYDERABAD, TELANGANA.

CONTRACTOR
 Be Sustainability Limited
 118, 1st Floor, Cyber City, Hyderabad
 High City Rd, Knowledge City Rd,
 Gachibowli, Hyderabad,
 Telangana 500081

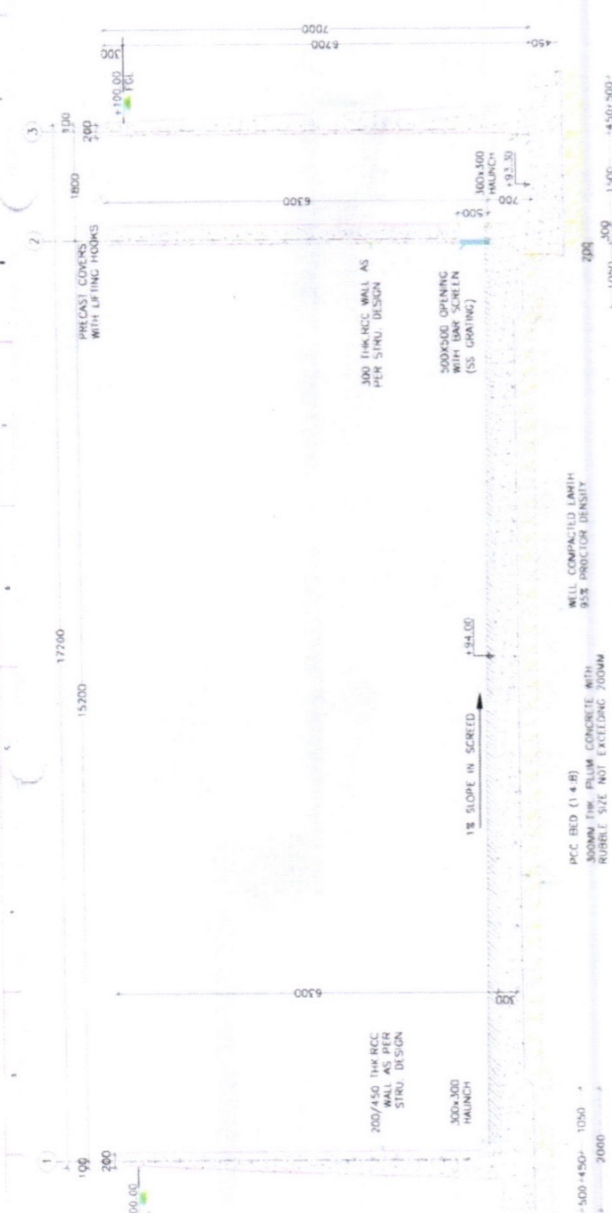
PROJECT TITLE
 HYDERABAD INTEGRATED
 MUNICIPAL SOLID WASTE PROJECT
 JAWAHAR NAGAR, HYDERABAD

DRAWING TITLE
 MASTER LAYOUT
 KHATAPUR TRANSFER STATION

DATE 08.10.2024
 SCALE AS SHOWN
 CHECKED BY
 DRAWN BY
 APPROVED BY



KEY PLAN
NOT TO SCALE



(X1) SECTION SCALE-1:40

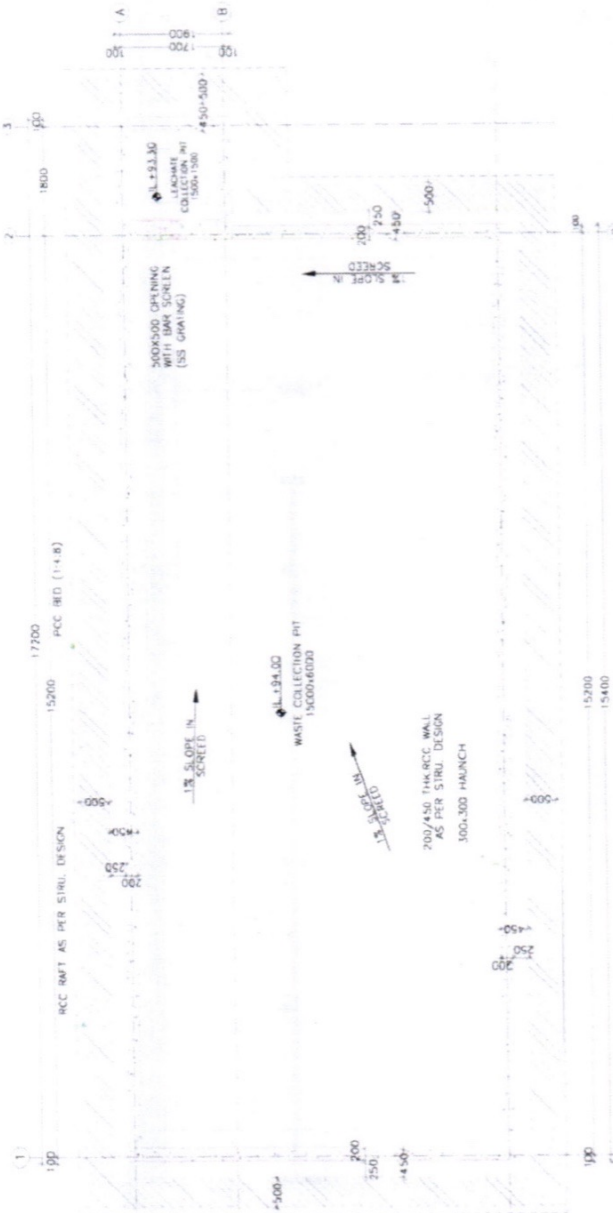
FOR APPROVAL

SYMBOLS / ABBREVIATIONS

1. CENTER LINE
2. EL. ELEVATION
3. m. METER
4. sqm. SQUARE METER
5. rmt. RUNNING METER
6. RCC. REINFORCED CEMENT CONCRETE
7. THK. THICK
8. RTL. ROAD TOP LEVEL
9. FGL. FINISHED GROUND LEVEL
10. NGL. NATURAL GROUND LEVEL
11. FFL. FLOOR FINISH LEVEL
12. RWP. RAIN WATER PIPE
13. L.C. TOP OF CONCRETE

GENERAL NOTES

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED.
2. THE DIMENSIONS INDICATED IN THE DRAWING IS TO BE KEPT.
3. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE STATED.
4. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE STATED.
5. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE STATED.
6. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE STATED.
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16. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE STATED.
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18. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE STATED.
19. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE STATED.
20. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE STATED.



(X1) SECTION SCALE-1:40

CLIENT
GREATER HYDRABAD MUNICIPAL CORPORATION
(GHMC), HYDRABAD, TELANGANA

PROJECT TITLE
HYDRABAD INTEGRATED MUNICIPAL SOLID WASTE PROJECT
JAWAHAR NAGAR, HYDRABAD
GENERAL ARRANGEMENT OF WASTE COLLECTION PIT
KHATTAAPUR TRANSFER STATION

DESIGNER
Be Sustainability Limited
118, Level 11, Ganga By, Aurangabad,
Gachibowli, Hyderabad - 500 081,
Telangana

PROJECT NO.
RES/ENV/04/2021/AM/14/01/02/08

DATE
12.10.2024

SCALE
AS SHOWN

CHECKED BY
R.S.K.

DRAWN BY
R.S.K.

APPROVED BY
G. E.A.

REVISIONS

REVISION NO.
REV. 01

DATE
12.10.2024

SCALE
AS SHOWN

CHECKED BY
R.S.K.

DRAWN BY
R.S.K.

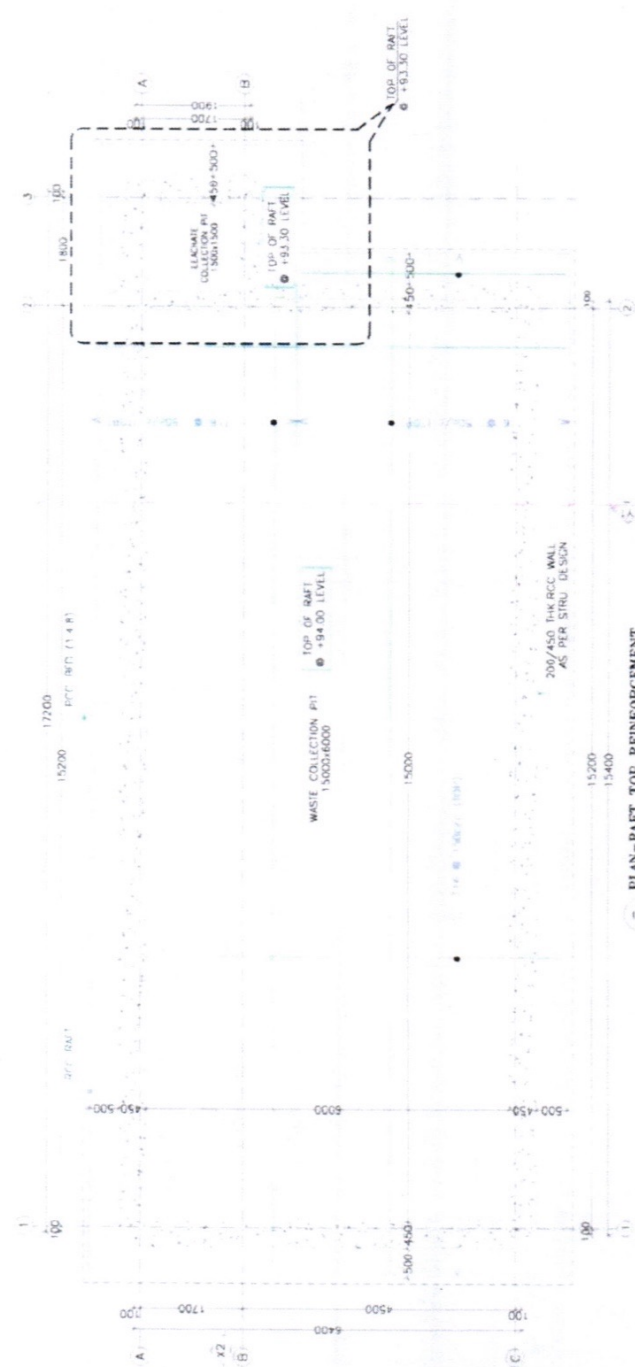
APPROVED BY
G. E.A.

65

KEY PLAN
NOT TO SCALE



PLAN-RAFT BOTTOM REINFORCEMENT
SCALE-1:40
(WASTE COLLECTION PIT)



PLAN-RAFT TOP REINFORCEMENT
SCALE-1:40
(WASTE COLLECTION PIT)

FOR APPROVAL

SYMBOLS / ABBREVIATIONS:

1. CL CENTER LINE
2. EL ELEVATION
3. M METER
4. SQM SQUARE METER
5. RMT RUNNING METER
6. RCC REINFORCED CEMENT CONCRETE
7. THK THICK
8. HFL ROAD TOP LEVEL
9. FGL FINISHED GROUND LEVEL
10. NGL NATURAL GROUND LEVEL
11. FFL FLOOR FINISH LEVEL
12. RWP RAIN WATER PIPE
13. TOC TOP OF CONCRETE

GENERAL NOTES: MILLIMETERS, LEVELS & COORDINATES IN METERS UNLESS OTHERWISE STATED.
 1. ALL DIMENSIONS SHOWN ON THIS DRAWING IS TO BE VERIFIED AND CONFIRMED BEFORE EXECUTION. THE DRAWING IS TO BE VIEWED AS FOLLOWS:
 2. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL DIMENSIONS SHALL BE IN METERS.
 3. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL DIMENSIONS SHALL BE IN METERS.
 4. ANY DIMENSIONS NOTED SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT IMMEDIATELY UPON RECEIVING THE DRAWING. STRUCTURE DIMENSIONS SHOULD CONFORM TO THE LAND PLAN AND BE BROUGHT TO THE NOTICE OF THE ARCHITECT IMMEDIATELY UPON RECEIVING THE DIMENSIONS. DIMENSIONS SHOULD BE CHECKED & WRITTEN AT THE BEFORE EXECUTION OF WORK.
 5. THE DIMENSIONS OF GROUND, LEVELS AND COORDINATES OF EXISTING STRUCTURES SHALL BE AS PER THE SURVEY REPORT AND SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT IMMEDIATELY UPON RECEIVING THE DIMENSIONS. DIMENSIONS SHOULD BE CHECKED & WRITTEN AT THE BEFORE EXECUTION OF WORK.
 6. THE DIMENSIONS OF GROUND, LEVELS AND COORDINATES OF EXISTING STRUCTURES SHALL BE AS PER THE SURVEY REPORT AND SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT IMMEDIATELY UPON RECEIVING THE DIMENSIONS. DIMENSIONS SHOULD BE CHECKED & WRITTEN AT THE BEFORE EXECUTION OF WORK.

CLIENT:
GREATER HYDERABAD MUNICIPAL CORPORATION
 (GHMC), HYDERABAD, TELANGANA

INDUSTRY PARTNER (IES):
ENVIRONMENT PROTECTION TRAINING AND RESEARCH INSTITUTE (EPTRI), HYDERABAD, TELANGANA.

CONCESSOR:
Re Sustainability Limited
 118, Level 11, Galaxy By Aurangabad,
 Hitech City Road, Knowledge City Road,
 Gachibowli Hyderabad - 500 081,
 Telangana

PROJECT TITLE:
HYDERABAD INTEGRATED MUNICIPAL SOLID WASTE PROJECT, JAWAHAR NAGAR, HYDERABAD

DRAWING TITLE:
REINFORCEMENT DETAILS OF WASTE COLLECTION PIT AT KHATTAJAPUR TRANSFER STATION

DRAWING NO: RES/THNGW/CM/ST/PHATAPUR/DSSE
 SHEET: AT
 APPROVED BY: E. E. K.
 SCALE: AS SHOWN
 CHECKED BY: G. B. S. H.
 DATE: 12.10.2024
 DRAWN BY: E. B. K.

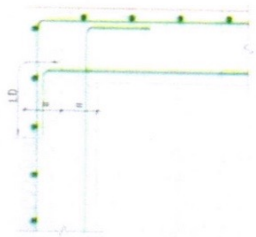
This drawing is copyright and may not be copied without prior written consent of the architect. The architect shall not be held responsible for any errors or omissions in the drawing. The contractor shall be responsible for the accuracy of the data and dimensions provided to the architect before the commencement of the work.

KEY PLAN
NOT TO SCALE



- Technical Note:**
- 1) Do not scale the drawing. Read figure dimensions only. All dimensions are in millimetres.
 - 2) Reference Bench Marks: Benchmarks shall be verified and established as per site conditions.
 - 3) Soil Bearing Capacity of Soil: Considered to be 700 kN/m² at a depth of 1.2 m below ground level (GL).
 - 4) Concrete Grade: Use M25 grade concrete for all reinforced cement concrete (RCC) members, including footings, columns, RCC walls, beams, and slabs, as per IS 456:2000.
 - 5) Steel Grade: Use Fe 300 grade steel conforming to IS 1786:1984 with 1M bars from approved brands such as Vizag, Ispat, etc. or SAI.
 - 6) Clear Cover for Reinforcement (Main Reinforcement): Base Slab: 40 mm. Columns: 40 mm. Beams: 30 mm. Walls: 25 mm. RCC Walls: 25 mm.
 - 7) Relevant Standards: The provisions in IS 456:2000, IS 3370 (for water-retaining structures), SP 34, and other applicable codes must be strictly followed during execution.
 - 8) Stages for Pipe Connections: Ensure proper fit at pipe connections, including gaskets, gaskets and overflows, are positioned before concreting.
 - 9) Reinforcement Check: Verify all reinforcement bars before concrete placement in RC members.
 - 10) Spring Duration: Ensure continuous curing is carried out for at least 15 days.
 - 11) Support for Top: Main of Slab Reinforcement: Steel chairs made of 10 bars should be placed at 1-meter intervals to support the top mesh.
 - 12) Anchorage of Beam Bars at Column Junctions: Anchor all top and bottom bars of beams into the joining end-support columns with an embedment length (L_d) equal to 50 times the diameter of the bars.
 - 13) Provision of Haunch: Provide haunches as indicated in the drawings at junctions.
 - 14) Splice Bars: Place splice bars to separate two layers of reinforcement in side walls.
 - 15) Lap Length for Bars: Maintain a lap length of 45 times the diameter of the bars.

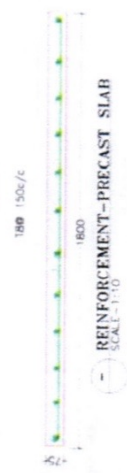
REINFORCEMENT DETAILS IN WALL @ CORNER
SECTIONAL PLAN OF WALL
SCALE: 1/10



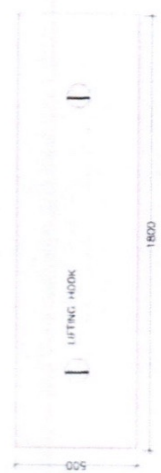
TYPICAL DETAILS OF CONSTRUCTION JOINT (TYP.)
SCALE: 1/10



REINFORCEMENT-PRECAST SLAB
SCALE: 1/10



PLAN-PRECAST SLAB
SCALE: 1/10



TYPICAL DETAILS OF HAUNCH
SCALE: 1/10



(FOR APPROVAL)

SYMBOLS / ABBREVIATIONS:

1. CENTER LINE
2. ELEVATION
3. METER
4. SQUARE METER
5. mm
6. RCC REINFORCED CEMENT CONCRETE
7. THK THICK
8. RTL ROAD TOP LEVEL
9. FGL FINISHED GROUND LEVEL
10. NGL NATURAL GROUND LEVEL
11. FFL FLOOR FINISH LEVEL
12. RWL RAIN WATER PIPE
13. TCC TOP OF CONCRETE

GENERAL NOTES:

1. ALL DIMENSIONS, WALL THICKNESSES, LEVELS & CORNER RADIUS, IN METERS UNLESS OTHERWISE STATED.
2. PROVIDE 10% OVERLAP FOR ALL REINFORCEMENT BARS.
3. PROVIDE 10% OVERLAP FOR ALL REINFORCEMENT BARS.
4. FOLLOWED SOLE DRAWING ONLY. WRITERS DIMENSIONS SHALL BE FOLLOWED.
5. ALL DIMENSIONS SHOULD BE BROUGHT TO THE NOTICE OF THE CONTRACTOR'S SUPERVISOR.
6. STRUCTURE DIMENSIONS SHOULD CONFORM TO THE LOCAL PLAN AND SPECIFICATIONS.
7. DIMENSIONS SHOULD BE CHECKED & MARKED AT SITE BEFORE EXECUTION OF WORK.

REVISIONS:

REV	DESCRIPTION	BY	DATE

CLIENT:
GREATER HYDERABAD MUNICIPAL CORPORATION
(GHMC), HYDERABAD, TELANGANA

INDEPENDENT ENGINEER (IE):
ENVIRONMENT PROTECTION TRAINING
AND RESEARCH INSTITUTE (EPTRI),
HYDERABAD, TELANGANA.

CONTRACTOR:
Re Sustainability Limited
119, Level 11, Galaxy By Aurangabad
Nisara City Road, Knowledge City Road,
Gachibowli, Hyderabad - 500 081,
Telangana

PROJECT TITLE:
HYDERABAD INTEGRATED
MUNICIPAL SOLID WASTE PROJECT,
JAWAHAR NAGAR, HYDERABAD

DRAWING TITLE:
TYPICAL DETAILS OF
WASTE COLLECTION PIT
KRATAPUR TRANSFER STATION

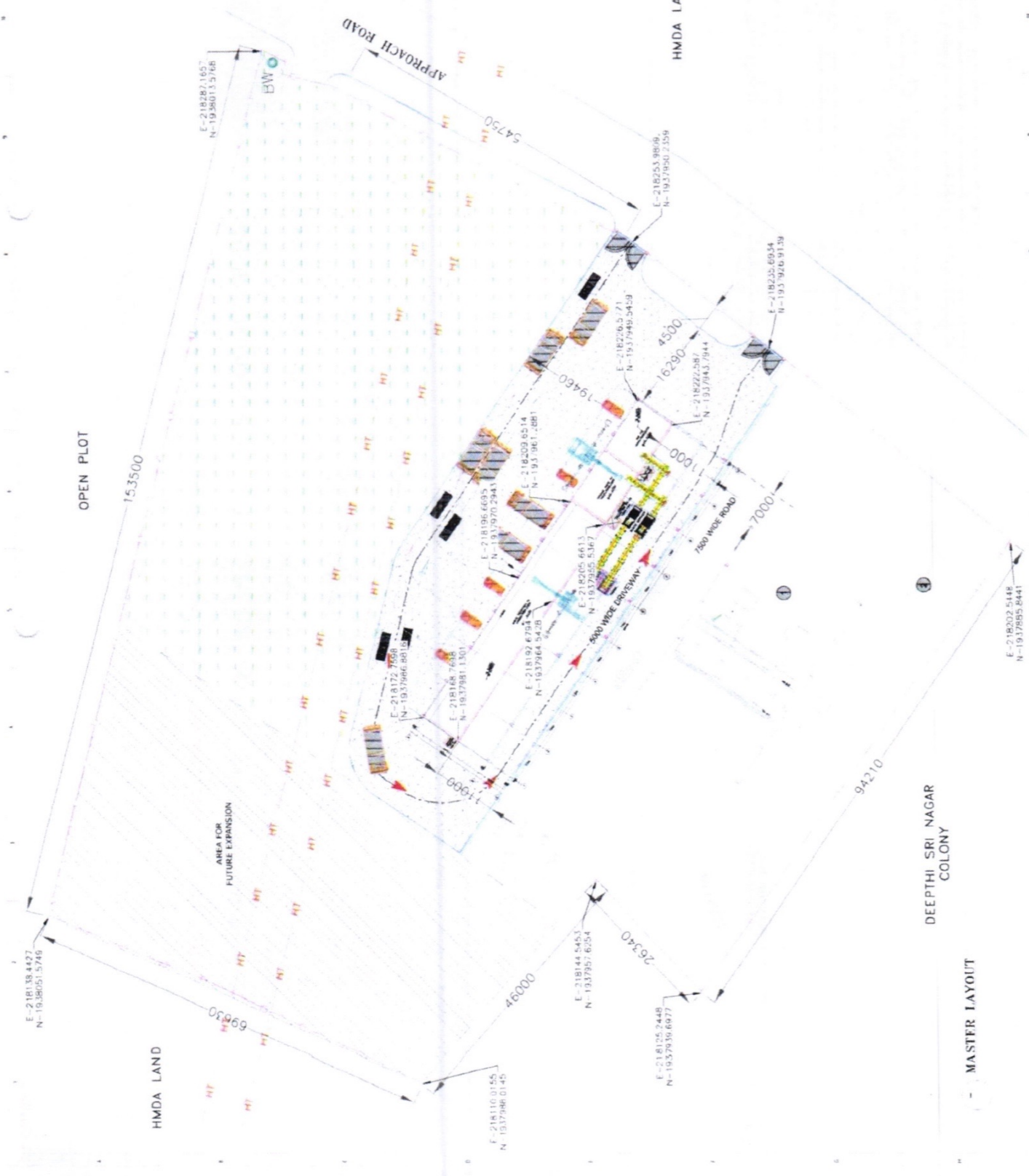
DRAWING NO.: RES/IMP/MP/CMC/S1/KRATAPUR/0056 REV: 00

SHEET: AT APPROVED BY: Ex. E.A.

SCALE: AS SHOWN CHECKED BY: Ex. B.S.R.

DATE: 12.10.2024 DRAWN BY: Ex. B.R.

This drawing is prepared and used for the project without any other commitments. The user of this drawing is responsible for any consequences arising from the use of this drawing. The user of this drawing is responsible for any consequences arising from the use of this drawing.



GENERAL NOTES:

1. ALL DIMENSIONS IN METERS, LEVELS & COORDINATES IN METERS.
2. THIS DRAWING IS VALID ONLY FOR THE PROJECT AND SITE SPECIFIC. IT IS NOT TO BE USED FOR ANY OTHER PROJECT OR SITE.
3. ANY CHANGES TO THE DRAWING SHALL BE APPROVED BY THE CLIENT.
4. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
5. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.

CLIENT:
GREATER HYDERABAD MUNICIPAL CORPORATION (GHMC) HYDERABAD, TELANGANA
PROJECT TITLE:
HYDERABAD INTEGRATED MUNICIPAL SOLID WASTE PROJECT, JAWAHAR NAGAR, HYDERABAD
CONTRACTOR:
Re Sustainability Iid
 Aerobio Galaxy Team,
 11th floor Block B,
 Hitech City Rd. opp. IICA,
 Hyderabad (Telangana 500081)

PROJECT TITLE:
HYDERABAD INTEGRATED MUNICIPAL SOLID WASTE PROJECT, JAWAHAR NAGAR, HYDERABAD

DRAWING TITLE:
MASTER LAYOUT DEEPTHI SRINAGAR TRANSFER STATION

DRAWING NO.: HSW/IMSW/PMC/1509/01/PHSRINGAM/01
SHEET: 01 OF 01
SCALE: AS SHOWN
REV: U.S. DATE: 05/04/2024
 DRAWN: 05/04/2024
 DATE: 05/04/2024

MASTER LAYOUT

DEEPTHI SRI NAGAR COLONY

HMDA LAND

HMDA LAND

OPEN PLOT

AREA FOR FUTURE EXPANSION

APPROACH ROAD

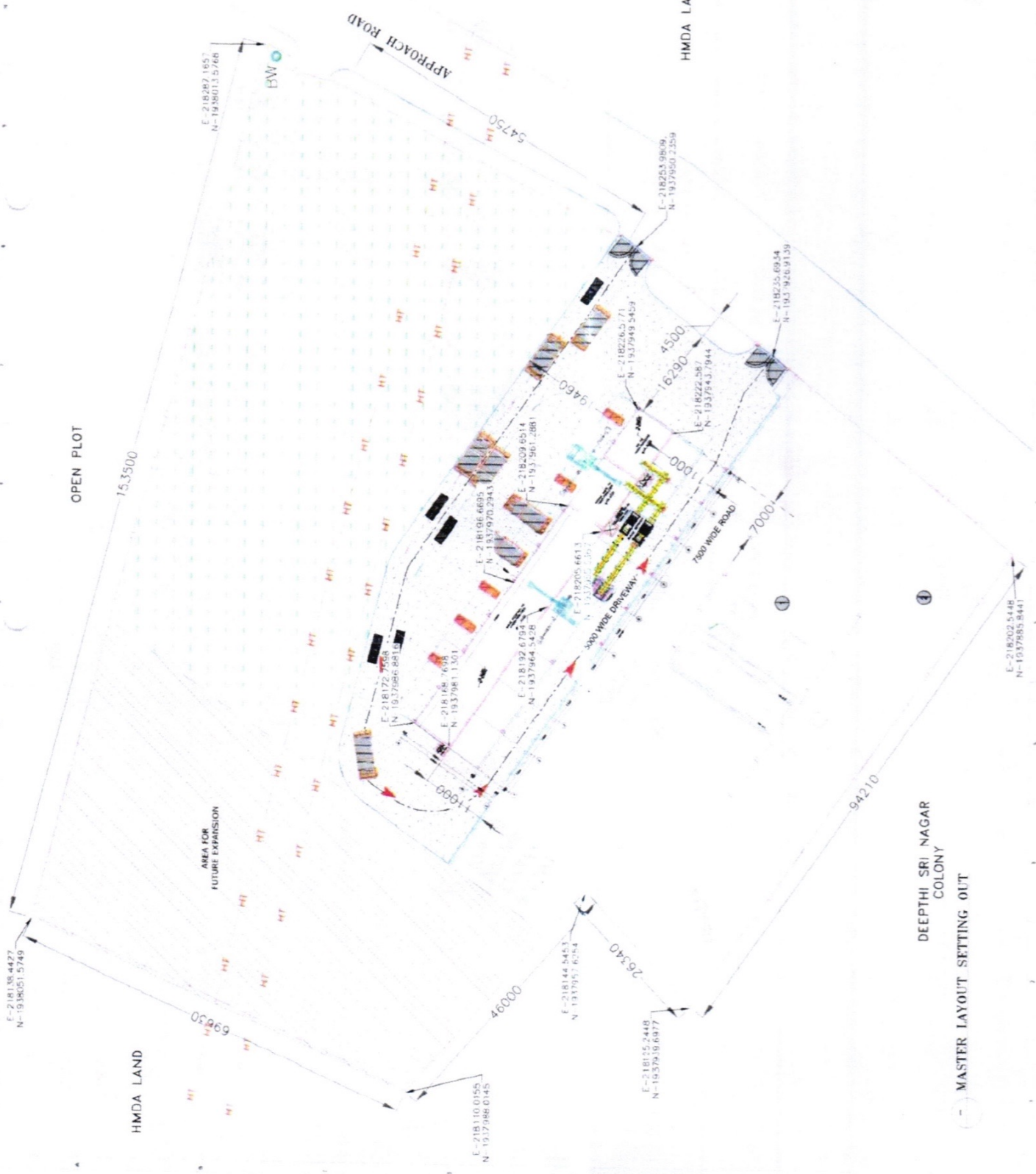
5000 WIDE DRIVEWAY

7500 WIDE ROAD

1

2

3



GENERAL NOTES

1. ALL DIMENSIONS, IN METERS, LEVELS & COORDINATES IN METERS.
2. THE COORDINATES INDICATED IN THE DRAWING IS TO BE USED.
3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
4. ANY DIMENSIONS NOT SHOWN BE BROUGHT TO THE NOTICE OF THE ARCHITECT PRIOR TO EXECUTION.

The architect shall be held responsible for the accuracy of the data provided for the site and the design of the project. The architect shall be held responsible for the accuracy of the data provided for the site and the design of the project.

CLIENT:
GREATER HYDERABAD MUNICIPAL CORPORATION
 (GHMC), HYDERABAD, TELANGANA
 INDEPENDENT ENGINEER (IE):
ENVIRONMENT PROTECTION TRAINING
AND RESEARCH INSTITUTE (EPTRI),
 HYDERABAD, TELANGANA.

CONTRACTOR:
Re Sustainability Ltd
 Aurangabad, Aurangabad, India
 116, Topur, Block-B
 Hitech City Rd, opp. IIFA,
 Hyderabad, Telangana 500081.

PROJECT TITLE:
HYDERABAD INTEGRATED
MUNICIPAL SOLID WASTE PROJECT,
JAWAHAR NAGAR, HYDERABAD

DRAWING TITLE:
MASTER LAYOUT SETTING OUT
DEEPTHI SRI NAGAR TRANSFER STATION

DRAWING NO.: R11/HMWD/GHMC/71506/RE/HP/HYDERABAD/93
SHEET NO.: 1 OF 1
SCALE: AS SHOWN
DATE: 08/05/2024
DESIGNER: [Signature]
CHECKER: [Signature]

This drawing is prepared for the use of the client and is not to be used for any other purpose without the written consent of the architect. The architect shall be held responsible for the accuracy of the data provided for the site and the design of the project. No liability shall be accepted by the architect for any errors or omissions in this drawing or for any consequences arising therefrom. The client shall be held responsible for the accuracy of the data provided for the site and the design of the project.



CONCEPTUAL DRAWING
FOR APPROVAL

SYMBOLS / ABBREVIATIONS

1. CL - CENTER LINE
2. EL - ELEVATION
3. M - METER
4. SQM² - SQUARE METER
5. RPM - RUNNING METER
6. RCC - REINFORCED CEMENT CONCRETE
7. THK - THICK
8. FTL - ROAD TOP LEVEL
9. FGL - FINISHED GROUND LEVEL
10. NGL - NATURAL GROUND LEVEL
11. FFL - FLOOR FINISH LEVEL
12. RWP - RAIN WATER PIPE
13. TOC - TOP OF CONCRETE

GENERAL NOTES

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. THE DIMENSIONS INDICATED IN THE DRAWING IS TO BE EXACTLY AS SHOWN.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE IS CODES.
4. ALL MATERIALS TO BE USED SHALL BE BROUGHT TO THE SITE OF THE PROJECT.
5. ALL DIMENSIONS SHOULD BE CHECKED & VERIFIED & SET BEFORE COMMENCEMENT OF WORK.

The responsibility of errors, omissions, and inaccuracies in this drawing, and the contractor's liability for any errors, omissions, and inaccuracies, shall be the responsibility of the contractor.

REV. DESCRIPTION BY DATE

CLIENT
GREATER HYDERABAD MUNICIPAL CORPORATION
(GHMC), HYDERABAD, TELANGANA

INDEPENDENT ENGINEER (IE)
ENVIRONMENT PROTECTION TRAINING
AND RESEARCH INSTITUTE (EPTRI),
HYDERABAD, TELANGANA

CONSULTOR
Dr. Sustainability Ltd.
Aurangabad Colony Tower,
11th Floor, Block B,
HITEC City, Plot 40A, HITEC
Hyderabad, Telangana 500081



PROJECT TITLE
HYDERABAD INTEGRATED
MUNICIPAL SOLID WASTE PROJECT,
JAWAHAR NAGAR, HYDERABAD



DRAWING TITLE
WASTE RECEPTION PIT
PLAN
DEPTH: SRINAGAR (TS-09)

DRAWING NO. FREE/PH/MSW/GHMC/TS09/DEPT/SRINAGAR/09 REV. 00

SHEET NO. APPROVED BY: [Signature]

SCALE: AS SHOWN CHECKED BY: [Signature]

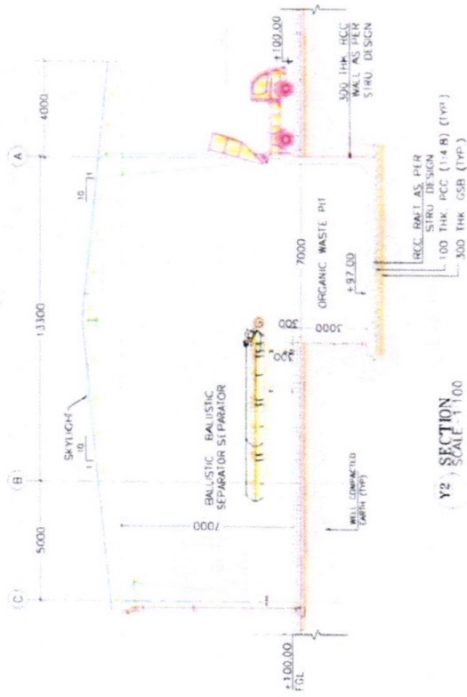
DATE: 10/10/2024 DRAWN BY: [Signature]

This drawing is copyright and may not be copied without prior written consent of the consultant. The contractor shall be responsible for any errors, omissions, and inaccuracies in this drawing. The contractor shall be liable for any damages or losses arising out of any errors, omissions, and inaccuracies in this drawing.



PLAN SCALE: 1:100

KEY PLAN
NOT TO SCALE



CONCEPT DRAWING
FOR APPROVAL

SYMBOLS / ABBREVIATIONS :

1. CL CENTER LINE
2. EL ELEVATION
3. M METER
4. SQM SQUARE METER
5. RMM RUNNING METER
6. RCC REINFORCED CEMENT CONCRETE
7. THK THICK
8. RLL ROAD TOP LEVEL
9. FGL FINISHED GROUND LEVEL
10. NGL NATURAL GROUND LEVEL
11. FFL FLOOR FINISH LEVEL
12. RWP ROOF WATER PIPE
13. TCC TOP OF CONCRETE

The drawings shall not be used for any other purpose without the written consent of the architect and shall be the property of the architect. No part of this drawing shall be reproduced or transmitted in any form or by any means electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the architect.

- GENERAL NOTES:**
1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND QUANTITIES IN ALL SIZES AND BEFORE EXECUTION.
 2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN ALL SIZES AND BEFORE EXECUTION.
 3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN ALL SIZES AND BEFORE EXECUTION.
 4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN ALL SIZES AND BEFORE EXECUTION.
 5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN ALL SIZES AND BEFORE EXECUTION.
 6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN ALL SIZES AND BEFORE EXECUTION.

The responsibility of correct data and verification of accuracy, correctness and completeness of drawings and drawings rests with the client/contractor.

REV. NO. DESCRIPTION BY DATE

CLIENT
GREATER HYDERABAD MUNICIPAL CORPORATION (GHMC), HYDERABAD, TELANGANA

INDEPENDENT ENGINEER (IE)
ENVIRONMENT PROTECTION TRAINING AND RESEARCH INSTITUTE (EPTRI), HYDERABAD, TELANGANA

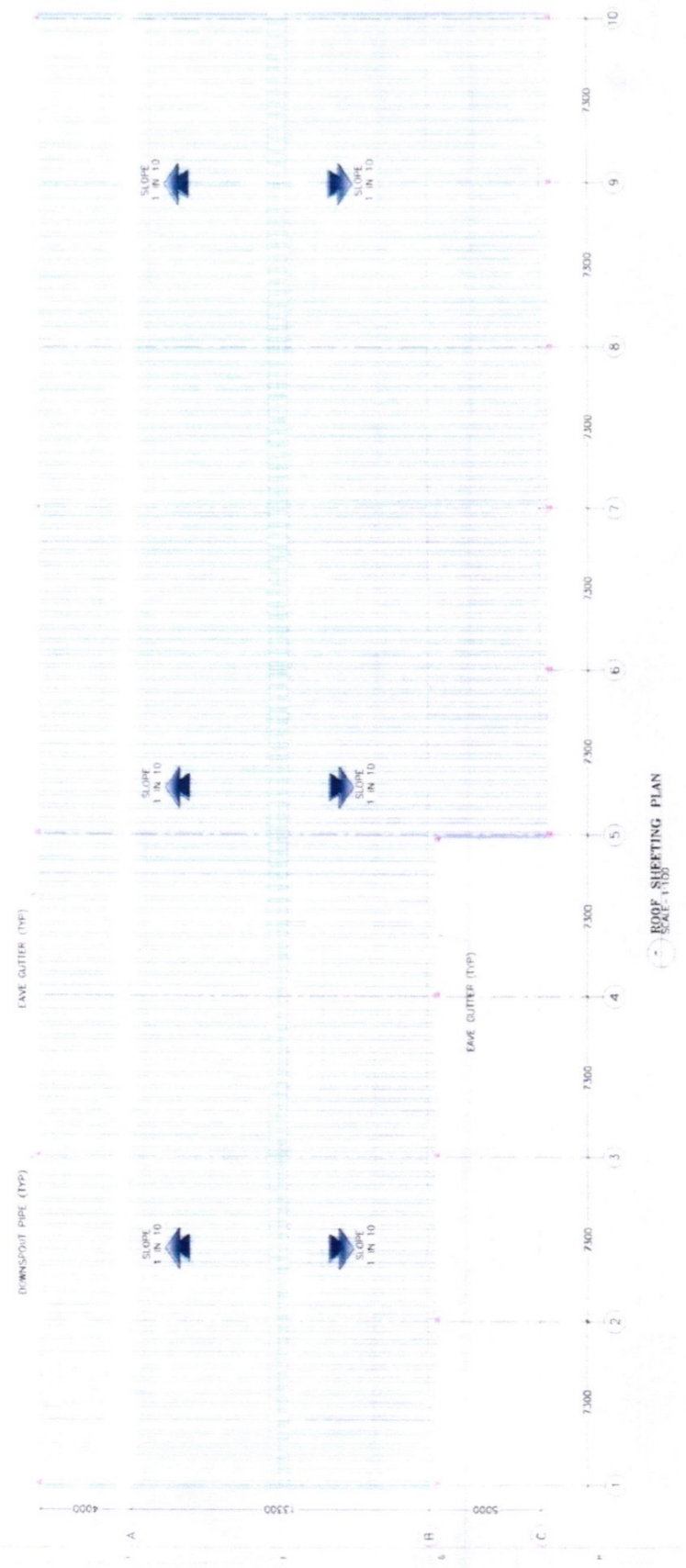
CONTRIBUTOR
Re Sustainability Ltd.
Aurora Centre, 1st floor,
11th Floor, Block-11,
Hydco City Rd, Hydco WTA,
Hyderabad - 500081

PROJECT TITLE
HYDERABAD INTEGRATED MUNICIPAL SOLID WASTE PROJECT, JAWAHAR NAGAR, HYDERABAD

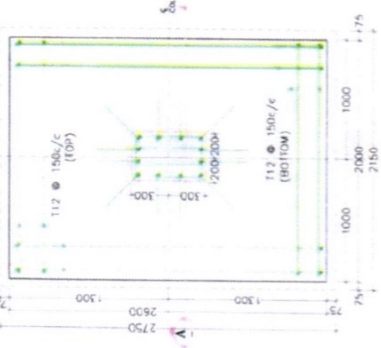
DRAWING TITLE
WASTE RECEPTION PIT ROOF SHEETING PLAN DEEPTHI SRINAGAR (TS-09)

DRAWING NO. REL/AMSR/GMCC/1509/TE/PH/SH/ROOF/09A REV. 02

SHEET	AI	APPROVED BY	Dr. B.K.
SCALE	AS SHOWN	CHECKED BY	Dr. B.S.R.
DATE	10.10.2024	DRAWN BY	Dr. B.K.

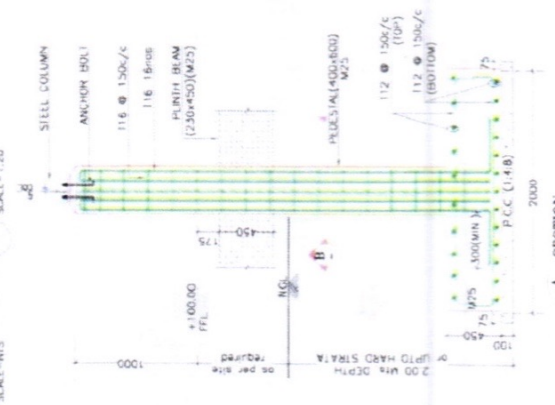


KEY PLAN
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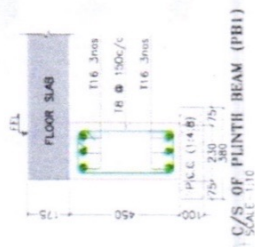


R/F-FOOTING & PEDESTAL (PI/PI)
SCALE: 1/20

STIRRUP PROFILE B SECTION
SCALE: 1/20



A SECTION
SCALE: 1/20

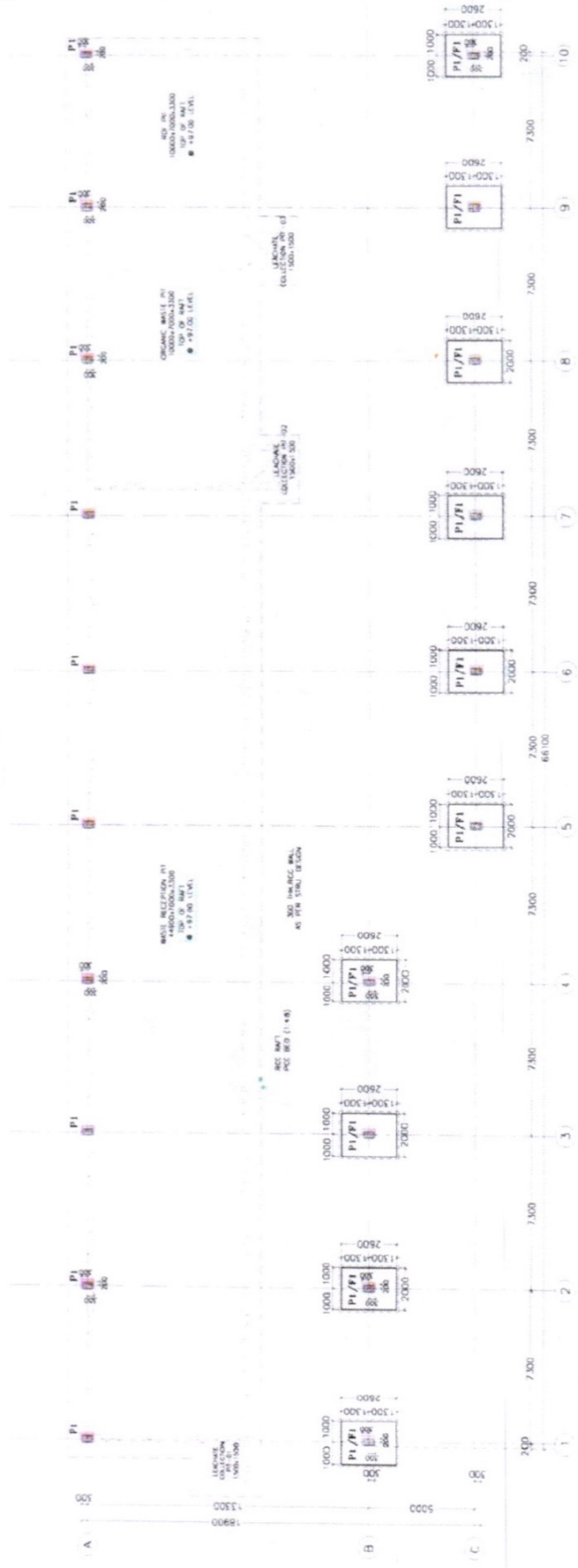


C/S OF PLINTH BEAM (PBI)
SCALE: 1/10

- SYMBOLS / ABBREVIATIONS**
1. CENTER LINE
 2. EL. ELEVATION
 3. M. METER
 4. SQM. SQUARE METER
 5. R.M. RUNNING METER
 6. RCC. REINFORCED CEMENT CONCRETE
 7. THK. THICK
 8. R.L. ROAD TOP LEVEL
 9. F.G.L. FINISHED GROUND LEVEL
 10. N.G.L. NATURAL GROUND LEVEL
 11. F.F.L. FLOOR FINISH LEVEL
 12. R.W.P. RAIN WATER PIPE
 13. T.O.C. TOP OF CONCRETE

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. THE DIMENSIONS INDICATED IN THE DRAWING IS TO BE VERIFIED BEFORE COMMENCING WORK.
3. DO NOT SCALE DRAWING, ONLY WITH DIMENSIONS SHALL BE FOLLOWED.
4. ALL WORK SHALL BE DONE AS PER THE SPECIFICATIONS AND STANDARDS MENTIONED IN THE DRAWING.
5. STRUCTURE DIMENSIONS SHOULD CORRECT TO THE LARGEST DIMENSION.
6. DIMENSIONS SHALL BE CHECKED & VERIFIED, 30% BEFORE COMMENCEMENT OF WORK.



PLAN-FOOTING & PEDESTAL AXIS

CLIENT
GREATER HYDRABAD MUNICIPAL CORPORATION
(GHMC), HYDRABAD, TELANGANA

INDEPENDENT ENGINEER (E)
ENVIRONMENT PROTECTION TRAINING
AND RESEARCH INSTITUTE (EPTRI),
HYDRABAD, TELANGANA.

CONSULTANT
Re Sustainability Ltd
Aurangabad Colony, Umerga
11th Floor, Block-B
Project City Rd, Umerga
Hydrabad, Telangana 500081

PROJECT TITLE
HYDRABAD INTEGRATED
MUNICIPAL SOLID WASTE PROJECT,
JAWAHAR NAGAR, HYDRABAD

DRAWING TITLE
WASTE RECEPTION PIT
FOOTING & PEDESTAL C/P
DREETHUSINAGAR (TS 09)

DRAWING NO. PELL/PHB/PH/CMC/TS09/02/PEDESTAL/PI/PI
REV. 02

SHEET 01
APPROVED BY G. E. K.
SCALE AS SHOWN
CHECKED BY S. S. R.

DATE 10.10.2024
DRAWN BY [Signature]

CONCEPTUAL DRAWING
FOR APPROVAL

SYMBOLS / ABBREVIATIONS:

- 1 ☐ CENTER LINE
- 2 EL ELEVATION
- 3 m METER
- 4 SQM SQUARE METER
- 5 PVC RUNNING WATER
- 6 RCC REINFORCED CEMENT CONCRETE
- 7 THK THICK
- 8 RTI ROAD TOP LEVEL
- 9 FGL FINISHED GROUND LEVEL
- 10 NGL NATURAL GROUND LEVEL
- 11 FFL FLOOR FINISH LEVEL
- 12 RPPD 80MM WATER PIPE
- 13 TCG TOP OF CONCRETE

GENERAL NOTES:

- 1 ALL DIMENSIONS IN MILLIMETERS, UNLESS A CONTRACTOR'S WORKS PRINT SPECIFIES OTHERWISE.
- 2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
- 3 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
- 4 ALL DIMENSIONS SHALL BE BROUGHT TO THE NOTICE OF THE CONTRACTOR AT THE TIME OF THE BIDDING PROCESS.
- 5 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
- 6 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.

REVISIONS: REV. NO. DESCRIPTION BY DATE

CLIENT: GREATER HYDERABAD MUNICIPAL CORPORATION (GHMC), HYDERABAD, TELANGANA
INDEPENDENT ENGINEER (IE): ENVIRONMENT PROTECTION TRAINING AND RESEARCH INSTITUTE (EPTRI), HYDERABAD, TELANGANA.
CONTRACTOR: Re Sustainability Ltd, Hyderabad, Telangana.

PROJECT TITLE: HYDERABAD INTEGRATED MUNICIPAL SOLID WASTE PROJECT, JAWAHAR NAGAR, HYDERABAD

DRAWING TITLE: WASTE RECEPTION FIT RAPT REINFORCEMENT DETAILS DEEPTHEENAGAR (TS-09)

DRAWING NO: REL/HM/NR/CHMC/1509/DEEPTHEENAGAR/08K REV: 00
SHEET: 01 OF 01
SCALE: AS SHOWN
DATE: 10.10.2024
DRAWN BY: E.P.K.
CHECKED BY: E.P.K.
APPROVED BY: E.P.K.



PLAN - RAPT TOP & BOTTOM REINFORCEMENT (RAPT) (ORGANIC WASTE & TOP COLLECTION PIT)

KEY PLAN
NOT TO SCALE

CONCEPTUAL DRAWING
FOR APPROVAL

SYMBOLS / ABBREVIATIONS

- 1. C CENTER LINE
- 2. EL ELEVATION
- 3. M METER
- 4. SQM SQUARE METER
- 5. PPH RUNNING METER
- 6. RCC REINFORCED CEMENT CONCRETE
- 7. THK THICK
- 8. PTL ROAD TOP LEVEL
- 9. FGL FINISHED GROUND LEVEL
- 10. NGL NATURAL GROUND LEVEL
- 11. FFL FLOOR FINISH LEVEL
- 12. RWP RAIN WATER PIPE
- 13. TUC TOP OF CONCRETE

GENERAL NOTES

1. ALL DIMENSIONS IN METERS UNLESS OTHERWISE SPECIFIED.
2. THE CONCRETE INDICATED IN THE DRAWING IS TO BE GRADED PROPERTY.
3. BEFORE CONSTRUCTION, OWNER MUST OBTAIN NECESSARY PERMITS FROM THE LOCAL AUTHORITIES.
4. ALL STRUCTURES MUST BE BUILT TO THE BEST OF THE AVAILABLE MATERIALS AND WORKMANSHIP.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
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13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.

The responsibility of getting these drawings and specifications approved by the local authorities is the responsibility of the client. The contractor shall be responsible for obtaining all necessary permits and approvals from the local authorities.

REV DESCRIPTION

BY DATE

CLIENT: GREATER HYDRABAD MUNICIPAL CORPORATION (GHMC), HYDRABAD, TELANGANA

INDEPENDENT ENGINEER (E): ENVIRONMENT PROTECTION TRAINING AND RESEARCH INSTITUTE (EPTRI), HYDRABAD, TELANGANA

CONCESSIONAIRE: Re Sustainability Ltd. (RSL), Hyderabad, Telangana

PROJECT TITLE: HYDRABAD INTEGRATED MUNICIPAL SOLID WASTE PROJECT, JAWAHAR NAGAR, HYDRABAD

DRAWING TITLE: WASTE RECEPTION PIT SECTIONS Y2 & Y3 DEEPTHSHINAGAR (TS-09)

DRAWING NO: HELL/HMSP/GHMC/150/DEEPTHSHINAGAR/08L

APPROVED BY: [Signature]

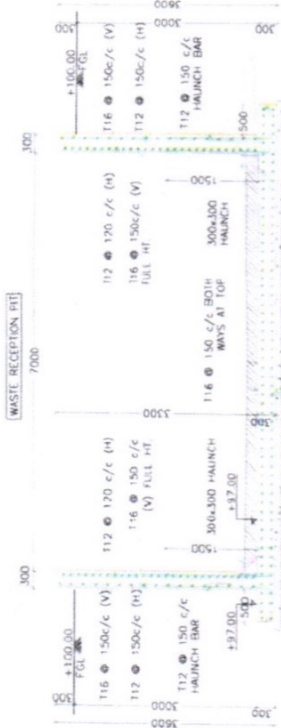
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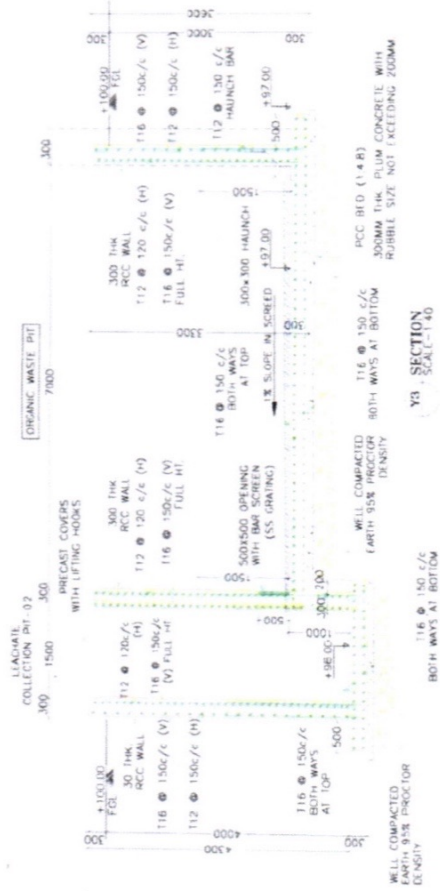
DRAWN BY: [Signature]

DATE: 10.10.2024

PROJECT LOCATION: DEEPTHSHINAGAR (TS-09)



WASTE RECEPTION PIT
Y2 SECTION
SCALE: 1:40



WASTE RECEPTION PIT
Y3 SECTION
SCALE: 1:40

75

KEY PLAN
NOT TO SCALE

FOR APPROVAL
CONCEPT DRAWING

SYMBOLS / ABBREVIATIONS

1. CL: CENTER LINE
2. LL: ELEVATION
3. M: METER
4. SQM: SQUARE METER
5. RMT: RUNNING METER
6. RCC: REINFORCED CEMENT CONCRETE
7. THK: THICK
8. R/L: ROAD TOP LEVEL
9. FGL: FINISHED GROUND LEVEL
10. NGL: NATURAL GROUND LEVEL
11. FFL: FLOOR FINISH LEVEL
12. RWP: RAIN WATER PIPE
13. T/C: TOP OF CONCRETE

GENERAL NOTES:
 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY.
 3. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO THE CHECKS OF THE ARCHITECT FROM TO BE COMPLETED.
 4. ALL DIMENSIONS SHALL BE CHECKED & REPORTED AT THE END OF EACH SECTION OF WORK.
 5. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS SHALL BE TO THE CENTER LINE.
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REV. DESCRIPTION BY DATE

CLIENT: GREATER HYDERABAD MUNICIPAL CORPORATION (GHMC), HYDERABAD, TELANGANA

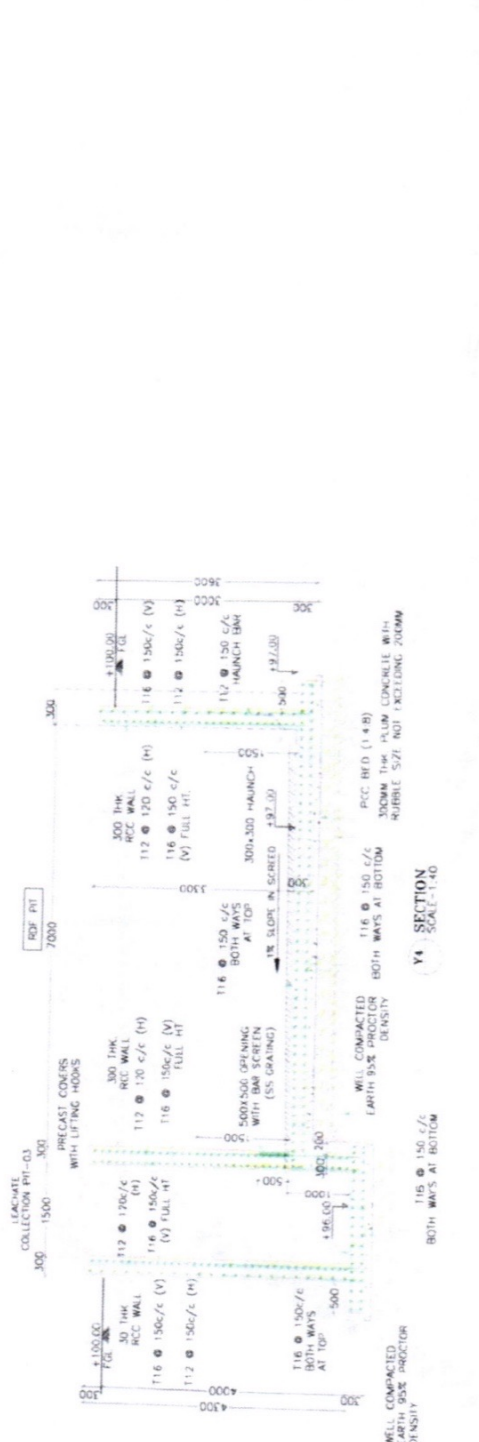
PROJECT TITLE: ENVIRONMENT PROTECTION TRAINING AND HYDERABAD, TELANGANA.

CONTRACTOR: M/s Sustainability Ltd. Hyderabad, Telangana.

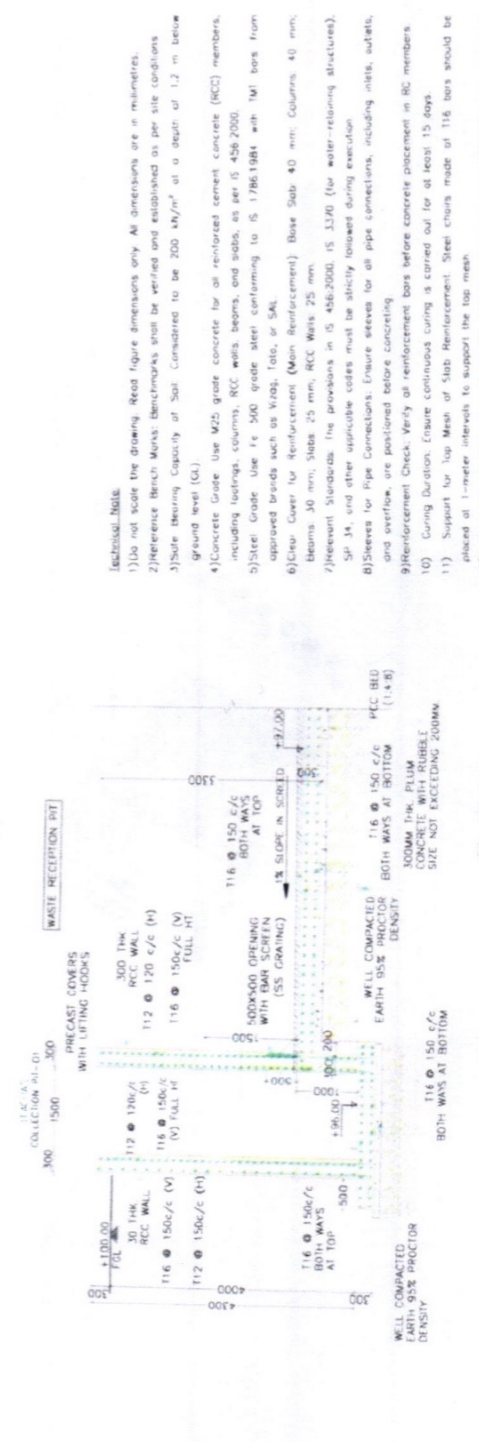
MUNICIPAL SOLID WASTE PROJECT, JAWAHAR NAGAR, HYDERABAD

WASTE RECEPTION PIT SECTIONS XE & Y4 DEEPTHINAGAR (TS-09)

DATE: 10.10.2024	CHECKED BY: Sr. S.S.R.	REV. NO: 00
SCALE: AS SHOWN	APPROVED BY: Sr. S.S.R.	
DATE: 10.10.2024	DESIGNED BY: Sr. S.S.R.	

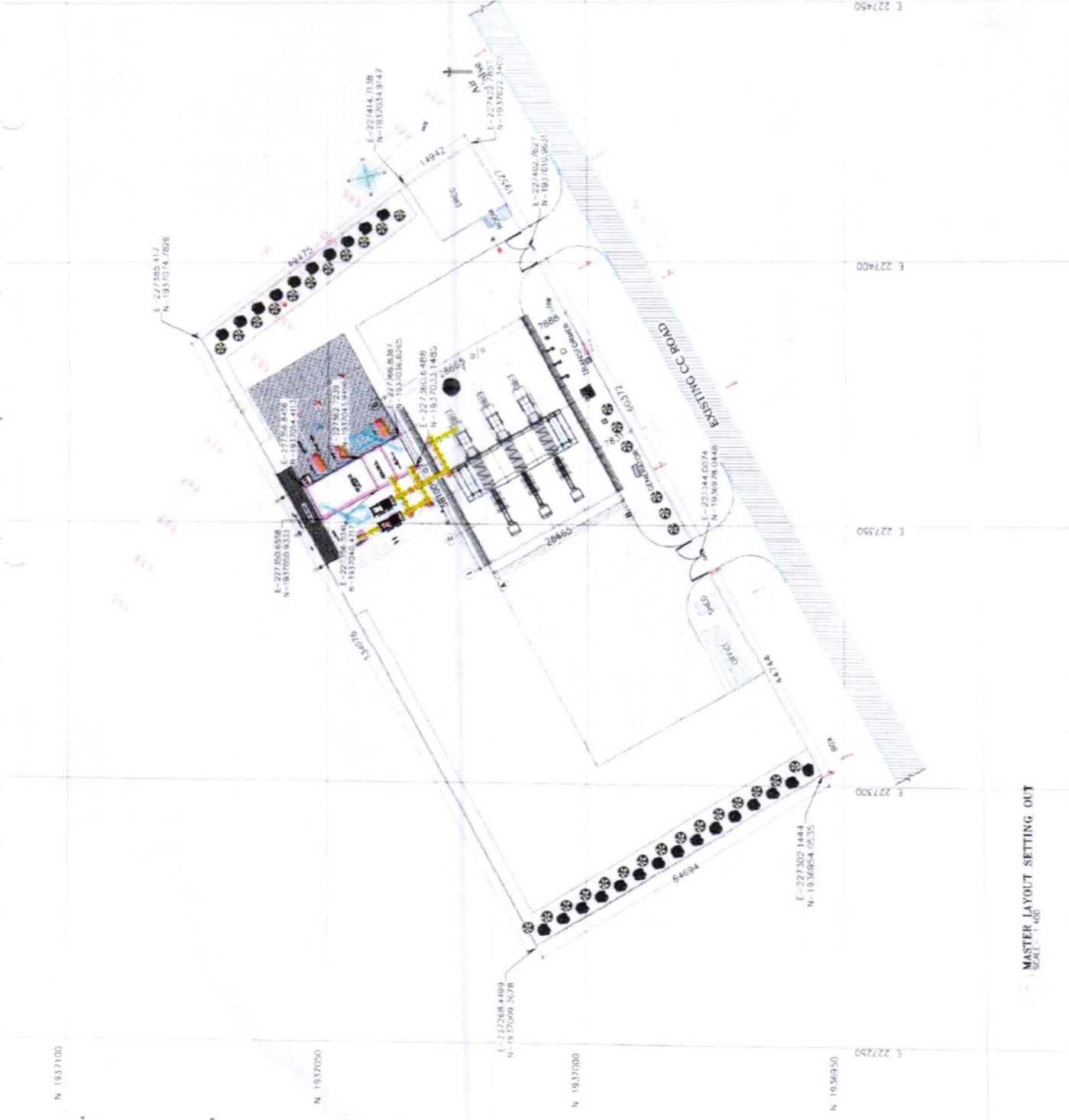


Y4 SECTION SCALE-1:40



XE SECTION SCALE-1:40

- Technical Note**
- 1) Do not scale the drawing. Read figure dimensions only. All dimensions are in millimetres.
 - 2) Reference Bench Marks: Benchmarks shall be verified and established as per site conditions.
 - 3) Slab Bearing Capacity of Slab: Considered to be 200 kN/m² at a depth of 1.2 m below ground level (GL).
 - 4) Concrete Grade: Use M25 grade concrete for all reinforced concrete (RCC) members, including footings, columns, RCC walls, beams, and slabs, as per IS 456:2000.
 - 5) Steel Grade: Use Fe 500 grade steel conforming to IS 1786:1984 with 'M' bars from approved brands such as Visal, Isteel, or SAI.
 - 6) Crew Cover for Reinforcement (Main Reinforcement): Base Slab 40 mm; Columns, 40 mm; Beams 30 mm; Slabs 25 mm; RCC Walls 25 mm.
 - 7) Reinforcement Standards: The provisions in IS 456:2000, IS 1330 (for water-retaining structures), SP 14, and other applicable codes must be strictly followed during execution.
 - 8) Stairs for Pipe Connections: Ensure stairs for all pipe connections, including inlet, outlet, and overflow, are positioned before concreting.
 - 9) Reinforcement Check: Verify all reinforcement bars before concrete placement in RC members.
 - 10) Curing Duration: Ensure continuous curing is carried out for at least 15 days.
 - 11) Support for Top Mesh of Slab Reinforcement: Steel chairs made of 116 bars should be placed at 1-metre intervals to support the top mesh.
 - 12) Anchorage of Beam Bars at Column JUNCTIONS: Anchor at top and bottom bars of beams into the joining end-support columns with an embedment length (Ld) equal to 36 times the diameter of the bars.
 - 13) Provision of Haunch: Provide haunches as indicated in the drawings at junctions.
 - 14) Spacer Bars: Place spacer bars to separate two layers of reinforcement in side walls.
 - 15) Lap Length for Bars: Maintain a lap length of 45 times the diameter of the bars.



CONCEPTUAL DRAWING FOR APPROVAL

- SYMBOLS / ABBREVIATIONS:**
- 1 CENTER LINE
 - 2 ELEVATION
 - 3 M METER
 - 4 SQM SQUARE METER
 - 5 RMT RUNNING METER
 - 6 RCC REINFORCED CEMENT CONCRETE
 - 7 THK THICK
 - 8 R/L ROAD TOP LEVEL
 - 9 FGL FINISHED GROUND LEVEL
 - 10 NGL NATURAL GROUND LEVEL
 - 11 FFL FLOOR FINISH LEVEL
 - 12 RWP RAIN WATER PIPE
 - 13 TCC TOP OF CONCRETE

GENERAL NOTES:

1. ALL DIMENSIONS UNLESS SPECIFIED SHALL BE IN METERS.
2. ALL DIMENSIONS UNLESS SPECIFIED SHALL BE TO FACE UNLESS OTHERWISE STATED.
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CLIENT: GREATER HYDERABAD MUNICIPAL CORPORATION (GHMC), HYDERABAD, TELANGANA

REGISTERED ENGINEER (R): ENVIRONMENT PROTECTION TRAINING AND RESEARCH INSTITUTE (EPTRI), HYDERABAD, TELANGANA.

CONCLOSSOR: HANNEY ENRHO ENGINEERS LIMITED

Plot 13, Bunkya Crossroads,
Bunkya Towers Complex, GACHIBOWLI,
HYDERABAD-500037, TELANGANA
Tel: +91 040 2301 5000

77

PROJECT TITLE: HYDERABAD INTEGRATED MUNICIPAL SOLID WASTE PROJECT, JAWAHAR NAGAR, HYDERABAD

DRAWING: MASTER LAYOUT SETTING OUT STATIC COMPACTOR SHED WITH WASTE RECEIVING PIT AND TROMMELS

DRAWING NO: JAGADHRI GUTTA (HMT PIPE LINE) (TS-12)

SHEET: AT

SCALE: AS SHOWN

DATE: 04.10.2024

APPROVED BY: L. L. K.

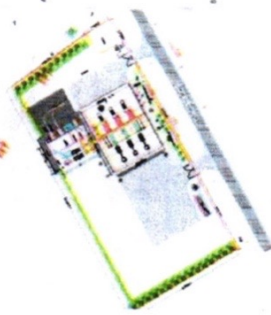
CHECKED BY: L. B. S. R.

DATE: 04.10.2024

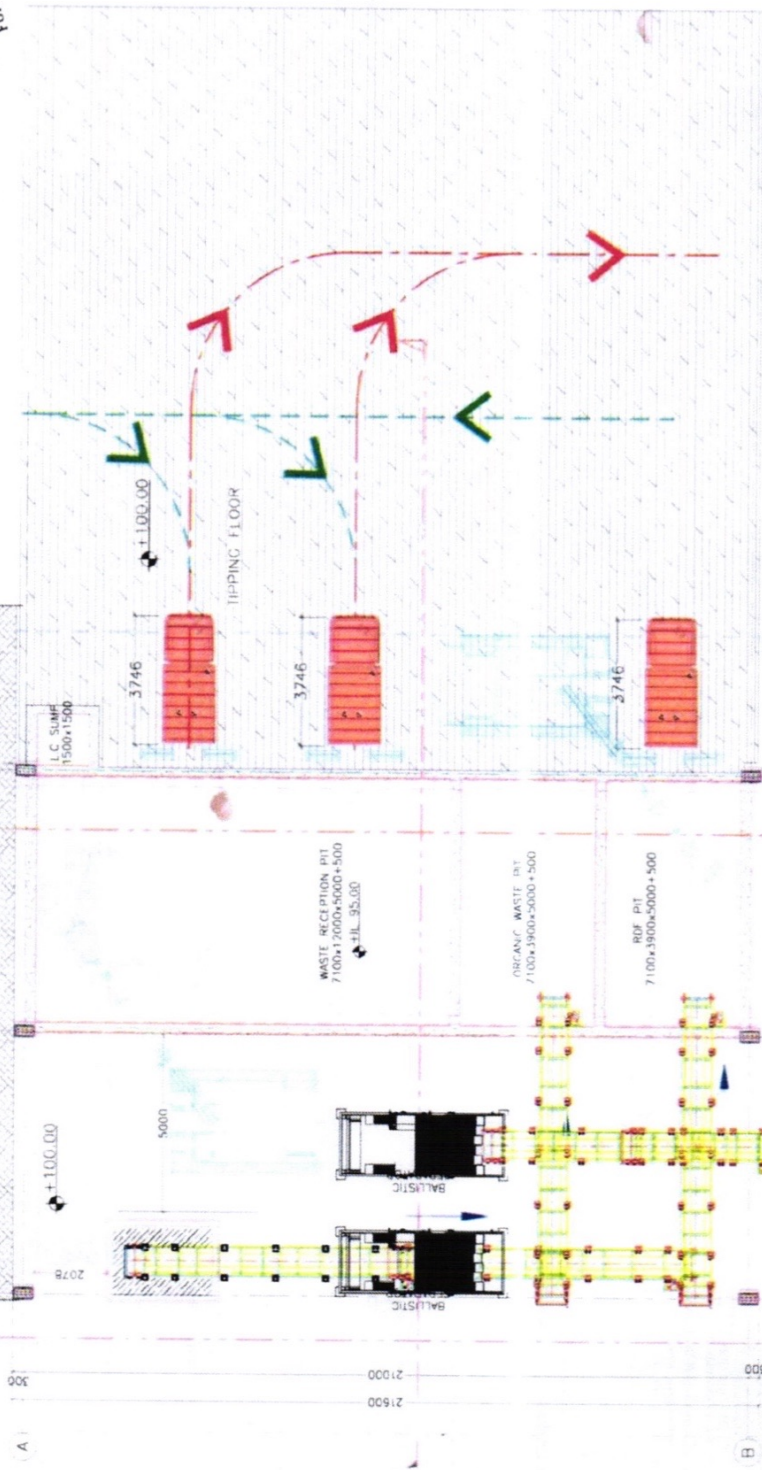
DRAWN BY: K.

MASTER LAYOUT SETTING OUT
SCALE: 1:400

KEY PLAN
NOT TO SCALE



CONCEPTUAL DRAWING
FOR APPROVAL



PLAN
SCALE: 1:75

SYMBOLS / ABBREVIATIONS:

- 1 C CENTER LINE
 - 2 EL ELEVATION
 - 3 m METER
 - 4 sqm SQUARE METER
 - 5 rml RUNNING METER
 - 6 RCC REINFORCED CEMENT CONCRETE
 - 7 THK THICK
 - 8 R/L ROAD TOP LEVEL
 - 9 F/L FINISHED GROUND LEVEL
 - 10 NGL NATURAL GROUND LEVEL
 - 11 FFL FLOOR FINISH LEVEL
 - 12 R/WP RAIN WATER PIPE
 - 13 Top TOP OF CONCRETE
14. The work of this drawing prepared by the above mentioned firm is for the purpose of providing a visual representation of the proposed project. It is not to be used for any other purpose without the written consent of the firm.
15. The drawing is prepared and signed by the above mentioned firm and the same is to be used for the purpose of providing a visual representation of the proposed project. It is not to be used for any other purpose without the written consent of the firm.
16. The drawing is prepared and signed by the above mentioned firm and the same is to be used for the purpose of providing a visual representation of the proposed project. It is not to be used for any other purpose without the written consent of the firm.

CLIENT
GREATER HYDERABAD MUNICIPAL CORPORATION
(GHMC), HYDERABAD, TELANGANA

INDEPENDENT ENGINEER (R)

ENVIRONMENT PROTECTION TRAINING
AND RESEARCH INSTITUTE (EPTRI),
HYDERABAD, TELANGANA.

CONCLOSSORARE RAMKY ENVIRO ENGINEERS LIMITED

Page 13, Ramky Conditions.
Ramky Towers Complex, GACHIBOWLI,
HYDERABAD-500032, TELANGANA.
Tel: +91 040 2301 5000

PROJECT TITLE
HYDERABAD INTEGRATED
MUNICIPAL SOLID WASTE PROJECT,
JAWAHAR NAGAR, HYDERABAD

DRAWING TITLE
UPPER LEVEL UNLOADING PLATFORM
JAGADGIRI CUTTA (HMT PIPELINE) (TS-12)

DRAWING NO: M.S./H/M/SW/G/M/C/TS12/HMT/PELIN/08 REV: 03

SHEET: A1 APPROVED BY: E.P.K.

SCALE: AS SHOWN CHECKED BY: E.P.K.

DATE: 04.10.2024 DRAWN BY: E.P.K.

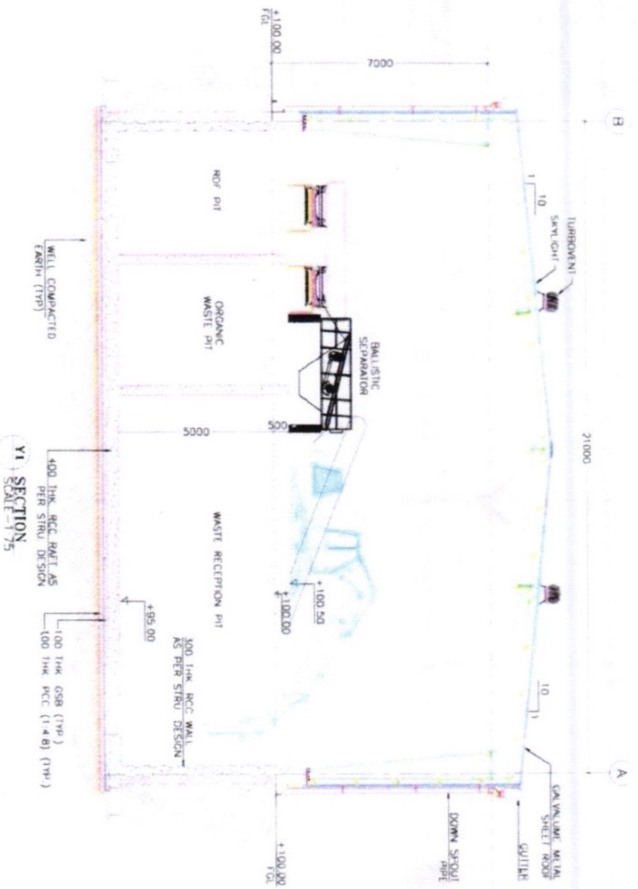
This drawing is prepared and signed by the above mentioned firm and the same is to be used for the purpose of providing a visual representation of the proposed project. It is not to be used for any other purpose without the written consent of the firm.



X1 SECTION
SCALE 1/75
400 THK. RCC WALL AS PER STRU DESIGN
100 THK. RCC (1*4.8) (1PH)
100 THK. RCC (1*4.8) (1PH)



X2 SECTIONAL ELEVATION
SCALE 1/75



X1 SECTION
SCALE 1/75
400 THK. RCC WALL AS PER STRU DESIGN
100 THK. RCC (1*4.8) (1PH)
100 THK. RCC (1*4.8) (1PH)

CONCEPTUAL DRAWING
FOR APPROVAL

SYMBOLS / ABBREVIATIONS:

1. CL. : CL. ELEVATION
2. EL. : ELEVATION
3. m : METRE
4. SQM : SQUARE METRE
5. mm : MILLIMETER
6. RCC : REINFORCED CEMENT CONCRETE
7. THK. : THICK
8. FIN. : FINISHED
9. T.O.F. : FINISHED GROUND LEVEL
10. N.O.L. : NATURAL GROUND LEVEL
11. F.F.L. : FLOOR FINISH LEVEL
12. H.W.P. : HOT WATER PIPE
13. T.O.C. : TOP OF CONCRETE

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
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13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.

NO.	DESCRIPTION	BY	DATE

CLIENT: GREATER HYDRABAD MUNICIPAL CORPORATION (GHMC), HYDRABAD, TELANGANA

ENGINEER IN CHARGE (EIC): ENVIRONMENTAL PROTECTION TRAINING AND HYDRABAD, TELANGANA

CONTRACTOR: BAKRY ENVIRO ENGINEERS LIMITED
Floor: 13, Ramayya Complex, Chaitanyam, Hyderabad - 500022, TELANGANA
Tel: +91 940 280 3000

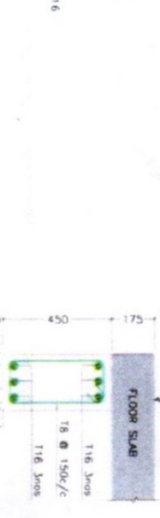
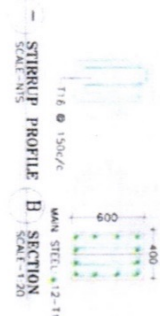
PROJECT TITLE: HYDRABAD INTEGRATED MUNICIPAL SOLID WASTE PROJECT, JAWAHAR NAGAR, HYDRABAD

SECTIONS OF WASTE RECEIVING PIT AND THROMBLES JAGADGIRI CUTTA (HMT PIPELINE) (TS-12)

NO.	REVISION/DATE/ISSUE/DESCRIPTION/BY	REV.	DATE
1	AS SHOWN	0	01.10.2024

DATE: 01.10.2024
DRAWN BY: E. B.K.
CHECKED BY: G. B.S.K.
APPROVED BY: G. L.K.

88

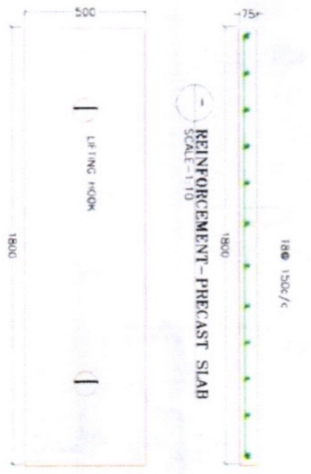


C/S OF PILNTH BEAM (PB1)
SCALE: 1:10

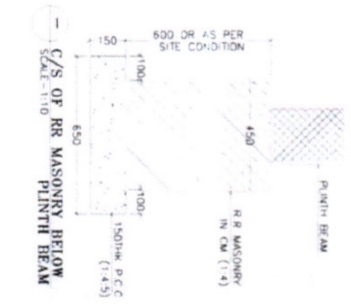
CONCEPTUAL DRAWING
FOR APPROVAL



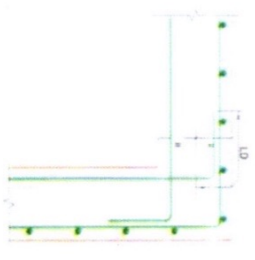
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NO. 10 SCALE



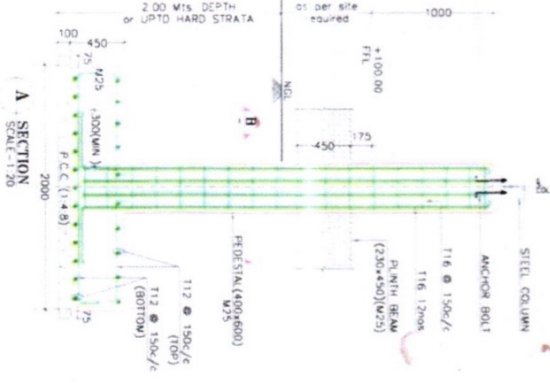
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SCALE: 1:10



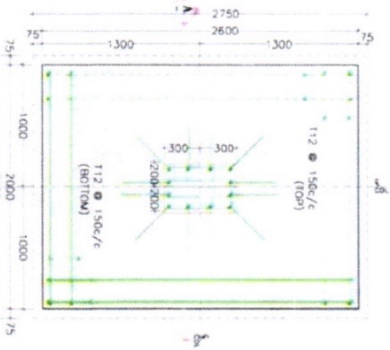
C/S OF RR MASONRY BELOW
PILNTH BEAM
SCALE: 1:10



REINFORCEMENT DETAILS IN WALL @ CORNER
SECTIONAL PLAN OF WALL
SCALE: 1:10



A SECTION
SCALE: 1:20



R/F-FOOTING & PEDESTAL (F1/P1)
SCALE: 1:20



TYPICAL DETAILS OF CONSTRUCTION
JOINT (TYP)
SCALE: 1:20



TYPICAL DETAILS OF HAUNCH
SCALE: 1:20

SYMBOLS / ABBREVIATIONS:

- 1 CENTER LINE
- 2 EL. ELEVATION
- 3 m. METER
- 4 sqm. SQUARE METER
- 5 rml. RUNNING METER
- 6 RCC. REINFORCED CEMENT CONCRETE
- 7 THK. THICK
- 8 RTL. ROAD TOP LEVEL
- 9 FEL. FINISHED GROUND LEVEL
- 10 NGL. NATURAL GROUND LEVEL
- 11 FL. FLOOR FINISH LEVEL
- 12 RWP. RAIN WATER PIPE
13. L.C. TOP OF CONCRETE

GENERAL NOTES:

- 1 ALL DIMENSIONS IN METRIC UNITS & COMPONENTS IN METRIC UNITS
- 2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES
- 3 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES
- 4 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES
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- 13 THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES

CLIENT:
CHENNAI HYDRABAD MUNICIPAL CORPORATION
(CHENNAI, HYDRABAD, TELANGANA)

INDEPENDENT ENGINEER (IE):
ENVIRONMENT PROTECTION TRAINING
AND RESEARCH INSTITUTE (EPTARI),
HYDRABAD, TELANGANA.

CONGRESSOR: BAKKY ENVIRO ENGINEERS LIMITED

**Project 13, Sathy Goudhara,
Gandhi Nagar, Guntur, Andhra Pradesh,
INDIA. PIN: 520032, TELANGANA.**
Tel: +91 946 280 5000

PROJECT TITLE:
HYDRABAD INTEGRATED
MUNICIPAL SOLID WASTE PROJECT,
JAWAHAR NAGAR, HYDRABAD

DATE: 04.10.2024

SCALE: AS SHOWN

CHECKED BY: G. S.N.

APPROVED BY: G. S.N.

DATE: 04.10.2024

SCALE: AS SHOWN

CHECKED BY: G. S.N.

APPROVED BY: G. S.N.

DATE: 04.10.2024

SCALE: AS SHOWN

CHECKED BY: G. S.N.

APPROVED BY: G. S.N.

CONCEPTUAL DRAWING
FOR APPROVAL

SYMBOLS / ABBREVIATIONS:

- 1 CENTER LINE
- 2 EL ELEVATION
- 3 m WELER
- 4 SQM SQUARE WATER
- 5 PRE RUNNING WATER
- 6 RCC REINFORCED CEMENT CONCRETE
- 7 THK THICK
- 8 RLL ROAD TOP LEVEL
- 9 FCL FINISHED GROUND LEVEL
- 10 NGL NATURAL GROUND LEVEL
- 11 FFL FLOOR FINISH LEVEL
- 12 RWP RAW WATER PIPE
- 13 LCL TOP OF CONCRETE

GENERAL NOTES:

- 1 ALL DIMENSIONS IN METERS UNLESS OTHERWISE SPECIFIED
- 2 ALL DIMENSIONS INCLUDE IN THE DIMENSIONS IN METERS UNLESS OTHERWISE SPECIFIED
- 3 ALL DIMENSIONS INCLUDE IN THE DIMENSIONS IN METERS UNLESS OTHERWISE SPECIFIED
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- 11 ALL DIMENSIONS INCLUDE IN THE DIMENSIONS IN METERS UNLESS OTHERWISE SPECIFIED
- 12 ALL DIMENSIONS INCLUDE IN THE DIMENSIONS IN METERS UNLESS OTHERWISE SPECIFIED
- 13 ALL DIMENSIONS INCLUDE IN THE DIMENSIONS IN METERS UNLESS OTHERWISE SPECIFIED

NO	DESCRIPTION	BY	DATE
1	DESIGN		
2	CHECKED		
3	APPROVED		
4	DATE		

CLIENT:
GREATER HYDRABAD MUNICIPAL CORPORATION
(G.M.H.) HYDRABAD, TELANGANA

DESIGNER:
ENVIRONMENT PROTECTION TRAINING
AND RESEARCH INSTITUTE (EPTRI),
HYDRABAD, TELANGANA.

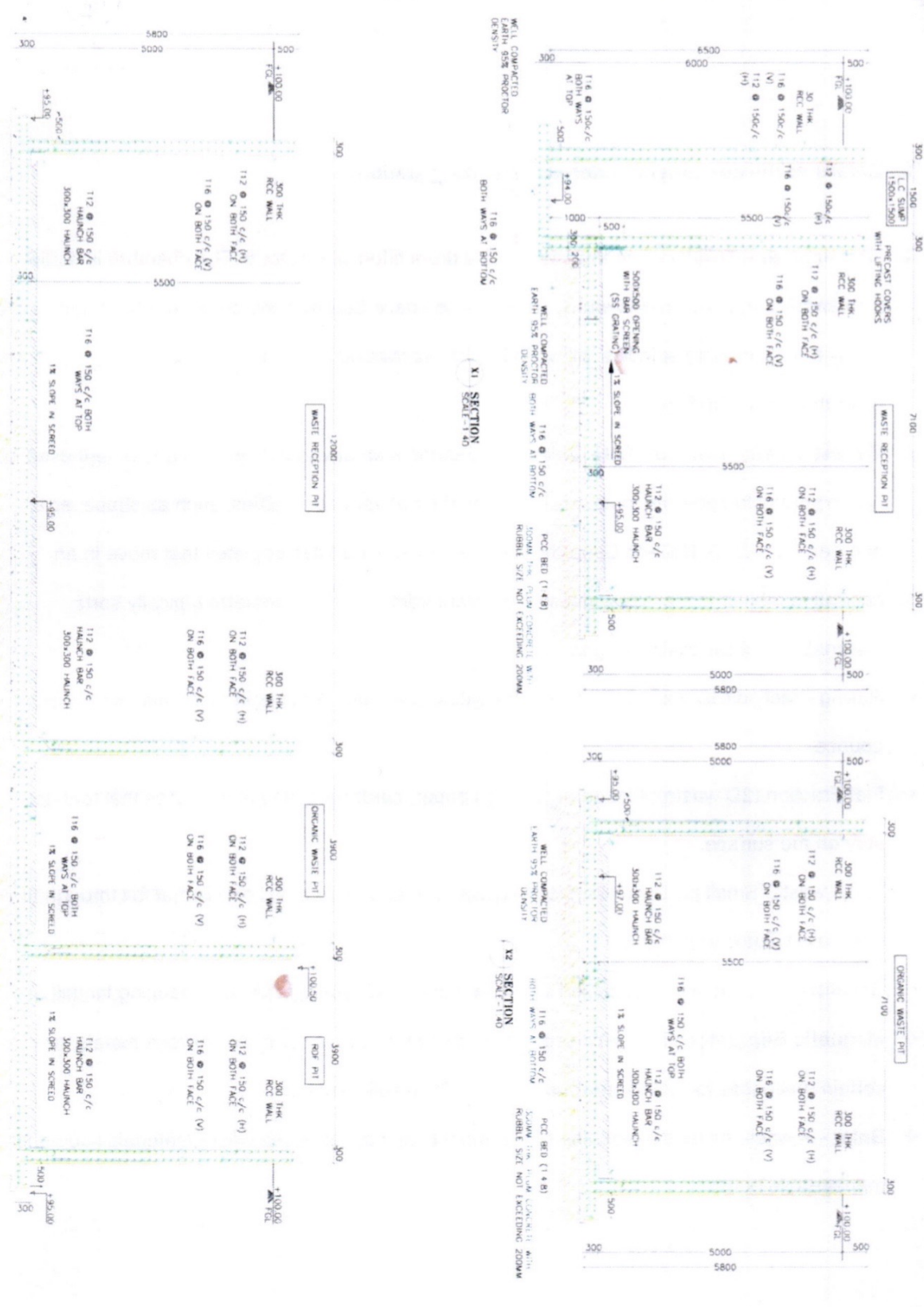
CONSULTANT: BAKRY ENVIRO ENGINEERS LIMITED

PROJECT FILE:
Hydrabad Integrated
Municipal Solid Waste Project,
Jawahar Nagar, Hyderabad

PROJECT FILE:
Hydrabad Integrated
Municipal Solid Waste Project,
Jawahar Nagar, Hyderabad

**WASTE RECEPTION, ORGANIC & RDP PIT
C/S DETAILS (TWT PIPELINE) (TS-12)**

DESIGN NO: JACABGRI/CP/13/12/MSW/PC/CM/080 NY 00
SHEET: 45 APPROVED BY: E. E.K.
SCALE: AS SHOWN CHECKED BY: H. B.S.M.
DATE: 04/10/2024 DRAWN BY: E. B.K.



X1 SECTION
SCALE-1:40

X2 SECTION
SCALE-1:40

X3 SECTION
SCALE-1:40

Y1 SECTION
SCALE-1:40



1. Details of the equipment under at the sorting station:

- ❖ **Bag breaker – 50TPH** - The bags fall onto a drum fitted with cutters. The chamber is equipped with an adjustable comb and sturdy cutters. The space between the comb and the drum can be easily adjusted using spindles, allowing for the processing of municipal freshwaste to open any bags that are in the feed.
- ❖ **Ballistic Separator – 50 TPH**- Ballistic Separator is an advanced piece of equipment used in waste sorting to separate materials based on their physical properties, such as shape, size, and density. Waste Ballistic Separator uses a series of paddles or plates that move in an oscillating motion to classify waste into different fractions. The separator typically sorts materials into three main categories:
 - **Rolling Fraction (3D waste):** Objects like bottles, cans, and other rigid materials that roll or bounce.
 - **Flat Fraction (2D waste):** Flat items such as paper, cardboard, and film plastics that tend to stay on the surface.
 - **Fines waste:** Small particles like broken glass, dirt, and other small debris that fall through the perforated plates or screens.
 - **Separating recyclables from mixed waste,** enhancing recycling rates and reducing landfill use.
- ❖ **Magnetic Separator** - Magnetic separation is used to recover or enrich ferrous metals, or in certain processes to remove ferrous materials from solid waste.
- ❖ **Baler** - A waste baler is a machine that compacts and compresses waste materials into dense, manageable bales.

2. Design & Specification for Pre-Processing:

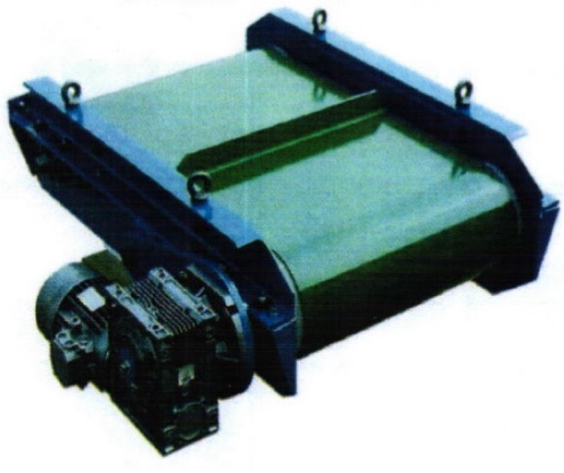
BAG BREAKER-50TPH



BALLASTIC SEPERATOR-50TPH



MAGNETIC SEPERATOR



BALER



A.Leelavathi, M.Sc,M.Tech.
Environment Scientist &
ESD I/c

To

The Addl. Commissioner (SWM),
Greater Hyderabad Municipal Corporation (GHMC),
4th Floor, Head Office, Tank Bund Road,
Hyderabad - 500 063.



Lr.No. EPTRI/ESD/GHMC./2024-25/1055/Dt.: 21-01-2025

Sir,

Sub: Submission of Progress Report on Leachate Management in
Compliance with Hon'ble NGT Directive (OA 199/2021 dated
27.09.2024) - Reg.

- Ref: 1. HIMSW/GHMC/2024-25/2592 dated 09.11.2024.
2. Lr.No.EPTRI/ESD/HiMSW-corres./2024-25/849/Dt.11.11.2024
3. HIMSW/GHMC/2024-25/2595 dated 25.11.2024.
4. Lr.No. EPTRI/ESD/GHMC./2024-25/870/Dt:27-11-2024 .

Please find the enclosed progress report on Leachate Management in
compliance with Hon'ble NGT Directive (OA 199/2021 dated 27.09.2024).

Yours faithfully,

Leelavathi
21/01/2025
ESD I/c

Encl: a/a

Copy to: M/s. Hyderabad Integrated Municipal Solid Waste Management, Survey
No.173, Jawahar Nagar Dump site, CRPF Road, Near Army Dental College,
Jawahar Nagar Grampanchayat village, Shamirpet Mandal, Hyderabad-500087

Interim Progress Report on Leachate Management in Compliance with Hon'ble NGT Directive (OA 199/2021 dated 27.09.2024)

In adherence to the Hon'ble National Green Tribunal's directive dated 27.09.2024, necessary measures have been undertaken to effectively manage leachate at the Jawahar Nagar capped legacy dump site. A summary of the progress and actions implemented is detailed below:

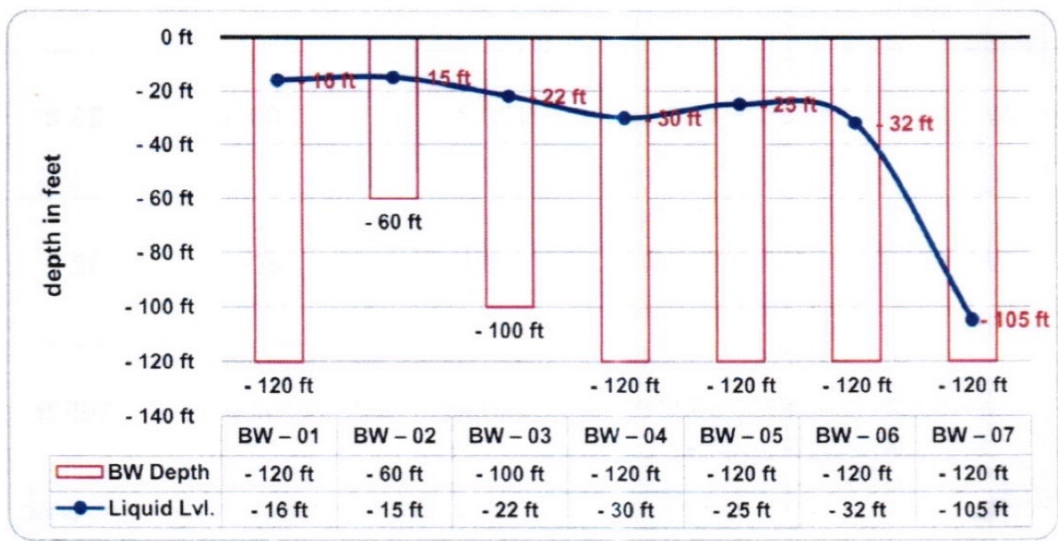
1. Hydrogeological Overview:

Seven (7) extraction bore wells, with diameters of 6½ inches and depths ranging from 60 to 120 feet, have been strategically drilled. The locations of these bore wells were determined based on hydrogeological assessments and the anticipated flow paths of leachate accumulation beneath the capped landfill.

The geographic coordinates and locations of the bore wells have been mapped (Annexure A).

2. Bore Well specifications:

The detailed specifications of the drilled bore wells are summarized in the table below:



Sl. No.	Bore Well Number	Location (Coordinates)	Depth	10" PVC Casing	7" PVC Casing	Liquid Level (Coloured Water)
1.	BW - 01	17°31'38.2"N, 78°35'20.0"E (Malkaram Near Barrication)	120 ft	20 ft	40 ft	16 ft
2.	BW - 02	17°31'32.4"N, 78°35'25.7"E (Malkaram DG Room)	60 ft	6 ft	40 ft	15 ft
3.	BW - 03	17°31'30.1"N, 78°35'36.5"E (Malkaram Down Area)	100 ft	5 ft	45 ft	22 ft
4.	BW - 04	17°31'28.4"N, 78°35'42.4"E (Opp. Gas Flare)	120 ft	5 ft	80 ft	30 ft
5.	BW - 05	17°31'26.9"N, 78°35'45.7"E (Near SLF RCC Sump)	120 ft	3 ft	80 ft	25 ft
6.	BW - 06	17°31'17.2"N, 78°35'51.0"E (RCC Flush Pond)	120 ft	3 ft	80 ft	32 ft
7.	BW - 07	17°31'14.6"N, 78°35'50.5"E (Gate-3 Opp. El. Room)	120 ft	5 ft	80 ft	105 ft

Photographs of the drilling process have been enclosed for reference (Annexure B).

3. Current Progress

Extraction from the bore wells commenced on 31.12.2024. Key activities include:

- **Regular Extraction:** Pumping of the liquid in the bore well @ twice daily till the quantity of liquid in the bore is emptied.
- **Treatment:** The liquid is being collected and subsequently being treated at the existing operational leachate treatment plant at the MSW processing & Disposal facility.
- **Sample Collection:** Samples (1-liter per bore well) are collected in PP cans for laboratory testing (Annexure C).
- **Preliminary Results:** Initial tests of the extracted liquid are under review (Annexure E).

4. Record Keeping

To ensure transparency and accuracy in monitoring, the following data is being recorded for each bore well:

- **Start and End Time:** The duration of extraction for each bore well is logged daily.
- **Volume Extracted:** The volume of liquid extracted from each bore well is measured and documented.

Detailed logs are provided in Annexure D.

5. Observations and Recommendations

- **Observations:**

Extracted Liquid Quality: The sampled liquid indicates high contamination levels which may be due to proximity to legacy contamination zones.

- **Bore Well Performance:** Limited self-catchment capacities are reducing the duration of continuous extraction.
- **Extraction Bore well (EBW-02):** Initially, the bore well demonstrated satisfactory functionality. However, following further assessments, it experienced structural failure and has since collapsed. Currently, the extraction depth is limited to 1.2 to 1.5 meters, making it ineffective for further leachate recovery. As a result, this bore well is no longer considered viable for future monitoring or studies.

- **Recommendations:**

- Implement uniform extraction schedules for improved efficiency.
- Conduct periodic water quality assessments to optimize operations including 3rd party assessment.
- Explore drilling additional bore wells to enhance capture efficiency and environmental protection.

6. Action Plan and Schedule:

- **Ongoing Analysis:** A comprehensive evaluation of leachate flow rates, quality parameters, and extraction efficiency is in progress.
- **Future Enhancements:** Depending on the findings, additional bore wells may be drilled or existing systems optimized to enhance leachate extraction and minimize environmental impact.
- **Submission of Final Report:** A detailed report consolidating all findings, along with long-term recommendations, will be submitted upon the completion of this phase.

7. Conclusion:

The undertaken measures align with the Hon'ble NGT's directive and aim to mitigate environmental impacts associated with leachate. The proactive management of bore well drilling and leachate extraction demonstrates a commitment to sustainable waste management and groundwater protection at the Jawahar Nagar site.

Enclosures:

1. Annexure A: Bore well location map (Google Earth)
2. Annexure B: Photographs during bore well drilling
3. Annexure C : Photographs Bore well sample collection
4. Annexure D : Day wise log book recording
5. Annexure E : Preliminary water quality test results

(Signature)
21/01/2025
ESD (E/C), EPTRE.

Annexure 'A'



Annexure 'B'

Photos during bore well drilling

BW - 01
17°31'38.2"N,
78°35'20.0"E
(Malkaram Near)



BW - 02
17°31'32.4"N,
78°35'25.7"E
(Malkaram DG Room)



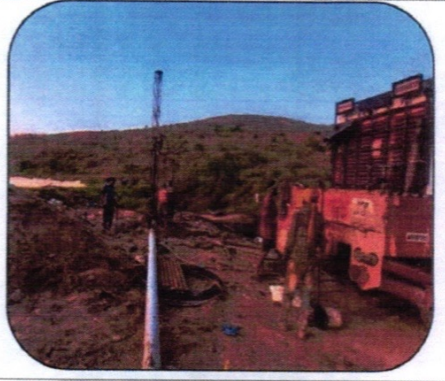
BW - 03
17°31'30.1"N,
78°35'36.5"E
(Malkaram Down)



BW - 04
17°31'28.4"N,
78°35'42.4"E
(Opp. Gas Flare)



BW - 05
17°31'26.9"N,
78°35'45.7"E
(Near SLF RCC Sump)



BW - 06
17°31'17.2"N,
78°35'51.0"E
(RCC Flush Pond)

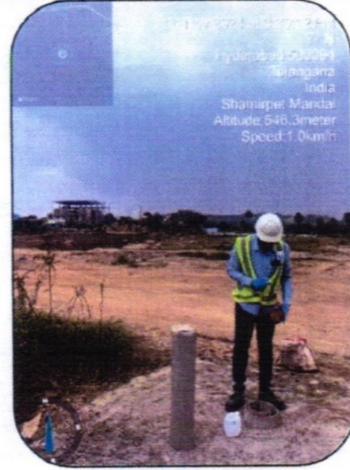
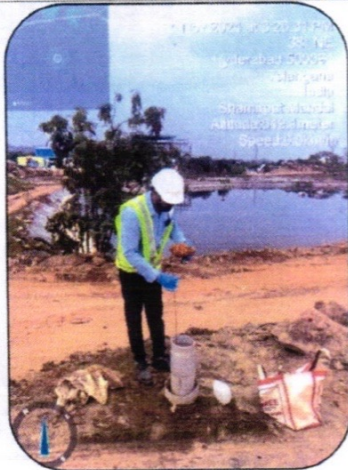


BW - 07
17°31'14.6"N,
78°35'50.5"E
(Gate-3 Opp. El. Room)



Annexure 'C'

Bore well sample collection photos



94

Annexure 'D'

Day wise log book recording

Extraction Bore Wells - Pumping Data								
S.no	Date	Bore well 1	Bore well 3	Bore well 4	Bore well 5	Bore well 6	Bore well 7	Total/Day
	52	Voume KL	Voume KL	Voume KL	Voume KL	Voume KL	Voume KL	Voume KL
1	31-Dec-24	2.18	0.00	1.04	2.18	1.77	0.52	7.70
2	31-Dec-24	1.30	0.00	0.94	1.25	1.09	0.31	4.89
3	01-Jan-25	1.66	0.00	0.78	1.35	0.83	0.42	5.04
4	01-Jan-25	1.20	0.00	0.52	0.94	0.62	0.42	3.69
5	02-Jan-25	2.44	0.00	1.04	1.51	1.25	0.31	6.55
6	02-Jan-25	1.40	0.00	0.57	0.88	1.35	0.10	4.32
7	03-Jan-25	1.87	0.73	1.51	1.77	1.46	0.31	7.64
8	03-Jan-25	0.88	0.26	1.40	1.14	0.94	0.16	4.78
9	04-Jan-25	1.61	0.31	1.82	2.24	1.14	0.31	7.44
10	04-Jan-25	1.35	0.21	0.88	1.09	0.78	0.21	4.52
11	05-Jan-25	1.25	0.42	0.99	1.51	1.20	0.26	5.62
12	05-Jan-25	1.51	0.21	0.78	0.94	0.68	0.26	4.37
13	06-Jan-25	2.24	0.57	1.30	1.56	1.14	0.31	7.12
14	06-Jan-25	1.09	0.62	0.68	0.94	0.68	0.31	4.32
15	07-Jan-25	1.87	0.99	1.09	1.56	0.83	0.47	6.81
16	07-Jan-25	1.20	0.57	0.68	1.14	1.04	0.31	4.94
17	08-Jan-25	2.24	0.68	0.62	2.29	0.78	0.42	7.02



TEST REPORT

Report No: HIMS W/EBW/ENV/25-0001
Name and address:

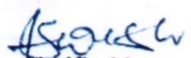
Page No 1 of 3

M/s. HIMS W Ltd,
Sy.No.173, JawaharNagar village
CRPF Road, Near Army Dental College,
Kapra Mandal, Medchal-Malkajgiri (Dt)
Hyderabad-500087 Telangana

Date of Report : 10.01.2025
Analysis Starting Date : 05.01.2025
Analysis Completion Date : 10.01.2025
Sample Collected on : 05.01.2025
Sample Condition : Sample was collected in 1 liters P.P. Cans
Sample Description : Extraction Bore well (EBW)
Subcontract Tests : Nil

Sample Registration No/ Location Details:

Reg. No	Location
HIMS W/250124 (EBW-1)	Near Malkaram Barricade
HIMS W/250124 /2 (EBW-3)	Near Malkaram Down Area
HIMS W/250124 /3 (EBW-4)	Near Opposite Gas Flare
HIMS W/250124 /4 (EBW-5)	Near SLF RCC Sump
HIMS W/250124 /5 (EBW-6)	Near RCC Flush Pond
HIMS W/250124 /6 (EBW-7)	Near Gate-3 Opposite Electric Room


Verified by
B.Suresh
Sr,Executive


Authorized Signatory
K.Saritha
Quality Manager

Hyderabad Integrated MSW Ltd.,
(Wholly owned subsidiary of Ke Sustainability Limited)
Registered Office:
Level 11B, Aurebindo Galaxy
Hyderabad Knowledge City,
HITECH City Road, Hyderabad-500 081, India

Site Address:
Survey No. 173, Jawahar Nagar Village, CRPF Road,
Near Army Dental College, Kapra Mandal,
Medchal-Malkajgiri District, Hyderabad - 500087, Telangana
CIN : U90001TG2009PLC063407

T: +91 40 2444 6000
E: info@resustainability.com

96



Hyderabad Integrated MSW Ltd.,


Report No: HIMSW/EBW/ENV/25-0001

Page No 2 of 3

TEST RESULTS FOR WATER SAMPLES

Samples are analyzed "as is where basis is"

Si. No	Parameter	Unit	Method (APHA, 24 th Edition, 2023)	Result		
				EBW-1	EBW-3	EBW-4
1	pH@25°C	--	APHA 24th Ed:4500 H+B	7.41	7.5	7.51
2	Total Suspended solids	mg/L	APHA 24th Ed:2540 D	68	63	60
3	Total Dissolved solids	mg/L	APHA 24th Ed:2540 C	3279	3699	3478
4	Total Alkalinity as Caco3	mg/L	APHA 24th Ed:2320B	424	795	720
5	Chlorides as Cl	mg/L	APHA 24th Ed:4500-CL- B	471	734	651
6	Chemical Oxygen demand(COD)	mg/L	APHA 24th Ed:4500-2320 B	1689	1691	1613
7	Total hardness as Caco3	mg/L	APHA 24th Ed:2340 C	413	767	748
8	Calcium Hardness as Ca	mg/L	APHA 24th Ed:3500 Ca B	38	58.3	60
9	Sulphates as SO ₄ ²⁻	mg/L	APHA 24th 4500 SO ₄ ²⁻ D	0.23	0.34	0.41
10	Fluoride as F	mg/L	APHA 24th 4500 F ⁻ D	146	229	187
11	Cadmium as Cd	mg/L	APHA 24th Ed:3120-B	<0.003	<0.003	<0.003
12	Copper as Cu	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05
13	Lead as Pb	mg/L	APHA 24th Ed:3120-B	<0.01	<0.01	<0.01
14	Zinc as Zn	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05
15	Nickel as Ni	mg/L	APHA 24th Ed:3120-B	<0.02	<0.02	<0.02
16	Chromium as Cr	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05
17	Arsenic as As	mg/L	APHA 24th Ed:3120-B	<0.01	<0.01	<0.01
18	Mercury as Hg	mg/L	APHA 24th Ed:3120-B	<0.001	<0.001	<0.001


Verified by
B.Suresh
Sr,Executive


Authorized Signatory
K.Saritha
Quality Manager

97



Hyderabad Integrated MSW Ltd.,

Report No: HIMSW/EBW/ENV/25-0001

Page No 3 of 3


TEST RESULTS FOR WATER SAMPLES

Samples are analyzed "as is where basis is"

Si. No	Parameter	Unit	Method (APHA, 24 th Edition, 2023)	Result		
				EBW-5	EBW-6	EBW-7
1	pH@25°C	--	APHA 24th Ed:4500 H+B	7.45	7.42	7.46
2	Total Suspended solids	mg/L	APHA 24th Ed:2540 D	42	38	40
3	Total Dissolved solids	mg/L	APHA 24th Ed:2540 C	3402	1817	3291
4	Total Alkalinity as CaCO ₃	mg/L	APHA 24th Ed:2320B	490	226	536
5	Chlorides as Cl	mg/L	APHA 24th Ed:4500-CL- B	395	274	452
6	Chemical Oxygen demand(COD)	mg/L	APHA 24th Ed:4500-2320 B	168	118	185
7	Total hardness as CaCO ₃	mg/L	APHA 24th Ed:2340 C	1487	536	865
8	Calcium Hardness as Ca	mg/L	APHA 24th Ed:3500 Ca B	724	175	297
9	Sulphates as SO ₄ ²⁻	mg/L	APHA 24th 4500 SO ₄ ²⁻ D	41	48	54
10	Fluoride as F	mg/L	APHA 24th 4500 F D	0.34	0.35	0.29
11	Cadmium as Cd	mg/L	APHA 24th Ed:3120-B	<0.003	<0.003	<0.003
12	Copper as Cu	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	0.21
13	Lead as Pb	mg/L	APHA 24th Ed:3120-B	<0.01	<0.02	<0.01
14	Zinc as Zn	mg/L	APHA 24th Ed:3120-B	0.11	<0.05	0.112
15	Nickel as Ni	mg/L	APHA 24th Ed:3120-B	<0.02	<0.02	<0.02
16	Chromium as Cr	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05
17	Arsenic as As	mg/L	APHA 24th Ed:3120-B	<0.01	<0.01	<0.01
18	Mercury as Hg	mg/L	APHA 24th Ed:3120-B	<0.001	<0.001	<0.001

- Opinion and interpretation: Nil
- Reports pertained only to the collected samples
- Test reports shall not be reproduced except in full, without written approval of the Laboratory

- END OF REPORT-


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K.Saritha
Quality Manager

98



TEST REPORT


Report No: HIMS/EBW/ENV/24-0002
Name and address :

Page No 1 of 3

M/s. HIMS Ltd,
Sy.No.173, JawaharNagar village
CRPF Road, Near Army Dental College,
Kapra Mandal, Medchal-Malkajgiri (Dt)
Hyderabad-500087 Telangana

Date of Report : 31.12.2024
Analysis Starting Date : 26.12.2024
Analysis Completion Date : 31.12.2024
Sample Collected on : 26.12.2024
Sample Condition : Sample was collected in 1 liters P.P. Cans
Sample Description : Extraction Bore well (EBW)
Subcontract Tests : Nil
Sample Registration No/ Location Details:

Reg. No	Location
HIMS/248096 (EBW-1)	Near Malkaram Barrication
HIMS/248096/2 (EBW-3)	Near Malkaram Down Area
HIMS/248096/3 (EBW-4)	Near Opposite Gas Flare
HIMS/248096/4 (EBW-5)	Near SLF RCC Sump
HIMS/248096/5 (EBW-6)	Near RCC Flush Pond
HIMS/248096/6 (EBW-7)	Near Gate-3 Opposite Electric Room


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99

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Report No: HIMSW/EBW/ENV/24-0002

Page No 2 of 3

TEST RESULTS FOR WATER SAMPLES

Samples are analyzed "as is where basis is"

Si. No	Parameter	Unit	Method (APHA, 24 th Edition, 2023)	Result		
				EBW-1	EBW-3	EBW-4
1	pH@25°C	--	APHA 24th Ed:4500 H+B	7.38	7.52	7.48
2	Total Suspended solids	mg/L	APHA 24th Ed:2540 D	76	63	58
3	Total Dissolved solids	mg/L	APHA 24th Ed:2540 C	3312	3762	3563
4	Total Alkalinity as CaCO ₃	mg/L	APHA 24th Ed:2320B	438	789	731
5	Chlorides as Cl	mg/L	APHA 24th Ed 4500-CL- B	489	782	617
6	Chemical Oxygen demand(COD)	mg/L	APHA 24th Ed:4500-2320 B	1712	1762	1592
7	Total hardness as CaCO ₃	mg/L	APHA 24th Ed:2340 C	236	799	763
8	Calcium Hardness as Ca	mg/L	APHA 24th Ed:3500 Ca B	49	60.7	63
9	Sulphates as SO ₄ ²⁻	mg/L	APHA 24th 4500 SO ₄ ²⁻ D	0.29	0.41	0.43
10	Fluoride as F	mg/L	APHA 24th 4500 F D	152	231	192
11	Cadmium as Cd	mg/L	APHA 24th Ed:3120-B	<0.003	<0.003	<0.003
12	Copper as Cu	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05
13	Lead as Pb	mg/L	APHA 24th Ed:3120-B	0.01	<0.01	<0.01
14	Zinc as Zn	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05
15	Nickel as Ni	mg/L	APHA 24th Ed 3120-B	<0.02	<0.02	<0.02
16	Chromium as Cr	mg/L	APHA 24th Ed 3120-B	<0.05	<0.05	<0.05
17	Arsenic as As	mg/L	APHA 24th Ed:3120-B	<0.01	<0.01	<0.01
18	Mercury as Hg	mg/L	APHA 24th Ed:3120-B	<0.001	<0.001	<0.001


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100



Hyderabad Integrated MSW Ltd.,

Report No: HIMSW/EBW/ENV/24-0002

Page No 3 of 3

TEST RESULTS FOR WATER SAMPLES

Samples are analyzed "as is where basis is"

Si. No	Parameter	Unit	Method (APHA, 24 th Edition, 2023)	Result		
				EBW-5	EBW-6	EBW-7
1	pH@25°C	-	APHA 24th Ed:4500 H+B	7.43	7.39	7.46
2	Total Suspended solids	mg/L	APHA 24th Ed:2540 D	45	34	38
3	Total Dissolved solids	mg/L	APHA 24th Ed:2540 C	3397	1817	3470
4	Total Alkalinity as Caco3	mg/L	APHA 24th Ed:2320B	481	226	521
5	Chlorides as Cl	mg/L	APHA 24th Ed:4500-CL- B	426	274	460
6	Chemical Oxygen demand(COD)	mg/L	APHA 24th Ed:4500-2320 B	172	118	198
7	Total hardness as Caco3	mg/L	APHA 24th Ed:2340 C	1588	536	898
8	Calcium Hardness as Ca	mg/L	APHA 24th Ed:3500 Ca B	843	175	312
9	Sulphates as SO ₄ ²⁻	mg/L	APHA 24th 4500 SO ₄ ²⁻ D	43.4	48	56
10	Fluoride as F	mg/L	APHA 24th 4500 F- D	0.29	0.35	0.38
11	Cadmium as Cd	mg/L	APHA 24th Ed:3120-B	<0.003	<0.003	<0.003
12	Copper as Cu	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	0.19
13	Lead as Pb	mg/L	APHA 24th Ed:3120-B	<0.01	<0.02	<0.01
14	Zinc as Zn	mg/L	APHA 24th Ed:3120-B	0.13	<0.05	0.106
15	Nickel as Ni	mg/L	APHA 24th Ed:3120-B	<0.02	<0.02	<0.02
16	Chromium as Cr	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05
17	Arsenic as As	mg/L	APHA 24th Ed:3120-B	<0.01	<0.01	<0.01
18	Mercury as Hg	mg/L	APHA 24th Ed:3120-B	<0.001	<0.001	<0.001

- Opinion and interpretation: Nil
- Reports pertained only to the collected samples
- Test reports shall not be reproduced except in full, without written approval of the Laboratory

- END OF REPORT -

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Sr,Executive

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Quality Manager



TEST REPORT

Report No: HIMSW/EBW/ENV/24-0001
Name and address:

Page No 1 of 3

M/s. HIMSW Ltd,
Sy.No.173, JawaharNagar village
CRPF Road, Near Army Dental College,
Kapra Mandal, Medchal-Malkajgiri (Dt)
Hyderabad-500087 Telangana

Date of Report : 19.12.2024
Analysis Starting Date : 15.12.2024
Analysis Completion Date : 18.12.2024
Sample Collected on : 15.12.2024
Sample Condition : Sample was collected in 1 liters P.P. Cans
Sample Description : Extraction Bore well (EBW)
Subcontract Tests : Nil
Sample Registration No/ Location Details:

Reg. No	Location
HIMSW/247211 (EBW-1)	Near Compound wall Security Post
HIMSW/247212 (EBW-2)	Near Flare Unit-1
HIMSW/247213 (EBW-3)	Near Malkaram Pond 2A
HIMSW/247214 (EBW-4)	Near Flush Pond
HIMSW/247215 (EBW-5)	Near Flare Unit-3
HIMSW/247216 (EBW-6)	Near Old Landfill Electrical Room
HIMSW/247217 (EBW-7)	Near Labour Camp

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Quality Manager

102



Hyderabad Integrated MSW Ltd.,

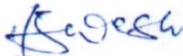
Report No: HIMSW/EBW/ENV/24-0001

Page No 2 of 3

TEST RESULTS FOR WATER SAMPLES

Samples are analyzed "as is where basis is"

Sl. No	Parameter	Unit	Method (APHA, 24 th Edition, 2023)	Result			
				EBW-1	EBW-2	EBW-3	EBW-4
1	pH@25°C	--	APHA 24th Ed:4500 H+B	7.34	7.48	7.59	7.45
2	Total Suspended solids	mg/L	APHA 24th Ed:2540 D	80	82	56	54
3	Total Dissolved solids	mg/L	APHA 24th Ed:2540 C	3245	4092	3849	3440
4	Total Alkalinity as Caco3	mg/L	APHA 24th Ed:2320B	446	842	770	652
5	Chlorides as Cl	mg/L	APHA 24th Ed:4500-CL- B	547	894	810	554
6	Total hardness as Caco3	mg/L	APHA 24th Ed:2340 C	1630	1902	1849	1684
7	Calcium Hardness as Ca	mg/L	APHA 24th Ed:3500 Ca B	215	790	805	795
8	Sulphates as SO ₄ ²⁻	mg/L	APHA 24th 4500 SO ₄ ²⁻ D	56	50.5	61.4	62
9	Fluoride as F	mg/L	APHA 24th 4500 F·D	0.32	0.41	0.38	0.46
10	Chemical Oxygen Demand (COD)	mg/L	APHA 24th Ed:4500-2320 B	160	225	220	180
11	Cadmium as Cd	mg/L	APHA 24th Ed:3120-B	<0.003	<0.003	<0.003	<0.003
12	Copper as Cu	mg/L	APHA 24th Ed:3120-B	0.15	<0.05	<0.05	<0.05
13	Lead as Pb	mg/L	APHA 24th Ed:3120-B	0.02	0.01	<0.01	<0.01
14	Zinc as Zn	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05	0.06
15	Nickel as Ni	mg/L	APHA 24th Ed:3120-B	<0.02	0.130	<0.02	<0.02
16	Chromium as Cr	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05	<0.05
17	Arsenic as AS	mg/L	APHA 24th Ed:3120-B	<0.01	<0.01	<0.01	<0.01
18	Mercury as Hg	mg/L	APHA 24th Ed:3120-B	<0.001	<0.001	<0.001	<0.001


Verified by
B.Suresh
Sr,Executive


Authorized Signatory
K.Saritha
Quality Manager



Report No: HIMSW/EBW/ENV/24-0001

Page No 3 of 3

TEST RESULTS FOR WATER SAMPLES

Samples are analyzed "as is where basis is"

Si. No	Parameter	Unit	Method (APHA, 24 th Edition, 2023)	Result		
				EBW-5	EBW-6	EBW-7
1	pH@25°C	--	APHA 24th Ed:4500 H+B	7.46	7.42	7.49
2	Total Suspended solids	mg/L	APHA 24th Ed:2540 D	40	29	42
3	Total Dissolved solids	mg/L	APHA 24th Ed:2540 C	3485	1724	3390
4	Total Alkalinity as CaCO ₃	mg/L	APHA 24th Ed:2320B	527	230	568
5	Chlorides as Cl	mg/L	APHA 24th Ed:4500-CL- B	504	296	480
6	Chemical Oxygen demand(COD)	mg/L	APHA 24th Ed:4500-2320 B	190	105	220
7	Total hardness as CaCO ₃	mg/L	APHA 24th Ed:2340 C	1690	520	920
8	Calcium Hardness as Ca	mg/L	APHA 24th Ed:3500 Ca B	860	154	230
9	Sulphates as SO ₄ ²⁻	mg/L	APHA 24th 4500 SO ₄ ²⁻ D	41.8	52	54
10	Fluoride as F	mg/L	APHA 24th 4500 F-D	0.32	0.36	0.40
11	Cadmium as Cd	mg/L	APHA 24th Ed:3120-B	<0.003	<0.003	<0.003
12	Copper as Cu	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	0.22
13	Lead as Pb	mg/L	APHA 24th Ed:3120-B	<0.01	<0.02	<0.01
14	Zinc as Zn	mg/L	APHA 24th Ed:3120-B	0.16	<0.05	0.111
15	Nickel as Ni	mg/L	APHA 24th Ed:3120-B	<0.02	<0.02	<0.02
16	Chromium as Cr	mg/L	APHA 24th Ed:3120-B	<0.05	<0.05	<0.05
17	Arsenic as As	mg/L	APHA 24th Ed:3120-B	<0.01	<0.01	<0.01
18	Mercury as Hg	mg/L	APHA 24th Ed:3120-B	<0.001	<0.001	<0.001

- Opinion and interpretation: Nil
- Reports pertained only to the collected samples
- Test reports shall not be reproduced except in full, without written approval of the Laboratory

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B.Suresh
Sr,Executive

- END OF REPORT-

K. Saritha
Authorized Signatory
K.Saritha
Quality Manager

**BEFORE THE HON'BLE NATIONAL
GREEN TRIBUNAL, SOUTHERN
ZONE, CHENNAI**

O.A. No. 199 of 2021(SZ)

IN THE MATTER OF:

Sri. Shankar Narayanan Bala Krishnan,
Telangana and Ors

... Applicant(s)

-vs-

State of Telangana
And Ors

...Respondent(s)

**REPORT FILED ON BEHALF OF
RESPONDENT NO.6**

M/s. D.SREENIVASAN, E.NO.158/1994
V.JAIHARISUDHAN, E.NO.3245/2016

**COUNSEL FOR RESPONDENT
NO.6**

CELL: 95000 19999