

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,  
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 750/2019

IN THE MATTER OF,

Dr. Sanjay Rao & Ors .....Applicant(s)

Versus

State of Karnataka .....Respondent(s)

**AFFIDAVIT FILED BY ADDITIONAL CHIEF SECRETARY, URBAN  
DEVELOPMENT DEPARTMENT, GOVERNMENT OF KARNATAKA -  
RESPONDENT**

I, Rakesh Singh, I.A.S., S/o Sri Bharath Prasad Singh, aged about 56 years working as Additional Chief Secretary, Urban Development Department, Government of Karnataka (herein after refer to as ACS, UDD) do hereby in my official capacity, solemnly affirm and state on oath as follows,

1. I submit that I have been working as Additional Chief Secretary, Urban Development Department since 14-02-2020 and in my official capacity and as verifiable from official records maintained with Government of Karnataka, I am familiar with the facts of the case and hence I am swearing to this Affidavit.



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2. I respectfully submit that based on the directions of this Hon'ble Tribunal, I ensured coordination with various institutions / stake holders and based on the information provided by such institutions / stake holders, I depose the present affidavit.
3. It is submitted that, Hon'ble National Green Tribunal (NGT) in its Order dated 19-06-2020 has passed following directions vide Para 7 & 8;

**Directions of Hon'ble NGT:**

**3. Accordingly, action taken report dated 15.09.2020, and further report dated 29.10.2020 updating the steps taken have been filed by the Additional Chief Secretary, Karnataka. Action proposed is as follows:-**

| <b>Sl. No.</b> | <b>Action</b>  | <b>Agency Responsible</b>  | <b>Time lines</b> |
|----------------|--|--|-------------------|
| 1              | Clearance of Legacy Waste  | <b>TMC</b> - Issue of comfort letter, provide all necessary help & support to BIA<br><br><b>BIA</b> - Execution of work  | 3 months          |
| 2              | Installation of 5 Container type of 50 KLD capacity STPs to treat Sewage generated in 2 wards of TMC | <u>Procurement</u><br><b>BIA</b> - 2 Units<br><b>TMC</b> - 3 Units (funds for 2 units to be provided by DMA/UDD)<br><u>Installation, Operation &amp; Maintenance</u><br><b>M/s. Wapcos Limited</b><br>(Supplier Company) | 4 months          |
| 3              | Purification of polluted lake water  | <b>BIA</b>   | 7 months          |



*M/S*



|   |   |                  |           |
|---|---|------------------|-----------|
| 4 | Prevention of discharge untreated Industrial Waste into the Lake. | <b>KSPCB/BIA</b> | 3 months  |
| 5 | Rejuvenation / Beautification of Lake                             | <b>BIA</b>       | 12 months |

**4. Let further action be taken as per the above and status report as on 31.03.2021 may be furnished before the next date by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.**

**List for further consideration on 29.04.2021.**

4. It is submitted that as per the above directions of Hon'ble NGT, State Government immediately took following steps in a time bound manner;
- In order to expedite the process of procurement & installation of STPs, a proposal was submitted to Finance Department, Govt. of Karnataka to obtain exemption from KTPP Act, 1999 under 4(g) clause to procure 3 nos. of 50 KLD modular STPs directly from M/s. WAPCOS ltd., without following the regular tender procedure which may lead to time delay in selection of the eligible supplier.
  - The Finance Department (FD) accorded 4(g) exemption to Town Municipal Council Bommasandra (TMC) vide its Notification No. FD 676 Exp-12/2020, dated 21-11-2020



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to procure 3 nos. of 50 KLD modular STPs from M/s. WAPCOS Ltd., at a total cost Rs. 210.56 lakhs and also gave its concurrence for UDD to release Rs. 140.36 lakhs for two units to TMC and for TMC to utilize Rs. 70.18 lakhs for one unit from its own funds, vide its UO Note No. FD 521 Exp-9/2020, dated: 27-11-2020. Copy of the FD Notification and UO Note are enclosed herewith and marked as **Annexure-R1 & Annexure - R2.**

- c. Accordingly, State Government released Rs. 140.37 lakhs to TMC Bommasandra vide its Order No. UDD 300 CSS 2020, Dated 10-12-2020 out of Rs. 50 crores allocated in the State Budget for the year 2020-21 under the Head of Account 3604-00-191-1-00 for implementation of FSSM Projects in the selected ULBs of the State. Copy of the GO is enclosed herewith and marked as **Annexure-R3.**

5. It is submitted that, necessary instructions were issued to Directorate of Municipal Administration (DMA), District Urban Development Cell (DUDC), Town Municipal Council Bommasandra (TMC), Bommasandra Industries Association (BIA) through the Video Conferences (VCs) held on 20-11-2020 and 15-01-2021, to take all necessary steps to issue the Letter of Acceptance / Work Order at the earliest to M/s WAPCOS Ltd for all the 5 units of modular STPs including 2 units to be procured by BIA. Copy of the VC proceedings dated 20-11-2020 and 15-01-2021 are enclosed herewith and marked as **Annexure-R4 & Annexure-R5.**



*M.S. Ballal*



6. It is submitted that, TMC Bommasandra issued the Letter of Acceptance dated: 06-01-2021 to M/s WAPCOS Ltd., mentioning the commercial terms and conditions of the supply of said STPs. The Deputy Chief Engineer of M/s WAPCOS Ltd. sought few days of time to finalise the Memorandum of Understanding (MoU) to be signed with TMC Bommasandra. Copy of the LoA issued by TMC is enclosed herewith and marked as **Annexure-R6**.
7. It is submitted that, the land measuring 1750 Sq.M belonging to Karnataka Industrial Areas Development Board (KIADB) where installation of 5 STPs are proposed, has been handed over by KIADB to TMC Bommasandra vide its letter dated: 07-01-2021. In addition to that, Consent for Establishment of 250 KLD modular STPs (5 Nos of each 50 KLD capacity) at designated KIADB area of Bommasandra has been obtained by KSPCB vide its letter dated: 15-01-2021. Copy of the KIADB land handover letter and KSPCB Consent Letter have been enclosed herewith and marked as **Annexure-R7 & Annexure-R8**.
8. It is submitted that, the sub vendors of M/s WAPCOS Ltd. orally communicated to DUDC Office and TMC Bommasandra that, the WAPCOS management are demanding 50% mobilization advance and not agreeing for 5% mobilization advance as stipulated in the draft MoU as well as Letter of Acceptance issued by TMC Bommasandra. Immediately, a Meeting was convened by the Director, Directorate of





Municipal Administration with sub vendors of M/s WAPCOS Ltd on 29-01-2021. During the telephonic conversation with Deputy Chief Engineer of M/s WAPCOS Ltd. and after explaining him the efforts taken by Urban Development Department, Directorate of Municipal Administration in getting the 4(g) exemption for WAPCOS, the Finance Department's rules & regulations (clause) regarding advance payment to suppliers, the payment schedules which provides almost 20-25% payments once they complete the initial milestones including preliminary civil works, shipment of modular STPs and its accessories to the site etc, if they take up the said project, the Deputy Chief Engineer of M/s WAPCOS Ltd., agreed to continue with the shipment of said STPs.

9. It is submitted that, immediately after the said Meeting, one more letter was written to M/s WAPCOS Ltd on 30-01-2021 by TMC Bommasandra, reiterating the decisions taken in the Meeting regarding advance payment. But the Deputy Chief Engineer of M/s WAPCOS Ltd who had earlier agreed for 5% mobilization advance, reverted back from his decision and communicated vide their letter dated: 02-02-2021 that, until and unless 50% mobilization advance is paid, they will not take up the said work and expressed their inability to continue with the project. The TMC letter dated 30-01-2021 and WAPCOS letter dated 02-02-2021 are enclosed herewith and marked as **Annexure-R9** & **Annexure-R10**.



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10. It is submitted that several attempts to contact Dr. R.P. Dubey, Senior Executive Director of M/s WAPCOS Ltd., over telephone were made by Additional Chief Secretary and other officials to talk to him and make him understand the gravity of situation in view of the Hon'ble NGT's mandate and timelines set, but he didn't pick up any one's call and intentionally avoided talking to State Officials.
11. It is submitted that, A meeting was convened by Director, Directorate of Municipal Administration with the DMA officials, DUDC of Bengaluru Urban dist, TMC Bommasandra and after detailed deliberations and discussions, it was decided to go for short term tender and instructions were issued to the concerned technical person to prepare a Detailed Project Report (DPR) and estimates, to establish 250 KLD modular STPs along with 5 years of O&M. The DPR prepared with a cost of Rs. 209.90 lakhs (with a cost sharing ratio of 60:40 between TMC and BIA respectively) along with detailed estimates is enclosed here with and Marked as **Annexure-R11**.
12. It is submitted that, The DPR along with detailed estimates were placed before the District Technical Committee headed by Deputy Commissioner of Bengaluru Urban District on 23-02-2021 for obtaining Administrative approval and Technical sanction and the same were accorded. Copies of Administrative approval and Technical sanction issued by the



*M.S. Ballal*



said District Committee have been enclosed herewith and marked as **Annexure-R12 & Annexure-R13.**

13. It is submitted that, Chief Officer of TMC Bommasandra invited the tender through e-Procurement Portal vide Notification dated: 24-02-2021 and addendum dated 06-03-2021. The last date for submission of proposals was 09-03-2021, date of opening of technical bids was 12-03-2021 and date of opening of financial bids was 15-03-2021. Copies of Tender Notification along with the Addendum are enclosed herewith and marked as **Annexure-R14 & Annexure-R15.**

14. It is submitted that, as per the tender schedule, technical bids were opened on 12-03-2021(e-Procurement Portal), three bidders were participated in the tender and after evaluation of all the three Bidders' technical bids, only one Bidder namely M/s Ashwinibhai Khanjibai Vachhani (M/s Oasis Renewable and Water Treatment Ltd), Ahmedabad was found to be technically qualified and their financial bid was opened on 18-03-2021. After the negotiation, the cost was finalised at Rs. 210.41 lakhs. Letter of Acceptance was issued on dated: 20-03-2021 and subsequently Contract Agreement was signed and 'Notice to proceed with the Work' was issued on 29-03-2021. As per the Agreement, the Agency has to complete the installation and commissioning of 250 KLD modular STP within 3 months period i.e., before 30-06-2021. Copy of the Notice to proceed with the Work dated





29-03-2021 is enclosed herewith and marked as **Annexure-R16.**

15. It is submitted that, substantial progress has been achieved in lake rejuvenation work by Bommasandra Industries Association (BIA) and following activities have been completed,

- ✓ Excavation, segregation and safe disposal of legacy waste.
- ✓ Removal of silt from Lake Bed to increase the water storage.
- ✓ Peripheral bund formation.
- ✓ Shaping of existing island including stone pitching.
- ✓ Installation of 4 nos. of inlet pipeline along with 4 silts traps.
- ✓ Construction of 2 nos. of sedimentation tanks and 1 no. of bio-tank.
- ✓ Stone pitching throughout the Lake bund and existing island.
- ✓ Place provision is made for Miyawaki Forest and three ornamental gardens.
- ✓ Road Formation is done.
- ✓ Outlet pipe and Waste weir for the lake.
- ✓ Water holding capacity of the lake has increased
- ✓ Laying of grass on external side of bund to avoid soil erosion (ongoing).
- ✓ Proper embankment is created.



MSB



commissioning of STPs by another 3 months, it is also ensured that all necessary steps will be taken to complete it well before the completion of lake rejuvenation works. It is also ensured that no untreated sewage or effluents are let into the Lake under any circumstances. Copy of the VC proceedings dated 06-03-2021 is attached herewith and marked as **Annexure-R18**.

WHEREFORE, I respectfully pray that this Hon'ble Tribunal may be pleased to accept the above information in the interest of justice and equity.

*MSB*  
**DEPONENT**

**VERIFICATION**

I, the above named Deponent do hereby verify that all the facts stated in the affidavit are true to my knowledge and that no part thereof is false and nothing material is concealed there from.

Verified at Bangaluru on  
19<sup>th</sup> day of April 2021



*MSB*  
**DEPONENT**

**Identified by me;**

*G.N. Nagesh Kumar*  
**G.N. NAGESH KUMAR**  
**AEE(Env), UDD**

Sworn / Solemnly affirmed and signed before me  
on this 19<sup>th</sup> day of April 2021 at Bengaluru.  
N.R. Sl. No. 670 Corrections : Nil  
*MS Ballal*  
**M. S. BALLAL, Advocate & Notary, Bengaluru**





ಸಂಖ್ಯೆ:ಆಇ 676 ವೆಚ್ಚ-12/2020  
(e-Office File)

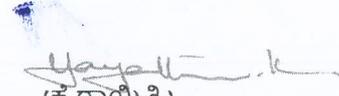
ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಸಚಿವಾಲಯ  
ವಿಧಾನ ಸೌಧ,  
ಬೆಂಗಳೂರು, ದಿನಾಂಕ:21.11.2020

ಅಧಿಸೂಚನೆ

ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಯಲ್ಲಿ 3 ಸಂಖ್ಯೆಯ 50 KLD ಸಾಮರ್ಥ್ಯದ Compact Modular STP ಘಟಕಗಳನ್ನು ಅಭಿವೃದ್ಧಿಪಡಿಸಿ 5 ವರ್ಷಗಳ ಅವಧಿಗೆ ನಿರ್ವಹಣೆ ಮಾಡಲು M/s.WAPCOS Limited, (A GoI Undertaking) ರವರ ಸೇವೆಯನ್ನು ರೂ.210.56 ಲಕ್ಷಗಳ ವೆಚ್ಚದಲ್ಲಿ ನೇರವಾಗಿ ಪಡೆಯಲು ಕರ್ನಾಟಕ ಸಾರ್ವಜನಿಕ ಸಂಗ್ರಹಣೆಗಳಲ್ಲಿ ಪಾರದರ್ಶಕತೆ ಅಧಿನಿಯಮ - 1999ರ ಕಲಂ 4(ಬಿ) ರಡಿ ಪ್ರದತ್ತವಾದ ಅಧಿಕಾರ ಚಲಾಯಿಸಿ ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆಗೆ ಪಾರದರ್ಶಕತೆ ಕಾಯ್ದೆಯಿಂದ ವಿನಾಯಿತಿ ನೀಡಿದೆ.

ಉತ್ತಮ ಗುಣಮಟ್ಟದ ಸೇವೆಯನ್ನು ಸಮಂಜಸ ದರದಲ್ಲಿ ಸಂಗ್ರಹಿಸುವುದನ್ನು ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆಯು ದೃಢಪಡಿಸಿಕೊಳ್ಳುವುದು.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆಜ್ಞಾನುಸಾರ  
ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ

  
(ಕೆ.ಗಾಯತ್ರಿ)

ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ

ಆರ್ಥಿಕ ಇಲಾಖೆ (ಸಂಗ್ರಹಣಾ ಕೋಶ)(ಪ್ರ)



ಇದರಿಗೆ:

ಜಂಟಿ ನಿರ್ದೇಶಕರು, ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ, ಸರ್ಕಾರಿ ಮುದ್ರಣಾಲಯ, ಆರ್.ವಿ.ಕಾಲೇಜು ಅಂಚೆ, ಮೈಸೂರು ರಸ್ತೆ, ಕೆಂಗೇರಿ, ಬೆಂಗಳೂರು-59, ಮುಂದಿನ ವಿಶೇಷ ರಾಜ್ಯ ಪತ್ರದಲ್ಲಿ ಪ್ರಕಟಿಸುವ ಸಲುವಾಗಿ ಹಾಗೂ 25 ಮುದ್ರಿತ ಪ್ರತಿಗಳನ್ನು ಸರಬರಾಜು ಮಾಡಲು ಕೋರಿದೆ.

ಪ್ರತಿ:

- 1) ಮಹಾಲೇಖಪಾಲರು (ಲೆಕ್ಕ ಮತ್ತು ಪರಿಶೋಧನೆ), ಬೆಂಗಳೂರು.
- 2) ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ.
- 3) ನಿರ್ದೇಶಕರು, ರಾಜ್ಯ ಪತ್ರಾಗಾರ ಇಲಾಖೆ, ವಿಕಾಸಸೌಧ, ಬೆಂಗಳೂರು - 10 ಪ್ರತಿಗಳು.
- 4) ಹೆಚ್ಚುವರಿ ಪ್ರತಿ



No. FD 676 Exp-12/2020  
(e-Office File)

Karnataka Government Secretariat  
Vikasa Soudha  
Bengaluru, Date: 21-11-2020

**NOTIFICATION**

By exercise of the powers conferred under Section 4(g) of Karnataka Transparency in Public procurement Act, 1999, Government hereby exempt the procurement of services of M/s WAPCOS Limited (A GoI Undertaking) to develop 3 nos. of 50 KLD capacity Compact Modular STP units at TMC Bommasandra and maintain them for 5 years at the cost of Rs. 210.56 lakhs, by executing the powers delegated

Urban Development Department shall ensure that good quality services are procured at reasonable rates.

By order and in the name of  
the Governor of Karnataka

**Sd/-**

**(GAYATHRI K.)**

Under Secretary to Government  
Finance Department (Procurement Cell)(I/c).

**To:**

Joint Director, State Gazette, Govt. Printing Press, RV College Post, Mysuru Road, Kengeri, Bengaluru -59, with a request to publish in the next Special Gazette and to provide 25 printed copies.

**Copy:**

1. Accountant General (Accounts &Entitlement), Bangalore.
2. Secretary to Government, Urban Development Department.
3. Director, Karnataka Gazetteer Department, Vikasa Soudha, Bengaluru – 10 copies.
4. Additional Copies.



ವಿಷಯ: ಮಾನ್ಯ NGT ಪ್ರಕರಣ ಸಂಖ್ಯೆ 750/2019 ರ ಆದೇಶದನ್ವಯ 3 ಸಂಖ್ಯೆಯ ಕಂಟೈನರ್ STP ಘಟಕಗಳನ್ನು M/s Wapcos Ltd. ರವರಿಂದ ರೂ. 210.55 ಲಕ್ಷಗಳ ಮೊತ್ತಕ್ಕೆ ಖರೀದಿಸಲು ಕೆ.ಟಿ.ಪಿ.ಪಿ. ಕಾಯ್ದೆಯಿಂದ 4(ಜಿ) ಅಡಿಯಲ್ಲಿ ವಿನಾಯಿತಿ ನೀಡುವ ಬಗ್ಗೆ

FD 521 Exp-9/2020  
UDD 300 CSS 2020

Finance Department (Exp-9)  
Dated: 27/11/2020

ಆಡಳಿತ ಇಲಾಖೆಯ ಪ್ರಸ್ತಾವನೆಯನ್ನು ಪರಿಶೀಲಿಸಲಾಗಿದೆ. ಆಡಳಿತ ಇಲಾಖೆಯ ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ಕೋರಿರುವ ಅಂಶಗಳಿಗೆ ಈ ಕೆಳಕಂಡಂತೆ ಅಭಿಪ್ರಾಯಿಸಿದೆ.

| ಕ್ರ.ಸಂ. | ಅನುಮೋದನೆ ಕೋರಿರುವ ಅಂಶ   | ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಷರಾ   |
|---------|--|---|
| 1       | 3 ಸಂಖ್ಯೆಯ 50 KLD ಸಾಮರ್ಥ್ಯದ Compact Modular STP ಘಟಕಗಳನ್ನು ಅಭಿವೃದ್ಧಿ ಪಡಿಸಿ 5 ವರ್ಷಗಳ ಅವಧಿಗೆ ನಿರ್ವಹಿಸಲು ತಗಲುವ ಒಟ್ಟು ವೆಚ್ಚ ರೂ. 210.56 ಲಕ್ಷಗಳ ಪೈಕಿ, ಒಂದು ಘಟಕದ ವೆಚ್ಚ ರೂ. 70.19 ಲಕ್ಷಗಳನ್ನು ಪುರಸಭೆಯ ವತಿಯಿಂದ ಭರಿಸಲು ಹಾಗೂ ಇನ್ನುಳಿದ 2 ಘಟಕಗಳ ವೆಚ್ಚ ರೂ. 140.36 ಲಕ್ಷಗಳನ್ನು 2020-21ನೇ ಸಾಲಿನ ಪರಿಷ್ಕೃತ ಆಯವ್ಯಯದಲ್ಲಿ ಲೆಕ್ಕ ಶೀರ್ಷಿಕೆ 3604-00-191-1-00 ರಡಿಯಲ್ಲಿ Feacal Sludge and Septage Management ಗಾಗಿ ಮಿಸಲಿಟ್ಟಿರುವ ರೂ. 50 ಕೋಟಿಗಳ ಅನುದಾನದಲ್ಲಿ ಭರಿಸಲು / ಬಿಡುಗಡೆ ಮಾಡಲು ಸಹಮತಿ. | Finance Department agrees for incurring Rs 140.36 lakhs out of FSSM HoA for provision of STP to Bommasandra TMC provided AD drops one ULB of comparable cost from the approved 50 ULBs to be taken up for FSSM this year. |
| 2       | ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಯು 3 ಸಂಖ್ಯೆಯ 50 KLD ಸಾಮರ್ಥ್ಯದ Compact Modular STP ಘಟಕಗಳನ್ನು M/s WAPCOS Limited, (A Govt. of India Undertaking) ರವರಿಂದ ರೂ. 210.56 ಲಕ್ಷಗಳ ವೆಚ್ಚದಲ್ಲಿ ಅಭಿವೃದ್ಧಿ ಪಡಿಸಿ 5 ವರ್ಷಗಳ ಅವಧಿಗೆ ನಿರ್ವಹಿಸಲು 4(ಜಿ) ಅಡಿಯಲ್ಲಿ ಕೆ.ಟಿ.ಪಿ.ಪಿ. ಕಾಯ್ದೆಯಿಂದ ಪುರಸಭೆಗೆ ವಿನಾಯಿತಿ ನೀಡುವುದು.  | 4(ಜಿ) ವಿನಾಯಿತಿ ನೀಡಿರುವ ಸರ್ಕಾರದ ಅಧಿಸೂಚನೆ ಸಂಖ್ಯೆ:ಆಇ 676 ವೆಚ್ಚ-12 /2020 ದಿನಾಂಕ: 21-11-2020 ರ ಪ್ರತಿಯನ್ನು ಲಗತ್ತಿಸಿದೆ.  |

(ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ (ವೆಚ್ಚ)

ಆರ್ಥಿಕ ಇಲಾಖೆ ಇವರಿಂದ ಅನುಮೋದಿತ),

**Signed by Gopichandra S**  
**Date: 27-11-2020 17:46:37**  
**Reason: Approved**

(ಎಸ್.ಗೋಪಿಚಂದ್ರ)

ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ



English translation of **Annexure-R2**

**Subject: To provide exemption from KTPP Act under section 4(g) to procure 3 Nos of Container STP units from M/s WAPCOS Ltd, at a cost of Rs. 210.55 lakhs as per Hon'ble NGT OA No. 750 of 2019's Orders.**

FD 521 EXP-9/2020  
UDD 300 CSS 2020

Finance Department (EXP-9)  
Dated: 27/11/2020

Proposal of the Administrative Department has been examined. Following opinion has been conveyed for the requested points in the said proposal

| <b>Sl. No.</b> | <b>Points for which approval is sought</b>   | <b>Remarks of Finance Department</b>   |
|----------------|--|--|
| 1              | Out of total expenditure of Rs. 210.56 lakhs required for installation of 3 nos of 50 KLD capacity Compact Modular STP units with 5 years of maintenance, FD's concurrence is sought for incurring expenditure of Rs. 70.19 lakhs for one unit by TMC Bommasandra and to incur Rs. 140.36 lakhs for remaining 2 units from the Rs. 50 crores of funds reserved for Faecal Sludge and Septage Management under the Head of Account 3604-00-191-1-00 of revised budget of 2020-21. | Finance Department agrees for incurring Rs. 140.36 lakhs out of FSSM HoA for provision of STP to Bommasandra TMC provided AD drops one ULB of comparable cost from the approved 50 ULBs to be taken up for FSSM this year. |
| 2              | Seeking exemption for TMC Bommasandra from KTPP Act under section 4(g) to develop 3 nos. of 50 KLD capacity Compact Modular STP units and maintain them for 5 years at the cost of Rs. 210.56 lakhs directly from M/s WAPCOS Limited (A GoI Undertaking)   | The Government Notification No. FD 676 Exp-12/2020, Dated: 27/11/2020 according 4(g) exemption is enclosed.  |

(Approved by Secretary to Government (Exp)  
Finance Department)

Sd/-  
**(S. Gopichandra)**  
Under Secretary to Govt.





### ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ನಡವಳಿಗಳು

**ವಿಷಯ:** ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಗೆ ಎರಡು ಮಾಡ್ಯುಲರ್ STP ಘಟಕಗಳನ್ನು ಖರೀದಿಸಲು ಅವಶ್ಯವಿರುವ ರೂ.140.36 ಲಕ್ಷಗಳನ್ನು ಬಿಡುಗಡೆ ಮಾಡುವ ಬಗ್ಗೆ.

- ಓದಲಾಗಿದೆ:** 1. ನಿರ್ದೇಶಕರು, ಪೌರಾಡಳಿತ ನಿರ್ದೇಶನಾಲಯ ರವರ ಏಕ ಕಡತ ಸಂಖ್ಯೆ: 16721/DMA/40/SWM/2016-17.  
2. ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಅಧಿಸೂಚನೆ ಸಂಖ್ಯೆ: ಆಇ 676 ವೆಚ್ಚ-12/2020, ದಿನಾಂಕ: 21-11-2020.  
3. ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಹಿಂಬರಹ ಸಂಖ್ಯೆ: ಆಇ 521 ವೆಚ್ಚ-09/2020, ದಿನಾಂಕ: 27-11-2020.

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#### **ಪ್ರಸ್ತಾವನೆ:**

ಮೇಲೆ ಓದಲಾದ (1)ರ ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ, ಮಾನ್ಯ NGT ಪ್ರಕರಣ ಸಂಖ್ಯೆ: O.A. No. 750 of 2019ರ ಆದೇಶದ ರೀತ್ಯಾ ನಗರದ ರೊಚ್ಚು ನೀರನ್ನು ಸಂಸ್ಕರಿಸುವ ಸಲುವಾಗಿ ಒಟ್ಟು 3 ಸಂಖ್ಯೆಯ ಕಾಂಪ್ಯಾಕ್ಟ್ ಮಾಡ್ಯುಲರ್ STP ಘಟಕಗಳನ್ನು M/s WAPCOS Limited, (A Govt. of India Undertaking) ರವರಿಂದ ಒಟ್ಟು ರೂ. 210.55 ಲಕ್ಷಗಳ ವೆಚ್ಚದಲ್ಲಿ ಅನುಷ್ಠಾನಗೊಳಿಸಿ, 5 ವರ್ಷಗಳ ಅವಧಿಗೆ ನಿರ್ವಹಿಸಲು ಕೆ.ಟಿ.ಪಿ.ಪಿ. ಕಾಯ್ದೆಯಿಂದ 4(ಜಿ) ಅಡಿಯಲ್ಲಿ ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಗೆ ವಿನಾಯಿತಿಯನ್ನು ದೊರಕಿಸಿಕೊಡುವಂತೆ ಹಾಗೂ ಸದರಿ 3 ಘಟಕಗಳ ಪೈಕಿ, ಒಂದು ಘಟಕದ ವೆಚ್ಚ ರೂ. 70.19 ಲಕ್ಷಗಳನ್ನು ಪುರಸಭೆಯ ವತಿಯಿಂದ ಭರಿಸಲು ಹಾಗೂ ಇನ್ನುಳಿದ 2 ಘಟಕಗಳ ವೆಚ್ಚ ರೂ. 140.36 ಲಕ್ಷಗಳನ್ನು 2020-21ನೇ ಸಾಲಿನ ಪರಿಷ್ಕೃತ ಆಯ-ವ್ಯಯದಲ್ಲಿ ಲೆಕ್ಕ ಶೀರ್ಷಿಕೆ 3604-00-191-1-00 ರಡಿಯಲ್ಲಿ Fecal Sludge and Septage Management ಗಾಗಿ ಮಿಸಲಿಟ್ಟಿರುವ ರೂ. 50 ಕೋಟಿಗಳ ಅನುದಾನದಲ್ಲಿ ಭರಿಸಿ, ಬಿಡುಗಡೆ ಮಾಡುವಂತೆ ನಿರ್ದೇಶಕರು, ಪೌರಾಡಳಿತ ನಿರ್ದೇಶನಾಲಯ ರವರು ಕೋರಿರುತ್ತಾರೆ.

ಮೇಲೆ ಓದಲಾದ (2)ರ ಅಧಿಸೂಚನೆಯಲ್ಲಿ ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಯು ಒಟ್ಟು ಮೂರು (3) ಸಂಖ್ಯೆಯ ಕಾಂಪ್ಯಾಕ್ಟ್ ಮಾಡ್ಯುಲರ್ STP ಘಟಕಗಳನ್ನು M/s WAPCOS Limited, (A Govt. of India Undertaking) ರವರಿಂದ ಒಟ್ಟು ರೂ. 210.56 ಲಕ್ಷಗಳ ವೆಚ್ಚದಲ್ಲಿ ನೇರವಾಗಿ ಪಡೆಯಲು ಕೆ.ಟಿ.ಪಿ.ಪಿ. ಕಾಯ್ದೆಯಿಂದ 4(ಜಿ) ಅಡಿಯಲ್ಲಿ ವಿನಾಯಿತಿಯನ್ನು ನೀಡಲಾಗಿದೆ.

ನಂತರ, ಮೇಲೆ ಓದಲಾದ (3)ರ ಹಿಂಬರಹದಲ್ಲಿ, ಸದರಿ 3 ಘಟಕಗಳ ಪೈಕಿ, 2 ಘಟಕಗಳ ವೆಚ್ಚ ರೂ. 140.36 ಲಕ್ಷಗಳನ್ನು 2020-21ನೇ ಸಾಲಿನ ಪರಿಷ್ಕೃತ ಆಯ-ವ್ಯಯದಲ್ಲಿ ಲೆಕ್ಕ ಶೀರ್ಷಿಕೆ 3604-00-191-1-00 ರಡಿಯಲ್ಲಿ Fecal Sludge and Septage Management (FSSM) ಗಾಗಿ ಮಿಸಲಿಟ್ಟಿರುವ ರೂ. 50 ಕೋಟಿಗಳ ಅನುದಾನದಲ್ಲಿ ಭರಿಸಿ, ಬಿಡುಗಡೆ ಮಾಡಲು ಹಾಗೂ ಪ್ರಸ್ತುತ ಸಾಲಿನಲ್ಲಿ FSSM ಯೋಜನೆಯ ಅನುಷ್ಠಾನಕ್ಕಾಗಿ ಅನುಮೋದಿಸಿರುವ 50 ನಗರ ಸ್ಥಳೀಯ ಸಂಸ್ಥೆಗಳಲ್ಲಿ ಒಂದು ನಗರ ಸ್ಥಳೀಯ ಸಂಸ್ಥೆಯನ್ನು ಕೈಬಿಡುವಂತೆ ಸೂಚಿಸಿ ಆರ್ಥಿಕ ಇಲಾಖೆಯು ಷರತ್ತುಬದ್ಧ ಸಹಮತಿಯನ್ನು ನೀಡಿರುತ್ತದೆ.

ಮೇಲೆ ವಿವರಿಸಿರುವ ಅಂಶಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ, ನಿರ್ದೇಶಕರು, ಪೌರಾಡಳಿತ ನಿರ್ದೇಶನಾಲಯ ರವರ ಪ್ರಸ್ತಾವನೆಯನ್ನು ಪರಿಶೀಲಿಸಿ, ಈ ಕೆಳಕಂಡಂತೆ ಆದೇಶಿಸಿದೆ.

#### **ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ನಅಇ 300 ಸಿಎಸ್‌ಎಸ್ 2020,**

**ಬೆಂಗಳೂರು, ದಿನಾಂಕ: 10-12-2020**

ಪ್ರಸ್ತಾವನೆಯಲ್ಲಿ ವಿವರಿಸಿರುವ ಅಂಶಗಳ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಗೆ ಎರಡು ಸಂಖ್ಯೆಯ ಕಾಂಪ್ಯಾಕ್ಟ್ ಮಾಡ್ಯುಲರ್ STP ಘಟಕಗಳನ್ನು M/s WAPCOS Limited, (A Govt. of India Undertaking) ರವರಿಂದ ನೇರವಾಗಿ ಪಡೆಯಲು 2020-21ನೇ ಸಾಲಿನ ಪರಿಷ್ಕೃತ ಅಯವ್ಯಯದಲ್ಲಿ ಎಸ್.ಎಫ್.ಸಿ. ಸಾಮಾನ್ಯ ಅವತರಣದಡಿ FSSM ರಡಿ ನಿಗದಿಪಡಿಸಿರುವ ಅನುದಾನದಿಂದ ರೂ. 140.36 ಲಕ್ಷಗಳನ್ನು (ಒಂದುನೂರ ನಲವತ್ತು ಲಕ್ಷ ಮೂವತ್ತಾರು ಸಾವಿರ ರೂಪಾಯಿಗಳು ಮಾತ್ರ) ಮುಖ್ಯಾಧಿಕಾರಿಗಳು, ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆ ರವರಿಗೆ ಈ ಕೆಳಕಂಡ ಷರತ್ತಿಗೊಳಪಟ್ಟು ಬಿಡುಗಡೆಗೊಳಿಸಲಾಗಿದೆ.

- 1) ಈ ಆದೇಶದಲ್ಲಿ ಬಿಡುಗಡೆಗೊಳಿಸಿರುವ ಅನುದಾನವನ್ನು 2020-21ನೇ ಸಾಲಿನ ಲೆಕ್ಕ ಶೀರ್ಷಿಕೆ 3604-00-191-1-51(032)ರಡಿಯಲ್ಲಿ ಭರಿಸತಕ್ಕದ್ದು.
- 2) ಈ ಆದೇಶದಲ್ಲಿ ಬಿಡುಗಡೆ ಮಾಡಿರುವ ಅನುದಾನವನ್ನು ಜಂಟಿ ನಿರ್ದೇಶಕರು (ಯೋಜನೆ), ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ ಇವರು ಸ್ವೀಕೃತನ ರಶೀದಿ ಮೂಲಕ (Payees Receipts) ಖಜಾನೆಯಿಂದ ಡ್ರಾ ಮಾಡಿ, ಸಂಬಂಧಪಟ್ಟ ನಗರ ಸ್ಥಳೀಯ ಸಂಸ್ಥೆಯ ಸಾಮಾನ್ಯ ಖಾತೆಗೆ ಜಮಾ ಮಾಡತಕ್ಕದ್ದು.
- 3) ಈಗಾಗಲೇ 2020-21ನೇ ಸಾಲಿಗೆ FSSM ಯೋಜನೆಯನ್ನು ಮಂಜೂರು ಮಾಡಲಾಗಿರುವ 50 ನಗರ ಸ್ಥಳೀಯ ಸಂಸ್ಥೆಗಳ ಪೈಕಿ ಒಂದು ಸ್ಥಳೀಯ ಸಂಸ್ಥೆಯನ್ನು ಕೈಬಿಡತಕ್ಕದ್ದು.

ಸದರಿ ಆದೇಶವನ್ನು ಆರ್ಥಿಕ ಇಲಾಖೆಯ ಹಿಂಬರಹ ಸಂಖ್ಯೆ: ಆಇ 521 ವೆಚ್ಚ-09/2020, ದಿನಾಂಕ: 27-11-2020ರನ್ವಯ ಹೊರಡಿಸಲಾಗಿದೆ.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ  
ಆಜ್ಞಾನುಸಾರ ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ,

ಲಲಿತಾಬಾಯಿ ಕೆ.  
(ಲಲಿತಾಬಾಯಿ ಕೆ.)

ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿ(ಯೋಜನೆ/ಕೋ),  
ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ.

ಗೆ:

1. ಮಹಾಲೇಖಪಾಲರು, (ಎ & ಇ), ಕರ್ನಾಟಕ, ಬೆಂಗಳೂರು.
2. ಮಹಾಲೇಖಪಾಲರು (ಜಿ & ಎಸ್.ಎಸ್.ಎ), ಕರ್ನಾಟಕ, ಬೆಂಗಳೂರು.
3. ಸರ್ಕಾರದ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ, ವಿಧಾನಸೌಧ, ಬೆಂಗಳೂರು
4. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ, ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ, ಬಹುಮಹಡಿ ಕಟ್ಟಡ, ಬೆಂಗಳೂರು.
5. ನಿರ್ದೇಶಕರು, ಪೌರಾಡಳಿತ ನಿರ್ದೇಶನಾಲಯ, ಬೆಂಗಳೂರು.
6. ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿ, ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ, ಬೆಂಗಳೂರು.
7. ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ, ಬೆಂಗಳೂರು.
8. ಮುಖ್ಯಾಧಿಕಾರಿ, ಪುರಸಭೆ ಬೊಮ್ಮಸಂದ್ರ, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ.
9. ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿರವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ.
10. ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿಯವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ.
11. ಸರ್ಕಾರದ ಜಂಟಿ ಕಾರ್ಯದರ್ಶಿ, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ.
12. ಸರ್ಕಾರದ ಉಪ ಕಾರ್ಯದರ್ಶಿ-1, 2 ಮತ್ತು 3, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ.
13. ಮಾನ್ಯ ಪೌರಾಡಳಿತ ಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು.
14. ಶಾಖಾ ರಕ್ಷಾ ಕಡತ / ಹೆಚ್ಚುವರಿ ಪ್ರತಿಗಳು.



**PROCEEDINGS OF THE GOVERNMENT OF KARNATAKA**

**Sub:** Release of Rs.140.36 lakhs to TMC Bommasandra for procurement of 2 nos. modular STP units.

**Read:** 1. Director, Directorate of Municipal Administration Single File No: 16721/DMA/ 40/ SWM/ 2016-17.  
2. Finance Department Notification no. FD 676 Exp-12/2020, Dated: 21-11-2020.  
3. Finance Department Endorsement No:FD 521 Exp-09/2020, Dated:27-11-2020.

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**PREAMBLE:**

In the proposal read at (1) above, Director, Directorate of Municipal Administration has requested the Government to obtain exemption to TMC Bommasandra from KTPP Act under section 4(g) to install 3 nos. of 50 KLD capacity Compact Modular STP units and maintain them for 5 years at the cost of Rs. 210.56 lakhs directly from M/s WAPCOS Limited (A GoI Undertaking) and to obtain FD's concurrence for incurring expenditure of Rs. 70.19 lakhs for one unit by TMC Bommasandra and to incur Rs.140.36 lakhs from the Rs. 50.00 crores of funds reserved for Faecal Sludge and Septage Management under the Head of Account 3604-00-191-1-00 of revised budget of 2020-21.

In the Notification read at (2) above, exemption has been given from KTPP Act under section 4(g), to TMC Bommasandra to procure 3 Nos of compact modular STPs directly from M/s WAPCOS Limited (A GoI Undertaking) at a cost of Rs.210.56 lakhs.

In the Endorsement read at (3) above, FD has given its concurrence to release Rs.140.36 lakhs from the Rs.50.00 crores of funds reserved for Faecal Sludge and Septage Management under the Head of Account 3604-00-191-1-00 of revised budget of 2020-21 towards the expenditure of 2 units out of the total 3 units with a condition that one Urban Local Body shall be excluded from the approved list of 50 ULBs which are selected for implementation of FSSM projects.

After detailed examination of the proposal of Director, Directorate of Municipal Administration, Government issues the following order.

**Government Order No: UDD 300 CSS 2020,**  
**Bengaluru, Dated:10-12-2020.**

Under the circumstances explained in the Preamble, Government is pleased to release Rs.140.36 lakhs (One Hundred Forty lakhs and Thirty Six Thousand Rupees only) to TMC Bommasandra from the Rs. 5000 lakhs grants reserved for

FSSM under SFC general devolution in the 2020-21 revised budget, to procure 2 nos. of compact modular STPs directly from M/s WAPCOS Ltd. (A Govt. of India Undertaking), subject to following conditions,

- 1) Grants released under this GO shall be incurred under Head of Account 3604-00-191-1-51(032) of the year 2020-21.
- 2) The Joint Director (Planning), Urban Development Department is hereby authorized to draw the amount through payees receipt from the Treasury and to credit the same in to General Account of concerned Urban Local Body.
- 3) FSSM scheme from any one local body out of selected 50 ULBs shall be cancelled.

Said Order is issued as per FD's endorsement no. FD 521 Exp-09/2020, dated 27-11-2020.

By order and in the name of  
the Governor of Karnataka

**(LALITHABAI K.)**

Under Secretary to Government(PMU),  
Urban Development Department.

**To:**

1. Accountant General (Accounts &Entitlement), Karnataka, Bangalore.
2. Accountant General (G&SSA); Karnataka, Bangalore.
3. The Chief Secretary to Government of Karnataka, Vidhana Soudha, Bengaluru.
4. Principal Secretary to Government (E&E), Forest, Environment & Ecology Department, MS Building, Bangalore.
5. Director, Directorate of Municipal Administration, Bangalore.
6. Member Secretary, Karnataka State Pollution Control Board, Bangalore.
7. Deputy Commissioner, Bengaluru Urban District, Bengaluru.
8. Chief Officer, TMC Bommasandra, Bengaluru Urban District.
9. P.S to Additional Chief Secretary, Urban Development Department.
10. P.S to Principal Secretary, Urban Development Department.
11. The Joint Secretary, Urban Development Department, Bengaluru.
12. The Deputy Secretary-1, 2 & 3, Urban Development Department, Bengaluru.
13. The P.S to Hon'ble Minister to Municipal Administration Department
14. Spare Copies / Section Guard File.

Proceedings of the Video Conference (VC) held on 20-11-2020 @04.30 pm by Additional Chief Secretary, Urban Development Department (UDD) regarding the remedial action to be taken by Town Municipal Council (TMC) Bommasandra as per the directions of Hon'ble National Green Tribunal's (NGT) Orders in the O.A. No. 750 of 2019.

List of Members present in the VC is enclosed as Annexure-I.

1. The Environmental Engineer, Urban Development Department welcomed all the Officers / members to the VC and briefed about the directions issued by Hon'ble NGT in its order dated 04-11-2020.

**Directions of Hon'ble NGT:**

**Action proposed by the State of Karnataka is as follows:-**

| Sl. No. | Action   | Agency Responsible  | Time lines |
|---------|--|---|------------|
| 1       | Clearance of Legacy Waste  | <b>TMC</b> - Issue of comfort letter, provide all necessary help & support to BIA<br><br><b>BIA</b> - Execution of work   | 3 months   |
| 2       | Installation of 5 Container type of 50 KLD capacity STPs to treat Sewage generated in 2 wards of TMC | <u>Procurement</u><br><b>BIA</b> - 2 Units<br><b>TMC</b> - 3 Units (funds for 2 units to be provided by DMA/UDD)<br><u>Installation, Operation &amp; Maintenance</u><br><b>M/s. Wapcos Limited</b> (Supplier Company) | 4 months   |
| 3       | Purification of polluted lake water  | <b>BIA</b>  | 7 months   |
| 4       | Prevention of discharge untreated Industrial Waste into the Lake.                                    | <b>KSPCB/BIA</b>  | 3 months   |
| 5       | Rejuvenation / Beautification of Lake  | <b>BIA</b>  | 12 months  |

**Let further action be taken as per the above and status report as on 31.03.2021 may be furnished before the next date by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in).**

**List for further consideration on 29.04.2021.**

2. Additional Chief Secretary, Urban Development Department (ACS) mentioned about the Hon'ble NGT's directions regarding activities to be taken up and their time lines and asked the Bommasandra TMC / Bommasandra Industries Association representatives to explain the progress made so far in the above mentioned Lake Rejuvenation / other activities.
3. The Chief Officer, Bommasandra TMC stated that, already lake rejuvenation activities such as cleaning of Lake area to carryout survey, clearing of legacy waste, diversion of sewage, clearing of bushes and plants, bunds formation etc. works are started by the Contractor appointed by BIA and are under progress.
4. The President, BIA stated that, the legacy waste is excavated and screening of waste is done to separate organic content from inerts. He informed that the separated inert materials needs to be disposed which is almost about 15-20 trucks load and they are in search of suitable agency to take it away. He requested ACS to instruct BBMP to take away the inerts to their landfills / dry waste handling centres for further disposal. ACS said he will talk to the Commissioner, BBMP and find out about its possibilities.
5. The Director, DMA stated that, a proposal has been submitted to Govt. for seeking 4(g) exemption from calling the tender as per KTPP Act for procurement of 3 STP units from M/s WAPCOS Ltd. Once the 4(g) exemption is granted to the TMC, procurement and installation of STP can be expedited.
6. ACS stated that the proposal is with Finance Department and asked Environmental Engineer, UDD to follow up the proposal and to update about its status on day-to-day basis.
7. The Senior Environmental Officer, Karnataka State Pollution Control Board stated that, already action has been initiated by the Board to stop the discharge of effluents by the industries by identifying water bound industries and issuing closure notices to erring industries. He also mentioned that, several joint inspections with the TMC officials have been carried out to find out the polluting industries and the same will be continued in the future also.
8. The President, BIA mentioned that following progress has been made so far in the Lake Rejuvenation works;

| <b>Work Progress from 19-10-2020 to 12-11-2020</b> |  |             |            |
|--|--|-------------|------------|
| <b>Sl. No.</b>                                     | <b>Details</b>   | <b>Unit</b> | <b>Qty</b> |
| 1  | Clearing plants and bushes throughout the Lake bund.   | Sq. M       | 7875       |
| 2  | Diversion of wastewater with separate trench around the lake bund connected to Raja Kaluve.  | RM          | 1050       |
| 3  | De-watering works including formation of trenches from lake to Raja Kaluve. Cleaning of Raja Kaluve for easy and smooth flow of lake water. Separate trenches for main and secondary bunds.                    | RM          | 550        |
| 4  | Formation of Lake bund including shifting of good excavated soil to the designated place and laying with dosing. Approx. 1350 m length with 5 m wide and 1.75 m depth is formed. Lake peripheral is completed. | Cum         | 11812.5    |
| 5  | De-sludging works on the lake bed, includes removing sludge up to a depth of 600 mm throughout the lake catchment. 25% is completed.   | Cum         | 10805.25   |

9. After the detailed deliberations and discussions, following directions were issued by the ACS to the Officers /Members present in the VC;
- a. Chief Officer of Bommasandra TMC shall coordinate with the BIA to ensure smooth and uninterrupted operation of Lake Rejuvenation works. He should also coordinate with the concerned Officer of BBMP for disposal of inert materials generated out of handling legacy waste.
  - b. The Environmental Engineer of UDD shall follow up with the Finance Department for the earliest approval of 4(g) exemption for procurement and installation of 3 nos. of compact modular type of STP units.
  - c. The BIA shall keep updating the progress achieved in Lake Rejuvenation works in the WhatsApp group by regularly uploading the photo and videos of rejuvenation works.
  - d. The KSPCB shall continuously monitor and ensure that no effluents are discharged into the Lake.

- e. The Bommasandra TMC and BIA shall expedite the Lake Rejuvenation Works, in order to complete them well before the timelines set by the Hon'ble NGT.

The VC was concluded with vote of thanks.



**(Rakesh Singh, I.A.S.)**  
Additional Chief Secretary to Govt.  
Urban Development Department



**Copy To;**

- 1) The Managing Director, KUWS&DB, Bengaluru.
- 2) The Director, Directorate of Municipal Administration, VV Towers, Bengaluru.
- 3) The Member Secretary, Karnataka State pollution Control Board, Bengaluru.
- 4) The Project Director, DUDC, Bengaluru Urban Dist.
- 5) The Chief Officer, TMC, Bommasandra.
- 6) Sri Darpan, Govt. Advocate for Hon'ble NGT, New Delhi.
- 7) PS to Additional Chief Secretary, UDD, Vikasa Soudha, Bengaluru.
- 8) PS to Secretary, UDD, Vikasa Soudha, Bengaluru.
- 9) PA to Joint Secretary, UDD, Vikasa Soudha, Bengaluru.
- 10) PA to Deputy Secretary -2, UDD, Vikasa Soudha, Bengaluru.

**Officers Present in the VC.**

- 1) Sri Rakesh Singh, I.A.S., Additional Chief Secretary to Govt., Urban Development Department, Govt. of Karnataka.
- 2) Smt. Cauvery B.B., Director, Directorate of Municipal Administration, Bengaluru.
- 3) Sri Syed Kwaja , SEO, Karnataka State Pollution Control Board, Bengaluru.
- 4) Sri Rudramuni B.K., Project Director, District Urban Development Cell, Bengaluru Urban Dist.
- 5) Sri N. Manjunath., Chief Officer, Town Municipal Council Bommasandra, Bengaluru Urban Dist.
- 6) Sri Vasanth Kumar, President, TMC Bommasandra, Bengaluru Urban Dist.
- 7) Sri Srinivas, Vice President, TMC Bommasandra, Bengaluru Urban Dist.
- 8) Sri A. Prasad, President, Bommasandra Industries Association, Bommasandra, Bengaluru Urban Dist.
- 9) Sri G.N. Nagesh Kumar, Environmental Engineer, PMU, Urban Development Department.
- 10) Smt. Snehalatha S.V., Environmental Engineer, Directorate of Municipal Administration, Bengaluru.
- 11) Smt. Mamatha., Environmental Engineer, Town Municipal Council, Bommasandra.

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Proceedings of the Video Conference (VC) held on 15-01-2021 @12.00 noon by Additional Chief Secretary, Urban Development Department (UDD) regarding the remedial action to be taken by Town Municipal Council (TMC) Bommasandra as per the directions of Hon'ble National Green Tribunal's (NGT) Orders in the O.A. No. 750 of 2019.

List of Members present in the VC is enclosed as Annexure-I.

The AEE (Env), Urban Development Department welcomed all the Officers / members for the VC and briefed about the directions issued by Hon'ble NGT in its order dated 04-11-2020 and the decisions taken in the previous VC held in this regard on 20-11-2020.

**Directions of Hon'ble NGT:**

| Sl. No. | Action   | Agency Responsible  | Time lines |
|---------|--|---|------------|
| 1       | Clearance of Legacy Waste  | <b>TMC</b> - Issue of comfort letter, provide all necessary help & support to BIA<br><b>BIA</b> - Execution of work   | 3 months   |
| 2       | Installation of 5 Container type of 50 KLD capacity STPs to treat Sewage generated in 2 wards of TMC | <u>Procurement</u><br><b>BIA</b> - 2 Units<br><b>TMC</b> - 3 Units (funds for 2 units to be provided by DMA/UDD)<br><u>Installation, Operation &amp; Maintenance</u><br><b>M/s. Wapcos Limited</b> (Supplier Company) | 4 months   |
| 3       | Purification of polluted lake water  | <b>BIA</b>  | 7 months   |
| 4       | Prevention of discharge untreated Industrial Waste into the Lake.                                    | <b>KSPCB/BIA</b>  | 3 months   |
| 5       | Rejuvenation / Beautification of Lake  | <b>BIA</b>  | 12 months  |

**TMC** – Town Municipal Council Bommasandra

**BIA** – Bommasandra Industries Association

**KSPCB**- Karnataka State Pollution Control Board

Directions issued in the previous VC held on 20-11-2020:

| Sl. No. | Directions   | Status   |
|---------|--|--|
| a.      | Chief Officer of Bommasandra TMC shall coordinate with the BIA to ensure smooth and uninterrupted operation of Lake Rejuvenation works. He should also coordinate with the concerned Officer of BBMP for disposal of inert materials generated out of handling legacy waste. | Complied – The entire legacy waste / inert have been cleared from the Lake area. |

|    |  |   |
|----|--|---|
| b. | The Environmental Engineer of UDD shall follow up with the Finance Department for the earliest approval of 4(g) exemption for procurement and installation of 3 nos. of compact modular type of STP units. | Complied – FD has issued the 4(g) exemption notification dated 21-11-2020 for 3 STPs. |
| c. | The BIA shall keep updating the progress achieved in Lake Rejuvenation works in the WhatsApp group by regularly uploading the photo and videos of rejuvenation works.                                      | Ongoing - Directions issued   |
| d. | The KSPCB shall continuously monitor and ensure that no effluents are discharged into the Lake   | Ongoing - Directions issued   |
| e. | The Bommasandra TMC and BIA shall expedite the Lake Rejuvenation Works, in order to complete them well before the timelines set by the Hon'ble NGT.  | Ongoing - Directions issued   |

Additional Chief Secretary, Urban Development Department (ACS) mentioned about the Hon'ble NGT's directions and time lines and asked the participants to explain about the progress made so far in the Lake remedial / rejuvenation activities.

The Director, Directorate of Municipal Administration (DMA) explained about the progress achieved so far in implementing the Hon'ble NGT's directions:

- Out of 5 units of 50 KLD capacities modular STPs, 3 units to be installed by TMC/State Govt. and remaining 2 Units by Bommasandra Industrial Association (BIA).
- Exemption from KTPP Act under Sec 4(g) has been obtained from Finance Department vide its Notification no. FD 676 Exp-12/2020, dated 21-11-2020 to procure 3 STP units directly from M/s Wapcos Ltd. without following tender procedure.
- State Govt. (UDD) has released Rs. 140.36 lakhs towards the cost of 2 STP units, vide its Order No. UDD 300 CSS 2020 dated 10-12-2020
- The KIADB has handed over the site to TMC Bommasandra for installation of 5 STP units.
- The TMC Bommasandra has already issued the LoA dated 06-01-2021 to M/s Wapcos Ltd for the Supply, installation and 1 year of O&M of 3 STP units.
- The TMC has submitted the application for consent to KSPCB for installation of 5 modular STP units and consent is awaited from KSPCB.

The President BIA explained about the progress achieved so far by BIA in the Lake rejuvenation activities as below followed by a video presentation,

- Lake rejuvenation works have been started since 19<sup>th</sup> Oct 2020 and are on going on a war-foot basis through an agency Viz., M/s Associate Builders which has got the experience of completing rejuvenation activities of 4 lakes.
- The Agency (M/s Associate Builders) has deployed 7 nos. of excavators, 1 no. of JCB, 6 nos of Heavy duty Tipper Trucks, 2 nos. of regular Tipper Trucks, 1 no. of Tractor with Trailers, 1 no. Heavy duty road roller for the Bommasandra (Kittiganahalli Lake) Lake rejuvenation activities. Totally 50 nos. of workers have been involved in legacy waste

segregation work and 9 workers are currently (and 30 nos. required, once stone pitching work is started) involved in the Lake Rejuvenation works.

- The Legacy waste dumped in the lake bed has been excavated completely and disposed off in a scientific manner.
- The Sewage and Effluents entering into the Lake have been completely diverted and stopped. The Bund formation and removal of silt are at the completion stage.
- However, he complained about the seepage of effluents from few industries and requested the SEO of KSPCB to intervene in the matter and issue directions to the concerned Regional KSPCB Officer to take immediate steps to arrest the same.

ACS asked SEO of KSPCB to personally look into this issue and resolve it on priority basis, for which, SEO of KSPCB replied that today itself a meeting will be convened for BIA and Regional Officer, KSPCB and the issue will be resolved.

The ACS enquired with the representative of M/s Wapcos Ltd. about the status of supply and installation of 5 modular STPs, for which Mr. Akshay of M/s Wapcos Ltd stated that, the Company has received LoA from TMC for 3 Units only, the PO from BIA for remaining 2 units is yet to be received. Sri Prasad, President of BIA informed that, the subject is being placed in the forthcoming BIA Board Meeting on 20<sup>th</sup> Jan 2021 and immediately after that, Work Order will be issued. Mr. Akshay of M/s Wapcos Ltd mentioned that along with the LoA / WO, TMC Bommasandra /BIA have to remit the mobilization advance also, in order to initiate the shipment of STPs.

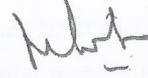
ACS mentioned to the representative that, M/s Wapcos Ltd has been chosen and provided 4(g) exemption from KTPP act (tender procedure), in order to expedite the installation & commissioning of STPs by avoiding general delay in tender process, in view of the Hon'ble NGT's directions / set timelines. The State Govt. has already committed the timelines to NGT in the form of Affidavit and according to which, M/s Wapcos shall complete the installation and commissioning of all 5 STP units well before the end of Feb' 2021. He further directed that, M/s Wapcos Ltd shall take up the supply & installation of STPs immediately, without causing any further delay in following the regular or usual procedure by considering the situation as most emergency. He insisted that documentation and other official formalities may be done concurrently.

After the detailed deliberations and discussions, following directions were issued by the ACS to the officers /members present in the VC;

- 1) The KSPCB shall expedite the issue of Consent letter to TMC Bommasandra to install 5 modular STPs.
- 2) BIA shall issue the Work Order for 2 modular STPs not later than 22<sup>nd</sup> January 2021.
- 3) M/s Wapcos Ltd shall immediately commence the supply and installation of 5 modular STP units and complete it by the end of Feb' 21 in all the aspects.

- 4) The KSPCB shall take necessary steps immediately to stop the seepage of effluents into the Lake.
- 5) TMC/BIA shall expedite the payment of mobilization advance at the earliest.
- 6) The BIA shall keep updating the progress achieved in Lake Rejuvenation works in the WhatsApp group by regularly uploading the photo and video graphs.
- 7) The KSPCB shall continuously monitor and ensure that no effluents are discharged into the Lake.

The VC was concluded with vote of thanks to all the participants.



**(Rakesh Singh, I.A.S.)**

Additional Chief Secretary to Govt.  
Urban Development Department



**Copy To;**

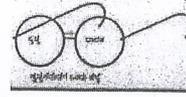
- 1) The Managing Director, KUWS&DB, Bengaluru.
- 2) The Director, Directorate of Municipal Administration, VV Towers, Bengaluru.
- 3) The Member Secretary, Karnataka State pollution Control Board, Bengaluru.
- 4) The Project Director, DUDC, Bengaluru Urban Dist.
- 5) The Chief Officer, TMC, Bommasandra.
- 6) Sri Darpan, Govt. Advocate for Hon'ble NGT, New Delhi.
- 7) Sri Akshay, representative of M/s Wapcos Ltd
- 8) PS to Additional Chief Secretary, UDD, Vikasa Soudha, Bengaluru.
- 9) PS to Principal Secretary, UDD, Vikasa Soudha, Bengaluru.
- 10) PA to Joint Secretary, UDD, Vikasa Soudha, Bengaluru.
- 11) PA to Deputy Secretary -2, UDD, Vikasa Soudha, Bengaluru.

**Officers / members Present in the Meeting.**

- 1) Sri Rakesh Singh, I.A.S., Additional Chief Secretary to Govt., Urban Development Department, Govt. of Karnataka.
- 2) Smt. Cauvery B.B., Director, Directorate of Municipal Administration, Bengaluru.
- 3) Sri Syed Khaja , SEO, Karnataka State Pollution Control Board, Bengaluru.
- 4) Sri Rudramuni B.K., Project Director, District Urban Development Cell, Bengaluru Urban Dist.
- 5) Sri Manjunath., Chief Officer, Town Municipal Council Bommasandra, Bengaluru Urban Dist.
- 6) Sri A. Prasad, President, Bommasandra Industries Association, Bommasandra, Bengaluru Urban Dist.
- 7) Sri G.N. Nagesh Kumar, Environmental Engineer, PMU, Urban Development Department.
- 8) Smt. Snehalatha S.V., Environmental Engineer, Directorate of Municipal Administration, Bengaluru.
- 9) Sri B.N. Srinath, PPP & IS Expert, Directorate of Municipal Administration, Bengaluru.
- 10) Sri Akshay, representative of M/s Wapcos Ltd.

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Annexure-R6

# ಪುರಸಭಾ ಕಾರ್ಯಾಲಯ, ಬೊಮ್ಮಸಂದ್ರ

ಆನೇಕಲ್ ತಾಲ್ಲೂಕು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ - 560 099

Email: itstaff\_ulb\_bommasandra@yahoo.com

Phone No: 080 - 2783 4655

NO.TMCB/TS/10/2020-21

DATE:06.01.2021

## LETTER OF ACCEPTANCE

**Subject :** Installation, Operation and Maintenance of Compact Modular STP Units at TMC Bommasandra

- Reference:**
1. Hon'ble NGT/OA.NO.750 OF 2019 DATED:19.06.2020
  2. DMA/Letter.No.16721/40/SWM/2016-17 , Dated:05.12.2020, 22/12/2020 & 02/01/2021
  3. DCO/OM/No.Dudc/Ban Urban/Tech.01/CR/129/2019-20 , Dated:30.12.2020
  4. DCO/OM/No.Dudc/Ban Urban/Tech.01/CR/129/2019-20 ,, Dated:02.01.2021
  5. DCO/Letter/No.Dudc/Ban Urban/Tech.01/CR/129/2020-21 , Dated:06.01.2021

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With reference to the above subject , a petition has been filed in NGT as vide ref no.01, in this regard Installation, Operation and Maintenance of Compact Modular STP Units of 5 units(out of 3 units will be funded by UDD AND TMC) 4G exemption is given by UDD as ref no.(2) and for the DPR Technical Sanction and Administrative Approval given by as ref No.(3&4 ) DCO/OM/No.Dudc/Ban Urban/Tech.01/CR/129/2019-20 , Dated:30.12.2020 and 02.01.2021 respectively

In this regard as per DC Office Official Memorandum vide ref no.(05) dated:06-01-2021 this is to notify that your offer price quoted for Installation, Operation and Maintenance of Compact Modular STP UNITS 3NOS(50 KLD each and 150 KLD OF The Total 250KLD) for contract price of Rs.2,10,55,920.00 (Including GST) Rupees Two Crores Ten Lakhs Fifty Five Thousand nine hundred Twenty Only is here by accepted by our competent Authority and You are hereby instructed to deliver Towards Security Deposit of Rs.1053000/- (Rs. Ten Lakhs Fifty three thousand only) in any form as stated in Para 29.1 of ITT in favour of Chief Officer TMC Bommasandra and sign the contract agreement within 20 days of the receipt of this letter of acceptance valid up to 30 days from the date of expiry of defects liability period, and submit milestones according to which payments will be made, failing which action as stated in Para 29.4 of ITT will be taken.

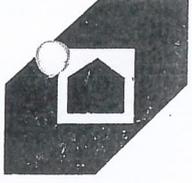
  
Chief Officer

TMC Bommasandra

To,  
Deputy Chief Engineer,  
WAPCOS Limited, 76-C,  
Institutional Area, Sector-18,  
Gurgaon, HARYANA- 122015

Copy to: Project Director, DUDC, Bangalore Urban District.





# KARNATAKA INDUSTRIAL AREAS DEVELOPMENT BOARD

(A Government of Karnataka Undertaking)

# 49, 4th & 5th Floors, 'East Wing', Khanija Bhavan, Race Course Road, Bengaluru - 560 001

Phone : 080-22265383 Fax : 080-22267901

Website : www.kiadb.in email: ceoemkiadb@gmail.com

ಸಂಖ್ಯೆ:ಕ.ಕೈ.ಪ್ರ.ಮಂ./ಕಾ.ಅ-2/ 1441 /2020-21

ದಿನಾಂಕ: 07.01.2021

ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು,  
ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ,  
ಬೆಂಗಳೂರು.

ಮಾನ್ಯರೇ,

ವಿಷಯ: ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಯಲ್ಲಿ ಪುರಸಭಾ ವತಿಯಿಂದ 05 ಸಂಖ್ಯೆಯ Compact Modular STP ಘಟಕಗಳನ್ನು ಮಾನ್ಯ ರಾಷ್ಟ್ರೀಯ ಹಸಿರು ಪೀಠ ನ್ಯಾಯಾಲಯದ ನಿರ್ದೇಶನದಂತೆ ಅಭಿವೃದ್ಧಿಪಡಿಸುವ ಸಂಬಂಧ ಕೆಐಎಡಿಬಿ ಸಂಸ್ಥೆಯ ಅವಶ್ಯಕ ಅನುಮತಿ ಕುರಿತು ಸೂಕ್ತ ನಿರ್ದೇಶನ ನೀಡಲು ಕೋರಿ ಮನವಿ.

- ಉಲ್ಲೇಖ: 1. ತಮ್ಮ ಪತ್ರ ಸಂಖ್ಯೆ: ಜಿನಕೋ/ತಾ.ಶಾ/ಸಿ.ಆರ್/129/2020-21, ದಿನಾಂಕ: 10.12.2020.
2. ಮುಖ್ಯ ಕಾರ್ಯನಿರ್ವಾಹಣಾಧಿಕಾರಿ ಹಾಗೂ ಕಾರ್ಯನಿರ್ವಾಹಕ ಸದಸ್ಯರು ರವರ ಆದೇಶ ದಿನಾಂಕ: 01.01.2021.

\*~\*~\*~\*~\*~\*

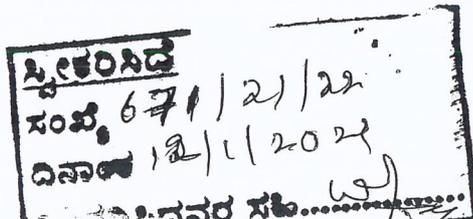
ಮೇಲ್ಕಂಡ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ, ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ, ಬೆಂಗಳೂರು ರವರು ಉಲ್ಲೇಖಿತ ಪತ್ರದಲ್ಲಿ ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಯಲ್ಲಿ ಪುರಸಭಾ ವತಿಯಿಂದ 05 ಸಂಖ್ಯೆಯ Compact Modular STP ಘಟಕಗಳನ್ನು ಮಾನ್ಯ ರಾಷ್ಟ್ರೀಯ ಹಸಿರು ಪೀಠ ನ್ಯಾಯಾಲಯದ ನಿರ್ದೇಶನದಂತೆ ಅಭಿವೃದ್ಧಿಪಡಿಸುವ ಸಂಬಂಧ ಕೆಐಎಡಿಬಿ ಮಾಲೀಕತ್ವದ ಜಾಗವನ್ನು ಯೋಜನೆ ಅನುಷ್ಠಾನಕ್ಕೆ ಬಳಸಿಕೊಳ್ಳಲು ಅವಕಾಶ ಕಲ್ಪಿಸಿ ಕೊಡಲು ಉಲ್ಲೇಖ (1) ರಲ್ಲಿ ಕೋರಿರುತ್ತೀರಿ.

ಅದರಂತೆ, ಹಾಲಿ ಇರುವ Septic Tank ಜಾಗ ಸೇರಿಕೊಂಡಂತೆ 1750.00 ಚ.ಮೀ ಜಾಗವನ್ನು ಈ ಕೆಳಕಂಡಂತೆ ವಿನಿಯೋಗಿಸಿಕೊಳ್ಳಲು ಉಲ್ಲೇಖ (2) ರಲ್ಲಿನ ಆದೇಶದಂತೆ ಹಾಲಿ ಇರುವ Septic Tank ಜಾಗ ಸೇರಿಕೊಂಡಂತೆ 70 ಮೀ ಅಗಲ (North - South) x 25 ಮೀ ಅಗಲ (East - West) ಒಟ್ಟು 1750.00 ಚ.ಮೀ ಜಾಗದ ಮಾಲೀಕತ್ವವನ್ನು ಕೆಐಎಡಿಬಿಯಲ್ಲಿ ಇಟ್ಟುಕೊಂಡು Compact Modular STP ಘಟಕಗಳನ್ನು ನಿರ್ಮಾಣ ಮಾಡಿ ಹಾಗೂ ನಿರ್ವಹಣೆ ಮಾಡಲು ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಗೆ ವಹಿಸಿಕೊಡಲು ಆದೇಶಿಸಲಾಗಿದೆ.

ಅದರಂತೆ, ಬೊಮ್ಮಸಂದ್ರ ಕೈಗಾರಿಕಾ ಪ್ರದೇಶದ ವಸತಿ ಬಡಾವಣೆಯಲ್ಲಿನ ಹಾಲಿ ಇರುವ Septic Tank ಜಾಗ ಸೇರಿಕೊಂಡಂತೆ 70 ಮೀ ಅಗಲ (North to South) x 25 ಮೀ ಅಗಲ (East to West) ಒಟ್ಟು 1750.00 ಚ.ಮೀ ಜಾಗವನ್ನು ನಕ್ಷೆಯಲ್ಲಿ ತೋರಿಸಿರುವಂತೆ ಈ ಕೆಳಕಂಡ ಷರತ್ತುಗಳನ್ವಯ ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಗೆ ವಹಿಸಿಕೊಡಲಾಗಿದೆ.

1. ಪ್ರಸ್ತಾಪಿತ ಸ್ವತ್ತಿನ ಮಾಲೀಕತ್ವವು ಕೆಐಎಡಿಬಿ ವಶದಲ್ಲಿರುತ್ತದೆ.
2. ಸ್ವತ್ತನ್ನು Compact Modular STP ಘಟಕಗಳನ್ನು ನಿರ್ಮಾಣ ಹಾಗೂ ನಿರ್ವಹಣೆ ಮಾಡಲು ಮಾತ್ರ ಬಳಸಿಕೊಳ್ಳತಕ್ಕದ್ದು.
3. ಸ್ವತ್ತಿಗೆ ದಕ್ಷಿಣ ದಿಕ್ಕಿನಿಂದ ಪಶ್ಚಿಮ ದಿಕ್ಕಿನ ಕಡೆಗೆ ಹೊಂದಿಕೊಂಡಂತೆ, ಒಂದು ಬದಿಯಲ್ಲಿ ಸಂಪರ್ಕ ಪಡೆಯತಕ್ಕದ್ದು.
4. ಸ್ವತ್ತಿನಲ್ಲಿ Compact Modular STP ಘಟಕಗಳನ್ನು ನಿರ್ಮಾಣ ಹಾಗೂ ನಿರ್ವಹಣೆ ಮಾಡಲು ಯಾವುದೇ ವಂತಿಕೆಯನ್ನು ಕೆಐಎಡಿಬಿ ನೀಡುವುದಿಲ್ಲ.
5. ಸ್ವತ್ತಿನಲ್ಲಿ ಮುಂದಿನ ದಿನಗಳಲ್ಲಿ Compact Modular STP ಘಟಕ ನಿರ್ಮಾಣ ಹೊರತುಪಡಿಸಿ ಯಾವುದೇ ಇತರೇ ಕಟ್ಟಡ ನಿರ್ಮಾಣ ಮಾಡುವಂತಿಲ್ಲ.

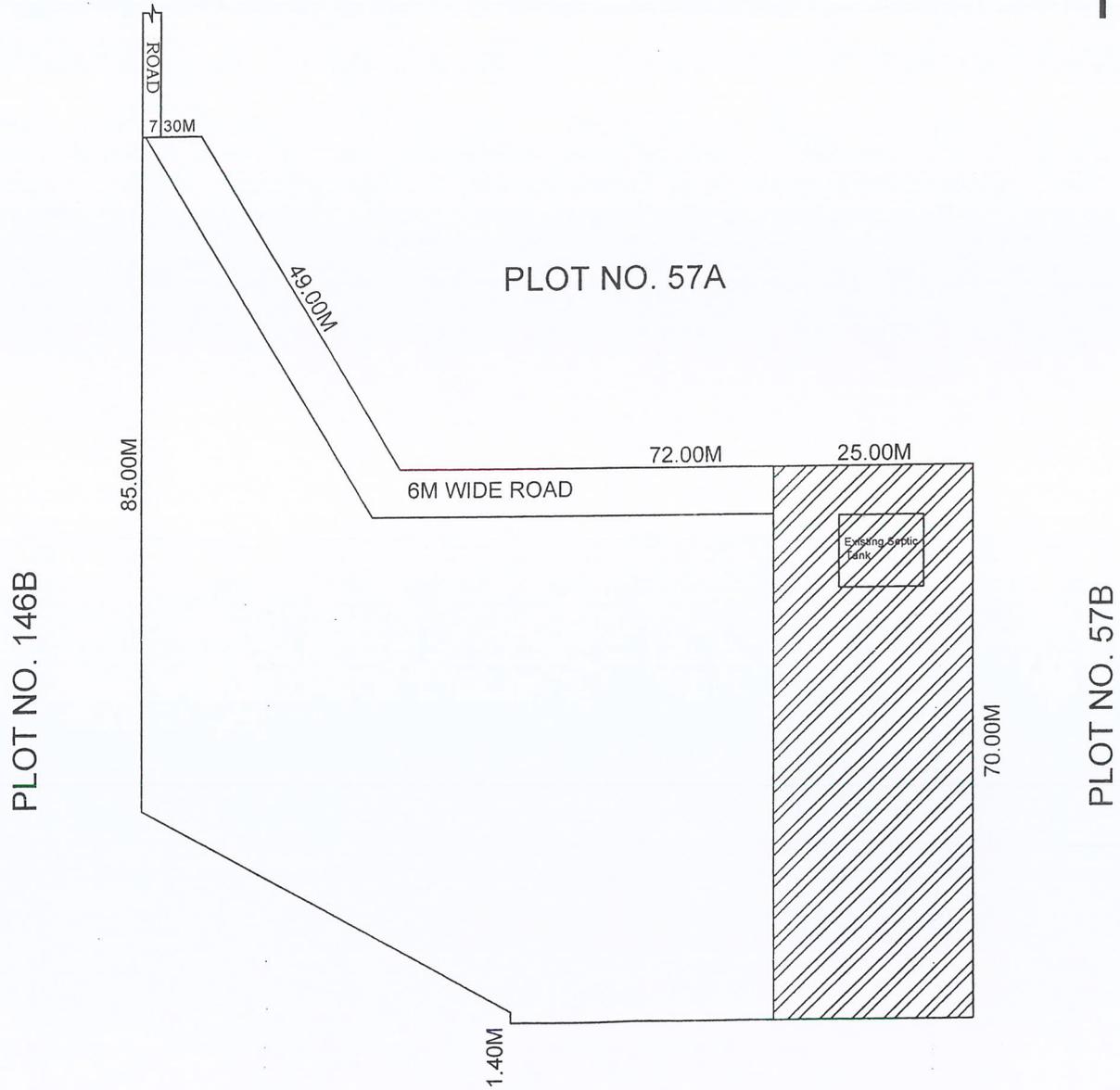
ತಮ್ಮ ವಿಶ್ವಾಸಿ



ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು-2  
ಕೆಐಎಡಿಬಿ ವಲಯ ಕಛೇರಿ, ಬೆಂಗಳೂರು.



**SKETCH SHOWING THE DETAILS OF EXISTING AND PROPOSED SEPTIC TANK AREA IN BOMMASANDRA INDUSTRIAL AREA.**



HOUSING QUARTERS

*[Signature]*  
AE-1

**Asst. Engineer**  
KIADB 14/3A, 2nd Floor,

CFC Building, Maharshi Aravinda Bhavan,  
Opp. RBI, N.T. Road, Bangalore - 560 001  
Ph : 22223222, 22233641

*[Signature]*  
AE-1

**Deputy Development Officer & Assistant Executive Engineer**  
KIADB 14/3A, 2nd Floor,

CFC Building, Maharshi Aravinda Bhavan,  
Opp. RBI, N.T. Road, Bangalore - 560001  
Ph : 22223222, 22233641

*[Signature]*

**Development Officer & Executive Engineer - II**  
KIADB 14/3A, 2nd Floor

CFC Building, Maharshi Aravinda Bhavan,  
Opp. RBI, N.T. Road, Bangalore - 560001  
Ph : 22223222, 22233641



**KARNATAKA INDUSTRIAL AREAS DEVELOPMENT BOARD**

(A Government of Karnataka Undertaking)

No. KIADB/EE-2/1441/2020-21

Date: 07-01-2021

District Commissioner  
Bengaluru Urban District  
Bengaluru.

Sir,

Sub: Permission sought from KIADB to establish 5 nos. of Compact Modular STP Units by TMC Bommasandra as per the directions of Hon'ble NGT.

Ref: 1. Your Letter No. DUDC/TS/CR/129/2020-21, Date: 10-12-2020.  
2. Chief Executive Officer and Executive Member's Order dated: 01-01-2021.

\*\*\*\*\*

With reference to the above Subject, you have requested vide ref (1) letter, to give permission to use the land owned by KIADB to install 5 nos. of compact modular STP units by TMC Bommasandra as per the directions of Hon'ble NGT.

Accordingly, as per the ref (2) orders, permission has been accorded to handover the land admeasuring 70 m (North-South) x 25 m (East-West) total 1750 m<sup>2</sup> to TMC Bommasandra to install and maintain compact modular STPs, retaining ownership of said land with KIADB.

Accordingly, the land admeasuring 70 m (North-South) x 25 m (East-West) total 1750 m<sup>2</sup> including the existing Septic tank located in residential extension of Bommasandra Industrial Area as shown in the sketch, has been handed over to TMC Bommasandra, subject to following terms & conditions.

1. Ownership of the proposed property lies with KIADB.
2. The property shall be used for installation and maintenance of compact modular STP units only.
3. The property should be connected on one side, from south to west.
4. KIADB will not provide any grants towards installation and maintenance of compact modular STP in the property.
5. Except the construction of compact modular STP units, no other construction shall be made in the future.

Yours Sincerely,

**Sd/-**

Executive Engineer – 2  
KIADB Zonal Office, Bengaluru.



|   |  |  |  |  |
|---|--|--|--|--|
|       | <b>Consent For Establishment (CFEs)</b>              |  | <b>Karnataka State Pollution Control Board</b><br>Parisara Bhavana, No.49, Church<br>Street, Bengaluru-560001<br>Tele : 080-25589112/3, 25581383<br>Fax: 080-25586321<br>email id: ho@kspcb.gov.in |  |
|   | <b>Consent No. CTE-322939 Valid upto: 14/01/2025</b> |  |  |  |
| Industry Colour: RED      Industry Scale: SMALL                                       |  |  |  |  |
| (This document contains 5 pages including annexure & excluding additional conditions) |  |  |  |  |

**Consent Order No.** CTE-322939      **PCB ID:** 101025      **Date.** 15/01/2021

To,

The Applicant

Tmc Bommasandra

Ward No. 9, Bommasandra,  
 KIADB Quarters, Bengaluru-  
 560099

Sir,

Sub: Consent to Establish under the Water (Prevention & Control of Pollution) Act, 1974 & the Air (Prevention & Control of Pollution) Act, 1981-reg.,

Ref: 1. CFE application submitted by the industry/organization on 29/12/2020 at Regional Office

2. Inspection of the project site by Regional Officer Bangalore on 15/01/2021  
 Sarjapura

3. Proceedings of the CCM dated

With reference to the above, Karnataka State Pollution Control Board hereby accords **Consent for Establishment** for new Activity under the Water (Prevention & Control of Pollution) Act, 1974 & the Air (Prevention & Control of Pollution) Act, 1981 at the location indicated below subject to the following terms & conditions.

**Location:**

Name of the Applicant: Tmc Bommasandra  
 Address: Ward No. 9., Bommasandra, KIADB Quarters, Bengaluru-560099  
 Industrial Area: BOMMASANDRA-II INDL ESTATE, Bommasandra,  
 Taluk: Not in ind area , District: Bangalore Urban

**Conditions:**

1. This consent for establishment is valid up to 14/01/2025 from the date of issue.
2. The applicant shall not undertake expansion/diversification without the prior consent of the Board.
3. The applicant shall obtain necessary license/clearance from other relevant statutory agencies as required under the law.
4. This consent is granted considering the following activities:

| Sr | Product Name  | Applied Qty/Month | Unit |
|----|---|-------------------|------|
| 1  | STP of capacity 250 KLD ( 50 KLD capacity each 5 numbers) | 1.0000            | NOS  |

**I. WATER CONSUMPTION:**

1. The source of water shall be from Borewell and total water consumption shall be as below.

| Particulars      | Water consumption(KLD) |
|------------------|------------------------|
| Domestic Purpose | 333.0                  |

**II. WATER POLLUTION CONTROL:**

1. The discharge from the premises of the applicant shall pass through the terminal manhole/manholes where from the Board shall be free to collect samples in accordance with the provisions of the Act or Rules made there under.
2. The applicant shall treat the domestic wastewater from the factory in septic tank with soak pit. No overflow from the soak pit is allowed. The septic tank and soak pit shall be designed as per IS 2470 Part - I and Part- II
3. The applicant shall treat the domestic wastewater in the Sewage Treatment Plant (STP) as per the proposal submitted. It shall meet the standards specified in Annexure-I & shall be used on land for gardening/greenbelt within the factory premises.
4. The quantity of domestic waste water and trade effluent generated from the proposed industry shall not exceed the permitted quantity as indicated below

**Discharge of effluents under the Water Act:**

**Consent For Establishment (CFEs)**

Consent No. CTE-322939 Valid upto: 14/01/2025

Karnataka State Pollution Control Board  
Parisara Bhavana, No.49, Church Street, Bengaluru-560001  
Tele : 080-25589112/3, 25581383  
Fax:080-25586321  
email id: ho@kspcb.gov.in

Industry Colour: RED Industry Scale: SMALL

(This document contains 5 pages including annexure &amp; excluding additional conditions)

| Sl. No. | Description      | Permitted Quantity of discharge in KLD | Mode/Place of disposal  |
|---------|------------------|--|---|
| 1       | Domestic Purpose | 250.000                                | Shall be discharged into STP of capacity 250 KLD treated to standards stipulated & discharge for secondary urban purposes & into kittaganahalli lake to maintain the water level. |

5. The applicant shall treat the trade effluent in proposed ETP which consists of the following:

**STP & ETP details**

| SINo | ETP/STP NO | ETP Code | Category Name   | Capacity (Meter Cubic) | Units | Remarks  |
|------|------------|----------|-----------------|------------------------|-------|--|
| 1    | STP1       | BS-      | Bar Screen      | 1.00                   | 1     | size 1000mm*600mm  |
| 2    | STP2       | BS-      | Bar Screen      | 0.00                   | 0     | 20 mm *6 mm*10 mm  |
| 3    | STP3       | BS-      | Bar Screen      | 0.00                   | 0     | 20mm *6mm *10 mm   |
| 4    | STP1       | PRI      | Primary         | 640.00                 | 1     | It is a package unit of Equalization tank, filter feed tank, and final holding tank where screening  |
| 5    | STP1       | SEC      | Secondary       | 575.00                 | 1     | Size of 23*25 It is a package of anaerobic treatment followed by Moving bed media where in anaerobic |
| 6    | STP1       | CFL      | T-CARBON FILTER | 12.00                  | 1     | 12 cum/hour/1 sqm Size: 1000 mm dia 600 mm height  |
| 7    | STP1       | SFL      | T-SAND FILTER   | 12.00                  | 1     | 12 cum/hour/1 sqm Size: 1000 mm dia 600 mm height  |
| 8    | STP1       | TER      | Tertiary        | 125.00                 | 1     | size of 5*25m with pressure sand filters and activated carbon filters                                |

6. The applicant shall ensure that the ETP will treat the effluent to the stipulated standards as indicated in Annexure-I

7. The applicant shall not discharge any effluent outside the industry premises.

8. The applicant shall provide separate flow meter for inflow &amp; outflow of effluents through ETP and separate energy meter and shall maintain a logbook for hourly record of meter reading for the verification of inspecting officers

9. The applicant shall discharge the effluents only to the place mentioned in the Consent order.

**III. AIR POLLUTION CONTROL:**

1. The Source of emission, Stack height &amp; Air Pollution Control (APC) measures shall be as specified in ANNEXURE-II.

2. The applicant shall provide port holes for sampling of emission, access platforms for carrying out stack sampling, electrical points and all other necessary arrangements including ladder as indicated in Annexure-II.

3. The applicant shall upgrade/modify/replace the control equipment with prior permission of the Board.



### Consent For Establishment (CFEs)

Consent No. CTE-322939 Valid  
upto: 14/01/2025

Karnataka State Pollution Control Board  
Parisara Bhavana, No.49, Church  
Street, Bengaluru-560001  
Tele : 080-25589112/3, 25581383  
Fax: 080-25586321  
email id: ho@kspcb.gov.in

Industry Colour: RED Industry Scale: SMALL

(This document contains 5 pages including annexure & excluding additional conditions)

#### IV. NOISE POLLUTION CONTROL:

1. The applicant shall ensure that the ambient noise levels within its premises shall not exceed the limits i.e. 75 dB(A) Leq during day time and 70 dB(A) Leq during night time as specified in the Environment (Protection) Rules.

#### V. SOLID WASTE (OTHER THAN HAZARDOUS WASTE) DISPOSAL:

1. The applicant shall collect, treat and dispose off all solid waste generated from the process other than wastes covered under the Hazardous and other Wastes (Management & Transboundary Movement) Rules 2016 in such manner so as not to cause environmental pollution.
2. The details of solid waste generated from the proposed plant and mode of disposal shall be as below.

#### VI. HAZARDOUS AND OTHER WASTES (MANAGEMENT & TRANSBOUNDARY MOVEMENT) RULES 2016:

1. The applicant shall apply and obtain authorization under Hazardous and Other Wastes (Management & Transboundary Movement) Rules 2016, and comply with the provisions of the said Rules.

#### VII. GENERAL:

1. The applicant shall transport and store the raw materials in a manner so as not to cause any damage to environment, life and property. The applicant shall be solely responsible for any damages to environment.
2. The applicant shall not commission the proposed plant for trial or regular production unless necessary Water & air pollution control equipments are installed as specified in the Consent Order.
3. The applicant shall ensure that the treatment plant and control equipments are completed and commissioned simultaneously along with construction of the factory and erection of machineries.
4. The applicant shall not change or alter (a) raw materials or manufacturing process, (b) change the products or product mix (c) the quality, quantity or rate of discharge/emissions and (d) install/replace/alter the water or air pollution control equipments without the prior approval of the Board.
5. The applicant shall immediately report to the Board of any accident or unforeseen act or event resulting in release of discharge of effluents or emissions or solid wastes etc. in excess of the standards stipulated. And the industry shall immediately take appropriate corrective and preventive actions under intimation to the Board.
6. The Board reserves the right to review, impose additional condition or conditions, revoke, change or alter the terms and conditions.
7. This CFE does not give any right to the Party/Project Authority/Industry to forego any other legal requirement, that is necessary for setting/operation of the plant.
8. The applicant shall furnish pointwise compliance to the conditions given under this consent for establishment along with the application for Consent to operate.
9. The applicant is liable to reinstate or restore, damaged or destroyed elements of environment at his cost, failing which, the applicant/occupier as the case may be shall be liable to pay the entire cost of remediation or restoration in advance an amount equal to the cost estimated by Competent Agency or Committee.
10. The applicant shall comply with all the Conditions and guidelines issued from time to time.
11. The applicant must create structure/facility for rain water harvesting and ground water recharge.
12. The applicant shall develop extensive green belt within the periphery of the plant.
13. This consent is issued without prejudice to Court Cases pending in any Hon'ble Court.

Please note that this is only consent for establishment issued to you to proceed with the formalities for establishment of the industry and does not give any right to proceed with trial/regular production. For this purpose, separate consents of the Board for discharge of liquid effluent and the emissions to the air shall have to be obtained by remitting prescribed consent fee. The application for consent has to be made 45 days in advance of commissioning for trial production of the plant.

The receipt of this letter may please be acknowledged.

Consent Fee paid : Rs. 15000

**Consent For Establishment (CFEs)****Consent No. CTE-322939 Valid upto: 14/01/2025**

Karnataka State Pollution Control Board  
 Parisara Bhavana, No.49, Church Street, Bengaluru-560001  
 Tele : 080-25589112/3, 25581383  
 Fax: 080-25586321  
 email id: ho@kspcb.gov.in

Industry Colour: RED Industry Scale: SMALL

(This document contains 5 pages including annexure &amp; excluding additional conditions)

**Note:**

The Conditions Nil mentioned in the schedule are not applicable.

**Additional Conditions:**A-2(a), 3(a), 3(b), C,D,F,G(8) these conditions are not applicable.The Project authorities shall strictly comply with the conditions stipulated in Annexure I contains 04 pages.The applicant shall install captive DG Set of adequate capacity, with prior permission, to operate the treatment units of STP in the event of power failure.**COPY TO:**

1. The Environmental Officer, KSPCB, Regional Office, Bangalore Sarjapura for information and to inspect the industry during your next visit to the area.
2. Master copy (Dispatch).
3. Office copy.

**ANNEXURE- II**

| Chimney No. | Chimney attached to | Capacity/ KVA Rating | Minimum chimney height to be provided above ground level (in Mts) | Constituents to be controlled in the emission | Tolerance limits mg/NM3 | Fuel | Air pollution Control equipment to be installed, in addition to chimney height as per col.(4) | Date of which air pollution control equipments shall be provided to achieve the stipulated tolerance limits and chimney heights conforming to stipulated heights. |
|-------------|---------------------|----------------------|---|---|-------------------------|------|---|---|
| 1           | Any Other....       |                      |   | 0 PM(mg/NM3), SO2 (PPM), NOx(PPM)             | 0.1, 0.1, 0.1           |      | N.A   | Before commissioning.   |

Note:

N.A : Not Applicable

**LOCATION OF SAMPLING PORTHOLES, PLATFORMS, ELECTRICAL OUTLET.**

1. Location of Portholes and approach platform:

Portholes shall be provided for all chimneys, stacks and other sources of emission. These shall serve as the sampling points. The sampling point should be located at a distance equal to at least eight times the stack or duct diameters downstream and two diameters upstream from source of low disturbance such as a Bend, Expansion, Construction Valve, Fitting or Visible Flame or rectangular stacks, the equivalent diameter can be calculated from the following equation.

$$\text{Equivalent Diameter} = \frac{2 (\text{Length} \times \text{Width})}{(\text{Length} + \text{Width})}$$

2. The diameter of the sampling port should not be less than 100mm dia". Arrangements should be made so that the porthole is closed firmly during the non sampling period.
3. An easily accessible platform to accommodate 3 to 4 persons to conveniently monitor the stack emission from the portholes shall be provided. Arrangements for an Electric Outlet Point of 230 V 15 A with suitable switch control and 3 Pin Point shall be provided at the Porthole location.
4. The ladder shall be provided with adequate safety features so as to approach the monitoring location with ease.



**Consent For Establishment (CFEs)**

Consent No. CTE-322939 Valid  
upto: 14/01/2025

Industry Colour: RED

Industry Scale: SMALL

Karnataka State Pollution Control Board  
Parisara Bhavana, No.49, Church  
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Tele : 080-25589112/3, 25581383  
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email id: ho@kspcb.gov.in

(This document contains 5 pages including annexure & excluding additional conditions)

FOR AND ON BEHALF OF KARNATAKA  
POLLUTION CONTROLBOARD

Validity unknown

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Date: 2021.01.15 19:25:03  
+05:30





Annexure - R9



## TOWN MUNICIPAL COUNCIL BOMMASANDRA

Attibele hobli, Anekal Taluk, Bangalore urban dist – 560099,

E-MAIL: [itstaff\\_ulb\\_bommasandra@yahoo.com](mailto:itstaff_ulb_bommasandra@yahoo.com)

Phone No:- 080-27834655

No: TMCB/TS/10/2020-21

Date: 30.01.2021

To,

Deputy Chief Engineer,  
WAPCOS Limited, 76-C,  
Instiutonal Area, Sector-18,  
Gurgaon HARYANA-122015.

Sir,

Sub: Installation, Operation and Maintenance of Compact Modular 50 KLD STP Units – 3/5 Nos. at TMC Bommasandra.

Ref: 1). Your office letter No. WAP /250 /KLD /TMC /Mob/Adv/ 202/01,  
Dated.18.01.2021.

2) TMC, Bommasandra Letter of LoA No.10 Date:06.01.2021

\*\*\*\*\*

With regard to Installation, Operation and Maintenance of Compact Modular STP Units – 3/5 Nos. at Bommasandra, TMC, you have requested the TMC to release 35% mobilization advance as per Rule-172 (II)(b) of 'General Financial Rules-2017'. Your proposal has been verified in line with the provisions of Karnataka Transparency in Public Procurement Act & Rules, wherein there is a provision to provide only 5% advance.

M/s Wapcos Ltd. has been chosen and provided with 4(g) exemption under KTPP Act, to avoid time delay in following the tender process and to expedite the installation process in view of the Hon'ble NGT Orders issued on 04-11-2020 in the matter of OA No. 750 of 2019.

Subsequent to the said Orders and prior to that, several meetings / VCs were held with your representatives along with the concerned stake holders / Officers, but nowhere this issue was raised and now this issue has cropped up suddenly which will hamper the remedial action as per Hon'ble NGT's mandate.

Hence, it is communicated that the proposal of WAPCOS can't be considered, instead WAPCOS can submit the Agreement with milestones and corresponding payments, based on which payment can be made by TMC after successful completion of each milestone. It is requested to expedite the process since TMC is in a crucial stage as State has to submit the Affidavit to Hon'ble NGT through Additional Chief Secretary, Urban Development Department, GoK and further delay in this regard will lead to contempt of Court.

Thanking you,

Yours faithfully,

  
Chief Officer,

TMC, Bommasandra





# वाष्कोस लिमिटेड WAPCOS LIMITED

(भारत सरकार का उपक्रम)  
जल शक्ति मंत्रालय  
(A Government of India Undertaking)  
Ministry of Jal Shakti



WAP/STP/TMC/2021/02

02<sup>nd</sup> February 2021

To  
The Chief Officer KMAS, Grade 1,  
Bommasandra Town Municipal Council,  
Bommasandra Hosur Main Road,  
Anekal Taluk, Bommasandra,  
Bangalore-560099

**Sub: Installation, Operation and Maintenance of Compact Modular 250KLD STP at TMC Bommasandara**

**Ref: (1) Our offer submitted to you on this vide No WAP/STP/PROPOSAL/2020/01 dated 8-9-2020  
(2) Your Letter No. TMCB/TS/10/2020-21 dated 06.01.2021**

Dear Sir,

As per our letter referenced at (1), we had submitted our proposal for subject mentioned project in the month of September 2020. We have mentioned in our proposal, the timeline and terms of payment with keeping in view the discussions with various vendors and timeline given by NGT to Government of Karnataka.

However, we have only received the LoA for 3 X 50 KLD STP units out of 5 X 50 KLD STP units on 06/01/2021, with mobilization advance of 5% as against 50% mentioned in our proposal. Since, 4 months have already passed and nearing NGT deadline i.e. end of February 2021 and Mobilization advance of 5% being very low, we have discussed the matter with our Finance Department, and it has been decided not to go ahead with the project as it won't be feasible.

Accordingly, we regret to inform you that WAPCOS Limited will not be able to carry out this project. We regret the inconvenience caused.

Yours Sincerely,

*Arjun Chhikara*  
02/02/21

Arjun Chhikara  
Deputy Chief Engineer  
WAPCOS Limited  
E-mail: [ports@wapcos.co.in](mailto:ports@wapcos.co.in)



Corporate Office: 76-C, Institutional Area, Sector - 18, Gurugram - 122 015 (Haryana), INDIA

Tel. : +91-124-2399421 • Fax : +91-124-2397392

E-mail : [ho@wapcos.co.in](mailto:ho@wapcos.co.in) ; [mail@wapcos.co.in](mailto:mail@wapcos.co.in) • Website : <http://www.wapcos.co.in>

CIN : U74899DL1969GOI005070





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**Annexure -1 Cost Estimates**

**Annexure -2 Drawings**

# **ANNEXURE -1**

## **COST ESTIMATE :**

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**Annexure -1 Cost Estimates**

**Annexure -2 Drawings**



## 1. BRIEF ABOUT PROJECT

**Bommasandra** is located at Bangalore in the state of Karnataka, India. It is one of the industrial areas in Anekal taluk, with others being Attibele, Chandapura, Electronic City, Jigani and Sarjapura.

### 1.1 Sewage Generation and Management

The sewage generated is flowing through UGD and reached the Septic tank from Ward No 2 and Ward no 9. The Dimensions of the Septic tank by physical observation is 16'x 40'x15'. Since the Septic tank is of less capacity, the over flooding sewage is being dumped to the Nearest water body i.e., Kittaganahalli Lake. The Kittaganahalli Lake is in the vicinity of Bommasandra which is the ultimate receiving Body of the area.

Due to Unscientific methods of Disposing the untreated water and dumping of the waste in the lake, the pollution had grabbed National Green Tribunal's attention

National Green Tribunal (NGT), the Centre and State pollution control boards have finally approved action plans to bring down pollution levels in five "critically polluted" industrial clusters in Karnataka, including Bommasandra Industrial Area of Bangalore. Industrial cluster in Bengaluru, Jigani–Bommasandra (CEPI score of 70.99, which would make it critically polluted) has been identified, but not yet notified as a critically polluted cluster by the Ministry of Environments and Forests (MoEF).

NGT has issued an order on 18-6-2020 to stop the entry of sewage into the Kittaganahalli lake vide June 19, 2020, O. A. No. 750/2019

Item No. 02

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 750/2019

(With Report dated 18.02.2020)

Dr. Sanjay Rao & Ors

Applicant(s)

Versus

State of Karnataka

Respondent(s)

Date of hearing: 19.06.2020

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER  
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

For Respondent(s): Mr. Darpan Kumar, Advocate for R-1

**ORDER**

1. The issue for consideration is the remedial action against pollution of Kithiganahalli lake situated behind Narayana Hrudayalaya Hospital, within remits of Bommasandra Pura Sabha, Anekal, Karnataka.
2. Vide order dated 25.09.2019, a factual and action taken report was sought from the Karnataka State Pollution Control Board ("State PCB").
3. Accordingly, a report has been filed on 18.02.2020 acknowledging the damage to the lake by unregulated discharge of sewage by the Municipal Council, Bommasandra through open drains. Sewage is also

### 1.2 Source of Pollution:

TMC Bommasandra has two sources of influents entering the Kittaganahalli lake.

- a. Overflowing Sewage from Septic tank constructed to hold the Residential domestic sewage.
- b. Treated/ untreated effluents from Industries around the Locality.

### 1.3 Sewage from the Residential area.

Bommasandra Industrial area has around 700 residential units contributing to the sewage flow of the area. As there is no treatment facility In the vicinity, the generated sewage is stored in a septic tank constructed

Total Discharge from Ward No.2 & 9 of Bommasandra TMC:

| Sl No.  | Activity   | No of Units | Consumption of Water (KLD) | Sewage Generated (KLD) |
|---------|--|-------------|----------------------------|------------------------|
| 1       | KIADB Quarters   | 64          | 43                         | 34                     |
| 2       | Residences   | 350         | 236                        | 189                    |
| 3       | Guest Houses constructed by KIADB and leased out to Narayana Hrudayalaya | 200         | 54                         | 43                     |
| Total = |  | 614         | 333                        | 266                    |

Source : KSPCB

The sewage eliminated from the nearby habitation is 250 KLD approximately and this is currently flowing into a septic tank through UGD and overflows into the lake. The effluents generated from various industries also contribute to the pollution of the Kittaganahalli lake.

Kittaganahalli Lake, Sarjapura Hobli, Bangalore Urban District is Classified as 'E' Category based on the Water quality criteria. which is are attributed due to entry of untreated sewage in to the Lakes.

| Designated-Best-Use                                       | Class of water | Criteria  |
|---|----------------|---|
| Irrigation, Industrial Cooling, Controlled Waste disposal | E              | 1. pH between 6.0 to 8.5<br>2. Electrical Conductivity at 25o C micro mhos/cm Max.2250<br>3. Sodium absorption Ratio Max. 26<br>4. Boron Max. 2mg/l |

The same was confirmed by the KSPCB Lab report for the lake water with samples tested on 5/02/2020.

**KSPCB – LAB REPORT**

Ph : 080-23238458  
Fax : 080-23238200




TC-5487



KARNATAKA STATE POLLUTION CONTROL BOARD  
CENTRAL ENVIRONMENTAL LABORATORY

Legal Entity: PACT, 1986 RECOGNISED ENVIRONMENTAL LABORATORY  
AN ISO/IEC 17025:2017 (NABL) ACCREDITED LABORATORY &  
IS 18001:2007 CERTIFIED LABORATORY

Email: central@kspcb.gov.in  
Website: http://kspcb.gov.in

Address: 1st Floor, 1st Stage, 1st Cross, Tummachalli Road, Mysuru, Karnataka - 575 019

Date: 05-02-2020

**ANALYSIS REPORT**

|                     |  |  |
|---------------------|--|--|
| NAME OF THE LAKE    | Keethaganahalli Lake,<br>Keethaganahalli Village | Page 1 of 1                              |
| SAMPLE COLLECTED BY | RO: Sarjapura                                    | DATE OF COMMENCEMENT OF TEST: 16-12-2019 |
| DATE OF COLLECTION  | 12-12-2019                                       | DATE OF COMPLETION OF TEST: 08-01-2020   |
| DATE OF RECEIPT     | 13-12-2019                                       | SAMPLE REPORT NO: W-2582                 |
| PARTICULARS         | Lake Water                                       | SAMPLE NO: W-2582                        |

| Sl No | Parameters                                | Unit      | Water Quality Criteria |         |         |         |         | Results             | Range of testing/Limit of Detection    | Test Method   |
|-------|---|-----------|------------------------|---------|---------|---------|---------|---------------------|--|---|
|       |   |           | A                      | B       | C       | D       | E       |                     |  |   |
| 1.    | pH@25°C                                   | -         | 6.5-8.5                | 6.5-8.5 | 6.0-9.0 | 6.5-8.5 | 6.0-8.5 | 6.4                 | 2 to 12 Unit                           | IS 3025 (Part 1): 2002  |
| 2.    | Conductivity @25°C                        | µmhos     | -                      | -       | -       | -       | 2250    | 2780                | 10 to 3000 µmhos                       | IS 3025 (Part 14): 2013   |
| 3.    | Dissolved Oxygen                          | mg/L      | 6                      | 5       | 4       | 4       | -       | 0.5                 | 0.5 to 20 mg/L                         | IS 3025 (Part 10): 2003   |
| 4.    | Biochemical Oxygen Demand (3 days @ 20°C) | mg/L      | 2                      | 3       | 3       | -       | -       | 42                  | 2 to 300 mg/L                          | APHA 23 <sup>rd</sup> Edition (Part 4500-O-G): 2017                   |
| 5.    | Free Ammonia as N*                        | mg/L      | -                      | -       | -       | 1.2     | -       | 0.004               | 0.005 to 0.203 mg/L                    | APHA 23 <sup>rd</sup> Edition (4500 NH <sub>3</sub> -D): 2017         |
| 6.    | Sodium Absorption Ratio*                  | -         | -                      | -       | -       | 2.0     | -       | 4.8                 | -                                      | IS 11624-1986   |
| 7.    | Boron as B                                | mg/L      | -                      | -       | -       | -       | 2.0     | BDL                 | 0.1 to 10 mg/L                         | APHA 23 <sup>rd</sup> Edition (Part 4500-B B): 2017                   |
| 8.    | Total Coliform                            | MPN/100ml | 50                     | 500     | 5000    | -       | -       | 920x10 <sup>3</sup> | Qualitative (<1.8 to >1600 MPN/100 ml) | APHA 23 <sup>rd</sup> Edition (Part 9221 A, B, C): 9.68 to 0.75: 2017 |

**INFERENCE**      Class "Below E" Not Meeting A, B, C, D & E Criteria

Note 1. The above results pertain only to the sample tested.  
 2. The report shall not be reproduced without the written approval of Head of the laboratory.  
 3. \* Tests are not under the scope of NABL Accreditation.  
 4. Samples will be stored for a period of 15 days from the date of dispatch of report.  
 5. Decision Rule: "Statement of conformity applies only to analysis of results which meets the standards stipulated by regulatory authority".  
 6. BDL: Below Detection Level - Boron as B: 0.1  
 7. "Water Quality Criteria"

| Designed Best Use  | Class of Water |
|--|----------------|
| Drinking Water Source without Conventional treatment but after disinfections | A              |
| Outdoor bathing (Organized)  | B              |
| Drinking Water Source after conventional treatment and disinfection.         | C              |
| Propagation of Wild Life, Fisheries  | D              |
| Irrigation, Industrial cooling, Controlled Waste disposal                    | E              |
| Not Meeting A, B, C, D & E Criteria.   | Below -E       |

*Radha M.N*  
 Authorized Signatory (Biological)  
 (Radha M.N)  
 Assistant Scientific Officer

*Farhath Jabeen*  
 Authorized Signatory (Chemical)  
 (Farhath Jabeen)  
 Deputy Scientific Officer

---End Of Report---

#### 1.4 Objective of the Project

The aim of the project is to appoint a service provider to develop 250 KLD Package sewage treatment plant.

The following chapters give brief on comparison between the different technologies, design technology adopted, list of units, operation & maintenance cost, tentative area requirement, etc.

The aim of the project is to:

- To achieve guaranteed treated effluent quality.
- To ensure that the offered treatment process is the most appropriate and state of the art in terms of both efficiency of treatment and cost (the Bidder shall have to produce the performance records with the same treatment systems applied elsewhere.)
- To ensure that the process is cost effective from both capital and O&M costs consideration.

## 2. DESIGN BASIS

### 2.1 Design Flow

- The following aspects are considered for the design of Package/Container Sewage treatment
- Plant designed with operating Hours: 24 hrs
- Capacity proposed is 250 KLD

### 2.2 Raw Sewage Characteristics

The raw sewage characteristics considered are:

| Parameter                | Unit | Value              |
|--------------------------|------|--------------------|
| pH                       | -    | 7.5-8.5            |
| BOD (5 days at 20 deg C) | Mg/L | 250-300            |
| COD                      | Mg/L | 400-500            |
| TSS                      | Mg/L | 150-250            |
| Oil & grease             | Mg/L | <50 Bio Degradable |

### 2.3 Treated water characteristics

| Parameter         | Unit | KSPCB Norm | Treated water |
|-------------------|------|------------|---------------|
| pH                | -    | 6.5 – 8.5  | 6.5-8.0       |
| Suspended solids  | Mg/L | < 10       | < 10          |
| BOD               | Mg/L | < 10       | < 10          |
| COD               | Mg/L | < 60       | < 50          |
| Oil & Grease      | Mg/L | < 10       | <5            |
| E Coli            | Mg/L | NIL        | NIL           |
| Residual Chlorine | Mg/L | > 1        | > 1           |
| Total Nitrogen    | Mg/l | < 10       | <10           |
| Turbidity         | NTU  | < 2        | < 2           |

## 2.4 Design Considerations

- The parameters considered for design basis are general sewage characteristics adopted from CPHEEO manual.
- The incoming sewer network bringing sewage to the STP along with its preliminary treatment inclusive of Screens pumping has been included.
- Any kind of approvals required for this Package STP, ancillary works like compound wall, Yard lighting, Walkway, soft landscape etc. has been considered.
- Commissioning of the project and supervision of performance stabilization is considered.
- Operation & Maintenance cost for five years without considering electricity rate is provided which includes man power, consumables, & maintenance charges only.
- NOC/Approval from statutory bodies/Govt Departments has not been considered.

### 3. SELECTION OF SUITABLE SECONDARY TREATMENT

The domestic sewage after giving primary treatment is given secondary treatment to remove the organic putrescible organic matters and bring down the BOD of the effluent given to the primary treated effluent is described below,

- Activated Sludge Process
- Cyclic Activated Sludge Process/SBR
- Moving Bed Bio-Reactor (MBBR)
- Membrane Bio reactor (MBR)

#### 3.1 ACTIVATED SLUDGE PROCESS

- Activated Sludge Process is the most ancient form of biological waste water treatment process. Due to aerobic process in Activated Sludge Process, plant has less odor/vector nuisance in compare to anaerobic type process as mentioned above. The conventional activated sludge processes are of three types, Conventional System, Complete Mixed & Extended Aeration
- **Conventional System**-This type of system consists of an aeration tank, a secondary settling tank, a sludge recirculation system and sludge withdrawal system. About 85-92% of BOD removal can be achieved. The sewage and mixed liquor are input at the head of the tank and withdrawn at the end. Air is supplied at uniform rate throughout the length of the tank.
- **Completely Mixed**-In a complete mixing is achieved by distributing the sewage and return sludge uniformly along one side of the tank and withdrawing the aerated sewage uniformly along the opposite side. The complete mix system has a high capacity to hold a high MLSS level in the aeration tank enabling the aeration tank volume to be reduced. The plant has high operational stability at shock loadings and also increased capacity to treat toxic biodegradable wastes.
- **Extended Aeration**-The extended aeration process is little change of the activated sludge process which employs low organic loading, long aeration time, high MLSS concentration and low F/M.
- Other way this provides a biological treatment for the removal of biodegradable organic waste under aerobic condition. Air may be supplied by mechanical or

diffused aeration to provide by aeration or mechanical means to maintain the microbial organisms in contact with the dissolved organics. In addition PH must be controlled to optimize the biological process and essential nutrients must be present to facilitate biological growth and the continuation of biological degradation.

- Sewage after primary treatment enters to the aeration chamber, where it is mixed and oxygen is provided to the micro organisms. The mixed liquor then flows to a clarifier or secondary settling tank where most micro organisms settle to the bottom of the clarifier. The sludge from clarifier is recycled back to aeration tank and remaining part is withdrawn from the system. Because of the long detention time in the aeration tank, organic solids undergo considerable endogenous respiration and get well stabilized. So the excess sludge from clarifier does not require separate digestion and can directly be dried on sand beds. The clarified waste water flows over a weir used for sewage farming purpose.
- The BOD removal efficiency is high i.e. (90 -95) compare to Completely Mix Methodology.

### **Limitations**

Based on experience of installations of ASP based plants, we can say that,

- BOD Removal can be achieved to a greater extent but Nitrogen removal cannot be achieved.
- In complete mix activated sludge process operation of anaerobic digestion requires a more skill labor here primary settling and anaerobic digestion of the sludge are omitted.
- The process is susceptible to filamentous sludge bulking.
- This treatment requires a slightly larger area than the complete mix activated sludge, here waste water is brought directly to aeration basin after screening and grit removal.
- Aeration energy used is high and relatively required large aeration tanks, adaptable mostly to very small plants.

- Secondary settling assumes considerable importance in the activated sludge process. The secondary settling tank of activated sludge process is particularly sensitive to fluctuation in flow rate and on this account it is recommended that the units be designed not only for average flow rate but also for peak flow rate. The high concentration of suspended solids in the effluent requires that the solids loading rate shall also be considered.

### **3.2 Cyclic Activated Sludge Process/Sequential Batch Reactor (CASP/SBR)**

- A Sequencing Batch Reactor (SBR) is a fill and draw activated treatment system. As such, SBR are capable of handling all waste waters commonly treated by conventional activated sludge plants. Municipal and industrial waste waters have both been successfully treated in SBR systems. The unit process involved in the SBR and conventional activated sludge systems are identical. Aeration and sedimentation/clarification are carried out in both systems. However, there is one important difference. In conventional plants, processes are carried out simultaneously in separate tanks, whereas in SBR the processes are carried out sequentially in the same tank.

#### **Advantages**

- One single reactor basin provides all of the unit operations and processes that require two separate basins in a conventional activated sludge plant configuration that can provide an effluent quality suitable for reuse. Equalization, primary clarification (in most cases), biological treatment, and secondary clarification can be achieved in a single reactor vessel.
- This process can be operated and controlled with flexibility for efficient removal of organics organic matter, suspended solids, nitrogen, and phosphorus under all loading conditions. Provides enhanced biological phosphorus removal with or without chemical augmentation.
- This process can control the growth of filamentous bacteria and prevent bulking of activated sludge.

- This process saves capital cost by eliminating final sedimentation tanks. As secondary sedimentation tanks are not required in this process, footprint area needed is also minimal as simultaneous multiprocessing takes place in a single reactor basin (approximately 100m<sup>2</sup>/1000m<sup>3</sup> only needed for SBR Tanks).
- Can be used with primary clarifiers and power generation configurations where the ratio of VSS:TSS is high.
- Allows for easy modular expansion for population growth. Modular configurations and cyclic operation is easily managed to provide continuous inflow and outflow hydraulic profiles, dispensing with the need for outflow hydraulic balancing

### **Limitations**

- Compared to the conventional activated sludge system, a higher level of maintenance can be associated with more automated switches and valves.
- Basin depth should be sufficient to provide an adequate clear water depth over the sludge blanket to prevent settled solids entrainment.
- Potential for discharging floating or settled sludge during the decant sequence with some of the shallower and non-interrupted inflow SBR configurations.
- In small SBR systems approximately less than 10 MLD, effluent flow balancing may be needed for downstream processing, such as filtration or disinfection.
- Short circuiting of influent conservative parameters (ammonia nitrogen, orthophosphate) under the non-interrupted inflow protocol may be a process failure consideration in some SBRs. Larger capacity aeration system, relative to aeration time per cycle and per day, is required compared to conventional activated sludge system.
- Compared to conventional activated sludge system, higher level of sophistication is required, especially for larger systems of timing units and controls.
- Potential for discharging floating or settled sludge during the decant phase with some SBR configurations.
- Potential plugging of aeration devices during selected operating cycles depending on the aeration system used by the manufacturer.

- After the SBR process, equalization is required depending upon the downstream process such as filtration or disinfection.
- There should be sufficient allowance of clear water depth from the sludge blanket to minimize sludge carryover. The volume of water decanted should be limited to prevent scouring of solids.
- All SBR plants must be designed to cater to peak flows. A minimum of two tank system is required.
- Extended aeration consumes a lot of power.
- SBR technology comes with customized design of Decanter mechanism & requires high maintenance & skilled labors to install.

### **3.3 MEMBRANE BIO-REACTOR**

- The membrane bioreactor (MBR) process is a combination of activated sludge process and membrane separation process. Low pressure membranes (ultra filtration or microfiltration) are commonly used. Membranes can be submerged in the biological reactor or located in a separate stage or compartment and are used for liquid-solid separation instead of the usual settling process.
- Basically, primary sedimentation tank, final sedimentation tank and disinfection facility are not installed in this process. The reaction tanks comprise an anoxic tank and an aerobic tank, and the membrane modules are immersed in the aerobic tank. Pre-treated, screened influent enters the membrane bioreactor, where biodegradation takes place. The mixed liquor is withdrawn by water head difference or suction pump through membrane modules in a reaction tank, being filtered and separated into solid and liquid. Surfaces of the membrane are continuously washed down during operation by the mixed flow of air and liquid generated by air diffuser set at the bottom of the reaction tank. Permeate from the membranes constitutes the treated effluent.

### Advantages

- This process does not need primary and final sedimentation tanks, and disinfection facilities; therefore, it requires smaller space than conventional biological systems (generally around 1/3 of ASP system).
- Since high MLSS concentration can be maintained in a reaction tank, MBRs operate at higher volumetric loading rates which result in lower hydraulic retention times. The low retention times mean that less space is required compared to a conventional system.
- High MLSS concentration in a reaction tank enables dewatering of the excess sludge withdrawn from the reaction tank directly without thickening.
- The effluent from MBRs is very transparent and fine containing almost no TSS. Organic matters (BOD) are well removed because of lower concentration of TSS compared with ASP process. Phosphorus also can be removed by adding coagulant in reaction tank.
- Long solids residence times (SRTs) of MBR, because of high MLSS concentration, is prone to nitrification reaction in its process. Therefore, if anoxic zone is applied in reaction tank, nitrogen is expected to be removed by biological nitrification and de-nitrification reaction.
- E-coli is almost certainly blocked by MF membrane with pore size of less than 0.4 micro meters which is generally used for MBR system.
- Treated water by MBR can be reused for various purposes such as toilet flushing, gardening, etc. without additional treatment.
- Operation and maintenance works are easy and free from control of bulking and sludge recirculation because final sedimentation tank is not required. Monitoring and control of treatment process can easily be automated.

### Limitations

- Oil and grease have to be totally removed otherwise membranes will be choked and unusable.
- Needs higher capital and operating costs than conventional systems for the same throughput.
- Needs a flow equalization tank to regulate fluctuation of the influent.
- Needs fine screens for pre-treatment to protect membranes.
- MBR involves very high power consumption & membrane cleaning is tricky & requires skilled staff.

### 3.4 MBBR (MOVING BED BIO-REACTOR)

- The moving bed biofilm reactor (MBBR) is based on the biofilm carrier elements. Several types of synthetic biofilm carrier elements have been developed for use in activated sludge processes. These biofilm carrier elements may be suspended in the activated sludge mixed liquor in the reaction tank by air from the diffusers in aerobic reactors and by means of propeller mixers in anaerobic and anoxic reactors. The carrier elements are retained by suitably sized sieves or plates.
- These processes are intended to enhance the activated sludge process by providing a greater biomass concentration in the aeration tank and thus offer the potential to reduce the basin size requirements. They have also been used to improve the volumetric nitrification rates and to accomplish the denitrification in aeration tanks by having anoxic zones within the biofilm depth.
- Because of the complexity of the process and issues related to understanding the biofilm area and activity, the processes design is empirical and based on prior pilot-plant or limited full-scale results.
- There are now more than 10 different variations of the processes in which a biofilm carrier material of various types is suspended in the aeration tank of the activated sludge process.

### Advantages

- These processes can enhance the activated sludge process by providing a greater biomass concentration in the aeration tank and thus offer the potential to reduce the basin size requirements.
- Packing materials can maintain the concentration of nitrifying bacteria in the aerobic tank at a high level, and the nitrification reaction proceeds efficiently. So, these processes can improve the volumetric nitrification rates and also accomplish the denitrification in aeration tanks by having anoxic zones within the biofilm depth.
- These processes can be used for the upgrading of an existing plant, especially when space is an issue.
- These processes can upgrade the plant by reducing the solids loading on the existing sedimentation tank.
- MBBR can be designed based on modular operation to take partial load i.e. minimum flow of 500 kld can be handled without additional power consumption since reactor volume has been divided in to 500X manner. Therefore, in the event of less available flow than design, system can take partial flow at partial load and power saving is possible
- 20% hydraulic expansion is possible in MBBR without any change in footprint and equipments with tuning of Bio-carrier concentration and recycle flow adjustments & process load expansion i.e. approx 25% process load expansion is possible to design with variable concentration of carrier element without changing any equipments and footprint of system
- Overall expansion beyond 25% is possible by addition & integration of process battery without disturbing existing operating units or retrofits.
- Maintenance is easy because all components used in a MBBR including Bio-carrier is openly available in market and therefore it is very easy to manage maintenance in house by public health departments without any external support & System operates in modular manner. Therefore, parallel maintenance module wise is possible without shut down of entire plant.

- Since Principal technological component is Bio-carriers, it is possible to maintain inventory with ready stock available in market as & when required & does not require any skilled labor for replacement.
- The air requirement is partially high in case of MBBR but can be compensated during low load operational hours.
- In case of modular packaged plants, system can be quickly disintegrated, transported, relocated and reinstalled in whole manner.

### **Disadvantages**

- Because of the complexity of the process and issues related to understanding the biofilm area and activity, the processes design are empirical and based on prior pilot-plant or limited full-scale results.
- When upgrading existing treatment plants that operate without primary settling and rather large screen sizes, the carrier material should be chosen appropriately to prevent clogging.
- In the aeration tank of these processes, the concentration of dissolved oxygen (DO) has to be relatively high because the DO concentration is the limiting factor in biofilm processes. A high driving force in terms of DO concentration across the biofilm is therefore required.

### **Conclusion**

- Based on the above study of different biological treatments, we can conclude that MBBR is most suitable, financially viable & best technology.

#### 4. SELECTED TECHNOLOGY DESCRIPTION

The selected process integrates conventional activated sludge system with MBBR. MBBR process employs mobile biofilm carriers to support a very high concentration of attached biomass and has excellent mass transfer conditions.

The system achieves much higher loading rates than other biological treatment systems and is not prone to sludge bulking problems, oxygen deficiency or mechanical problems. The neutrally buoyant high-density virgin polyethylene (HDPE) biofilm carriers within bioreactor tank provide a stable base for the growth of a diverse community of microorganisms. Every biofilm carrier has a very high surface-to-volume ratio, allowing for a high concentration of biological growth to thrive within the internally protected areas.

MBBR is a high technology focusing on biological wastewater treatment having strong hold on the market, which is acquired by adopting a unique method of operation, emanating from the need and possibilities of the micro organisms. This technology has been used for more than 20 years for Greenfield wastewater treatment plants as well as supplementing old ones. The technology may be used for industrial as well as municipal wastewaters.

The MBBR is a continuously operating, non-clog gable bio-film reactor with no need for backwashing, low head loss and high specific bio-film surface area. The high concentration of biomass makes the process tolerant to load variations and disturbances. The amount of biomass is self regulated and depends on incoming load and hydraulic retention time. The process is thus easier to maintain and monitor as compared to any other system. Since the carriers are constantly moving, the process is also insensitive to suspended solids.

The selected technology equipment requirements are as described below:

##### 4.1 Bio media

The Moving Bed bio-film reactor is based around specially engineered "**Virgin HDPE media**" having surface area of 500 m<sup>2</sup>/m<sup>3</sup> and is kept in a fully mixed condition together with the sewage. The mixing is provided by air used for aeration.

The carrier media increase the surface area for the Microorganism to reside, resulting in a high concentration of biomass in the reactor. This provides a very compact reactor with three to four times the capacity of a conventional activated sludge tank.

The main features of the bio media selected are:

**a. Ideal for High Loads**

The MBBR biofilm carrier (shown at the right with the biofilm) is geometrically designed with large void spaces and apertures to allow the moving bed biofilm process the capability to handle higher organic loads without plugging or clogging with excessive growth of bio solids.

**b. Field Proven**

The biofilm carrier elements are ideal for high rate BOD removal in a small footprint. MBBR systems are typically a fraction of the size of activated sludge systems.

**c. Responds to the load Fluctuations without Operator Intervention**

Self-regulating nature of biofilm adjusts to variations in process load. As the contaminant load increases, the microbial population in the biofilm increases enabling additional treatment capacity. Likewise, during low loading conditions, the population self adjusts and decreases. This eliminates the need to return a dilute activated sludge stream and alleviates the requirements for continual adjustments associated with a suspended growth system.

**d. Resilient to Toxic Shocking**

Fixed film processes are resistant to toxic contaminants as the inner layer of biofilm is protected. In the case of toxic shock, the outer layer of dead bacteria will be removed by normal detachment mechanisms present in the bioreactor, while the inner layer will provide a seed for microbial growth and enabling the system to continue meeting the contaminant load.

## **4.2 Aeration Grid Assembly**

A "Fine bubble" aeration system provides both the oxygen required by the microorganisms and the mixing action necessary to ensure proper distribution of the bio carriers and waste contaminants throughout the reactor.

Special proposes the use of its custom designed aeration system. The design makes use of the diffusers to offer a well proven, reliable, robust approach to fine bubble aeration systems. The system will consist of two aeration grids per basin comprising a Downpipe, manifold and diffuser assemblies. The air agitation is arranged so that the carrier elements are constantly being moved upward over the surface of the sieve. This creates a scrubbing action that prevents clogging.

Drop pipes and manifolds will be made of SS 304. Aeration diffusers material is EPDM. Pipe supports will be made of 304 SS

#### 4.3 Retention Sieves

In order to retain the bio carriers, sieves are provided in the reactor tank. The sieves ensure the bio carriers remain in the treatment reactor at any flowing conditions. Hence, Moving Bed Biofilm Reactor (MBBR) process is not subject to "washing out" during high flow events as are many suspended growth Activated Sludge processes.

The flange mounted wedge wire screen selected for this application has slot openings that continuously widen inwardly so that particles will pass through the screen while retaining media mount easily over bioreactor outlet connections such as inverted elbows. The screen has a very high open area that provides excellent flow capacity. The biomass carriers constantly scour the screen surface and keep it free from debris.

The oxygen needed by the microorganisms in the process is supplied through an aeration grid covering the bottom of the reactor, the aeration is at the same time keeping the reactor content completely mixed. The reactor is supplied oxygen with the help of air blowers and oxygen supply is controlled through **"VFD Controlled Intelligent Oxygen Control"** to achieve simultaneous nitrification and denitrification.

Both the aeration system and the sieves are designed to work well with the chosen carrier elements. The produced excess sludge sloughs of the carrier media, bypasses the outlet sieves and passes to the post-treatment step for further treatment and ultimate removal.

#### 4.4 Benefits of Packaged STP plant

- Very compact & occupy very less space than other sewerage treatment plants.
- Less maintenance, low capital & operating cost benefits
- Simple assembly and operated by on site lab or.
- The system is prefabricated and mounted in ISO freight containers and no larger than standard ISO freight containers
- Easily transportable to any location unlike other conventional treatment plants
- There is no need to add micro organism.
- The system will operate without any chemical addition
- Easy start up, fully automatic operation, reliable & robust once started
- One central control panel for easy operation.
- Clog free air distribution system and bio media that comes with 12 years warranty
- Minimal Power requirement.

## 5. TREATMENT PROCESS

The treatment process shall comprise the following stages

- |                         |                                       |
|-------------------------|---------------------------------------|
| 1. Physical Treatment   | Screening                             |
| 2. Biological Treatment | Moving Bed Bio Reactor Technology     |
| 3. Water Reclamation    | Tertiary Filtration And Sterilization |
| 4. Sludge Disposal      | Sludge Chemical Conditioning          |

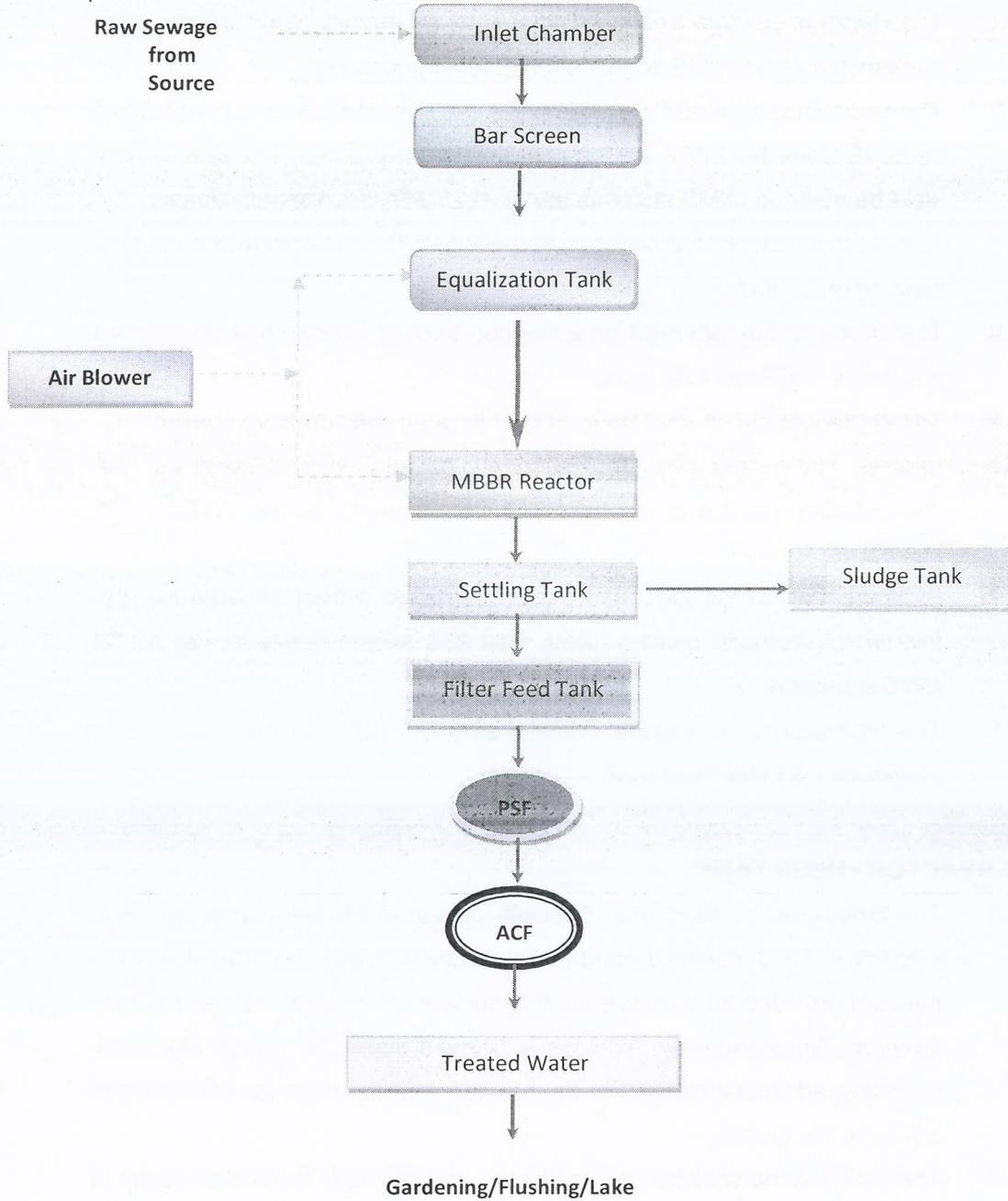
- The proposed treatment starts by Preliminary treated sewage shall be brought into the Package STP-MBBR reactor through suitable pumps after removal of large & small floating inorganic matters up to 6 mm size from raw sewage.
- 
- These reactors are designed for sufficient retention time for bulk removal of organic pollutants like BOD, COD, Suspended Solids, Biological Nitrogen and Phosphorous.
- In this aerated oxygen is supplied, which is used by the microorganisms for BOD removal. The tank is filled with certain percentage of Virgin HDPE media. The required oxygen of 2.0 ppm is supplied through set of air blowers wherein supply of oxygen is controlled through VFD controlled Intelligent Oxygen control system.
- Following the MBBR reactors, a solids removal process is necessary to bring effluent TSS values down to desirable levels. Secondary settling tank (Plate Settlers) is used to separate the clear water from the suspended solids. The sludge settled is to be periodically drained and handled separately. The supernatant from the settling tank will flow by gravity to the tertiary treatment system.
- The MOC of the Plates is PP/SS. The vertical height of the plates shall be limited to 1 m. The plates shall be arranged at 60 degree inclination with horizontal and spacing of 50 mm between the two plates.
- Settler is designed with Surface Overflow rate not exceeding 5.0 m<sup>2</sup>/m<sup>3</sup>/hr.
- The Overflow from Settlers is taken to Filter Feed Tank where disinfectant shall be added for disinfection at suitable dosing rate. Proper retention time shall be

considered for while selecting volume of the FFT to ensure proper disinfection of treated sewage. The secondary treated and disinfected water is now fed to series of Sand and carbon filters to arrest the remaining Suspended solids & control odor in the treated sewage.

- The filters are vertical FRP vessels designed for working pressure of 2.5 kg/cm<sup>2</sup> and tested for 1.5 times of system pressure. The rate of filtration shall be kept between 18-20 cum/hr/m<sup>2</sup> and Backwash velocity of 24 cum/hr/m<sup>2</sup>.
- The filtration modes like service, backwash, rinses are controlled through automated Multiport valves through PLC and HMI system.
- The excess sludge from settling tank shall be drawn at regular intervals through pumps and fed to mechanical dewatering unit to increase solid content to 20%W/V.
- Poly dosing systems with diaphragm type pump shall be provided to fasten the separation of sludge from clear liquid through a process called flocculation.
- Flocculation is the action of polymers to form bridges between the flocs and bind the particles into larger agglomerates or clumps. Bridging occurs when segments of the polymer chain adsorb on different particles and help particles aggregate. In this process it is essential that the Flocculant be added slowly and gentle mixing to allow sufficient contact time.

### PROCESS FLOW CHART

The plant scheme is as follows,



## **6 TREATMENT SYSTEM TECHNICAL SPECIFICATIONS**

### **6.1 FABRICATED STRUCTURE**

- 6.1.1 The Package sewage treatment plant shall be entirely Skid/Containerized constructed with GI+MS sheet having following features:
- 6.1.2 The tanks shall be made with side walls in GI sheet shall be manufactured as per IS Code IS- 277 & having min. thickness of 2 mm. The tank bottom shall be made up of MS sheet as per IS 4923 with min 4 mm thickness.
- 6.1.3 The entire structure shall be fabricated using WPS Technology through MIG welding procedure.
- 6.1.4 The structure strength shall be enhanced through Square box of standard makes like TATA, JINDAL,, etc
- 6.1.5 The entire fabrication shall be protected through Anticorrosive coating
- 6.1.6 Internal: 150-micron Zinc rich Phosphate based Primer followed by 100-micron Epoxy coating giving total 250 micron totally as per ASTM A775 standards.
- 6.1.7 External: 150-micron Zinc rich Phosphate based Primer followed by 100-micron Polyurethane coating giving total 250 micron totally as per ASTM A775 standards.
- 6.1.8 The fabricated units include Primary settler, MBBR Reactor, Secondary Plate settler & Filter Feed tank.

### **6.2 BIO-REACTOR / MBBR TANK**

- 6.2.1 The tanks shall be filled with "Specially designed Bio film carrier" which is free floating and moving around in the reactor with the flow. The MBBR bio medium provides an effective bio-film surface of min 500 m<sup>2</sup> per m<sup>3</sup> bulk material. Simultaneously, biomass is trapped inside the carrier elements, providing additional MLVSS in the reactors without need for conventional activated sludge return.
- 6.2.2 The tank volume shall be decided based on loading in the tank in terms of BOD & COD.
- 6.2.3 Aeration shall be provided with the help of blowers & diffusers.
- 6.2.4 Diffusers should be Fine Bubble with EPDM membrane.
- 6.2.5 The bubbles should be around 1 mm and flow should be designed for SOTE of < 5%. The pipe should have Groove to reduce pressure drop and prevent sinking of rubber when air is stopped

- 6.2.6 Oxygen transfer efficiency shall not be less than 20% at 3.5m submergence in clear water. Alternatives may be offered for consideration.
- 6.2.7 Blowers shall be either of root type/positive displacement with VFD controlled motor, base-plate, inlet filter, intake silencer and off-load starting system outlet silencer, anti-vibration damper, flexible coupling, filter restriction indicator, non-return valve, pressure relief valve, V-belt system or direct drive coupling.
- 6.2.8 The casing rotor shall be of cast iron construction. Bearings and gears shall be grease lubricated. Motor speed shall be 1500 rpm.
- 6.2.9 The size and performance of the air blower shall be so selected that it can provide a minimum air flow rate 0.5 l /sec / diffuser to 1l/sec/diffuser maximum, and to maintain a minimum of 2.0mg/A dissolved oxygen in the aeration tanks in operation.
- 6.2.10 Bio-Reactor - Technical Data Sheet**

| Sr. No | Description  | Specification                          |
|--------|--|--|
| 1.     | Quantity   | 1 No.                                  |
| 2.     | Length   | Bidder to specify                      |
| 3.     | Width  | Bidder to specify                      |
| 4.     | Height   | Bidder to specify                      |
| 5.     | Free Board   | 0.5 m (Minimum)                        |
| 6.     | F/M ratio  | Bidder to specify                      |
| 7.     | MLSS mg/l  | Bidder to specify                      |
| 8.     | Tank Material  | MSEP                                   |
| 9.     | Media Quantity M <sup>3</sup>                        | As Per Design                          |
| 10.    | Surface area of media m <sup>2</sup> /m <sup>3</sup> | Min 500 m <sup>2</sup> /m <sup>3</sup> |
| 11.    | MOC of Media   | HDPE virgin white                      |

**6.2.11 Aeration Blowers – Technical Data Sheet**

| Sr.No | Description                       |                     | Specification                    |
|-------|-----------------------------------|---------------------|----------------------------------|
| 1     | Process Air Blowers               |                     |                                  |
| a.    | General                           |                     |                                  |
|       | Make                              |                     | As per approved vendor list      |
|       | Type                              |                     | Twin Root type                   |
|       | Quantity                          | Nos.                | 1 Working per stream & 1 standby |
|       | Capacity at NTP                   | m <sup>3</sup> /min | Bidder to specify                |
|       | Design maximum discharge pressure | MWC                 | Bidder to specify                |
|       | Efficiency                        | %                   | Bidder to specify                |
|       | Speed of blower                   | rpm                 | 1000                             |
|       | Absorbed power                    | KW                  | Bidder to specify                |
|       | Motor rating                      | KW                  | Bidder to specify                |

|    |   |        |                                    |
|----|---|--------|------------------------------------|
|    | Noise level at duty point at 1.86 m from the unit | dB(A)  | 85                                 |
|    | Vibration   |        |                                    |
|    | With Acoustic Hood                                | mm/sec | Bidder to specify                  |
|    | Without Acoustic Hood                             | mm/sec | Bidder to specify                  |
|    | Weight of Blower                                  | Kg     | Bidder to specify                  |
|    | Maximum lifting weight                            |        | Bidder to specify                  |
|    | Dimensions(LXWXH)                                 | Mm     | Bidder to specify                  |
|    | Coupling Type                                     |        | Direct Coupling                    |
|    | Coupling Make                                     |        | As per manufacturer recommendation |
|    | Cooling System                                    |        | As per manufacturer recommendation |
|    | MOC   |        |                                    |
|    | Casing  |        | CI                                 |
|    | Impeller  |        | Alloy Steel                        |
|    | Shaft   |        | Carbon Steel                       |
|    | Common Base Frame                                 |        | Steel, Galvanized                  |
|    | Orientation                                       |        | Suitable                           |
| b. | Acoustic Hood                                     |        |                                    |
|    | Type  |        | Bidder to specify                  |
|    | MOC   |        | Bidder to specify                  |
|    | Inlet/Outlet Silencer                             |        |                                    |
|    | Type  |        | As per manufacturer recommendation |
|    | Filter media                                      |        | Bidder to specify                  |
| c. | Noise reduction (mean)Air release valves          |        | Bidder to specify                  |
|    | Number  | Nos.   | Bidder to specify                  |
|    | Diameter  | mm     | Bidder to specify                  |
|    | Type  |        | Bidder to specify                  |
|    | Set pressure                                      |        | Bidder to specify                  |
| d. | Delivery valves Non-Return                        |        |                                    |
|    | Number  | Nos.   | 1 per blower                       |
|    | Diameter  | mm     | Bidder to specify                  |
|    | Type  |        | Bidder to specify                  |
|    | Set pressure                                      |        | Bidder to specify                  |
| e. | Delivery Isolation valves                         |        |                                    |
|    | Number  | Nos.   | Bidder to specify                  |
|    | Diameter  | mm     | Bidder to specify                  |
|    | Type  |        | Bidder to specify                  |
|    | Set pressure                                      |        | Bidder to specify                  |

6.2.12 Diffusers should be Fine Bubble with EPDM membrane.

6.2.13 The bubbles should be around 1 mm and flow should be designed for SOTE of < 5%. The pipe should have Groove to reduce pressure drop and

prevent sinking of rubber when air is stopped

6.2.14 Oxygen transfer efficiency shall not be less than 20% at 3.5m submergence in clear water. Alternatives may be offered for consideration.

6.2.15 However, Bidder can provide his own suitable diffuser design to achieve the desired SOTE.

### 6.3 PLATE SETTLER UNIT

6.3.1 The MOC of the Plates shall be PP/Marine Ply/etc.

6.3.2 Setter shall be designed with Surface Overflow rate not exceeding 4.0 m<sup>2</sup>/m<sup>3</sup>/hr.

6.3.3 The vertical height of the plates shall be limited to 1 m.

6.3.4 The plates shall be arranged at 60 degree inclination with horizontal and spacing of 50 mm between the two plates.

6.3.5 Suitable dosing to enhance flocculation shall be dosed pre & post aeration tank.

#### 6.3.6 Plate Settler – Technical Data-Sheet

| Sr. No | Description   | Specification     |
|--------|---|-------------------|
| 1.     | Quantity  | 1 no.             |
| 2.     | Length  | Bidder to specify |
| 3.     | Width   | Bidder to specify |
| 4.     | Total depth   | Bidder to specify |
| 5.     | Free board  | 0.5 m             |
| 6.     | Thickness   | Bidder to specify |
| 7.     | Surface flow Rate (m <sup>3</sup> /m <sup>2</sup> /h) | Bidder to specify |
| 8.     | MOC of media  | PVC               |

### 6.4 FILTER FEED TANK

6.4.1 The tank shall be designed with min. 30 min of retention time on average flow.

6.4.2 Overflow from MBBR Basin shall be taken to this Tank by gravity by suitable means.

6.4.3 Disinfectant with suitable dosage rate shall be provided for disinfection of treated sewage before further treatment.

### 6.5 TERTIARY FILTERS

6.5.1 Pressure Sand Filter (PSF) shall be provided followed by Activated carbon Filter (ACF).

- 6.5.2 The filters shall be vertical type in FRP construction designed for working pressure of 2.5 kg/cm<sup>2</sup> and tested for 1.5 times of system pressure.
- 6.5.3 The rate of filtration shall be kept as 15 cum/hr/m<sup>2</sup> and Backwash velocity of 24 cum/hr/m<sup>2</sup>.
- 6.5.4 The frontal piping shall be designed for 10 bar system pressure. The Filter is equipped with a differential pressure switch & necessary automatic valves for automatic backwash.
- 6.5.5 A minimum 60% free board shall be left over the filter media bed. The pressure drop across filter shall be minimum.
- 6.5.6 The filter water from the filter shall have suspended solids less than 5mg/l.
- 6.5.7 The frequency of back washing shall not be more than once in 16 hours. The back washed water pipelines shall be connected to underground Collection Tank.
- 6.5.8 One set frontal piping, fittings, with inlet, outlet, safety relief valves, drain, regulating and isolation valves shall be provided.
- 6.5.9 Pressure gauge at inlet and outlet and differential pressure gauges shall also be provided to indicate time for back wash.

**6.5.10 Pressure Sand Filter – Technical Data Sheet**

| Sr. No              | Description      | Specification                 |
|---------------------|------------------|-------------------------------|
| 1.                  | Quantity         | 1 no.                         |
| 2.                  | Type             | Vertical pressure vessel      |
| 3.                  | Design flow      | Avg flow                      |
| 4.                  | Diameter         | Vendor to specify             |
| 5.                  | HOS              | Vendor to specify             |
| 6.                  | MOC              | FRP                           |
| 7.                  | Working pressure | 2.5 kg/cm <sup>2</sup>        |
| 8.                  | Valves           | Butterfly valves              |
| 9.                  | Media            | Sand & Pebbles                |
| 10.                 | Shell thickness  | Vendor to Specify             |
| 11.                 | Dish thickness   | Vendor to Specify             |
| 12.                 | SOR              | 15-18 cum/hr/m <sup>2</sup> . |
| Media Specification |                  |                               |
| 13                  | Pebbles size     | 6 – 12 mm/ 75 mm depth        |
| 14                  | Pebbles size     | 12 – 25 mm/ 75 mm depth       |
| 15                  | Pebbles size     | 25 – 50 mm/ 100 mm depth      |
| 16                  | Coarse sand      | 200 mm depth                  |
| 17                  | Fine sand        | 450 mm depth                  |
| 18                  | Standards        | AWWA B100                     |

### 6.5.11 Activated Carbon Filter – Technical Data Sheet

| Sr. No              | Description      | Specification                                |
|---------------------|------------------|--|
| 1.                  | Quantity         | 1 no.  |
| 2.                  | Type             | Vertical pressure vessel                     |
| 3.                  | Design flow      | Avg flow                                     |
| 4.                  | Diameter         | Vendor to specify                            |
| 5.                  | HOS              | Vendor to specify                            |
| 6.                  | MOC              | FRP  |
| 7.                  | Working pressure | 2.5 kg/cm <sup>2</sup>                       |
| 8.                  | Valves           | Butterfly valves                             |
| 9.                  | Media            | Sand, Pebbles & Microporous Activated Carbon |
| 10.                 | Shell thickness  | Vendor to Specify                            |
| 11.                 | Dish thickness   | Vendor to Specify                            |
| 12.                 | SOR              | 15-18 cum/hr/m <sup>2</sup> .                |
| Media Specification |                  |  |
| 13                  | Pebbles size     | 6 – 12 mm/ 75 mm depth                       |
| 14                  | Pebbles size     | 12 – 25 mm/ 75 mm depth                      |
| 15                  | Pebbles size     | 25 – 50 mm/ 100 mm depth                     |
| 16                  | Coarse sand      | 150 mm depth                                 |
| 17                  | Activated Carbon | 500 mm depth                                 |
| 18                  | Standards        | AWWA B 604                                   |

## 6.6 FILTER FEED PUMP

- 6.6.1 Clear water Submersible Pump shall be provided to feed water to these filters.
- 6.6.2 The Pump starts and stops through high or low level switches in the Filter Feed tank. Pump should alternate after every four hours. There shall be dry run protection as part of the controlled scheme.
- 6.6.3 High Alarm occurs when there is any maintenance problem or non operation of pumps Intermediate level pump will start.
- 6.6.4 Low Alarm will occur when there is low level and stop the pump Low Low – trip –this condition occurs when there is an error in the level sensing system i.e. tripping of pumps takes place
- 6.6.5 Filter Backwash will occur when the differential pressure across the filter exceeds the set point.

### 6.6.6 Filter Feed Pumps – Technical Data Sheet

| Sr. No | Description                   |                    | Specification                         |
|--------|-------------------------------|--------------------|---------------------------------------|
| 1.     | Pump                          |                    | Filter Feed Pump                      |
| 2.     | Make                          |                    | As per approved vendor list           |
| 3.     | Type                          |                    | Submersible                           |
| 4.     | Model                         |                    | Bidder to specify                     |
| 5.     | Quantity                      | Nos.               | 1 working per stream + 1 common spare |
| 6.     | Capacity                      | m <sup>3</sup> /hr | Bidder to specify                     |
| 7.     | Head                          | m                  | Bidder to specify                     |
| 8.     | Shot off Head                 | m                  | Bidder to specify                     |
| 9.     | NPSH required                 | m                  | Bidder to specify                     |
| 10.    | Submergence required          | m                  | Bidder to specify                     |
| 11.    | Efficiency                    | %                  | Bidder to specify                     |
| 12.    | Absorbed power at duty point  | KW                 | Bidder to specify                     |
| 13.    | Motor rating speed            | KW                 | Bidder to specify                     |
| 14.    | MOC                           |                    | Bidder to specify                     |
| 15.    | Casing                        |                    | Bidder to specify                     |
| 16.    | Impeller                      |                    | Bidder to specify                     |
| 17.    | Shaft                         |                    | Bidder to specify                     |
| 18.    | Sleeves                       |                    | Bidder to specify                     |
| 19.    | Sealing                       |                    | Bidder to specify                     |
| 20.    | Discharge size                |                    | Bidder to specify                     |
| 21.    | Suction size                  |                    | Bidder to specify                     |
| 22.    | Flange Drilling standard      |                    | Bidder to specify                     |
| 23.    | Weight (Pump + motor)         |                    | Bidder to specify                     |
| 24.    | Testing & Inspection          |                    | Bidder to specify                     |
| 25.    | Testing Standard              |                    | Bidder to specify                     |
| 26.    | Maximum Noise level           | dB(A)              | <85                                   |
| 27.    | Maximum velocity of vibration | mm/sec             | Bidder to specify                     |
| 28.    | Motor                         |                    |                                       |
|        | Make                          |                    | As per Approved vendor list           |
|        | Type                          |                    | Bidder to specify                     |
|        | Model                         |                    | Bidder to specify                     |
|        | Quantity                      |                    | Bidder to specify                     |
|        | Rating                        |                    | Bidder to specify                     |
|        | Weight                        |                    | Bidder to specify                     |

## 6.7 DOSING PUMPS

6.7.1 Chemical dosing systems with differential pressure type or positive displacement pumps complete and chemical container, piping and valves are provided to make a complete dosing system. System shall be compatible with the dosing of following chemicals:

1) Sodium Hypochlorite solution

2) Poly Electrolyte Solution

6.7.2 The capacity of each pump shall be adjustable from 0 to 100% of its rating. Each pump shall have a pressure relief valve set to operate at 110% of system maximum working pressure.

6.7.3 The system has a chemical mixing tank of HDPE with a capacity specified. The tank shall be closed type with open able top and inlet/outlet connections, drain and air vents with valves. All Piping from and to the dosing system shall be flexible white transparent polypropylene with valves.

6.7.4 Suitable dosing arrangement other than dosing pumps may be offered based on proper performance & suitability of the contractor.

#### 6.7.5 Hypochlorite Dosing Pumps – Technical Data Sheet

| Sr.No. | Description        |     | Specification  |
|--------|--------------------|-----|--|
| 1      | Pumps              |     | Sodium Hypochlorite                                      |
| 2      | Make               |     | As per approved vendor list                              |
| 3      | Type               |     | Hydraulic double diaphragm/ Plungertype/Electro-magnetic |
| 4      | Quantity           | nos | 1W   |
| 5      | Model              |     | Bidder to specify  |
| 6      | Capacity max/min   | l/s | Bidder to specify  |
| 7      | Head               | m/c | Bidder to specify  |
| 8      | Stroke adjustment  | mm  | Bidder to specify  |
| 9      | Stroking speed     | spm | <100   |
| 10     | MOC                |     | PP Liquid End with PVC Fittings                          |
| 11     | Diaphragm material |     | Teflon processed Diaphragm                               |
| 12     | Shaft material     |     | NA   |
| 13     | Motor rating       | kW  | Bidder to specify  |
| 14     | Motor Make         |     | As per approved vendor list                              |

#### 6.7.6 Polymer Dosing Pumps – Technical Data Sheet

| Sr.No. | Description |     | Specification   |
|--------|-------------|-----|---|
| 1      | Pumps       |     | Polymer Solution Dosing                                   |
| 2      | Make        |     | As per approved vendor list                               |
| 3      | Type        |     | Hydraulic double diaphragm/ Plunger type/Electro-magnetic |
| 4      | Quantity    | nos | 1W  |
| 5      | Model       |     | Bidder to specify   |

|    |                    |     |                                 |
|----|--------------------|-----|---------------------------------|
| 6  | Capacitymax/min    | l/s | Bidder to specify               |
| 7  | Head               | mlc | Bidder to specify               |
| 8  | Stroke adjustment  | mm  | Bidder to specify               |
| 9  | Stroking speed     | spm | <100                            |
| 10 | MOC                |     | PP Liquid End with PVC Fittings |
| 11 | Diaphragm material |     | Teflon processed Diaphragm      |
| 12 | Shaft material     |     | NA                              |
| 13 | Motor rating       | kW  | Bidder to specify               |
| 14 | Motor Make         |     | As per approved vendor list     |

### 6.8 Mechanical Gravity Type Sludge Dewatering Unit

6.8.1 The excess sludge from the bottom of Settlers shall be drawn by Suitable pumps capable to handle sludge-slurry mixture and is fed to dewatering unit.

6.8.2 Number of Units : One

6.8.3 Min. Solid content (dry basis):20%(W/V)

#### 6.8.4 Gravity Dewatering System – Technical Data Sheet

| Description      | Specification     |
|------------------|-------------------|
| Quantity         | 1 No. per stream  |
| Type             | Bidder to specify |
| Capacity Cu. m/h | Bidder to specify |
| Length m         | Bidder to specify |
| Width m          | Bidder to specify |

### 6.9 PIPING & VALVES

6.9.1 All plant piping used in the plant are UPVC grade

6.9.2 The valves like-Ball valve & Check valve are PP grade.

#### 6.9.3 Pipes & Valves – Technical Data Sheet

| Sr. No                       | Description | Specification        |
|------------------------------|-------------|----------------------|
| Sewage/Treated Sewage piping |             |                      |
|                              | Quantity    | 1 lot                |
|                              | MOC         | PVC/GI               |
|                              | Pressure    | 6 kg/cm <sup>2</sup> |
|                              | Make        | As per List of Makes |
| Air Header                   |             |                      |
|                              | Quantity    | 1 lot                |
|                              | MOC         | MSEP                 |
|                              | Class       | B                    |

|                   |          |                                    |
|-------------------|----------|------------------------------------|
|                   | Make     | As per List of Makes               |
| Butterfly valve   |          |                                    |
|                   | Make     | As per List of Makes               |
|                   | Type     | Electrical/ Manual butterfly valve |
|                   | Size     | Suitable to pump discharge         |
| Non-Return Valves |          |                                    |
|                   | Quantity | 1 lot                              |
|                   | Size     | As per requirement                 |
|                   | Make     | As per List of Makes               |
| Ball valve        |          |                                    |
|                   | Quantity | 1 lot                              |
|                   | Size     | As per requirement                 |
|                   | Make     | As per List of Makes               |

## 6.10 CONTROL PANEL & PLC

### 6.10.1 Technical Data Sheet

| Sr. No | Description                     | Specification              |
|--------|---------------------------------|----------------------------|
| 1.     | Quantity                        | 1 no                       |
| 2.     | Type                            | Floor Mounted              |
| 3.     | Make                            | Vendor to specify          |
| 4.     | Protection                      | Vendor to specify          |
| 5.     | Make Components of              | As per preferred make list |
| 6.     | PLC, Power System, Starters MCB | As per preferred make list |

## 6.11 INSTRUMENTS

### 6.11.1 Technical Data Sheet

| Sr. No | Description   | Specification   |
|--------|---|---|
| 1.     | ElectromagneticFlow meter   | 1 no (To measure treated sewage)  |
| 2.     | Pressure Gauges   | Pumps, Blowers, Filters.  |
| 3.     | Pressure gauges   | Inlet & Outlet of PSF & ACF   |
| 4.     | Level Switches  | Filter Feed Tanks, Dosing tanks   |
| 5.     | D O Meter   | 1 no in MBBR Tank   |
| 6.     | Online Sensor monitoring and connect to KSPCB Dashboard for pH, TSS, BOD, COD effluent and Flow (influent & effluent) | As specified by KSPCB (Karnataka State Pollution Control Board) and approved make |

## **7 INSTALLATION, TESTING, COMMISSIONING & VALIDATION**

### **7.1 INSTALLATION & ERECTION**

- 7.1.1 Unit will be placed on designated foundation as per approved lay-out dimensions
- 7.1.2 All pipelines and valves shall be connected as per engineering piping layouts and PID diagrams
- 7.1.3 Unit and piping system shall be hydraulically tested for zero leakage
- 7.1.4 After Hydrotest of unit, electrical works would be done as per electrical wiring diagrams, cable layouts along with termination
- 7.1.5 Proper Earthing system would be installed as per approved earthing drawings and back up DG shall be installed. Earthing is compulsory to be tested before commencement of trial run.

### **7.2 TRIAL RUN, COMMISSIONING**

- 7.2.1 All units of the plant would be filled with fresh water
- 7.2.2 Electrical supply will be checked for voltage and rated Ampere so as to ensure healthy supply
- 7.2.3 All equipment will be started as per O&M manual procedures and trial will be done for 8 hours.
- 7.2.4 Effluent shall be charged to the system as per O&M manual procedure and plant shall be put to actual commissioning with effluent
- 7.2.5 All process logs and equipment operations log shall be maintained in standard formats and as per O&M scope.

### **7.3 SYSTEM VALIDATION**

- 7.3.1 BOD at Outlet is consistently achieved as per tender conditions continuous for 3days
- 7.3.2 TN at Outlet is consistently achieved as per tender conditions continuous for 3 days
- 7.3.3 TSS at Outlet is consistently achieved as per tender conditions continuous for 3days
- 7.3.4 Total Power Consumption is within the guaranteed power at full load registered on plant control panel
- 7.3.5 All Equipment under operation is smoothly running and power factor is maintained.
- 7.3.6 No abnormal odor is present on plant

## 8.0 SCOPE OF WORK

- The broad scope of Construction & System Components Supply Work Shall Include:

| SR.NO | DESCRIPTION                                  | CAPACITY/SIZE  | QTY      | MOC                  |
|-------|--|--|----------|----------------------|
| 1.    | Valve Chamber                                | 1.0 m L x 1.0 m W x 3.5m TD  | 01 No.   | RCC                  |
| 2.    | ScreenChannel                                | 1.0 m L x 1.0 m W x 0.5 m SWD+3.0 m fb   | 01 No.   | RCC                  |
| 3.    | Raw Sewage Sump                              | 4 m L x 5.0 m W x 1.5 m SWD+3.5 m fb   | 01 No.   | RCC                  |
| 4.    | Treated water sump                           | 4.0 m L x 3.0 m W x 1.5 m SWD+0.5 m fb   | 01 No.   | RCC                  |
| 5.    | Platform Foundation                          | As suitable for STP size   | 01 No.   | RCC                  |
| 6.    | Out Fall Sewer Line                          | 200 mm dia   | 200 m    | UPVC / HDPE          |
| 7.    | Compound Wall                                | As per site suitable   | 1        |                      |
| 8.    | Plant Room / Cabin for Operators             | 8'0 x 8'0 x 7'0  | 1        |                      |
| 9.    | Interlocking Paver Blocks from Road to Plant | As per site suitable   | 1        |                      |
| 10.   | Yard lighting & Land Scape                   | As per site suitable   | 1        |                      |
| 11.   | Inlet waste Pumps                            | 10.4 m <sup>3</sup> /hr flow @ 20 m head   | 2(1W+1S) | CI                   |
| 12.   | Moving Bed Bio-Reactor Tank                  | Suitable tank  | 01 No.   |                      |
| 13.   | Diffuser                                     | Suitable for above MBBR tank   | 1 Lot    | EPDM                 |
| 14.   | Plate Settler                                | Suitable   | 01 No.   | MSEP                 |
| 15.   | Air Blowers for MBBR Tank                    | Suitable   | 2(1W+1S) | CI                   |
| 16.   | Filter Feed Tank                             | 30 mins HRT  | 1 No.    |                      |
| 17.   | Filter Feed Pumps                            | 10.4 m <sup>3</sup> /hr @ 30 m head  | 2(1W+1S) | Wetted parts- SS 304 |
| 18.   | Pressure Sand Filter                         | Designed on total flow with Loading rate of 15-18 m <sup>2</sup> /m <sup>3</sup> /hr | 1Nos. W  | FRP                  |
| 19.   | Activated Carbon Filter                      | Designed on total flow with Loading rate of 9-12 m <sup>2</sup> /m <sup>3</sup> /hr  | 1Nos. W  | FRP                  |
| 20.   | Hypo Chlorite Dosing Tank                    | 3-5 ppm dosage on Avg flow & 7 days retention  | 1 Nos. W | HDPE                 |
| 21.   | Hypo Chlorite Dosing Pump                    | 3-5 ppm dosage on Avg flow   | 2(1W+1S) | PVDF                 |

| SR.NO | DESCRIPTION   | CAPACITY/SIZE   | QTY       | MOC   |
|-------|---|---|-----------|---|
| 22.   | Polymer Dosing Tank   | 8-10 ppm dosage on Avg flow & 7 days retention                  | 1 Nos. W. | HDPE  |
| 23.   | Polymer Dosing Pump   | 3-5 ppm dosage on Avg flow                                      | 2(1W+1S)  | PVDF  |
| 24.   | DG Set  | Silent DG Set of required capacity of make approved by Employer | 01 No.    | -   |
| 25.   | Dewatering unit   | Suitable  | 1 Lot     | -   |
| 26.   | Control Panel   | Suitable  | 01 No.    | -   |
| 27.   | Piping & Valves   | Suitable  | 1 Lot     | UPVC  |
| 28.   | Instrumentation   | Suitable  | 1 Lot     | -   |
| 29.   | Anoxic mixer  | Suitable  | 1 Lot     | -   |
| 30.   | Online Sensor monitoring and connect to KSPCB Dashboard for pH, TSS, BOD, COD effluent and Flow (influent & effluent) |   | 1 Set     | As specified by KSPCB (Karnataka State Pollution Control Board) and approved make |

### 9.0 LIST OF PREFERRED SUPPLIERS:

| Sl. No. | Equipments   | Preferred Makes or Equivalent  |
|---------|--|--|
| 1       | Pumps  | KSB / Kishore/Mather & Platt / Grundfos /ABS/Jyoti/Aqua/Worthington/Bharat/Johnson   |
| 2       | Motors   | Kirloskar / New Government Electric Factory Ltd. /Siemens / Jyoti / BHEL/ Crompton Greaves/ Bharat Bijlee /General Electric Co.  |
| 3       | Gate Valves  | Kirloskar/IVC/Shiv/Durga/Durga/VAG /Upathyaya / Jash   |
| 4       | Non return valves                                    | Kirloskar / IVC / Upadhyaya Valves Manufacturers Pvt. Ltd. / Durga /Intervolve/Crane Process   |
| 5       | Sluice Gates   | IVC/Jash/Oriental/SKC / Durga/Bharat Industrial Corporation / Hydraulic & General Engineers / MachaTech Industries / Yashwant Engg   |
| 6       | DI / CI Pipes and Fittings                           | Electrosteel / Jindal Saw / IISCO / LANCO /Kejriwal /Upadhayay Castings Calcutta /Tata Iron & Steel Co / OrientalCastings / Baroda Rolling Mills / The Indian Iron & Steel Company Ltd |
| 7       | a) Crane   | W.H. Brady & Co. Ltd. / Hercules Hoists Ltd. / Delta Engineering Works / Sharps Engineering Pvt. Ltd. / Reva Engineering / Electro technics / Avon Cranes                              |
|         | b)Chain Pulley Block                                 | Indef/Ardee/J.K.Morris /Reva Engg / Hercules Hoists Ltd. /W.H. Brady & Co. Ltd.  |
| 8       | 415 V Switchgear Control                             | L & T / Siemens / Voltas /English Electric Ltd.  |
| 9       | Power Transformer                                    | Kirloskar / VOLTAMP /Crompton Greaves  |
| 10      | 11KV/3.3KV Switchgear                                | ABB / Kirloskar / BHEL/VOLTAS  |
| 11      | Lighting Fixtures                                    | Bajaj Electrical Ltd. / Crompton Greaves Ltd. /Philips / Wipro Ltd. / Klipsal  |
| 12      | 415 V Air Circuit Breaker                            | English Electric / L & T /Siemens  |
| 14      | Control System / Instrumentation, PLC & SCADA System | AIMIL Limited / Johnson Controls (I) Pvt. Ltd / Landis & Staefa ( I) Pvt. Ltd/ TATA Honeywell / Rockwell Automation / GE FANUC / Alstom /Allen   |
| 15      | Centrifuge   | Humbolt / Pennvolt / Alfa Lavel  |
| 16      | PCC / MCC  | Siemens  |
| 17      | Flow Meters  | Krone marshall / ABB / Endress Hauser  |
| 18      | Actuator   | Marsh / L&T /Rotork  |
| 19      | Micro Processor Based Relays for Motor               | GE Power / Rockwell / L&T / Simens   |
| 20      | Mechanical /Manual Screens                           | Jash / Hylic/Dorr-Oliver /Geo-Miller/EIMCO Johnson Contrashear / Voltas/ Headworks/ Huber/EVA/ Johnson   |
| 21      | Air Blowers  | Kay International Ltd. / Everest Transmission / Swam Pneumatics Pvt. Ltd.,   |
| 22      | Grit Mechanism                                       | Voltas / KCP / EIMCO/Dorr-Oliver / Geo- Miller / Shiv Pad  |
| 23      | Generator  | Powerica limited / Cater pillar / Kirloskar  |
| 24      | Diffused aerators                                    | EDI / OTT/Air flux / Raubioxon plus /Jager or any other reputed make   |
| 25      | Dosing Pump  | Milton Roy/Swelore/VK Pumps  |
| 26      | Filter press   | Filter Machines Pvt. Ltd./Sachin Industries/Equv.  |
| 27      | Progressive Cavity type sludge pump                  | Roto pumps/IMO Pumps/UT Pumps  |

## 10.0 TENTATIVE ELECTRICAL POWER CONSUMPTION

| Sr. No. | Description of Equipment    | Working Motors |     | Standby Motors |     | Average Operation hrs per Day(Hrs) | Total Energy Consumed per day (KWH/day) |
|---------|-----------------------------|----------------|-----|----------------|-----|------------------------------------|---|
|         |                             | No. of Motors  | KW  | No. of Motors  | KW  |                                    |   |
| 1       | Air Blowers for MBBR        | 1              | 7.5 | 1              | 7.5 | 12.0                               | 90                                      |
| 2       | Filter Feed Pumps           | 1              | 3.0 | 1              | 3.0 | 24.0                               | 72                                      |
| 3       | Inlet waste Pump            | 1              | 1.5 | 1              | 1.5 | 24.0                               | 36                                      |
| 4       | Internal recycle Pumps      | 1              | 1.1 | 1              | 1.1 | 24.0                               | 26                                      |
| 5       | Anoxic Mixer                | 1              | 0.8 | 0              | 0.8 | 24.0                               | 18                                      |
| 6       | Sludge Transfer Pump        | 1              | 1.1 | 1              | 1.1 | 12.0                               | 13                                      |
| 7       | Hypo Chlorite Dosing Pumps  | 1              | 0.0 | 1              | 0.0 | 24.0                               | 0                                       |
| 8       | Polyelectrolyte Dosing Pump | 1              | 0.0 | 1              | 0.0 | 24.0                               | 0                                       |
|         |                             |                |     |                |     | KWH/day =                          | <b>257</b>                              |

*Note: The actual power consumption may vary based on actual motor load details provided by manufacturer of the equipment.*

## 11.0 TERMINATION POINTS

| SR. NO. | DESCRIPTION                 | TERMINATION   |
|---------|-----------------------------|---|
| 1.      | Raw sewage to STP           | Sewage shall be brought from the Existing Septic Tank         |
| 2.      | Treated sewage from the STP | Into nearby lake  |
| 3.      | Instrument Air              | 4-5 kg/cm <sup>2</sup> pressure header at plant battery limit |
| 4.      | Construction Water          | 7 m <sup>3</sup> /day at battery limit                        |
| 5.      | Construction Power          | 250 KVA construction power at battery limit                   |
| 6.      | Sludge                      | At the Outlet of Dewatering Unit                              |

## 12. ABSTRACT COST

### 12.1 Estimate for Construction of 250 KLD Capacity MBBR Technology Sewage Treatment Plant at Bommasandra Town

| SL NO | DESCRIPTION   | AMOUNT (IN RS) |
|-------|---|----------------|
| A.    | i) Civil Works  | 32,38,560      |
|       | ii) Electromechanical Components                      | 1,24,40,000    |
|       | Part A - CAPEX =                                      | 1,56,78,560    |
| B.    | Operation & Maintenance For 5 Years (Part - B - OPEX) | 49,33,037      |
|       | Total - (Part A + Part B) =                           | 2,06,11,597    |
| C.    | Provision Towards Electrification of The Plant        | 3,00,000       |
| D     | Third Party Inspection Charges @ 0.45%                | 71,000         |
| E     | Miscellaneous and Rounding Off                        | 7,403          |
|       | GRAND TOTAL INCLUDING O & M =                         | 2,09,90,000    |
|       | COST TOWARDS BOMMASANDRA TMC (60%) =                  | 1,25,94,000    |
|       | COST TOWARDS BOMMASANDRA INDUSTRIAL AREA (40%) =      | 83,96,000      |

### 12.2 Funds :

The Total Estimated Cost for Construction of 250 KLD Capacity MBBR Technology Sewage Treatment Plant at Bommasandra Town including CAPEX and OPEX for 5 years is Rs. 2,09,90,000/-. The MoU (Memorandum of Understanding) can be entered between Chief Officer, Bommasandra TMC and Bommasandra Industrial Area for successful execution of the project. The 60 % of Cost i.e. Rs. 1,25,94,000 will be funded by Bommasandra TMC and remaining 40% Cost i.e. Rs. 83,96,000 will be deposited by Bommasandra Industrial Area (Exact sharing of cost will be arrived after award of Tender). The ESCROW account may be opened for this project. The Tender will be invited by Chief Officer Bommasandra TMC, Bommasandra.

**12.3 ESTIMATE FOR CONSTRUCTION OF 250 KLD CAPACITY MBBR TECHNOLOGY  
SEWAGE TREATMENT PLANT AT BOMMASANDRA TOWN**

| Sl. No    | Description  | Amount (In Rs)     |
|-----------|--|--------------------|
| <b>A.</b> | <b>Civil Works</b>   |                    |
| 1         | Estimate For Construction Of Inlet Chamber (1 X 1 X 3.5 M Size )   | 1,25,000           |
| 2         | Estimate For Construction Of Screen Chamber (1 X 1 X 3.5 M Size )  | 87,000             |
| 3         | Estimate For Construction Of Raw Sewage Sump Cum Equalization Tank (4 X 5 X 5 M Size )   | 6,87,600           |
| 4         | Estimate For Construction Of Treated Water Sump (4 X 3 X 2 M Size )  | 3,20,000           |
| 5         | Estimate For Construction Of Platform / Foundation For STP (10 X 3.0 X 0.3 M Size)   | 2,48,000           |
| 6         | Estimate for Supplying And Laying Out Fall Sewer Line  | 4,18,000           |
| 7         | 8'0 X 8'0 X 7'0 Size FRP Cabin For Operators   | 4,38,960           |
| 8         | RCC Inter Locking Type Pre-Cast Compound Wall  | 3,84,000           |
| 9         | Walkway from The Road to The Plant with Interlocking Paver Blocks  | 4,80,000           |
| 10        | Land Scape in the Plant (Lump-Sum)   | 50,000             |
|           | <b>Sub-Total-1 (Civil Works) =</b>   | <b>32,38,560</b>   |
| <b>B.</b> | Supply, Installation, Testing, And Commissioning Of Mechanical, Electrical And Instrumentation Works Of 250 KLD Capacity Sewage Treatment Plant Of Moving Bed Bio Reactor Including Yard Lighting At STP Area, D G Set Of Suitable Capacity Etc Complete | 1,07,40,000        |
| <b>C.</b> | Supply And Installation Of On-Line Monitoring System For Parameters Like pH, BOD, COD, TSS at Effluent and Flow (Inlet & Outlet Point) and Connect to KSPCB Dashboard  | 17,00,000          |
|           | <b>Sub-Total-2 (Electromechanical Components) =</b>  | <b>1,24,40,000</b> |
|           | <b>Part A - CAPEX - (3)= (1 +2)</b>  | <b>1,56,78,560</b> |
| <b>D.</b> | <b>Part - B - OPEX</b><br>Operation & Maintenance For 5 Years Inclusive Of Man Power and Consumables   | 49,33,037          |
|           | <b>Total - (Part A Capex+ Part B OPEX) =</b>   | <b>2,06,11,597</b> |
| <b>E</b>  | Provision Towards Electrification of The Plant   | 3,00,000           |
| <b>F</b>  | Third Party Inspection Charges @ 0.45%   | 71,000             |
| <b>G</b>  | MISCELLANEOUS AND ROUNDING OFF   | 7,403              |
|           | <b>Grand Total =</b>   | <b>2,09,90,000</b> |
|           | <b>Cost Towards Bommasandra TMC (60%) =</b>  | <b>1,25,94,000</b> |
|           | <b>Cost Towards Bommasandra Industrial Area (40%) =</b>  | <b>83,96,000</b>   |

### 12.4 Estimation - Operation & Maintenance Cost

| Description                  | Value            | Unit           |
|------------------------------|------------------|----------------|
| STP PLANT CAPACITY           | 250              | KLD            |
| <b>OPEX</b>                  |                  |                |
| Power                        | -                | cost in Rs/day |
| Chemical                     | 314              | cost in Rs/day |
| Sludge disposal              | -                | cost in Rs/day |
| Manpower                     | 1,400            | cost in Rs/day |
| Tools & tackles              | 500              | cost in Rs/day |
| Total per day                | 2,214            | cost in Rs/day |
| Total per year               | <b>8,08,019</b>  | <b>Rs/year</b> |
| Water Production             | 91,250           | m3/year        |
| Opex for 1st Year            | 8,08,019         | Rs/year        |
| 2nd Year                     | 8,88,821         | Rs/year        |
| 3rd Year                     | 9,77,703         | Rs/year        |
| 4th Year                     | 10,75,473        | Rs/year        |
| 5th Year                     | 11,83,021        | Rs/year        |
| Total O & M cost for 5 Years | <b>49,33,037</b> | Rs/year        |

#### OPERATION & MAINTENANCE COST DETAILS

| OPERATION & MAINTENANCE COST DETAILS |                                  |      |        |  |            |        |
|--------------------------------------|----------------------------------|------|--------|--|------------|--------|
| <b>A</b>                             | <b>Power Consumption details</b> |      |        |  |            |        |
|                                      | <b>Power cost not included</b>   |      |        |  | <b>Rs.</b> |        |
| <b>B</b>                             | <b>Chemical Cost</b>             |      |        |  |            |        |
| 1                                    | Polyelectrolyte requirement/day  | 0.75 | Kg/day |  |            |        |
|                                      | Rate of polyelectrolyte/kg       | 360  | Rs.    |  |            |        |
|                                      | Cost of chemicals/day            |      |        |  | Rs.        | 270.00 |
| 2                                    | Chlorine requirement/day         | 1.75 | Kg/day |  |            |        |
|                                      | Rate of Hypo/kg                  | 25   | Rs.    |  |            |        |
|                                      | Cost of chemicals/day            |      |        |  |            |        |

### 13.0 BILL OF QUANTITY

**Design, Construction, Supply, Installation, Testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) Technology with allied works in Bommasandra Town including 5 years operation and maintenance of the components built under this contract.**

| S.No | Description   | Qty | Rate     | Amount   |
|------|---|-----|----------|----------|
| 1    | <p><b>Part-I:(Civil Components) Construction of 250 KLD capacity Moving Bed Bio-reactor (MBBR) STP at Bommasandra Town.</b></p> <p>Design, Construction and successful commissioning of 250 KLD capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) which includes components like Inlet chamber, Screen chamber, Raw sewage tank, Treated Water Sump, Plant room for operators, Compound wall, Interlocking Paver Blocks from Road to Plant and leadoff line for treated effluent to nearby nala etc., as per specification mentioned in Section-7 of bid document and as per CPHEEO sewerage manual and relevant IS codes.</p>   | 1   | 3238560  | 3238560  |
| 2    | <p><b>Part-II: (Electromechanical Components )</b></p> <p>Supply, Installation, Testing, and Commissioning of Mechanical, Electrical and Instrumentation works of 250 KLD capacity sewage treatment plant of Moving Bed Bio Reactor (MBBR) Package/Container plant including Yard lighting at STP area, Supply and Installation of on-line monitoring system for parameters like pH, BOD, COD, TSS at Effluent Point and Flow at both inlet &amp; outlet Point, DG set of suitable capacity etc in complete as per the direction of the Engineer-in-charge of work and trial run of the plant for 3 months &amp; Defects Liability Period of 1 year from the date of completion of trial run.</p> | 1   | 12440000 | 12440000 |
| 3.a  | <p><b>Part-III: Operation and maintenance for 5 years, after Commissioning of components built up under this contract</b></p> <p><b>1st year</b> Operation and maintenance of the components taken up under this contract excluding power charges including manpower, repair, establishment cost, consumables and disposing of sludge etc., as directed by the engineer -in-charge.</p>   | 1   | 808019   | 808019   |
| 3.b  | <p><b>2nd year</b> Operation and maintenance of the components taken up under this contract including establishment cost, repairs, consumables etc as directed by the engineer -in-charge</p>   | 1   | 888821   | 888821   |

|                      |   |   |         |                    |
|----------------------|---|---|---------|--------------------|
| 3.c                  | <b>3rd year</b> Operation and maintenance of the components taken up under this contract including establishment cost, repairs, consumables etc as directed by the engineer -in-charge  | 1 | 977703  | 977703             |
| 3.d                  | <b>4th year</b> Operation and maintenance of the components taken up under this contract including establishment cost, repairs, Chlorine gas etc as directed by the engineer -in-charge | 1 | 1075473 | 1075473            |
| 3.e                  | <b>5th year</b> Operation and maintenance of the components taken up under this contract including establishment cost, repairs, consumables etc as directed by the engineer -in-charge  | 1 | 1183021 | 1183021            |
| <b>GRAND Total =</b> |   |   |         | <b>2,06,11,597</b> |





ಕರ್ನಾಟಕ ಸರ್ಕಾರ

Annexure-R12

ಜಿಲ್ಲಾಧಿಕಾರಿಗಳ ಕಾರ್ಯಾಲಯ, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ, ಬೆಂಗಳೂರು.

(ಜಿಲ್ಲಾ ನಗರಾಭಿವೃದ್ಧಿ ಕೋಶ, ಬೆಂಗಳೂರು)

E-Mail :- dudc\_burban@yahoo.com

Phone No-08022211372/352

ಸಂಖ್ಯೆ: ಜಿನಕೋ/ಬೆಂ.ನಗರ/ತಾ-01/ಸಿಆರ್/129/2019-20

ದಿನಾಂಕ:23-02-2021

--: ಅಧಿಕೃತ ಜ್ಞಾಪನ :-

ವಿಷಯ: ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲಾ ವ್ಯಾಪ್ತಿಯ ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಯಲ್ಲಿ 250 ಕೆ.ಎಲ್.ಡಿ. ಸಾಮರ್ಥ್ಯದ ಪ್ರಾಕೇಜ್ಡ್ ಎಸ್.ಟಿ.ಪಿ ಘಟಕವನ್ನು ಅಳವಡಿಸುವ ಪ್ರಸ್ತಾವನೆಗೆ ಆಡಳಿತಾತ್ಮಕ ಅನುಮೋದನೆ ನೀಡುವ ಬಗ್ಗೆ.

- ಉಲ್ಲೇಖ: 1. ಮುಖ್ಯಾಧಿಕಾರಿ, ಪುರಸಭೆ ಬೊಮ್ಮಸಂದ್ರ ರವರ ಪತ್ರ ಸಂಖ್ಯೆ: HS/CR27/NGT/K.Lake/2020-21, ದಿನಾಂಕ: 19/02/2021
2. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ನಅಇ/225/ಸಿಎಸ್‌ಎಸ್/2019 ಬೆಂಗಳೂರು ದಿನಾಂಕ: 22-08-2019.
3. ಮಾನ್ಯ ನಿರ್ದೇಶಕರು, ಪೌರಾಡಳಿತ ನಿರ್ದೇಶನಾಲಯ ರವರ ಪತ್ರ ಸಂಖ್ಯೆ: 16721/ಡಿಎಂಎ/40/SWM/2016-17 ದಿನಾಂಕ: 18-02-2021.
4. ದಿನಾಂಕ: 23-02-2021 ರಂದು ನಡೆದ ತಾಂತ್ರಿಕ ಸಮಿತಿ ಸಭೆಯ ನಡವಳಿಗಳು.

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ಕೇಂದ್ರ ಹಾಗೂ ರಾಜ್ಯ ಸರ್ಕಾರದ ವಿವಿಧ ಯೋಜನೆಗಳು ಹಾಗೂ ನಗರ ಸ್ಥಳೀಯ ಸಂಸ್ಥೆಗಳ ನಿಧಿಯಿಂದ ಸಮಗ್ರ ಘನ ತ್ಯಾಜ್ಯ ನಿರ್ವಹಣೆ ಹಾಗೂ ನಗರದ ನೈರ್ಮಲ್ಯ ಕೆಲಸಗಳಿಗೆ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲಾ ವಾಹನ ಮತ್ತು ಯಂತ್ರೋಪಕರಣಗಳಿಗೆ ಆಡಳಿತಾತ್ಮಕ ಅನುಮೋದನೆ ಮತ್ತು ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿ ನೀಡುವ ಸಂಬಂಧ ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ನಅಇ/225/ಸಿಎಸ್‌ಎಸ್/2019 ಬೆಂಗಳೂರು ದಿನಾಂಕ: 22-08-2019 ರಂತೆ ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ ರವರ ಅಧಿಕೃತ ಜ್ಞಾಪನ ಸಂಖ್ಯೆ: ಜಿನಕೋ/ಬೆಂ.ನಗರ/ಸಿಬ್ಬಂದಿ-1/ತಾಶಾ/04/2019-20 ದಿನಾಂಕ: 31-08-2019ರ ರೀತ್ಯಾ ಜಿಲ್ಲಾಧಿಕಾರಿಗಳ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿ ಸಮಿತಿಯನ್ನು ರಚಿಸಲಾಗಿರುತ್ತದೆ.

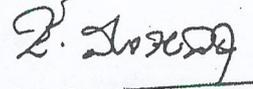
ಉಲ್ಲೇಖ (1)ರ ರೀತ್ಯಾ ಮುಖ್ಯಾಧಿಕಾರಿ, ಪುರಸಭೆ ಬೊಮ್ಮಸಂದ್ರ ರವರು ವಿಸ್ತೃತ ಯೋಜನಾ ವರದಿಯಂತೆ 250 ಕೆ.ಎಲ್.ಡಿ. ಸಾಮರ್ಥ್ಯದ ಪ್ರಾಕೇಜ್ಡ್ ಎಸ್.ಟಿ.ಪಿ ಘಟಕಕ್ಕೆ ಆಡಳಿತಾತ್ಮಕ ಅನುಮೋದನೆ ಮತ್ತು ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿಯನ್ನು ನೀಡುವಂತೆ ಕೋರಿ ಈ ಕಛೇರಿಗೆ ಪ್ರಸ್ತಾವನೆ ಸಲ್ಲಿಸಿರುತ್ತಾರೆ.

ಸದರಿಯವರು ಸಲ್ಲಿಸಿರುವ ಆರ್ಥಿಕ ಪ್ರಸ್ತಾವನೆ ಈ ಕೆಳಕಂಡಂತೆ ಇರುತ್ತದೆ.

| Sl. No | Description   | Amount (In Rs) |
|--------|---|----------------|
| A.     | i) Civil works  | 32,38,560      |
|        | ii) Electromechanical Components                      | 1,24,40,000    |
|        | Part A – Capex=                                       | 1,56,78,560    |
| B.     | Operation & Maintenance for 5 years (Part – B – Opex) | 49,33,037      |
|        | Total – (Part A + Part B) =                           | 2,06,11,597    |
| C.     | Provision Towards Electrification of the Plant        | 3,00,000       |
| D.     | Third Party Inspection Charges @ 0.45%                | 71,000         |
| E.     | Miscellaneous and Rounding Off                        | 7,403          |
|        | Grand Total Including O & M =                         | 2,09,90,000    |
|        | Cost Towards Bommasandra TMC (60)% =                  | 1,25,94,000    |
|        | Cost Towards Bommasandra Industrial Area (40)% =      | 83,96,000      |

ಸದರಿ ಪ್ರಸ್ತಾವನೆಯ ಒಟ್ಟು ಮೊತ್ತ ರೂ.209.90 ಲಕ್ಷಗಳಾಗಿದ್ದು, ಇದರ ಶೇ.60 ರಷ್ಟು ರೂ.1,25,94,000 ಗಳನ್ನು ಪುರಸಭೆ ಬೊಮ್ಮಸಂದ್ರ ರವರು ಹಾಗೂ ಶೇ.40 ರಷ್ಟು ರೂ.83,96,000 ಗಳನ್ನು ಬೊಮ್ಮಸಂದ್ರ ಕೈಗಾರಿಕಾ ಸಂಘದಿಂದ ಭರಿಸಲಾಗುತ್ತಿದ್ದು, ಮುಖ್ಯಾಧಿಕಾರಿ, ಪುರಸಭೆ ಬೊಮ್ಮಸಂದ್ರ ರವರು ಟೆಂಡರ್ ಪ್ರಕ್ರಿಯೆಯನ್ನು ಕೈಗೊಳ್ಳಬೇಕಾಗಿರುತ್ತದೆ.

ಉಲ್ಲೇಖ (4)ರ ರೀತ್ಯಾ ದಿನಾಂಕ: 23-02-2021 ರಂದು ನಡೆದ ತಾಂತ್ರಿಕ ಸಮಿತಿಯ ಸಭೆಯಲ್ಲಿ ವಿಸ್ತೃತ ಯೋಜನಾ ವರದಿಯಲ್ಲಿ ಪರಿಗಣಿಸಲಾಗಿರುವ ತಾಂತ್ರಿಕ ನಿರ್ದಿಷ್ಟತೆಗಳನ್ನು ಅನುಮೋದಿಸಲಾಗಿದ್ದು, ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು, ಜಿಲ್ಲಾ ನಗರಾಭಿವೃದ್ಧಿ ಕೋಶ, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ ರವರು ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿ ನೀಡಿದ್ದು, ಅದರಂತೆ ಆಡಳಿತಾತ್ಮಕ ಅನುಮೋದನೆ ನೀಡಿ ಆದೇಶಿಸಿದೆ.



ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು, 23/2

ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ,

ಬೆಂಗಳೂರು.

**Office of the Deputy Commissioner, Bengaluru Urban District, Bengaluru.**  
**(District Urban Development Cell, Bengaluru)**

No. DUDC/B.Urban/Tech-01/CR/129/2019-20

Date: 23-02-2021

**OFFICIAL MEMORANDUM**

**Subject:** According Administrative Approval to the proposal of installation of 250 KLD capacity packaged STP units at Bommasandra TMC of Bengaluru Urban district.

- Ref:** 1. Chief Officer, TMC Bommasandra Letter No: HS/CR27/NGT/K.Lake/2020-21, Dated: 19/02/2021.  
2. Government Order No. UDD/225/CSS/2019, Bengaluru, Dated: 22-08-2019.  
3. Director, Directorate of Municipal Administration Letter No. 16721/DMA/40/SWM/2016-17, Dated: 18-02-2021.  
4. Proceedings of Technical Committee meeting held on 23-02-2021.

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The Technical Committee has been constituted under the Chairmanship of Deputy Commissioner vide Government Order No. UDD/225/CSS/2019, Bengaluru, Dated: 22-08-2019 and Deputy Commissioner, Bengaluru Urban District's Official Memorandum No. DUDC/B.Urban/Est-1/TS/04/2019-20, Dated: 31-08-2019 to accord Administrative approval and Technical sanction to vehicles and machineries required for integrated solid waste management and city sanitation works procured by ULBs under various Central and State Govt. schemes and ULB's own funds.

The Chief Officer, TMC Bommasandra has submitted the proposal vide Ref (1) to this office requesting for Administrative approval and Technical sanction for 250 KLD capacity packaged STP units as per the detailed project report.

The financial proposal submitted is as follows;

| Sl. No. | Description  | Amount (In Rs.)    |
|---------|--|--------------------|
| A.      | <b>i) Civil works</b>  | 32,38,560          |
|         | <b>ii) Electromechanical Components</b>                      | 1,24,40,000        |
|         | <b>Part A – Capex =</b>                                      | <b>1,56,78,560</b> |
| B.      | <b>Operation &amp; Maintenance for 5 years (Part-B-Opex)</b> | 49,33,037          |
|         | <b>Total – (Part A + Part B)</b>                             | <b>2,06,11,597</b> |
| C.      | Provision towards Electrification of the Plant               | 3,00,000           |
| D.      | Third Party Inspection Charges @0.45%                        | 71,000             |
| E.      | Miscellaneous and Rounding Off                               | 7,403              |
|         | <b>Grand Total including O&amp;M</b>                         | <b>2,09,90,000</b> |
|         | <b>Cost towards Bommasandra TMC (60)%</b>                    | <b>1,25,94,000</b> |
|         | <b>Cost Towards Bommasandra Industrial Association (40)%</b> | <b>83,96,000</b>   |

Total cost of the said proposal is Rs. 209.90 lakhs, 60% of it Rs. 1, 25,94,000 is borne by TMC Bommasandra and 40% of it Rs. 83,96,000 is borne by Bommasandra Industries Association. The Chief Officer TMC Bommasandra has to undertake Tender Process.

The Technical Specifications considered in DPR have been approved in the Technical Committee meeting held on 23-02-2021 vide Ref(4), Executive Engineer, DUDC, Bengaluru Urban Dist has accorded Technical Sanction and accordingly Administrative Approval has been accorded.

Sd/-  
Deputy Commissioner,  
Bengaluru Urban District  
Bengaluru



ಕರ್ನಾಟಕ ಸರ್ಕಾರ

Annexure-R13

## ಜಿಲ್ಲಾಧಿಕಾರಿಗಳ ಕಾರ್ಯಾಲಯ, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ, ಬೆಂಗಳೂರು.

(ಜಿಲ್ಲಾ ನಗರಾಭಿವೃದ್ಧಿ ಕೋಶ, ಬೆಂಗಳೂರು)

E-Mail :- [dudc\\_burban@yahoo.com](mailto:dudc_burban@yahoo.com)

Phone No-08022211372/352

ಸಂಖ್ಯೆ: ಜಿನಕೋ/ಬೆಂ.ನಗರ/ತಾ-01/ಸಿಆರ್/129/2019-20

ದಿನಾಂಕ: 23-02-2021

### --: ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿ :-

ವಿಷಯ: ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲಾ ವ್ಯಾಪ್ತಿಯ ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆಯಲ್ಲಿ 250 ಕೆ.ಎಲ್.ಡಿ. ಸಾಮರ್ಥ್ಯದ ಪ್ರಾಜೆಕ್ಟ್ ಎಸ್.ಟಿ.ಪಿ ಘಟಕವನ್ನು ಅಳವಡಿಸುವ ಪ್ರಸ್ತಾವನೆಗೆ ತಾಂತ್ರಿಕ ಅನುಮೋದನೆ ನೀಡುವ ಬಗ್ಗೆ.

- ಉಲ್ಲೇಖ: 1. ಮುಖ್ಯಾಧಿಕಾರಿ, ಪುರಸಭೆ ಬೊಮ್ಮಸಂದ್ರ ರವರ ಪತ್ರ ಸಂಖ್ಯೆ: HS/CR27/NGT/K.Lake/2020-21, ದಿನಾಂಕ: 19/02/2021
2. ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ನಅಇ/225/ಸಿಎಸ್‌ಎಸ್/2019 ಬೆಂಗಳೂರು ದಿನಾಂಕ: 22-08-2019.
3. ಮಾನ್ಯ ನಿರ್ದೇಶಕರು, ಪೌರಾಡಳಿತ ನಿರ್ದೇಶನಾಲಯ ರವರ ಪತ್ರ ಸಂಖ್ಯೆ: 16721/ಡಿಎಂಎ/40/SWM/2016-17 ದಿನಾಂಕ: 18-02-2021.
4. ದಿನಾಂಕ: 23-02-2021 ರಂದು ನಡೆದ ತಾಂತ್ರಿಕ ಸಮಿತಿ ಸಭೆಯ ನಡವಳಿಗಳು.

~\*~

ಕೇಂದ್ರ ಹಾಗೂ ರಾಜ್ಯ ಸರ್ಕಾರದ ವಿವಿಧ ಯೋಜನೆಗಳು ಹಾಗೂ ನಗರ ಸ್ಥಳೀಯ ಸಂಸ್ಥೆಗಳ ನಿಧಿಯಿಂದ ಸಮಗ್ರ ಘನ ತ್ಯಾಜ್ಯ ನಿರ್ವಹಣೆ ಹಾಗೂ ನಗರದ ನೈರ್ಮಲ್ಯ ಕೆಲಸಗಳಿಗೆ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲಾ ವಾಹನ ಮತ್ತು ಯಂತ್ರೋಪಕರಣಗಳಿಗೆ ಆಡಳಿತಾತ್ಮಕ ಅನುಮೋದನೆ ಮತ್ತು ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿ ನೀಡುವ ಸಂಬಂಧ ಸರ್ಕಾರದ ಆದೇಶ ಸಂಖ್ಯೆ: ನಅಇ/225/ಸಿಎಸ್‌ಎಸ್/2019 ಬೆಂಗಳೂರು ದಿನಾಂಕ: 22-08-2019 ರಂತೆ ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ ರವರ ಅಧಿಕೃತ ಜ್ಞಾಪನ ಸಂಖ್ಯೆ: ಜಿನಕೋ/ಬೆಂ.ನಗರ/ಸಿಬ್ಬಂದಿ-1/ತಾಶಾ/04/2019-20 ದಿನಾಂಕ: 31-08-2019ರ ರೀತ್ಯಾ ಜಿಲ್ಲಾಧಿಕಾರಿಗಳ ಅಧ್ಯಕ್ಷತೆಯಲ್ಲಿ ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿ ಸಮಿತಿಯನ್ನು ರಚಿಸಲಾಗಿರುತ್ತದೆ.

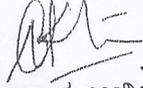
ಉಲ್ಲೇಖ (1)ರ ರೀತ್ಯಾ ಮುಖ್ಯಾಧಿಕಾರಿ, ಪುರಸಭೆ ಬೊಮ್ಮಸಂದ್ರ ರವರು ವಿಸ್ತೃತ ಯೋಜನಾ ವರದಿಯಂತೆ 250 ಕೆ.ಎಲ್.ಡಿ. ಸಾಮರ್ಥ್ಯದ ಪ್ರಾಜೆಕ್ಟ್ ಎಸ್.ಟಿ.ಪಿ ಘಟಕಕ್ಕೆ ಆಡಳಿತಾತ್ಮಕ ಅನುಮೋದನೆ ಮತ್ತು ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿಯನ್ನು ನೀಡುವಂತೆ ಕೋರಿ ಈ ಕಛೇರಿಗೆ ಪ್ರಸ್ತಾವನೆ ಸಲ್ಲಿಸಿರುತ್ತಾರೆ.

ಸದರಿಯವರು ಸಲ್ಲಿಸಿರುವ ಆರ್ಥಿಕ ಪ್ರಸ್ತಾವನೆ ಈ ಕೆಳಕಂಡಂತೆ ಇರುತ್ತದೆ.

| Sl. No | Description   | Amount (In Rs) |
|--------|---|----------------|
| A.     | i) Civil works  | 32,38,560      |
|        | ii) Electromechanical Components                      | 1,24,40,000    |
|        | Part A - Capex =                                      | 1,56,78,560    |
| B.     | Operation & Maintenance for 5 years (Part - B - Opex) | 49,33,037      |
|        | Total - (Part A + Part B) =                           | 2,06,11,597    |
| C.     | Provision Towards Electrification of the Plant        | 3,00,000       |
| D.     | Third Party Inspection Charges @ 0.45%                | 71,000         |
| E.     | Miscellaneous and Rounding Off                        | 7,403          |
|        | Grand Total Including O & M =                         | 2,09,90,000    |
|        | Cost Towards Bommasandra TMC (60)% =                  | 1,25,94,000    |
|        | Cost Towards Bommasandra Industrial Area (40)% =      | 83,96,000      |

ಸದರಿ ಪ್ರಸ್ತಾವನೆಯ ಒಟ್ಟು ಮೊತ್ತ ರೂ.209.90 ಲಕ್ಷಗಳಾಗಿದ್ದು, ಇದರ ಶೇ.60 ರಷ್ಟು ರೂ.1,25,94,000 ಗಳನ್ನು ಪುರಸಭೆ ಬೊಮ್ಮಸಂದ್ರ ರವರು ಹಾಗೂ ಶೇ.40 ರಷ್ಟು ರೂ.83,96,000 ಗಳನ್ನು ಬೊಮ್ಮಸಂದ್ರ ಕೈಗಾರಿಕಾ ಸಂಘದಿಂದ ಭರಿಸಲಾಗುತ್ತಿದ್ದು, ಮುಖ್ಯಾಧಿಕಾರಿ, ಪುರಸಭೆ ಬೊಮ್ಮಸಂದ್ರ ರವರು ಟೆಂಡರ್ ಪ್ರಕ್ರಿಯೆಯನ್ನು ಕೈಗೊಳ್ಳಬೇಕಾಗಿರುತ್ತದೆ.

ಉಲ್ಲೇಖ (4)ರ ರೀತ್ಯಾ ದಿನಾಂಕ: 23-02-2021 ರಂದು ನಡೆದ ತಾಂತ್ರಿಕ ಸಮಿತಿಯ ಸಭೆಯಲ್ಲಿ ವಿಸ್ತೃತ ಯೋಜನಾ ವರದಿಯಲ್ಲಿ ಪರಿಗಣಿಸಲಾಗಿರುವ ತಾಂತ್ರಿಕ ನಿರ್ದಿಷ್ಟತೆಗಳನ್ನು ಅನುಮೋದಿಸಲಾಗಿದ್ದು, ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು, ಜಿಲ್ಲಾ ನಗರಾಭಿವೃದ್ಧಿ ಕೋಶ, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ ರವರು ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿ ನೀಡಿದ್ದು, ಅದರಂತೆ ತಾಂತ್ರಿಕ ಅನುಮೋದನೆ ನೀಡಿ ಆದೇಶಿಸಿದೆ.

  
ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು,  
ಜಿಲ್ಲಾ ನಗರಾಭಿವೃದ್ಧಿ ಕೋಶ,  
ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ.

**Office of the Deputy Commissioner, Bengaluru Urban District, Bengaluru.**  
**(District Urban Development Cell, Bengaluru)**

No. DUDC/B.Urban/Tech-01/CR/129/2019-20

Date: 23-02-2021

**TECHNICAL SANCTION**

**Subject:** According Technical Sanction to the proposal of installation of 250 KLD capacity packaged STP units at Bommasandra TMC of Bengaluru Urban district.

- Ref:** 1. Chief Officer, TMC Bommasandra Letter No: HS/CR27/NGT/K.Lake/2020-21, Dated: 19/02/2021.  
2. Government Order No. UDD/225/CSS/2019, Bengaluru, Dated: 22-08-2019.  
3. Director, Directorate of Municipal Administration Letter No. 16721/DMA/40/SWM/2016-17, Dated: 18-02-2021.  
4. Proceedings of Technical Committee meeting held on 23-02-2021.

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The Technical Committee has been constituted under the Chairmanship of Deputy Commissioner vide Government Order No. UDD/225/CSS/2019, Bengaluru, Dated: 22-08-2019 and Deputy Commissioner, Bengaluru Urban District's Official Memorandum No. DUDC/B.Urban/Est-1/TS/04/2019-20, Dated: 31-08-2019 to accord Administrative approval and Technical sanction to vehicles and machineries required for integrated solid waste management and city sanitation works procured under various Central and State Govt. schemes and ULB's own funds.

The Chief Officer, TMC Bommasandra has submitted the proposal vide Ref (1) to this office, requesting for Administrative approval and Technical sanction for 250 KLD capacity packaged STP units as per the detailed project report.

The financial proposal submitted is as follows;

| Sl. No. | Description  | Amount (In Rs.)    |
|---------|--|--------------------|
| A.      | i) Civil works   | 32,38,560          |
|         | ii) Electromechanical Components                             | 1,24,40,000        |
|         | <b>Part A – Capex =</b>                                      | <b>1,56,78,560</b> |
| B.      | <b>Operation &amp; Maintenance for 5 years (Part-B-Opex)</b> | 49,33,037          |
|         | <b>Total – (Part A + Part B)</b>                             | <b>2,06,11,597</b> |
| C.      | Provision towards Electrification of the Plant               | 3,00,000           |
| D.      | Third Party Inspection Charges @0.45%                        | 71,000             |
| E.      | Miscellaneous and Rounding Off                               | 7,403              |
|         | <b>Grand Total including O&amp;M</b>                         | <b>2,09,90,000</b> |
|         | <b>Cost towards Bommasandra TMC (60)%</b>                    | <b>1,25,94,000</b> |
|         | <b>Cost Towards Bommasandra Industrial Association (40)%</b> | <b>83,96,000</b>   |

Total cost of the said proposal is Rs. 209.90 lakhs, 60% of it Rs. 1, 25,94,000 is borne by TMC Bommasandra and 40% of it Rs. 83,96,000 is borne by Bommasandra Industries Association. The Chief Officer TMC Bommasandra has to undertake Tender Process.

The Technical Specifications considered in DPR have been approved in the Technical Committee meeting held on 23-02-2021 vide Ref(4), Executive Engineer, DUDC, Bengaluru Urban Dist has accorded Technical Sanction and accordingly Technical Approval has been accorded.

Sd/-  
Executive Engineer,  
District Urban Development Cell,  
Bengaluru Urban District.

ಪುರಸಭಾ ಕಾರ್ಯಾಲಯ ಬೊಮ್ಮಸಂದ್ರ

ಅತ್ತಿಬೆಲೆ ಹೋಬಳಿ, ಆನೇಕಲ್ ತಾಲ್ಲೂಕು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ-560099  
ಸಂಖ್ಯೆ:TMCB/Tech/Tender/10/2020-21. ದಿನಾಂಕ: 24.02.2021

ಅಲ್ಪಾವಧಿ ಟೆಂಡರ್ ಪ್ರಕಟಣೆ(ಇ-ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್ ಮೂಲಕ ಮಾತ್ರ)  
(ಸ್ಪಾಂಡರ್ಡ್ ಡಾಕ್ಯುಮೆಂಟ್ KW-4 ರನಿಬಂಧನಗಳಂತೆ ಅರ್ಜಿ ಆಹ್ವಾನಿಸಲಾಗಿದೆ)

ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ 250 ಕೆ.ಎಲ್.ಡಿ. ಸಾಮರ್ಥ್ಯದ Compact Modular STP (Design, Construction, Supply, Installation, Testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) Technology with allied works in Bommasandra Town including 5 years operation and maintenance of the components built under this contract) (INDENT NO :- DMA/2020-21/WT/WORK\_INDENT113922) ಘಟಕಗಳನ್ನು ಅಭಿವೃದ್ಧಿಪಡಿಸಿ ಅಳವಡಿಸಲು ಮತ್ತು ಐದು ವರ್ಷಗಳ ನಿರ್ವಹಣೆಗೆ ರೂ. 206.12 ಲಕ್ಷದ ಕಾಮಗಾರಿಯನ್ನು ಇ-ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್ ದ್ವಿಲಕ್ಷೋಟಿ ಪದ್ಧತಿಯಲ್ಲಿ ಅಲ್ಪಾವಧಿ ಟೆಂಡರ್ ಆಹ್ವಾನಿಸಲಾಗಿದೆ. ಇ-ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್ ವೆಬ್‌ಸೈಟ್: [www.eproc.karnataka.gov.in](http://www.eproc.karnataka.gov.in) ಮೂಲಕ ಅರ್ಜಿ ಸಲ್ಲಿಸುವುದು. ಈ ಕಛೇರಿಯಲ್ಲಿ ಯಾವುದೇ ಅರ್ಜಿಗಳನ್ನು ಸ್ವೀಕರಿಸಲಾಗುವುದಿಲ್ಲ.

ಇ-ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್ ಮುಖಾಂತರ ಟೆಂಡರ್‌ಗಳನ್ನು ಸಲ್ಲಿಸಲು ಕೊನೆಯ ದಿನಾಂಕ (As per E-Procurement ಫಾಂಟೆಯವರೆಗೆ) ಟೆಂಡರ್ ತೆರೆಯುವ ದಿನಾಂಕ: (As per E-Procurement) ಹೆಚ್ಚಿನ ವಿವರಗಳಿಗಾಗಿ ಪುರಸಭೆಯ ಅಭಿಯಂತರನ್ನು ವಿಚಾರಿಸಬಹುದು ಅಥವಾ ಪುರಸಭೆಯ ಅಂತರ್ಜಾಲ [www.bommasandratown.mrc.gov.in](http://www.bommasandratown.mrc.gov.in) ರಲ್ಲಿ ಪಡೆಯಬಹುದು.

ಸಹಿ/-  
ಅಧ್ಯಕ್ಷರು  
ಪುರಸಭೆ, ಬೊಮ್ಮಸಂದ್ರ

ಸಹಿ/-  
ಮುಖ್ಯಾಧಿಕಾರಿ  
ಪುರಸಭೆ, ಬೊಮ್ಮಸಂದ್ರ



Sd/- Group Head CMG, ISRO HQ

**ಪುರಸಭಾ ಕಾರ್ಯಾಲಯ, ಬೊಮ್ಮಸಂದ್ರ**



ಅಧಿಕಾರಿ ಕೋಶ, ಆರ್ಕಿಟ್ ಕಾಲನು, ಬೆಂಗಳೂರು ನಗರ ಪಲ್ಲಿ - 560099  
 ದೂರವಾರ್ತೆ: 080-27834655, E-Mail: itstaff\_ulb\_bommasandra@yahoo.com

ಸಂಖ್ಯೆ : TMCB/Tech/Tender/10/2020-21. ದಿನಾಂಕ: 24.02.2021

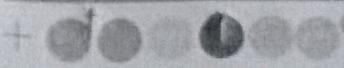
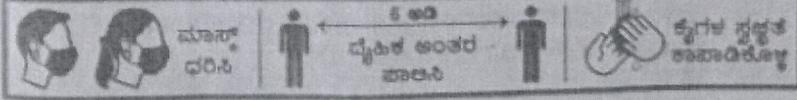
**ಆಲ್ಟಾವಧಿ ಟೆಂಡರ್ ಪ್ರಕಟಣೆ (ಇ-ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್ ಮೂಲಕ ಮಾತ್ರ)**

(ಸ್ಟಾಂಡರ್ಡ್ ಟೆಂಡರ್ ಡಾಕ್ಯುಮೆಂಟ್ KW-4 ರ ನಿಯಂತ್ರಣಗಳಂತೆ ಅರ್ಜಿ ಆಹ್ವಾನಿಸಲಾಗಿದೆ)  
 ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆ ಪ್ಯಾಕ್ಟಿಯಲ್ಲಿ 250 ಕೆ.ಎಲ್.ಡಿ ಸಾಮರ್ಥ್ಯದ Compact Modular STP (Design, Construction, Supply, Installation, Testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) Technology with allied works in Bommasandra Town including 5 years operation and maintenance of the components built under this contract) (INDENT NO: DMA/2020-21/WT/WORK \_INDENT113922) ಘಟಕಗಳನ್ನು ಅಭಿವೃದ್ಧಿಪಡಿಸಿ ಅಳವಡಿಸಲು ಮತ್ತು ಐದು ವರ್ಷಗಳ ನಿರ್ವಹಣೆಗೆ ರೂ. 206.12 ಲಕ್ಷದ ಕಾಮಗಾರಿಯನ್ನು ಇ-ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್ ದ್ವಿಲಕ್ಷೋಟಿ ಪದ್ಧತಿಯಲ್ಲಿ ಆಲ್ಟಾವಧಿ ಟೆಂಡರ್ ಆಹ್ವಾನಿಸಲಾಗಿದೆ. ಇ-ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್ ವೆಬ್‌ಸೈಟ್ : [www.eproc.karnataka.gov.in](http://www.eproc.karnataka.gov.in) ಮೂಲಕ ಅರ್ಜಿ ಸಲ್ಲಿಸುವುದು. ಈ ಕಛೇರಿಯಲ್ಲಿ ಯಾವುದೇ ಅರ್ಜಿಗಳನ್ನು ಸ್ವೀಕರಿಸಲಾಗುವುದಿಲ್ಲ.

ಇ-ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್ ಮುಖಾಂತರ ಟೆಂಡರ್‌ಗಳನ್ನು ಸಲ್ಲಿಸಲು ಕೊನೆಯ ದಿನಾಂಕ (As per E-Procurement ಘಂಟೆಯವರೆಗೆ) ಟೆಂಡರ್ ತೆರೆಯುವ ದಿನಾಂಕ: (As per E-Procurement) ಹೆಚ್ಚಿನ ವಿವರಗಳಿಗಾಗಿ ಪುರಸಭೆಯ ಅಭಿಯಂತರರನ್ನು ವಿಚಾರಿಸಬಹುದು ಅಥವಾ ಪುರಸಭೆಯ ಅಂತರ್ಜಾಲ [www.bommasandratown.gov.in](http://www.bommasandratown.gov.in) ರಲ್ಲಿ ಪಡೆಯಬಹುದು.

ಸಹಿ/- ಅಧ್ಯಕ್ಷರು ಸಹಿ/- ಮುಖ್ಯಾಧಿಕಾರಿ  
 ಪುರಸಭೆ, ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆ, ಬೊಮ್ಮಸಂದ್ರ  
ವಿಧಾನಸಭಾ ಕಾರ್ಯಾಲಯ/ಬಿಡಿ ಸಂಖ್ಯೆ/2020-21

ಕೋಟರ್ ಇ - ಗಾಣನುಡಿ ಪರದಾಟಿಡಿ, ಜವಾಬ್ದಾರಿಯಿಂದ ವರ್ತಿಸಿ, ನೋಂದನ್ನು ದೊರಕಿಸಿ ನೋಂದಿತರನ್ನಾಗಿ





**Office of the Town Municipal Council, Bommasandra**

Attibele Hobli, Anekal Taluk, Bengaluru Urban District – 560099

No. TMCB/Tech/Tender/10/2020-21

Date: 24-02-2021

**SHORT TERM TENDER NOTIFICATION (Only through e-Procurement)**

(Tenders are invited as per terms & conditions of Standard Tender Document KW-4)

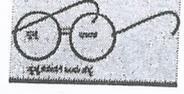
Short Term Tender has been invited through e-Procurement Portal – 2 cover system, for installation of 250 KLD capacity Compact Modular STP (Design, Construction, Supply, Installation, testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor(MBBR) Technology with allied works in Bommasandra Town including 5 years of operation and maintenance of the components built under this Contract) (INDENT NO: DMA/2020-21/WT/WORK\_INDENT113922) with 5 years of maintenance, at a cost of Rs. 206.12 lakhs. The tenders shall be submitted through e-Procurement Portal website: [www.eproc.karnataka.gov.in](http://www.eproc.karnataka.gov.in) and no tenders will be accepted at the Office.

Last date for submission of tenders through e-Procurement: (As per e-Procurement Portal), Date of Opening of Tenders: (As per e-Procurement Portal), For more details, contact TMC Engineer or visit TMC website: [www.bommasandratown.gov.in](http://www.bommasandratown.gov.in).

Sd/-  
President  
TMC Bommasandra

Sd/-  
Chief Officer  
TMC Bommasandra





# ಪುರಸಭಾ ಕಾರ್ಯಾಲಯ, ಬೊಮ್ಮಸಂದ್ರ

ಆನೇಕಲ್ ತಾಲ್ಲೂಕು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ - 560 099

Email: itstaff\_ulb\_bommasandra@yahoo.com

Phone No: 080 - 2783 4655

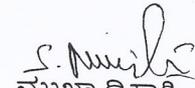
ಸಂಖ್ಯೆ: TMCB/Tech/Tender/10/2020-21

ದಿನಾಂಕ: 06/03/2021

## -:ಟೆಂಡರ್ ಪ್ರಕಟಣೆ (ತಿದ್ದುಪಡಿ & ಮುಂದೂಡಿಕೆ):-

ಈ ಕಛೇರಿಯ ಟೆಂಡರ್ ಪ್ರಕಟಣೆ ಸಂಖ್ಯೆ: TMCB/Tech/Tender/10/2020-21. ದಿನಾಂಕ: 24.02.2021ರಲ್ಲಿ ಟೆಂಡರ್ ಕರೆಯಲಾದ 2020-21ನೇ ಸಾಲಿನ ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲಾ ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ 250 ಕೆ.ಎಲ್.ಡಿ. ಸಾಮರ್ಥ್ಯದ Compact Modular STP (Design, Construction, Supply, Installation, Testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) Technology with allied works in Bommasandra Town including 5 years operation and maintenance of the components built under this contract) (INDENT NO :- DMA/2020-21/WT/WORK\_INDENT113922) ಘಟಕಗಳನ್ನು ಅಭಿವೃದ್ಧಿಪಡಿಸಿ ಅಳವಡಿಸಲು ಮತ್ತು ಐದು ವರ್ಷಗಳ ನಿರ್ವಹಣೆಗೆ ರೂ. 206.12 ಲಕ್ಷಗಳ ಟೆಂಡರ್ ದಿನಾಂಕಗಳನ್ನು ಈ ಕೆಳಗಿನಂತೆ ಹಾಗೂ ಇ-ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್‌ನಲ್ಲಿ ಪ್ರಕಟಣೆಯಾಗಿರುವ ADDENDUM-1 ರಂತೆ ತಿದ್ದುಪಡಿ ಮಾಡಿಕೊಳ್ಳುವುದು, ಉಳಿದಂತೆ ಯಾವುದೇ ಬದಲಾವಣೆ ಇರುವುದಿಲ್ಲ.

|  |                         |
|--|-------------------------|
| ಟೆಂಡರ್ ಬಗ್ಗೆ ಮಾಹಿತಿ ಪಡೆಯಲು ಕೊನೆಯ ದಿನಾಂಕ & ವೇಳೆ | : 06-03-2021 ಸಮಯ:16:30  |
| ಟೆಂಡರ್ ಸಲ್ಲಿಸುವ ಅಂತಿಮ ದಿನಾಂಕ & ವೇಳೆ            | : 09-03-2021 ಸಮಯ:17: 00 |
| ತಾಂತ್ರಿಕ ಬಿಡ್ ತೆರೆಯುವ ದಿನಾಂಕ & ವೇಳೆ            | : 12-03-2021 ಸಮಯ:11: 00 |
| ಆರ್ಥಿಕ ಬಿಡ್ ತೆರೆಯುವ ದಿನಾಂಕ & ವೇಳೆ              | : 15-03-2021 ಸಮಯ:11: 00 |

  
ಮುಖ್ಯಾಧಿಕಾರಿ,

ಪುರಸಭೆ, ಬೊಮ್ಮಸಂದ್ರ.

ಪ್ರತಿಯನ್ನು:

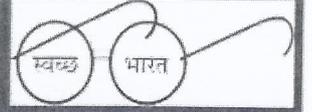
- 1) ಮಾನ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು, ನಗರಾಭಿವೃದ್ಧಿ ಇಲಾಖೆ, ವಿಕಾಸ ಸೌದ, ಬೆಂಗಳೂರು ರವರ ಆವಗಾಹನೆಗೆ ಗೌರವಪೂರ್ವಕವಾಗಿ ಸಲ್ಲಿಸಿದೆ.
- 2) ಮಾನ್ಯ ನಿರ್ದೇಶಕರು ಪೌರಾಡಳಿತ ನಿರ್ದೇಶನಾಲಯ, 9ನೇ ಮಹಡಿ, ವಿಶ್ವೇಶ್ವರಯ್ಯ ಗೋಪುರ, ಬೆಂಗಳೂರು ರವರ ಆವಗಾಹನೆಗೆ ಗೌರವಪೂರ್ವಕವಾಗಿ ಸಲ್ಲಿಸಿದೆ.
- 3) ಮಾನ್ಯ ಮುಖ್ಯ ಅಭಿಯಂತರರು, ಪೌರಾಡಳಿತ ನಿರ್ದೇಶನಾಲಯ, 10ನೇ ಮಹಡಿ, ವಿಶ್ವೇಶ್ವರಯ್ಯ ಗೋಪುರ, ಬೆಂಗಳೂರು ರವರ ಆವಗಾಹನೆಗೆ ಗೌರವಪೂರ್ವಕವಾಗಿ ಸಲ್ಲಿಸಿದೆ.
- 4) ಮಾನ್ಯ ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆರವರ ಆವಗಾಹನೆಗೆ ಗೌರವಪೂರ್ವಕವಾಗಿ ಸಲ್ಲಿಸಿದೆ.



# ಪುರಸಭಾ ಕಾರ್ಯಾಲಯ, ಬೊಮ್ಮಸಂದ್ರ

ಅತ್ತಿಬೆಲೆ ಹೋಬಳಿ, ಆನೇಕಲ್ ತಾಲೂಕು, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ - 560099

ದೂರವಾಣಿ: 080-27834655, E-Mail: itstaff\_ulb\_bommasandra@yahoo.com



ಸಂಖ್ಯೆ : TMCB/Tech/Tender/10/2020-21.

ದಿನಾಂಕ: 06.03.2021

## ಟೆಂಡರ್ ಪ್ರಕಟಣೆ (ತಿದ್ದುಪಡಿ & ಮುಂದೂಡಿಕೆ)

ಈ ಕಛೇರಿಯ ಟೆಂಡರ್ ಪ್ರಕಟಣೆ ಸಂಖ್ಯೆ TMCB/Tech/Tender/10/2020-21. ದಿನಾಂಕ: 24-02-2021 ರಲ್ಲಿ ಟೆಂಡರ್ ಕರೆಯಲಾದ 2020-21ನೇ ಸಾಲಿನ ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲಾ ಬೊಮ್ಮಸಂದ್ರ ಪುರಸಭೆ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ 250 ಕೆ.ಎಲ್.ಡಿ ಸಾಮರ್ಥ್ಯದ Compact Modular STP (Design, Construction, Supply, Installation, Testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) Technology with allied works in Bommasandra Town including 5 years operation and maintenance of the components built under this contract) (INDENT NO: DMA/2020-21/WT/WORK \_INDENT113922) ಘಟಕಗಳನ್ನು ಅಭಿವೃದ್ಧಿಪಡಿಸಿ ಅಳವಡಿಸಲು ಮತ್ತು ಐದು ವರ್ಷಗಳ ನಿರ್ವಹಣೆಗೆ ರೂ. 206.12 ಲಕ್ಷಗಳ ಟೆಂಡರ್ ದಿನಾಂಕಗಳನ್ನು ಈ ಕೆಳಗಿನಂತೆ ಹಾಗೂ -ಪ್ರಕ್ಯೂರ್‌ಮೆಂಟ್‌ನಲ್ಲಿ ಪ್ರಕಟಣೆಯಾಗಿರುವ ADDENDUM-1 ರಂತೆ ತಿದ್ದುಪಡಿ ಮಾಡಿಕೊಳ್ಳುವುದು. ಉಳಿದಂತೆ ಯಾವುದೇ ಬದಲಾವಣೆ ಇರುವುದಿಲ್ಲ. ಟೆಂಡರ್ ಬಗ್ಗೆ ಮಾಹಿತಿ ಪಡೆಯಲು ಕೊನೆಯ ದಿನಾಂಕ & ವೇಳೆ : 06-03-2021 ಸಮಯ : 16:30, ಟೆಂಡರ್ ಸಲ್ಲಿಸುವ ಅಂತಿಮ ದಿನಾಂಕ & ವೇಳೆ : 09-03-2021 ಸಮಯ : 17:00, ತಾಂತ್ರಿಕ ಬಿಡ್ ತೆರೆಯುವ ದಿನಾಂಕ & ವೇಳೆ : 12-03-2021 ಸಮಯ : 11:00, ಆರ್ಥಿಕ ಬಿಡ್ ತೆರೆಯುವ ದಿನಾಂಕ & ವೇಳೆ : 15-03-2021 ಸಮಯ : 11:00.

ಸಹಿ/- ಅಧ್ಯಕ್ಷರು  
ಪುರಸಭೆ, ಬೊಮ್ಮಸಂದ್ರ

ವಾಸಾಸಂ/ಬೆಂ.ನಗರ/ಶರಡಿ ಸಾಯಿ/\_\_\_/2020-21

ಸಹಿ/- ಮುಖ್ಯಾಧಿಕಾರಿ  
ಪುರಸಭೆ, ಬೊಮ್ಮಸಂದ್ರ

ಕೋವಿಡ್-19 - ಗಾಳಿಸುದ್ದಿ ಹರಡಬೇಡಿ, ಜವಾಬ್ದಾರಿಯಿಂದ ವರ್ತಿಸಿ, ಸೋಂಕನ್ನು ದೂರವಿಡಿ-ಸೋಂಕಿತರನ್ನಲ್ಲ.



ಮಾಸ್ಕ್ ಧರಿಸಿ



6 ಅಡಿ  
ದೈಹಿಕ ಅಂತರ  
ಪಾಲಿಸಿ



ಕೈಗಳ ಸ್ವಚ್ಛತೆ  
ಕಾಪಾಡಿಕೊಳ್ಳಿ



**Office of the Town Municipal Council, Bommasandra**

Attibele Hobli, Anekal Taluk, Bengaluru Urban District – 560099

No. TMCB/Tech/Tender/10/2020-21

Date: 06-03-2021

**TENDER NOTIFICATION (Corrigendum & Postponement)**

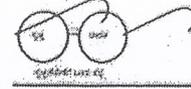
Amendments are made, as below and as per Addendum-1 published in e-Procurement Portal in this Office Tender Notification No: TMCB/Tech/Tender/10/2020-21, Dated: 24-02-2021 for installation of 250 KLD capacity Compact Modular STP (Design, Construction, Supply, Installation, testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor(MBBR) Technology with allied works in Bommasandra Town including 5 years of operation and maintenance of the components built under this Contract) (INDENT NO: DMA/2020-21/WT/WORK\_INDENT113922) with 5 years of maintenance, at a cost of Rs. 206.12 lakhs. No other changes in the rest of the Tender Notification.

Last Date & Time for seeking information on Tender: 06-03-2021 Upto 16.30 Hrs, Last date & Time for submission of tenders: 09-03-2021 Upto 17.00 Hrs, Date & Time of Opening of Technical Bids: 12-03-2021 Time: 11.00 Hrs, Date & Time of Opening of Financial Bids: 15-03-2021 Time: 11.00 Hrs.

Sd/-  
President  
TMC Bommasandra

Sd/-  
Chief Officer  
TMC Bommasandra





**TOWN MUNICIPAL COUNNIL, BOMMASANDRA**  
**Anekal Taluk, Bangalore Urban Dist- 560 099**

Email: itstaff\_ulb\_bommasandra@yahoo.com

Phone No: 080 - 2783 4655

**NO.TMCB/TS/10/2020-21**

**DATE: 20-03-2021**

**LETTER OF ACCEPTANCE**

**To:**

Ashwinbhai Kanjlbhai Vachhani  
OASIS Renewables and Water Treatment Limited  
A-401, Commerce House-5, Near Vodafone House  
Corporate Road, Makarba, Ahmedabad-380051

**Sir,**

**Subject :** Tender for the work of "Design, Construction, Supply, Installation, Testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) Technology with allied works in Bommasandra Town including 5 years Operation and Maintenance of the components built under this contract at TMC Bommasandra Limits".

**Ref :**

1. Short Term tender notification No., TMCB/TS/10/2020-21 dt: 24/02/2021
2. Your Tender for the above work dated 09-03-2021
3. Technical Bid Approval dated 18-03-2021
4. Financial Bid Approval dated 19-03-2021
5. Your Email dt 19.03.2021: Negotiated offer of 1% discount.

This is to notify you that your Tender dated 09-03-2021 for the work "Design, Construction, Supply, Installation, Testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) Technology with allied works in Bommasandra Town including 5 years Operation and Maintenance of the components built under this contract at TMC Bommasandra Limit ( Indent No: DMA/2020-21/WT/WORK\_INDENT113922) name of the contract and identification number, as given in the Instructions to Tenderers) for the Contract Price of **Rupees 2,10,41,395.00 [Rs. Two Crore Ten Lakh Forty One Thousand Three Hundred Ninety Five Only]** as corrected and modified in accordance with the Instructions to Tenderers is hereby accepted by TMC Bommasandra.

FOR, OASIS RENEWABLES AND WATER TREATMENT LTD.

AUTHORISED SIGNATORY

You are hereby requested to furnish Performance Security deposit, in the form detailed in Clause 29.1 of ITT for an amount of **Rs.6,31,500.00 (Rs Six Lakh Thirty One Thousand Five Hundred Only)** within 20 days of the receipt of this letter of acceptance valid up to 30 days from the date of expiry of Defects Liability Period of Intended Completion Period and sign the contract, failing which action as stated in Para 29.4 of ITT will be taken.

Yours faithfully,

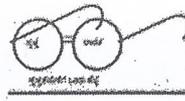
  
S. Anand  
Chief Officer 20/3/21  
TMC Bommasandra

Copy to:

- 1) The Additional Chief Secretary, M&UDA GoK, for kind information.
- 2) The Director – Directorate Municipal Administration, GoK for kind information.
- 3) The Deputy Commissioner, Bangalore Urban District for kind information

FOR, OASIS RENEWABLES AND WATER TREATMENT LTD

  
AUTHORISED SIGNATORY



Annexure - R16

# TOWN MUNICIPAL COUNCIL, BOMMASANDRA

Anekal Taluk, Bangalore Urban Dist- 560 099

Email: itstaff\_ulb\_bommasandra@yahoo.com

Phone No: 080 - 2783 4655

NO. TMCB/TS/10/2020-21

DATE 29/03/2021

## Issue of Notice to Proceed with the Work

To,

ASHWINBHAI KANJIBHAI VACHHANI  
(OASIS RENEWABLES AND WATER TREATMENT LIMITED)  
A-401, Commerce House-5, Near Vodafone House  
Corporate Road, Makarba, Ahmedabad-380051.

Sir,

**Subject:** Providing Fixed Security Deposit (FSD) towards the work of Design, Construction, Supply, Installation, Testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) Technology with allied works including 5 years operation and maintenance of the components built under this contract at TMC Bommasandra Limits.

**Ref:**

1. Letter of Acceptance No. TMCB/TS/10/2020-21 dtd: 20-03-2021
2. Your Financial (Negotiation Rates) Bid Approved dtd:19-03-2021
3. Your Term Deposit Receipt No: 0002178 dt: 23.03.2021
4. Agreement No : TMC/BOM/Tech-Sec/10/2020-21 dtd: 29/03/2021  
(E- Stamp - IN-KA87257820320523T)

\*\*\*\*\*

Pursuant to your furnishing the requisite Term Deposit for an amount of Rs. 6,31,500/- as stipulated in ITT Clause 29.1 and signing of the contract agreement for the Construction, Supply, Installation, Testing and successful commissioning of Civil, Mechanical, Electrical and Instrumentation works of 250 KLD Capacity Sewage Treatment Plant of Moving Bed Bio-reactor (MBBR) Technology with allied works including 5 years operation and maintenance of the components built under this contract at TMC Bommasandra Limits a Tender Price of Rs. **2,10,41,395/- [Rupees Two Crore Ten Lakh Forty-One Thousand Three Hundred Ninety-Five Only]**, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents. The work needs to be completed in all aspects within 3 months, on regular basis the progress need to be updated to NGT.

Received

Anil Shah  
Director Oasis Renewables  
29/03/21

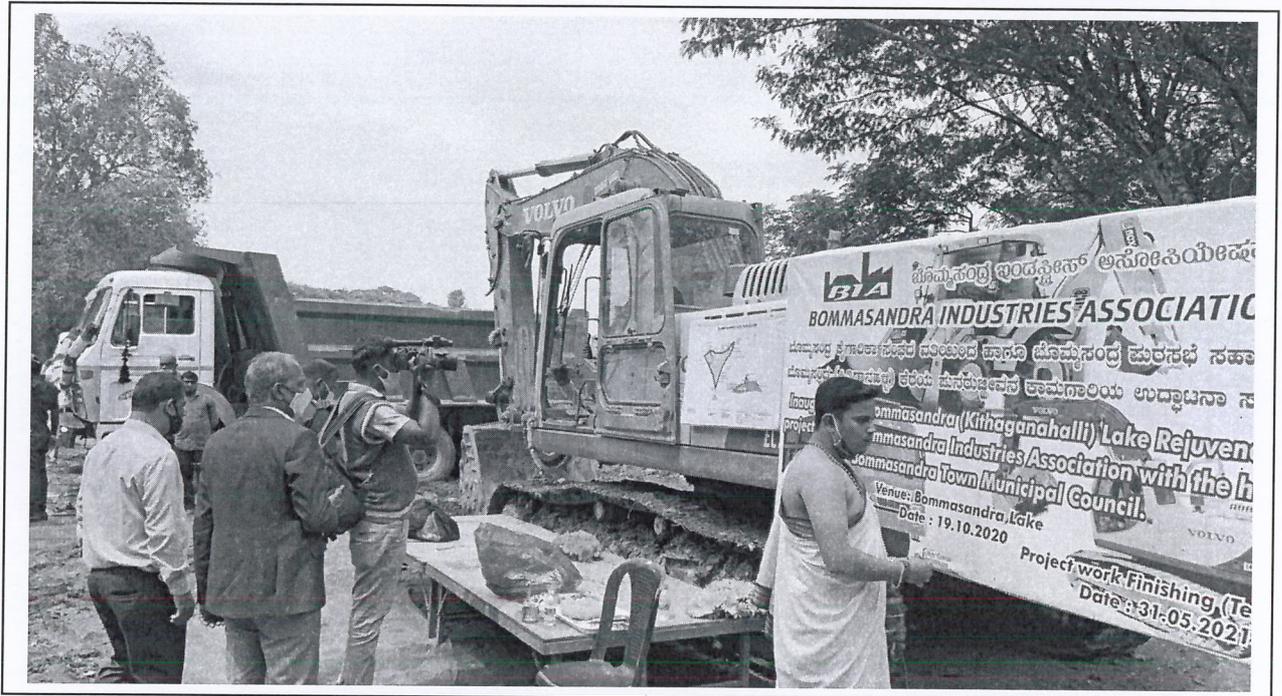
Yours faithfully,

Chief Officer

TMC Bommasandra.



**Photographs of Bommasandra Kithiganahalli Lake Rejuvenation Works**



**Photographs of Bommasandra Kithiganahalli Lake Rejuvenation Works**



**Photographs of Bommasandra Kithiganahalli Lake Rejuvenation Works**



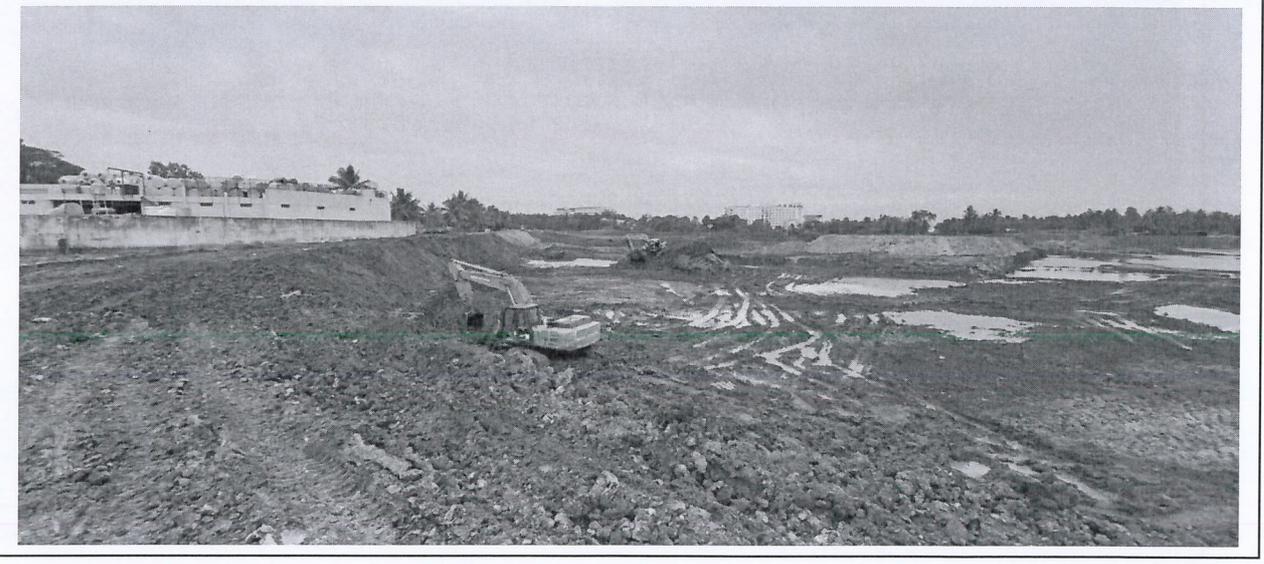
**Photographs of Bommasandra Kithiganahalli Lake Rejuvenation Works**



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**Photographs of Bommasandra Kithiganahalli Lake Rejuvenation Works**



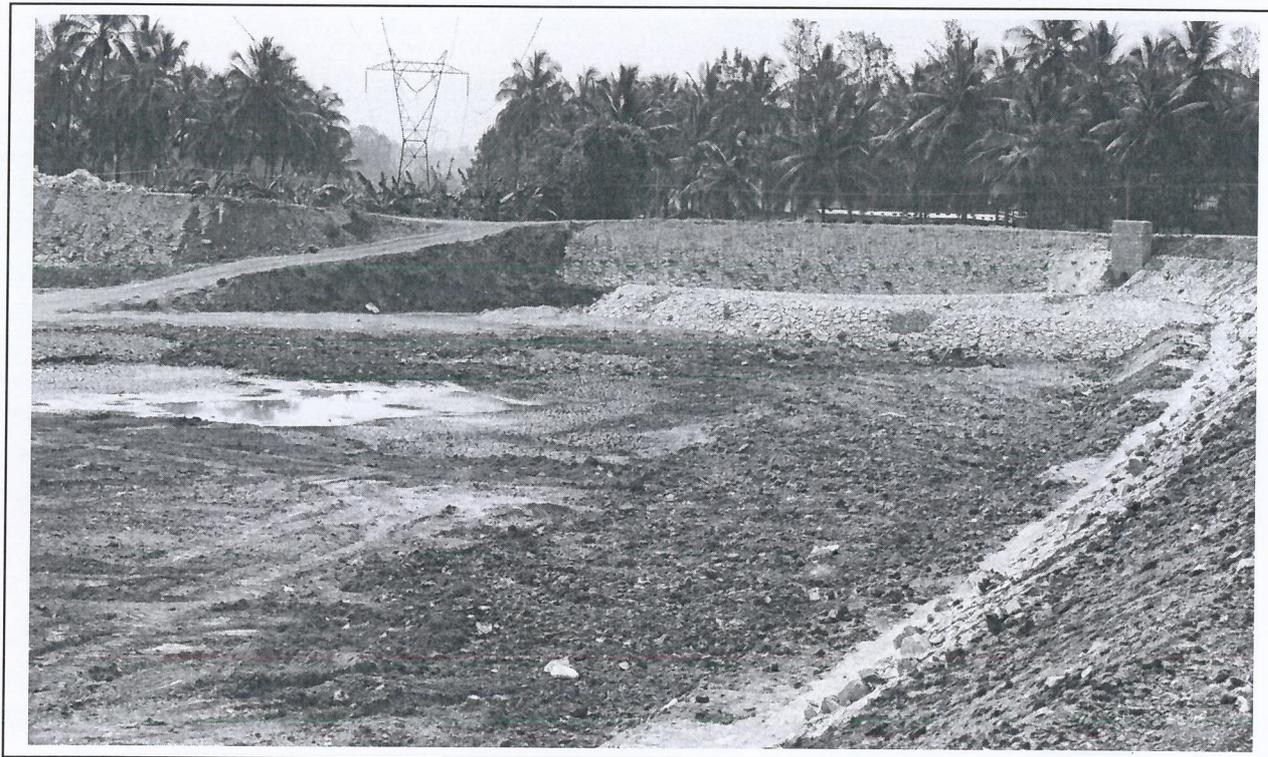
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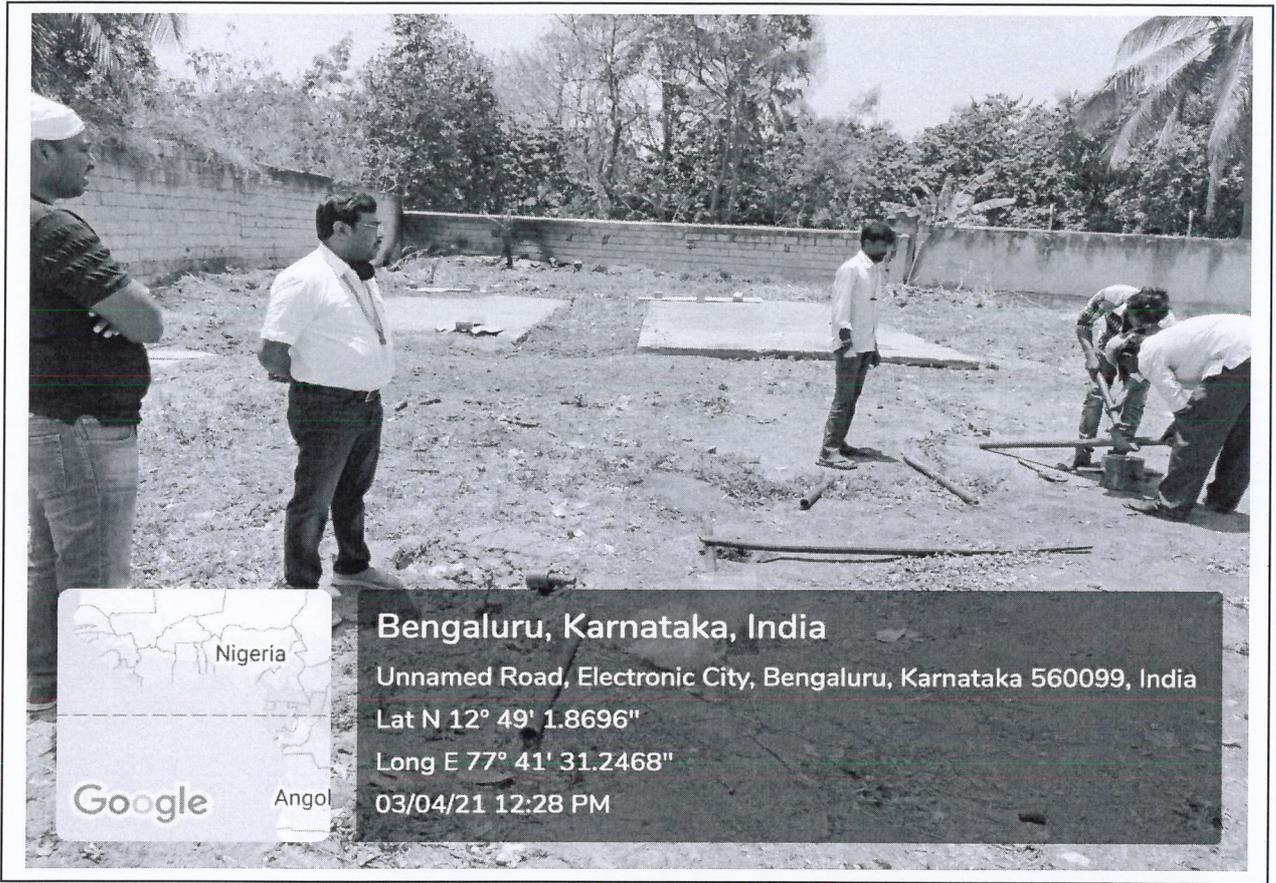


**Photographs of Bommasandra Kithiganahalli Lake Rejuvenation Works**





**Photographs of KIADB land where 250 KLD STP will be installed**





**Proceedings of the 3<sup>rd</sup> Video Conference (VC) held on 06-03-2021 @11.00 am by Additional Chief Secretary, Urban Development Department (UDD) regarding the remedial action to be taken by Town Municipal Council (TMC) Bommasandra as per the directions of Hon'ble National Green Tribunal's (NGT) Orders in the O.A. No. 750 of 2019.**

List of Members present in the VC is enclosed as **Annexure-I**.

The AEE (Env), Urban Development Department welcomed all the Officers / members for the VC and briefed about the directions issued by Hon'ble NGT in its order dated 04-11-2020 and the decisions taken in the previous two VCs held in this regard.

The AEE (Env) also explained about the actions taken as per the decisions taken in the previous VC held on 15-01-2021 that,

- 4(g) exemption has been granted by Finance Department, GoK vide Notification no. FD 676 Exp-12/2020, dated 21-11-2020 to TMC Bommasandra to procure 3 nos. of 50 KLD modular Containers (along with 5 years of maintenance) from M/s WAPCOS Limited (A Govt. of India undertaking) at total cost of Rs. 210.56 lakhs.
- In addition to that, Finance Department, GoK has given its concurrence vide UO Note no. FD 521 Exp-9/2020, dated: 27-11-2020 to TMC Bommasandra to incur Rs. 140.36 lakhs out of FSSM Head of Account 3604-00-191-1-00 for purchasing 2 Units of STPs out of total 3 units (cost of remaining 1 unit Rs. 70.19 lakhs will be borne by TMC Bommasandra out of their municipality's own funds).
- Accordingly, the grant of Rs. 140.36 lakhs has been released to TMC Bommasandra vide GO no. UDD 300 CSS 2020, dated 10-12-2020 for purchase of STP units.
- DO Letters were written to both Director, Directorate of Municipal Administration and Deputy Commissioner, Bengaluru Urban District to expedite the installation of 5 STP Units at Bommasandra Lake.

Additional Chief Secretary, Urban Development Department (ACS) asked the Director, Directorate of Municipal Administration and Chief Officer, TMC Bommasandra to explain about the progress made so far in the installation of STPs and other Lake rejuvenation activities.

The Director, Directorate of Municipal Administration (DMA) explained about the steps taken so far in installation of the STPs,

- The Letter of Acceptance was issued by the Chief Officer of TMC Bommasandra dated 06-01-2021 to M/s. WAPCOS Ltd. for the supply and installation of 3 STP units.
- The representatives of M/s WAPCOS Ltd. intimated the TMC / DUDC that the management is not agreeing for 5% mobilization advance and until and unless 50% of advance is given WAPCOS will not take up the work.
- A Meeting was convened on 29-01-2021 under the Chairmanship of Director, DMA for concerned DMA Officials, Project Director of DUDC Urban, Chief Officer of TMC

Bommasandra, representatives of M/s WAPCOS Ltd., to finalise the procurement of 5 STPs wherein the Deputy Chief Engineer of M/s WAPCOS Ltd over telephone had agreed for 5% mobilization advance instead of 50% as demanded in the earlier letter.

- A letter in this regard was also written to M/s WAPCOS Ltd, by the Chief Officer, TMC Bommasandra on 30-01-2021., reiterating the same.
- Subsequently, Deputy Chief Engineer of M/s WAPCOS Ltd written a letter dated: 02-02-2021 rejecting the 5% mobilization advance and quoting their earlier letter dated: 08-09-2020 demanding 50% mobilization advance and mentioned that they will not take up the work and are withdrawing from the said Project.
- This was brought to the notice of additional Chief Secretary of UDD and SEO of KSPCB.
- After the detailed discussions about the issue, it was decided to go for a short term tender and the same was communicated to PD, DUDC and CO of Bommasandra TMA to initiate the tender process.
- Accordingly a DPR with estimates was prepared jointly by DMA and DUDC for a total cost of Rs. 209.90 lakhs including installation, commissioning and 5 years of O&M of 250 KLD capacity modular STP units. The total cost of Rs. 209.90 lakhs will be shared between TMC Bommasandra (TMC) and Bommasandra Industries Association (BIA) in the ratio of 60:40 i.e., Rs. 125.94 lakhs by TMC and remaining Rs. 83.96 lakhs by BIA.
- The subject was placed before the District Level SWM Technical Committee headed by DC of Bengaluru Urban District on 23-02-2021, administrative approval and Technical Sanction have been accorded to the DPR/ Estimates to go for tender.
- Subsequently, Chief Officer of TMC Bommasandra invited the tender through e-procurement portal vide notification dated 24-02-2021 and addendum dated: 06-03-2021. The last date for submission of proposals is 09-03-2021, date of opening of technical bids is on 12-03-2021 and date of opening of financial bid is 15-03-2021.
- A Technical Team has been formed at DMA to assist and guide the TMC in finalising the tender process and in implementing the STP project.

The SEO of KSPCB mentioned about the Hon'ble NGT's directions vide its order dated: 16-09-2020, directing the KSPCB to initiate the prosecution against the defaulters and any non-compliance will be treated very seriously.

The Chief Officer of TMC Bommasandra explained the various steps taken so far to comply with the Hon'ble NGT orders as below,

- Legacy waste dumped in the lake premises has been completely removed and disposed off scientifically.
- Further dumping of waste in the lake area has been completely stopped.
- Discharge of sewage from ward no.2 & 9 into the Lake has been completely stopped and diverted.
- Lake rejuvenation work has been taken up by BIA and is going on in a big way.

- The required land for establishment of 250 KLD modular STP units has been handed over by KIADB.
- Consent for establishment of said modular STPs has been obtained from KSPCB.
- As per the DMA/DC office instructions, the TMC has already initiated the tender process, as M/s WAPCOS Ltd. has rejected the proposal.
- The TMC has obtained administrative approval and technical sanction for the DPR/estimates and tender for establishment of STPs is under progress.
- The TMC has already invited the tender through e-procurement portal to finalise the bidder for supply of 250 KLD modular STPs.

After the detailed deliberations and discussions, following directions were issued by the ACS to the officers /members present in the VC;

- 1) TMC Bommasandra will expedite the tender process and issue work order to the selected bidder at the earliest.
- 2) The Technical Team of DMA & Executive Engineer of DUDC will provide all the technical support and guidance to the TMC in finalising the bidder and also oversee the installation works.
- 3) BIA shall deposit / transfer their share of amount (for 2 STP units) with the TMC, in order to take up installation of all the 5 units of STPs together.
- 4) The TMC / BIA shall keep updating the progress achieved from time to time in STP installation works / Lake Rejuvenation works in the WhatsApp group by regularly uploading the photo and videos.
- 5) The TMC / BIA / KSPCB shall continuously monitor and ensure that no effluents / sewage are discharged into the Lake.

The VC was concluded with vote of thanks to all the participants.



(Rakesh Singh, I.A.S.)  
Additional Chief Secretary to Govt.  
Urban Development Department

**Copy To;**

- 1) The Director, Directorate of Municipal Administration, VV Towers, Bengaluru.
- 2) The Deputy Commissioner, Bengaluru Urban Dist., Bengaluru.
- 3) The Member Secretary, Karnataka State pollution Control Board, Bengaluru.
- 4) The Project Director, DUDC, Bengaluru Urban Dist.
- 5) The Chief Officer, TMC, Bommasandra.
- 6) Sri Darpan, Govt. Advocate for Hon'ble NGT, New Delhi.
- 7) PS to Additional Chief Secretary, UDD, Vikasa Soudha, Bengaluru.

- 8) PS to Principal Secretary, UDD, Vikasa Soudha, Bengaluru.
- 9) PA to Joint Director (Planning), UDD, Vikasa Soudha, Bengaluru.
- 10) PA to Deputy Secretary -2, UDD, Vikasa Soudha, Bengaluru.

**Officers Present in the Meeting.**

- 1) Sri Rakesh Singh, I.A.S., Additional Chief Secretary to Govt., Urban Development Department, Govt. of Karnataka.
- 2) Smt. Cauvery B.B., Director, Directorate of Municipal Administration, Bengaluru.
- 3) Sri Syed Khaja, SEO, Karnataka State Pollution Control Board, Bengaluru.
- 4) Sri Rangaswamy, Project Director, District Urban Development Cell, Bengaluru Urban Dist.
- 5) Smt. Snehalatha S.V., EE(SWM) I/c, Directorate of Municipal Administration, Bengaluru.
- 6) Sri Manjunath, Chief Officer, Town Municipal Council Bommasandra, Bengaluru Urban Dist.
- 7) Sri A. Prasad, President, Bommasandra Industries Association, Bommasandra, Bengaluru Urban Dist.
- 8) Sri G.N. Nagesh Kumar, AEE(Env), Urban Development Department.

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