

CONSTRUCTION OF 45MLD CAPACITY TERTIARY TREATMENT AND REVERSE OSMOSIS PLANT AT KOYAMBEDU

The Chennai city is covered with 98% sewer network. There are 12 sewage treatment plants at 4 locations covering 5 zones of sewerage system. The project area falls under **Zone III**, covering an area of 34.2 sqkm with a population of 9.5 lakhs (As per 2011 census). There are three treatment plants of 34mld, 60mld and 120 MLD capacity totaling 214 MLD exist at Koyambedu for treating the sewage generated in the Central Chennai & West Chennai City area and Adjacent Urbanised areas of Ambattur (Part) & Mogappair. The present generation of sewage from Zone III and adjacent urbanized areas is about 105 MLD. The capacity available by the year 2022 will be 214 MLD.



The Hon'ble Chief Minister of Tamilnadu has made an announcement under Rule 110 in the State Assembly that the waste water has to be recycled and reused. Accordingly, CMWSS Board has proposed to set up a Design, Build and Operate for 15 years (DBO) a 45 MLD capacity Tertiary Treatment Reverse Osmosis (TTRO) at Koyambedu including supply, laying and maintenance of M.S. transmission main for conveying product water to various industries situated at Irungattukottai, Sriperumbudur and Oragadam for about 68.00 KMS.

M/s. Engineers India Ltd was appointed as the consultant for preparing DPR, has prepared a Detailed Project Report at a cost of Rs.394.00 crores for this project.

The Government of Tamil Nadu has accorded Administrative Sanction at a cost of Rs.394.00 crores as per G.O.(Ms) No.147, dt.01.12.2014



for this project under JNNURM/TNIPP Funds which is as follows.

	Rs. in Crores
JNNURM – GOI share @ 35%	- 113.75
JNNURM – GOTN share @ 15%	- 48.75
TNIPP, Phase I	- 231.50

Total	394.00

As there was no release of funds under JNNURM by GOI, it was requested to provide funds under AMRUT and same was sanctioned on 10.01.2017 by SLHPSC on the following funding pattern.

AMRUT – Government of India (GOI) Share (33% of Rs.394.00 Crore)	- Rs.130.02 Crore
AMRUT – Government of Tamil Nadu (GOTN) Share (20% of Rs.394.00 Crore)	- Rs. 78.80 Crore
CMWSSB Share (47% of Rs.394.00 Crore)	- Rs.185.18 Crore

Total	- Rs.394.00 Crore

THE COMPONENTS OF WORK:

TTRO PLANT at KOYAMBEDU

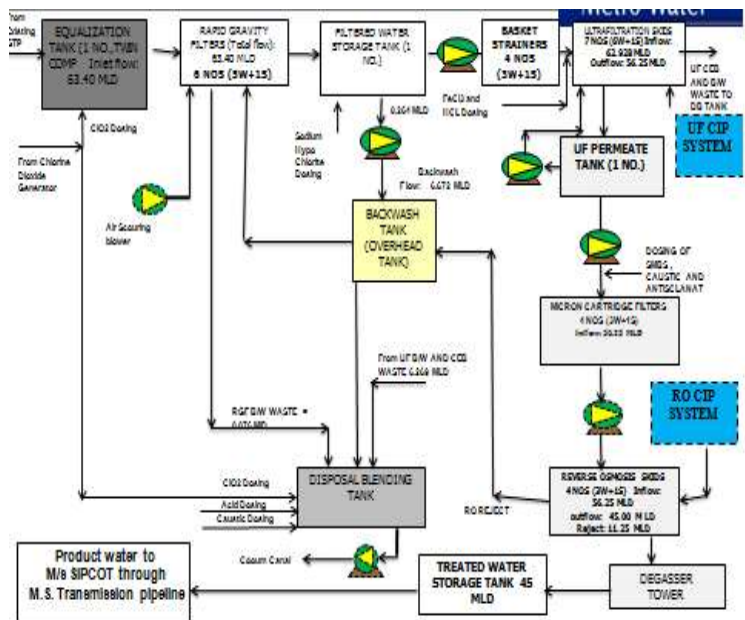
45 MLD capacity TTRO Plant covering three stages of treatment

- Pre-treatment(To control suspended impurities)- **Rapid sand Filters**
- Secondary treatment(To control silt density Index) – **Ultra Filtration**
- Tertiary treatment& Reverse Osmosis(To reduce TDS & providing disinfection)- **Reverse Osmosis**
- Ozonization system

M.S TRANSMISSION PIPELINE

Pipeline for conveying treated water to Small Industries Promotion Corporation of Tamilnadu (SIPCOT) to a total length of 68.00 KM as detailed below:

- Conveying treated water through pipe 800/700/600 mm dia MS pipe with cement mortar lining



inside & outside epoxy coating to a length of 33.63 KM,9.30KM & 19.38 KM, respectively.

- 4 Nos. of tertiary treated water storage tank have been proposed among which 2 nos of 10ML capacity each are located in TTRO plant site at Koyambedu and another at Irungattukottai (Pillaipakkam) & 7.8 ML treated water storage tank at Sriperumbudur (Vallam vadagal) and 5 ML treated water storage tank at Oragadam.

DEMAND ASSESSMENT FOR TTRO WATER:

- Demand assessment made for requirement of TTRO water to the various SIPCOT Industries situated at following locations.
 - 1) Irungattukottai : 10.00 MLD (approx)
 - 2) Sriperumbudur : 13.50 MLD (approx)
 - 3) Oragadam : 22.50 MLD (approx)

CONTRACT AWARDED DETAILS:

The work was awarded to the contractor M/s Wabag –IDE Consortium, Chennai-117 for a contract value of Rs.396,50,00,000/- towards construction cost and Rs.197,59,77,000/- towards Operation and Maintenance cost for 15 years. The said work was awarded on 03.03.2016. The above said work has been commenced on 28.07.2016. The completion period for the work has been fixed as 24 months from the date of commencement of work.

PROGRESS OF WORK (AS ON 08.06.2017):

Physical Progress: - 10%

Financial progress - 8%

Probable date of completion - 30.07.2018.

CONSTRUCTION OF 45MLD TERTIARY TREATMENT AND REVERSE OSMOSIS PLANT AT KODUNGAIYUR

The Chennai city is covered with 98% sewer network. There are 12 sewage treatment plants at 4 locations covering 5 zones of sewerage system. The project area falls under **Zone I & II**, covering an area of 86.14 sq km with a population of 16.5 lakhs (As per 2011 census). There are three treatment plants of 80 mld, 80 mld and 110 mld capacity totaling 270 mld exist at Kodungaiyur for treating the sewage generated in the North Chennai & part of Central Chennai City area and Adjacent Urbanised areas of Mahavaram & Kathivakkam. The present generation of sewage from Zone I & II and adjacent urbanized areas is about 225 MLD



The Hon'ble Chief Minister of Tamilnadu has made an announcement under Rule 110 in the State Assembly that the waste water has to be recycled and reused. Accordingly, CMWSS Board has proposed to set up a Design, Build and Operate (DBO) of 45 MLD Capacity Tertiary Treatment Reverse Osmosis (TTRO) Plant at



Kodungaiyur including Supply and laying DI Transmission mains for conveyance of Product water to various industries in Manali area, Chennai for about 28.50 KM.

The Detailed Project Report was prepared at a cost of Rs.255.00 crores for this project.

Tamil Nadu Sustainable Urban Development Programme (TNSUDP) and World Bank has accorded

approval for carrying out the work at an estimated cost of Rs.255.00 crores

The Government was requested to accord administrative sanction on 28.07.2014 as per the following funding.

(Rs. in Crores)		
World Bank Loan	-	153.00
World Bank assistance	-	76.50
CMWSS Board	-	25.50

Total	-	255.00

Administrative sanction has been accorded vide G.O. Ms. No.1, dated: 02.01.2015, M.A. & W.S. (MA2) Department.

Also, GOI was requested to provide funds under AMRUT for the above work and same was sanctioned by SLHPSC under following funding pattern on 06.04.2017.

AMRUT – Government of India (GOI) Share	-	Rs. 73.89 Crore
(33% of Rs.223.91 Crore)		
AMRUT – Government of Tamil Nadu (GOTN) Share	-	Rs. 44.78 Crore
(20% of Rs.223.91 Crore)		
CMWSSB Share (47% of Rs.223.91 Crore)	-	Rs.105.23 Crore

Total	-	Rs.223.91 Crore

THE COMPONENTS OF WORK:

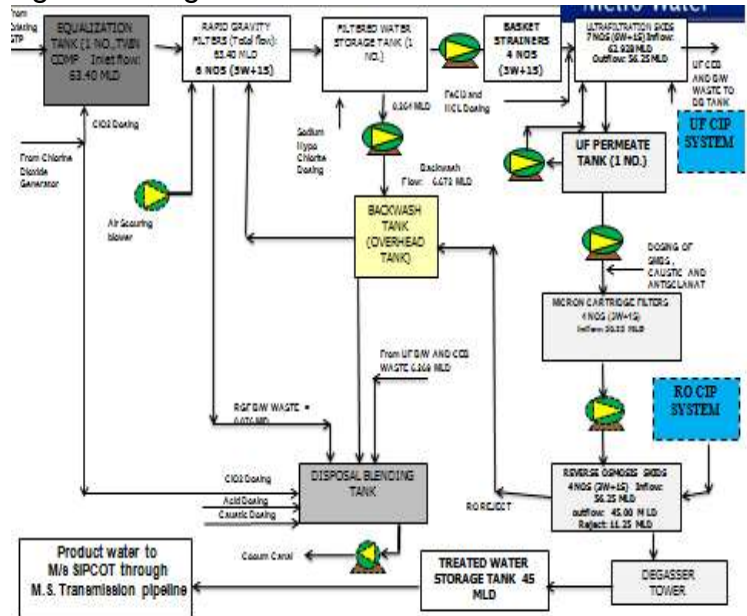
TTRO PLANT at KODUNGAIYUR

45 MLD capacity TTRO Plant covering three stages of treatment

- Pre-treatment(To control suspended impurities)- **Rapid sand Filters**
- Secondary treatment(To control silt density Index) – **Ultra Filtration**
- Tertiary treatment& Reverse Osmosis(To reduce TDS & providing disinfection)- **Reverse Osmosis**
- Ozonization system

D.I TRANSMISSION PIPELINE

- Pipeline for conveying treated water to the industries at Manali – Ennore corridor and Manali – Minjur corridor in North Chennai, to a total length of 28.50 KM as detailed below:



Conveying treated water through pipe 800 / 600 / 300 mm dia DI pipe with inside cement mortar lining to a length of 19.00 KM, 7.00 KM & 2.50 KM respectively.

DEMAND ASSESSMENT FOR TTRO WATER :

The work of demand assessment from industries in North Chennai city was entrusted to M/s ITCOT Consultancy and Services Ltd and after a detailed survey of the industries in Manali -Ennore corridor & Manali-Minjur corridor, the consultants have furnished the anticipated water demand for the year 2015,2020& 2030 as detailed below.

Details	2015	2020	2030
Manali Ennore corridor	10.83	17.12	17.56
Manali Minjur Corridor	18.17	52.88	57.44
Total Quantity in MLD	30.00	70.00	75.00

CONTRACT AWARDED DETAILS:

The work was awarded to the contractor M/s. BGR Energy Systems Ltd., Chennai 600 018 for a contract value of Rs.235,00,00,006/- towards construction cost and. Rs.205,00,00,000/- towards Operation and Maintenance Cost for 15 years. The said work was awarded on 25.11.2016. The above said work has been commenced on 23.12.2016. The completion period for the work has been fixed as 24 months from the date of commencement of work.

PROGRESS OF WORK (AS ON 08.06.2017):

Physical Progress: - 0% (Preliminary works like site cleaning, soil testing and construction of site office have been completed, Design and drawings are under scrutiny)

Financial progress: - NIL

Probable date of completion: - 31.12.2018.